Town of Somers

WESTCHESTER COUNTY, N.Y.

TOWN HOUSE
335 ROUTE 202
SOMERS, NY 10589
TEL (914) 277-5366
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SOMERS PLANNING BOARD AGENDA
December 17, 2025
7:30 PM

TIME EXTENSION REQUEST

1. **MELISSA HARNEY- PRELIMINARY SUBDIVISION APPROVAL AND STORMWATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL PERMIT**
   10 KEYREL LANE – RESOLUTION NO. 2025-01
   TM: 16.07-1-3

   Request from Melissa Harney of 10 Keyrel Lane for the 3rd 90-day time-extension from January 3, 2026 up to and including April 3, 2026, for Preliminary Subdivision and Stormwater Management and Erosion and Sediment Control Permit, as per Resolution No. 2025-01 in accordance with Town Code Section 150-12.N.

2. **GRANITE POINTE RE-GRANT OF FINAL SUBDIVISION APPROVAL, STEEP SLOPES, TREE PRESERVATION, STORMWATER MANAGEMENT AND EROSION AND SEDIMENT CONTROL PERMITS**
   TM: 27.05-3-2&5

   Request for the 34th 90-day time extension for Granite Pointe Subdivision, Re-Grant of Final Subdivision Approval, Wetland, Steep Slopes, Tree Preservation and Stormwater Management and Erosion and Sediment Control Permits, as per Resolution 2017-10, from January 4, 2026 up to and including April 4, 2026 as per Town Law Section 276 (7) (c) and Town Code Section 150-13M. The property is located on the east side of Route 118/202, adjacent to the Amawalk Reservoir and is located in an R-40 Zoning District for the development of 23 lots in a Cluster Subdivision.

PUBLIC HEARING

3. **TRAILSIDE ESTATES AT SOMERS**
   SITE PLAN APPLICATION & PRELIMINARY SUBDIVISION APPLICATION
   REYNOLDS DRIVE
   TM: 4.20-1-12 & 15.08-1-4

   Applicant is proposing construction of an 81-unit townhouse community with associated appurtenances. Five of the 81 units will be sponsor provided, and target households at or below the 120% Area Median Income (AMI). The project also proposes the construction of a community center and dog park to be located on a separate parcel which will be dedicated to the Town of Somers. The property is accessed through Somers Realty Planned Hamlet via Reynolds Drive and is located in a Multifamily Residence Baldwin Place (MFR-BP) Zoning District.

PROJECT REVIEW

4. **AMERICAN TOWER CORPORATION – VERIZON FOR AMENDED SPECIAL USE PERMIT WIRELESS TELECOMMUNICATIONS FACILITY**
   2580 ROUTE 35 (SANTARONI)
   TM: 37.13-2-3

   The Applicant is applying for an Amended Special Use Permit. The project consists of removing 12 antennas, 6 Remote Radio Heads (RRH)s and 1 GPS antenna and then installing 9 new antennas, 6 RRHs. The project site is located at 2580 Route 35 and is in an R-80 Zoning District.

MEETING ADJOURNMENT

The next Planning Board Meeting is scheduled for
Wednesday, January 14, 2026 at 7:30pm.
Agenda Subject to Change

BIBBO ASSOCIATES
ENGINEERING, P.C.

Timothy S. Allen, P.E.
Nicholas Gaboury, P.E.
Matthew J. Gironda, P.E.

November 5, 2025

Somers Planning Board
335 Route 202
Somers, NY 10589

Attn: Ms. Vicky Gannon, Chairwoman

Re: Harney Subdivision
10 Keyrel Lane
Preliminary Subdivision Approval
Request for Extension
Sec. 16.07, Blk. 1, Lot 3

Dear Chairwoman and Members of the Board:

On behalf of our client, we are requesting that a 90 day extension be granted for Resolution 2025-1 that will expire on January 3, 2026 for the above referenced project.

We are currently working toward Westchester County Department of Health approval with an application pending.

We respectfully request to be placed on your December 10, 2025 agenda for consideration.

Very truly yours,

Timothy S. Allen, P.E.

TSA/mme

cc: M. Harney *(via email)*
File

BIBBO ASSOCIATES
ENGINEERING, P.C.

Timothy S. Allen, P.E.
Nicholas Gaboury, P.E.
Matthew J. Gironda, P.E.

November 5, 2025

Somers Planning Board
335 Route 202
Somers, NY 10589

Attn: Ms. Vicky Gannon, Chairwoman

Re: Suelain Realty, LLC
Granite Pointe Subdivision
Final Subdivision Approval
Request for Extension
Sh. 27.05, Blk. 3, Lots 2 & 5

Dear Chairwoman and Members of the Board:

On behalf of our client, we are requesting that a 90 day extension be granted for Resolution 2017-10 that will be expiring on January 4, 2026 for the above referenced project.

It has been over 1-year since the clean-up work at the site has been completed. The property remains gated and fenced with no access. At this time, we have no further update from the NYSDEC on when site access will be granted. Our Project Attorney is still efforting discussions with the NYSDEC.

We respectfully request to be placed on your December 17, 2025 agenda for consideration.

Very truly yours,

Timothy S. Allen, P.E.

TSA/mme

cc: J. Harkins *(via email)*
File

Nicole Montesano

From: lindamcintyre@optimum.net
Sent: Wednesday, December 3, 2025 7:46 PM
To: Wendy Getting; Nicole Montesano; sarahdwilson@optonline.net; lowerhudson@gmail.com; fredghigham@aol.com; regina.blakeslee@gmail.com; EarthNature365@gmail.com
Cc: lindamcintyre@optonline.net
Subject: The Somers Planning Board is breaching State Law / SEQRA by ignoring impacts of the Granite Pointe Subdivision on 36,000 Yorktown residents
Attachments: Somer Planning Board - Amawalk.docx

Via Electronic Mail

December 3, 2025

Town of Somers Planning Board:

People in Yorktown learned from an Examiner News special print insert in December 2023, of the Granite Pointe fully approved large housing subdivision. We learned that your Board granted final subdivision approvals and waivers of all Town of Somers Town Code environmental protections to replace the forested promontory of Amawalk Reservoir, our public water supply, with a large housing subdivision, Granite Pointe.

As you well know from Somers' participation in Northern Westchester Joint Water Works, the Yorktown Consolidated Water System serves more than 36,000 Yorktown residents. Its water source is Amawalk Reservoir:

https://www.nysenate.gov/sites/default/files/admin/structure/media/manage/filefile/a/2024-02/riverkeeper_0.pdf Page 9

In case you are not aware, most of the Granite site, 500 feet inland from the Amawalk shoreline that wraps on three sides the forested promontory, was designated in 1990 as a Westchester County Critical Environmental Area. 1990 preceded by five years the Granite Pointe subdivision application of 1995.

Every reasonable person in Somers, Yorktown, across our region, throughout the State, and around the planet would agree that a forested promontory enveloped by a primary public water supply for tens of thousands of local-area residents and hundreds of thousands more downstream through the Croton Reservoir System is emphatically NOT a suitable and environmentally responsible site for 29 acres of impermeable surfaces and pollution of a large-scale housing subdivision. Your Planning Board, by continuing to grant final approval time extensions to the Granite Pointe Subdivision, is negligently failing the standards of reason and responsibility.

Yorktown's public water supply that envelops the Granite Pointe site must NOT be turned into leaching grounds for a housing subdivision's septic effluent, stormwater runoff, and other polluted surface runoff.

It is past time for your Planning Board to act with reason and responsibility, and to adhere to State law / SEQRA and all current-era environmental protection regulations, by ending the ludicrous and egregious time extension of full approvals granted by your Board every 90 days to the Granite Pointe Subdivision on Yorktown's public water supply.

It is past time for the Somers Town Board to assume lead agency responsibility for Granite Pointe given its severe impacts on Yorktown residents through our public water supply.

It is past time for the Town Board to work immediately to remove the Granite Pointe Environmental Critical Area site from irrational and irresponsible Planning Board proceedings and to seek preservation of the Granite Pointe site in its entirety as public open space in perpetuity.

The people of Yorktown are expecting the Somers Planning Board this December to END the Granite Pointe gangrene that has taken incalculably much far too long from the environment and the people.

Linda McIntyre
Yorktown resident

Via Electronic Mail

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Linda McIntyre
Yorktown resident

RIVERKEEPER.
NY's clean water advocate

Testimony of Riverkeeper Including New Research on the Impacts of Road Salt on Drinking Water Quality, Especially for Environmental Justice Communities

Joint Legislative Public Hearing on the Transportation Portion of the Executive Budget Proposal for Fiscal Year 2024-2025

January 24, 2024

Riverkeeper respectfully submits this written testimony, which will cover three topics that demand the attention of legislators, relating to NYS Department of Transportation's (DOT) work affecting water quality and aquatic habitats in the Hudson River Watershed, and throughout New York State: the use of road salt, the Route 17K diversion project in Newburgh, and the use of transportation rights-of-way for renewable energy transmission.

Riverkeeper is a nearly 60-year-old non-profit membership-supported organization that protects and restores the Hudson River from source to sea and safeguards drinking water supplies, through advocacy rooted in community partnerships, science and law.

1. Road Salt

Road salt, in the form of rock salt, has been used for decades as the most commonly used de-icing agent in New York State and throughout the U.S., with use increasing markedly since the 1990s[1] and doubling since the 1970s.[2] Best management practices, including by switching to salt brine, can dramatically reduce the amount of salt required

[1] American Geosciences Institute, "Roadway Deicing in the United States," 2014, https://www.americangeosciences.org/sites/default/files/CI_Factsheet_2017_3_Deicing_170712.pdf
[2] Cary Institute, "Road Salt: The Problem, the Solution and How to Get There," 2010, revised 2020, https://www.caryinstitute.org/sites/default/files/public/downloads/report_road_salt.pdf

to produce the same safe roads, have likewise been well established for well over a decade, if not more.[3] We are confident that the dedicated highway crews that maintain our state and local roads would take the same pride in their important role in promoting road safety if they were using less salt. This could further save state taxpayers substantially, as an Adirondack Council analysis found that the state, counties, towns, villages and schools will spend between $111.0 million and $390.8 million this winter alone on road salt.

The road salt we have already applied in New York State has had significant and unappreciated impacts on water quality that affect both public health and ecological health. Without action, these impacts will continue to increase in severity.

Road Salt Impacts on Drinking Water

Riverkeeper analyzed the publicly available Annual Water Quality Reports for communities in our mission area, the Hudson River Watershed, which covers approximately 25% of the land area of New York State. According to our preliminary results, of 145 water supplies serving 2.65 million New Yorkers, ***more than half of these New York State residents have received tap water that should not be consumed by those on very low sodium diets.*** These 78 water supplies delivered water to 1.39 million New Yorkers with sodium concentrations that exceeded 20 mg/L. As each Annual Water Quality Report states – in footnotes that would be easily missed by all but the most informed readers – "Water containing more than 20 mg/L of sodium should not be used for drinking by people on severely restricted sodium diets." See the appendix for a list of communities affected.

As of 2016, an estimated 31.7% of New York State residents had been diagnosed with hypertension, or high blood pressure, one of the leading risk factors for cardiovascular disease and stroke.[4] Heart disease is the leading cause of death in New York State.[5] We do not know what percentage of New Yorkers diagnosed with hypertension are on very low sodium diets, but reducing sodium intake is the top lifestyle recommendation for all those diagnosed.[6,7]

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[3] ibid.
[4] NYS DOH, "INFORMATION FOR ACTION REPORT 2018 - 08 Percentage of adults with diagnosed hypertension, by county, New York State, BRFSS 2016," https://www.health.ny.gov/statistics/prevention/injury_prevention/information_for_action/docs/2018-08_ifa_report.pdf
[5] NYS DOH, "Leading Causes of Death, NYS 2010-2020," https://apps.health.ny.gov/public/tabvis/PHIG_Public/lcd/reports/#state
[6] International Society for Hypertension, "2020 International Society of Hypertension Global Hypertension Practice Guidelines," https://www.ahajournals.org/doi/full/10.1161/HYPERTENSIONAHA.120.15026
[7] Mayo Clinic, "High Blood Pressure (Hypertension)" https://www.mayoclinic.org/diseases-conditions/high-blood-pressure/diagnosis-treatment/drc-20373417

The scientists we have consulted suggest there is no reasonable explanation for widespread levels of high sodium in drinking water supplies other than the widespread and ongoing use of road salt, with the exception of the Hudson River Estuary, which can be influenced by saltwater from the Atlantic during prolonged droughts.

In addition to direct concerns about dietary intake of sodium, sodium chloride can change the chemistry of water, potentially leading to:

- increased leaching of lead from water distribution pipes[8];
- increased risk of other harmful metals mobilized from source waters[9];
- increased risk of Harmful Algal Blooms[10].

Road Salt in Drinking Water is an Environmental Justice Issue

As with many environmental threats, road salt's effect on drinking water appears to have a disproportionate impact on communities in New York State identified as Potential Environmental Justice Areas or Disadvantaged Communities, based on their demographics and incomes. Degradation of drinking water sources is an under-appreciated environmental justice issue, as communities downstream have limited to no power to protect their water sources in upstream communities, and therefore rely heavily on state protections that unfortunately leave important gaps. The impact of road salt is but one example.

According to Riverkeeper's preliminary data, water supplies that have exceeded the threshold for very low sodium diets disproportionately serve DEC-designated Potential Environmental Justice Areas (PEJAs) and/or Disadvantaged Communities (DACs). Of the 1.39 million people in communities that rely on drinking water from sources that have exceeded the 20 mg/L threshold, 75% serve areas that include Potential Environmental Justice Areas and/or Disadvantaged Communities.

Black Americans experience 30% higher risk of fatal stroke, 50% higher risk of cardiovascular disease mortality, more than 4 times higher risk of end-stage renal disease, and 4-5 times greater hypertension-related mortality overall when compared to non-Hispanic White Americans. Hypertension control rates are lower for Hispanic,

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[8] Pieper, Kelsey J., et al. "Impact of road salt on drinking water quality and infrastructure corrosion in private wells." *Environmental science & technology* 52.24 (2018): 14078-14087.
[9] Wu, Jingjing, and Hwidong Kim. "Impacts of road salts on leaching behavior of lead contaminated soil." *Journal of hazardous materials* 324 (2017): 291-297.
[10] Hintz, William D., and Rick A. Relyea. "A review of the species, community, and ecosystem impacts of road salt salinisation in fresh waters." *Freshwater biology* 64.6 (2019): 1081-1097.

non-Hispanic Black and Asian Americans, compared to non-Hispanic White Americans.[11]

Road salt is already present at levels in public drinking water supplies that pose a risk to many New Yorkers, and

	Water Systems	Population Served	Systems serving PEJAs	PEJA Population Served	Systems Serving DACs	DAC Population served
TOTAL	145	2,653,821	80	2,067,998	73	1,486,780
> 20 mg/L sodium	78	1,390,597	46	1,046,817	38	454,141
< 20 mg/L sodium	50	1,196,582	28	991,198	31	1,008,785
No sodium data	17	66,642	6	29,983	4	23,854

Ecological Effects of Road Salt

In 2018, the leading ecologists called for action to reduce the impacts of "freshwater salinization syndrome,"[12] and have said that "widespread salinisation of freshwater ecosystems poses a major threat to the biodiversity, functioning, and services that they provide."[13] The U.S. Environmental Protection Agency has warned that "excess salts create chemical cocktails":

> Salts can corrode metals and exacerbate metal contamination in drinking water, increase nutrient and heavy metal contamination in streams and lakes, and can cause environmental stress to sensitive species. When salts mobilize heavy metals, nutrients, and radionuclides, they can create even more potent "chemical cocktails" which are mixtures of chemicals that may have synergistic toxic effects that may be difficult to treat and remove. Salts and the associated chemical

[11] National Library of Medicine, "Racial and Ethnic Disparities in Hypertension: Barriers and Opportunities to Improve Blood Pressure Control," 2023, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9838393/
[12] PNAS, "Freshwater salinization syndrome on a continental scale," 2018, https://www.pnas.org/doi/10.1073/pnas.1711234115
[13] Trends in Ecology and Evolution, "Freshwater salinisation: a research agenda for a saltier world," 2022, https://pubmed.ncbi.nlm.nih.gov/35058082/

> cocktails build up in soils, surface water, and groundwater and are not easily remediated. [14]

In New York State, Department of Environmental Conservation scientists have documented in peer-reviewed literature that road salt is the likely cause of a leading negative trend in water quality in streams statewide, including an increase in harmful algal blooms, based on 40 years of data through 2012.[15] DEC scientists wrote:

> The increased presence of chloride in NY surface waters is cause for concern because it may be limiting measurable improvements in biological condition.... [C]hloride concentrations have been increasing at base flow discharge over our period of investigation for which chloride data exist.... The steady increase in chloride concentration over time in rivers such as the Susquehanna in NY suggests that deicing salts are retained in ground waters and soils, building up and releasing over long periods.... [I]t is clear that NaCl can have negative impacts on mortality and alter ecosystem processes.... In some cases, surface water increases in chloride may exacerbate eutrophication through stimulating growth of nuisance algal blooms when other nutrients (phosphorus and nitrogen) are not limiting.

In short, road salt is a leading cause of water quality degradation in New York State, harming freshwater ecology.

Road Salt Policies

Riverkeeper urges members of the New York State Legislature to advance legislation that builds on the strongest aspects of the Adirondack Road Salt Task Force Report to improve conditions statewide. As the task force report makes clear, and our data reinforce, road salt impacts are more severe and widespread outside the Adirondack Park than within it.

Statewide road reduction policies are urgently needed, and should build on well-established best management practices and go beyond pilot studies to achieve a change in the status quo as quickly as possible.

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[14] U.S. Environmental Protection Agency, "EPA Researching the Impacts of Freshwater Salinization Symdrome," 2022, https://www.epa.gov/sciencematters/epa-researching-impacts-freshwater-salinization-syndrome

[15] River Research and Applications, "Long-term trends in biological indicators and water quality in rivers and streams of New York State (1972–2012)," 2018, https://onlinelibrary.wiley.com/doi/abs/10.1002/rra.3272

Policies should:

- require measurable reductions in road salt;
- make state agencies accountable for reductions;
- incentivize local reductions; and,
- prioritize investments in equipment and training that facilitate the implementation of best management practices.

We look forward to working with legislators to define and advance such policies this session.

2. Route 17K Stormwater Diversion Project (Newburgh)

Since the presence of PFAS contamination in City of Newburgh and Town of New Windsor drinking water came to light in 2016, investigations have commenced to define the extent of contamination at the source, the Stewart Air National Guard Base, and ultimately to define remediation measures. Riverkeeper is a leader in the "Speed Up the Cleanup" campaign to implement measures as soon as possible to reduce and eliminate the ongoing flow of PFAS-contaminated water off the base (Newburgh and New Windsor currently rely on alternative water sources, and filtered water sources.) Joining this call are U.S. Senators Chuck Schumer and Kirsten Gillibrand, U.S. Rep. Pat Ryan, NYS DEC, a coalition of non-profit organizations that include Newburgh Clean Water Project, Newburgh's NAACP branch, Hudson River Sloop Clearwater and others, and nearly 900 individuals who have signed a petition.

Key to any short or long-term remediation of PFAS at Stewart Air National Guard Base is the NYS DOT Route 17K stormwater diversion project in the Town of Newburgh. This project will divert stormwater that is currently piped under the Air National Guard Base, where it becomes contaminated with PFAS and subsequently requires treatment. By removing this flow of stormwater, the volume of PFAS-polluted water to be manged will be significantly reduced. The Air National Guard has committed to covering half the cost of this project.

Riverkeeper urges the members of the New York State Legislature to ensure that all needed NYS DOT funding is available and prioritized for expediting the Route 17K stormwater diversion project.

2. Use of Transportation Rights-of-Way for Renewable Energy Transmission

The Champlain-Hudson Power Express (CHPE) has received permits, and the Clean Path New York is seeking permits to install renewable transmission lines in long stretches of the Hudson River. Installing these lines will have negative impacts on Hudson River habitats – as evidenced by the $117 million Environmental Trust Fund the developers of the CHPE project are required to fund to compensate for unavoidable damages to the Hudson and Lake Champlain. The CHPE line is also proposed to be laid in the reach of the Hudson that is a drinking water source for over 100,000 mid-Hudson Valley residents in the City and Town of Poughkeepsie, Village and Town of Rhinebeck, and the towns of Esopus, Hyde Park and Lloyd. Through the Hudson River Drinking Water Intermunicipal Council ("Hudson 7") these communities have sought measures that will mitigate concerns about drinking water quality. These diligent elected officials should never have put through the years-long process of due diligence and negotiation to win the protections they have so far achieved, and maintaining public trust in the quality of their drinking water through the construction remains a concern. In short, we can't allow the critical need for renewable energy infrastructure to damage the Hudson River - especially when road and rail transportation corridors run parallel to the river and offer an alternative.

Riverkeeper is exploring policy options for promoting the use of transportation rights-of-way for renewable energy transmission in New York State, and we seek the collaboration of legislators in exploring options that can promote a positive path forward for achieving critical climate change mitigation goals without compromising the 60-year legacy of improvements to the Hudson River, and without putting public drinking water supplies at risk.

Conclusion

Riverkeeper appreciates the opportunity to submit this testimony, and we look forward to working with elected representatives to advance policies that will address the issues we have raised. Riverkeeper also wants to publicly acknowledge and thank Louis Albaneses and Alejandra Vouga, Endeavor Foundation Environmental Action Fellows studying at Bennington College in Vermont; their research on our region's drinking water supplies assembled key facts presented in this testimony.

Contact Jeremy Cherson, Senior Manager of Government Affairs for Riverkeeper at jcherson@riverkeeper.org or 770-630-6790.

Public water supplies with sodium concentrations exceeding health guideline for people on very low sodium diets, according to their Annual Water Quality Reports (AWQR).

The table below shows water supplies that have reported an exceedance of the 20 mg/L sodium guideline in drinking water. All data obtained is from Annual Water Quality Reports from 2021-2022 of water supplies across NY State. The community column links to the Annual Water Quality Report for each community.

Water System / Community	Water source(s)	Population served	Serves PEJA and/or DAC community
Village of Suffern	4 wells	11400	Y
Brinkerhoff Water District	3 wells	3788	Y
Village of Wappingers Falls Municipal Water System	3 Groundwater wells	6103	Y
Village of Brewster Water Supply	5 Sand and gravel wells	2500	Y
Village of Fultonville	Groundwater sources	740	Y
Village of South Glens Falls	20 Groundwater springs	3900	Y
Clifton Park Water Authority	Groundwater wells	35000	N
Village of Wilton	Groundwater aquifers	9055	N
Village of Warwick	Three reservoirs	6767	N
Woodbury Consolidated	6 wells	10000	Y
Village of Richmondville	2 Rservoirs	850	Y
Town of Crawford	3 wells	9300	Y
Ulster Water District	3 Wells	5500	Y
Pine Bush Water District	3 Wells	7650	Y
Village of Kiryas Joel	Groundwater wells	34396	Y
Village of Hoosick Falls	3 Wells and Hoosick River	4500	N
Village of Montgomery	Seven Wells	4600	Y
Town of Rotterdam	Groundwater + City of Schenectady	27000	Y

Water System / Community	Water source(s)	Population served	Serves PEJA and/or DAC community
Suez/Veolia Water Company	Lake DeForest	300000	Y
Village of Chester	Surface and groundwater	4000	Y
Village of Monroe	Mombasha Lake reservoir and Well #4, located in the Village of Monroe	9753	Y
Warrensburg Water District	Our water source is 5 groundwater wells	3600	N
City of Saratoga Springs	Loughberry Lake Watershed and groundwater from the Geyser Crest system, Loughberry Lake from Bog Meadow Brook, Bog Meadow groundwater wells	28000	N
City of Saratoga Springs (Geyser Crest)	Loughberry Lake Watershed and groundwater from the Geyser Crest system. Water is also pumped into Loughberry Lake from Bog Meadow Brook, and 3 groundwater wells.	28000	N
City of Watervliet	Watervliet Reservoir	10200	Y
Yorktown Consolidated	Amawalk Reservoir	36000	Y
United Wappinger WD	Three Major Wells	14000	Y
City of Peekskill	Wiccopee Reservoir + Catskill Aqueduct	25000	Y
Heritage Hills	Our water source is five ground water wells located off Route 202 in the Town of Somers, New York	4700	N
Bethlehem - Water District No 1	Creek Reservoir, plus wells + wells under influence of Hudson River	35000	Y
Village of Scotia	Great Flats Aquifer which is sometimes referred to as the Schenectady Aquifer	12800	N

Water System / Community	Water source(s)	Population served	Serves PEJA and/or DAC community
New Windsor Consolidated	The Ashokan Reservoir feeds the Catskill Aqueduct	25677	Y
Village of Green Island	Infiltration gallery under influence of Hudson River	3000	Y
Wallkill Consolidated	Ground water (well) supply consisting of twenty (21) wells	29000	Y
Town of Carmel	Our water supply comes from Lake Gleneida, located in the Town of Carmel. Lake Gleneida is owned by NYC DEP and water is purchased by the Town of Carmel on a consumption basis	6400	N
Village of Washingtonville	Two sand and gravel wells	7000	Y
Bedford Consolidated	Our water is primarily obtained from New York City's Delaware Aqueduct. Water in the Delaware Aqueduct comes from the Delaware Watersheds.	9056	Y
Village of Croton-on-Hudson	Well system located in the Croton River Valley downstream from the New Croton Dam	8210	N
Village of Remsen	Two drilled groundwater wells	510	N
Village of Altamont	wells	2000	N
Town of Niskayuna	Two aquifers. In Mohawk River in the Town of Niskayuna.	23278	Y
Town of Greenport	Kashway Creek, South Well	4050	Y
Village of Fort Edward	Four reservoirs, two wells, three spring collection boxes	3300	N
Town of Guilderland	Watervliet Reservoir	27692	Y
Village of Schuylerville	Two wells	2200	N
Village of Fishkill	Our water source	11289	Y

Water System / Community	Water source(s)	Population served	Serves PEJA and/or DAC community
	consists of eight groundwater located in the Town of Fishkill		
Village of Pleasantville	Dependant on New Castle WD and NY Aqueducts	9500	Y
Suez Water Westchester RD2	Aquarion of Connecticut through the Putnam Reservoir located in Greenwich, Connecticut. & Purchased from Westchester Joint Water Works	57301	-
Newburgh Consolidated	Chadwick Lake Reservoir	30975	Y
Village of Nyack	Hackensack River.	7200	Y
Village of Ossining	The Indian Brook Reservoir, and the Croton Reservoir, which is part of the New York City Water System	32000	Y
Poughkeepsie (City & Town)	Hudson River, which originates from the north in the Adirondacks at Lake Tear of the Clouds,	32000	Y
Village of Highland Falls	2.9 sq Miles drainage area	5400	Y
Village of Argyle	six (6) wells located in the Town of Argyle near Summit Lake	292	
Village of Delanson	Lower spring fed reservoir of 28 million-gallons, which is our primary source of water. We also have an upper reservoir	423	N
Village of Mount Kisco	Byram Lake Reservoir	10000	Y
Town of Colonie (Latham)	Mohawk River / Wells (Stony Creek Reservoir backup)	85890	Y
Village of Maybrook	Seven drilled bedrock wells.	3300	Y
Village of Middleburgh	Two wells	1500	N
City of Middletown	Three reservoirs, two impoundments, one	30452	Y

Water System / Community	Water source(s)	Population served	Serves PEJA and/or DAC community
	creek and one groundwater well		
Village of Goshen	Prospect and Green Hill Reservoirs	6100	Y
Mohawk Valley Water Authority	Hinckley Reservoir	126250	Y
Village of Ilion	2 ground water wells	9022	Y
Town of Glenville	Great Flats Aquifer	16000	N
Liberty Village	Two wells	1200	Y
Dutchess Co. Water & Wastewater Authority (Hyde Park)	Hudson River	6928	Y
Staatsburg Water Company	Hudson River	1164	
Town of Waterford	Tommahannock (Troy)	9800	Y
Village of Walden	Groundwater wells	7000	Y
Village of Athens	The Popolopen Lake Dam, Mine Lake Dam, and Stillwell Lake Dam	1700	Y
Village of Rhinebeck	Hollister Lake	6000	N
Port Ewen (Town of Esopus)	Hudson River	4500	N
City of Hudson	Hudson River	6713	Y
Village of Fort Plain	Churchtown Reservoir	1940	Y
Village of Florida	Surface runoff and springs	2900	Y
City of Cohoes	Glenmore Lake Reservoir	16883	Y
Village of Ravena	Mohawk River	3500	N

Nicole Montesano

From: Regina Blakeslee <regina.blakeslee@gmail.com>
Sent: Tuesday, December 2, 2025 1:57 PM
To: Wendy Getting; Nicole Montesano
Cc: Fred Higham; Sarah Wilson; George Klein; Julia Rellou
Subject: RE: SEQRA Requires an SEIS on Granite Pointe
Attachments: Joint Letter by Somers Residents to Somers Planning Board March 12, 2025.docx; Joint Letter by Yorktown and Katonah-Somers Residents to Somers Planning Board March 10, 2025.docx; 8-26-2015 David Clouser & Associates Expert Comment to Planning Board.pdf; 9-8-2015 David Clouser & Associates Expert Comment to Planning Board.pdf; 10-1-2013 Attorney James Bryan Bacon -- Extensive legal analysis of Granite Pointe phosphorus impacts on phosphorus-impaired Amawalk Reservoir.pdf; 09-11-2013 Westchester County Legislators' Letter to Planning Board on Granite Pointe Impacts not Addressed by FSEIS.pdf

Members of the Planning Board
Copy to Members of the Town Board
Town of Somers, New York

Planning Board of the Town of Somers:

We write to you once more as members of the advocacy team that remains opposed, through the years and decades, to the destruction and liquidation for private profit of public assets on and surrounding the Granite Pointe site. It is destruction and liquidation your Board approved and continues to extend at the permanent harm to the public and to critical environmental resources. We remind you that none of us opposed to the egregious and irresponsible Granite Pointe Subdivision on the primary public water supply and on a County-designated Critical Environmental Area has any property, personal, financial, or any other interests in Granite Pointe. The Town of Somers long ago and still to this day has condemned for execution of innocent persons: vital environmental and ecological assets, the primary public water supply, major public scenic resources, and fairness. The Town of Somers continues to this day to violate not only its own Town Code but State law: SEQRA's hard-look requirement was breached with the issuance of a false and irrelevant-to-this-site SEQRA Findings Statement in 1998 and with a seriously incomplete SEQRA Findings Statement in September 2015, the subject of your recurring 90-day extensions of final subdivision approvals and waivers of environmental protection provisions of Somers Town Code.

On December 17, 2025, when you have scheduled to discuss the "34th 90-day extension" of final subdivision approval and waivers of Town Code to Granite Pointe, you will be neither justified nor entitled by SEQRA to grant the 34th 90-day extension of approvals. You must be reminded that you have a fiduciary and the duty to abide to law to require a Supplemental Environmental Impact Statement (SEIS) given your Board's failure to review and failure to incorporate in the FSEIS you closed on 9/10/2015 several sets of **material information submitted to your Board *before* 9/10/2015**. State law requires your Board to adhere to SEQRA hard-look requirements and to incorporate into review all material information submitted *prior* to the day the FSEIS was closed -- and even afterwards, as the "discovery" of site contamination in 2004 resulted in an SEIS long after the false and irrelevant-to-this-site SEQRA Findings Statement of February 1998.

The letter your Board received at your September meeting, sent by the Granite Pointe sponsor's attorney to NYSDEC, makes factual misstatements, including false claims of "albeit minor - public pushback." We remind you of the attached two letters submitted to your Board in March 2025, co-signed by dozens of Somers and Yorktown residents, proving strong and continuing "public pushback" against the Granite Pointe Subdivision on the primary public water supply and on County-designated critical environmental assets.

The Granite Pointe attorney made additional misstatements in her letter to NYSDEC of July 18, 2025. It is not "turnovers in municipal staff and board members" but negligence and sheer failure to review, at the bare minimum expert comments submitted on Granite Pointe to the Planning Board over the past two decades, if not to review the entire project history, that has resulted in disregard by the Consultant Town Planner and by your Board of material information repeatedly submitted and yet excluded from Planning Board review, from the SEQRA Findings Statement of September 2015, and from an SEIS that all extensive material information requires.

Granite Pointe attorney Wilson made further misstatements in her letter to NYSDEC of July 18, 2025: "To be clear, the Town's review of Suelain's subdivision application is complete..." This statement is entirely false. As Consultant Town Planner David Smith has been multiply informed by the public, information regrettably disregarded by your Consultant Town Planner and your Board, the last four of the attached documents were submitted to the Planning Board before the 9/10/2015 closing of the new SEQRA Findings Statement that focused narrowly on site contamination and remediation. The attached four sets of expert written testimony were not reviewed by the Planning Board and were not considered in closing the 9/10/2015 Findings Statement. Consultant Town Planner David Smith had written, *"The Planning Board issued its Findings Statement on September 10, 2025 [spelling error -- he must have intended 2015] and the review of the Granite Pointe subdivision under the NY State Environmental Quality Review Act ("SEQRA") formally closed on that date. Therefore, the Granite Pointe subdivision application has been subject to extensive environmental review."* The NYS public vehemently disagrees with the Consultant Town Planner's seriously inaccurate claim that stems from his incomplete understanding due to his failure, and the Planning Board's failure, to review at the very least expert written testimony submitted to the Planning Board in writing from 2004 to this date, all of which expert comments have been disregarded by the Consultant Town Planner and your Board:

- A Visibility Impact Analysis was never performed despite the Granite Pointe subdivision's severe impacts on major public scenic resources seen from all three sides of the forested promontory on the public water supply.

- The discovery of groundwater as shallow as 8-10 feet below ground was never addressed by the Planning Board on a site of 23 planned septic systems.

- Expert probable findings of false site soil classification driving false engineering calculations and assumptions, including percolation rate and polluted surface runoff into the surrounding public water supply, were submitted to the Planning Board in August 2015 and September 2015 before the 9/10/2015 FSEIS was closed, and yet were disregarded and not considered by your Board.

- In-depth expert legal analysis and assessment of the Granite Pointe subdivision's phosphorus loading impacts on the already phosphorus-impaired Amawalk Reservoir were submitted to the Planning Board in September 2013, October 2013, August 2015, and September 2015 before the 9/10/2015 FSEIS was closed, and yet all were disregarded and not considered by your Board.

- Expert comments by two County Legislators, substantiating the urgency of systemic re-review of the Granite Pointe subdivision application, were submitted to the Planning Board in September 2013 before the 9/10/2015 FSEIS was closed, and yet were disregarded and not considered by your Board. Below is an excerpt from the County Legislators' letter to the Planning Board:

The FSEIS will also not address regulatory and other changes that have occurred since the Board's adoption of the Final Environmental Impact Statement ("FEIS") for the project in 1997 and the issuance of a Findings Statement in 1998. The last fifteen years have introduced new federal and state regulatory requirements in the East-of-Hudson watershed in which the site is located. For example, phosphorus Total Maximum Daily Loads ("TMDLs"), Municipal Separate Storm Sewer System ("MS4") permitting, New York City watershed regulations,

amended New York subsurface treatment system regulations (septics), and EPA surface water treatment rules are now applicable to the development of the site and to the protection of the Amawalk Reservoir, a drinking water supply for 40,000 individuals.

Somers Planning Board: A Supplemental EIS is required, as all of the above material information received by the Planning Board before your Board closed the 9/10/2015 FSEIS was not considered and was not incorporated into FSEIS review by your Board.

As self-appointed lead agency for the Granite Pointe Subdivision on the primary public water supply and on County-designated critical environmental assets, your Planning Board is accountable to State law and is required to adhere to SEQRA by undertaking a Supplemental EIS for all material reasons documented above and in the last four of the attached documents.

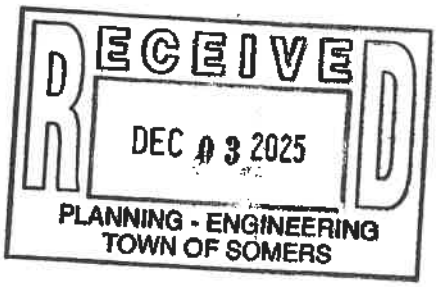
Sincerely,

Regina A. Blakeslee
Yorktown Resident
Personally and on behalf of all signatories of the attached Yorktown / Katonah-Somers letter

Fred G. Higham
Somers Resident
Personally and on behalf of all signatories of the attached Somers letter

Via Electronic Mail to: wgetting@somersny.gov; nmontesano@somersny.gov

March 12, 2025



Chairman John Currie and Members
of the Somers Planning Board
Town of Somers
335 Route 202
Somers, New York 10589

RE: Granite Pointe Subdivision on Amawalk Reservoir

Dear Chairman Currie and Members of the Somers Planning Board:

We, the undersigned Somers residents, submit this letter urging The Somers Planning Board **NOT** to grant, but to **DENY** the Granite Pointe project sponsors' request for a 31st quarterly time extension of Granite Pointe final subdivision approval.

*It is **10 years** since final subdivision approval was regranted in October 2015.

*It is **23 years** since final subdivision approval was first granted in 2002, regranted in 2003 and 2015, without ever a factual and truthful, hard-look environmental impact study conducted, as required by New York State law, SEQRA (State Environmental Quality Review Act).

*It is **27 years** since a fictitious SEQRA Finding Statement, completely irrelevant to this extraordinary, environmentally sensitive site, was signed and adopted by the Planning Board in February 1998.

*It is **30 years** since the Granite Pointe subdivision application was submitted in 1995.

***It is 37 years** going back to 1988-1989, when this ill-conceived and ill-planned housing project surfaced to convert the 28.8-acre forest-cover promontory into one-acre lots for 23 luxury homes surrounded on three sides by Amawalk Reservoir's drinking water. Since that time four decades ago, various individuals in Somers Town government, including on the Planning Board, continued to push this ill-conceived, unsuitable, and irresponsible project along.

No land conversion proceeding anywhere in the NY Metropolitan area and possibly across the State in 2025 would continue for 27 years based on a fictitious, irrelevant SEQRA Finding Statement without a factual, comprehensive, hard-look environmental impact statement ever required by the lead agency.

No land conversion action anywhere in New York State and Westchester County in 2025 would continue to receive quarterly extension of approvals continuously over ten (10) years after approval was last granted without a factual, comprehensive, hard-look environmental impact study being required by the lead agency.

An equally serious flaw of your lead agency's review of the Granite Pointe proceeding to date is that almost all environmental provisions of Somers Town Code have been violated by and for Granite Pointe, as shown in the list below:

Somers Town Code Violations committed by and for Granite Pointe

1. Chapter 156 — Tree Preservation
2. Chapter 138 — Scenic Resource Protection
3. Chapter 84 — Critical Environmental Areas
4. Chapter 27 — Greenway Compact Plan
5. Chapter 167 — Wetlands and Watercourse Protection
6. Chapter 6 — Environmental Quality Review
7. Chapter 150 —Subdivision of Land

Somers Planning Board: Granite Pointe should never have made it past the "what if" stage. Extreme avarice and broad conflicts of interest are not synonymous with environmental stewardship and ethical and fair dealings between land owners and local government appointees. Thirty-seven years into this environmentally and civically egregious land use proceeding, **your Board as lead agency now faces stringent environmental protection laws at the State, City, and County level,** even if this Town government continues to violate its own Town Code for the Granite Pointe project and land owner. **In 2025, you also face the scrutiny of an even more informed and empowered public that demands accountability from you** in ending the appalling, unsuitable, and irresponsible Granite Pointe housing subdivision proceeding.

This unlawful land conversion scheme on Amawalk Reservoir, on the County-designated Critical Environmental Area, must end tonight. Far too long, the Granite Pointe housing subdivision on Amawalk Reservoir has held hostage our vital sources of clean air and clean drinking water, our major public scenic vistas and nature recreation resources, and people across local towns. Far too long, Granite Pointe has brazenly and shamelessly violated New York State, New York City, Westchester County, and Somers Town law. The Granite Pointe housing project, which attacks critical environmental and public resources, has also attacked and wasted this Town's resources. **As your fellow former Planning Board member, attorney George Dieter, wrote to the Town Board on April 5, 2021,** ***"What does seem clear is that the tax dollars of Somers residents have been misused by allowing this environmentally destructive, unfit, and irresponsible project to continue."***

The Granite Pointe project must be discontinued **TONIGHT**. Each of you must align your environmental ethic, moral standards, and duty as appointed officials with your vote **DENYING** any further extension of approvals to the Granite Pointe housing subdivision on our drinking water supply—on critical environmental and public assets.

Sincerely,

Fred G. Higham, Somers
Doug Abdelnour, Somers
Diane Houslanger, Somers
Linda Israel, Somers
Shaun Manning, Somers
Duane Martin, Somers
Christopher Mee, Somers
James Shalley, Somers
Virginia Vettoretti, Somers
Julie Woogen, Somers

Sent Via Electronic Mail to: nmontesano@somersny.gov; wgetting@somersny.gov

March 10, 2025

Chairman John Currie and Members of the Planning Board (Paul W. Ciavardini, Vicky Gannon, Jack Mattes, Bruce A. Prince, Anthony Sutton, Chris Zaberto)
Town of Somers
335 US-202
Somers, NY 10589

RE: Amawalk Reservoir – Granite Pointe Proposed Development Extension for Final Subdivision Approval

Dear Chairman Currie and Members of the Somers Planning Board:

We, the undersigned, are Yorktown and Somers residents writing to express our grave concern regarding the proposed Granite Pointe housing subdivision because it poses a very significant threat to our environment, watershed, and drinking water supply. (Yorktown's drinking water comes from the Amawalk Reservoir and serves 36,000 residents.) We are urging you NOT to grant the Granite Pointe sponsors' request for yet another extension of Granite Pointe final subdivision approval. **Please deny this request!**

Suburban sprawl or encroachment and destruction of the existing natural forest at Granite Pointe, which was designated a critical environmental area in 1990 by Westchester County, is irrational. Everything science tells us today is "in progress" meaning there are no final answers to what the effects of habitat loss and increased pollutants will have on future generations. What we do know today is that increased surface runoff of point source and non-point source pollution degrades water quality in streams, rivers and reservoirs. It affects community residents with wells and those who use municipal water alike and is associated with negative health conditions such as chronic diseases of the heart, kidney, gastrointestinal system, and cancer. Certain chemicals and combinations of pollutants, e.g., pesticides, herbicides, and forever chemicals can affect reproductive health leading to complications in pregnancy and/or developmental issues in children.

Native Americans, the Kitchawanks of the Mohegan tribe, fished, hunted and lived on this land. They called the Granite Pointe area *Amapaugh*, meaning "freshwater fish." This information is proudly displayed on the Somers Town website at: www.somersny.gov/resources/history). Unfortunately, the freshwater fish, animals, and birds who fly in the area suffer and struggle to stay alive. All is not well with the Amawalk because of the abuses of man. There is a Native American proverb which says: **"only when the last tree has been cut down, the last fish has been caught, and the last stream poisoned, will we realize we cannot eat money."**

Sent Via Electronic Mail to: nmontesano@somersny.gov; wgetting@somersny.gov

Rules are developed by municipalities to benefit the common good and people typically break rules to get what they want to benefit themselves. The Planning Board of 25 - 30 years ago made decisions based on what they knew then. As board members, you have a responsibility to protect the quality of life in your community for the people you serve. You do not have to be told what to do because by being mindful of what you know today about issues surrounding water quality, air quality, and other pollutants, droughts, extreme weather, and its negative effects on our world, we trust you will think of the health risks this proposed Granite Pointe development will have on you, your families, neighbors (those of us in Yorktown who drink the water from Amawalk Reservoir, and others downstream in Somers/Katonah with wells) and future generations.

Imagine what a beautiful nature sanctuary and important area of biodiversity this 29-acre land called Granite Pointe will be if you **vote to protect this unique parcel** that is situated directly on a peninsula in the Amawalk Reservoir. Working together with the Westchester Land Trust, Westchester County, New York State and New York City to acquire this property and protect it, rather than allowing it to be developed shows a wisdom for life (not fear or indifference) that benefits and enhances the entire community.

We end with a quote from another Native American tribe. They view nature as an integral part of their spirituality, guiding them in making decisions, seeking healing, and finding purpose in life.

"We must protect the forests for our children, grandchildren and children yet to be born. We must protect the forests for those who can't speak for themselves such as the birds, animals, fish and trees."

- Qwatsinas (Hereditary Chief Edward Moody)

Sincerely,

Regina Blakeslee, Yorktown Heights

Edward Levine, Yorktown Heights

Elizabeth Barton, Yorktown Heights

Lisa and Carl J. Woodward, Yorktown Heights

Todd C. Woodward, Yorktown Heights

Timothy Glass, Yorktown Heights

Regina Hall, Yorktown Heights

Fred and Lisa Gonfiantini, Somers/Katonah

Sent Via Electronic Mail to: nmontesano@somersny.gov; wgetting@somersny.gov

Fred J. Gonfiantini, Somers/Katonah

Julia Gonfiantini, Somers/Katonah

Robert Gonfiantini, Somers/Katonah

Ryan Gonfiantini, Somers/Katonah

Michael and Maryanne Moschides

Anthony Moschides, Somers/Katonah

Sam Moschides, Somers/Katonah

Sonny and Jane Calapai, Yorktown Heights

Susan Moran-DeFina, Yorktown Heights

Eugene DeFina, Yorktown Heights

Kristina Nogueira, Yorktown Heights

Miguel Nogueira, Yorktown Heights

Eric DeFina, Yorktown Heights

Jackie DeFina, Yorktown Heights

JP Diana, Somers

Anthony Diana, Somers

Cristina Diana, Somers

Frank Panebianco, Yorktown Heights

Debbie Panebianco, Yorktown Heights

Taylor Amoroso, Yorktown Heights

Cindy Amoroso, Yorktown Heights

Matt Amoroso, Yorktown Heights

Sent Via Electronic Mail to: nmontesano@somersny.gov; wgetting@somersny.gov

Christian Amoruso, Yorktown Heights

Sean Amoruso, Yorktown Heights

Ann Cohen, Yorktown Heights

David Cohen, Yorktown Heights

David Clouser & Associates
Licensed Professional Engineers and Land Surveyors
One Paradies Lane ▲ Suite 200
New Paltz, New York 12561

Telephone: (845) 256 - 9600
Fax: (845) 256 - 9700
E-mail: dbsea@dcaengrs.com

August 26, 2015

John Currie, Chair
Town of Somers Planning Board
335 Route 202
Somers, NY 10589

via: email and regular mail

Re: Proposed Granite Pointe Residential Subdivision

Results of Engineering Review

Dear Mr. Currie and Members of the Board:

Our office represents members of the public known as Environmental and Community Advocates in the matter of the Granite Pointe subdivision that is before your board.

Our office was retained to review the Subdivision Plans, the Stormwater Pollution Prevention Plan (SWPPP) and project correspondence. The following is a summary of the findings of our investigation. Our ability to thoroughly review the latest project information was severely limited by the time allowed once we had received the project documentation. Accordingly, this might be considered a snapshot of the bigger picture items of the project's design. A detailed review would not have been possible given the time allotted.

Based on our limited review of this material, it is our professional opinion that the design has very significant issues that must be thoroughly addressed before a final subdivision approval could be considered by your Board. These issues include the proper classification of site soils that is a fundamental basis of a development design. Additionally, the project as it is presently design will increase phosphorus loading to the directly adjacent Amawalk Reservoir – at the threat of the degradation of a water supply that is used by over 40,000 residents. This threat of degradation is directly related to the removal of the natural forested setting for the purpose of adding a residential development at a sensitive environmental setting that appears to be overlooked. We also have provided some comments on the design of the development that must be addressed to comply with the minimum requirements of the regulatory agencies.

We understand that a public hearing was held on August 12, and the Board is considering the issuance of final subdivision approval to the Granite Pointe residential subdivision on a parcel situated on and bordered on three sides by Amawalk Reservoir. On behalf of our client, we ask for your full consideration of the following material and not act on a final subdivision approval

until these issues are completely addressed and the Board then believes that whatever form this proposed development takes, that it would be a benefit to the community.

We trust that this information will benefit your review of this proposed development application.

I. Misclassification of Site Soils -

A review of the Subdivision Plans indicates that the NRCS Soil Survey information was used to classify the site's soil types that were used in the project's drainage analysis and sizing of stormwater management practices (including the sizing of phosphorus removal basins). As the Board may be aware, the NRCS soil mapping information is primarily derived from aerial mapping and remote sensing, with very limited "ground truthing" to verify accuracy that the mapped soils are consistent with the characteristics of the soils that exist at a site.

The soil mapped on this site by the NRCS information is predominantly a Paxton sandy loam, which is classified as a hydrological soil group C (HSG C). The hydrological soil group soil classification is a primary factor used to model runoff in a watershed and is comprised of hydrological soil groups A, B, C, and D -- HSG A soils being the most permeable (i.e., sand and gravel soils) and HSG D soils being the least permeable (i.e., dense clay soils, wetland soil types, etc.). HSG C soils are relatively dense soils with low permeability.

Soil permeability determines to a large part the amount of runoff produced after a rainfall event. It is important to understand that stormwater runoff that must be managed on a site is extremely sensitive to the proper classification of the soil's hydrological soil group. HSG A soils produce significantly less runoff due to their high permeability while HSG D soils produce the greatest amount of runoff due to their lack of permeability. Therefore, if a development site consists of permeable HSG A soils, little runoff is produced. When the site is developed and the permeable soil is covered with impervious surfaces, the additional stormwater management required to not exceed pre-development conditions is very significant and a design challenge. When a site has largely impermeable soils, coverage by pervious surfaces require significantly less water management to meet pre-development conditions.

It is therefore imperative to verify that the soil type in hydrological classification from the NRCS mapping information is consistent with the actual soils encountered at the site. This critical step in the planning and design development appears to have been overlooked.

As previously stated, soil mapped by the NRCS for this site is Paxton sandy loam. This particular soil has two distinctive characteristics which are a depth to water table of 1.5 to 2.5 feet and a permeability that ranges between 30 minutes and 100 minutes (per 1 inch drop in a soil percolation test). These Paxton soil characteristics contrast markedly from the soil

information collected from the wastewater disposal system testing results that are shown on the subdivision plans. The depth to water table shown on all lots indicates a depth greater than 7 feet (compared to the 1.5 to 2.5 feet that is characteristic to Paxton soils). More importantly, the percolation test results shown in the subdivision plans indicate that testing on 6 of the 23 lots had percolation rates of 5 minutes or less. Of the 23 lots, 15 indicated percolation rates on 10 minutes or less. None of the percolation rates reported on the subdivision plans to achieve a 30 minute percolation rate.

Based on this reported actual soil characteristic information, the site soils would not be classified as Paxton HSG C soils. A review of the NRCS Part 630, National Engineering Handbook, Chapter 7, Hydrologic Soil Groups, Table 7.2, would indicate that the site soils are, in fact, classified as HSG A soils. Accordingly, it is important that a qualified Soil Scientist investigate soils on the site to properly classify them.

Once classified water analysis and design has to be adapted to the actual soil type in order to develop an accurate drainage model. Also, once classified, the stormwater analysis and stormwater management design need to be adapted to accommodate the actual soil types. An accurate stormwater model will require larger imposition retention and/or infiltration practices, which will likely require a reduction in the number of residential lots for this proposed development. The Board should also note that the practices to reduce phosphorus loading will also be significantly affected by the proper soil classification being used in the design.

II. Phosphorus Loading Analysis Review –

As the Board is aware, the reduction of phosphorus entering the Amawalk Reservoir cannot be overstated. The Amawalk Reservoir is a phosphorus impaired drinking water source of the larger Croton watershed and reservoir system. As a part of the NYSDEC's TMDL reduction requirements, the Town is obligated to reduce its non-point source loads to the Amawalk by 28 pounds per year. Additionally, the Town's MS4 Stormwater Management Plan requires that the Town must minimize increases in pollution caused by stormwater runoff from land development activities which would otherwise degrade local water quality, and reduce non-point source pollution, wherever possible, through stormwater management practices and to ensure that these management practices are properly maintained and eliminate threats public safety.(Refer to Minimum Measures four and five of the Town's Stormwater Management Plan.) Further, the Town Code at § 93-6 (A) (2) provides that once a TMD is issued, that no net increase in pollutant loading be the minimum requirement.

The phosphorus loading analysis (PLA) reviewed by our office noted that the export coefficient used in the analysis was the "one-size-fits-all" phosphorus loading coefficient for forested areas that is referenced by the NYSDEC's Stormwater Design Manual. These export coefficients come from a 1992 publication of the NYSDEC that were based on studies of various land-use types in the Mid-Atlantic region. The export coefficients for forests in this 1987 study ("Controlling Urban Runoff: a Practical Manual for Planning and Designing BMPs", Thomas Schueler) came with a caveat that they were being used as a general

planning tool to roughly estimate the natural background storm loadings attributed from undeveloped areas. This publication suggested that export coefficients vary by locations and by geology.

Considering that 75% of the New York City watershed is forested, the NYC DEP in 1996 published a report viewing 195 studies on export coefficients. 49 of those studies involve export coefficients from forested areas and 11 of those forested areas were from New York and Connecticut. From these 11 studies, the NYC DEP determined that a regional export coefficient for forest lands to be 0.0446 pounds per acre per year, which is approximately half of the 1987 Schueler value. The accuracy of this NYC DEP forested land use phosphorus export coefficient verified by the results of a three-year study in a forested area of the Bellleayre Mountain in the Catskills that concluded in 2003.

Our office used the phosphorus loading forested land-use value of 0.0446 pounds per acre per year as a more reasonable coefficient for estimating phosphorus loading in the Somers region. It is important to use a regional value rather than a generic state-wide value, especially considering this site which is a promontory land feature of the Amawalk Reservoir.

The following summarizes the results of our review of the estimate of phosphorus loading, using the Simple Method and the information provided regarding equation variables and efficiencies of the selected water practices:

Design Line A – Change in Loading= +1.2151 lbs/ yr; % change= 66.6% increase
Design Line B – Change in Loading= +1.3796 lbs/ yr; % change= 65.1% increase
Design Line C – Change in Loading= -0.0161 lbs/ yr; % change= 1.9% decrease
Design Line D – Change in Loading= -0.2318 lbs/ yr; % change= 4.3% decrease
Design Line E – Change in Loading= -1.2111 lbs/ yr; % change= 43.7% increase

OVERALL SITE - Change in Loading= +1.1357 lbs/ yr; % change= 8.8% increase

The above compares to the latest revised August 7, 2015 updated Phosphorus loading Analysis by the Project Engineer indicates an addition of 0.24 pounds per year and a 1.7% increase in phosphorus that is not proposed to be treated and would be directly conveyed into the Amawalk Reservoir.

Additional treatment required a no net increase phosphorus loading which may require a reconfiguration of lots to accommodate treatment practices. As stated earlier, this pollutant loading analysis would also be subject to use of the correct soil characteristics on the site.

III. Issues to be Addressed in the Subdivision's Design –

During our review of the Subdivision Plans, the project's Stormwater Pollution Prevention Plan (SWPPP), project correspondence and engineering reports, we noted the

following issues that must be addressed before the Board might consider final subdivision approval.

1. Replacement of the Tomahawk Road culvert. The existing 12-inch diameter culvert is proposed to be replaced with a 24-inch diameter culvert. The drainage analysis indicates no increase drainage to this existing culvert and it also indicates a rate of flow that could not be accommodated by an existing 12-inch diameter culvert. Tomahawk Road would be flooded and the 12-inch culvert would and the culvert could still not convey the flow indicated in the drainage analysis.
   The purpose and need for this proposed culvert replacement must be verified. Additionally, and more importantly, an analysis of downstream effects of this replacement must be provided since the proposed culvert replacement will allow over 5 times the amount of flow that could be conveyed through the existing smaller culvert. A review of the effect on downstream properties must be included as a part of this necessary analysis.
2. Choice of Phosphorus Removal Stormwater Treatment Practices. According to the NYSDEC Stormwater Design Manual, Chapter 10: Enhanced Phosphorus Removal Supplement, §10.3.4, Goal 3 indicates that in case of stormwater management storage systems, practices are designed to allow particles to settle out. These storage systems are governed by the depth of the water column and the duration during which the water remains in the basin. In this chapter a minimum depth of 3 feet (above accumulated sediment) in the permanent pool is specified to allow for adequate detention of water in the pond for the particles to settle out.
   The Subdivision Plans indicate that the permanent pool depth proposed for the Micro Extended Detention Pond is only 0.4 feet. Compliance with this design criteria is required.
3. Unnecessary Removal of Wetland. A small wetland is located in the southwest corner of the property which will be removed for the location of the proposed Stormwater Quality Basin C. Stormwater Ponds should not be installed on wetlands in accordance with Chapter 6.1.1 of the NYSDEC Stormwater Design Manual.
   Removal of this wetland and its function should be reconsidered by relocating the proposed Stormwater Pond easterly. This may require additional separation between the proposed residence on this lot, but otherwise can be accommodated by the design. Additionally, follow-up information should be provided with regards to the location of NYSDEC wetland adjacent area buffers in this area. Any consideration of a hydrological link of this small wetland to the adjacent regulated wetlands should also be investigated.
4. Temporary Sediment Basins. The Subdivision Plans indicate that future infiltration basins are planned as temporary sediment basins during construction. Section 6.3.6 of the NYSDEC Stormwater Design Manual states that "Infiltration practices shall never serve as a sediment device during site construction phase. In addition, the Erosion and Sediment Control plan for the site clearly indicate how sediment will be prevented from entering an infiltration facility."
5. Additional Infiltration Testing Requirements. Additional soil testing is required at the infiltration practice location in accordance with Appendix D of the NYSDEC Stormwater Design Manual, which includes a discussion of the depth of tests pits,

quantity of test pits and methods for testing. The soil testing is required to be conducted at least 4 feet beneath the facility's bottom.
There is no documentation that this testing has occurred and therefore, especially considering the question on soil characteristics, the use of the infiltration practices has not been substantiated or properly documented in the subdivision plans.
The Board may also note that the requisite testing on the site that is required by the NYC DEP is incomplete, as documented in their letter dated July 30, 2015.

Thank you for the opportunity to submit these comments. I would be pleased to attend your Board meeting to answer any questions that you may have.

Sincerely,
David Clouser & Associates

David B. Clouser, PE, LS
NYS Professional Engineer No. 069334

Cc: Julia Rellou, member of the Environmental and Community Advocates
David K. Gordan, Esq.

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September 8, 2015

John Currie, Chair via: email and regular mail
Town of Somers Planning Board
335 Route 202
Somers, NY 10589

Re: Proposed Granite Pointe Residential Subdivision
Response to Town Engineering Consultant Review Comments

Dear Mr. Currie and Members of the Board:

As the Board is aware, our office represents members of the public known as Environmental and Community Advocates in the matter of the Granite Pointe subdivision that is before your board. Our office was retained to review the Subdivision Plans, the Stormwater Pollution Prevention Plan (SWPPP) and project correspondence, and we provided comments to your Board on August 26, 2015.

Our review of the subdivision application at that time was compromised by the time allotted to access the latest project plans and reports. We had only two and one-half days following receipt of the Planning Board's project file material copies for review and comment, and accordingly primarily commented on the overall project assumptions, since the time needed to review the project details was not available to us. Although we noted several design discrepancies and information omissions, we attempted to not repeat any comments documented by Woodard & Curran, your Board's Engineering Consultant in our initial review.

Regrettably, we were again faced with definite time constraints to be able to review the since revised project materials submitted by the Project Engineer, Bibbo Associates, as well as the review Memorandum prepared by Woodard & Curran (which also responds to our prior August 26th project review comments). Due to the Woodard and Curran September 4, 2015 Memo being submitted after close of the Town offices last Friday before a holiday weekend, we did not receive this information until this morning. We therefore have been given even less time to review the most recent information, even as this information suggests the Board is considering this project for a conditional final subdivision approval. However, it is obvious from this most recent re-submittal that fundamental questions of the project's design have not yet been addressed by the Applicant.

Accordingly, the following information was prepared by our office in the very short time allotted. We believe it is necessary to document our objection to the position taken by the Woodard & Curran review Memo so that the Board might fully understand the relevance of our prior comments as they relate to this especially sensitive environmental setting on the shoreline of the Amawalk.

We continue to believe, and it is our firm professional opinion, that the design has very significant flaws that must be thoroughly addressed before any form of final subdivision approval should be considered by your Board. The primary issues continue to be improper soil classification that affects the entire project's design, and that the phosphorus loading projected by the Project Engineer considerably understates the potential impact to the Amawalk Reservoir. As the Board is very aware, the Amawalk is a drinking water source reservoir of the Croton system that is classified as a phosphorus impaired water body. This impairment was caused by prior area developments and now is mandated for phosphorus reduction. The use of a region-specific forest phosphorus export coefficient (which was verified for its accuracy by additional DEP studies) indicates the proposed development will increase phosphorus export to the Amawalk. As the board may be aware, each pound of phosphorus generates approximately 500 pounds of algae to the detriment of its water users and to the degradation of this valuable and essential resource.

The importance of accurate modeling used to predict the results of a development cannot be understated. And in this setting, proper modeling using proper soil classifications and accurate phosphorus export coefficients is critical.

Please consider the following comments as you review the recent materials submitted by the Project Engineer for the proposed Granite Pointe subdivision proposal and the September 4th review comments of Woodard & Curran:

1. **Site Soil Classification**. We agree that the NYSDEC Design Manual cites the NRCS soil Hydrologic Soil Group system for use as one of the variables used in stormwater management modeling. However, there is no requirement in the NYSDEC Design Manual that site soil classifications be determined using the NRCS web-based mapping.

   The NRCS soil mapping is a valuable planning tool, but the soils mapped must be verified to accurately identify site soils. The Preface to the NRCS Soil Survey information for Putnam and Westchester County (page 2) states that "[A]lthough soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases." and that "[g]reat differences in soil properties can occur in short distances." While the NRCS Soil Data is a helpful planning tool, site soils must be verified by the results of field testing when there is any contradiction of soil characteristics between mapped conditions and actual field conditions.

   Our office strongly disputes the Woodard & Curran Memo statement that the NRCS Database is the industry standard of care used in stormwater modelling. Finding soil characteristics dissimilar to the mapped Soil Survey information is not that uncommon,

especially in some areas in the Hudson Valley where the soil type must be classified due to its contrast with the Soil Survey descriptions. In all cases, the standard of care is to ensure that the proper data is being used to develop the design.

We agree that soil percolation tests at one discrete soil layer does not classify a soil. However, the characteristics are so markedly different from an HSG C soil (as described in our August 26th correspondence) that further testing must be required. The soil description results shown on the subdivision plan indicate fine to medium sand, some with cobbles, at numerous locations. These soil characteristics are indicative of HSG A and B soils and are not at all indicative of Paxton soil characteristics. The depth to groundwater in all of the 23 test pits but one (Lot 14) was reported greater than 7 feet. The characteristics of a Paxton soil include groundwater depth of 1.5 to 2.5 feet. This is an additional significant difference when comparing these contrasting soil characteristics.

All indicators call to doubt the soil type used in the project's stormwater model. As noted in our previous comments, the proper classification of site soils is a fundamental basis on which the stormwater model and the project's design is thereafter developed. Its accuracy is imperative.

Our request was, and is, for a Soil Scientist to classify the site soils for use in developing an accurate stormwater model. If the stormwater model is inaccurate due to improper soil classification, the stormwater management system will be found to be significantly undersized, the Pollutant Loading Analysis will need to be corrected, and lot configuration and a reduction in lot count may result.

2. **Phosphorus Loading Export Coefficient**. The EPA recommended to the NYC DEP that projects within the NYC Watershed result in no net increase in phosphorus loadings over pre-existing construction conditions. This is reasserted in your Town Code and is a minimum requirement of the NYSDEC. Additionally, the EPA recommended that Stormwater Pollution Prevention Plans include as much site-specific data as possible, and that the most conservative measures be utilized to reduce stormwater loading. Further, the Town is also mandated to reduce phosphorus loading into the Amawalk reservoir.

Given the forested location of this site on the shores of the Amawalk, using a pollutant loading coefficient that was developed from studies in the 1980s from northern Virginia forests and found to be well below the results of regional monitoring studies is not a reasonable decision. The DEP studies of regional phosphorus export loading rates were based on 11 studies in this region of the country and were later verified as accurate by a subsequent 3 year long DEP forest land monitoring study. With the availability of a site-specific, verified phosphorus export loading coefficient, its use would be a more conservative approach to the project's design. The environmental sensitivity of this location certainly deserves a conservative approach to address this pivotal issue.

For the benefit of the Amawalk receiving source, it would be most prudent to utilize the more conservative and verified DEP phosphorus loading coefficient export values.

3. **Culvert Replacement on Tomahawk Street**. The modeling of the existing culvert in pre- and post-development conditions is inaccurate. No consideration was given to the street acting as a weir in the HydroCad drainage analysis. The model using the street as a weir may have resulted in a different culvert size selection.

   More importantly, there is no indication in the stormwater materials submitted of what effects increasing culvert flow capacity would have on downstream properties. The question of whether property damage will result from the culvert replacement does not appear to have been considered. Downstream drainage structures should also be reviewed in the determination of results of increasing culvert size.

4. **Wetland Jurisdictional Information**. It is important to investigate the relative location of the wetland located in the southwest corner of the property in relation to the adjacent NYSDEC Wetland F-60. This separation distance should have been determined at the time this on-site wetland was to be re-delineated, but the Board waived this requirement, according to Woodard & Curran's Memo.

   If the on-site wetland discharges into the NYSDEC regulated wetland and is located within 150 meters (164 feet) of the boundary of Wetland F-60, the on-site wetland may be considered hydrologically linked. If that is the case, the 100 feet wide adjacent wetland buffer area would apply to the on-site wetland. Application of a NYSDEC 100 feet wide wetland buffer would require a revision of a portion of the subdivision's lot configuration.

   The purpose of disturbing this natural wetland resource feature is unclear. As previously stated, the stormwater basin can be relocated to avoid this planned wetland disturbance.

5. Stormwater Management Maintenance. Although our office has not had the opportunity to review the stormwater maintenance agreement, we ask the Board to carefully consider how effective this agreement may be while also considering what may result if it proves ineffective.

   Expecting that an average homeowner would understand how to maintain a stormwater basin is extremely optimistic, let alone the cost factor imposed to do so. The components of the stormwater management system must be maintained or it will fail. This setting deserves a regimented approach to periodic cleaning of the hydrodynamic separators and removal of sediment to keep the infiltration basis functioning as designed. Homeowner's Association participation is also historically poor for these type of non-routine maintenance responsibilities.

Finally, the latest Woodard & Curran September 4, 2015 project review Memorandum has 8 and one-half pages of outstanding comments totaling 28 items that are noted as required, not addressed, or partially addressed. All of these items remain to be resolved after all of the numerous submissions and revisions of the project's plans, reports and investigations.

Based on the large number Of items yet to be resolved, it does not appear that the Board should consider any form of conditional final subdivision approval. The items noted as incomplete are too numerous and too important to not minimally require the submittal of a final subdivision design that is fully documented so that your Board may be confident that the resulting consequences of this development will not harm the drinking water supply, the environment and the community.

Thank you for your diligent consideration of these comments offered to inform your Board. I would be pleased to attend your Board meeting to answer questions you may have.

Sincerely,
David Clouser & Associates

David B. Clouser, PE, LS
NYS Professional Engineer No. 069334

cc: Julia Rellou, member of the Environmental and Community Advocates
David K. Gordon, Esq.

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October 1, 2025

Mr. John Currie, Chair
Town of Somers Planning Board
Somers Town House
335 Route 202
Somers, New York 10589

Re: Granite Pointe Subdivision;
Final Supplemental Environmental Impact Statement (FSEIS) Completeness and SEQRA Findings Statement;

Dear Mr. Currie and Members of the Board:

I submit the following comments on behalf of the Croton Watershed Clean Water Coalition ("CWCWC"), a not-for profit organization dedicated to the protection and preservation of the Croton watershed and its reservoirs. The Croton supplies 10% of the New York metropolitan area's needs. In times of drought, it can be called upon to supply up to 30%.

CWCWC appreciates the opportunity to comment to the Somers Planning Board ("Board") on the Granite Pointe development ("project"), a 23-unit residential development proposed by Suelain Realty ("Applicant") located on a peninsula extending into the Amawalk reservoir. CWCWC has remained concerned regarding the project's environmental impacts and our original comments date back to 2004 and in 2006 we retained the services of hydrogeologist John Conrad who submitted comments on our behalf.

Pursuant to the analysis below, we respectfully request that the Board refrain from accepting as complete the project's State Environmental Quality Review Act ("SEQRA") findings statement based upon the Final Supplemental Environmental Impact Statement ("FSEIS") until the Board has fully reviewed the project's phosphorus loading impacts and has crafted appropriate mitigation measures as required by SEQRA and the Federal Clean Water Act ("CWA").[1]

[1] 33 U.S.C. §1313.

CWCWC identified phosphorus loadings as a significant issue requiring study in 2004. Specifically, on May 26, 2004, CWCWC urged the Board to revise the project's Stormwater Pollution Prevention Plan ("SWPPP") to include a complete phosphorus loading analysis:

> According to the Nonpoint Source Implementation of Phase II TMDLs,[2] April 2001 by the DEC and DEP, the phosphorus reduction for the Amawalk reservoir is calculated at 268 lbs/year. Of these, Somers has been allocated a reduction of 92 lbs/year. The applicant's Stormwater Pollution Prevention Plan (SPPP) will have to comply with the Phase II stormwater regulations, the NYS Stormwater Design Manual, October 2001, and more recent values of pollutant removal coefficients.

CWCWC also stated in a letter dated March 24, 2004 that:

> It is difficult to conceive how this 23-luxury home development on a 29-acre peninsula jutting into the Amawalk could, in any way, contribute to the reduction of phosphorus impacting this reservoir.

Now, nine years later, these concerns have only heightened as awareness of phosphorus has become more widespread and its removal targeted by a number of regulatory programs. Reflecting this awareness, Westchester County Legislators Harckham and Kaplowitz requested the following in a letter of September 11, 2013:

> We respectfully urge the Board to carefully evaluate whether the 2013 FSEIS and Findings Statement adequately identify and mitigate all impacts associated with the proposed site remediation, as well as whether the previous FEIS and Findings Statement for the Preliminary Subdivision Plat at Granite Pointe warrant revision because of new requirements and other changes during the last fifteen years.
>
> The FSEIS will also not address regulatory and other changes that have occurred since the Board's adoption of the Final Environmental Impact Statement ("FEIS") for the project in 1997 and the issuance of a Findings Statement in 1998. The last fifteen years have introduced new federal and state regulatory requirements in the East-

[2] A TMDL describes a value of the maximum amount of a pollutant that a body of water can receive while still meeting water quality standards.

of-Hudson watershed in which the site is located. For example, phosphorus Total Maximum Daily Loads ("TMDLs"), Municipal Separate Storm Sewer System ("MS4") permitting, New York City watershed regulations, Final Supplemental Environmental Impact Statement (FSEIS) Completeness Review and amended New York subsurface treatment system regulations (septics), and EPA surface water treatment rules are now applicable to the development of the site and to the protection of the Amawalk Reservoir, a drinking water supply for 40,000 individuals.

Unfortunately, despite CWCWC's identification of the issue almost ten tears ago, the SEIS's scope did not identify as an issue the project's physical impact upon the Croton system resulting from the project's annual total phosphorus ("TP") loadings.

Fortunately, it is still not too late in the process to require a loading analysis and determine appropriate mitigation. While CWCWC applauds the Board for its open process and inclusiveness in drafting its FSEIS and proposed Findings Statement, we note that none of the FSEIS Appendices were available on the Town's website, including the project's SWPPP. The Environmental Conservation Law ("ECL") requires the full draft and final EISs and appendices to be available to the public on internet. ECL § 8-0109(6).

Identification of the TP loading in a SWPPP is a pre-requisite to assessing the project's consistency with Federal, State and local laws designed to rehabilitate the Croton's polluted reservoirs. The FSEIS's lack of a pollutant loading analysis renders it impossible for involved agencies such as the New York State Department of Environmental Conservation ("DEC") and New York City Department of Environmental Protection ("DEP") or the public to assess TP impacts.

In order to comply with SEQRA's "hard look" requirement, the Applicant must complete a pollutant loading analysis for TP identifying the project's pre-development loadings and must detail precisely how the Applicant will achieve a "no net increase" in TP. This loading analysis must be completed in a supplemental report. (*See* discussion of 6 NYCRR §617.9[a][7][i] below).

To advance the state and Croton municipalities' water quality goals, the project should result in an overall *reduction* of TP loadings as compared with pre-development loadings. In addition, the supplemental report should discuss in precise terms (pound per acre per year) how the Applicant's TP mitigation measures are consistent with state, regional and local efforts to reduce phosphorus loadings in the Croton.

As set forth below, the Board as lead agency must exercise its authority under SEQRA to ensure that the project does not result in further degradation of water quality in the Amawalk, thereby frustrating Somers' mandated reduction strategies targeting phosphorus, the primary pollutant of concern ("POC").

I. Federal, State and Local Regulatory Framework

To achieve the CWA's goal of rehabilitating the nation's waters, three primary initiatives have been implemented by the states - waterbody use classifications, water quality standards ("WQS") and antidegradation.

A. WQS and TMDLs

With a target year of 1979, the CWA required states:

> to study their water bodies, set quality standards, prioritize their water-quality improvement needs, and establish Total Maximum Daily Loads ("TMDLs") for pollutants. The benefit of this approach is that it facilitates the state's ability to meet its water-quality standards by controlling those sources of pollution that are easiest to control.

Natural Resources Defense Council, Inc. v. Fox, 30 F.Supp.2d 369, 374 (S.D.N.Y. 1998).

Almost twenty years later, DEC finally compiled a list of the state's polluted waterbodies. DEC identified the Amawalk as in violation of the state's water quality standard ("WQS") for phosphorus.

The state's WQS for phosphorus permits *no discharge of any amount* "that will result in growths of algae, weeds and slimes that will impair the waters for their best usages." 6 NYCRRR §703.2. The Amawalk is one of eight Croton reservoirs overloaded with phosphorus, a condition which poses a serious threat to public health and safety. [3]

[3] As explained by the NYS Attorney General's office:

> Each year during the summer and fall, phosphorus in the New Croton sets off a biological chain reaction. It promotes algae blooms that result in poor water taste, odor and color. Phosphorus-induced algae blooms also reduce dissolved oxygen in the bottom waters (due to increased bacteria ingesting dead algae), cause increased levels of the heavy metal pollutants iron and manganese, and increase levels of organic carbon. The chlorine-based disinfection of waters that are high

DEC then developed Phase I and Phase II TMDL implementation plans for the Croton targeting reductions in phosphorus to bring these waters back into compliance with state WQS. Phase II identified a total phosphorus reduction target of 14,861 pounds per year[4] ("lbs/yr") for the eight impaired Croton reservoirs and allocated specific reduction targets to each basin.

The Amawalk basin's annual reduction target is 269 lbs[5] of which Somers' (the "Town") allocation is 35% equaling 94 lbs/yr.[6] (*See* Attachment "A").

In 2009, DEC issued a specific TMDL plan for the Croton[7] ("2009 Plan"). The 2009 Plan states:

> This plan is largely structured to use existing programs, primarily the New York State Pollutant Discharge Elimination System (SPDES) General Permit # GP-0-08-002 for Stormwater Discharges from Municipal Separate Storm Sewer Systems (MS4s). New York State

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> in organic carbons results in the formation of chemicals [e.g. trihalomethanes] that are suspected of having a number of serious adverse health impacts.
>
> These water quality problems at the New Croton have created an 'operational nightmare' for DEP. As water quality degrades each summer (with a corresponding increase in customer complaints), DEP has to shut down the flow from the New Croton or blend New Croton waters with higher quality waters from the Catskills to dilute the pollutants. These reservoir shut downs often occur for months at a time. Such actions by DEP support a finding that the New Croton water quality often does not meet its New York State classification and best use as a source of drinking water. This problem, if unaddressed, could significantly worsen under drought conditions, flooding scenarios, operational failures in other portions of the water supply system, or increased demand for water in the New York metropolitan area over time.

"Reducing Harmful Phosphorus Pollution in the New York City Reservoirs through the Clean Water Act's 'Total Maximum Daily Load' requirements: a Case-study of the New Croton Reservoir and Recommendation to EPA." (7/5/00 Press Release and Report at www.oag.state.ny.us/press/2000/jul/jul05a_0 0.html).

[4] Or 6,741 kilograms per year. *See* "Nonpoint Source Implementation - Phase II NYC Watershed Phosphorus TMDL (March 2002) pg. 8 available at: http://www.dec.ny.gov/chemical/23835.html.

[5] 122 kilograms per year.

[6] "Nonpoint Source Implementation - Phase II NYC Watershed Phosphorus TMDL" (April 2001), at pg. 15 available at: http://www.dec.ny.gov/chemical/23835.html.

[7] "Croton Watershed Phase II Phosphorus TMDL Implementation Plan." Available at: http://www.dec.ny.gov/chemical/23835.html.

has designated each municipality in the Croton watershed as an entity requiring Phase II stormwater permit coverage. GP-0-08-002 requires MS4 permittees to develop, implement and enforce a stormwater management program (SWMP) to reduce the discharge of pollutants from their MS4s in accordance with NYS Environmental Conservation Law and the Clean Water Act.

The 2009 Plan identifies high-intensity development areas where stormwater retrofits are projected to reduce existing TP loadings.[8] Retrofitting Somers's high-intensity developed areas would reduce the Town's allocation from 94 lbs/yr to 28 lbs/yr. (*See* excerpt from 2009 Plan included herewith as Attachment "B" [pg. 2 of 2] identifying the projected reduction as 30 kg/yr [66 lbs]).

However, DEC identifies that the 2009 Plan's retrofits are only part of the solution:

> Targeting retrofits in high intensity developed areas alone will achieve perhaps 20% of the required phosphorus reductions. Therefore, retrofits in lower intensity urban areas and non-urban areas may be required, along with other permit compliance measures to further reduce phosphorus, as part of achieving compliance with the TMDLs.

Attachment B, (1 of 2). As further explained below, the Town has joined with other Croton municipalities as part of the East of Hudson Watershed Corporation ("EOHWC") to achieve a "bubble compliance" with DEC's TMDL reduction requirements.

However, the "bubble compliance" does not extend to private developers, such as the Applicant, whose project may reverse EOHWC phosphorus reduction efforts. Consequently, the lead agency must recognize that the Town remains under the affirmative duty to reduce its annual *non-point* source ("NPS") loads to the Amawalk by 28 lbs/yr.

II. Implementation

A. The MS4 Permit

[8] Only 20% of the Croton's phosphorus loads originate from forests. *See* "Nonpoint Source Implementation - Phase II NYC Watershed Phosphorus TMDL (March 2002) pg. 7 available at: http://www.dec.ny.gov/chemical/23835.html.

Implementing the 2009 Plan, DEC's SPDES General Permit[9] for stormwater discharges from MS4s (GP-0-10-002) states:

> *Covered entities* must develop (*for newly authorized MS4s, implement*) and enforce a *SWMP* [Stormwater Management Plan] designed to reduce the *discharge* of pollutants from *small MS4s* to the *maximum extent practicable* ("MEP") in order to protect water quality and to satisfy the appropriate water quality requirements of the ECL and the CWA. The objective of the permit is for MS4s to assure achievement of the applicable water quality standards.[10]
>
> [and]
>
> *Covered entities* shall modify their *SWMP* to meet the additional requirements as set forth in Part IX.A to address phosphorus as the *POC* ['Pollutant of Concern"] for the portion of their *storm sewershed* in the watershed.[11]

Under the MS4 general permit, MS4 operators must modify their SWMPs to ensure that reduction of the pollutant of concern specified in the TMDL is achieved. *Id.* at 23.[12]

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[9] DEC also regulates phosphorus discharges under its SPDES stormwater permit. Specifically:

> [N]o SPDES or other permit shall be issued authorizing any such discharge:
>
> (e) When the conditions of the permit do not provide for compliance with the applicable requirements of the CWA, or regulations promulgated under the CWA; and...
>
> ...The provisions of each issued SPDES permit shall ensure compliance with... more stringent limitations, including those:
>
> (ii) necessary to implement a total maximum daily load/wasteload allocation/load allocation established pursuant to Section 303(d) of the Act and 40 CFR Part 130.7.

6 NYCRR §§750-1.3(e), 1.11(a)(5)(ii).

[10] Municipal Separate Storm Sewer Systems Permit, GP-0-10-002 (May 2010) at pg. 14 available at http://www.dec.ny.gov/chemical/43150.html.

[11] *Id.* at Part III(2)(b)(a).

[12] *See also* DEC's response to comment 27 in the "Croton Watershed Phase II TMDL Implementation Plan Comment Responsiveness Summary" (January 15, 2009) "*DEC is requiring all MS4s in the East of Hudson watershed to reduce phosphorus pollution in*

B. Somers' SWMP

Pursuant to the above, the Town's SWMP states it will meet the requirements of minimum measures 4 and 5 of the SPDES General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s), as amended or revised. Specifically, the Town must:

- Minimize increases in pollution caused by stormwater runoff from land development activities which would otherwise degrade local water quality;

- Reduce… nonpoint source pollution, wherever possible, through stormwater management practices and to ensure that these management practices are properly maintained and eliminate threats to public safety.[13]

The Town Code requires that SWPPPs meet DEC's enhanced phosphorus removal standards 93-7(A)(1) and that SWPPPs:

> shall also include water quantity and water quality controls (postconstruction stormwater runoff controls) designed in conformance with the enhanced phosphorus removal standards in the New York State Stormwater Management Design Manual.

Town Code at 93-6(A)(2).[14]

Significantly the MS4 Permit requires that:

> *Once a TMDL is issued for an impaired water, the no net increase will be the minimum requirement.*[15] (Emphasis added).

C. SEQRA

SEQRA requires the lead agency to certify that the action is one that avoids or minimizes adverse environmental impacts to the maximum extent practicable.[16]

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the NYC watershed through compliance in the MS4 General Permit." At: http://www.dec.ny.gov/chemical/23835.html.

[13] Town Code at 93-2.

[14] Available at: http://ecode360.com/SO0406.

[15] "2010 MS4 Permit (GP-0-10-002) Responsiveness Summary Response" (May 2010) to comment 39 at pg. 26. Available at http://www.dec.ny.gov/chemical/43150.html.

[16] 6 NYCRR §617.11(d)(5).

DEC's 2009 plan as well as the EPA, the National Research Council,[17] and case law all clearly rely upon the lead agency under SEQRA to analyze and mitigate phosphorus loadings in order to meet state WQS.

For example, the 2009 Plan states that local governments "*provide the first line of regulatory oversight by controlling local land use activity.*" *Id.* at 6; Emphasis added). Indeed:

> *Each local government in the Croton watershed is required to collect basic site specific data for all projects* and programs *within their jurisdiction that potentially affect phosphorus loads* and monitor project and program implementation status.

See Id. at pg. 6 "Task 2.1a Local Government"; Emphasis added.

Similarly, EPA recommended that projects in the NYC watershed result in a "no net increase in [phosphorus] loadings over pre-existing construction conditions." EPA further urged that stormwater management plans "include as much site-specific data as possible and that the most conservative measures are utilized to reduce stormwater loadings."[18] (*See* Attachment "C", excerpt from EPA Report).

Additionally, the National Research Council's assessment of efforts to rehabilitate NYC's watershed[19] cited SEQRA as the only means to implement the CWA's antidegradation policy:

> As set forth in federal regulations, *antidegradation dictates that waterbodies cannot be allowed to sustain pollutant loadings that will prevent them from meeting their specific use classification* and associated water quality criteria. [Antidegradation's] most important role is to describe the necessary steps that must be taken when

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[17] The National Research Council is the working arm of the United States National Academies, (comprised of the National Academy of Sciences, National Academy of Engineering and the Institute of Medicine) which produces reports that shape policies, inform public opinion, and advance the pursuit of science, engineering, and medicine.
[18] "Assessing New York City's Watershed Protection Program" (May 2000) at pg. 192; Available at: http://www.epa.gov/region2/water/nycshed/fadmidrev.pdf.
[19] "Watershed Management for Potable Water Supply: Assessing the New York City Strategy" (2000). Available at http://www.nap.edu/openbook.php?record_id=9677&page=360.

> additional pollutant loading is proposed that would eliminate part or all of a waterbody's assimilative capacity...[20]
>
> *An explicit consideration of a receiving water's assimilative capacity should be required as part of draft environmental impact statements....* The stated purpose of antidegradation is for communities, regulators, and dischargers to consider the assimilative capacity of waterbodies. However, this language is not part of federal regulations and, as a consequence, most state antidegradation policies do not require an explicit consideration of assimilative capacity. Although such a consideration is an integral part of the SPDES permitting program, it is less obvious during the SEQR process. *Because SEQR is the only avenue for regulating nonpoint sources that will impact water quality, this requirement for addressing assimilative capacity is critical if the SEQR process is to be relied upon for implementing New York's antidegradation policy.*

Id. at pg. 373, Emphasis added.

In addition to implementing antidegradation, the lead agency must identify and ensure mitigation of impacts such as phosphorus loadings – even where the expertise for such decisions may lie elsewhere. (*See* for example, *Coca Cola Bottling Co. v DEC of Estimate,* 72 NY2d 674 (1998), holding that while a lead agency may rely on outside sources, it must exercise its own critical judgment and is principally responsible for crafting appropriate mitigation).

The matter of *County of Orange v Village of Kiryas Joel*, 44 AD3d 765, 768 (2d Dept 2007) is directly on point:

> Where an agency fails or refuses to undertake necessary analyses, improperly defers or delays a full and complete consideration of relevant areas of environmental concern, or does not support its conclusions with rationally-based assumptions and studies, the SEQRA findings statement approving the FEIS must be vacated as arbitrary and irrational.

(See also Penfield Panorama Area Community, Inc. v Town of Penfield Planning Bd. 253 AD2d 342, [4th Dept 1999] the lead agency "must exercise its critical judgment on all of the issues presented" during the SEQRA review; and

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[20] "Assimilative capacity" refers to the ability of a body of water to cleanse itself; its capacity to receive waste waters or toxic materials without deleterious effects and without damage to aquatic life or humans who consume the water.

Department of Environmental Protection v. Department of Environmental Conservation, 120 AD2d 166 [3rd Dept 1986] where compliance with another agency's regulations does not absolve the lead agency from reviewing the project's impacts).

Finally, SEQRA explicitly requires inquiry into whether a project creates "a material conflict with a community's current plans or goals as officially approved or adopted"[21] such as the Croton TMDL program.

III. The Granite Pointe Project

The original Environmental Assessment Form ("EAF") dated July 24, 1987 indicated that the project will convert between approximately 20 acres of site's 28 acres into impervious surfaces and developed open spaces. (Id. at B[1][b]). The most recent site plan included with the FSEIS shows that ultimately most of the site will be disturbed when considering the disturbance will be required for the stormwater detention basins and remediation of the lead and other substances that was not considered by the EAF. As a result, there is the potential for a significant increase in phosphorus to the Amawalk as demonstrated below.

The basics are not in dispute though various stormwater modeling may be employed (and EPA recommends using the most conservative model).

Mature forests produce very little phosphorus A 1996 DEP report[22] analyzed 195 pollutant loading studies. Of these DEP selected 11 conducted in New York and Connecticut which most closely resembled conditions in the Croton. DEP then averaged the results from these studies to find that 0.05 per kilogram per hectare per year [equal to 0.045 per acre per year ("lbs/acre/yr")[23] was the appropriate export coefficient for phosphorus loadings from forested areas in the Croton.

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[21] 6 NYCRR §617.7(c)(1)(iv).

[22] "Methodology for Calculating Phase I Total Maximum Daily Loads (TMDLs) of Phosphorus for New York City Drinking Water Reservoirs" (June 1996).

[23] That export coefficient was less than half the 0.10 lbs ("lbs/acre/yr") which DEC had recommended in its 1993 Stormwater Guidance Manual. (*See* Attachment "F" also supplied to the Board with my comments at the public hearing on June 25, 2013. The discrepancy between DEC's guidance manual and more recent testing is most likely because DEC's figure was tabulated from older studies from forests in Northern Virginia and conditions in the Pacific Northwest.

That figure has been cited in every TMDL report for the Croton.[24] That figure is also consistent with three years of phosphorus export studies conducted in NYC's Catskill watershed where the annual TP export averaged .046 lbs/acre/yr.[25] (*See* Attachment "D" from DEP Report).

A. Pre-development

Applying the above figures to the 25 acres of forest to be removed by the Applicant, 25 acres of forest would produce approximately 1.15 phosphorus per year. Applying DEC's more generic 0.10 export coefficient, 25 forested acres would produce 2.5 pounds of phosphorus annually. [26]

Thus the existing forest under threat of removal produces 1.15 to 2.5 lbs of TP per year.

B. Post-development

Applying loading coefficients prepared by the EOHWC show phosphorus loads from impervious surfaces and developed open spaces to be more than three times the amount found in runoff from forests. (*See* Attachment "E").

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[24] NYCDEP: "METHODOLOGY FOR CALCULATING PHASE II TMDLS OF PHOSPHORUS FOR NYC DRINKING WATER RESERVOIRS" (March 1999) (pgs. 1-33).
NYCDEP: "DEVELOPMENT OF A WATER QUALITY GUIDANCE VALUE FOR PHASE II TMDLS IN THE NYC RESERVOIRS" (March 1999) (pgs. 1-53).
NYCDEP: "PROPOSED PHASE II PHOSPHORUS TMDL CALCULATIONS, FACT SHEETS FOR THE CROTON SYSTEM" (March 1999).
NYCDEC: "PHASE II PHOSPHORUS TMDLS FOR RESERVOIRS IN THE NYC WATER SUPPLY WATERSHED." (June 2000).
NYCDEC and NYCDEP "NONPOINT SOURCE IMPLEMENTATION OF THE PHASE II TMDLS" (April (2001).
NYCDEC: "INTERIM REPORT NONPOINT SOURCE IMPLEMENTATION OF THE PHASE II TMDLS IN THE NYC WATERSHED" (March 2002).

[25] DEP Appendix C.1 "Analysis of Impacts Associated with Stormwater at the Proposed Belleayre Resort." (April 2004) at pg. 15. Full report available at: http://www.nyc.gov/html/dep/pdf/belleayre/appendixc1.pdf.

[26] See also Attachment B showing impervious areas and developed open spaces to generate more than 3 times more phosphorus than forests. (Presentation by Rahul Verma, P.E., LEED AP, Executive Director, East of Hudson Watershed Corporation at the 2012 NYWEA Watershed Science and Technical Conference September 14, 2012. Available at: http://www.dos.ny.gov/watershed/2012presentations/NYWEA2012-Moving%20Watershed%20Management%20Into%20The%20Watershed.pdf.)

Similarly, applying DEC's export coefficient[27] of 0.80 lbs/acre/year to the project's 23 residences developed on approximately 23 acres results in a TP export of approximately 18.4 lbs/year. (*See* Attachment "F").

That is significant because each pound of phosphorus results in more than 500 lbs of algae growth.[28] As noted above, algae in drinking water sources, when mixed with chlorine as a disinfectant, produce by-products (trihalomethanes) that can be a health hazard.[29]

It is also significant because TP is extremely expensive to remediate.

The Town has joined the EOHWC to use $38 million dollars in ratepayers' money to reduce existing phosphorus loads through retrofits. The EOHWC treasurer has stated that it costs approximately $75,000 to remove one pound of TP from existing stormwater.

As above, even were all the retrofits completed as contemplated by the 2009 Plan, the Town would still need to reduce NPS TP by approximately 28 pounds per year. (See page 6 above). There is no justification to allow the mitigation of this project's phosphorus exports to be borne by water ratepayers, or the Town's taxpayers.

To the contrary, it is CWCWC's position that the project should reduce existing levels of TP export from the site thereby assisting the efforts by the Town and the EOHWC to bring the Amawalk back into compliance with state WQS. This view is shared by the attorney for the EOHWC.[30]

The FSEIS's failure to assess phosphorus also conflicts with New York's Antidegradation Policy as set forth above. Again, that policy requires that:

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[27] *See* Attachment "" Table 9 from DEC's 1992 publication "Reducing the Impacts from Stormwater."

[28] The formula for algae mass is 12C106 1H263 160110 14N15 31P1 with TP being the limiting factor. Source Dr. Jack Smith. *See also* http://www.cleanwatermn.org/learn/pdfs/Algae.pdf). Studies in the State of Maine show 1 lb. of TP producing 10,000 lbs. of algae. http://www.maine.gov/dep/land/watershed/fert/article.htm.

[29] *See* footnote 3 above and EPA's web site "Basic Information about Disinfection Byproducts in Drinking Water: Total Trihalomethanes, Haloacetic Acids, Bromate, and Chlorite" at: http://water.epa.gov/drink/contaminants/basicinformation/disinfectionbyproducts.cfm.

[30] Telephone conference between James Bacon and George Rodenhausen, Esq. June 2013.

> Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.[31]

Though the site plans show detention basins, there is no discussion as to how much phosphorus will be removed.

Under SEQRA, the FSEIS's failure to assess the project's phosphorus discharges renders the FSEIS incomplete.

For example, in *Matter of Kirk-Astor Drive Neighborhood Assn., et al., v. Town Board of Pittsford* 106 AD2d 868 (4th Dept 1984), the Court annulled a lead agency's SEQRA determination as the applicant:

> failed to provide complete information relating to water table, soil, surface water runoff, plant and animal life and other aspects of the proposed development...

Further, in *Brookville Taxpayers Ass'n v. Town of Oyster Bay*, N.Y.L.J., May 8, 1985, at 15, col. 3 (Sup. Ct. Nassau Co.), the Court determined an EIS was inadequate where the lead agency:

> failed to intelligently consider the Long Island Comprehensive Waste Water Treatment Management Plan prepared by the Long Island Regional Planning Board pursuant to the Clean Water Act section 208. That provision of the Clean Water Act requires areas identified by the Environmental Protection Agency and the states as being 'beset with substantial water quality control problems' to plan for area-wide wastewater treatment management.[32]

Here, the exact set of circumstances exist as in *Brookville*, where water quality plans comparable to the Croton's MS4 and TMDL programs were developed to bring state waters into compliance with the CWA.

Importantly, the Board's analysis of phosphorus cannot be deferred to DEC (or DEP) as it is the sole obligation of the lead agency *during* SEQRA to identify and require mitigation measures to protect WQS and ensure TMDL compliance. (See *Coca Cola Bottling Co.* et al.).

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[31] http://www.dec.ny.gov/docs/water_pdf/togs139.pdf.

[32] "Environmental Impact Review in New York State," *Gerrard, Ruzow, Weinberg* §8.05 citing 33 U.S.C. §1288(a)(2), (b).

In sum, the project is within the basin of the Amawalk reservoir which is impaired by phosphorus. Despite the extensive network of rules and regulations designed to stem the increase of phosphorus in these water bodies, the FSEIS utterly fails to disclose the quantity of the project's phosphorus loadings and impacts to the Amawalk.

IV. Supplemental Review

SEQRA provides:

> The lead agency may require a supplemental EIS, limited to the specific significant adverse environmental impacts not addressed or inadequately addressed in the EIS that arise from:
>
> ('a') changes proposed for the project; or
> ('b') newly discovered information; or
> ('c') a change in circumstances related to the project.[33]

If the lead agency learns of important new issues about significant adverse environmental effects regarding the proposed action in the course of receiving public comments or issues that were omitted or not adequately addressed in an EIS, the lead agency must require the preparation of the SEIS in order to solicit additional public comment on the new issues.[34] The cure requires the lead agency to prepare a new scoping document requesting not only compliance with all environmental regulations but also a reasonable range of alternatives that will "minimize to the maximum extent practicable" impacts to the environment. ECL §8-0109(2)(f).

Here, a supplemental SWPPP should:

- Discuss the project's pre-development baseline and post-development levels of phosphorus loadings to receiving waters.
- Address whether the project's phosphorus loadings will increase the amount of phosphorus Somers will need to remove as part of its TMDL allocation and MS4 requirements. (See GP-0-010-002 and the 2009 Plan.)[35]

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[33] 6 NYCRR. 617.9(a)(7(i)).
[34] 6 NYCRR §617.9(a)(7); and see discussion of *VLG Real Estate Developers v Goold*, Index No. 170227 (Sup. Ct. Rensselear County, December 19, 1989) "Environmental Impact Review in New York State," *Gerrard, Ruzow, Weinberg* at §3.13[1]).
[35] Available at: http://www.dec.ny.gov/docs/water_pdf/jan09crotontmdl.pdf.

- Address the assimilative capacity of the project site's receiving waters in order to implement New York's anti-degradation policy.[36]

CONCLUSION

As an MS4, the Town of Somers is required to significantly reduce existing phosphorus loads to the Amawalk reservoir. For that reason, the Board must ensure that baseline phosphorus loadings are accurately reported in order to compare the project's pre-development and post-development loadings. The failure to maintain or decrease pre-development phosphorus loadings would violate New York's antidegradation policy and shift the burden to offset phosphorus loadings to the Town of Somers or the EOHWC. Somers would then be forced to use tax dollars to expand its retrofitting of stormwater management systems to account for additional phosphorus loadings to the Amawalk – essentially subsidizing the development of the project. We recommend that the Board require a supplemental EIS to remedy the FSEIS's incomplete and inaccurate data and hold a public hearing on the SEIS scope consistent with SEQRA's requirements.

Respectfully submitted,

James Bacon

Cc: Mary Beth Murphy, Supervisor Town of Somers
Philip Bein, Watershed Inspector General

[36] http://www.nap.edu/openbook.php?record_id=9677&page=360; "SEQR is the only mechanism by which New York can implement its antidegradation policy for activities that cause nonpoint source pollution." At pg 369.

Via Facsimile and Electronic Mail

September 11, 2013

Mr. John Currie, Chair
Town of Somers Planning Board
Somers Town House
335 Route 202
Somers, New York 10589

Subject: Final Supplemental Environmental Impact Statement (FSEIS) Completeness Review and SEQRA Findings Statement; Granite Pointe Subdivision

Dear Mr. Currie and Members of the Board:

We write to urge the Somers Planning Board ("Board") to carefully consider its decision on the approval of the Final Supplemental Environment Impact Statement ("FSEIS") and State Environmental Quality Review Act ("SEQRA") Findings Statement for the Granite Pointe Subdivision.

As you and the Board are well aware, the Granite Pointe promontory on the Amawalk Reservoir and the proposed subdivision have attracted substantial comment by Somers residents, interested organizations, regulatory agencies, and elected offices. This is unsurprising, given the undeveloped and scenic character of the area, its location next to a drinking water reservoir, and the discovery of contamination at the site.

Currently, the Board is reviewing an FSEIS concerning the impacts and the mitigation of lead and arsenic contamination at the former shooting area on the site (Lots 10-13), as well as semi-volatile organic compounds ("SVOCs") at a different location (Lot 19). While the selected excavation and removal techniques selected in the FSEIS are designed to eliminate the sources of contamination on the site, these methods are the most invasive of all the alternatives considered. As such, the resulting impacts will have the longest-lasting effects on the area and affected population, especially in terms of visual impacts, public health, aesthetics, and wildlife habitat.

The FSEIS will also not address regulatory and other changes that have occurred since the Board's adoption of the Final Environmental Impact Statement ("FEIS") for the project in 1997 and the issuance of a Findings Statement in 1998. The last fifteen years have introduced new federal and state regulatory requirements in the East-of-Hudson watershed in which the site is located. For example, phosphorus Total Maximum Daily Loads ("TMDLs"), Municipal Separate Storm Sewer System ("MS4") permitting, New York City watershed regulations,

amended New York subsurface treatment system regulations (septics), and EPA surface water treatment rules are now applicable to the development of the site and to the protection of the Amawalk Reservoir, a drinking water supply for 40,000 individuals.

With this in mind, we respectfully urge the Board to carefully evaluate whether the 2013 FSEIS and Findings Statement adequately identify and mitigate all impacts associated with the proposed site remediation, as well as whether the previous FEIS and Findings Statement for the Preliminary Subdivision Plat at Granite Pointe warrant revision because of new requirements and other changes during the last fifteen years. In particular, the following items relate to these evaluations:

- The Granite Pointe promontory is unique in its undeveloped state and aesthetically-pleasing quality, which also provides habitat for wildlife and migratory birds. Efforts to conserve these characteristics – possibly in collaboration with the owner, town, interested organizations, and the community – should be encouraged.

- Impacts to wildlife and ecosystems should be assessed by qualified scientists. The FSEIS states that an analysis of fish and wildlife impacts was not undertaken nor warranted (FSEIS, Sec. III.D.e, page III-7). This is in contrast to the obvious natural attributes of this location.

- An analysis of visual impacts from remediation and site development should be part of the FSEIS and a revised FEIS. Such analyses are common in land development proposals. An updated visual impact analysis helps complete the record and provides all parties with a clear expectation of the project effects.

- The large quantity of contaminated soil removal adjacent to a drinking water body and to nearby residents with children requires the most effective techniques to prevent any dispersal of contaminants during excavation and hauling procedures.

- The number of trees removed should be limited to the greatest degree possible to preserve wildlife habitat and maintain ecosystem stability. The Finding Statement states that 30 Town regulated trees are proposed for removal (Findings, Sec. IV.A.1.f, page 6), but the FSEIS states that trees on lots will be "clear cut" (FSEIS, Sec. III.D.g, page III-7). No clear cutting should be permitted, and each tree in the affected area should be individually evaluated to prevent unnecessary removal.

- Monitoring wells should be installed at the site and periodic sampling should be required in order to identify the potential migration of residual contaminants to the Amawalk Reservoir. The draft Findings Statement states that monitoring wells are not required (Findings Statement at page 8). Over time, precipitation can result in leaching of contaminants to groundwater and to the Amawalk Reservoir, thus necessitating a monitoring program.

- The high levels of groundwater observed at some parts of the site indicate that septic system operation might become impaired. The FSEIS states that groundwater levels range from 7.51 ft. below grade to 16.02 ft below grade (FSEIS, Sec. III.D.h, at page III-7). However, the

Feb. 2013 NYSDEC Decision Document for the adjacent "Off-Site" remediation indicates groundwater levels ranging from 1 ft to 6 ft below grade. An adequate analysis of groundwater levels is paramount to evaluating septic system feasibility and proper design.

- New York State Department of Environmental Conservation has implemented a rigorous permit program for certain municipalities within the East-of-Hudson watershed, including Somers. Neither the FSEIS nor the FEIS address the enhanced requirements for phosphorus reduction. The documents should be updated to account for these requirements and to include necessary mitigation.

Thank you for your consideration of these comments. Please do not hesitate to contact us with any questions, etc. at (914) 995-2800.

Very truly yours,

Legislator Peter B. Harckham
Legislative District No. 2
Majority Leader
Chair, Sub-committee on Septic Systems

Legislator Michael B. Kaplowitz
Legislative District No. 4
Chair, Committee on Environment & Energy

Nicole Montesano

From: elizabeth barton <barton4990@hotmail.com>
Sent: Tuesday, December 2, 2025 4:47 PM
To: Wendy Getting; Nicole Montesano
Cc: Fredghigham@aol.com; Sarahdwilson@optonline.net; Lowerhudson@gmail.com; Earthnature365@gmail.com; Regina Blakeslee
Subject: Unaddressed by the Planning Board Current Impacts of the Granite Pointe Subdivision

This letter addresses current impacts of the Granite Pointe Subdivision, impacts your Board has not addressed to date, arising from:

a) the environmentally destructive remedial action of 7.4 acres, more than 25% of the 28.8-acre Granite Pointe site;

b) pervasive land conversion and loss of habitat across our area; and

c) climate change — rising frequency and intensity weather events that render unthinkable the loss of forest cover on a down-sloping promontory bordered on three sides by a primary public water supply.

1. Shouldn't the SEQRA hard-look requirement thoroughly address new information /current conditions based on the number, species, and significance (diameter at breast height) of trees removed by the 2023-2025 NYSDEC remedial action on the Granite Pointe site?

2. Shouldn't your Board be required to address the likelihood that contaminated soil may be prevalent on the remaining 21.4 acres (28.8 total acreage less 7.4 remediated acreage) and that may be "stirred up" or mobilized by development?

3. Shouldn't your Board as lead agency be required by SEQRA, as 2026 is almost here, to consider the impact of climate change locally and regionally? Would the Granite Pointe Subdivision, wrapped on three sides by the public water supply, survive a new Superstorm, as one is expected across our region as recently reported in The New York Times?

4. Shouldn't your Board as lead agency be required by SEQRA to consider the loss of the Granite Pointe open space -- one of few remaining privately owned forested tracts, in light of many other large developments and habitat loss in Northern Westchester and in Putnam Counties?

5. Do the remediation standards and protocol followed by NYSDEC fit the definition of new material information or substantial changes that require under SEQRA a hard look at all current conditions and impacts?

Sincerely,
Elizabeth Barton
Yorktown Heights, NY

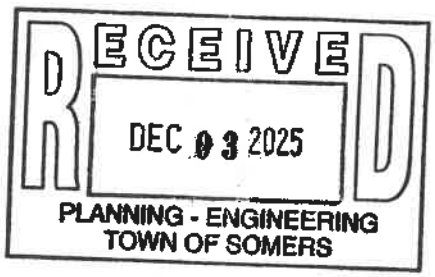
Sent from Outlook

WESTCHESTER COUNTY BOARD OF LEGISLATORS

Voice of the People of Westchester County for over 300 years

Erika L. Pierce
Legislator, 2nd District
Chair, Committee on Public Works & Transportation

Committee Assignments:
Budget & Appropriations
Human Services
Information Technology & Cybersecurity
Parks & Environment



December 1, 2025

Ms. Vicky Gannon, Chair and Planning Board Members
Town of Somers
Somers Town House
335 Route 202
Somers, New York 10589

Subject: Granite Pointe Subdivision

Dear Ms. Gannon and Members of the Planning Board:

As County Legislators, we have been hearing from residents regarding the proposed Granite Pointe Subdivision. We have reviewed a number of documents—certainly far fewer than those before the Planning Board—including a 2013 letter from former Legislators Pete Harckham and Michael Kaplowitz (enclosed). As you know, this project is on your upcoming agenda for what would be its 34th ninety-day extension, an extraordinary status for any application. Twelve years after the Harckham/Kaplowitz letter, their concerns are even more relevant, as new information and a better understanding of environmental and public-health risks highlight the need to re-evaluate the potential impacts of this project. In particular, drinking-water threats posed by contaminants that were largely unknown when this matter first came before the Planning Board have since become better understood, and NYCDEP has updated its watershed regulations to ensure adequate protection of water quality.

Given that the SEQRA process concluded more than a decade ago, has the Planning Board, as lead agency, evaluated whether newer information, updated regulations, or changes in circumstances warrant preparation of a Supplemental Environmental Impact Statement? The SEQRA Handbook emphasizes that a lead agency has a responsibility to consider whether newly discovered information or changed conditions may result in previously undisclosed or unevaluated impacts.

In 2017, the Planning Board re-granted conditional approval of this application. That resolution contains dozens of conditions, including 20 specific conditions that must be met before a plat can be signed and we appreciate your diligence to ensure that each and every one of those conditions are met before this application advances. However, after more than eight years and dozens of extensions, at what point does the Board conclude that the applicant is unable to satisfy these requirements? In 2004, the Planning Board rescinded final subdivision approval for this project based on newly discovered information and evidence regarding risks of health and environmental contamination. We hope the Board will again exercise the same diligence and care to protect the community and the watershed.

We write today to amplify the concerns expressed by our predecessors and to strongly encourage you to review this project using the laws, science, and guidance of 2025—not those of decades past. Approximately 40,000 Westchester residents rely on Amawalk as their public water supply, in addition

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800 Michaelian Office Bldg., 148 Martine Avenue, White Plains, N.Y. 10601 • www.westchesterlegislators.com • 914.995.2800 (main voice)

to the hundreds of thousands served through the larger Croton Reservoir System. To borrow from the title of an old television show, if eight is enough – 34 is clearly too much.

Thank you for your service.

Vedat Gashi, Chairman
Westchester County Legislator, District 4

Erika Pierce
Westchester County Legislator, District 2

Via Facsimile and Electronic Mail

September 11, 2013

Mr. John Currie, Chair
Town of Somers Planning Board
Somers Town House
335 Route 202
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Legislative District No. 2
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Chair, Sub-committee on Septic Systems

Legislator Michael B. Kaplowitz
Legislative District No. 4
Chair, Committee on Environment & Energy

Fred G. Higham

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December 1, 2025

Somers Planning Board
Town of Somers
335 Route 202
Somers, New York 10589

RE: Granite Pointe Subdivision on Amawalk Reservoir

Dear Ms. Vicky Gannon, Chairwoman,

According to the agenda for the Somers Planning Board Meeting for December 17, 2025 you will be urged to vote "YES" by "certain special interests" for the 34th three month extension of the Granite Pointe housing development. This extension process has now passed the 8 year mark. It is hard to believe that this ill-conceived monstrosity of an idea ever made it past the "what if" stage. One has to wonder why it ever got this far ?

As former Somers Planning Board member, attorney George Dieter wrote in a letter to the Somers Town Board on April 5, 2021:

> ***"What does seem clear is that tax dollars of Somers residents have been misused by allowing this environmentally destructive, unfit and irresponsible project to continue."***

Two years ago I joined a group of local citizens with the goal to **"Stop Development at Amawalk Reservoir's Granite Pointe"**. During this time period Supervisor Scorrano and I held at least six meetings regarding Granite Pointe. We both agreed that Granite Pointe is the most environmentally sensitive piece of property in all of Somers. At one point Supervisor Scorrano pointed out to me:

> ***"There are plenty of other places in Somers where new housing developments can be built with lesser environmental damage."***

Let's review the 6 basic reasons why the 36 year old anachronistic Granite Pointe housing development proposal is wrong on multiple levels. Yes, this development dates all the way back back to at least 1989 !

1). WRONG ON A MORAL BASIS: It's a question of right and wrong ! Why have the 35,000 residents of Yorktown and the 3,000 residents of Shenorock in Somers been kept in the dark in the past and now currently about how this proposed housing development will affect the quality of their future drinking water and the health of their families ? How would you feel if your family were treated this way ? Wouldn't you be upset ? **The many residents we have spoken to are, indeed, OUTRAGED !**

2). WRONG BECAUSE OF GRANITE POINTE'S LOCATION ON THE AMAWALK: Granite Pointe's 28.8 acres are surrounded on three sides by the Amawalk Reservoir. This reservoir is one of the shallowest of all the reservoirs that make up the Croton Reservoir system. It is not in great shape. Near water's edge, significant levels of algae growth can be seen in summer. In addition, high levels of sodium have been detected from road salt applications during winter months, which presents a particular health hazard for people who suffer from hypertension. How would you feel if one of your family member's or friends' health would be put in further jeopardy because of your "YES" vote ?

3). WRONG BECAUSE OF THE LOSS OF MATURE TREES THAT PROTECT THE ENVIRONMENT: Mature trees through their intricately woven root systems absorb nutrients and chemicals. At the same time their root systems keep soil in place, preventing soil erosion during intense rain storms. Most of the existing mature trees (90% +) at Granite Pointe will be removed during the arduous construction process of building 23 1-acre luxury homes there. Those mature trees will be replaced with hard surfaces composed of connecting roads, driveways, patios, walkways and roofs. Manicured lawns surrounding those homes will slope down towards the water line of the Amawalk Reservoir.

4). WRONG ON A TOXIC HAZARD LEVEL: Those manicured lawns complete with their brew of herbicides, insecticides and fertilizers will further pollute the Amawalk. Remember 1 pound of algae will result in 500 pounds of algae growth. The arduous construction process will also unearth the lead alimony, copper and other toxic chemicals left over from the target and trap shooting range debris below ground level. Also shooting range debris beyond the 7.4 acres level not captured by the recent NYSDEC Superfund Cleanup process will also seep into the Amawalk during the construction process.

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THESE SIX POINTS IS ARE NOT ROCKET SCIENCE. THEY ARE COMMON SENSE.

I have lived in Somers for over 48 years now. I love this town. As an old man, I know special places including Granite Pointe need to be protected for future generations to enjoy. As a member of the Somers Planning Board, you have a moral and legal responsibility to follow all applicable current environmental laws to protect the health and safety of our town's citizens and our neighbor citizens.

I urge you now, as a current member of the Somers Planning Board to halt the "rubber stamping" process for "certain special interests" in the Town of Somers. It is time to fight back and stand firm for the health and safety of the citizens of Somers , Yorktown and beyond. Please vote **NO !**

Sincerely yours,

Fred G. Higham

Fred G. Higham

23 Jean Way
Somers, NY 10589
home: 914-277-7803
fredghigham@aol.com
cell: 914-469-8524

December 1, 2025

Somers Planning Board
Town of Somers
335 Route 202
Somers, New York 10589

RE: Granite Pointe Subdivision on Amawalk Reservoir

Dear Members of the Somers Planning Board,

According to the agenda for the Somers Planning Board Meeting for December 17, 2025 you will be urged to vote "YES" by "certain special interests" for the 34th three month extension of the Granite Pointe housing development. This extension process has now passed the 8 year mark. It is hard to believe that this ill-conceived monstrosity of an idea ever made it past the "what if" stage. One has to wonder why it ever got this far ?

As former Somers Planning Board member, attorney George Dieter wrote in a letter to the Somers Town Board on April 5, 2021:

> ***"What does seem clear is that tax dollars of Somers residents have been misused by allowing this environmentally destructive, unfit and irresponsible project to continue."***

Two years ago I joined a group of local citizens with the goal to **"Stop Development at Amawalk Reservoir's Granite Pointe"**. During this time period Supervisor Scorrano and I held at least six meetings regarding Granite Pointe. We both agreed that Granite Pointe is the most environmentally sensitive piece of property in all of Somers. At one point Supervisor Scorrano pointed out to me:

> ***"There are plenty of other places in Somers where new housing developments can be built with lesser environmental damage."***

Let's review the 6 basic reasons why the 36 year old anachronistic Granite Pointe housing development proposal is wrong on multiple levels. Yes, this development dates all the way back back to at least 1989 !

1). **WRONG ON A MORAL BASIS:** It's a question of right and wrong ! Why have the 35,000 residents of Yorktown and the 3,000 residents of Shenorock in Somers been kept in the dark in the past and now currently about how this proposed housing development will affect the quality of their future drinking water and the health of their families ? How would you feel if your family were treated this way ? Wouldn't you be upset ? **The many residents we have spoken to are, indeed, OUTRAGED !**

2). **WRONG BECAUSE OF GRANITE POINTE'S LOCATION ON THE AMAWALK:** Granite Pointe's 28.8 acres are surrounded on three sides by the Amawalk Reservoir. This reservoir is one of the shallowest of all the reservoirs that make up the Croton Reservoir system. It is not in great shape. Near water's edge, significant levels of algae growth can be seen in summer. In addition, high levels of sodium have been detected from road salt applications during winter months, which presents a particular health hazard for people who suffer from hypertension. How would you feel if one of your family member's or friends' health would be put in further jeopardy because of your "YES" vote ?

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Fred G. Higham

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December 1, 2025

Somers Planning Board
Town of Somers
335 Route 202
Somers, New York 10589

RE: Granite Pointe Subdivision on Amawalk Reservoir

Dear Ms. Vicky Gannon, Chairwoman,

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Sincerely yours,

Fred G. Higham

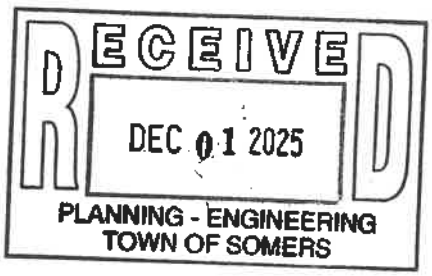
Nicole Montesano

From:	Sarah Wilson <sarahdwilson@optonline.net>
Sent:	Monday, December 1, 2025 4:25 PM
To:	Wendy Getting; Nicole Montesano
Cc:	regina.blakeslee@gmail.com; Julia Rellou; Fredghigham; George Klein
Subject:	34th Request for 90-day extension - Granite Pointe
Attachments:	Granite Pointe -- Highest End-Use Recommendations Report.pdf

Via Electronic Mail to: wgetting@somersny.gov; nmontesano@somersny.gov

For distribution to Somers Planning Board; with copy to Somers Town Board

December 1, 2025



Somers Planning Board

Town of Somers

335 Route 202

Somers, New York 10589

RE: Granite Pointe Subdivision on Amawalk Reservoir seeking 34th 90-day extension

Dear Members of the Somers Planning Board:

The Sierra Club is the largest and most enduring grassroots environmental organization in the United States. We amplify the power of millions of our members and supporters to defend everyone's right to a healthy environment and a sustainable world. The membership of the Sierra Club Lower Hudson Group encompasses Westchester, Rockland, Putnam, and southern Orange Counties. Part of Sierra Club's mission is to educate and enlist people to protect and restore the quality of the natural and human environment; and to use all lawful means to carry out these objectives.

Sierra Club Lower Hudson Group has long been opposed to conversion and development of the Granite Pointe property. We have pursued this mission jointly with other national and regional environmental organizations, including Natural Resources Defense Council (NRDC), NYPIRG, Riverkeeper, Croton Watershed Clean Water Coalition, and Federated Conservationists of Westchester County (FCWC) in writing to your Board in the past voicing our concerns with the Granite Pointe land conversion

proceeding. **We remain firmly opposed** to the Granite Pointe housing subdivision planned and approved by the Town of Somers to replace a forested promontory wrapped on three sides by the primary public water supply of 40,000 local-area residents and the site of a Westchester County 1990-designated Critical Environmental Area.

We have read the attached End-Use Report for Granite Pointe, independently researched, team produced including participation by NYCDEP, and coordinated by Westchester Land Trust's former Director of Conservation, acclaimed land conservationist Tom Andersen. **The Granite Pointe End-Use Report, requested by and presented to a predecessor Somers Town Board, determined that the highest end use of the Granite Pointe site is acquisition and preservation in its entirety as open space for watershed protection.** We have also been briefed regarding significant irregularities with Granite Pointe project engineering and project review to this point. Given this land conversion action's severe environmental and public resource impacts well beyond Somers' borders, we recommend that this matter be referred to the Somers Town Board.

We represent more than 800 members of Sierra Club Lower Hudson Group based in **Yorktown and Somers alone who are directly affected** by the decisions made by the Somers Planning Board with respect to this property. Environmental protection regulations at all government levels have been significantly strengthened and expanded ever since Granite Pointe first surfaced with the Somers Planning Board in 1988 and again in 1995; yet the Planning Board's Granite Pointe project review has not been updated to meet all current, stringent, environmental protection regulations starting with Town Code. We urge you to vote at your Planning Board meeting on December 17, 2025, to **deny any further extension of approvals** to the Granite Pointe Subdivision on the public water supply, on critical environmental and ecological assets, and on major public scenic resources.

Sincerely,

Sarah Wilson, Chair

George Klein, Vice Chair

SIERRA CLUB LOWER HUDSON GROUP

GRANITE POINTE END-USE REPORT
PRESENTED TO THE SOMERS TOWN BOARD
BY THE WESTCHESTER LAND TRUST

To: **Somers Town Board**
From: **Granite Pointe end-use committee**
Subject: **Use of the Granite Pointe property**
Date: **October 31, 2006**

The Granite Pointe property presents an opportunity for the Town of Somers to acquire an important unprotected tract. Granite Pointe's environmental value lies both in its proximity to a reservoir that supplies drinking water to New York City and part of Somers and surrounding communities, and in its potential to provide recreational opportunities in the western part of Town.

The Granite Pointe End Use Committee therefore recommends:

1. **The Granite Pointe property should be preserved as undeveloped open space to be used primarily for watershed protection.**
2. **The town should consider establishing a playground on one to two acres of the property along Route 118.**
3. **A hiking trail through the property should be established, and the Town should pursue an agreement with the New York City Department of Environmental Protection to allow the trail to cross onto DEP property at one or two locations so walkers may reach the shore of the Amawalk Reservoir.**
4. **The hiking trail should incorporate part of the historic, Revolutionary War-era road that runs east-west through the property, and historic markers or interpretive signs should be erected.**
5. **The Town should consider establishing a bike trail connecting the Granite Pointe property with the North County Trailway via Granite Springs Road.**

Discussion:

Recommendation 1
The Granite Pointe property should be preserved as undeveloped open space to be used primarily for watershed protection.

The committee believes Granite Pointe's highest and best use is as open space that protects the Amawalk Reservoir. The reservoir is part of New York City's Croton Reservoir system, and it also supplies drinking water to 1,053 households (4,200 residents) in Somers and 9,800 households (36,000 residents) in Yorktown. The reservoir is considered by the New York State Department of Environmental Conservation to be "phosphorus impaired," meaning that more than an acceptable amount of phosphorus

enters the reservoir, via tributaries, stormwater runoff, and groundwater affected by septic systems. It is well accepted among public health experts that public drinking water supplies, including those that are filtered, require an ample buffer of undeveloped land to help keep their water pure.

Recommendation 2

The town should consider establishing a playground on one to two acres of the property along Route 118.

The committee believes that one to two acres of the Granite Pointe property, near Granite Springs Road, should be set aside as the future site of a playground. The western part of Somers is under-served by parks facilities, and a playground could serve as a place for families, young children and the elderly to meet and gather. The Committee's recommendation is based on the opinion of the Somers Parks and Recreation Board that a playground on the site would be both feasible and desirable.

Recommendations 3 and 4

A hiking trail through the property should be established, and the Town should pursue an agreement with the New York City Department of Environmental Protection to allow the trail to cross onto DEP property at one or two locations to allow walkers to reach the shore of the Amawalk Reservoir.

The hiking trail should incorporate part of the historic, Revolutionary War-era road that runs east-west through the property, and historic markers or interpretive signs should be erected.

The committee recommends that the Granite Pointe property be the site of a walking trail that takes advantage of the land's topography and its proximity to the Amawalk Reservoir. Based on a review of GIS mapping, the committee believes the 28.8-acre property provides an excellent opportunity for a winding trail that runs primarily through the woods but which leads down to the water at one or two locations. The land along the shore of the reservoir is owned by the NYC DEP. Based on agreements between the DEP and adjacent landowners in other parts of Westchester (namely, Teatown Lake Reservation), the committee believes the DEP would be amenable to an agreement that allows walkers to cross onto its land to reach the shore of the reservoir or to reach places that afford views of the water. The Town should reach out to the DEP to secure such an agreement.

Recommendation 5

The Town should consider establishing a bike trail connecting the Granite Pointe property with the North County Trailway via Granite Springs Road.

Because trail networks and linkages are extremely popular, the committee believes that the relative proximity of Granite Point to the North County Trailway offers an opportunity for a bike connection via Granite Springs Road.

The committee also noted that in all likelihood, part of the Granite Pointe property will have to undergo a hazardous waste remediation to remove lead contamination on the site. The committee recommends that once the remediation is complete and the contamination is removed to safe levels, the Town should consider establishing a habitat restoration project to be used for, among other things, public education. If, after the area is remediated, it is compatible with active recreation, part of it also might be an appropriate place to establish playing fields in the future. The Town should also consider establishing a nature education center along Route 118 and next to the suggested playground.

The committee and its work:

The Granite Pointe End-Use Committee was established in September 2006 at the request of the Somers Town Board. Westchester Land Trust organized the committee, and provided staff and technical support. The committee members were Michael Barnhart, Somers Open Space Advisory Committee; Gary Friedman, chair of the Somers Parks and Recreation Board; Fred Koontz, executive director of Teatown Lake Reservation; and Town residents Julia Rellou and Olga Shamraj. Town Councilman Paul Meyer served a liaison to the Town Board. Richard Benning of the New York City Department of Environmental Protection attended one of the two meetings.

The committee met at the Somers Library on September 11 and October 12, and communicated frequently before and after via e-mail.

Marks DiPalermo Wilson
ATTORNEYS AT LAW

Marks DiPalermo Wilson PLLC
485 Madison Avenue
16th Floor
New York, NY 10022

o: 212.370.4477
f: 212.202.7877
w: www.mdw.law

VIA EMAIL

July 18, 2025

Michael C. Murphy
Associate Attorney, Office of General Counsel
New York State Department of Environmental Conservation
625 Broadway, 14th Floor
Albany, NY 12233-1500
P: (518) 402-8564
F: (518) 402-9018
michael.murphy1@dec.ny.gov

Re: Granite Pointe - Site No. C360107A

Dear Mr. Murphy:

As you know, we represent Suelain Realty (Suelain), owners of the Granite Point site on Tomahawk Street (Route #118) in Somers, NY (the "Granite Point Site").

This letter is a formal follow-up to correspondence that has occurred between us since January of 2023, including my most recent emails to you and Bureau Chief Andaloro last month.

The most recent correspondence relates to the issuance of DEC's final engineering report and Suelain's access to the site. While Suelain patiently awaits DEC's final report, its ability to use the property is stalled by an inability to obtain final subdivision approval from the Town of Somers and uncertainty as to its ability to access the property.

Town of Somers Plat Approval

The Town of Somers is unwilling to grant final plat approval until DEC's process is complete. In May of 2025, the Somers Planning Board granted its thirty-second extension to Suelain's subdivision application.

It is our belief that the length of time awaiting DEC's final action is unprecedented and is becoming increasingly problematic for both Suelain and the Town. Both Suelain and the Town would benefit by receiving any timeline for final resolution from DEC, even if only estimated.

Given the Granite Point Site's controversial history (including remaining - albeit minor - public pushback), we believe its continued presence on Town agendas has caused unnecessary

angst for the public and for municipal officials in the Town of Somers. Further, we believe that turnovers in municipal staff and board members will eliminate current institutional knowledge of the Granite Point Site's history, causing further potential complication and delay toward the Town's final action. To be clear, the Town's review of Suelain's subdivision application is complete and would be approved at this time if DEC's final report was issued.

For these reasons, Suelain is eager to see DEC's report finalized, for the matter to be removed from the Town's agendas, and for the property they purchased in 1992 to finally be utilized.

Access and Percolation Testing

Understanding that DEC's final engineering report may require additional time, Suelain hopes to take all other necessary steps to be able to finalize the plat, to the extent practicable, without it. In order to do so, Suelain requires access to the property - primarily to perform percolation testing necessary for the Westchester County Board of Health.

Please be advised that Suelain has conferred with contractors who are available to access the Granite Point Site sometime in August 2025 and perform this necessary percolation testing. Suelain may also wish to access the property to take photographs and video for development and marketing purposes. We respectfully ask that DEC advise before July 25, 2025 as to any objection to the above noted access.

I am available to speak on the telephone about any of the above at your convenience and can be reached at (914) 844-1909.

Very truly yours,

Kristen K. Wilson

Kristen Wilson

CC: Jennifer Andaloro, Remediation Bureau Chief, Office of General Counsel
Robert Scorrano, Somers Town Supervisor

Wendy Getting

From: Julia Rellou <earthnature365@gmail.com>
Sent: Wednesday, September 10, 2025 12:21 PM
To: Wendy Getting; Nicole Montesano
Subject: Fwd: Granite Pointe Subdivision - ADDITIONAL Material New Information
Attachments: AFFIDAVIT - EXPERT WRITTEN TESTIMONY OF DAVID CLOUSER, PE, LS.pdf

Please additionally distribute to each member of the Planning Board. Thank you.

------ Original Message ------
From: Julia Rellou <juliarellou@optimum.net>
To: supervisor@somersny.gov; tgarrity@somersny.gov; acirieco@somersny.gov; rclinchy@somersny.gov; wfaulkner@somersny.gov
Sent: Wednesday, July 9, 2025 07:34 PM
Subject: Fwd: Granite Pointe Subdivision - ADDITIONAL Material New Information

Members of the Somers Town Board:

The letter below and its attachment were also submitted to the Planning Board on March 12, 2025 conveying *additional* material new information. Thorough cross-referencing to the attached document provided specific page numbers and paragraphs. The painstakingly documented letter below raised and substantiated several counts of *additional* material new information also omitted from Granite Pointe project review by your Planning Board appointees, as was the material new information forwarded to you in my immediately prior letter.

Probable soil type misclassification; flawed stormwater management system design; and increased phosphorus discharges into the phosphorus-impaired Amawalk Reservoir all constitute additional material new information not reviewed and not addressed by your Planning Board appointees in their project review of and full approvals to the Granite Pointe Subdivision.

Under SEQRA and as self-declared lead agency for the Granite Pointe housing subdivision, the Planning Board whose members you appoint, and who act under authority delegated and appointed by you as Town-governing body, are required to take a hard-look examination of all impacts of the serious concerns and irregularities documented in the attached Affidavit. Your Planning Board appointees are **obligated under SEQRA to require independent, expert soil type analysis and certification of soil type classification; to require new and credible stormwater system design; to assess the Granite Pointe project's phosphorus discharges into Amawalk Reservoir; and to incorporate all of the above material new information, not considered in Granite Pointe project review and approvals**, into current review of Granite Pointe that should accountably and responsibly lead to revocation of final subdivision approvals and to the requirement of a comprehensive, SEQRA-compliant, SEIS that needs to encompass a first-ever on this project credible and truthful, hard-look environmental impact study.

Julia Rellou
Member of the Public
Former member of Somers Conservation Board

From: Julia Rellou <juliarellou@optonline.net>
Sent: Wednesday, March 12, 2025 10:36 AM
To: 'Wendy Getting' <wgetting@somersny.gov>; 'Nicole Montesano' <nmontesano@somersny.gov>
Cc: Involved Agency Officials
Subject: Granite Pointe Subdivision – Additional Material New Information

Via electronic mail to Somers Planning Board [Wendy Getting <wgetting@somersny.gov>; Nicole Montesano <nmontesano@somersny.gov>]

Chairman John Currie and Board Members
Town of Somers Planning Board
Somers Town House
335 Route 202
Somers, New York 10589

Dear Mr. Currie and Members of the Planning Board:

I submit the following additional comments in support of public demand that no further time extension of approvals be granted to the Granite Pointe Subdivision on Amawalk Reservoir.

The following and attached constitute additional material new information not considered to date in your review of the Granite Pointe Subdivision application, in the regranting of conditional final subdivision approvals in October 2015, and in extending final approvals every 90 days over the past 10 years:

Expert findings of probable soil type misclassification, flawed stormwater management system design, and increased phosphorus discharges into the phosphorus-impaired Amawalk Reservoir

I submit to your Board the attached Affidavit that was a primary Exhibit to a legal document received in your Planning & Engineering Office on *November 25, 2015*. The Affidavit submitted expert written testimony to the Court in support of an Article 78 Petition filed at that time. The Affidavit was the culmination of an independent, comprehensive engineering review of the Granite Pointe engineering file in person at the Planning & Engineering Office by respected engineer David Clouser, PE, LS. **Significant findings of concern included the probable misclassification of site soils impacting nearly all engineering assumptions and calculations, flawed stormwater management system design, and increased phosphorus loadings into the already phosphorus-impaired Amawalk Reservoir.** The public holds these independent expert engineering review findings to constitute **material new information** your Board did not examine as part of the Granite Pointe FSEIS and did not address before (re)granting conditional final subdivision approvals on *October 26, 2015* to the Granite Pointe Subdivision on Amawalk Reservoir.

- Par. 18 through Par. 27 of the attached Affidavit lead to the probable finding of the Granite Pointe project's **soil type misclassification**:

Par. 19: *"This critical step --- classifying the soils on site --- was overlooked in the Granite Pointe subdivision."*

Par. 24: *"Based upon this empirical evidence, in my professional opinion, the soils at Granite Pointe do not exhibit the soil characteristics of Paxton sandy loan HSG C soils."*

Par. 25: *"The significance of this misclassification is that by claiming that the on-site soils are the less permeable HSG C soils, the applicant has presented a drainage model showing the current volume of runoff in the site's presently undeveloped condition to be significantly greater than it actually is, since the site actually is composed primarily of the more retentive HSG A soils. Accordingly, the applicant's stormwater management system has not been designed to control and treat the very substantial difference in the*

volume of runoff that will be produced once [if] the site is developed as indicated on the subdivision plans."

- Par. 4 through Par. 6 of the attached Affidavit lead to the finding that the Granite Pointe **stormwater management system design was flawed** and will not control runoff:

Par. 5: *"For the reasons stated below, the stormwater pollution prevention plan approved by the Planning Board which documents the development's stormwater design did not calculate the volume of runoff correctly, nor provide adequate treatment or retention facilities, because the flawed design was based upon generalized soil mapping information, and not actual soil testing. Therefore, in my professional opinion, the approved stormwater management system has not been designed to control runoff, which will contain phosphorus and other pollutants, from entering the Amawalk."*

- Par. 6 through Par. 16 of the attached Affidavit lead to the finding that the Granite Pointe project **will increase phosphorus discharges** into the phosphorus-impaired Amawalk Reservoir:

Par. 7*: "As presently designed, the Granite Pointe subdivision will increase the amount of phosphorus (known as phosphorus loading) draining into the Amawalk. This is contrary to the dictates of both DEC and the Town of Somers, both of which call for reductions in pollutants entering the Amawalk."*

Par. 12: *"Despite these regulations, the approved stormwater management plan for Granite Pointe will not reduce the introduction of phosphorus into the Amawalk; it will increase the amount of phosphorus deposited into this reservoir."*

Par. 16: *"What is particularly troublesome is that each pound of phosphorus dumped into the Amawalk will produce an estimated 500 pounds of algae which when introduced into drinking water can create a health hazard. Hence, it is particularly critical in this proposed development's design to insure a reduction of phosphorus that will directly impact a public drinking water supply."*

Under SEQRA and as lead agency for the Granite Pointe housing subdivision, your Board is required to take a hard-look examination of all impacts of the serious concerns and irregularities documented in the attached Affidavit. Your Board is obligated under SEQRA to require independent, expert soil type analysis and certification of soil type classification; to require new and credible stormwater system design; to assess the Granite Pointe project's phosphorus discharges into Amawalk Reservoir; and to incorporate all of the above material new information, not considered in your project review to date, into your current review of Granite Pointe that should accountably lead to revocation of final subdivision approvals and to the requirement of a comprehensive, SEQRA-compliant, SEIS that needs to encompass a first-ever on this project credible and truthful, hard-look environmental impact study.

In light of the above additional material new information, your Board as lead agency is expected to act in accordance with SEQRA by denying the further extension of approvals to the Granite Pointe Subdivision on Amawalk Reservoir.

Respectfully submitted,

Julia Rellou
New Castle, New York
Former Somers resident
Former member of Somers Conservation Board
Postgraduate studies, Columbia University Earth Institute

F-C

Supreme Court of the State of New York
County of Westchester

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In the Matter of the Application of

Index No. 35985

Marc Houslanger, Diane Houslanger and the Environmental and Community Advocates,

Petitioners,

for a judgment pursuant to Article 78 of the Civil Practice Law and Rules,

-against-

Planning Board of the Town of Somers, and Suelain Realty, Inc.,

Respondents.

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AFFIDAVIT OF DAVID CLOUSER PE LS

State of New York

County of Ulster

David B. Clouser, being duly sworn, states:

1. I am a civil engineer and land surveyor licensed by the State of New York in both professions. I have practiced civil and environmental engineering in the lower Hudson Valley for over 25 years. I maintain offices in New Paltz, New York and our firm provides land planning, land development design and regulatory permitting services to private clients, as well as serve as the appointed consulting engineer for 5 municipalities in the lower Hudson Valley. I also am engaged by a major utility company as the civil engineer responsible for site design of complex power distribution facilities. In our firm's capacity as a Planning Board review engineer for the municipalities that we serve, I have personally engineered or reviewed hundreds of plans designed to manage stormwater runoff from properties that go from an unimproved state to a developed site with impervious surfaces replacing much of the natural conditions. I hold a Bachelor of Science degree in Civil Engineering as a graduate of Bradley University. I have attended numerous workshops and conferences specifically focused on stormwater design and stormwater regulations as these design requirements and permitting requirements continue to evolve in New York State.

2. I make this affidavit in support of the petitioners in this article 78 proceeding that seeks to annul the Conditional Final Subdivision Plat Approval to Suelain Realty, LLC (Planning Board resolution number 2015-10) for the Granite Pointe subdivision ("Resolution").

3. Through my experience, I have been engaged in projects and project reviews that involved consideration of environmental and engineering aspects of many polluted waterbodies in the lower Hudson Valley, such as the Amawalk Reservoir. Runoff from the proposed Granite Pointe development drains into the Amawalk. The pollutant of particular concern for the Amawalk is phosphorous. It is critical that stormwater running off the site be managed through well-

designed stormwater management practices that are accurately documented in a required stormwater pollution prevention plan (commonly referred to as a SPPP) to prevent phosphorous and other contaminants conveyed by runoff into the Amawalk. As explained below in the first portion of this affidavit, the stormwater management system as designed for the Granite Pointe subdivision will increase the discharge of phosphorous into the Amawalk even though the Town of Somers' own law, as well as the regulations of both the New York State Department of Environmental Conservation (DEC) and the New York City Department of Environmental Protection (DEP) and the US EPA, requires a reduction in the amount of phosphorous deposited into the Amawalk.

4. The second part of this affidavit addresses the insufficiencies of the classification of the soils at Granite Pointe. Part of any properly designed stormwater management practice (as described in the SPPP) is an analysis of the actual soils on-site, since the ability to retain stormwater varies widely from soil type to soil type. Working in this field, I am very aware that the types of soils in the lower Hudson Valley can vary from one area to another, even over distances of just hundreds of feet. Because of the varying water absorption qualities of different soil types and the fact that soils in one location on a site may be completely different from the soils on other areas of that same site, it is only through a thorough, 'boots-on-the-ground' survey of the soils that one can actually know what types of soils are located on-site and therefore be able to prepare a proper stormwater management system design that will control development runoff.

5. For the reasons stated below, the stormwater pollution prevention plan approved by the Planning Board which documents the development's stormwater design did not calculate the volume of runoff correctly, nor provide adequate treatment or retention facilities, because the flawed design was based upon generalized soil mapping information, and not actual soil testing.

Therefore, in my professional opinion, the approved stormwater management system has not been designed properly to control runoff, which will contain phosphorous and other pollutants, from entering the Amawalk.

Phosphorous

6. The Amawalk is a phosphorous impaired drinking water source of the larger Croton watershed and reservoir system. The Amawalk is the primary source for drinking water for more than 40,000 local area residents. In addition, some water in the Amawalk supplies potable water to New York City.

7. As presently designed, the Granite Pointe subdivision will increase the amount of phosphorous (known as phosphorous loading) draining into the Amawalk. This is contrary to the dictates of both DEC and the Town of Somers, both of which call for reductions in pollutants entering the Amawalk.

8. As part of the reduction called for by the DEC's Total Maximum Daily Loads (TMDL), the Town of Somers is obligated to reduce its non-point source loads of pollutants into the Amawalk by 28 pounds per year (refer to March 2002 "Interim Report," TMDL requirements of the DEP and the DEC [copy annexed as exhibit F). Runoff from land is a non-point source of pollutants. In contrast, point sources of pollution are things like pipes, channels, other types of conduits that may deposit pollutants directly into a water body.

9. The DEP and the DEC utilized a phosphorous export coefficient of 0.0446 lbs/acre/year for each of the TMDLs adopted for the Croton Watershed (in which the Amawalk Reservoir is located) and these TMDLs and their supporting studies were accepted by the US EPA. The TMDLs, based on the foregoing export coefficient, was approved by the US EPA in October 2000,

and remain in force. The significance of the acceptance of this phosphorous export coefficient is discussed below.

10. A 2000 EPA Report entitled "Assessing New York City's Watershed Protection Program" at page 192 recommended that development projects in the NYC Watershed result in a "no net increase" in [phosphorous] loadings over pre-existing construction conditions" and further recommends to ensure "that SPPPs include as much site-specific data as possible and that the most conservative measures are to be utilized to reduce stormwater loadings." (copy annexed as exhibit G)

11. The Town of Somers' MS4 Stormwater Management Plan requires the Town to reduce non-point source pollution, wherever possible, through stormwater management practices. In fact the Somers Town Code requires stormwater management systems to "be designed in conformance with the enhanced phosphorous removal standards in the New York State Stormwater Management Design Manual." [Town of Somers Code section 93-6 (A) (2)]. Furthermore, the Town in section 117-2 (C) of its Code acknowledges

The condition in the Town of Somers's MS4 permit where a TMDL including requirements for control of stormwater discharges has been approved by the EPA for a waterbody or watershed into which the MS4 discharges. If the discharge from the MS4 did not meet the TMDL stormwater allocations prior to September 10, 2003, the municipality was required to modify its stormwater management program to ensure that reduction of the pollutant of concern specified in the TMDL is achieved.

Paragraph (B) of that same section states:

The condition in the Town of Somers's MS4 permit that applies where the MS4 discharges to a 303(d) listed water. Under this condition the stormwater management program must ensure no increase of the listed pollutant of concern to the 303(d) listed water.

The Amawalk is a '303 (d) listed impaired water body' and phosphorous is a 'listed pollutant of concern'.

12. Despite these regulations, the approved stormwater management plan for Granite Pointe will not reduce the introduction of phosphorous into the Amawalk; it will increase the amount of phosphorous deposited into this reservoir.

13. Mature forests, such as the land for the proposed Granite Pointe subdivision, produce little phosphorous. Because 75% of the New York City watershed is forested, the New York City Department of Environmental Protection (DEP) published a report in 1996 that analyzed 195 studies on pollutant loading. Forty-nine of those studies involved studies of export coefficients (the term used to describe the discharge of pollutants off site) from forested areas. Eleven of those studies involved forested areas in New York and Connecticut that resemble the conditions in the Croton watershed. The Amawalk Reservoir is located in the Croton watershed.

14. From these studies, DEP concluded the proper export coefficient for forest lands, like Granite Pointe, to be 0.0446 pounds per acre per year. The accuracy of this computation was verified by a three year follow up study of a forested area on Belleayre Mountain in 2004 (refer to Appendix C.1 – "Analysis of Impacts of Stormwater at the Proposed Belleayre Resort," last revised April 2004) (copy annexed as exhibit H).

15. Comparing the amount of phosphorous being exported into the Amawalk from Granite Pointe in its present, forested undeveloped condition to the amount of phosphorous that will be exported into the reservoir once the site is developed (based on the submitted Subdivision Plans labeled and entitled "IPP – Construction and Integrated Plot Plan," dated July 31, 2015) shows an increase in phosphorous loading of approximately 8.8% --- not a decrease as required by both DEC and by the Town of Somers itself. Hence in approving Granite Pointe, the Planning Board violated the Town's own law!

16. What is particularly troublesome is that each pound of phosphorous dumped into the Amawalk will produce an estimated 500 pounds of algae which when introduced into drinking water can create a health hazard. Hence, it is particularly critical in this proposed development's design to insure a reduction of phosphorous that will directly impact a public drinking water supply.

Soils

17. The purpose of every stormwater management system is to assure that the amount of runoff from a site after it has been improved is no greater than the amount of runoff that existed before the improvements were made. Further, NYS DEC and US EPA regulations require that the stormwater undergoes water quality treatment prior to discharge from the site. Additionally, the volume of the stormwater discharged from the site must be reduced to not exceed pre-development discharge volumes.

18. The ability of a particular type of soil to absorb water, known as soil permeability, determines, to a large extent, the amount of runoff produced by a rainfall. For example, sand and gravel type soils (known as HSG A soils) are the most permeable and are the soils that are best capable of retaining rainfall, while dense clay soils and soils often found in wetlands (known as HSG D soils) are the least permeable and yield the most runoff. Stated in comparative terms, the runoff from a virgin undeveloped site containing highly permeable soils, like HSG A soils, is significantly less than the runoff from a similar unimproved site which has HSG D soils. Therefore, the hydrological soil group of the soils on any site must be classified correctly in order to understand existing runoff patterns and to properly design and calculate the number and size of the stormwater retention and infiltration basins needed so that the rate of discharge and the volume of runoff, post development, is not increased. Further, the quality of the runoff must be treated

on-site to avoid degradation of the downstream receiving water resources, and particularly the degradation of public water supply source waters.

19. This critical step --- classifying the soils on site --- was overlooked in the Granite Pointe subdivision. A review of the plans submitted to the Planning Board shows that the applicant used the Natural Resources Conservation Service (NRCS) Soil Survey mapping information to classify the types of soil at Granite Pointe and then used that generalized soil classification information to analyze drainage, and develop a stormwater management system design for the purpose of determining the number and size of the retention basins and infiltration basins.

20. The information on soils contained in the NRCS Soil Survey is derived primarily from aerial mapping and remote sensing. Very little actual soil testing in the field is done by the NRCS to verify the accuracy of the soils classified by this generalized mapping method. While the NRCS Soil Survey is a good starting point for initial site development planning and conceptually choosing stormwater management practices, it is only a starting point. An actual physical examination of the soils is required, particularly in situations where the soils classified by the NRCS mapping does not agree with the on-site soil characteristics. In fact, the Preface to the NRCS Soil Survey information for Putnam and Westchester Counties specifically cautions users on page 2 that "although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases" and that "great differences in soil properties can occur in short distances." (copy annexed as exhibit I)

21. The insufficiency of the information contained in the NRCS Survey is revealed by the testing that was done at Granite Pointe for plotting size and the locations of septic systems for the development. The NRCS Survey indicates that the soils on Granite Pointe site are predominately Paxton sandy loam which is classified as HSG C soil type. This type of soil has two distinctive

characteristics: depth to water table of between 1.5 and 2.5 feet and permeability ranging from 30 minutes to 100 minutes (per one inch drop in a soil percolation test). Soil percolation testing is a recorded test in the field that measures the time taken for a column of water introduced into a test hole to drop one (1) inch. Soils with fast percolation rates (i.e., 10 minutes or less time required for the water column to drop 1 inch in depth) indicate highly permeable soil characteristics, which are also described as very well drained soils. Soils with slow percolation rates (i.e., 45 to 60 minutes or more for the water column to drop 1 inch in depth) indicate soils with low permeability characteristics, which are also described as poorly drained soils.

22. The results for the soils that the applicant's engineer did test showed the water table in all but one of the 23 test pits to be at a depth of greater than 7 feet – approximately three times deeper than the water table depth characteristics that are defined as a classification metric for HSG C soils.

23. More important, the percolation tests indicated that 6 of the proposed 23 lots had percolation rates of 5 minutes or less and 9 others had percolation rates of 10 minutes or less. Thus, of the 23 lots in the proposed subdivision, 15 had percolation rates of 10 minutes or less. The slowest percolation rate recorded on the subdivision plans was on Lot 13, on which the soil percolation was indicated to be at a rate of 16 minutes. None of these soil percolation tests reported a 30 minute percolation rate that is characteristic of the NRCS mapped Paxton sandy loam soils.

24. Based upon this empirical evidence, in my professional opinion, the soils at Granite Pointe do not exhibit the soil characteristics of Paxton sandy loam HSG C soils. A review of the NRCS Part 360, National Engineering Handbook, Chapter 7, Hydrologic Soils Groups, Table 7.2 (copy annexed as exhibit J) indicates that these soils are HSG A soils. Thus, the stormwater

management design and SWPPP, approved by the Planning Board, was based upon a faulty soil classification.

25. The significance of this misclassification is that by claiming that the on-site soils are the less permeable HSG C soils, the applicant has presented a drainage model showing the current volume of runoff in the site's presently undeveloped condition to be significantly greater than it actually is, since the site actually is composed primarily of the more retentive HSG A soils. Accordingly, the applicant's stormwater management system has not been designed to control and treat the very substantial difference in the volume of runoff that will be produced once the site is developed as indicated on the subdivision plans. The runoff from the site when developed will convert the permeable HSG A site soils with impermeable roof, roadway and driveway surfaces, significantly reducing the area of the permeable HSG A soils that act to absorb and infiltrate runoff and thereby reduce off-site runoff discharges. The new impermeable surfaces, for all practical purposes, convert nearly the entire volume of rainfall instantly to runoff that must be controlled and treated prior to its discharge from the site into the adjacent Amawalk Reservoir receiving source water. The difference in the volume of runoff that must be controlled and treated on sites with HSG C soils is markedly less and require significantly less stormwater control and treatment practices. Granite Pointe in its undeveloped state retains much more rainfall, due to its more permeable HSG A soils, and therefore has a much lower volume of runoff. By using the incorrect HSG C soil type, the runoff in the existing, undeveloped condition is modeled to produce much greater runoff than actually produced. Stormwater management systems are only required to control and treat the difference in the runoff that is modelled to be produced between the pre-developed and the post-developed site conditions. This faulty soil classification means that if built, the developed site will produce a much greater volume of runoff than the stormwater control and

treatment systems are designed to accommodate. Accordingly, unless corrected, the stormwater practices are not adequately sized to control the rate of discharge or the volume of discharge from the developed site. Similarly, the treatment systems will not be able to adequately treat the runoff prior to discharge into the environmentally sensitive receiving waters.

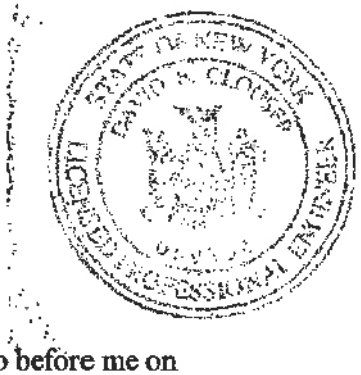
26. In my professional opinion, a proper stormwater management system design and the subsequent SPPP documentation of the design for Granite Pointe must replicate the volume of runoff produced by the soils that are actually there, which appear to be HSG A soils. If a detailed onsite investigation confirms that the soils fit into the HSG A class (or some other soil type class besides HSG C), the entire stormwater management system for the proposed development will have to be redesigned with significantly larger retention and infiltration basins than the ones approved by the Planning Board. Such a plan undoubtedly will result in redesigning the subdivision and likely reducing the number of possible lots that would meet the land zoning bulk standard criteria. Similarly, the well supplies and wastewater treatment systems would need to be redesigned to meet minimum separation distances as well as other Health Department siting criteria. All that can be said until an accurate soil investigation and detailed soil classification is completed is that the current stormwater management design and subsequent SWPPP documentation is not based upon proper findings.

27. Furthermore, additional soil testing was mandated by the rules for establishing appropriate infiltration practices. To insure proper long term functioning and viability of stormwater management infiltration practices, a protocol for the soil percolation testing method was specifically developed by the NYS DEC, which must be complied with. Appendix D of the New York State Department of Environmental Conservation Stormwater Design Manual discusses the requirements for the depth of test pits, the number of test pits and the methods for testing. The

Appendix requires soil testing to be conducted at least 4 feet beneath the stormwater management infiltration practice basin's bottom surface. There is no documentation that I could find among the submissions to the Planning Board that shows that testing in compliance with Appendix D has ever been done. Considering the incorrect classification of the onsite soils, the use of proper infiltration practices has not been proven or properly documented.

28. A small onsite wetland is located in the southwest corner of the Granite Pointe property that does not need to be disturbed to develop the subdivision; however, this wetland will be eliminated by the present subdivision design. From the topographic information shown (based on the submitted Subdivision Plans labeled and entitled "EX – Existing Conditions," dated July 31, 2015), this wetland appears to be hydrologically linked to (and therefore an extension of) the adjacent existing NYS DEC regulated freshwater wetland F-60 that lies immediately south of the Granite Pointe property. If this on-site wetland is determined to be an extension of NYS DEC regulated wetland F-60, a 100 foot adjacent (non-disturbance) buffer adjacent area would apply around the perimeter of this onsite wetland area. As such, unless a NYS DEC Freshwater Wetland Disturbance Permit were granted, the proposed southern subdivision planned road location would need to be relocated and the subdivision lot layout would need to be reconfigured, perhaps thereby eliminating some of the subdivision lots. A request for the Planning Board to investigate this matter with the NYS DEC before granting final subdivision approval was made on September 9, 2015 at the public hearing held for the Town's Wetland Permit application which was held to the planned elimination of this wetland resource. The concern expressed regarding the elimination of this wetland and the request for the NYS DEC wetland investigation was disregarded by the Planning Board at this public hearing. Accordingly, a final approval of a subdivision has since been granted which may be impossible to permit or implement in its approved configuration.

29. Finally, the letter dated July 30, 2015 from the New York City Department of Environmental Protection (DEP) (copy annexed as exhibit K) points out that the soil testing required by the DEP's rules is still incomplete.



David B. Clouser, PE, LS
NYS Professional Engineer No. 069334

Swom to before me on
November 23, 2015

Notary Public

NATHAN B. ROPER
Notary Public, State of New York
NO. 01RO6221158
Qualified in Ulster County
Commission Expires April 28, 2018

EXHIBIT F

Interim Report

Nonpoint Source Implementation Of The Phase II Phosphorus TMDLs In The New York City Watershed

March 2002

Prepared in accordance with the New York City Watershed Memorandum of Agreement (January 1997).

New York State Department of Environmental Conservation

Division of Water

2. Proposed Phase II Phosphorus TMDL Calculation Reports for Each Reservoir.

3. Development of a Water Quality Guidance Value for Phase II Total Maximum Daily Loads (TMDLs) in the New York City Reservoirs.

These reports contain information on the following:

« phosphorus source modeling

« impact estimates of wastewater treatment plant upgrades

« basin/reservoir status with respect to the critical phosphorus load

« information and recommendations for a water supply-based criteria number for phosphorus

« land use information and related nonpoint source phosphorus loads

« Proposed Phase II TMDL calculations for each reservoir, including initial wasteload allocations (WLAs) and load allocations (LAs)

2.2 Phase II TMDL Results

NYSDEC's June 2000 TMDL Document contains Phase II TMDL results in a couple of different formats. Pages 21-45 cover each of New York City's 19 reservoirs with a summary write-up based on information in NYCDEP's Phosphorus TMDL Calculations Reports (3/99). Additionally, there are a number of tables that help summarize results. Table 2.1 of the April 2001 NPS Report also provides a TMDL summary.

Phosphorus Sources

Throughout the TMDL process in the NYC Watershed both point and nonpoint sources of phosphorus have been modeled. Point sources include discharges from wastewater treatment plants in the Watershed and carryover phosphorus loads from upstream reservoirs. Nonpoint source phosphorus loads are a function of land use activities, phosphorus export coefficients and the modeling. The land use categories were: urban, forest, agriculture and water. Septic systems with 100 feet of a stream or reservoir were also included as sources of phosphorus.

Point Source Reductions of Phosphorus

The New York City Watershed Rules and Regulations contain requirements for upgrading wastewater treatment plants in the Watershed to tertiary treatment with phosphorus removal. SPDES permit modifications to reflect this are in place and plant upgrades are underway. This will result in a significant reduction in point source phosphorus loads to the reservoirs. DEP's TMDL modeling calculations reflect these point source reductions since the wasteload allocations (WLAs) assume full compliance with the Watershed Regulations.

Nonpoint Sources

Table 4 from DEC's June 2000 TMDL document has been expanded in the tables below with additional information about nonpoint source phosphorus loads for water quality limited reservoirs in the Croton Watershed. Additionally, primary land use activities that relate to NPS phosphorus loads have been identified by area and estimated load contribution. The significance of this information directly relates to the remaining phosphorus reductions needed for water quality limiting reservoirs after point source loads are in conformance with New York City Watershed Rules and Regulations.

Table 2.1 presents land use information for each of the 12 Croton Watershed Reservoirs. As indicated in the Phase II TMDL Methodology Document (March 1999), the land use data is the same as that used for the Phase I TMDLs. It is derived from satellite data (LANDSAT TM) at a 28.5m resolution. Composites of 1987, 1988 and 1990 scenes were used for the East of Hudson region. It should be noted that much of the Forest and Open Space land area is actually low density residential which can present opportunities for phosphorus reductions. Currently, NYSDEC, USEPA and the NYCDEP are working together to develop improved land use coverages. This ongoing project is presented in detail in Section 3.1.4 and Appendix B.

The first eight reservoirs listed in Table 2.1 are water quality limited for phosphorus. The next four are not. It can be seen that nearly 75% of the land area in the Croton Watershed is considered forest. Approximately 11% of the area falls into the urban category. This information is important when examining where NPS phosphorus reductions can be attained.

Table 2.2 expands further on the nonpoint source information base. Here, approximate NPS phosphorus loads are tabulated as a function of land use export coefficient (Methodology Document of March 1999) for each land use category. This tabulation does not take into account upstream load

contributions of phosphorus from upstream reservoirs. The loads here are calculated from land use activity within each listed reservoir basin.

Examination of this information leads to several conclusions:

1. While forested area represents nearly three quarters of the Croton's land use activity, its phosphorus load contribution is only about 20% of the total.

2. Clearly urban areas yield most of the NPS phosphorus load at nearly 60% and would seemingly present the most opportunity for load reductions.

3. Water and septic categories are relatively small contributors of phosphorous.

4. For three reservoirs: Amawalk, Middle Branch and Titicus, a reasonable reduction of NPS urban phosphorus load would meet the necessarily identified reductions in the TMDL.

5. When comparing the other five water quality limited reservoirs' urban phosphorus loads with the remaining phosphorus reductions needed it becomes obvious that substantial NPS reductions are needed to meet the TMDLs. In the East Branch, Muscoot and New Croton Basins, more than 60% reduction in urban NPS loads is needed. In Croton Falls and Diverting, the necessary phosphorus reduction significantly exceeds the urban NPS load. This means that the reductions must come from sources in addition to in-basin urban NPS.

6. The remaining four reservoirs in the Croton Watershed are not water quality limited for phosphorus and are not significant contributors of phosphorus to downstream reservoirs. The exception to this is Cross River's urban load at nearly 600 kg/yr.

The next table presented here, Table 2.3, provides an additional column of information, the calculated phosphorus loading contributed by upstream lakes or reservoirs. On the listing of eight WQL reservoirs, this upstream source of phosphorus ranges from zero or insignificant to very significant. The "daisy-chain" effect of interconnected reservoirs was discussed in Section 4.2.3 of the first NPS Report (April 2001). The list of WQL reservoirs can be rearranged in increasing order of upstream phosphorus load contributions to numerically follow this chain.

While Titicus Reservoir receives no upstream lake/reservoir phosphorus loading, the next three reservoirs (Amawalk, East Branch and Middle Branch) each have upstream lakes contributing to their phosphorus load.

These are: Lake Mahopac to the Amawalk, Peach and Putnam Lakes to East Branch Reservoir, and Lake Carmel to the Middle Branch. These upstream lakes are areas where opportunities exist for phosphorus reductions particularly in the urban and septic categories. The most significant of these loads is the upstream load from Lake Carmel to the Middle Branch Reservoir, estimated at 528 kg/yr.

Table 2.1
Croton Watershed Reservoirs
(Located East of Hudson)
Land Use Area (Hectares)

Reservoir	*Forest*	*Urban*	*Open/Ag*	*Water*	*Total*	*Phase II TMDL Phosphorus Reduction* [3] *(kg/yr)*
Amawalk	3,409	852	616	856	5,733	122
Croton Falls	2,921	531	215	474	4,141	885
Diverting	1,234	545	67	99	1,945	983
East Branch	15,545	1,738	2,386	902	20,571	993
Middle Branch	7,001	806	420	514	8,741	204
Muscoot	13.533	3,170	1,713	646	19,062	2,058
New Croton	11,161	2,059	1,116	1,047	15,383	1,356
Titicus	4,347	676	869	371	6,263	140
TOTALS FOR EIGHT WQL RESERVOIRS	59,151	10,377	7,402	4,909	81,839	6,741
% EACH LAND USE	(72.3)	(12.7)	(9.0)	(6.0)		
Bog Brook	603	131	64	160	958	
Boyd's Corners	7,199	92	192	539	8,022	
Cross River	6,574	657	727	696	8,654	
West Branch	4,164	196	180	598	5,138	
TOTALS FOR NON-WQL RESERVOIRS	18,540	1,076	1,163	1,993	22,772	
% EACH LAND USE	(81.4)	(4.7)	(5.1)	(8.8)		
TOTALS - ALL CROTON WATERSHED RESERVOIRS	77,691	11,453	8,565	6,902	104,611	
% LAND USE	(74.2)	(11.0)	(8.2)	(6.6)		

[3] After Wastewater Treatment Plant Upgrades are achieved.

Table 2.2
Croton Watershed Reservoirs
(Located East of Hudson)
NPS Phosphorus Loads (kg/yr) By Land Use
And Export Coefficients Calculation

Reservoir Name	*Phase II TMDL Phosphorus Reduction* [3] *(kg/yr)*	*Forest (0.05)*	*Urban (0.9)*	*Open/Ag (0.3)*	*Water (0.1)*	*Septic* [4]	*Total*
Amawalk	(122)	170	767	185	86	83	1,291
Croton Falls	(885)	146	478	65	47	43	779
Diverting	(983)	62	491	20	10	24	607
East Branch	(993)	777	1,564	716	90	171	3,318
Middle Branch	(204)	350	725	126	51	18	1,270
Muscoot	(2,058)	677	2,853	514	65	227	4,336
New Croton	(1,356)	558	1,853	335	105	168	3,019
Titicus	(140)	217	608	261	37	96	1,219
TOTALS FOR WQL RESERVOIRS		2,957	9,339	2,222	491	830	15,839
("P" % EACH USE)		(18.7)	(59.0)	(14.0)	(3.1)	(5.2)	
Bog Brook		30	118	19	16	4	187
Boyd's Corners		360	83	58	54	80	635
Cross River		329	591	218	70	186	1,394
West Branch		208	176	54	60	63	561
TOTALS FOR NON-WQL RESERVOIRS		927	968	349	200	333	2,777
% EACH LAND USE		(33.3)	(34.9)	(12.6)	(7.2)	(12)	

[3] After Wastewater Treatment Plant Upgrades are achieved.

[4] Kg/yr Septic Phosphorus Load from NYCDEP Reservoir Reports.

EXHIBIT G

review process was lengthy and cumbersome in relation to the small size of some of the projects being evaluated. In addition, there has been confusion among engineers and applicants as to what an SPPP requires versus what are only recommendations - an important distinction when the City will pay only for what is required under the WR&R that is not otherwise required by state or federal law. Watershed stakeholders also complained that the City was inconsistent in defining a "watercourse" for particular projects (which often times triggers the need for a SPPP).

Some of these problems derive from the fact that regulating stormwater management is new in the watershed and that the regulations and existing guidance lend themselves to uncertainty and conflict. The City has stated that it has developed draft guidance to help applicants and NYCDEP staff determine the presence and limits of watercourses. It is important that this guidance be finalized expeditiously, and that it be accompanied by appropriate training so to minimize such conflicts in the future. In most instances, it appears that problems could have been resolved if clear lines of communication had been developed early in the SPPP process. As EPA stated in the Public Education section of Chapter VI, it is critical that there be a continuation of efforts to strengthen communication with and gain the trust of communities. More recommendations are provided below.

ii. Recommendations - Regardless of which model is used to develop SPPPs, the result must be BMPs that are designed, built and maintained consistent with Section 18-39 of the WR&R with an overall goal of no net increase in loadings over pre-existing construction conditions. **EPA recommends that NYCDEP ensure that SPPPs include as much site-specific data as possible and that the most conservative measures are utilized to reduce stormwater loadings.**

With large development projects, the uncertainties built into stormwater models and potential impacts of stormwater runoff become much greater. **To address the environmental impacts from large projects, EPA recommends that the City vigorously apply its authority under SEQRA.** Through SEQRA, the City can work to reduce the project's footprint during the planning stage - a much more effective mechanism to reduce stormwater runoff than to rely solely on BMPs. **In addition, EPA recommends that the Lead Agency under SEQRA ensure that the project applicant initiates the SPPP early and on a parallel track with the project planning process to more effectively and efficiently address water quality concerns.**

EPA commends the City on its new monitoring initiatives that are meant to provide performance based information on BMPs. This information should enhance the effectiveness of the SPPP program and provide a basis for the long-term evaluation of this element of the WR&R.

There is some confusion among consulting engineers and applicants on SPPP requirements on relatively small projects. This has resulted in long delays in the NYCDEP approval process and frustration among watershed residents and businesses. **EPA recommends that the City develop more explicit guidance on SPPP requirements and BMP criteria and apply this guidance in a consistent manner. EPA recommends that NYCDEP spearhead watershed workshops or**

EXHIBIT H

Appendix C.1

Analysis of Impacts Associated with Stormwater at the Proposed Belleayre Resort

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PROJECT TECHNICAL MEMORANDUM

TO: NYCDEP – OEPA

FROM: EA Engineering, P.C. and its Affiliate EA Science and Technology

SUBJECT: Crossroads DEIS Review – Subtask C.1, Deliverable Nos. 1 and 2
– Analysis of Impacts Associated with Stormwater at the Proposed Belleayre Resort
EA Project No. 14112.01

DATE: 12 January 2004 (finalized April 2004)

INTRODUCTION

This Technical Memorandum summarizes the results of our review for Subtask C.1 – Analysis of Impacts Associated with Stormwater at the Proposed Belleayre Resort. This review focused primarily on those issues likely to impact water quality and quantity.

WATERSHED TERRAIN AND RESOURCE CONSIDERATIONS

One of the most significant environmental challenges to protecting water quality during the construction and operation of the proposed Belleayre Resort will be the mountainous watershed and rugged terrain on which the project is sited. The 1,960±-acre resort is situated on and around the Big Indian and Belleayre plateaus, within the headwaters of the Ashokan and Pepacton reservoirs that together supply approximately 65 percent of the drinking water to New York City. Of particular concern are activities that have the potential to increase loadings of phosphorus and sediment to these reservoirs. A Total Maximum Daily Load analysis for phosphorus has been conducted to assure protection of water quality for these reservoirs. In addition, the Ashokan Reservoir has been listed by the New York State Department of Environmental Conservation (NYSDEC) as a Section 303 (d) impaired water due to excessive loads of silt and sediment. In this review, several watershed characteristics and terrain features were given particular attention as they relate to water quality protection including: (1) surface water conveyances, (2) soils, (3) shallow subsurface storm flow, (4) steep slopes, and (5) existing landcover within the project boundaries.

Overall, the hydrogeologic setting in relation to the mountainous terrain is not sufficiently identified or described in the Draft Environmental Impact Statement (DEIS). Proper planning considerations for any development prior to designing the layout for the project features and amenities include the comprehensive characterization of surface and groundwater resources both onsite and offsite. Subsequently, it is essential that the relationship of both surface and subsurface hydrologic connections between these onsite and offsite resources be thoroughly

documented and evaluated. The DEIS does not provide an analysis of water resources with the necessary level of detail. An incomplete mapping effort is provided that overlooks numerous onsite and offsite drainage channels and gives minimal attention to groundwater resources. These planning steps must be enhanced to provide an adequate basis for design of a stormwater management infrastructure capable of mitigating potential stormwater impacts of the proposed development. The necessary detail must be presented to support a comprehensive discussion of how topographic constraints affect the proposed measures for protection of the resources identified.

The susceptibility of these surface and groundwater resources to adverse impacts of construction and management of the golf course and building development must also be addressed. This critical step is necessary in order to provide a stormwater drainage infrastructure that will: recognize and avoid degradation of existing resources, correctly identify and mitigate post-development changes in hydrology, prevent short-term and long-term construction impacts from erosion and sedimentation, and meet state-of-the-art design standards necessary to mitigate pollutant loads from this complex steep terrain. The hydrogeologic study must provide an analysis of all identified surface and subsurface water resources, including their functions and values. The developed areas are on mountain plateaus and side slopes, not in the flatter valley. The proposed development appears to encompass an area of significant groundwater recharge that contributes to sensitive mountainside watercourses, wetlands, and rocky springs that are tributary headwaters to valley streams. The DEIS does not adequately document the locations of these springs and the flow paths from the developed areas to offsite water resources (both surface and subsurface) that will receive stormwater run-off and shallow subsurface stormflow from the developed area. This critical step in site planning and assessment was included in the DEIS only with regard to a delineation of onsite wetlands, soils, and a post-construction drainage analysis of the development footprint. Adequate detail of groundwater well logs is not provided. As a result of this incomplete offsite analysis, critical hydrologic pathways to sensitive water resources such as Birch Creek and Emory Brook have not been identified, the analysis of channel stability and slopes within the existing and proposed hydrologic pathways is incomplete, and aquifers such as the existing gravel and bedrock aquifer located beneath the northern portion of the Wildacres site (part of which serves Fleischmanns' water supply) are not adequately described and evaluated. These data deficiencies result in a deficient and inaccurate characterization of existing conditions that form the basis for the assessment of the substantive issues that must be addressed in the Stormwater Pollution Prevention Plan (SWPPP).

STORMWATER QUANTITY

Management of stormwater quantity is critical for mitigating potential flooding and environmental damage downstream of the site and affects water quality. The development of the site will increase the impervious area, change cover types, alter drainage pathways in stormwater catchment areas, alter soil characteristics, and shorten the times of concentration in the drainage areas. These factors will interact to increase the quantity of runoff from the site.

Stormwater quantity management for the proposed development is modeled and discussed in the DEIS. The DEIS defines stormwater study areas and drainage areas for the project and provides calculations for runoff flows and stormwater routing. It also contains conceptual details for some of the stormwater management structures. This review of the stormwater quantity

management for the project focused on Chapter 3, Appendix 9, Appendix 9A, and the SD and SG drawings prepared by the LA Group. This review primarily addresses the comparison of pre-construction conditions to the operational phase; the construction phase will be addressed more completely as part of the erosion and sediment control review (Appendix C.2).

Stormwater management criteria, which must be met for NYSDEC review of this project, are established in the New York State Stormwater Management Design Manual (2001), related to the NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity (Permit No. GP-02-01) (2002). The stormwater discharges from the site are subject to SPDES permits for both the construction and the operational phases. The SPDES permits require development of an SWPPP. The permit applications and proposed SWPPP are included in the DEIS.

At such time as this project receives approval and is permitted by NYSDEC, the SWPPP will be subject to review, approval, and permitting by the New York City Department of Environmental Protection (NYCDEP) consistent with the *Rules and Regulations for the Protection from Contamination, Degradation, and Pollution of the New York City Water Supply and Its Sources* (Watershed Regulations) (NYCDEP 2002). Under this review, the project will be required to comply with conditions of the Phase I General Permit for Stormwater Discharges from Construction Activity (Permit No. GP-93-06).

The proposed Belleayre Resort has been divided into three distinct large development areas for stormwater management considerations: Highmount Estates, Wildacres Resort, and Big Indian. The developed acreage is split approximately equally between the Ashokan and Pepacton watersheds. Stormwater management ponds, specifically micropool extended detention ponds (P-1), have been proposed to detain the post-development stormwater flows and maintain the quantity of stormwater flows to offsite areas at pre-development levels. Our review of the adequacy of the stormwater quantity management measures focused on 11 general issues. These issues are listed below, along with major findings/comments for each; additional detail is provided in subsequent sections and Attachment A to this Appendix:

1. ***Determination of Study Area***—The delineated study areas do not encompass the entire developed area. Critical features relevant to stormwater drainage located offsite between the property boundary and Birch Creek or Emory Brook are not identified.

2. ***Location of Design Points***—Design points are locations in the drainage network that serve for comparison runoff flow between pre- and post-development conditions used in modeling stormwater with HydroCAD. The design points selected for analyses in the DEIS are incorrect. Design points must be chosen at locations where runoff control is required before being discharged from the proposed developed area. Existing drainage features above and below the control points and their relationship to the design points must be clearly established and shown on the drawings. The DEIS does not adequately accomplish this. The design characteristics of reaches upstream of the design points are not provided. From the information presented in the DEIS, it is not possible to determine how and where the water flows below the design points between the project boundary

and the receiving waterbodies at the bottom of the slope (i.e., Birch Creek and Emory Brook). Without this information, it cannot be determined whether the existing natural drainage channels are adequate to handle the predicted stormflow discharges. The DEIS has not assessed the potential for increased stormflows to cause an increase in offsite incising and erosion of these stream channels that would exacerbate suspended sediment loadings in the watersheds, particularly for Ashokan Reservoir which is listed as a 303(d) water for silt and suspended sediments.

3. ***Delineation of Subcatchment Areas within Study Area***—The delineation of subcatchments for pre-construction surface hydrologic conditions is incorrect, as the design points were not established at appropriate points of interest. The spatial extent of the watershed catchment areas must be equivalent in order to compare pre- and post-development hydrologic scenarios and assure that the stormwater management program achieves the goal of preventing an increase in the quantity of stormwater during the operational phase of the project. Furthermore, the cumulative flow to the selected design points is not delineated correctly; the flow diagrams and model are not comprehensive in the capture of runoff from all subcatchments to the selected design points. Examples of such omissions include: Wildacres where watershed No. 2 does not flow to either design point 1 or 2 in the pre-developed condition; Big Indian watershed catchments 4, 5 and part of 6 do not flow to either design point 1 or 2; and Big Indian control/design points 3 and 4 do not have their entire watersheds delineated.

4. ***Watershed Routing in the HydroCAD Model***—There are inconsistencies between flow routing shown on the drawings and the routing network in the HydroCAD model. In multiple locations, the subcatchments, reaches, and ponds do not appear to be connected in the model as they are shown on the drawings. This suggests that the model estimated volumes may be less than actual volumes. With these deficiencies, the model results cannot be reviewed for accuracy of the hydraulic and pollutant loadings to the receiving streams.

5. ***Impacts Downstream of Design Points***—The design points are located near the property boundary at tributaries on steep slopes above Birch Creek and Emory Brook. The DEIS must evaluate the potential impacts to these downstream receiving waters. Increases in the flow in these tributaries or changes in the location where the runoff enters these channels can affect the stability of their bed and bank. The result of increased flow on these steep steams could be downcutting of the streambed and slumping of the banks, releasing additional fine sediments into these surface waters. Appropriate analysis of the fluvial geomorphology and modified hydrographs in these stream reaches is necessary to assure that erosional processes will not be increased and to provide a basis for proposing mitigation plans to protect these watercourses.

6. ***Calculation of Times of Concentration***—Flow paths used to establish the times of concentration (T_c) are not shown on the drawings and, therefore, cannot be properly evaluated in the field. These flow paths and associated times of concentration are critical for the estimation of hydraulic loadings and assessment of runoff from the site. The typical initial stage of runoff as sheet flow is not shown in the model calculation, consequently, the times of concentration are incorrect and these results carry through to

the subsequent estimates of hydraulic loading from the site. Failure to incorporate sheet flow into the calculations for pre-development can shorten the time that runoff takes to concentrate in channel flow and artificially accelerates the apparent rate of flow down the slope in the model. This has the potential to bias the comparison of pre- and post-development conditions. Flow paths must be provided for pre- and post-development hydrological conditions so the times utilized in the design calculations and drainage patterns can be verified.

7. ***Selection of Runoff Curve Numbers***—Runoff curve numbers are an index prepared by the U.S. Soil Conservation Service based on empirical data for runoff conditions taking into consideration the hydrologic soil groups, the vegetative cover type, and hydrologic condition. High numbers indicate low infiltration and high runoff; e.g., the runoff curve number for concrete is 98. Generally, the values selected in the hydrologic analysis for the DEIS appear appropriate for pre- and post-development conditions. As expected, curve numbers increase from pre-developed to post-developed condition. The runoff curve numbers are selected from a U.S. Soil Conservation Service table for use in the HydroCAD analysis of stormwater quantity.

8. ***Estimation of Reach Properties***—Reach properties are critical to understanding how the rate of runoff will be controlled in long swales/channels connecting various ponds and control structures in the proposed stormwater management system. There is not enough detail on the drawings to verify the reach properties, particularly channel width and depth. Manning's n values (roughness coefficients) are an engineering index used to characterize the roughness of a channel or pipe; for example, a concrete-lined swale would have a lower Manning's value (0.013-0.017) than a rock lined swale (0.025-0.032). The Manning's values used in the model for open channels seem to be high, although composition of the channel linings is not specified on the drawings to support a definitive evaluation. The swale reaches that parallel the railroad bed at the Wildacres Resort (Reaches 56 and 58) are given a Manning's value of 0.04 in both the pre- and post-development analyses; 0.04 is at the maximum end of the range for an earthen- or grass-lined swale. Concrete-lined swales would be in a range about half this value. Considering the condition of the existing swale and that these reaches will need to be completely reconstructed, it is surprising that the n value does not change. The steep natural stream channel (Reach 199) that drains the western edge of the proposed Wildacres Resort has a Manning's value of 0.05. Considering the coble and boulder bed and debris in the channel, this value seems low, particularly compared to the railroad reaches.

9. ***Calculation of Q_{out} from Ponds***—A major design objective of the micro detention ponds is to slow stormflow and allow settling of suspended particulates. If the ponds are functioning as designed the flow rate (cfs) exiting the pond (Q_{out}) should be lower than the flow rate entering the pond (Q_{in}). For some stormwater management ponds, Q_{out} is larger than Q_{in}. These discrepancies indicate probable errors in the pond configuration or in the input data to the HydroCAD model and potential errors in the estimated hydraulic loadings.

10. ***Consistency of Flows at HydroCAD Model Nodes***—There are minor flow losses along the reaches between detention ponds that are documented in the DEIS analysis. The source of these losses is not indicated. Detail should be provided as to how those losses were calculated and accounted for in HydroCAD. These losses will result in an underestimate of the hydraulic loading to downstream components of the system.

11. ***Comparison of Pre-Development Flows to Post-Development Flows***—At several design points, post-development flows are higher than pre-development flows for the 10-year and 100-year storms. This does not meet the stormwater management requirements set forth in the New York State Stormwater Management Design Manual (2001) and enforceable by the NYCDEP via the stormwater permitting process under the Watershed Regulations. Increased post-development flows have the potential to increase erosion and loadings of phosphorus and sediments to the watersheds.

12. ***Validation of Volumetric Runoff Coefficients (Rv)***—Rv values are an index of the proportion of rainfall that leaves a particular subcatchment as runoff; the values used for stormwater quality modeling are provided in DEIS Appendix 10A. Compared to site-specific data collected by NYCDEP on Belleayre Mountain (particularly at Giggle Hollow) and provided to the applicant, the literature-based Rv values used in WinSLAMM are too low. Thus, model estimates of loadings may be underestimated.

General comments related to stormwater quantity management at each of the three proposed development areas are listed in the following sections. Comments for Highmount Estates and Wildacres Resort have been combined because the areas are proposed as a single development and fall primarily within the Pepacton watershed. Specific, detailed comments for each development area are tabulated in Attachment A, keyed to the applicable issues above.

A. Comments Applicable to Both Big Indian and Wildacres Development Areas

1. Flow paths for the times of concentration are not shown on the drawings. This information is critical to understanding how runoff drains from the plateau and steep slope under existing pre-construction conditions and how the proposed reconfiguration of the topography during construction will change the runoff pattern. Presentation of the flow path allows an assessment of whether the model characterization of the pre-construction conditions is a realistic representation of site conditions and whether the proposed rerouting of flows in the operational phase is feasible. Flow paths must be provided so that times of concentration can be specifically computed. Flow paths should also indicate where the type of flow changes (i.e., sheet flow to shallow concentrated flow to concentrated channel flow) and where flow surface or channel cross-section properties change. Each flow path segment from the HydroCAD calculations should be easily identifiable on the drawings.

2. Considering the existing topography and apparent hydrology, it is evident that flow paths on the plateaus begin as sheet flow before becoming shallow concentrated flow. A substantial reduction in sheet flow is expected with the amount of grading for buildings and golf course amenities. Existing flow paths, which begin on flatter slopes, particularly near the top of the plateaus, should be re-evaluated based on onsite surveys and more

detailed topography. Sheet flow must be incorporated into each subcatchment model analysis where applicable. The failure to incorporate sheet flow into the pre-construction model calculations artificially accelerates runoff and can diminish infiltration, thus, estimates of pre-construction runoff would be inflated.

3. The DEIS does not present an adequate water budget and hydrology analysis necessary to evaluate impacts to the existing hydrology at the proposed development. This analysis must account for changes between pre- and post-construction hydrology affected by grading, increased impervious surfaces, and realignment of subcatchments. Subcatchment delineations and analysis presented in the DEIS, although applicable for design of stormwater management ponds, do not characterize the impacts to the existing pre-construction hydrology and hydrographs and, thus, may not accurately reflect potential increases in stormwater flows discharged from the site.

4. Due to the steep slopes, the level spreaders proposed to distribute discharges from the detention micro-ponds are not reliable for generation of a stable non-point discharge (i.e., overland sheet flow). The DEIS references that NYSDEC raised concerns with these structures in a meeting in 2003. The *New York State Guidelines for Urban Erosion and Sediment Control* (Blue Book) includes details and specifications on a level spreader on Page 5A.11. The specifications state that, "the area below the level lip must be uniform with a slope of 10 percent or less and the runoff will not re-concentrate after release..." Only one permanent level spreader is shown on the design drawings (Drawing SG-5) and the slope downhill from the spreader is greater than 60 percent. While the other level spreaders are not shown in the design, based on the description of their location, they are assumed to be located on slopes ranging from approximately 30 percent to approximately 50 percent. The DEIS suggests that several temporary level spreaders will also be utilized during the construction phase in these same areas. Reconcentration of flows is probable in these areas given the design and topographic constraints. Flows that reconcentrate below these level spreaders are likely to enter existing channels or erode new unstable channels and be conveyed directly down slope. The level spreaders proposed are inappropriate and inadequate for their design objective, which is to change point discharges to non-point discharges (i.e., channel flow to sheet flow).

5. One objective of the stormwater quantity analysis presented in the DEIS is to compare existing pre-construction and estimated post-construction stormwater flows to demonstrate the proposed stormwater management system is adequate to assure that storm discharges to surface waters do not exceed existing discharges from the site. To accomplish this design points common to both pre- and post construction periods are selected as locations to characterize the stormwater discharge leaving the developed site from within specified drainage areas. The analysis is flawed because the spatial extent of the subcatchment is not consistent between pre- development versus post-development. For the comparison of pre- and post-construction conditions the subcatchments should be delineated using appropriately located design points that remain consistent for both conditions. For example, the Wildacres drainage delineations depict six subcatchments in the pre-development condition; the 46 subcatchments in the post-development analysis

are not consistent with the drainage areas in the existing site. This inconsistency may artificially reduce the estimate of post-construction runoff at design points relative to existing pre-construction conditions.

6. The model output schematics are not consistent with the plan drawings. There are errors in routing of flow in the model when compared to the planned drainage depicted on the LA Group drawings. As one example, post-development drainage calculations for Belleayre Highlands contain portions of development on the Big Indian Plateau. The plans show the flow in this particular area as being directed to pond 14, which is linked to design point 1. The watershed schematic output accompanying the hydrologic computations show this particular area draining to design point 2. Many similar discrepancies were found. All subcatchments must be checked for accuracy and consistency in the hydrologic model. Depending on which flow path characterization is correct the estimated flows to the design points may be inaccurate.

7. Some of the estimated stormwater flow discharge rates (Q_{out}) from the ponds are larger than the inflow rates (Q_{in}) to the ponds. Because the ponds are designed with the objective of reducing flow rates through the ponds to enhance settlement of suspended particulates from the water column, this condition should not exist. The applicant should check the input parameters and calculations in the HydroCAD model to correct this error or modify the pond design to assure operational efficiency and prevent erosion and scouring in these ponds.

8. A range of Manning's n values was used in the various reaches (drainage swales and channels) across the site. It is unclear what the channel linings are in these reaches, thus, it is difficult to check whether the selected n values are appropriate to the channel design and lining. The DEIS should provide a list of channel linings and the associated Manning's n values for verification. The n values listed in the DEIS for open channels appear to be too high, based on the detail provided in the design.

9. The level spreader shown at the Belleayre Highlands site receives flow from 9 subcatchments totaling approximately 50 acres. The structure is modeled in the hydrologic analysis as Pond No. 8 with a peak storage volume of 19,625 acre-ft. The calculated discharge volume during the 100-year, 24-hour storm event is 177.9 cfs with a velocity of 6.2 ft per second. Given the location of this discharge above road cut/fill on steep terrain, this discharge must be redesigned.

10. The DEIS makes reference to Class D streams at the site. NYCDEP Watershed Regulations requires Crossing, Piping, and Diversion Permits for streams that do not require a permit from another agency. Therefore, all Class C and D streams, in addition to any other watercourses designated by NYCDEP, must have the Crossing, Piping, and Diversion Permits. These issues must be included in the SWPPP to be reviewed and approved by NYCDEP.

B. Big Indian

1. The defined study area for Big Indian does not include the entire development. In particular, the new Friendship access road to the west of Winding Mountain Road is not included in the study area. Proposed activity in this area must be addressed in the DEIS as this could be a major source of erosion and pollutant loading to Birch Creek and the Ashokan Reservoir watershed during both the construction and operational phases. Extensive construction will be required to create safe and stable access to the Belleayre Plateau via Winding Mountain Road and the new Friendship Road. Both roads will be on very steep terrain crossing bedrock ledges and highly erodible thin soils on benches. These roads will receive heavy construction vehicle traffic during project construction and service vehicle and visitor traffic during the operational phase. A rigorous stormwater management plan and erosion and sedimentation control plan are required for this work. The necessary analyses for this critical aspect of the project are not presented in the DEIS to approve this project.

2. Similar to Winding Mountain Road and the new Friendship Road, particular attention should be given to water quality protection for the road crossing over Giggle Hollow. Giggle Hollow Road is approximately 4,000 ft long approaching Giggle Hollow from the Big Indian Plateau; a continuous swale parallels the uphill side of the road for this entire length, then discharging to Giggle Hollow. Road cuts and golf course fill for Fairway 16 will create a disturbance approximately 260 ft long on a slope of 60-70 percent along the Giggle Hollow Road. Flow control and velocity dissipation structures, swale dimensions and lining, and discharge structures should be detailed in the DEIS. The DEIS should also provide complete and detailed analysis and design information for temporary and permanent erosion and sedimentation controls in these areas. Special construction sequencing must be developed to account for groundwater seeps that should be expected to be exposed by road cuts. Stormwater management plans for this area must account for potential reconcentrated flows from the stormwater discharges initiating as "overland flow" from level spreaders located located on steep terrain uphill of the Giggle Hollow Road.

3. There is a drainage swale parallel to Giggle Hollow Road that appears to discharge to Giggle Hollow. Flow control and velocity dissipation structures, swale dimensions and lining, and discharge structures for this area should be detailed in the DEIS. Of particular concern, this swale will capture water from seeps and stormwater runoff above Giggle Hollow Road that presently continues down the slope in a number of intermittent drainage channels to eventually reach Birch Creek or enter Giggle Hollow farther downslope. Although inadequate detail is provided in the DEIS, it appears that all this captured water will now be diverted to the head of Giggle Hollow where the Road will cross, significantly augmenting flows in the upper reach of Giggle Hollow. Increased flows in this reach have the potential to destabilize the bed and banks of Giggle Hollow, resulting in downcutting, bank slumping, and erosion that will result in increased sediment load to Birch Creek and the Ashokan watershed. The DEIS must provide a thorough fluvial geomorphologic analysis of this watercourse and propose mitigation to prevent stream degradation.

4. The DEIS states in Appendix 9A, Page 19 that *"The design assumes that any small ephemeral streams, intermittent drainage ditches, or washouts of the railroad ditch that could be intercepted by stormwater discharges will be by-passed in order to maintain separations of stormwater runoff and any of the existing streams. This can be accomplished by repairs made within the existing railroad bed."* The DEIS must provide design details showing the location of these streams/ditches and the structures that are proposed to control flow at these locations to prevent future erosion and washouts. The General Permit requires that unstable existing drainage channels be remediated to a stable condition; the plans in the DEIS do not provide an adequate description of how this stabilization will be accomplished.

5. All stormwater discharges must be evaluated for their impact on channel and slope stability. As discussed relative to Giggle Hollow above, the proposed rerouting of stormwater flows could result in significant changes in the location that stormwater runoff will enter along the length of other watercourse on the project site, altering the steam hydrograph and destabilizing the streambed. For example, if the discharge to steeper upstream reaches of a watercourse increase, erosion and incising in this area would increase, also destabilizing the stream banks. As per Stormwater General Permit GP-02-01, discharge volumes and velocities for the 100-year storm event must be calculated at the pond outfalls and safe conveyance must be provided with design controls to prevent erosion. In particular, the discharges from proposed Ponds 21 and 25 should be evaluated. Runoff from large areas of the site would be captured at these locations in the proposed design. According to data inputs to the hydrologic model, Pond 21 accepts runoff from approximately 74+ acres of the development. This pond discharges (at a rate of 254.7 cfs, @100-year, 24-hour storm event) to Reach 87 and runs 2,100 ft along the new access road to Pond 27, located on a steep slope approximately 400 ft above Birch Creek. Pond 25 accepts flow from approximately 70 acres at another portion of the development and discharges approximately 300 ft upgradient from the wetland/watercourse referred to in the wetland delineation report as No. 35. As mentioned in Appendix A.3, this channel is currently undergoing active erosion originating from previous logging road construction impacts. Increased discharge at this location will certainly exacerbate the condition of this channel.

6. The post-development input parameters for the Big Indian drainage analysis are missing subcatchment 19 (approximately 5.5 acres). In addition, subcatchments 15 and 20 do not appear on the schematic diagram from the hydrologic model and are excluded from the analysis.

7. It is not clear how stormwater flows to the Big Indian Plateau design points or the downstream receiving waters. All existing drainage channels and culverts should be shown on the drawings including those found along skid trails, the railroad track and access roads to private parcels. The DEIS and stormwater control plans must demonstrate that stormwater management controls downstream of the design points are adequate to handle any increased flow, or propose modifications to existing controls to mitigate the changes in flow.

8. Considering the divide between the two areas created by Giggle Hollow, the hydrological analysis should be separated for Belleayre Highlands and Big Indian Plateau. As mentioned before, the locations selected for design points 2 and 3 are not the most appropriate sites relevant to the developed areas.

9. Base flow of Giggle Hollow should be considered in the calculations. It is unclear how stormwater drains to Giggle Hollow (design point No. 2) from the nearby ponds and roads. Reaches should be defined on the drawings. Changes in stormflow routing could significantly change the hydrology of Giggle Hollow and potentially destabilize portions of the stream channel and increase erosion.

C. Highmount Estates and Wildacres Resort

1. Portions of the Highmount Estates area are not included in the study area for the stormwater quantity analysis. Specifically, the lots west of County Route 49A (17, 18, 19, and 20) and the southern portions of Lots 11 and 12 are not included within the study area. All disturbed areas throughout the property affected by or owned by the applicant must be included in the study area in order to account for all stormwater runoff in the management plan and assure that all control structures are adequately sized.

2. Portions of the Wildacres Resort area are not included in the study area for the stormwater quantity analysis. Specifically, the northwest corner of the site appears to be excluded. Again, all disturbed areas must be included in the study area in order to account for all stormwater runoff in the management plan and assure that all control structures are adequately sized.

3. It is not clear how stormwater flows from the Highmount Estates and Wildacres Resort design points to the downstream receiving waters. All existing culverts should be shown on the drawings including at access roads, Gunnison Road, and the railroad track. The DEIS and stormwater control plans must demonstrate that stormwater management controls are in place downstream of the design points and are adequate to handle any increased flow, or propose modifications to existing controls to mitigate the changes in flow.

4. Subcatchment areas 200 and 300 are not consistent between pre-development and post-development conditions. The inconsistencies in the DEIS result in much lower peak flows than EA estimates for the post-development subcatchments. Because these subcatchments are outside of the developed area their flows should not change from pre-development to post-development conditions. Subcatchment areas 200 and 300 are not shown on drawings. These areas must be delineated and shown completely on the drawings. In addition, flow discharging from culverts should never assume maximum discharge as with reach 300 at Wildacres. Likewise, the subcatchment area (subcatchment 300, defined as 42.2 acres) should not be calculated based on this assumed discharge. The actual watershed area contributing to this reach does not support the assumptions relative to discharge.

5. Several piped reaches, including reaches 60 and 300, appear as major flow constrictions in the HydroCAD model. Pressure flow should be modeled through these pipes and the potential for flow over the associated roadways should be considered. The existing topography does not show significant areas for water detention behind the culverts, thus flooding of roadways could occur; the DEIS should provide design modifications to alleviate this situation.

6. Drawings SD-3 and SD-4 are marked "not to scale." The drawings must be provided to scale to allow for an accurate review. A scale for the drawings was estimated so that some comments could be provided. All drawings should be provided to scale to facilitate analysis of potential impacts from stormwater management.

STORMWATER QUALITY

In addition to a detailed stormwater quantity review, a comprehensive review and analysis of the stormwater quality management plan was conducted. Within the project boundary, nine mapped and several unmapped stream courses have been identified, five of which are defined as perennial with the remaining channels listed as intermittent or ephemeral. Several channels originate from wetlands and/or groundwater seeps located on the site. This review focuses on the potential nutrient and pesticide loading that could result from conversion of land use and cover and turf management practices. Water quality impacts from wastewater treatment and from erosion and sedimentation are briefly discussed here, and have been given more detailed review in Appendixes C.2 and C.3.

Overall Effectiveness of Water Quality Mitigation

The size and configuration of a number of the ponds is not adequate or appropriate for management of predicted flows and maintenance of water quality. Many of the ponds are too narrow and channel-like to dissipate predicted post-development flow velocities. Many of these ponds discharge to waters of the State that are managed for trout propagation and survival. The need to limit potential water temperature increases in these state waters has constrained the proposed design for control of other water quality parameters. Water quality issues must be addressed with the same priority as temperature considerations. The design will need to control nutrients, suspended solids, and other contaminants as well as water temperature. If this cannot be accomplished at the design level, it is unlikely that the project as proposed can avoid degrading water quality.

These ponds, as designed, will require routine maintenance to assure proper functioning as a water quality and water quantity mitigation device. Maintenance activities include sediment removal every 5-6 years, or when the pond is 50 percent full; regular removal of any trash/debris collected on the trash rack; clearing any woody vegetation that develops in and around the pond spillway; and inspection and removal of ice buildup during winter months. Maintenance activities and frequency are detailed in the Stormwater Pollution Prevention Plan provided in the proposed SPDES permit. This program must be rigorously implemented to assure that these structures operate effectively.

WinSLAMM Modeling and Nutrient Loading

To estimate potential impacts from post-development stormwater discharge, the DEIS utilized the Windows Source Loading and Management Model (WinSLAMM), developed by R. Pitt and J. Voorhees (2000). WinSLAMM is, in principal, an appropriate model to estimate the nutrient loading potential from a project of this type. The model is capable of modeling a wide range of storms, stormwater control devices, catchment areas, and land cover types (WinSLAMM 2001).

Although WinSLAMM is appropriate for this application, there are a number of deficiencies and omissions in the application as presented in the DEIS that introduce a high level of uncertainty into the results. The input parameters used to set up the model are not presented with the water quality analysis in the DEIS. This information is essential to perform a thorough review of the model application and assumptions and determine if the model results are realistic and applicable for the site. These data were provided on CD after the DEIS was released by the applicant following a request from NYCDEP. All relevant input data and model parameters must be incorporated into the DEIS to provide adequate opportunity for public review and comment. The following issues are raised as concerns with the WinSLAMM modeling and overall nutrient loading potential:

1. At this time, the DEIS does not mitigate nutrient loads to pre-development levels. Pollutant mitigation does not comply with 10 NYCRR§128-3.9 requiring complete mitigation of pollutant loads. Operational phase stormwater modeling results (Appendix 10A) yielded by WinSLAMM show an increase of total phosphorus in both the Ashokan and Pepacton watersheds of 48 kg/year and 22 kg/year, respectively. The DEIS repeatedly references the unallocated total phosphorus loads for each reservoir, suggesting that the reservoirs can assimilate the increased load from the proposed development. However, 10 NYCRR§128-3.9 requires no net increase in loadings over pre-construction conditions as stormwater leaves the site. Moreover, these specific impacts predicted by the applicant's own analysis must be further analyzed for their significance and adequately mitigated. Site-specific monitoring data indicate that the applicants estimate of pre-construction loadings is unrealistically high, indicating that the pollutant increase predicted by the applicant may be underestimated.

2. A number of basins were left out of the WinSLAMM modeling. EA's review of the stormwater quantity design indicates that some basins, due to size and/or configuration, will not adequately handle the runoff from their associated subcatchment, and depend upon the downstream basin for supplemental treatment. These cases should be clearly designated and the associated controls should be specified.

3. There is concern about the lack of connectivity in the WinSLAMM modeling given the complexity of the project areas and the stormwater management plan. WinSLAMM modeling in the DEIS treats each subcatchment individually based on the precipitation that falls within that subcatchment, but does not account for discharge to the modeled subcatchment from control devices in upstream subcatchments. This is a concern given that sequencing of subcatchments is a common feature of the proposed stormwater management plan. Where the stormwater ponds are linked in series, the WinSLAMM modeling approach does not account for the inputs to one subcatchment from another

immediately upstream (Appendix 10A, Page 10). Exclusion of this upstream input may result in an underestimate of the pollutant loading. As the ponds are not 100 percent efficient at pollutant removal, carryover of pollutants to downstream ponds is not accounted for by the water quality modeling. The loading effects from one pond to the next must be addressed to accurately depict the cumulative loadings from the proposed project.

4. Pre-development total phosphorus loads estimated by the model are high compared to site-specific data collected by NYCDEP and values reported in the literature. This overestimate of pre-development total phosphorus load will result in an underestimate of the net change in loadings during the operational phase of the proposed project. Considering that the DEIS already projects an increase in total phosphorus loading from pre- to post-development conditions, then the difference between the pre- and post-development may be even greater than that reported in the DEIS. The DEIS claims that pre-development total phosphorus concentrations may be as high as 0.27 mg/L (Appendix 10A, Page 12) and pre-development export coefficients for the Big Indian parcel may be as high as 0.23 lb/acre or 0.258 kg/ha/year (Appendix 10A, SLAMM output tables). These values are greater than typical total phosphorus exports from relatively undisturbed forested watersheds, such as Giggle Hollow, which encompasses portions of the proposed resort as noted in the table below. Oftentimes modeling applications use literature data to validate models because local data are not available. However, NYCDEP data were provided to the applicant and are presented in the DEIS, but were not used in the modeling effort. Based on literature review and NYCDEP data, it appears that Giggle Hollow yields very little total phosphorus, suggesting that pre-development total phosphorus export in SLAMM is potentially overestimated.

TOTAL PHOSPHORUS EXPORTS FOR FORESTED WATERSHEDS AS REPORTED IN LITERATURE, MODELED BY SLAMM, AND CALCULATED WITH NYCDEP DATA FROM THE BELLEAYRE MOUNTAIN WATER QUALITY MONITORING PROGRAM

Location	Land Use/Land Cover	Date	TP Conc (mg/L)	Export (kg/ha/yr)	Water Yield (meters)	Source
Big Indian Pre-Development	Predominantly forest	3/15/93 - 11/30/93	**0.23**	**0.258**	**0.114**	**DEIS SLAMM MODELING**
Giggle Hollow	Predominantly forest	4/24/01 - 11/30/01	;0.016	0.023	0.155	Calculated with NYCDEP data
Giggle Hollow	Predominantly forest	3/15/02 - 11/30/02	0.017	0.068	0.498	Calculated with NYCDEP data
Giggle Hollow	Predominantly forest	3/15/03 - 8/12/03	0.013	0.066	0.536	Calculated with NYCDEP data
Chesapeake Bay forested areas	Forested sources	1985	—	0.038	—	Shuyler 1993
Town Brook, Catskills	54% Ag; 45% Forest	1/1/99 - 12/31/99	0.64	1.2		McHale and Phillips 1999
Lakes Bennery and Major, Nova Scotia	Forested	---	---	0.054	---	Hart et al. 1978
Multiple	Forested sources	---	---	0.05 - 0.8	---	Uttormark et al. 1974
Multiple	Forested sources	---	---	0.005 - 1	---	U.S. EPA 1976
Copper Mountain	Mixed	---	0.039 - 0.017	---		Lewis and Saunders 2000

.015 avg mg/l

5. WinSLAMM does not take into account antecedent moisture conditions, nor does it account for nutrient loads during the winter, thus underestimating annual loads. Since WinSLAMM uses an average runoff coefficient for the entire time period, it may underestimate pollutant loads by underestimating runoff from individual storms when they occur on already wet soils as was the case during the unusually wet 2003 water year. To account for spring snowmelt, the DEIS states that basins have been resized to attenuate spring snowmelt based on the New York State Stormwater Management Design Manual, but does not provide the analysis to support this contention. Calculations and assumptions used to estimate the storage required for spring snowmelt should be provided in the DEIS and validated before the draft SPDES permit that includes stormwater control is approved. Furthermore, the model does not account for runoff during the winter, including rain on snow events, again resulting in an underestimation of runoff and associated pollutant loads.

6. There is no calibration of WinSLAMM, or at least no information detailing if and/or how the model was calibrated. This is a key step in validating the results. The model should be calibrated based on local stream discharge and pollutant loading (these data are readily available from the USGS [www.usgs.gov] and were available to the applicant in regular data submissions from NYCDEP).

7. Several key set-up files and or parameter values are not provided in the WinSLAMM modeling report (Appendix 10A). These files were subsequently provided on request to NYCDEP, but are not part of the record in the DEIS for public review. A complete and thorough validation of the model results cannot be performed without these files. Specifically, no detail is provided about the control devices used (e.g., swales, detention basins, etc.), or the individual subcatchment land use descriptions that drive the modeling results. Because WinSLAMM relies heavily on the land cover classification to calculate associated pollutant loads, even subtle miscalculations or misclassification of this parameter could result in seriously flawed results. In Appendix 10A (Operational Phase Stormwater Quality Plan), the DEIS refers the reader to the HydroCAD analysis in Appendix 9A (Stormwater Quantity Management Plan) to obtain the cover types and controls strategies, however, the information provided is inadequate to reconstruct the analyses performed. For example, HydroCAD classifies the golf course as "Grass," yet WinSLAMM provides for the area to be broken down into "large turf areas." Appendix 4A in the WinSLAMM Manual (2000) provides an example printout of the model input file details that should have been included in the DEIS for completeness and to allow verification of model results.

8. The DEIS cites a modest decrease in total solids loading from the pre- to post-development condition. However, there is a large degree of uncertainty around this claim. WinSLAMM does not model ponds in series, yet the proposed stormwater design includes a number of ponds that will receive discharge from upstream ponds. As a result, it is unclear how sediment removal rates in the downstream ponds will be impacted by contributions from upstream ponds. Thus, the WinSLAMM model may generate an overestimate of sediment removal efficiency in these sequential detention ponds.

It should be noted that the particulate and filterable solids summation in WinSLAMM are incorrect (i.e. particulate solids + filterable solids does not equal total solids). This is the case in both pre- and post-development model runs. However, when these summations were performed manually, results still predict a decrease in total solids loading.

Review of Supplemental WinSLAMM Data Submission

EA was provided with a copy of the SLAMM input files on 1 March 2004. A subset of the subcatchments was evaluated relative to some of the areas of concern identified during our initial review of the data deficiencies. Subcatchments were chosen based on the potential that errors would have the greatest impact on model results (e.g., larger subcatchments and those with large impervious areas were examined). This included examining the subcatchment areas, land use characterization, control device characterization (including infiltration rates), and drainage system parameters. Several discrepancies were observed between the HydroCAD output files and the WinSLAMM input files.

This assessment of the WinSLAMM input files has identified a number of discrepancies that create concerns about the robustness of the modeling effort. Differences in the grouping of subcatchments between the HydroCAD and WinSLAMM modeling is suspect. Ponds that assume percolation in the WinSLAMM model, but not in the HydroCAD is also suspect, as are the differences in land use classification for several of the subcatchments examined in this review.

1. The subcatchment areas are not consistent between HydroCAD and WinSLAMM and the discrepancies are likely to result in an underestimate of pollutant loadings. All subcatchment areas for Big Indian were compared to those used in HydroCAD. In most cases, the areas correspond to those used in WinSLAMM, with several notable exceptions. First, Belleayre Highland 21 post-construction was modeled in HydroCAD as 343.01 acres, yet was modeled in SLAMM as only 193.07 acres. Second, a number of subcatchments (19-20-24-25-26-33) were modeled as part of Belleayre Highlands in the HydroCAD modeling, but were then modeled as part of Big Indian Resort in the SLAMM modeling. This inconsistency is suspect and the developer should justify why the subcatchments were grouped differently between the water quantity and water quality analysis. Third, Belleayre Highlands subcatchment 23 appears to have been left out of the WinSLAMM modeling altogether (9.37 acres). All of these discrepancies could potentially result in underestimates of pollutant loadings to the Ashokan watershed.

2. A number of discrepancies in land use characterization were identified for a subset of catchments at Big Indian (1-2, 5-22-32, 21, 22, 23, 24, 26, 30) that are likely to result in an underestimate of pollutant loading to the Ashokan watershed. For example, the employee parking lot for Big Indian 23-24 post-construction was left out of the WinSLAMM modeling. Specifically, parking used for this catchment in WinSLAMM was 0.24 compared to 1.33 acres in HydroCAD. Also, impervious area for Big Indian 5-22-32 post-construction was underestimated in SLAMM by nearly an acre compared to that used in the HydroCAD modeling.

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3. Control device setup was examined for percolation rates for a subset of 10 ponds at Big Indian (ponds 3, 4, 6, 9, 10, 11, 25, 27, 28, 100). Several ponds were assumed to have no percolation in the HydroCAD modeling, yet were assigned infiltration rates in the WinSLAMM modeling (e.g., ponds 10 and 11). This may cause an underestimate of pollutant loadings from these subcatchments. The text of the DEIS and the assumptions in the modeling relative to infiltration must be made consistent between the water quantity and water quality analyses.

4. Drainage system setup was reviewed for all of the subcatchments in the WinSLAMM modeling; one misclassification resulted in an underestimate of total phosphorus loadings. Most of the existing drainage was classified as containing "undeveloped roadside" or "Curb and Gutters, valleys, or sealed swales" in good condition. Most of the proposed drainage system is classified as containing 100 percent "Curb and Gutters, valleys, or sealed swales" in good condition. One exception is Big Indian subcatchment 30 post-construction where the drainage is erroneously classified as 100 percent undeveloped roadside which is incorrect. When the classification is corrected in the model to 100 percent "Curb and Gutters, valleys, or sealed swales" in good condition and re-calculated, the result is an increase of 13 lb of total phosphorus per year for the post-development condition.

Pesticides

The risk assessment for pesticide use described in the turf management plan used two primary modeling tools: LEACHM to analyze vertical transport of pesticides through the soil and Groundwater Leaching Model to analyze the runoff component of pesticide transport. The assessment used the depth profiles of five soil types mapped on the development site to define the influence of soil characteristics on pesticide fate. This is an invalid approach as the construction plans for the golf courses indicate that much of the area will be cut/filled, crushed rock, and drainage will be installed under fairways, and a 6-in. layer of topsoil and turf will be installed. The existing soil profiles do not adequately reflect the developed conditions under which pesticides will be applied and may underestimate the rate at which pesticides may be transported through the thin topsoil layer to the bedrock fracture zone or to the underdrains and from there to the stormwater detention ponds. Nationwide environmental management golf course signature programs, such as Audubon International, require minimum measures in the design of their certified natural resource management plans. One such measure is that all golf course subsurface drainage be directed to buffer areas or other vegetative filters, and not directly into water. In addition, the entire drainage system for the golf course must be mapped including subsurface drains.

Several concerns should be noted and/or addressed related to the Integrated Turf Management Plan:

1. It should be noted that this plan will not prevent pesticides from reaching surface water resources (Section 3, Page 53) and to assume otherwise is unrealistic. The DEIS indicates that in the event of an extreme precipitation event following a pesticide application levels of pesticides in streams will not exceed levels that are harmful for fish or humans. However, many of the water-soluble pesticides would be mobilized in surface water runoff that will be transported through the detention ponds and to streams.

2. The proposed post-construction subsurface conditions were not modeled to determine pesticide transport. Potential leaching of pesticides to groundwater was modeled assuming a 2.5-m soil horizon layer prior to the water table. In fact, only 6 in. of topsoil on the golf courses is planned, and gravel, bedrock, or native soil may underlie that. The Groundwater Leaching Model should be re-run to reflect a 6-in. soil horizon. Additionally, the crushed gravel base and fairway underdrains have the potential to intercept vertical subsurface flow and route it to the stormwater detention ponds.

3. A rigorous monitoring plan should be implemented to ensure levels of pesticides do not approach harmful levels. The proposed monitoring program described in the draft SPDES permit is inadequate. The wells proposed for groundwater monitoring are all deep bedrock wells and not located appropriately to realistically monitor potential impacts to Waters of the State from pesticide use at the golf courses. The DEIS must propose a rigorous new monitoring program including installation of new shallow overburden monitoring wells in locations approved by NYCDEP and NYSDEC. Only 15 of the 31 pesticides listed in SPDES permits are currently detectable by certified laboratory methods. It seems reasonable that if a pesticide not detectable by currently certified methods is proposed for use, the developer should be required to submit an analytical method validation package, which should be available from the manufacturer of the pesticide. This package should provide sufficient information for a certified laboratory to verify the method and test effluents and ambient receiving waters for the pesticide.

4. It is requested that pesticide application records be filed with NYCDEP for annual review. Records of pesticide application rates must be maintained as required by law. The DEIS states this information will be made available to local towns.

FLUVIAL HYDROGEOMORPHOLOGY (FGM)

The DEIS does not provide a comprehensive description of the watershed FGM (i.e., stream stability, stream lengths, slopes, aspect, and detailed channel morphology) that is necessary to evaluate potential impacts from changes in runoff following development. The NYCDEP 2001 Monitoring Report provides additional information related to 5 of the streams where long-term monitoring locations have been established (3 at Big Indian Plateau and 2 at Wildacres). The information collected by NYCDEP indicates that the streams draining the project site are high gradient streams with slopes ranging from 13 to 27 percent on the Big Indian parcel and from 10 to 20 percent on the Wildacres parcel. In addition, the flow data collected during the monitoring period provide evidence of a widely varying flow regime indicating that the streams are highly responsive to localized precipitation, suggesting potential impacts to flow regimes should be anticipated and addressed. Any active erosion of existing onsite and offsite channels must be identified and evaluated.

Potential Impacts

No details have been provided for stream protection against stormwater runoff from the road at the Giggle Hollow bridge crossing. This information should be provided for all bridge crossings where there is potential to impact the site streams. In addition, construction details of the outfall structures and locations where stormwater is planned to be discharged to site streams (e.g., all

regulated stormwater discharge outfalls at Wildacres regulated in the draft SPDES permit) discussed in the DEIS were not presented. Without these design details, the potential impact to bank stability in the streams at or downgradient from the discharge points cannot be evaluated.

The second goal of the stormwater management plan is to maintain or improve water quality prior to discharge to the site streams. The water discharged to the streams should not adversely impact aquatic resources or overall water quality downgradient from the project site. However, without greater detail in the DEIS, it is not clear that this will be accomplished by the proposed design.

Overland flow discharging from level spreaders and swales has been included as part of the stormwater design to disperse flow or convey water from stormwater ponds to site streams. The DEIS lacks detail where swales or overland flow are proposed, particularly in locations where the potential for impacting the watershed is high. The level spreaders proposed in the DEIS are located in areas of steep slopes ranging from 30 to 60 percent that exceed the recommended engineering standard. Engineering details are provided for only one of the proposed level spreaders. An example is the proposed level spreaders draining north of Big Indian Plateau toward Giggle Hollow and swales draining south of Big Indian Plateau toward Lost Clove Brook where no channels appear to exist under pre-construction conditions. If the level spreaders fail to effectively establish sheet flow on the steep slopes, there is a high probability that flow will reconcentrate resulting in uncontrolled stormwater flow and erosion of unprotected drainage channels. The ultimate effect would be an increase in sediment loadings discharged from the project site to both the Pepacton and Ashokan watersheds.

Surficial Geology

The DEIS presents a description of the surficial geology of the project site based primarily on published sources. In addition to these sources, limited site-specific data were collected during geotechnical and hydrological investigations, particularly during the installation of test pits to characterize the locations of stormwater facilities. There appears to be discrepancies between the test pit logs and the site grading plans. In addition, information from a limited number of test pits (i.e., depth to bedrock and percolation rates) was extrapolated, without typical methods of verification, to other areas classified with the same soil type. These assumptions were incorporated into the stormwater model. The results of those modeling analyses must be utilized recognizing this source of uncertainty.

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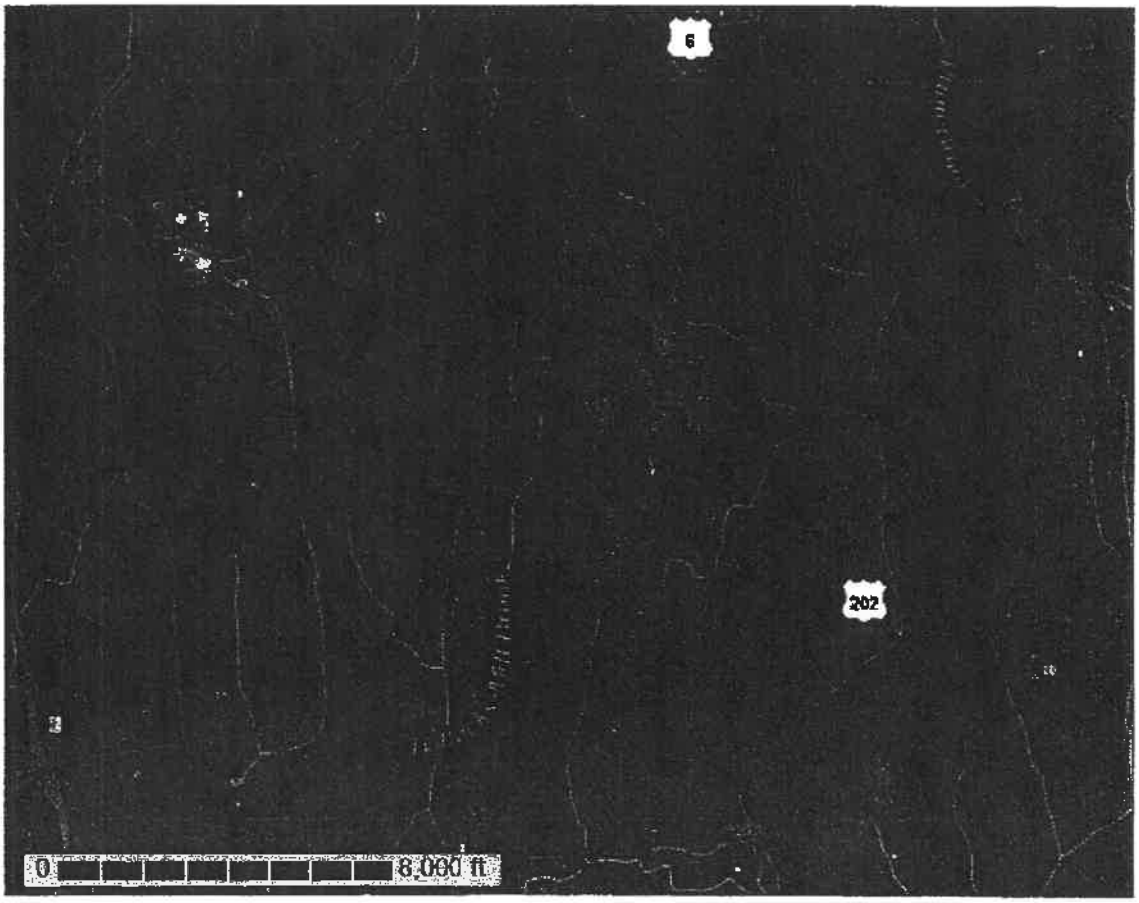
EXHIBIT I

USDA United States Department of Agriculture

NRCS Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Putnam County, New York, and Westchester County, New York



August 26, 2015

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

EXHIBIT J

Table 7–1 Criteria for assignment of hydrologic soil groups when a water impermeable layer exists at a depth between 50 and 100 centimeters [20 and 40 inches]

Soil property	Hydrologic soil group A	Hydrologic soil group B	Hydrologic soil group C	Hydrologic soil group D
Saturated hydraulic conductivity of the least transmissive layer	>40.0 µm/s (>5.67 in/h)	≤40.0 to >10.0 µm/s (≤5.67 to >1.42 in/h)	≤10.0 to >1.0 µm/s (≤1.42 to >0.14 in/h)	≤1.0 µm/s (≤0.14 in/h)
	and	and	and	and/or
Depth to water impermeable layer	50 to 100 cm [20 to 40 in]	50 to 100 cm [20 to 40 in]	50 to 100 cm [20 to 40 in]	<50 cm [<20 in]
	and	and	and	and/or
Depth to high water table	60 to 100 cm [24 to 40 in]	60 to 100 cm [24 to 40 in]	60 to 100 cm [24 to 40 in]	<60 cm [<24 in]

Table 7–2 Criteria for assignment of hydrologic soil groups when any water impermeable layer exists at a depth greater than 100 centimeters [40 inches]

Soil property	Hydrologic soil group A	Hydrologic soil group B	Hydrologic soil group C	Hydrologic soil group D
Saturated hydraulic conductivity of the least transmissive layer	>10 µm/s (>1.42 in/h)	≤10.0 to >4.0 µm/s (≤1.42 to >57 in/h)	≤4.0 to >0.40 µm/s (≤0.57 to >0.06 in/h)	≤0.40 µm/s (≤0.06 in/h)
	and	and	and	and/or
Depth to water impermeable layer	>100 cm [>40 in]	>100 cm [>40 in]	>100 cm [>40 in]	>100 cm [>40 in]
	and	and	and	and/or
Depth to high water table	>100 cm [>40 in]	>100 cm [>40 in]	>100 cm [>40 in]	>100 cm [>40 in]

EXHIBIT K

NYC Environmental Protection

Emily Lloyd
Commissioner

Paul V. Rush, P.E.
Deputy Commissioner
prush@dep.nyc.gov

465 Columbus Ave.
Valhalla, New York 10595

Tel. (845) 340-7800
Fax (845) 334-7175

CPB CTE CTP PP

July 30, 2015

RECEIVED
AUG - 7 2015

Mr. Timothy Allen
Bibbo Associates, LLP
293 Rt. 100, Suite 203
Somers, NY-10589

Re: Granite Pointe Subdivision SWPPP
(T) Somers, Westchester County, New York
DEP Log #1995-AM-0219-SP.3

Dear Mr. Allen:

The New York City Environmental Protection (DEP) has reviewed your application regarding the above referenced project and has determined that the application is *incomplete*. Please be advised that the following information is required before the DEP can commence its review:

Plans/ Drawings

1) DEP previously informed the applicant that field testing in the contaminated areas, where the future infiltration basins are proposed, cannot be witnessed until the cleanup work is finished. The soil testing DEP witnessed on June 9th, 2015 is only in the non-contaminated areas and therefore soil testing is yet to be completed. In addition to this any infiltration testing performed must also be witnessed by DEP.

The review of your application will not commence until the DEP receives the necessary information and determines that the application is complete. The DEP will notify you within 10 days of its receipt of the additional information requested above as to the completeness of your application. Please be advised that failure to submit information to the DEP or to follow DEP procedures is grounds to deny approval, pursuant to Section18-23(b) (3).

Should you have any questions regarding this letter, please call the undersigned at (914)742-2014.

Sincerely,

Mariyam Zachariah
Associate Project Manager
Stormwater Programs

CC: Suelain Realty
Town of Somers Planning Board

Woodard & Curran Engineering
and Geological Services P.A. P.C.
800 Westchester Avenue
Suite N507
Rye Brook, New York 10573
www.woodardcurran.com

T 800.426.4262
T 914.448.2266
F 914.448.0147

Woodard & Curran

MEMORANDUM

TO: David Smith, Director of Planning
FROM: Steven Robbins, P.E., LEED AP
DATE: December 11, 2025
RE: Trailside Estates
Technical Review of Site Plan, Stormwater Pollution Prevention Plan (SWPPP), Water and Wastewater Engineering Reports
TM: 4.20-1-12, 15.08-1-4; R-80 District

GENERAL

The purpose of this memorandum is to provide a summary of our comments related to our technical review of the Site Plan Application that was submitted for the Trailside Estates development, in the Town of Somers, New York.

The Applicant is proposing the construction of a subdivision with 81 town houses and a recreation center. The project site is currently undeveloped and consists of wooded areas. The total proposed limit of disturbance is 22.3 acres, with construction to be phased in six phases. The project site is located within the East of Hudson watershed. The proposed development of this site will cause greater than one (1) acre of disturbance, in addition to disturbance of steep slopes, wetlands, and tree removal.

This review focused on the engineering design and the associated Town Code requirements in accordance with the following:

- Town of Somers Code, Chapter 93: Stormwater Management and Erosion and Sediment Control, and other sections, as applicable.
- Town of Somers Code, Chapter 144: Site Plan Review
- Town of Somers Code, Chapter 148: Steep Slopes Protection
- Town of Somers Code, Chapter 156: Tree Preservation
- Town of Somers Code, Chapter 167: Wetlands and Watercourse Protection
- Town of Somers Code, Chapter 170: Zoning
- New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.
- New York State Department of Environmental Conservation's (NYSDEC's) Stormwater Management Design Manual (SMDM), dated July 2024.
- Rules and Regulations for the Protection from Contamination, Degradation, and Pollution of the New York City Water Supply and its Sources, Chapter 18 (NYCDEP Regulations).

DOCUMENTS REVIEWED

- Cover Letter, "Trailside Estates at Somers, Reynolds Drive, Town of Somers, Tax Map No: 4.20-1-12 & 15.08-1-4," prepared by Insite Engineering, Surveying & Landscape Architecture, P.C., dated November 20, 2025.
- Stormwater Pollution Prevention Plan for Trailside Estates at Somers Reynolds Drive, prepared by Insite Engineering, Surveying & Landscape Architecture, P.C., dated May 10, 2024, revised November 20, 2025.
- Drawings prepared by Insite Engineering, Surveying & Landscape Architecture, P.C., including:

Sheet Number	Sheet Name	Dated	Latest Revision
OP-1	Overall Plan	11/17/2023	11/20/2025
EX-1	Existing Conditions and Removals Plan	11/17/2023	11/20/2025
SP-1.1	Layout & Landscape Plan (1 of 3)	11/17/2023	11/20/2025
SP-1.2	Layout & Landscape Plan (2 of 3)	11/17/2023	11/20/2025
SP-1.3	Layout & Landscape Plan (3 of 3)	11/17/2023	11/20/2025
SP-2.1	Grading & Utilities Plan (1 of 3)	11/17/2023	11/20/2025
SP-2.2	Grading & Utilities Plan (2 of 3)	11/17/2023	11/20/2025
SP-2.3	Grading & Utilities Plan (3 of 3)	11/17/2023	11/20/2025
SP-2.4	Offsite Utilities Plan	1/31/2024	11/20/2025
SP-3	Phasing Plan	11/17/2023	11/20/2025
SP-4.1	Erosion & Sediment Control Plan (1 of 3)	11/17/2023	11/20/2025
SP-4.2	Erosion & Sediment Control Plan (2 of 3)	11/17/2023	11/20/2025
SP-4.3	Erosion & Sediment Control Plan (3 of 3)	11/17/2023	11/20/2025
LP-1.1	Lighting Plan (1 of 3)	11/17/2023	11/20/2025
LP-1.2	Lighting Plan (2 of 3)	11/17/2023	11/20/2025
LP-1.3	Lighting Plan (3 of 3)	11/17/2023	11/20/2025
PR-1	Sewer Profiles	4/28/2025	11/20/2025
PR-2	Sewer Profiles	4/28/2025	11/20/2025
PR-3	Water Profiles	10/23/2025	11/20/2025

Sheet Number	Sheet Name	Dated	Latest Revision
PR-4	Water Profiles	10/23/2025	11/20/2025
PR-5	Stormwater Profiles	9/22/2025	11/20/2025
PR-6	Stormwater Profiles	10/23/2025	11/20/2025
D-1	Details	11/17/2023	11/20/2025
D-2	Details	11/17/2023	11/20/2025
D-3	Details	11/17/2023	11/20/2025
D-4	Details	11/17/2023	11/20/2025
D-5	Details	4/30/2024	11/20/2025
D-6	Details	10/23/2025	11/20/2025

PERMITS AND APPROVALS REQUIRED

- Town of Somers Planning Board: Preliminary Subdivision Plat Approval
- Town of Somers Planning Board: Stormwater Management and Erosion and Sediment Control Permit
- Town of Somers Planning Board: Steep Slopes Protection Permit
- Town of Somers Planning Board: Tree Removal Permit
- Town of Somers Planning Board: Site Plan Approval
- NYSDEC: SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-25-001)
- Westchester County Department of Health (WCDOH): Approval of Sanitary Sewer Systems and Water Main
- WCDOH: Subdivision Approval
- WCDOH: WCBOL District Boundary Modification
- NYCDEP SWPPP Approval

DISCUSSION

The following is a summary of our comments based on our technical review of the latest submittal. Previously issued comments are noted in *italics* and the corresponding current status and response is shown below in **bold**. It should be noted that further comments will be provided upon review of the subsequent submittals.

Woodard & Curran

General

1. *The Applicant shall provide applications for all required permits as noted in the Permits and Approvals Required section above in this memorandum.* **Addressed.**

Stormwater

2. *The Applicant shall provide a draft Notice of Intent and a MS4 SWPPP Acceptance Form to obtain coverage under NYSDEC SPDES General Permit based upon the SWPPP for review and acceptance by the Consulting Town Engineer.* **Addressed.**
3. *The Applicant proposes subsurface infiltration systems for stormwater management. The following comments are regarding the proposed infiltration systems:*
    a. *The Applicant shall provide signed and sealed deep hole tests and percolation test results from the previously completed field investigations within the proposed infiltration systems' locations.* **Addressed.**
    b. *The Applicant shall ensure that a minimum infiltration rate of 0.50 in/hr is met at the proposed infiltration locations and shall provide at least 3 feet of separation between the bottom of the infiltration systems and bedrock/groundwater.* **Addressed.**
    c. *The Applicant shall note that acceptable pretreatment practices for stormwater prior to the infiltrations systems are required. Pretreatment practices shall be designed per the NYSDEC SMDM.* **Addressed**.
    d. *The Applicant shall provide construction details for the proposed infiltration systems.* **Addressed.**
    e. *The Applicant shall provide a note to the plan that any infiltration system shall be subject to inspection by the Consulting Town Engineer or Town Principal Engineering Technician prior to backfill.* **Addressed.**
4. *The Applicant has provided a Stormwater Pollution Prevention Plan (SWPPP) that includes post-construction stormwater controls. The following general comments are offered regarding the SWPPP:*
    a. *The SWPPP shall contain an estimate of site earthwork, indicating total net cut/fill in cubic feet. The Applicant shall also provide a cut/fill table on the plans.* **Addressed.**
    b. *The SWPPP shall contain inspection and maintenance manuals for the proposed subsurface infiltrations systems.* **Addressed.**

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c. *The Applicant indicates a Phasing Plan for construction. The SWPPP shall clearly indicate the construction phasing as part of the overall sequence of construction.* **Addressed.**

d. *The Applicant shall provide design calculations for the proposed grass diversion swales.* **Addressed.**

5. *The Applicant shall provide a plan that indicates the trees to be removed and protected during construction.* **Addressed.**

6. *The Applicant shall prepare a draft Stormwater Maintenance Agreement, in accordance with the provisions of Town Code for review by the Consulting Town Engineer & Town Attorney. Upon acceptance, the Stormwater Maintenance Agreement shall be filed with the Westchester County Clerk's Office.* **Addressed.**

7. *The Applicant shall confirm minimum/maximum cover requirements are met with the proposed underground infiltration systems.* **Addressed.**

8. *The Applicant shall confirm no structural impact will be placed on any proposed underground infiltration systems from the adjacent building or retaining wall foundations.* **Addressed.**

9. *The Applicant shall provide top of wall and bottom of wall elevations for the proposed block retaining walls.* **Addressed.**

    a. *The Applicant shall provide engineering design calculations for all retaining walls greater than four feet in height that are signed and sealed by a professional engineer licensed in the State of New York.* **Addressed. The Applicant must provide the signed and sealed design calculations for the retaining wall prior to the issuance of a building permit.**

10. *The Applicant shall provide a site or landscaping plan that indicates which existing trees are proposed to be protected and removed during development.* **Addressed.**

11. *The Applicant shall demonstrate that the temporary sediment traps have been sized to provide storage for the contributing drainage area per the design criteria in the New York State Standards and Specifications for Erosion and Sediment Control. Temporary sediment traps are required to store 3,600 cubic feet per acre.* **Addressed.**

12. *The Applicant shall indicate how the proposed disturbance within slopes steeper than 15% will be protected from erosion during construction.* **Addressed.**

13. *The Applicant shall include a note on the plans which states: "Any imported topsoil shall comply with all federal, state, and local requirements for quality and use."* **Addressed.**

14. *The Applicant shall include a note on the plans which states: "Off-site disposal of excess cut shall be in accordance with all federal, state, and local requirements."* **Addressed.**

Woodard & Curran

Wastewater

15. *The Applicant shall document the existing usage and remaining available capacity of the sewer forcemain and pumping system that the project proposes to connect to.* **Addressed.**
16. *The Applicant shall update Table 2: Design Average Daily Flow to reflect current data from American Water Works Association and Rutgers University.* **Addressed**
17. *The Applicant shall provide an updated hydraulic loading rate for the proposed Town Community Center in Table 2: Design Average Daily Flow once its intended use is identified.* **Addressed.**
18. *The Applicant stated that Peekskill Wastewater Treatment Plant has sufficient capacity to accommodate the proposed project. The Applicant shall provide a Will Serve Letter from WCDEF stating that the Peekskill Wastewater Treatment Plant can accept wastewater flow from the proposed project.* **Addressed.**
19. *The Applicant shall expand the current sanitary sewer language that includes supporting calculations of the reported wastewater generation rate for the proposed project in accordance with NYSDEC Intermediate Sized Wastewater System Design Standards, 2014. The report shall include, but not be limited to: pipe slopes, capacity percentages, pipe materials, and the peaking factor considered for calculations of the peak flow.* **Addressed.**
20. *The Applicant shall modify the sewer manhole detail to include an anti-flotation collar.* **Addressed.**
21. *The Applicant shall modify the Grading & Utilities Plans to include proposed service connections.* **Addressed.**
22. *The Applicant shall provide profiles.* **Addressed.**

Water

23. *The Applicant shall analyze the existing capacity and remaining available capacity of the water distribution system that it proposes to connect to.* **Addressed.**
24. *The Applicant shall update Table 2: Design Average Daily Flow to reflect current data from American Water Works Association and Rutgers University.* **Addressed.**

25. *The Applicant shall provide an updated hydraulic loading rate for the proposed Town Community Center in Table 2: Design Average Daily Flow once it intended use is identified.* **Addressed.**
26. *If irrigation is required, the Applicant shall provide an estimated per-acre water demand for the irrigation demand. The Applicant shall provide backup information for how the value is developed.* **Addressed. The Applicant notes irrigation will not be proposed as part of this project.**
27. *The Applicant stated that hydrant flow testing will be performed to determine actual flows and available pressure. The Applicant shall provide the results upon completion of testing.* **Addressed.**
28. *The Applicant shall modify the Grading & Utilities Plans to include proposed service connections.* **Addressed.**

Comments that followed the completeness review memo from February 15, 2024:

29. *The Applicant shall confirm the 30' buffer setback is applied for all proposed buildings in the subdivision.* **Addressed.**
30. *The Applicant shall revise locations of all infiltration systems to have a minimum 10' setback from the property line.* **Addressed.**
31. *The Applicant shall confirm the proposed conservation easement on the Layout and Materials Plan sheets. The linetype for the conservation easement at either end varies, and the Applicant shall make this clear.* **Addressed.**
32. *The Applicant proposes Pond P-1 within the 100' wetlands buffer. The Applicant shall indicate all proposed wetlands mitigation measures based on the disturbance within the wetlands buffer.* **Addressed.**
33. *The Applicant shall ensure all proposed easements are clearly shown on the site plan.* **Addressed.**
34. *The Applicant shall clearly indicate the proposed grading contours on the Grading & Utilities sheets on the site plans. Many of the proposed contours have sections which are hidden underneath other line work, the Applicant shall make the contours clear and in front.* **Addressed.**
35. *The Applicant shall clearly indicate the proposed inverts and grading contours for the proposed swales on the Grading & Utilities sheets. The construction detail indicates a minimum 10' top width for the swales; however, this minimum width does not appear to be met for all swales.* **Addressed.**
36. *Under Appendix G of the SWPPP, the Applicant indicates side slopes and longitudinal slopes that exceed the requirements of vegetated swales per the*

NYSDEC SMDM (3H:1V and 4%, respectively). The Applicant also indicates a minimum bottom width of 1' for Swales 2 and 3, which are below minimum requirements for vegetated swales per the NYSDEC SMDM. The Applicant shall explain how the deviation from the standards will not contribute to increased erosion for the conveyance swales. **Addressed.**

37. *The Applicant shall update the Grading & Utilities sheets to include proposed contours for the proposed swales.* **Addressed.**
38. *The Applicant shall explain how Lots 6 and 3 (and subsequently Lots 1-2, 4-5) will be protected from potential erosive flows with proposed 3:1 slopes directly adjacent to their properties without a conveyance swale. The Applicant shall also provide an explanation for Lots 29-30, and 53-55, where these properties are immediately downgradient of proposed 3:1 slope areas.* **Addressed.**
39. *The Applicant proposes the creation of 2:1 steep slope downgradient of Lots 46 and 49. The Applicant shall explain how the creation of these steep slopes will not cause adverse impacts downstream, especially noting that this abuts right against the wetlands buffer.* **Partially Addressed. The Applicant shall more clearly indicate on the E&SC sheets of the plan set (SP-4.1-4.3) of the locations where slopes exceed 3:1, where proposed matting is proposed.**
40. *The Applicant shall provide outlet protection at the downstream most end of the proposed Swale SW 5.* **Addressed.**
41. *The Applicant shall clearly indicate proposed fire lanes and emergency zones for emergency vehicle access to the property.* **Addressed.**
42. *The Applicant shall provide profiles for the proposed storm drain and water utility lines on the site plans.* **Addressed.**
43. *The Applicant shall clearly indicate the proposed footprint of subsurface infiltration systems, including the location and quantity of chambers within the footprints shown on the Grading & Utility sheets (1.3P, 1.5P, 1.6P). As the footprints shown in the site plans are not consistent with the HydroCAD footprints for these systems (due to non-rectangular shapes), the site plans must indicate how the chambers fit within the proposed footprint shown.* **Addressed.**
44. *The Applicant shall explain how the proposed landscaping immediately adjacent to the footprint of subsurface infiltration system 1.6P will not cause any feasibility issues for installation and long-term health of the landscaping. See Sheet SP-1.2.* **Addressed.**
45. *The Applicant shall explain how pedestrian traffic will be impacted for all the properties to the west of the main road within the development, considering that sidewalks are only proposed to the east side of the main road. There appears to be no proposed crosswalks connecting the east and west sides of the*

main road, and the Applicant shall explain how pedestrians will be able to safely travel from one side to the other. **Addressed.**

46. *The Applicant shall clearly indicate maintenance access pathways for all proposed stormwater management basins, and how maintenance access equipment will be able to directly access each basin for maintenance activities.* **Addressed.**
47. *The Applicant shall clearly indicate the proposed pathway (with proposed material) for the connection between the parking lot of the community center and the proposed dog park on Sheet SP-1.1.* **Addressed.**
48. *The Applicant shall clarify if there is any proposed grading for the proposed dog park area, along with the connection pathway to the community center.* **Addressed.**
49. *The Applicant shall clearly indicate the direction of vehicular traffic on the layout and material sheets for all roadways.* **Addressed.**
50. *The Applicant indicates roof drains and floor drains on the utility plans. The plans shall clearly indicate how the roof drains and floor drains are separate lines, to confirm the additional outfalls do not directly discharge roof drain runoff. The Applicant shall also confirm these direct discharges do not have an adverse impact on the abutting wetlands.* **Partially Addressed. The Applicant has demonstrated the separation between the roof and floor drains, but does not indicate if the discharge from these drains will impact the abutting wetlands.**
51. *It appears that there are several utility crossings (e.g., CB 47 E to SMP 1.2DS IN, Sheet PR-5) where little to no vertical separation looks to be achieved between the storm drain line and the sewer mains/force mains. The Applicant shall confirm minimum vertical separation is achieved or demonstrate what measures are applied to alleviate any separation issues.* **Addressed.**
52. *The Applicant shall explain why subcatchment 1.9 and pond 1.9 are modeled separately from the Post-Development model for the porous paver patios, and how the total HydroCAD would be impacted inclusive of the porous pavement and their subcatchment areas.* **Addressed.**
53. *The Applicant shall confirm the units the permeable paver patios are utilized on the construction detail on Sheet D-2.* **Addressed.**
54. *The Applicant shall ensure that a minimum infiltration rate of 0.50 in/hr is met at the proposed porous pavement locations.* **Partially Addressed. The Applicant indicates infiltration testing will be conducted to ensure the minimum infiltration rate is met. The Applicant shall provide the results to the Town in the following submittal.**

55. *The Applicant shall confirm the contributing areas to the porous pavement areas do not exceed three times the surface of the porous system, per the NYSDEC SMDM requirements.* **Addressed.**

56. *The Applicant has provided soil sample data for the former orchard area and a Soil Management Plan for the safe handling of soils in this area. The Applicant shall provide additional information on the approximate volume of soil to be handled in this area, where cover systems will be used, and where soils are anticipated to be removed from the site.* **Partially Addressed. The Applicant indicates the plan will be provided under a separate cover, and shall be provided to the Town in the following submittal.**

The following new comments are noted below:

57. The Applicant shall provide responses to the Watershed Inspector General's March 10, 2025 comments, for review as part of the technical review of this project.

Please feel free to contact our office with any questions. Please provide a response memo identifying where responses to these comments can be located on revised submittals.

Affidavit:

I, Jamie LoGiudice, RLA do hereby affirm that on December 4 2025 pursuant to Sections 170-114C(5) and 150-12E of the Code of the Town of Somers, I installed the required sign, informing the public that the Public Hearing will be held on December 17, 2025 at the Somers Town House, 335 Route 202, Somers NY for the Trailside Estates of Somers project.

Signature

I, Alicia Hansen a Notary Public do hereby certify that on this, the 5th day of December 2025, the above named Jamie LoGiudice subscribed the foregoing affidavit in my presence, and declare that the matters set forth in said affidavit are true, to the knowledge of said deponent.

IN WITNESS WHEREOF, I have hereunto set my hand.

Alicia Hansen

Notary Public

Commission expires: 2027

Alicia Hansen
Notary Public, State of New York
Reg. # 01HA6088470
Qualified in Dutchess County
Commission Expires January 21, 2027


A SUBDIVISION, SITE PLAN, WETLAND PERMIT, STEEP SLOPES,
STORMWATER MANAGEMENT, EROSION CONTROL, AND TREE REMOVAL
APPLICATIONS PERTAINING TO THE MATTER OF
TRAILSIDE ESTATES AT SOMERS FOR THIS PROPERTY
WILL BE DISCUSSED AT A PLANNING BOARD MEETING HELD
ON DECEMBER 17, 2025 AT 7:30 PM AT
SOMERS TOWN HOUSE.
FOR INFORMATION, CALL (914) 277-4882
RECEIVED
DEC 09 2025
PLANNING + ENGINEERING
TOWN OF SOMERS

lohud.

Public Notices

Originally published at lohud.com on 12/04/2025

PLANNING BOARD
TOWN OF SOMERS
WESTCHESTER COUNTY, NEW YORK

PUBLIC NOTICE:

NOTICE IS HEREBY GIVEN that the Planning Board of the Town of Somers, Westchester County, New York, has scheduled a Public Hearing on Wednesday, December 17, 2025 at 7:30 p.m. at the Somers Town House, 335 Route 202, Somers, New York, to consider the application of Trailside Estates at Somers.

The proposal is more specifically shown on the set of drawings, "Trailside Estates at Somers" prepared by Insight Engineering, Surveying & Landscape Architecture, P.C., dated May 10, 2024 and last revised November 20, 2025.

The Applicant is proposing construction of an 81-unit townhouse community with associated appurtenances. Five of the 81 units will be sponsor provided, and target households at or below the 120% AMI. The project also proposes the construction of a community center and dog park to be located on a separate parcel which will be dedicated to the Town of Somers.

The property is accessed through Somers Realty Planned Hamlet via Reynolds Drive.

The total site disturbance is approximately 24 acres.

The subject property is located on the southernly side of the future Reynolds Drive within the "Planned Hamlet" and is designated on the Town Tax Map as Sheet 4.20, Block 1, Lot 12 & Sheet 15.08, Block 1, Lot 4 and is in a Multifamily Residence Baldwin Place (MFR-BP) Zoning District.

Anyone is invited to attend and will be heard on the aforesaid matter.

BY ORDER OF THE PLANNING BOARD
Vicky Gannon, Chair

INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.

November 20, 2025

Town of Somers Planning Board
335 Route 202
Somers, NY 10589

RE: Trailside Estates at Somers
Reynolds Drive
Town of Somers
Tax Map No: 4.20-1-12 & 15.08-1-4

Dear Chairperson Gannon and Members of the Board:

Enclosed please find six (6) copies of the following items including four (4) flash drives in support of the subject applications and permits for the subject project:

- Site Plan Set (28 sheets), last revised November 20, 2025.
- Stormwater Pollution Prevention Plan (SWPPP), last revised November 20, 2025.
- Supplemental information pertaining to the Soil Management Plan, prepared by Gallagher Bassett, to be provided under separate cover.

With regard to comments received, we offer the following responses in **bold**. Responses noted as addressed or previously provided have been removed from the responses below:

Memorandum from Steven Robbins, P.E., LEED AP of Woodard and Curran, dated November 11, 2025:

Water

39. *The Applicant proposes the creation of 2:1 steep slope downgradient of Lots 46 and 49. The Applicant shall explain how the creation of these steep slopes will not cause adverse impacts downstream, especially noting that this abuts right against the wetlands buffer.* Partially Addressed. The Applicant shall provide a callout and detail for permanent erosion control matting along the steep slope per the NYS Standards and Specifications for Erosion and Sediment Control.

    An erosion control blanket and geotextile anchoring detail has been added to drawing D-5. Additionally, callouts have been added to areas of steep slopes steeper than 3:1 on drawings SP-4.1 – SP-4.3.

45. *The Applicant shall explain how pedestrian traffic will be impacted for all the properties to the west of the main road within the development, considering that sidewalks are only proposed to the east side of the main road. There appears to be no proposed crosswalks connecting the east and west sides of the main road, and the Applicant shall explain how pedestrians will be able to safely travel from one side to the other.* Partially Addressed. The Applicant provides explanation for not including sidewalks on the west side of the main road, but does not specify why a crosswalk connecting the west to the east is not included in the layout design.

    At the November 12, 2025 Planning Board meeting, the sidewalk layout was presented and found to be acceptable. As discussed, we have ensured crosswalks

exist at all points where sidewalks intersect with a road. As there are no sidewalks on the west side of the property to intersect with sidewalks on the east, crosswalks will not be provided as there would be no destination beyond the end of the crosswalk. As noted, this type of layout is consistent with residential applications in a suburban environment such as Somers.

49. *The Applicant shall clearly indicate the direction of vehicular traffic on the layout and material sheets for all roadways.* Not Addressed. The Applicant has not provided traffic direction arrows on Drawings SP-1.1 through SP-1.3.

    Directional arrows, shown for reference only, have been added to Layout and Landscape Plans (SP-1.1 – SP-1.3).

The following additional comments are provided based on the latest submittal:

50. *The Applicant indicates roof drains and floor drains on the utility plans. The plans shall clearly indicate how the roof drains and floor drains are separate lines, to confirm the additional outfalls do not directly discharge roof drain runoff. The Applicant shall also confirm these direct discharges do not have an adverse impact on the abutting wetlands.*

    The roof drains and footing drains have been updated and clarified on the drawing legends. The roof drains and footing drains are separate pipes but have been shown as a combined line type where they overlap to avoid over cluttering the drawings.

51. *It appears that there are several utility crossings (e.g., CB 47 E to SMP 1.2DS IN, Sheet PR-5) where little to no vertical separation looks to be achieved between the storm drain line and the sewer mains/force mains. The Applicant shall confirm minimum vertical separation is achieved or demonstrate what measures are applied to alleviate any separation issues.*

    Where possible the separation distances between pipes at pipe crossings between storm and sewer have been increased. If more than 18" of separation between storm and sewer pipes cannot be achieved a Sewer Pipe to Drainage Pipe Crossing Detail outlining a partial encasement and support of the two pipes has been added to drawing D-2.

52. *The Applicant shall explain why subcatchment 1.9 and pond 1.9 are modeled separately from the Post-Development model for the porous paver patios, and how the total HydroCAD would be impacted inclusive of the porous pavement and their subcatchment areas.*

    Subcatchment 1.9 was modeled separately to represent a singular unit and porous paver configuration to demonstrate the practice's capacity and sizing is in conformance with the Design Manual requirements. There are 15 units designated as proposed to have porous paver patios. The model was revised so all 15 of the porous paver patios have been linked into the Post-Development model which resulted in a small decrease in overall peak flows to Design Point 1.

53. *The Applicant shall confirm the units the permeable paver patios are utilized on the construction detail on Sheet D-2.*

    The noted unit numbers on drawing D-2 have been updated in the Permeable Paver Patio Detail.

54. *The Applicant shall ensure that a minimum infiltration rate of 0.50 in/hr is met at the proposed porous pavement locations.*

    Acknowledged. Testing for the additional permeable paver patio areas will be coordinated and conducted to assure a minimum infiltration rate of 0.5 in/hr is possible.

55. *The Applicant shall confirm the contributing areas to the porous pavement areas do not exceed three times the surface of the porous system, per the NYSDEC SMDM requirements.*

    As noted in section 2.0 of the project SWPPP the 2015 edition of the NYSDEC New York State Stormwater Management Design Manual will be referenced for the design requirements of the project stormwater management. Appendix M of the project SWPPP has been updated demonstrate the porous paver patios have been sized appropriately per the 2015 design manual standards.

56. *The Applicant has provided soil sample data for the former orchard area and a Soil Management Plan for the safe handling of soils in this area. The Applicant shall provide additional information on the approximate volume of soil to be handled in this area, where cover systems will be used, and where soils are anticipated to be removed from the site.*

    Supplemental information prepared by Gallagher Bassett shall be provided under separate cover to address the above comment.

Memorandum from Open Space Committee, dated November 14, 2025:

1. *There is still no detailed tree removal plan showing locations, sizes, and species*

   Tree removal was discussed with the Planning Board during the SEQRA/Site Plan review process and determined that providing samples counts and approximating the amount of trees was sufficient for the SEQRA/Site Plan review. It was also acknowledged that a site specific tree count will be performed prior to construction to determine the appropriate tree removal fee.

2. *The stormwater plans still do not detail the inlet sizes of the gratings over catch basins and drain inlets, so the risk to amphibians moving over the site can't be determined.*

   The proposed catch basins and drain inlets will have ADA compliant grates which provide for smaller openings and minimizes the risk to amphibians moving over the site.

3. *There are still no curbing details, so it can't be determined if safe Cape Cod style design curbing will be used.*

   The applicant had revised the style of proposed curbs to be mountable granite curbs in a previous submission; therefore, we believe the concern has been addressed.

We trust you will find the enclosed information in order, and respectfully request this item be placed on the December 10, 2025 agenda for continued discussion with the Planning Board and a public hearing. If you have any questions or comments regarding this information, please do not hesitate to contact our office.

Very truly yours,

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

By: _____
Richard D. Williams, Jr., P.E.
Senior Principal Engineer

RDW/JLL/tmb

cc: K. Kearney, The Kearney Realty and Development Group, Inc., via email
S. Kearney, The Kearney Realty and Development Group, Inc., via email
C. Martabano, Esq., via email
A. Coppola, AIA, LEED AP BD+C, Coppola Associates, via email

Insite File No. 21241.100

OPEN SPACE COMMITTEE

Telephone
(914) 277-5582
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MICHAEL BARNHART
CHAIRMAN

Town of Somers

WESTCHESTER COUNTY, N.Y.

SOMERS TOWN HOUSE
335 ROUTE 202
SOMERS, NY 10589

MEMO TO: Planning Board

FROM: Open Space Committee

RE: Trailside Estates

DATE: November 14, 2025

The Open Space Committee last reviewed and commented on Trailside Estates on March 17, 2025. At our monthly meeting on November 13, 2025, the Committee reviewed and discussed the updated site plan for Trailside Estates, to be located at Reynolds Drive. The Committee had the following concerns:

The new submission was reviewed and compared to the comments made on the previous memo sent to the Town Board. Additional information and plans were given, but there are some crucial details that are missing:

[1] There is still no detailed tree removal plan showing locations, sizes, and species.

[2] The stormwater plans still do not detail the inlet sizes of the gratings over catch basins and drain inlets, so the risk to amphibians moving over the site can't be determined.

[3] There are still no curbing details, so it can't be determined if safe Cape Cod style design curbing will be used.

Additionally, the Town should consider the following impacts. The attached map showing the surrounding locations makes it clear it will cause further fragmentation of the broad strip of forest that borders the North County Trailway and the Muscoot River riparian corridor. Expanding the footprint of the Baldwin Place district clearly has 30X30 implications. The Committee believes a discussion with the developer about possible compensatory actions that would mitigate such impacts would be welcome and appropriate, especially given the Town Board's recent 30X30 resolution.

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Woodard & Curran

MEMORANDUM

TO: David Smith, Director of Planning
FROM: Steven Robbins, P.E., LEED AP
DATE: November 11, 2025
RE: Trailside Estates
Technical Review of Site Plan, Stormwater Pollution Prevention Plan (SWPPP), Water and Wastewater Engineering Reports
TM: 4.20-1-12, 15.08-1-4; R-80 District

GENERAL

The purpose of this memorandum is to provide a summary of our comments related to our technical review of the Site Plan Application that was submitted for the Trailside Estates development, in the Town of Somers, New York.

The Applicant is proposing the construction of a subdivision with 81 town houses and a recreation center. The project site is currently undeveloped and consists of wooded areas. The total proposed limit of disturbance is 22.3 acres, with construction to be phased in six phases. The project site is located within the East of Hudson watershed. The proposed development of this site will cause greater than one (1) acre of disturbance, in addition to disturbance of steep slopes, wetlands, and tree removal.

This review focused on the engineering design and the associated Town Code requirements in accordance with the following:

- Town of Somers Code, Chapter 93: Stormwater Management and Erosion and Sediment Control, and other sections, as applicable.
- Town of Somers Code, Chapter 144: Site Plan Review
- Town of Somers Code, Chapter 148: Steep Slopes Protection
- Town of Somers Code, Chapter 156: Tree Preservation
- Town of Somers Code, Chapter 167: Wetlands and Watercourse Protection
- Town of Somers Code, Chapter 170: Zoning
- New York State Standards and Specifications for Erosion and Sediment Control, dated November 2016.
- New York State Department of Environmental Conservation's (NYSDEC's) Stormwater Management Design Manual (SMDM), dated July 2024.
- Rules and Regulations for the Protection from Contamination, Degradation, and Pollution of the New York City Water Supply and its Sources, Chapter 18 (NYCDEP Regulations).

DOCUMENTS REVIEWED

- Cover Letter, "Trailside Estates at Somers, Reynolds Drive, Town of Somers, Tax Map No: 4.20-1-12 & 15.08-1-4," prepared by Insite Engineering, Surveying & Landscape Architecture, P.C., dated October 23, 2025.
- Stormwater Pollution Prevention Plan for Trailside Estates at Somers Reynolds Drive, prepared by Insite Engineering, Surveying & Landscape Architecture, P.C., dated May 10, 2024, revised October 23, 2025.
- Vehicle Maneuvering Plan, prepared by Insite Engineering, Surveying & Landscape Architecture, P.C., dated June 21, 2024, revised October 22, 2025.
- Soil Management Plan, prepared by Gallagher Bassett, Inc., dated October 2025.
- Water Engineering Report for Trailside Estates at Somers, prepared by Insite Engineering, Surveying & Landscape Architecture, P.C., dated October 23, 2025.
- Wastewater Engineering Report for Trailside Estates at Somers, prepared by Insite Engineering, Surveying & Landscape Architecture, P.C., dated May 10, 2024, revised October 23, 2025.
- Drawings prepared by Insite Engineering, Surveying & Landscape Architecture, P.C., including:

Sheet Number	Sheet Name	Dated	Latest Revision
OP-1	Overall Plan	11/17/2023	10/23/2025
EX-1	Existing Conditions and Removals Plan	11/17/2023	10/23/2025
SP-1.1	Layout & Landscape Plan (1 of 3)	11/17/2023	10/23/2025
SP-1.2	Layout & Landscape Plan (2 of 3)	11/17/2023	10/23/25
SP-1.3	Layout & Landscape Plan (3 of 3)	11/17/2023	10/23/2025
SP-2.1	Grading & Utilities Plan (1 of 3)	11/17/2023	10/23/2025
SP-2.2	Grading & Utilities Plan (2 of 3)	11/17/2023	10/23/2025
SP-2.3	Grading & Utilities Plan (3 of 3)	11/17/2023	10/23/2025
SP-2.4	Offsite Utilities Plan	1/31/2024	10/23/2025
SP-3	Phasing Plan	11/17/2023	10/23/2025
SP-4.1	Erosion & Sediment Control Plan (1 of 3)	11/17/2023	10/23/2025

Sheet Number	Sheet Name	Dated	Latest Revision
SP-4.2	Erosion & Sediment Control Plan (2 of 3)	11/17/2023	10/23/2025
SP-4.3	Erosion & Sediment Control Plan (3 of 3)	11/17/2023	10/23/2025
LP-1.1	Lighting Plan (1 of 3)	11/17/2023	10/23/2025
LP-1.2	Lighting Plan (2 of 3)	11/17/2023	10/23/2025
LP-1.3	Lighting Plan (3 of 3)	11/17/2023	10/23/2025
PR-1	Sewer Profiles	4/28/2025	10/23/2025
PR-2	Sewer Profiles	4/28/2025	10/23/2025
PR-3	Water Profiles	10/23/2025	-
PR-4	Water Profiles	10/23/2025	-
PR-5	Stormwater Profiles	9/22/2025	-
PR-6	Stormwater Profiles	10/23/2025	-
D-1	Details	11/17/2023	10/23/2025
D-2	Details	11/17/2023	10/23/2025
D-3	Details	11/17/2023	10/23/2025
D-4	Details	11/17/2023	10/23/2025
D-5	Details	4/30/2024	10/23/2025
D-6	Details	10/23/2025	-

PERMITS AND APPROVALS REQUIRED

- Town of Somers Planning Board: Preliminary Subdivision Plat Approval
- Town of Somers Planning Board: Stormwater Management and Erosion and Sediment Control Permit
- Town of Somers Planning Board: Steep Slopes Protection Permit
- Town of Somers Planning Board: Tree Removal Permit
- Town of Somers Planning Board: Site Plan Approval
- NYSDEC: SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-25-001)
- Westchester County Department of Health (WCDOH): Approval of Sanitary Sewer Systems and Water Main
- WCDOH: Subdivision Approval
- WCDOH: WCBOL District Boundary Modification
- NYCDEP SWPPP Approval

DISCUSSION

The following is a summary of our preliminary comments based on our technical review of the latest submittal. Previously issued comments are noted in *italics* and the corresponding current status and response is shown below in **bold**. It should be noted that further comments will be provided upon review of the subsequent submittals.

General

1. *The Applicant shall provide applications for all required permits as noted in the Permits and Approvals Required section above in this memorandum.* **Addressed.**

Stormwater

2. *The Applicant shall provide a draft Notice of Intent and a MS4 SWPPP Acceptance Form to obtain coverage under NYSDEC SPDES General Permit based upon the SWPPP for review and acceptance by the Consulting Town Engineer.* **Addressed.**
3. *The Applicant proposes subsurface infiltration systems for stormwater management. The following comments are regarding the proposed infiltration systems:*
    a. *The Applicant shall provide signed and sealed deep hole tests and percolation test results from the previously completed field investigations within the proposed infiltration systems' locations.* **Addressed.**
    b. *The Applicant shall ensure that a minimum infiltration rate of 0.50 in/hr is met at the proposed infiltration locations and shall provide at least 3 feet of separation between the bottom of the infiltration systems and bedrock/groundwater.* **Addressed.**
    c. *The Applicant shall note that acceptable pretreatment practices for stormwater prior to the infiltrations systems are required. Pretreatment practices shall be designed per the NYSDEC SMDM.* **Addressed.**
    d. *The Applicant shall provide construction details for the proposed infiltration systems.* **Addressed.**
    e. *The Applicant shall provide a note to the plan that any infiltration system shall be subject to inspection by the Consulting Town Engineer or Town Principal Engineering Technician prior to backfill.* **Addressed.**
4. *The Applicant has provided a Stormwater Pollution Prevention Plan (SWPPP) that includes post-construction stormwater controls. The following general comments are offered regarding the SWPPP:*

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a. *The SWPPP shall contain an estimate of site earthwork, indicating total net cut/fill in cubic feet. The Applicant shall also provide a cut/fill table on the plans.* **Addressed.**

b. *The SWPPP shall contain inspection and maintenance manuals for the proposed subsurface infiltrations systems.* **Addressed.**

c. *The Applicant indicates a Phasing Plan for construction. The SWPPP shall clearly indicate the construction phasing as part of the overall sequence of construction.* **Addressed.**

d. *The Applicant shall provide design calculations for the proposed grass diversion swales.* **Addressed.**

5. *The Applicant shall provide a plan that indicates the trees to be removed and protected during construction.* **Addressed.**

6. *The Applicant shall prepare a draft Stormwater Maintenance Agreement, in accordance with the provisions of Town Code for review by the Consulting Town Engineer & Town Attorney. Upon acceptance, the Stormwater Maintenance Agreement shall be filed with the Westchester County Clerk's Office.* **Addressed.**

7. *The Applicant shall confirm minimum/maximum cover requirements are met with the proposed underground infiltration systems.* **Addressed.**

8. *The Applicant shall confirm no structural impact will be placed on any proposed underground infiltration systems from the adjacent building or retaining wall foundations.* **Addressed.**

9. *The Applicant shall provide top of wall and bottom of wall elevations for the proposed block retaining walls.* **Addressed.**

    a. *The Applicant shall provide engineering design calculations for all retaining walls greater than four feet in height that are signed and sealed by a professional engineer licensed in the State of New York.* **Addressed. The Applicant must provide the signed and sealed design calculations for the retaining wall prior to the issuance of a building permit.**

10. *The Applicant shall provide a site or landscaping plan that indicates which existing trees are proposed to be protected and removed during development.* **Addressed.**

11. *The Applicant shall demonstrate that the temporary sediment traps have been sized to provide storage for the contributing drainage area per the design criteria in the New York State Standards and Specifications for Erosion and Sediment Control. Temporary sediment traps are required to store 3,600 cubic feet per acre.* **Addressed.**

12. *The Applicant shall indicate how the proposed disturbance within slopes steeper than 15% will be protected from erosion during construction.* **Addressed.**
13. *The Applicant shall include a note on the plans which states: "Any imported topsoil shall comply with all federal, state, and local requirements for quality and use."* **Addressed.**
14. *The Applicant shall include a note on the plans which states: "Off-site disposal of excess cut shall be in accordance with all federal, state, and local requirements."* **Addressed.**

Wastewater

15. *The Applicant shall document the existing usage and remaining available capacity of the sewer forcemain and pumping system that the project proposes to connect to.* **Addressed.**
16. *The Applicant shall update Table 2: Design Average Daily Flow to reflect current data from American Water Works Association and Rutgers University.* **Addressed**
17. *The Applicant shall provide an updated hydraulic loading rate for the proposed Town Community Center in Table 2: Design Average Daily Flow once its intended use is identified.* **Addressed.**
18. *The Applicant stated that Peekskill Wastewater Treatment Plant has sufficient capacity to accommodate the proposed project. The Applicant shall provide a Will Serve Letter from WCDEF stating that the Peekskill Wastewater Treatment Plant can accept wastewater flow from the proposed project.* **Addressed.**
19. *The Applicant shall expand the current sanitary sewer language that includes supporting calculations of the reported wastewater generation rate for the proposed project in accordance with NYSDEC Intermediate Sized Wastewater System Design Standards, 2014. The report shall include, but not be limited to: pipe slopes, capacity percentages, pipe materials, and the peaking factor considered for calculations of the peak flow.* **Addressed.**
20. *The Applicant shall modify the sewer manhole detail to include an anti-flotation collar.* **Addressed.**
21. *The Applicant shall modify the Grading & Utilities Plans to include proposed service connections.* **Addressed.**
22. *The Applicant shall provide profiles.* **Addressed.**

Water

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23. *The Applicant shall analyze the existing capacity and remaining available capacity of the water distribution system that it proposes to connect to.* **Addressed.**
24. *The Applicant shall update Table 2: Design Average Daily Flow to reflect current data from American Water Works Association and Rutgers University.* **Addressed.**
25. *The Applicant shall provide an updated hydraulic loading rate for the proposed Town Community Center in Table 2: Design Average Daily Flow once it intended use is identified.* **Addressed.**
26. *If irrigation is required, the Applicant shall provide an estimated per-acre water demand for the irrigation demand. The Applicant shall provide backup information for how the value is developed.* **Addressed. The Applicant notes irrigation will not be proposed as part of this project.**
27. *The Applicant stated that hydrant flow testing will be performed to determine actual flows and available pressure. The Applicant shall provide the results upon completion of testing.* **Addressed.**
28. *The Applicant shall modify the Grading & Utilities Plans to include proposed service connections.* **Addressed.**
29. *The Applicant shall confirm the 30' buffer setback is applied for all proposed buildings in the subdivision.* **Addressed.**
30. *The Applicant shall revise locations of all infiltration systems to have a minimum 10' setback from the property line.* **Addressed.**
31. *The Applicant shall confirm the proposed conservation easement on the Layout and Materials Plan sheets. The linetype for the conservation easement at either end varies, and the Applicant shall make this clear.* **Addressed.**
32. *The Applicant proposes Pond P-1 within the 100' wetlands buffer. The Applicant shall indicate all proposed wetlands mitigation measures based on the disturbance within the wetlands buffer.* **Addressed.**
33. *The Applicant shall ensure all proposed easements are clearly shown on the site plan.* **Addressed.**
34. *The Applicant shall clearly indicate the proposed grading contours on the Grading & Utilities sheets on the site plans. Many of the proposed contours have sections which are hidden underneath other line work, the Applicant shall make the contours clear and in front.* **Addressed.**
35. *The Applicant shall clearly indicate the proposed inverts and grading contours for the proposed swales on the Grading & Utilities sheets. The construction detail indicates a minimum 10' top width for the swales; however, this minimum width does not appear to be met for all swales.* **Addressed.**

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36. *Under Appendix G of the SWPPP, the Applicant indicates side slopes and longitudinal slopes that exceed the requirements of vegetated swales per the NYSDEC SMDM (3H:1V and 4%, respectively). The Applicant also indicates a minimum bottom width of 1' for Swales 2 and 3, which are below minimum requirements for vegetated swales per the NYSDEC SMDM. The Applicant shall explain how the deviation from the standards will not contribute to increased erosion for the conveyance swales.* **Addressed.**
37. *The Applicant shall update the Grading & Utilities sheets to include proposed contours for the proposed swales.* **Addressed.**
38. *The Applicant shall explain how Lots 6 and 3 (and subsequently Lots 1-2, 4-5) will be protected from potential erosive flows with proposed 3:1 slopes directly adjacent to their properties without a conveyance swale. The Applicant shall also provide an explanation for Lots 29-30, and 53-55, where these properties are immediately downgradient of proposed 3:1 slope areas.* **Addressed.**
39. *The Applicant proposes the creation of 2:1 steep slope downgradient of Lots 46 and 49. The Applicant shall explain how the creation of these steep slopes will not cause adverse impacts downstream, especially noting that this abuts right against the wetlands buffer.* **Partially Addressed. The Applicant shall provide a callout and detail for permanent erosion control matting along the steep slope per the NYS Standards and Specifications for Erosion and Sediment Control.**
40. *The Applicant shall provide outlet protection at the downstream most end of the proposed Swale SW 5.* **Addressed.**
41. *The Applicant shall clearly indicate proposed fire lanes and emergency zones for emergency vehicle access to the property.* **Addressed.**
42. *The Applicant shall provide profiles for the proposed storm drain and water utility lines on the site plans.* **Addressed.**
43. *The Applicant shall clearly indicate the proposed footprint of subsurface infiltration systems, including the location and quantity of chambers within the footprints shown on the Grading & Utility sheets (1.3P, 1.5P, 1.6P). As the footprints shown in the site plans are not consistent with the HydroCAD footprints for these systems (due to non-rectangular shapes), the site plans must indicate how the chambers fit within the proposed footprint shown.* **Addressed.**
44. *The Applicant shall explain how the proposed landscaping immediately adjacent to the footprint of subsurface infiltration system 1.6P will not cause any feasibility issues for installation and long-term health of the landscaping. See Sheet SP-1.2.* **Addressed.**

45. *The Applicant shall explain how pedestrian traffic will be impacted for all the properties to the west of the main road within the development, considering that sidewalks are only proposed to the east side of the main road. There appears to be no proposed crosswalks connecting the east and west sides of the main road, and the Applicant shall explain how pedestrians will be able to safely travel from one side to the other.* **Partially Addressed. The Applicant provides explanation for not including sidewalks on the west side of the main road, but does not specify why a crosswalk connecting the west to the east is not included in the layout design.**

46. *The Applicant shall clearly indicate maintenance access pathways for all proposed stormwater management basins, and how maintenance access equipment will be able to directly access each basin for maintenance activities.* **Addressed.**

47. *The Applicant shall clearly indicate the proposed pathway (with proposed material) for the connection between the parking lot of the community center and the proposed dog park on Sheet SP-1.1.* **Addressed.**

48. *The Applicant shall clarify if there is any proposed grading for the proposed dog park area, along with the connection pathway to the community center.* **Addressed.**

49. *The Applicant shall clearly indicate the direction of vehicular traffic on the layout and material sheets for all roadways.* **Not Addressed. The Applicant has not provided traffic direction arrows on Drawings SP-1.1 through SP-1.3.**

The following additional comments are provided based on the latest submittal:

50. The Applicant indicates roof drains and floor drains on the utility plans. The plans shall clearly indicate how the roof drains and floor drains are separate lines, to confirm the additional outfalls do not directly discharge roof drain runoff. The Applicant shall also confirm these direct discharges do not have an adverse impact on the abutting wetlands.

51. It appears that there are several utility crossings (e.g., CB 47 E to SMP 1.2DS IN, Sheet PR-5) where little to no vertical separation looks to be achieved between the storm drain line and the sewer mains/force mains. The Applicant shall confirm minimum vertical separation is achieved or demonstrate what measures are applied to alleviate any separation issues.

52. The Applicant shall explain why subcatchment 1.9 and pond 1.9 are modeled separately from the Post-Development model for the porous paver patios, and how the total HydroCAD would be impacted inclusive of the porous pavement and their subcatchment areas.

Woodard & Curran

53. The Applicant shall confirm the units the permeable paver patios are utilized on the construction detail on Sheet D-2.
54. The Applicant shall ensure that a minimum infiltration rate of 0.50 in/hr is met at the proposed porous pavement locations.
55. The Applicant shall confirm the contributing areas to the porous pavement areas do not exceed three times the surface of the porous system, per the NYSDEC SMDM requirements.
56. The Applicant has provided soil sample data for the former orchard area and a Soil Management Plan for the safe handling of soils in this area. The Applicant shall provide additional information on the approximate volume of soil to be handled in this area, where cover systems will be used, and where soils are anticipated to be removed from the site.

Please feel free to contact our office with any questions. Please provide a response memo identifying where responses to these comments can be located on revised submittals.

INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.

October 23, 2025

Town of Somers Planning Board
335 Route 202
Somers, NY 10589

RE: Trailside Estates at Somers
Reynolds Drive
Town of Somers
Tax Map No: 4.20-1-12 & 15.08-1-4

Dear Chairperson Gannon and Members of the Board:

Enclosed please find six (6) copies of the following items including four (4) flash drives in support of the subject applications and permits for the subject project:

- Site Plan Set (28 sheets), last revised October 23, 2025.
- Figure VM-1, "Vehicle Maneuvering Plan", dated October 23, 2025.
- Water Engineering Report, dated October 23, 2025.
- Wastewater Engineering Report, dated October 23, 2025.
- Stormwater Pollution Prevention Plan (SWPPP), last revised October 23, 2025.
- Soil Management Plan, prepared by Gallagher Bassett, dated October 2025.

The above plans and associated documents are being submitted so the Planning Board can progress with their review of the project. We believe all outstanding comments have been addressed and if appropriate and the Board is amenable, we respectfully request the Board schedule a public hearing for the project.

With regard to comments received, we offer the following responses in bold. Responses noted as addressed or previously provided have been removed from the responses below:

Memorandum from Steven Robbins, P.E., LEED AP of Woodard and Curran, dated April 9, 2025:

General

Wastewater

15. *The Applicant shall document the existing usage and remaining available capacity of the sewer forcemain and pumping system that the project proposes to connect to. Not Addressed. The Applicant indicates that a request was made to the Town of Somers Sewer and Water Department. Once information is obtained, the Applicant shall provide updated water and wastewater engineering reports.*

The Wastewater Report has been updated to document the existing design usage and available capacity of the existing sewer system the project proposes to connect to.

19. *The Applicant shall expand the current sanitary sewer language that includes supporting calculations of the reported wastewater generation rate for the proposed project in accordance with NYSDEC Intermediate Sized Wastewater System Design Standards, 2014. The report shall include, but not be limited to: pipe slopes, capacity percentages, pipe materials, and the peaking factor considered for calculations of the peak flow. Not Addressed. The Applicant indicates that a request was made to Town of Somers. Once information is obtained, the Applicant shall provide additional design calculations in future Wastewater Engineering Reports.*

    The Wastewater Report has been updated to include additional information regarding the anticipated wastewater generation and supporting calculations.

Water

23. *The Applicant shall analyze the existing capacity and remaining available capacity of the water distribution system that it proposes to connect to. Not Addressed. The Applicant indicates that a request was made to the Town of Somers Sewer and Water Department. Once information is obtained, the Applicant shall provide updated water and wastewater engineering reports.*

    The Water Report has been updated to note the existing and available capacities of the existing water main and includes the results of recently completed hydrant flow testing following the repairs / maintenance to the Amawalk Shenorock Water Tower.

27. *The Applicant stated that hydrant flow testing will be performed to determine actual flows and available pressure. The Applicant shall provide the results upon completion of testing. Not Addressed. The Applicant indicates that a request was made to the Town of Somers Water Department, to obtain information from past hydrant tests. Depending on the information obtained, the Applicant shall request additional testing. Results shall be provided upon completion.*

    The Water Report has been updated after conducting hydrant flow testing to reflect the current measured flows and pressures of the existing water main the project proposes to connect to. The results of the hydrant flow test have been included as an appendix of the Water Report.

Additional Comments:

34. *The Applicant shall clearly indicate the proposed grading contours on the Grading & Utilities sheets on the site plans. Many of the proposed contours have sections which are hidden underneath other line work, the Applicant shall make the contours clear and in front.*

    Drawings SP-2.1 thru 2.3, "Grading and Utility Plans" and Drawing SP-2.4, "Offsite Utilities Plan" have been revised to more clearly identify the contour locations.

35. *The Applicant shall clearly indicate the proposed inverts and grading contours for the proposed swales on the Grading & Utilities sheets. The construction detail indicates a minimum 10' top width for the swales; however, this minimum width does not appear to be met for all swales.*

    Drawings SP-2.1 thru 2.3, "Grading and Utility Plans" have been revised to include proposed grading for all project swales. As previously noted on Drawing D-3, the Grass Swale Detail provides top widths for each proposed grass swale along with their respective inverts.

36. *Under Appendix G of the SWPPP, the Applicant indicates side slopes and longitudinal slopes that exceed the requirements of vegetated swales per the NYSDEC SMDM (3H:1V and 4%, respectively). The Applicant also indicates a minimum bottom width of 1' for Swales 2 and 3,*

which are below minimum requirements for vegetated swales per the NYSDEC SMDM. The Applicant shall explain how the deviation from the standards will not contribute to increased erosion for the conveyance swales.

As noted in Appendix A of the project SWPPP, no credit is being taken for vegetated swales, nor have the swales been stated to be or designed to conform with vegetated swales as outlined in Chapter 5 of the design manual. They are intended to serve as stormwater conveyance mechanisms.

Swale sizing has been provided in Appendix J of the project SWPPP. This sizing has been completed to demonstrate the swales are capable of conveying the noted design storm. As demonstrated in the swales sizing calculations, all grass swale velocities are less than or equal to 5 fps for the 10-year peak discharge as noted in table 5.12 on page 5-52 of the *NYSDEC Stormwater Management Design Manual*. This project has conservatively designed all grass swales to have less than 5 fps for the 100-year design storm, thus demonstrating and providing grass swales with non-erosive flows.

37. *The Applicant shall update the Grading & Utilities sheets to include proposed contours for the proposed swales.*

    As previously mentioned, Drawings SP-2.1 thru 2.3, "Grading and Utility Plans" have been revised to include proposed grading for all project swales.

38. *The Applicant shall explain how Lots 6 and 3 (and subsequently Lots 1-2, 4-5) will be protected from potential erosive flows with proposed 3:1 slopes directly adjacent to their properties without a conveyance swale. The Applicant shall also provide an explanation for Lots 29-30, and 53-55, where these properties are immediately downgradient of proposed 3:1 slope areas.*

    The site plans have been revised to include a swale along the western edge of lot 6 and 3 to convey water around lots 1 thru 6 and into the proposed collection and conveyance system.

39. *The Applicant proposes the creation of 2:1 steep slope downgradient of Lots 46 and 49. The Applicant shall explain how the creation of these steep slopes will not cause adverse impacts downstream, especially noting that this abuts right against the wetlands buffer.*

    Stormwater runoff from the buildings and the road immediately uphill of the referenced area is being captured and conveyed by the proposed stormwater collection and conveyance system. The referenced slope will be vegetated with erosion control matting and will mainly experience sheet flow across it.

40. *The applicant shall provide outlet protection at the downstream most end of the proposed Swale SW 5.*

    Rock outlet protection has been provided at the downstream end of Swale SW5 (refer to Drawing SP-2.1).

41. *The Applicant shall clearly indicate proposed fire lanes and emergency zones for emergency vehicle access to the property.*

    Figure VM-1, "Vehicle Maneuvering Plan" has been provided to clearly indicate where emergency vehicles will traverse the site. An E-One HP95 Mid Mount vehicle was utilized to illustrate the vehicle maneuvers; therefore, it is assumed that any smaller emergency vehicle would be able to maneuver the site without conflict.

42. *The Applicant shall provide profiles for the proposed storm drain and water utility lines on the site plans.*

    Profiles for the storm drains and water mains have been provided as part of the site plan drawings set (refer to Drawings PR-3 thru PR-6).

43. *The Applicant shall clearly indicate the proposed footprint of subsurface infiltration systems, including the location and quantity of chambers within the footprints shown on the Grading & Utility sheets (1.3P, 1.5P, 1.6P). As the footprints shown in the site plans are not consistent with the HydroCAD footprints for these systems (due to non-rectangular shapes), the site plans must indicate how the chambers fit within the proposed footprint shown.*

    The proposed infiltration systems have been revised to illustrate the individual chamber unit locations as shown on Drawings SP-2.1 thru SP-2.3.

44. *The Applicant shall explain how the proposed landscaping immediately adjacent to the footprint of subsurface infiltration system 1.6P will not cause any feasibility issues for installation and long-term health of the landscaping. See Sheet SP-1.2*

    Two proposed trees previously located in close proximity to the subsurface infiltration system 1.6P have been shifted to locations that will avoid installation conflicts and accommodate healthy long-term growth of the trees.

45. *The Applicant shall explain how pedestrian traffic will be impacted for all the properties to the west of the main road within the development, considering that sidewalks are only proposed to the east side of the main road. There appears to be no proposed crosswalks connecting the east and west sides of the main road, and the Applicant shall explain how pedestrians will be able to safely travel from one side to the other.*

    The site plans have been reviewed further pertaining to pedestrian traffic and how it will impact all properties west of the main road within the development. The design intent for this development is to provide a pedestrian friendly neighborhood that is walkable. As shown on the enclosed site plans, a sidewalk is provided on the eastern side of the main road. Given current stormwater planning guidelines which is to reduce impervious surfaces wherever possible, the constraints of the site including slopes, wetlands and their associated buffers and the narrow development area, the proposed sidewalk was limited to the eastern side of the main road to provide direct access for more than half of the residential buildings and to provide a designated pathway for pedestrians to walk along the road. When reviewing similar residential developments within the area, it was observed that no sidewalks are provided at all throughout the roadways with pedestrians sharing the spaces with vehicular travel.

    Additional measures including cautionary signage informing vehicular traffic that they are entering a residential zone and directing them to watch for pedestrians has been provided to assist with ensuring a walkable neighborhood.

46. *The Applicant shall clearly indicate maintenance access pathways for all proposed stormwater management basins, and how maintenance access equipment will be able to directly access each basin for maintenance activities.*

    Maintenance access paths for each basin have been provided on the grading and utilities drawings.

47. *The Applicant shall clearly indicate the proposed pathway (with proposed material) for the connection between the parking lot of the community center and the proposed dog park on Sheet SP-1.1.*

    Drawing SP-1.1 has been revised to identify the pathway connecting the community center parking lot and the dog park as a wood chip trail.

48. *The Applicant shall clarify if there is any proposed grading for the proposed dog park area, along with the connection pathway to the community center.*

    No grading is proposed within the dog park and connecting pathway as existing grades fall within ADA accessible route standards.

49. *The Applicant shall clearly indicate the direction of vehicular traffic on the layout and material sheets for all roadways.*

    Representational arrows have been provided on Drawings SP-1.1 thru SP-1.3 for the purpose of indicating traffic direction. These representational arrows are not intended to be striped.

We trust you will find the enclosed information in order, and respectfully request this item be placed on the November 12, 2025 agenda for continued discussion with the Planning Board and consideration of scheduling a public hearing. If you have any questions or comments regarding this information, please do not hesitate to contact our office.

Very truly yours,

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

By: _____
Richard D. Williams, Jr., P.E.
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Insite File No. 21241.100

INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.

WASTEWATER ENGINEERING REPORT

For

Trailside Estates at Somers
Town of Somers, New York

October 23, 2025

Prepared By
Insite Engineering, Surveying & Landscape Architecture, P.C.
3 Garrett Place
Carmel, New York 10512

1.0 INTRODUCTION

The applicant, Parkview B & G, LLC is proposing to construct an 81-unit townhouse community and community center on two parcels totaling 56.8± acres in the Town of Somers. The townhouse units will consist of (58) three-bedroom units and (23) two-bedroom units. The community center will be dedicated to the Town of Somers. The tax parcels are identified as 4.20-1-12 and 15.08-1-4, located in the PH, R40 and R80 zoning districts. Access to the property is proposed through the Somers Realty Planned Hamlet via Reynolds Drive. The site is located on the south side of US Route 6 and between the Somers Realty Planned Hamlet and the North County Trailway.

A portion of the project is shown as being located in the Westchester County Peekskill Sanitary Sewer District. As part of this application, the county Somers Sewer District 1 will be expanded to the entirety of the project property. A sanitary sewer conveyance system extension down Reynolds Drive is proposed to connect to the existing sewer in Hoyt Street. The sanitary sewer system will consist of an onsite gravity sewer collection and conveyance system which will discharge to one of two proposed pump stations. From the pump stations, a sewer forcemain will convey the sewage to the terminal manhole in Reynolds Drive.

2.0 PROJECT DESIGN FLOWS AND ANTICIPATED FLOWS

Design maximum daily wastewater flows for the proposed project are based on the hydraulic loading rates given in the New York State Department of Environmental Conservation (NYSDEC) publication *Design Standards for Intermediate Sized Wastewater Treatment Works – 2014* (Dec 14). The following table calculates the hydraulic loading rates, and the design flow rates (gallons per day or gpd) for the proposed project.

Table 1: Project Design Maximum Daily Flow Rate

	Proposed Use	Hydraulic Loading Rate	Design Maximum Daily Domestic Flow (gpd)
Residential Townhomes	58 – Three Bedroom	330 gpd/dwelling	19,140
	23 – Two Bedroom	220 gpd/dwelling	5,060
Town Community Center	450 Visitors	4 gpd/visitor	1,800
Total			**26,000**

For preliminary purposes, an estimate of 1,800 gpd was calculated for the proposed community center to be dedicated to the Town of Somers. The design flow was calculated based on an assumed maximum number of visitors on a peak day. It is anticipated that the peak use for the proposed community center will be during the weekend with the use of the sports arena. The maximum 450 visitors per day assumes six 1-hour events during a single day including 50 kids per practice along with half of the parents using the facilities either during practice or while dropping off/picking up their kids. As the project advances an actual maximum daily flow for the community center will be established based on discussions with the Town on anticipated use.

The anticipated design average daily flows for the project is expected to be significantly less than the design maximum daily design flow. The design maximum daily flows represent conservative flows to ensure that the proposed water works are designed with an ample factor of safety. The anticipated actual flows are based on occupancy rates and measured data for water use. Statistical data (obtained from *Rutgers University, Center for Urban Policy Research, Residential Demographic Multipliers*, June 2006) for the average number of occupants in a single-family attached dwelling which are owner-occupied (based on number of bedrooms) was used to calculate the expected number of residents anticipated for the project as shown in the table below. Data from the American Water Works Association (AWWA) Water Conservation Division Subcommittee Report, Water Conservation Measurement Metrics Guidance Report, dated January 2010 shows that the average in home water use is 69.3 gpd per person. This number is reduced to 43.5 gpd per person when water saving fixtures are used, which is the case for this project.

Table 2: Design Average Daily Flow

Proposed Use	Occupancy Rate	Total Anticipated Residents	Water Use Per Resident (gpd)	Water Use (gpd)
Town Community Center	-	-	-	1,800
58 –Three Bedroom Townhomes	3.08 people/unit	179	43.5	7,787
23 – Two Bedroom Townhomes	2.16 people/unit	50	43.5	2,175
Total Anticipated Water Use (gpd)				**11,762**

As demonstrated above, through the use of water saving fixtures as required by current building code, a design maximum flow of 26,000 gpd is proposed for the project, while the actual anticipated flows are 11,762 gpd.

Although the anticipated average daily flow for the project is lower than the design maximum daily flows, the design maximum daily flows are used for the design of the system. This provides an additional factor of safety in the proposed design.

The peak hourly flow for the domestic and park is calculated using a peaking factor that is based on the population of the subject project. *Recommended Standards for Wastewater Facilities - 2014* was used to determine a peaking factor of four.

Peak Hourly Flow

26,000 gpd ÷ (24 hr/day) ÷ (60 min/hr) = 18.0 gallons per minute (gpm)

Peak Hourly Flow = 18.0 gpm x 4 = **72.0 gpm**

3.0 PROPOSED CONNECTION TO SOMERS SEWER DISTRICT #1 AND THE WESTCHESTER COUNTY PEEKSKILL SANITARY SEWER DISTRICT

Existing 6 inch and 8-inch ductile iron pipe (DIP) forcemains run along US Route 6. These sewer forcemains originate in The Preserves development and run along US Route 6 ultimately discharging into a manhole located at the intersection of Hill and Lee Boulevards in the Town of Yorktown. Sewage then flows by gravity into the Peekskill Wastewater Treatment Plant. The sewer forcemains north of the project site are owned by the Town of Somers and are part of Somers Sewer District #1. Since the sewage from Somers Sewage District #1 discharges to the Peekskill Wastewater Treatment Plant, Somers Sewer District #1 is also part of the Westchester County Peekskill Sanitary Sewer District. The Trailside Estates at Somers Project is proposing to connect to the conveyance system constructed as part of the Somers Realty Planned Hamlet which ultimately discharges to the existing 6 inch and 8-inch diameter forcemains.

The Peekskill Wastewater Treatment Plant (WWTP) is approved for a monthly average flow of 10 mgd (million gallons per day). Based on review of the discharge monitoring reports from the United States Environmental Protection Agency (EPA), the Peekskill WWTP has averaged between 5.15 to 8.11 mgd over the past 24 months. The proposed project would create an additional 0.03 mgd. Therefore, there is sufficient capacity in the Peekskill WWTP to accommodate the proposed project.

The project proposes to connect to the existing gravity sewer main along Clayton Boulevard which discharges to the Somers Realty Corp. sewer pump station at the intersection of US Route 6 and Clayton Boulevard. Based on initial discussions with the Town of Somers, the Somers Realty pump station is currently operating below the maximum design flow of the system. Based on an initial analysis of the Somers Realty pump station there is enough remaining available capacity for the subject project while still being below the original design parameters. Therefore, since the flow from the pump station plus the peak flow from the subject project is less than the original design parameters for the sewer pump station, the additional flow does not propose to have an impact on the system downstream of the Somers Realty pump station. Refer to Section 6.0 for our analysis of the Somers Realty Pump Station.

4.0 PROPOSED COLLECTION SYSTEM COMPONENTS

A gravity sewage collection and conveyance system consisting of 8-inch diameter PVC SDR 35 sewer mains and precast concrete manholes will be installed onsite. The sewage collection and conveyance system will flow by gravity to one of two onsite pump stations. Two duplex pump stations are proposed to be installed and will connect to the approved terminal sewer manhole and gravity sewer system along Reynolds Drive. A backup generator will be provided for each pump station to power the pumps in the event of power failure. The proposed sewer collection and conveyance system will consist of both onsite improvements and offsite improvements along Reynolds Drive, Columbus Street and Hoyt Street. The onsite and offsite improvements are proposed to consist of the following:

A. Offsite Improvements:
    a. Proposed Sewer Manholes: 9 Total
    b. Proposed 8" Diameter Sewer Main: 1,210 length feet
    c. Proposed Sewer Forcemain: 340 length feet
B. Onsite Improvements:
    a. Proposed Sewer Manholes: 28 Total
    b. Proposed 8" Diameter Sewer Main: 5,640 length feet
    c. Proposed Sewer Forcemain: 2,660 length feet
    d. Two Sewer Pump Stations and Two Valve Pits

Wastewater flow from each townhome will be conveyed by individual 4" diameter PVC SDR 35 sewer service connection. The service connections will be installed with a minimum slope of ¼" per foot meeting the requirements of DEC 14. Each sewer service connection will connect to an 8" PVC SDR 35 gravity sewer main. The 8" gravity sewer mains will flow the proposed onsite pump stations to be conveyed to the sewer conveyance system along Reynolds Drive which was previously approved and proposed to be constructed as part of this project. As part of the proposed connection the Somers Realty Planned Hamlet Pump Station will be analyzed to determine if any modifications are necessary.

All PVC SDR 35 pipe will contain rubber push on gaskets at pipe connections. Sewer manholes will be installed at all bends for access and maintenance. All sewer manholes will have exterior asphalt coating and contain water tight connections at all pipe connections. Cleanouts will be provided on each sewer service connection just outside of the townhomes. All sewer mains will be pressure tested, and all manholes vacuum tested in accordance with the *Recommended Standards for Wastewater Treatment Works*.

5.0 PUMP STATION DESIGN

Wastewater flow from each townhome and the proposed community center will be conveyed by gravity to one of two onsite sewer pump stations. Sewer pump station #1 is located at the southern end of the project site. Wastewater from the southern most 60 townhome units are conveyed by gravity to sewer pump station #1. From pump station #1, a sewer forcemain conveys the wastewater across the project site and discharges to an onsite sewer manhole where it is then conveyed by gravity to sewer pump station #2. Sewer pump station #2 is located in the northeast corner of the project site. The wastewater from the remaining 21 townhome units and community center are conveyed by gravity to sewer pump station #2. The sewer forcemain from pump station #2 conveys all of the onsite wastewater to the terminal sewer manhole along Reynolds Drive.

The pump stations will be sized to convey at a minimum the peak hourly flow from the subject project and the community center. The pumps will need to achieve this flow rate while pumping against the static and friction heads in the system. The static head the pumps will need to overcome will be from the liquid level in the pump station wet well and the elevation of the terminal sewer manhole along Reynolds Drive. Duplex grinder pumps are proposed for each pump station. The grinder pumps allows a smaller diameter forcemain, which will help to achieve a minimum velocity of 2.0 ft/s in the proposed forcemains in accordance with DEC 14. A 3-inch diameter forcemain is proposed. Sewer pump station

#1 will be sized to convey the wastewater from 60 townhomes and sewer pump station #2 will be sized to convey the wastewater from sewer pump station #1 plus the wastewater from 21 townhomes and the community center. Generally, the project will have an even distribution of two and three bedroom townhomes throughout the property.

Pump station #1 will be design to accommodate the following:

	Proposed Use	Hydraulic Loading Rate	Design Maximum Daily Domestic Flow
Residential Townhomes	43 – Three Bedroom	330 gpd/dwelling	14,190 gpd
	17 – Two Bedroom	220 gpd/dwelling	3,740 gpd
		Total	**17,930 gpd**

The maximum daily flow rate for the 17,930 gpd reaching pump station #1 is calculated as follows:

17,930 gpd ÷ (24 hr/day) ÷ (60 min/hr) = 13 gallons per minute (gpm)

Recommended Standards for Wastewater Facilities - 2014 was used to determine a peaking factor of four using the peaking factor of four the peak hourly flow is calculated as follows:

Peak Hourly Flow = 13 gpm x 4 = 52 gpm

As detailed in a later section of this report, the pump selected for pump station #1 will provide a flow rate of 63 gpm.

Pump station #2 will be design to accommodate the following:

	Proposed Use	Hydraulic Loading Rate	Design Maximum Daily Domestic Flow
Residential Townhomes	15 – Three Bedroom	330 gpd/dwelling	4,950 gpd
	6 – Two Bedroom	220 gpd/dwelling	1,320 gpd
Town Community Center	450 Visitors	4 gpd/visitor	1,800 gpd
Total			**8,070 gpd**

The maximum daily flow rate for the 8,070 gpd reaching pump station #2 is calculated as follows:

8,070 gpd ÷ (24 hr/day) ÷ (60 min/hr) = 6 gallons per minute (gpm)

Recommended Standards for Wastewater Facilities - 2014 was used to determine a peaking factor of four using the peaking factor of four the peak hourly flow is calculated as follows:

Peak Hourly Flow = 6 gpm x 4 = 24 gpm

The combined peak hourly flow to pump station #2 from the above calculated domestic flow and the calculated pump station #1 flow is as follows:

Combined Peak Hourly Flow for pump station #2 = 24 gpm + 63 gpm = 87 gpm.

As detailed in a later section of this report, the pump selected for pump station #2 will provide a flow rate of 92 gpm.

5.1 Pumps and Pump Controls

Duplex submersible grinder pumps are proposed to convey the sewage flow contributing to each pump station generated from the proposed development. The pumps will be housed in a six-foot diameter wet well. The submersible pumps will be controlled via a liquid level probe in the wet well that will turn the pumps on or off depending on the water level within the wet well. The pump controller will also alternate the lead/lag designation of the pumps. Additionally, a backup float system will be provided to operate the pumps independent of the probe controls in the event of a probe control system failure.

5.2 Pump Design Criteria

Pump station #1 has been designed to meet or exceed the calculated peak hourly flow of 52gpm. Two (2) MP 3102 HT 3 phase 2 poles 60hz 263Ø151mm grinder pumps are proposed which will be capable of providing a flow rate of 63 gpm.

Pump station #2 has been designed to meet or exceed the calculated peak hourly flow of 80gpm. Two (2) MP 3102 LT 3 phase 2 poles 60hz 216Ø122mm grinder pumps are proposed which will be capable of providing a flow rate of 92 gpm.

As discussed above, the pump design is based on the average design flow reaching the pump station and a peaking factor of 4.0. The static head and losses associated with bends, entrance and exit losses and valves to calculate a total dynamic head (TDH) at the peak flow using a Hazen-Williams "C "value of 120. The specific flows and TDHs for the pump station are discussed below.

Based upon an average daily flow rate of 26,000 gallons per day (gpd) and a peaking factor of 4.0, a peak design sewage inflow rate of 72 gallons per minute (gpm) was calculated for the entire project. Separate peak design sewage inflow rates have been calculated for each pump station based on the number of townhomes conveyed to each station.

Pump station #1 has an average daily flow rate of 17,930 gallons per day (gpd), a peaking factor of 4.0, and a peak design sewage inflow rate of 52 gpm. As noted on the attached pump curve the selected pumps for pump station #1 can pump 63gpm with 113' of total dynamic head which is greater than the minimum required calculated peak hourly flow rate of 52 gpm. The calculations and pump curve can be found in Appendix A.

Pump station #2 has a combined peak hourly flow rate of 87 gpm as calculated above. As noted on the attached pump curve the selected pumps for pump station #2 can pump 92 gpm with 50' of total dynamic head which is greater than the minimum required calculated peak hourly flow rate of 87 gpm. The calculations and pump curve can be found in Appendix A.

5.3 Pump Controls

A submersible level control system is proposed for each of the pump stations. This system is composed of a submersible level transducer to control and monitor the operation of the duplex pump station and provide lead-lag automatic alternation, high and low level alarms (Visual and Audible).

Both submersible grinder pumps within each pump station will shut off at the "both pumps off" set point. When the level in the wet well rises to the second set point, "lead pump on", a signal will be sent to the control panel to turn the lead pump on. The "lead pump on" set point will be 1 foot above the "both pumps off" set point. The lead pump shall operate until the liquid level reaches both pumps off level (pump(s) shut off). If the liquid level in the wet well continues to rise to the "lag pump on" set point, 6 inches above the "lead pump on" set point, the control panel will, in addition to the lead pump, turn on the lag pump. The further rise of the liquid level within the wet well 6 inches to "High Level Alarm" set point will result in an alarm condition being transmitted to operating personnel via an auto-dialer to the sewer system operator.

In the event that the primary control system fails to operate the pumps, and the wet well level rises above the high-level alarm set point, a back-up float pump control system will override the primary pump controller and take over control of the pumps. Upon the liquid level reaching 6 inches above the "high level alarm", the back-up float will turn on both the lead and lag (after 45 second delay for lag) pumps. Upon the liquid level reaching 6 inches below the low alarm," a backup float will simultaneously turn both pumps off. The station will continue to operate in this mode until the alarm condition is corrected, and the primary pump control system has been placed back into operation.

5.4 Wet Well

Pump Station #1:

The average daily flow rate for flows reaching the pump station is 13 gpm. The pump station wet well has been designed based on the average daily flow reaching the pump station. The pump dose volume for each pump station is set to provide less than 30-minute detention time, at the average daily flow as recommended by *Recommended Standards for Wastewater Facilities*. The maximum pump dose volume is determined by multiplying the average daily flow by 30 minutes and is calculated as follows:

Maximum Volume: 13 gpm x 30 min = 390 gallons

The pump station is designed with a 1.0-foot difference between the lead pump on and pumps off. For a 6-foot diameter wet well, this equates to a volume of 211 gallons. The maximum detention time at average daily flow for full build out is then:

211 gallons/13 gpm = 16 minutes

The minimum pump cycle will be when the inflow to the pump station is half of the pumping rate. As noted above, a single pump will operate at 58 gpm. At the point where inflow is equal to half of the pumping rate (58 gpm/2 = 29 gpm) the net out flow (pump rate minus inflow rate) will equal the inflow. As this is the case the wet well fill time will equal the pump out time.

As noted above, the lead pump on to pumps off of 1.0-foot for the 6-foot diameter wet well is proposed. This equates to a 211-gallon volume.

The pump cycle time for the 211-gallon dose is then:

Fill Time = 211 gal ÷ 29 gpm = 7.3 minutes

Pump Run Time = 211 gal ÷ 29 gpm = 7.3 minutes

The minimum pump cycle is calculated to be 14.6 minutes equating to an average of 4.1 total starts per hour or an average of 2.1 starts per pump per hour.

The 6-foot diameter and 10.9- foot tall wet well structure has a total volume of approximately 2,300 gallons.

Guiderails for the lifting and lowering of the proposed submersible grinder pumps will be provided. A portable hoist socket has been provided at the top of the wet well. This socket will be compatible with a portable hoist currently used by the Somers Sewer Department in order to lift and lower the submersible pumps.

Pump Station #2:

The average daily flow rate for flows reaching the pump station is 19 gpm. The pump station wet well has been designed based on the average daily flow reaching the pump station. The pump

dose volume for each pump station is set to provide less than 30-minute detention time, at the average daily flow as recommended by *Recommended Standards for Wastewater Facilities*. The maximum pump dose volume is determined by multiplying the average daily flow by 30 minutes and is calculated as follows:

Maximum Volume: 19 gpm x 30 min = 570 gallons

The pump station is designed with a 1.0-foot difference between the lead pump on and pumps off. For a 6-foot diameter wet well, this equates to a volume of 211 gallons. The maximum detention time at average daily flow for full build out is then:

211 gallons/19 gpm = 11 minutes

The minimum pump cycle will be when the inflow to the pump station is half of the pumping rate. As noted above, a single pump will operate at 92 gpm. At the point where inflow is equal to half of the pumping rate (92 gpm/2 = 46 gpm) the net out flow (pump rate minus inflow rate) will equal the inflow. As this is the case the wet well fill time will equal the pump out time.

As noted above, the lead pump on to pumps off of 1.0-foot for the 6-foot diameter wet well is proposed. This equates to a 211-gallon volume.

The pump cycle time for the 211-gallon dose is then:

Fill Time = 211 gal ÷ 46 gpm = 4.6 minutes

Pump Run Time = 211 gal ÷ 46 gpm = 4.6 minutes

The minimum pump cycle is calculated to be 9.2 minutes equating to an average of 6.5 total starts per hour or an average of 3.3 starts per pump per hour.

The 6-foot diameter and 13.4- foot tall wet well structure has a total volume of approximately 2,800 gallons.

Guiderails for the lifting and lowering of the proposed submersible grinder pumps will be provided. A portable hoist socket has been provided at the top of the wet well. This socket will be compatible with a portable hoist currently used by the Somers Sewer Department in order to lift and lower the submersible pumps.

5.5 Valve Pit

A precast concrete valve pit will be provided for the pump station to house gate valves, check valves, plug valves and a bypass piping system. The valve pit will also house discharge pressure gauges on the forcemain. The valve pit will be provided with a floor drain to the wet well for removal of accumulated water. A gate valve will be provided on the drain line.

5.6 Check Valves

Check valves will be provided on both pump discharge headers. The proposed check valves will be swing type with a weight and lever. The check valves will have a pressure rating of 150 psi.

5.7 Control Panel

The controls for the pump station will be post mounted inside the pump station fence. Controls will include power panels, a transfer switch for auxiliary power, pump control panel, and an autodialer. The controls will be house in a weather proof NEMA enclosure. Access to the pump pit area will be provided via a 10-foot wide gate.

5.8 Auto-dialer and Alarm Communication

In order to transmit pump station alarm conditions, an autodialer with telephone will be provided. Alarm conditions will include pump station "Wet Well High Level" alarm, "Wet Well Low Level" alarm, "Power Failure" alarm and "Pump Failure" alarm. The auto-dialer will be capable of transmitting the four alarms separately. The power and pump failure systems will also have contacts connected to the autodialer. The autodialer shall call a designated representative of the owner and Adam Smith at the Town of Somers Sewer Department. Dial out numbers will be coordinated at startup.

5.9 Forcemains

The proposed sewer forcemains will be used to convey raw sewage from the sewer pump station #1 to SMH 4 and from sewer pump station #2 to the terminal sewer manhole along Reynolds Drive. Each pump station will have a 3" diameter PVC SDR 21 forcemain. The PVC SDR 21 will have bell and spigot joints and factory installed gaskets. The fittings and elbows will be glued SCH 80 fittings. Any horizontal or vertical bends will be provided with concrete thrust blocks. The forcemain shall be provided with 3'-6" minimum cover.

5.10 Emergency Backup Power

The controls, autodialer and telephone modem will be connected to an uninterrupted power supply (UPS) to maintain control and communications while the backup generator starts.

A natural gas generator will supply backup power. The generator will be able to run both the lead and lag pump, controls and communications. An automatic transfer switch will provide automatic startup of the backup generator and automatic transfer between primary and backup power as required.

6.0 EVALUATION OF SOMERS REALTY PUMP STATION

6.1 Current Flows

The Somers Realty Pump Station (SRPS) currently receives wastewater discharges from The Preserves, Somers Commons, Somers Realty and Crossroads at Baldwin Place. Per the Engineering Report for Somers Realty Planed Hamlet Subdivision (SR Design Report) prepared by Keane Coppelman Gregory Engineers P.C. revised September 10, 2013, and the subsequent Wastewater Engineering Report for Crossroads at Baldwin Place prepared by Insite Engineering, Surveying & Landscape Architecture dated November 18, 2016 the design flows for the SRPS are as follows:

- Peak hourly flow of 616 gpm
- Short Duration Potential Pumped Peak Flow of 821 gpm

The Short Duration Potential Pumped Peak Flow (pumped peak flow) was based on simultaneous pumping of The Preserves & Crossroads at Baldwin Place and gravity flow from Somers Common, Somers Realty Planned Hamlet, 250 Mahopac Avenue, 51 US Route 6, 55 US Route 6, & 63 US Route 6.

6.2 Current Capacity of Somers Realty Pump Station

The SRPS is a triplex pump station designed for simultaneous operation of two pumps. As per the SR Design Report, the capacities of the pump station are as follows:

- 640 gpm with 1 pump operating
- 950 gpm with 2 pumps operating

Therefore, the overall capacity is 950 gpm, and the design excess capacity is:

950 gpm – 821 gpm = 129 gpm.

6.3 Evaluation of New Connections

As calculated above, the additional peak flow to the SRPS from the Trailside Estates project is 92 gpm.

The new connection will use 92 gpm of the design excess capacity in the SRPS, leaving an excess capacity of:

129 gpm – 92 gpm = 37 gpm.

Therefore, the SRPS has adequate capacity for the new connections without any modifications.

The Trailside Estates project will be connecting to an existing 8" diameter gravity sewer line which runs along Clayton Boulevard and ultimately connects to the Somers Realty Pump Station. As noted in appendix B, the minimum slope of the existing 8" diameter sewer line is 0.8% which results in a total pipe capacity of 1.2 cfs. Based on the existing calculated peak flows from the Somers Realty Planned Hamlet and the peak flow from the Trailside Estates project, the calculated combined peak flow for the 8" diameter sewer pipe is 0.8 cfs. As the combined peak flow of 0.8 cfs is less than the capacity of the 8" diameter pipe of 1.2 cfs, the existing sewer pipe has enough capacity to convey the increased flow from the proposed connection.

APPENDIX A

Sewer Pump Curve and Sizing Calculations

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

OWTS for Trailside Pump Station #1
Pump Design Calculations

Design Flow	17,930 gal/day	(110 gpd/bedroom)	
Peak Flow	52.0 gpm	Peak Flow = $\frac{\text{(Design Flow)(4)}}{\text{(24hr/day)(60min/hr)}}$	Use 4x Daily Flow for Peak Flow
Static Head	80 ft	Vertical distance from bottom of pump pit to invert of SMH	
C	120	Roughness coefficient for smooth plastic pipe	
d	3 in	Diameter of force main	
L	2125 ft	Length of force main	
Q	63 gpm	Flow Rate	
V	2.9 ft/s	Velocity	
L_e	50 ft	Equivalent length to account for losses in valves and bends	
L_t	2175 ft	Total Length = $L + L_e$	
HL	33 ft	$HL = \frac{10.44(L_t)(Q^{1.85})}{(C^{1.85})(d^{4.87})}$	
Total Dynamic Head	113 ft	TDH = Hl + Static Head	

Use Flygt MP 3102 HT 3 phase 2 poles 60hz 263Ø151mm grinder pump (or approved equal).

These pumps will pump 63 gpm with a Total Dynamic Head of 113 feet.

xylem
Let's Solve Water

MP 3102 HT 3~ 263

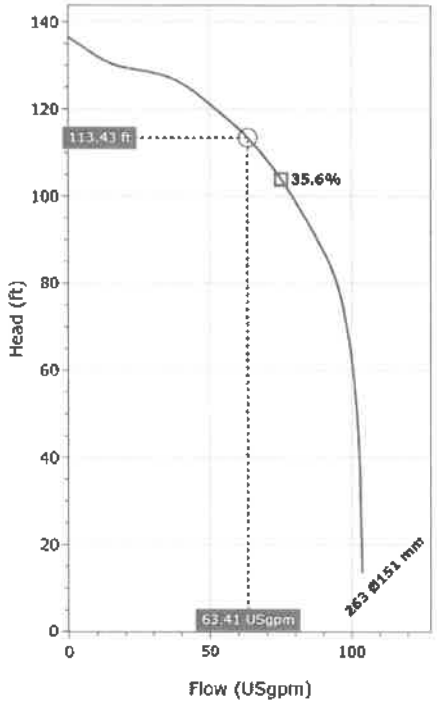
Created On: 9/22/25

xylem
Let's Solve Water

FLYGT
a Xylem brand

MP 3102 HT 3~ 263 | Configuration Summary

The Flygt M 3000 grinder pumps are high-performing submersible, centrifugal pumps with axial cutters. Excellent for pumping wastewater in residential, commercial and agricultural applications. These grinder pumps reduce waste content to fine slurry, pumped through small-diameter pipes.



Curve: ISO 9906

Nominal (mean) data shown. Under- and over-performance from this data should be expected due to standard manufacturing tolerances. Please consult your local Flygt representative for performance guarantees.

GENERAL

Explosion Proof
No

Impeller Diameter
151 mm

Max. Pumped Media Temp.
104 °F

MATERIAL AND COATING

Impeller Material
Grey Cast Iron

Stator Cover Material
Grey Cast Iron

Volute Material
Grey Cast Iron

MOTOR

Rated Voltage
460 V

Motor Efficiency Class
Standard

Coupling
Y

Rated Power
6 Hp

INSTALLATION

Installation Type
P - Semi-Permanent, Wet

Project:	Created By:	Created On:	Last Update:
MP 3102 HT 3~ 263	-	9/22/25	-

MP 3102 HT 3~ 263 | Product Details

Description

M 3102

Hard Working, Heavy-Duty Grinder Pump

The Flygt M 3102 grinder is a high-performing submersible centrifugal pump, excellent for pumping wastewater in residential, commercial and agricultural applications. The grinder pump reduces waste content to fine slurry, pumped through small-diameter pipes. The main application for Flygt M 3102 is pressurized sewage systems that are generally used when flat land, uphill topography, surface rock and high water tables pose tough challenges for conventional gravity systems.
Whether you need a single grinder pump, a complete pump station or an entire wastewater system, Xylem offers a smart and economical delivery of wastewater to the nearest pump station or sewer main.

Reliable Operation

The M 3102 is engineered to meet the challenges of wastewater systems. It comes equipped with a unique impeller for optimum hydraulic efficiency and a heavy-duty cutting device, which grinds solids into small particles for easy transport through small-diameter pipes. This eliminates the risk of clogging.
All components are specially designed and manufactured to optimize operation and prolong pump service life.

- Double mechanical seal system. Two sets of mechanical shaft seals work independently to provide double security. They are available in Tungsten carbide (WCCR) or Silicone carbide (SiC) depending on pumped media.
- Made of robust and durable cast iron
- Spin-out outer seal protection design that protect seals from abrasive particles
- Motor cable SUBCAB® specially developed for submersible use

Product Features

- Use for heavy-duty shredding applications
- Non-clogging design
- Reliable operation
- Heavy-duty cutting device

Construction Materials

Impeller Material	Volute Material	Stator Cover Material
Grey Cast Iron	Grey Cast Iron	Grey Cast Iron

Motor

Rated Power	Number Of Phases	Start Current Ratio	Motor Issue
6 Hp	3	10.17	18
Motor Denomination	**Rated Motor Speed**	**Insulation Class**	**Locked Rotor Code**
18-10-2AL	3,520 RPM	H	L
Motor Efficiency Class	**Rated Voltage**	**Approval**	**Max starts per hour**
Standard	460 V	Standard	30
Version Code	**Rated Current**	**Total moment of inertia**	**Power Factor 100%**
170	7 A	0.3323 ft^2lbf	0.91
Frequency	**Start Current**	**Type of duty**	**Power Factor 75%**
60 Hz	72 A	S1	0.87
Max P2 (1x)	**Starting Current, Direct Starting**	**Stator Variant**	**Power Factor 50%**
5.96 Hp	72 A	62	0.8
Number Of Poles	**Starting Current, Star Delta**	**Motor Module**	**Efficiency 100%**
2	24 A	150	87.1 %
			Efficiency 75%
			87.3 %
			Efficiency 50%
			85.6 %

Project:	Created By:	Created On:	Last Update:
MP 3102 HT 3~ 263	-	9/22/25	-

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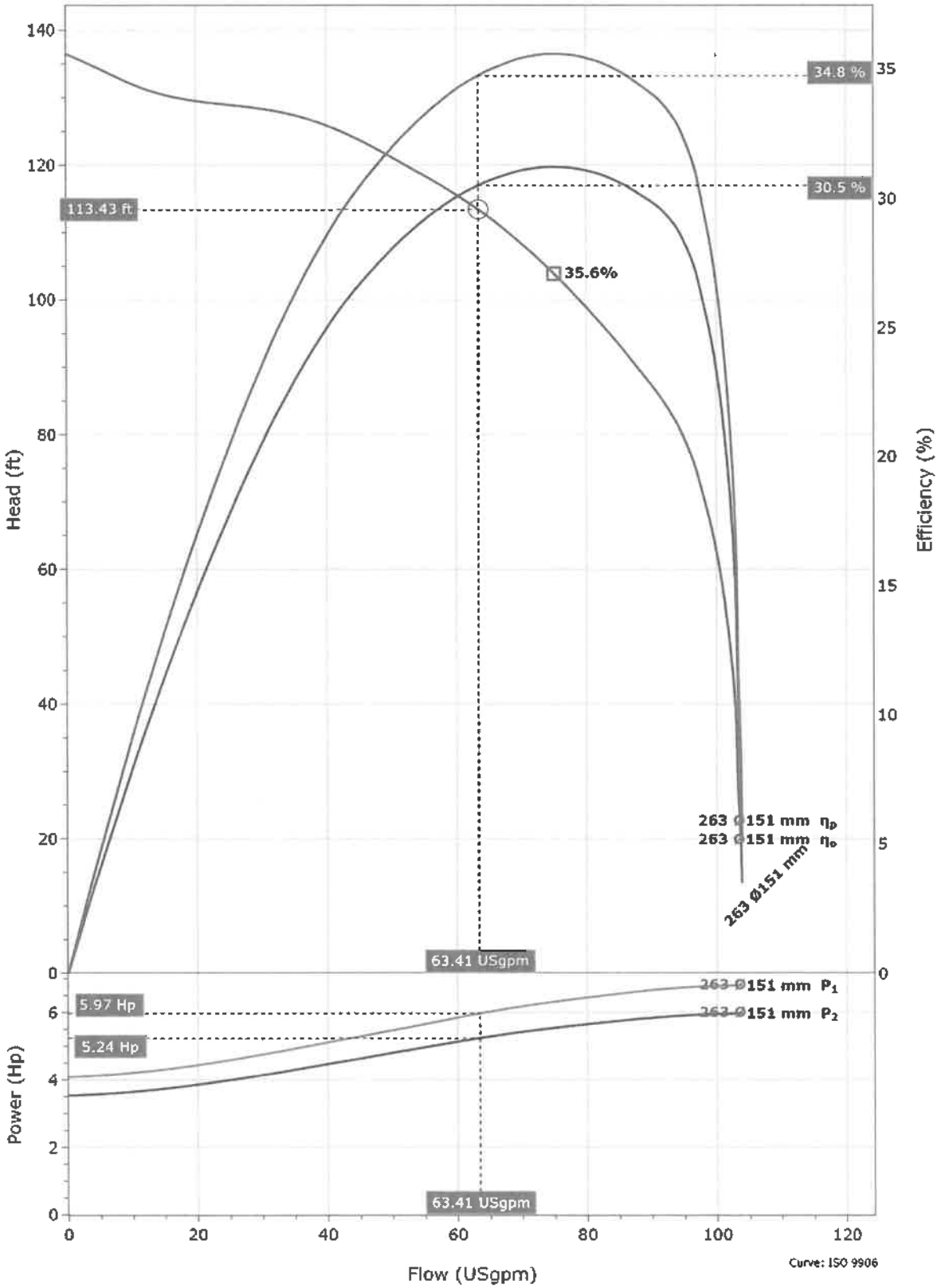
FLYGT

MP 3102 HT 3~ 263 | Hydraulic Data & Performance Curve



Nominal (mean) data shown. Under- and over-performance from this data should be expected due to standard manufacturing tolerances. Please consult your local Flygt representative for performance guarantees.

Selection		Fluid and Operating Conditions	
Series	Curve Code	Fluid Type	Density
M 3000	263	Water	62.428 lb/ft³
Name	Impeller Diameter	Fluid Temperature	Dynamic Viscosity

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FLYGT

MP 3102 HT 3~ 263

Frequency
60 Hz

Total Flow
63.00 USgpm

Total Head
113.00 ft

Pump Flow
63.00 USgpm

Pump Head
113.00 ft

System Type
Single Pump

Operating Pumps
1

Standby Pumps
No Standby Pump

151 mm

Inlet Diameter
40 mm

Outlet Diameter
1.5 in

Number Of Vanes
6

39.2 °F

Specific Gravity
1

1.567212 cP

Fluid Vapor Pressure
0.118 psi

Atmospheric Pressure
14.7 psi

Elevation
0 ft

Ambient Temperature
68 °F

NPSH Available
33.68 ft

Submergence
0 ft

Design Point

Flow
63.41 USgpm

Head
113.43 ft

Overall Efficiency (ηo)
30.50 %

Pump Efficiency (ηp)
34.75 %

Input Power (P1)
5.97 Hp

Shaft power (P2)
5.24 Hp

Static Head
80.00 ft

Flow To BEP Ratio
84.5 %

Design Curve

Rated Speed
60 Hz

Max Flow
103.82 USgpm

H@QMin
136.46 ft

H@QMax
13.34 ft

BEP
35.6 %

BEP Flow
75.03 USgpm

BEP Head
103.89 ft

Max P2
5.96 Hp

Specific Energy
1,169 kWh/mGal

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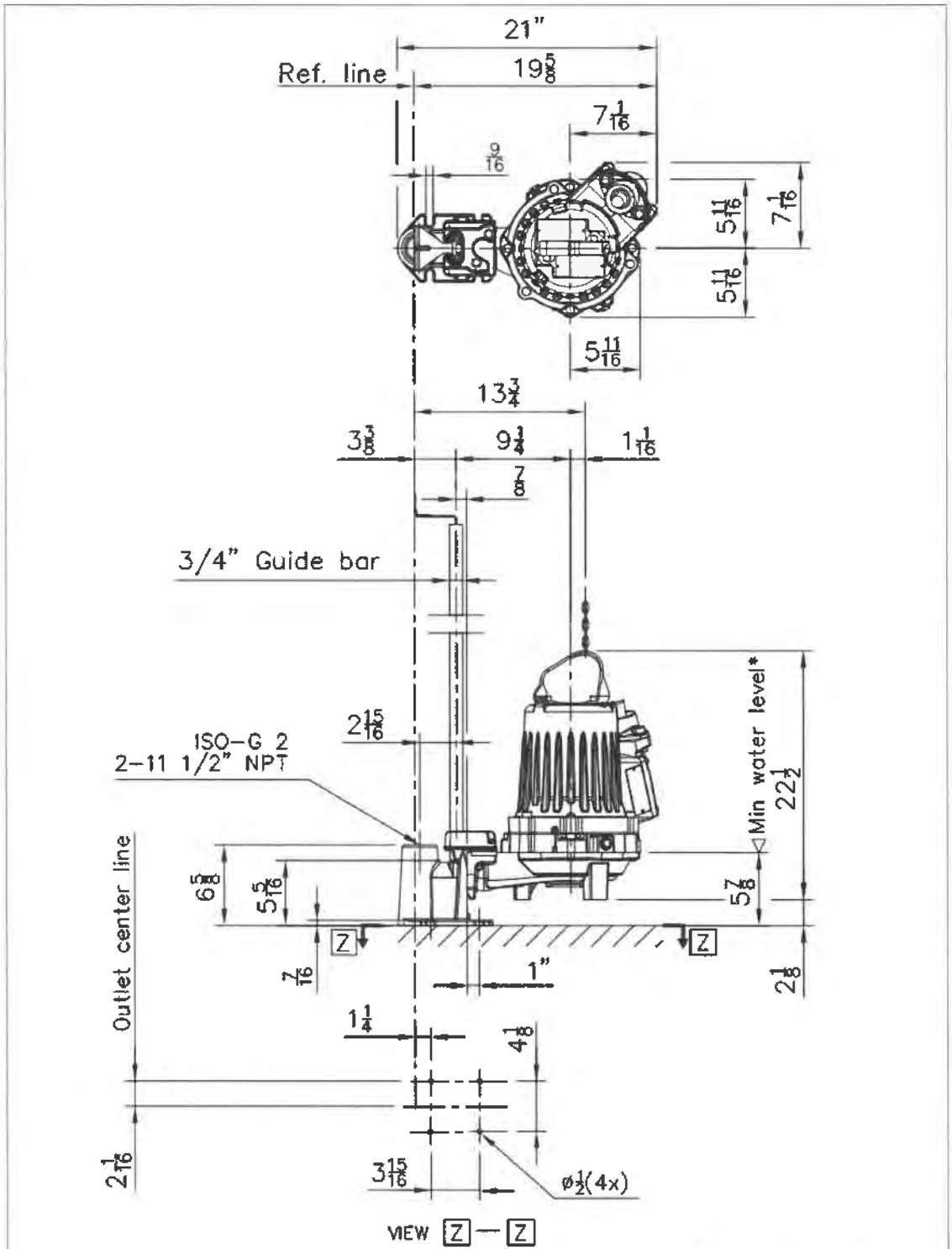
Let's Solve Water

FLYGT
a xylem brand

MP 3102 HT 3~ 263 | Dimensional Data & Drawing



* Consult the IOM for more info.

Weight	Pump	Disch
lbs	175	16

	MP	3102	HT			
	170,890			Discharge outlet: ISO-G 2	Scale: 1:10	Date: 250408
				Pump outlet: #1 1/2"		
				Pump inlet:	Drawing number: 5386800	Revision: 11
				Suction inlet:		

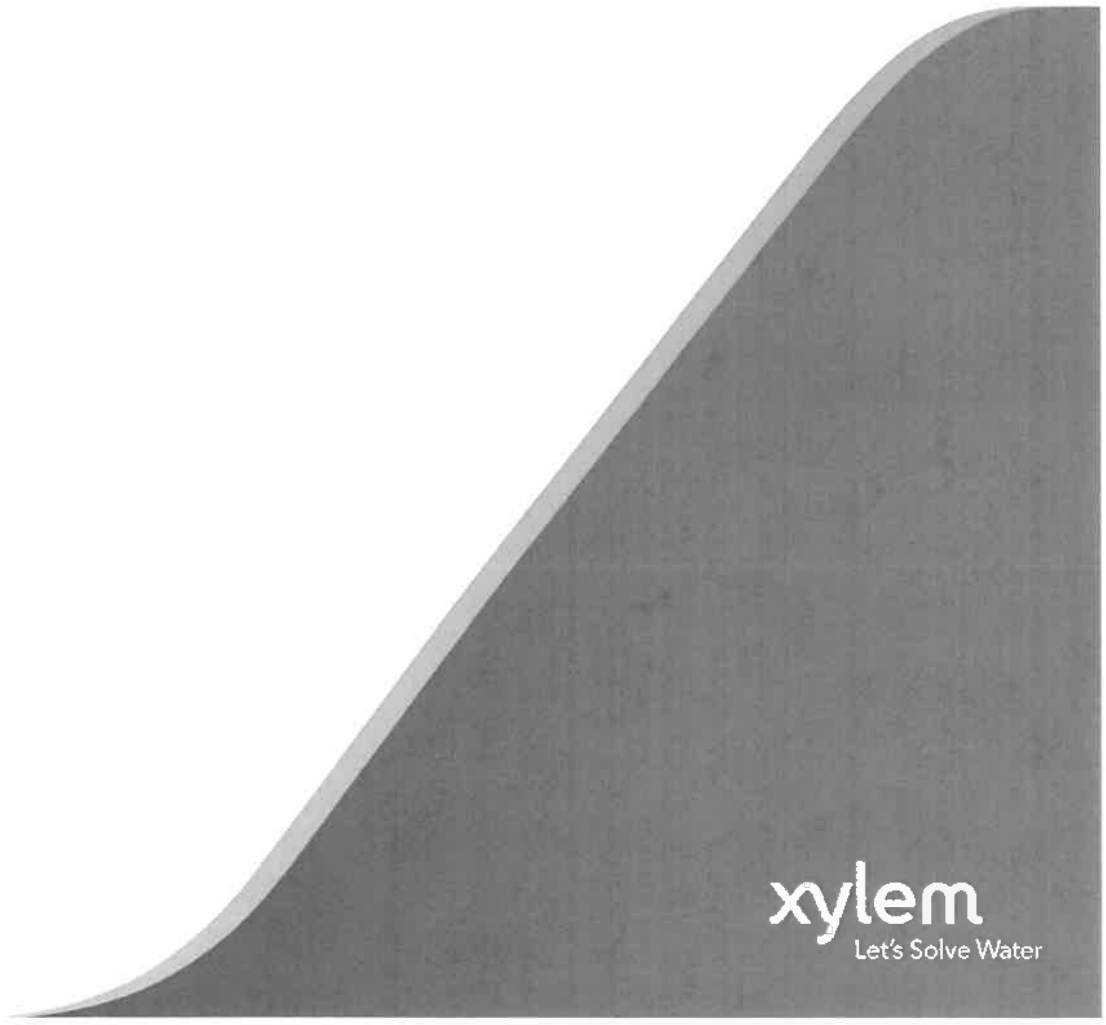
Project:	Created By:	Created On:	Last Update:
MP 3102 HT 3~ 263	-	9/22/25	-

Company

Contact

Phone No.

Email



APPENDIX B

Existing Sewer Pipe Capacity Calculations

PROJECT: Trailside Estates at Somers
JOB NUMBER: 21241.100
BY: TMB
10/23/2025

INSITE
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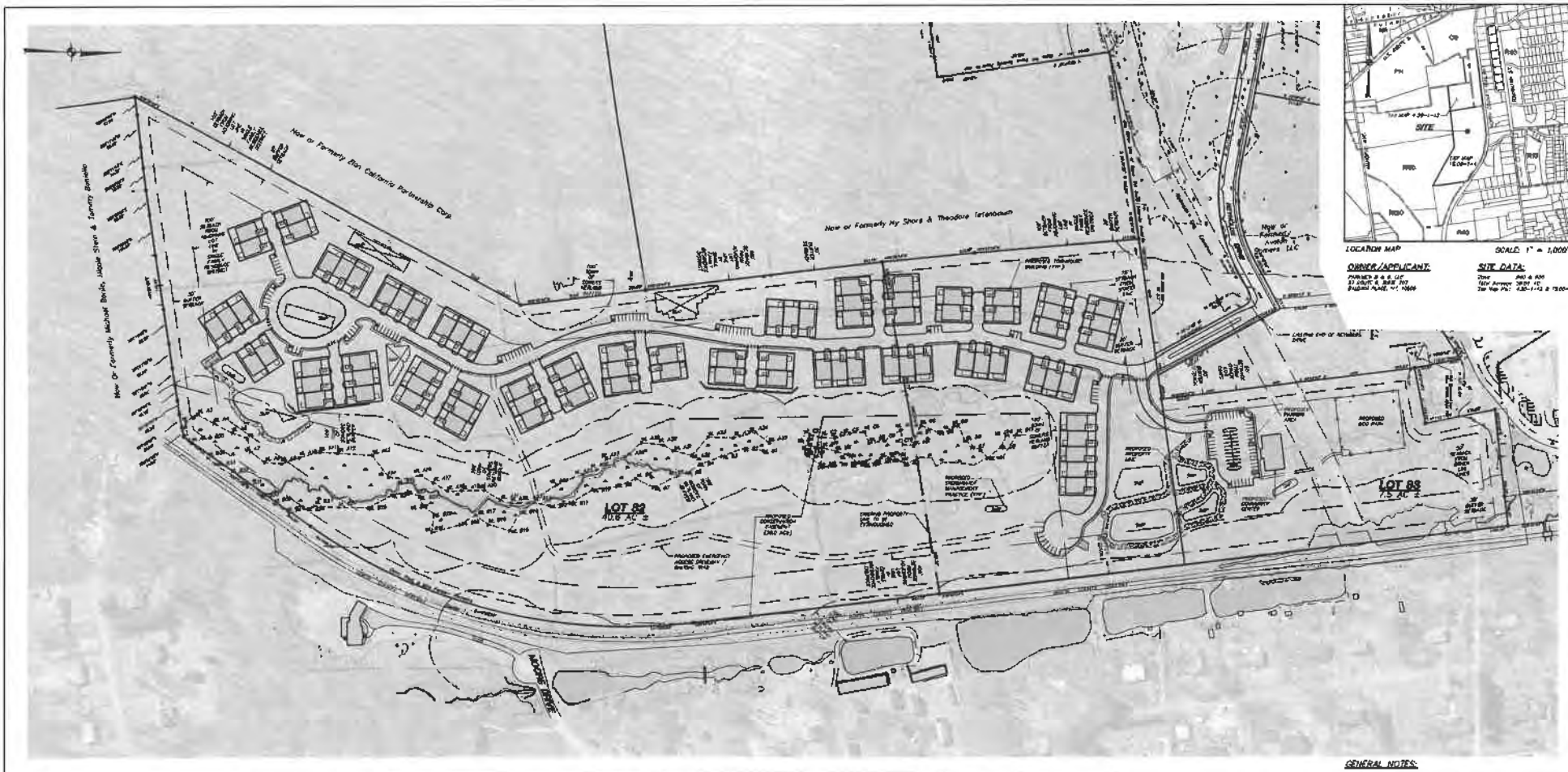
Gravity Sewer Peak = 278gpm (Somers Realty Planned Hamlet) + 92 gpm (Trailside Estates)
Gravity Sewer Peak = 370 gpm
Peak flow in cfs= 370 gpm * 1 gallon/7.48 cfs*1 min/60 sec
Peak flow in cfs= 0.8 cfs
As calculated below the 8" gravity sewer main at minimum of 0.8% slope has a capacity of 1.2 cfs exceeding the peak flow of 0.8 cfs

Q (cfs)		PIPE DESIGN			
DESIGN	Capacity	V(ft/s)	n	s (%)	DIA (in)
0.8	1.2	3.6	**0.012**	**0.8**	**8**



OWNER/APPLICANT:
FAIRFIELD 8 & 9, LLC
37 VOLUNTEER DRIVE, SUITE 202
FAIRFIELD, NJ 07004

SITE DATA:
Zone: RMD & RGD
Total Acreage: 48.30 AC ±
Tax Map No.: 4.00-1-43 & 13.00-1-1.2

LEGEND

- EXISTING PROPERTY LINE
- EXISTING EASEMENT
- EXISTING ZONING DISTRICT BOUNDARY
- EXISTING STONE WALL
- EXISTING WATTLELINE
- EXISTING EDGE OF WATER
- EXISTING WETLANDS
- EXISTING WETLANDS BUFFER
- EXISTING WETLANDS BUFFER AND STATE WETLANDS PLAIN
- EXISTING WETLANDS BUFFER
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- EXISTING SPOT GRADE
- EXISTING TREELINE
- PROPOSED CONCRETE CURB
- PROPOSED EDGE OF PAVEMENT
- PROPOSED BUILDING

MDR-RC ZONING REQUIREMENTS:

	Required/Permitted	Provided
Min. Lot Area	40,000 sq. ft.	40.81 ac. ±
Min. Lot Area	1	88.44 ac. ±
Development Density Units	3 Density Units/Ac. (Max. 120 Density Units Allowed)[1]	2.98 Density Units/Ac. (119 Density Units Proposed)
Min. Density of Affordable Units (in density units)	15%	0%
Max. Building Coverage	20%	7% ±
Max. Combined Coverage of Buildings & Paving	40%	16% ±
Max. Building Height	2.5 Stories / 35'	(Less than 2.5 Stories/35')
Building Setbacks:		
Front Street Line	30'	30' ±
Tract Other Lot Lines	50'	270' ±
Main Access Lot Line to Single Family Residence District	100'	42' ± [2]
Water Setback	35'	Less than 35'± [3]

[1] Net land area calculated in accordance with § 120-10.3 as the Code of Sonners Town Code. Refer to Net Land Area Calculations table on this sheet.

[2] Encroachment already existing on the premises with § 120-107 (10)(a). Refer to Development Density Calculations table on this sheet.

[3] Where the existing topography and/or topography across adjacent property, the Planning Board may modify the setback and/or height and area requirements.

[4] If any building height is more than 35' in excess, the site plans shall be reviewed by the Planning Board.

NET LAND AREA CALCULATIONS:

	Acres
Total tract area	88.81 ac.±
25% of total wetland area	2.2 ac.±
25% of total one-hundred foot Floodplain area	0.4±
25% of total Rte. 59 area and Driveway Loop Easement	0.97 ac.±
Net Land Area[1]	93.44 ac.±

[1] Wetlands and areas designated in accordance with §120-10.3 of the Town of Sonners Town Code. The Lot Area shall equal the total lot area excluding 25% of wetlands, 25% of the one-hundred year floodplain, and 25% of any areas above 1200' mse grassed.

DEVELOPMENT DENSITY UNIT (DU) CALCULATIONS

Permit Density Unit (DU) Formula:

Area = 3 DU / Acre of Net Land Area
3 DU x 39.44 Ac. = 118 DU

The permitted density is being sought as the six units that are wetlands crossed and Topography restrictions as in Table 120A Sec.

= 118 DU

TOTAL ALLOWED = 118 DU

Total DU Proposed:

0 (1 Bedroom) Dwelling Units Exempt @ 1 DU/3 DWT = 0 DU
23 (2 Bedroom) Dwelling Units Exempt @ 1 DU/2.0 DWT = 12 DU
39 (3 Bedroom) Dwelling Units APPLY @ 1 DU/1.5 DWT = 26 DU

TOTAL PROPOSED = 38 DU

RECREATION AREA REQUIREMENTS

Required area of recreational area:
220 S.F./DU x 91 DU = 19,800 SF

Provided recreation areas:

1. 7.5 acre parcel to be donated to the Town with a 0.067 ac. community center and play park
2. Swing, and passive recreation area as is shown on a Construction Easement

PARKING REQUIREMENTS:

	Required	Provided
1) Total Parking Required / In the Proposed: 1 1/2 parking spaces per 1 BR (39 DU) = 1.5 x 39 = 59; + 1/2 per Bedroom (115 Bedrooms x 0.50 = 57)	162 Spaces	242 Spaces[1]
2) Min. # of Total Spaces Enclosed which Garage (1/3 to 2/3 of total required)	54 to 108 Spaces	84 Spaces
3) Min. # of Garage Spaces (Within of the Total)	33 Spaces	70 Spaces

[1] The 242 spaces have been provided as follows:
80 Spaces in Garage
162 Spaces in Driveways
80 Spaces throughout site for visitors

GENERAL NOTES:

1. Property lines shown hereon taken from a combination of Town of Sonners digital tax maps, surveys prepared by Donald A. Donatelli, L.S. Fairfield, dated March 21, 1990, and surveys prepared by Insite Engineering, Surveying & Landscape Architecture, P.C. dated April 14, 2022 and December 22, 2021.
2. Temporary bench marks established by aerial photogrammetric means and by ASPC provided by Hennegan Information Services are shown on this plan.
3. Town regulated wetlands shown hereon on 10.17 through 10.25, 10.27 through 10.28 and 10.30 through 10.33, 10.37 through 10.39 and 10.41 were delineated by Jason Starke of the Insite Engineering, and surveyed located by Insite Engineering, Surveying & Landscape Architecture, P.C. on December 13th, 2021.
4. Utility locations as shown are approximate, appurtenances/manholes on and adjacent parcels and to the west of the site are from Westchester County GIS and were not field confirmed. Any additional utilities found hereon are approximate. Contractor shall exercise extreme caution at the site and to coordinate with a Dig Safe application.
5. Any imported topsoil shall comply with all federal, state, and local requirements for quality and use.
6. Off-site disposal of excess cut shall be in accordance with all federal, state, and local requirements.
7. Any retaining wall with a vertical height of 4' and is greater at certain shall require structural design calculations signed and sealed by a licensed professional engineer. The signed and sealed calculations must be submitted to the consulting Town Engineer prior to the start being construction.

4	10-22-24	REVISED PER PLANNING BOARD SUBMISSION
3	9-30-24	REVISED PER PLANNING BOARD SUBMISSION
2	8-27-24	REVISED PER BUREAU OF FIRE PREVENTION COMMENTS
1	8-19-24	REVISED PER TOWN SUBMISSION
NO.	DATE	REVISION

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Drive
Chester, NY 10918
(845) 210-8560
(845) 207-2917 fax
www.insite-eng.com

PROJECT:
IRAN SIDE ESTATES AT SONNERS

DRAWING:
OVERALL PLAN

PROJECT NUMBER	2194.1 100	PROJECT MANAGER	R.C.W.
DATE	11-17-23	DESIGN BY	A.D.L.
SCALE	1" = 100'	CHECKED BY	R.C.W.

SHEET NO. OP-1 OF 18

GRAPHIC SCALE
1" = 100'
1 inch = 100 ft.

TREE SUMMARY

Estimated Total Trees Removed	[illegible]
3,103 ±	[illegible]

* For SEQRA purposes, the total trees to be removed were estimated by totaling tree counts in areas ... [illegible]. Only trees greater than 12" were counted.

Slopes Table

Number	Minimum Slope	Maximum Slope	Color	Area (sf)
1	15%	25%		134,529
2	25%	35%		32,580
3	35%	Maximum		10,566

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

4	10-21-25	REVISED FOR PLANNING BOARD SUBMISSION	
3	4-30-25	REVISED FOR PLANNING BOARD SUBMISSION	CTL
2	8-21-24	REVISED PER BUREAU OF FIRE PREVENTION COMMENTS	JJP
1	4-10-24	REVISED FOR TOWN SUBMISSION	
NO.	DATE	REVISION	BY

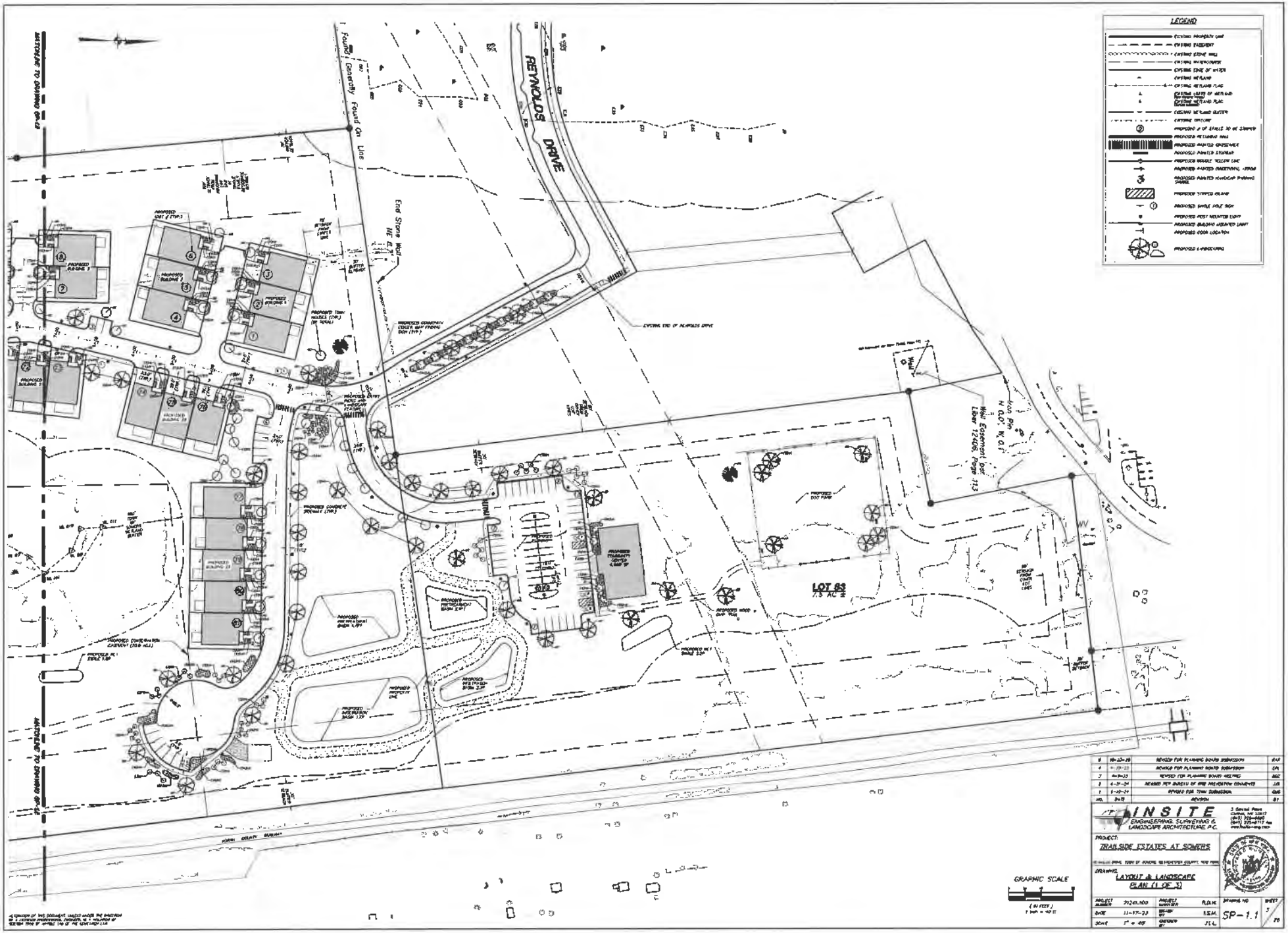
INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

PROJECT:
TRAILSIDE ESTATES AT SOMERS

DRAWING:
EXISTING CONDITIONS AND REMOVALS PLAN

PROJECT NUMBER	21941.100	PROJECT MANAGER	R.D.W.
DATE	11-17-23	DRAWN BY	T.S.M.
SCALE	1" = 100'	CHECKED BY	J.C.L.

DRAWING NO. EX-1
SHEET 2 / 28


LEGEND
REYNOLDS DRIVE
Found Generally Found On Line
End Stone Wall NE & W
MATCHLINE TO DRAWING SP-2
MATCHLINE TO DRAWING SP-2
LOT 83
7.5 AC ±
GRAPHIC SCALE
(IN FEET)
1 inch = 40 ft.
INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE P.C.
PROJECT:
TRAILSIDE ESTATES AT SOMERS
DRAWING:
LAYOUT & LANDSCAPE PLAN (1 OF 2)
SP-1.1


MATCHLINE TO DRAWING SP-11
MATCHLINE TO DRAWING SP-13
LOT 82
INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
PROJECT:
TRAILSIDE ESTATES AT SOMERS
DRAWING:
LAYOUT & LANDSCAPE PLAN (2 OF 3)
GRAPHIC SCALE
SCALE 1" = 40'
SP-1.2

MITIGATION PLANT SCHEDULE

QTY.	KEY	BOTANICAL/COMMON NAME	SIZE	ROOT
		SHADE & UNDERSTORY TREES		
[illegible]	AC	[illegible]	7' – 8' HT.	B&B
[illegible]	BN	[illegible] / River Birch	7' – 8' HT.	B&B
[illegible]	CC	[illegible]	7' – 8' HT.	B&B
		SHRUBS		
[illegible]	[illegible]	[illegible]	24" – 30" HT.	#3 CONT.
20	[illegible]	[illegible]	24" – 30" HT.	#3 CONT.
20	[illegible]	[illegible]	24" – 30" HT.	#3 CONT.
[illegible]	[illegible]	[illegible]	24" – 30" HT.	#3 CONT.
		GROUNDCOVERS		
72	[illegible]	[illegible]	#1 CONT.	CONT / 30" O.C.
[illegible]	CV	[illegible]	#1 CONT.	CONT / 30" O.C.
[illegible]	[illegible]	[illegible]	#1 CONT.	CONT / 30" O.C.
[illegible]	EP	[illegible]	#1 CONT.	CONT / 30" O.C.
[illegible]	[illegible]	[illegible]	#1 CONT.	CONT / 30" O.C.
[illegible]	[illegible]	[illegible]	#1 CONT.	CONT / 30" O.C.
[illegible]	[illegible]	[illegible]	#1 CONT.	CONT / 30" O.C.

BUFFER DISTURBANCE AND MITIGATION AREA

LOT	BUFFER DISTURBANCE	MITIGATION AREA
[illegible]	[illegible] SF ±	[illegible] SF ±

PLANT LIST FOR SITE LANDSCAPING

SYM	QTY	BOTANICAL/COMMON NAME	SIZE	ROOT
		EVERGREEN TREES		
[illegible]	[illegible]	[illegible]	6' – 7' HT.	B&B
[illegible]	[illegible]	[illegible]	6' – 7' HT.	B&B
[illegible]	[illegible]	[illegible]	7' – 8' HT.	B&B
		SHADE TREES		
[illegible]	[illegible]	[illegible]	2 1/2" CAL.	B&B
[illegible]	[illegible]	[illegible]	10' – 12' HT.	B&B
[illegible]	[illegible]	[illegible]	2 1/2" CAL.	B&B
[illegible]	[illegible]	[illegible]	2 1/2" CAL.	B&B
		FLOWERING/SPECIMEN TREES		
[illegible]	[illegible]	[illegible]	10' – 12' HT.	B&B
[illegible]	[illegible]	[illegible]	2" CAL.	B&B
[illegible]	[illegible]	[illegible]	2" CAL.	B&B
[illegible]	[illegible]	[illegible]	2" CAL.	B&B
		SHRUBS & PERENNIALS		
[illegible]	[illegible]	[illegible]	18"–24" HT.	#3 CONT.
[illegible]	[illegible]	[illegible]	#1 CONT.	24" O.C.
[illegible]	[illegible]	[illegible]	18"–24" HT.	#3 CONT.
[illegible]	[illegible]	[illegible]	[illegible]	#3 CONT.
[illegible]	[illegible]	[illegible]	18"–24" HT.	#3 CONT.
[illegible]	[illegible]	[illegible]	24"–30" HT.	#3 CONT.
[illegible]	[illegible]	[illegible]	18"–24" HT.	#3 CONT.
[illegible]	[illegible]	[illegible]	18"–24" HT.	#3 CONT.
[illegible]	[illegible]	[illegible]	#1 CONT.	18" O.C.
[illegible]	[illegible]	[illegible]	2" Plugs	18" O.C.

GENERAL NOTES FOR ACCESSIBLE ROUTES ON THE SITE:

1. ACCESSIBLE ROUTES ON THE SITE INCLUDE MARKED ACCESSIBLE PARKING SPACES AND ACCESS AISLES, SIDEWALK CURB RAMPS, WALKWAYS AND RAMPS.
2. MARKED ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL HAVE SURFACE SLOPES NOT STEEPER THAN 1:50 (2%).
3. SIDEWALK CURB RAMPS SHALL COMPLY WITH THE FOLLOWING ITEMS AS APPLICABLE: [illegible]
4. [illegible]
5. [illegible]

GENERAL PLANTING & SEEDING NOTE:

[illegible]

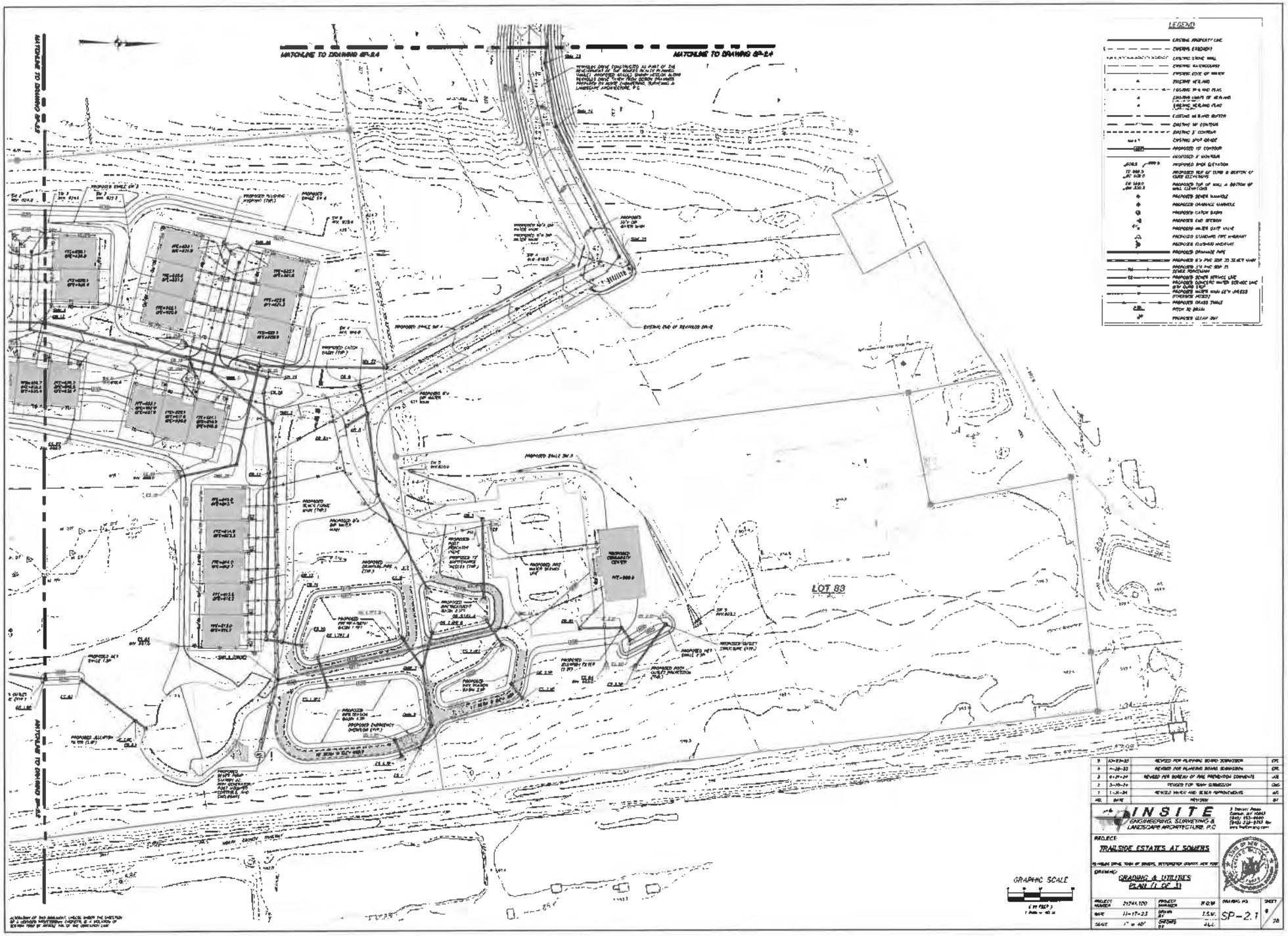
NO.	DATE	REVISION	BY
5	10-23-25	REVISED FOR PLANNING BOARD SUBMISSION	[illegible]
4	[illegible]	REVISED FOR PLANNING BOARD SUBMISSION	[illegible]
3	[illegible]	REVISED FOR PLANNING BOARD SUBMISSION	[illegible]
2	[illegible]	REVISED PER BUREAU OF FIRE PREVENTION COMMENTS	[illegible]
1	[illegible]	REVISED PER TOWN [illegible]	[illegible]

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
3 Garrett Place, Carmel, NY 10512

PROJECT:
TRAILSIDE ESTATES AT SOMERS

DRAWING:
LAYOUT & LANDSCAPE PLAN (3 OF 3)

PROJECT NUMBER	21241.100	PROJECT MANAGER	R.D.W.	DRAWING NO.	SHEET
DATE	11-15-23	DRAWN BY	R.B.M.	SP-1.3	3 / 20
SCALE	1" = 40'	CHECKED BY	J.L.L.		



NO.	DATE	REVISION	BY
9	10-23-23	REVISED FOR PLANNING BOARD SUBMISSION	EPC
8	7-28-23	REVISED FOR PLANNING BOARD SUBMISSION	EPC
3	6-27-22	REVISED FOR BUREAU OF FIRE PREVENTION COMMENTS	JVS
2	5-19-22	REVISED FOR TOWN SUBMISSION	CMC
1	1-31-22	REVISED INLET AND SEWER IMPROVEMENTS	MTS

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

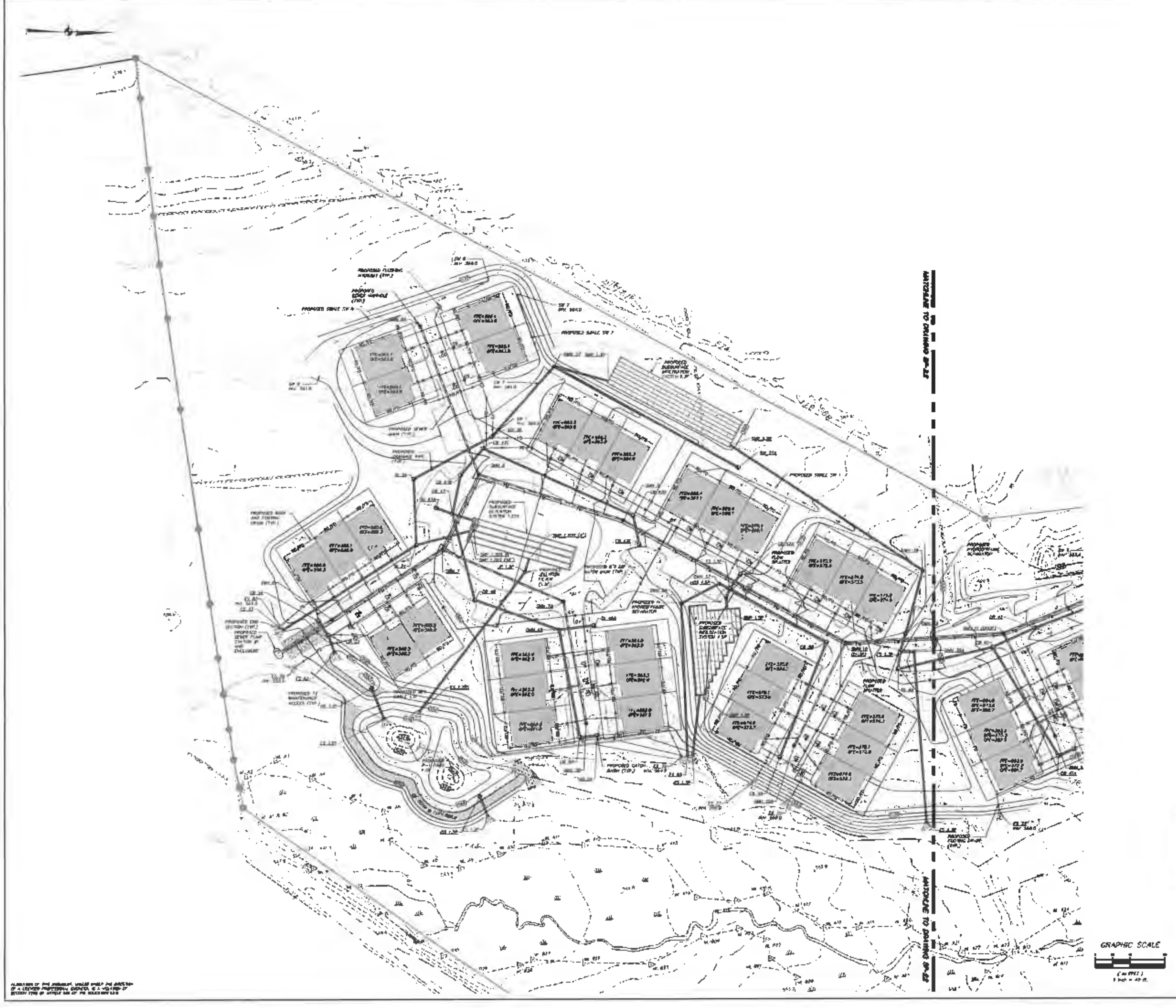
PROJECT:
TRAILSIDE ESTATES AT SOMERS

DRAWING:
GRADING & UTILITIES PLAN (1 OF 3)

PROJECT NUMBER	21246.100	PROJECT MANAGER	R.G.M.
DATE	11-17-23	DRAWN BY	T.S.W.
SCALE	1" = 40'	CHECKED BY	A.L.L.

DRAWING NO. SP-2.1
SHEET 9 OF 28


MATCHLINE TO DRAWING SP-2.3
MATCHLINE TO DRAWING SP-2.1
LOT 82
INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
PROJECT:
TRAILSIDE ESTATES AT SOMERS
DRAWING:
GRADING & UTILITIES PLAN (2 OF 3)
GRAPHIC SCALE
DATE 11-17-23
SCALE 1" = 40'
SP-2.2



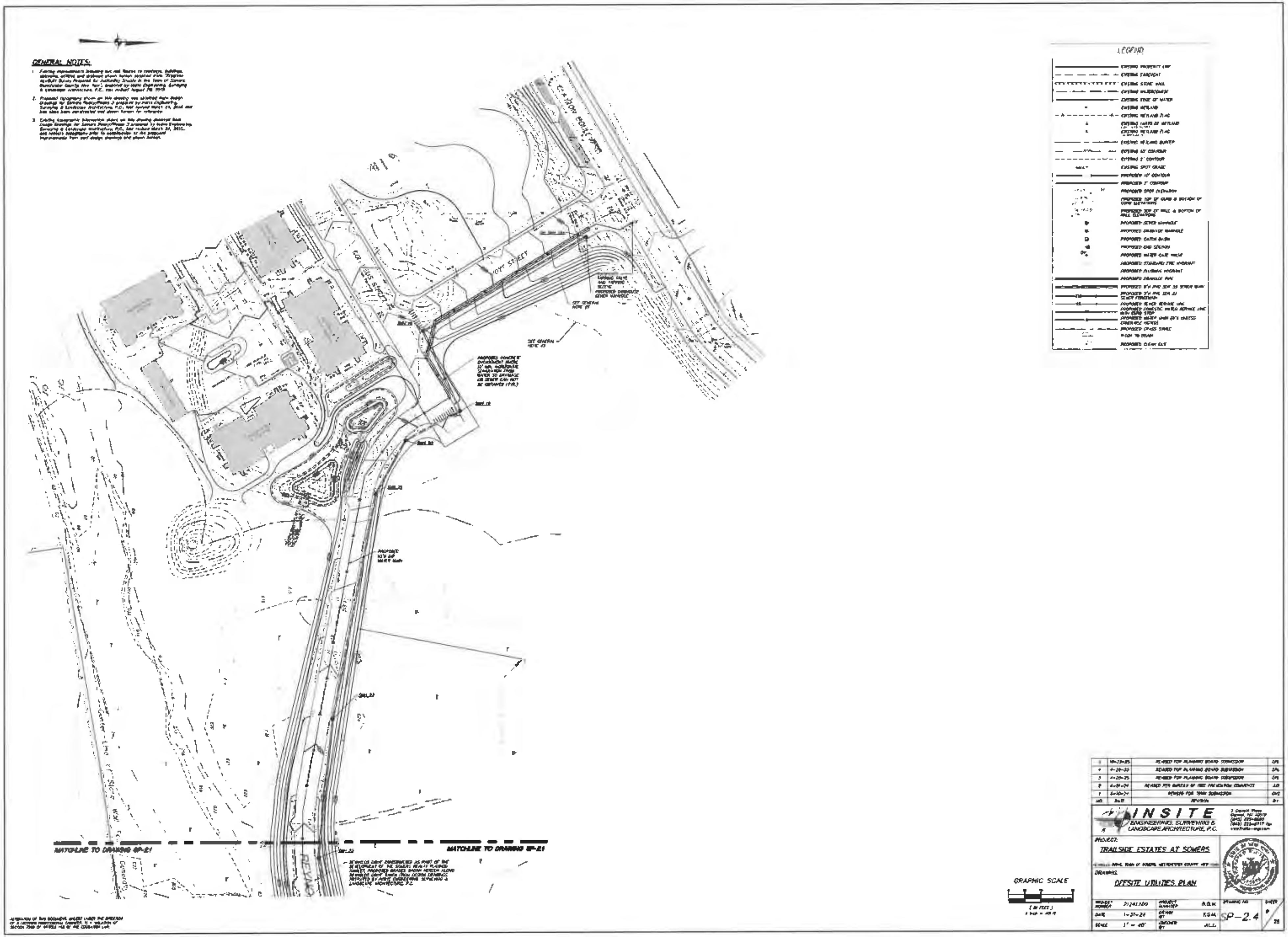
NO.	DATE	REVISION	BY
5	10-23-25	REVISED FOR PLANNING BOARD SUBMISSION	[illegible]
4	4-30-25	REVISED FOR PLANNING BOARD SUBMISSION	[illegible]
3	[illegible]	REVISED PER BUREAU OF FIRE PREVENTION COMMENTS	[illegible]
2	3-18-24	REVISED FOR TOWN SUBMISSION	[illegible]
1	[illegible]	REVISED WATER AND SEWER [illegible]	[illegible]

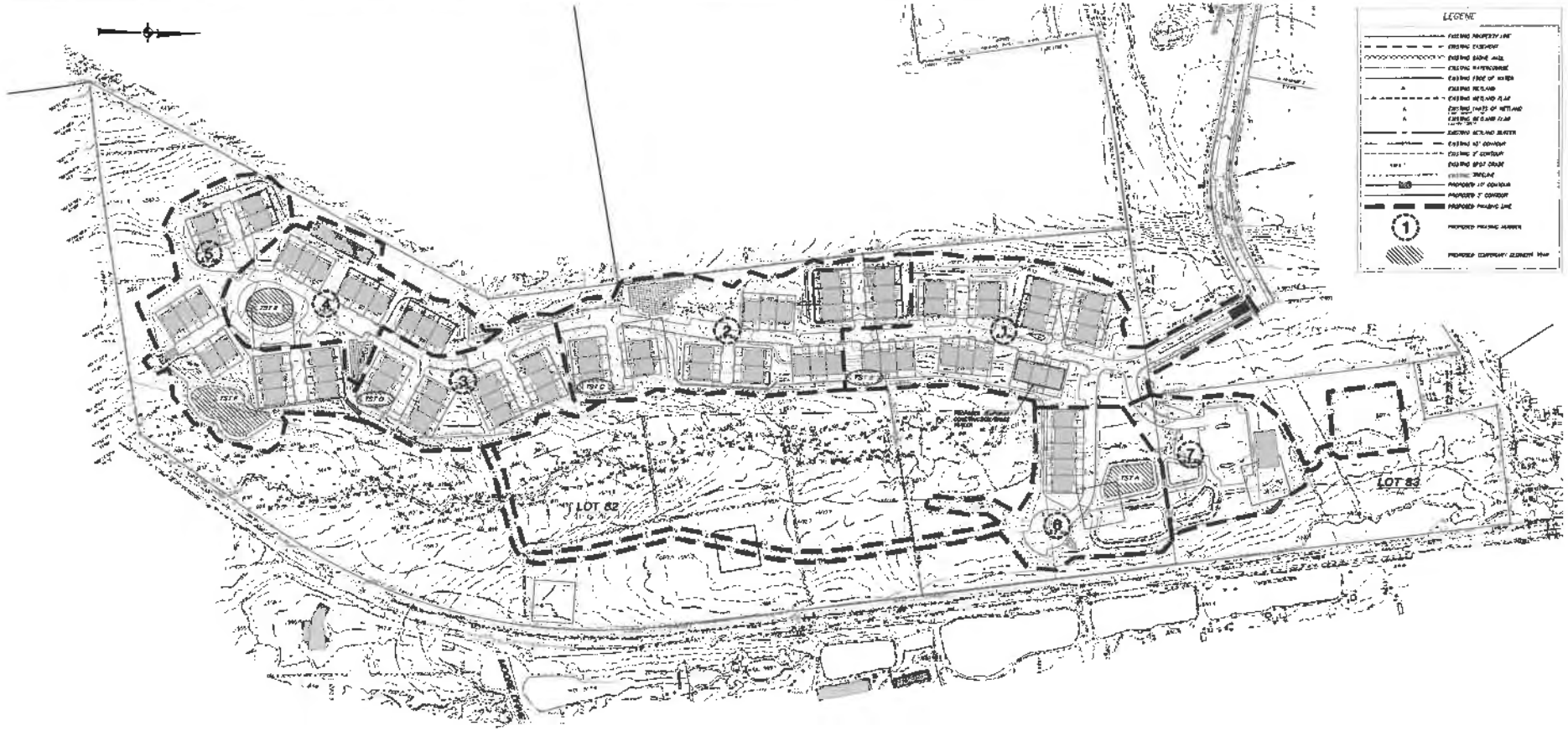
INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

PROJECT:
TRAILSIDE ESTATES AT SOMERS

DRAWING:
GRADING & UTILITIES PLAN (3 OF 3)

PROJECT NUMBER	21241.100	PROJECT MANAGER	R.D.W.	DRAWING NO.	SHEET
DATE	11-17-23	DRAWN BY	T.S.M.	SP-2.3	8 / 28
SCALE	1" = 40'	CHECKED BY	J.E.L.		


GENERAL NOTES:
LEGEND
GRAPHIC SCALE
MATCHLINE TO DRAWING SP-21
MATCHLINE TO DRAWING SP-21
INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
PROJECT:
TRAILSIDE ESTATES AT SOMERS
DRAWING:
OFFSITE UTILITIES PLAN
21241.100
1-31-24
1" = 40'
R.D.W.
E.G.M.
SP-2.4
25



OVERALL CONSTRUCTION SEQUENCE:

(1) Phase 1

1. Delineate a perseverance exercise with the Town Engineer, Supervising Engineer, NYSDEC and contractor.
2. Install orange construction fence around the proposed limit-of-disturbance to minimize soil compaction during construction.
3. Install temporary erosion control measures shown on the plan in accordance with the details.
4. Clear and grub trees within the limits of this phase.
5. Construct and stabilize proposed temporary sediment trap C in accordance with the notes and details.
6. Begin mass earthwork operations. Install temporary swales as necessary to direct runoff from the areas of disturbance to the temporary sediment trap. Divert upslope stormwater runoff around areas of disturbance.
7. Construct stormwater management practices within this phase. Divert all stormwater runoff away from the bottomless precast unit(s) until tributary area is stabilized.
8. Install drainage structures, driveway piping, culvert, water and other utilities as required.
9. Install subbase, curb and asphalt binder for proposed roadway.
10. Perform temporary sediment trap clean out/restoration at all contributing areas.
11. Upon completion of all grading operations topsoil, seed, and mulch any and all disturbed areas as soon as practical in accordance with the recommendation and erosion control notes. Phase 1 must be stabilized prior to the commencement of Phase 2.

Typical Phase 1 and Phase 2 as a minimum a base course and binder and or unit will be constructed. All work shall be maintained as such and stabilized after use, to be done with dimensions assembled with unit construction and overall not exceeding as allowed by Section 3 areas. Phases 3, 4, 5, 6, and 7 shall remain under 5 acres at any one time/season to maintain SWPPP/SPDES permit.

(2) Phase 2

1. Install orange construction fence around the proposed limit-of-disturbance perimeter to minimize soil compaction during construction.
2. Install temporary erosion control measures shown on the plan in accordance with the details.
3. Clear and grub trees within the limits of this phase.
4. Construct and stabilize proposed temporary sediment trap C in accordance with the notes and details.
5. Begin mass earthwork operations. Install temporary swales as necessary to direct runoff from the areas of disturbance to the temporary sediment trap. Divert upslope stormwater runoff around areas of disturbance.
6. Construct stormwater management practices within this phase. Divert all stormwater runoff away from the bottomless precast unit(s) until tributary area is stabilized.
7. Install drainage structures, driveway piping, culvert, water and other utilities as required.
8. Install subbase, curb and asphalt binder for proposed roadway.
9. Perform temporary sediment trap clean out/restoration at all contributing areas.
10. Upon completion of all grading operations topsoil, seed, and mulch any and all disturbed areas as soon as practical in accordance with the recommendation and erosion control notes. Phase 2 must be stabilized prior to the commencement of Phase 3.
11. Unit construction and maintenance as described in Phase 1 Step 11.

(3) Phase 3

1. Install temporary erosion control measures shown on the plan in accordance with the details.
2. Clear and grub trees across the limits of this phase.
3. Construct and stabilize proposed temporary sediment trap A in accordance with the notes and details.
4. Begin mass earthwork operations. Install temporary swales as necessary to direct runoff from the areas of disturbance to the temporary sediment trap. Divert upslope stormwater runoff around areas of disturbance.
5. Construct stormwater management practices within this phase. Divert all stormwater runoff away from the bottomless precast unit(s) until tributary area is stabilized.
6. Install drainage structures, driveway piping, culvert, water and other utilities as required.
7. Install subbase, curb and asphalt binder for proposed roadway.
8. Perform temporary sediment trap clean out/restoration at all contributing areas.
9. Upon completion of all grading operations topsoil, seed, and mulch any and all disturbed areas as soon as practical in accordance with the recommendation and erosion control notes. Phase 3 must be stabilized prior to the commencement of Phase 4.
10. Unit construction and maintenance as described in Phase 1 Step 11.

(4) Phase 4

1. Install orange construction fence around the proposed limit-of-disturbance perimeter to minimize soil compaction during construction.
2. Install temporary erosion control measures shown on the plan in accordance with the details.
3. Clear and grub trees within the limits of this phase.
4. Construct and stabilize proposed temporary sediment trap C in accordance with the notes and details.
5. Begin mass earthwork operations. Install temporary swales as necessary to direct runoff from the areas of disturbance to the temporary sediment trap. Divert upslope stormwater runoff around areas of disturbance.
6. Construct stormwater management practices within this phase. Divert all stormwater runoff away from the bottomless precast unit(s) until tributary area is stabilized.
7. Install drainage structures, driveway piping, culvert, water and other utilities as required.
8. Install subbase, curb and asphalt binder for proposed roadway.
9. Perform temporary sediment trap clean out/restoration at all contributing areas.
10. Upon completion of all grading operations topsoil, seed, and mulch any and all disturbed areas as soon as practical in accordance with the recommendation and erosion control notes. Phase 4 must be stabilized prior to the commencement of Phase 5.
11. Unit construction and maintenance as described in Phase 1 Step 11.

(5) Phase 5

1. Install temporary erosion control measures shown on the plan in accordance with the details.
2. Clear and grub trees within the limits of this phase.
3. Construct and stabilize proposed temporary sediment trap C in accordance with the notes and details.
4. Begin mass earthwork operations. Install temporary swales as necessary to direct runoff from the areas of disturbance to the temporary sediment trap. Divert upslope stormwater runoff around areas of disturbance.
5. Construct stormwater management practices within this phase. Divert all stormwater runoff away from the bottomless precast unit(s) until tributary area is stabilized.
6. Install drainage structures, driveway piping, culvert, water and other utilities as required.
7. Install subbase, curb and asphalt binder for proposed roadway.
8. Upon completion of all grading operations topsoil, seed, and mulch any and all disturbed areas as soon as practical in accordance with the recommendation and erosion control notes. Phase 5 must be stabilized prior to the commencement of Phase 6.
9. Unit construction and maintenance as described in Phase 1 Step 11.

(6) Phase 6

1. Install orange construction fence around the proposed limit-of-disturbance perimeter to minimize soil compaction during construction.
2. Install temporary erosion control measures shown on the plan in accordance with the details.
3. Clear and grub trees within the limits of this phase.
4. Construct and stabilize proposed temporary sediment trap A in accordance with the notes and details.
5. Begin mass earthwork operations. Install temporary swales as necessary to direct runoff from the areas of disturbance to the temporary sediment trap. Divert upslope stormwater runoff around areas of disturbance.
6. Construct stormwater management practices within this phase. Divert all stormwater runoff away from the bottomless precast unit(s) until tributary area is stabilized.
7. Install drainage structures, driveway piping, culvert, water and other utilities as required.
8. Install subbase, curb and asphalt binder for proposed roadway.
9. Upon completion of all grading operations topsoil, seed, and mulch any and all disturbed areas as soon as practical in accordance with the recommendation and erosion control notes. Phase 6 must be stabilized prior to the commencement of Phase 7.
10. Unit construction and maintenance as described in Phase 1 Step 11.

(7) Phase 7

1. Install orange construction fence around the proposed limit-of-disturbance perimeter to minimize soil compaction during construction.
2. Install temporary erosion control measures shown on the plan in accordance with the details.
3. Clear and grub trees within the limits of this phase.
4. Begin mass earthwork operations. Install temporary swales as necessary to direct runoff from the areas of disturbance to the temporary sediment trap. Divert upslope stormwater runoff around areas of disturbance.
5. Construct stormwater management practices within this phase. Divert all stormwater runoff away from the bottomless precast unit(s) until tributary area is stabilized.
6. Install drainage structures, driveway piping, culvert, water and other utilities as required.
7. Install subbase, curb and asphalt binder for proposed roadway.
8. Upon completion of all grading operations topsoil, seed, and mulch any and all disturbed areas as soon as practical in accordance with the recommendation and erosion control notes. Phase 7 must be stabilized prior to the commencement of Phase 8.
9. Unit construction and maintenance as described in Phase 1 Step 11.

STEEP SLOPE DISTURBANCE NOTES:

1. Disturbances of steep slopes shall be completed in workable units in which any disturbance can be completed prior to reasonable conditions so that erosion and sediment control measures may be installed or have completed as their erosion and sedimentation controls.
2. Allowances for the control of erosion and sedimentation shall be undertaken consistent with the New York Standards and Specifications for Erosion and Sediment Control, latest edition.
3. All proposed disturbances of steep slopes shall be undertaken consistent with the soils limitations ratings contained in the Westchester County soil survey.
4. Grass stormwater runoff north of all disturbed areas shall be diverted around the project site through implementation of silt fence and diversion swales located as shown on the plans.
5. Exposed soil disturbances shall be kept to the shortest practical period of time. Where soil disturbances occurs cease, all disturbances shall be finished by the end of the next working day and completed within seven (7) days from the date the current soil disturbance activity ceased.
6. Soil disturbances at any given time shall be addressed on the smallest project practical. Beach greater than 3K/1K shall be stabilized with erosion control seeding.
7. Proper care of areas of soil disturbance shall be directed towards the protection of the adjacent property, particular care to avoid erosion during roofing.
8. The contractor shall have a representative onsite that is a NYSDEC Trained Contractor or at least one work is being performed.

GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.

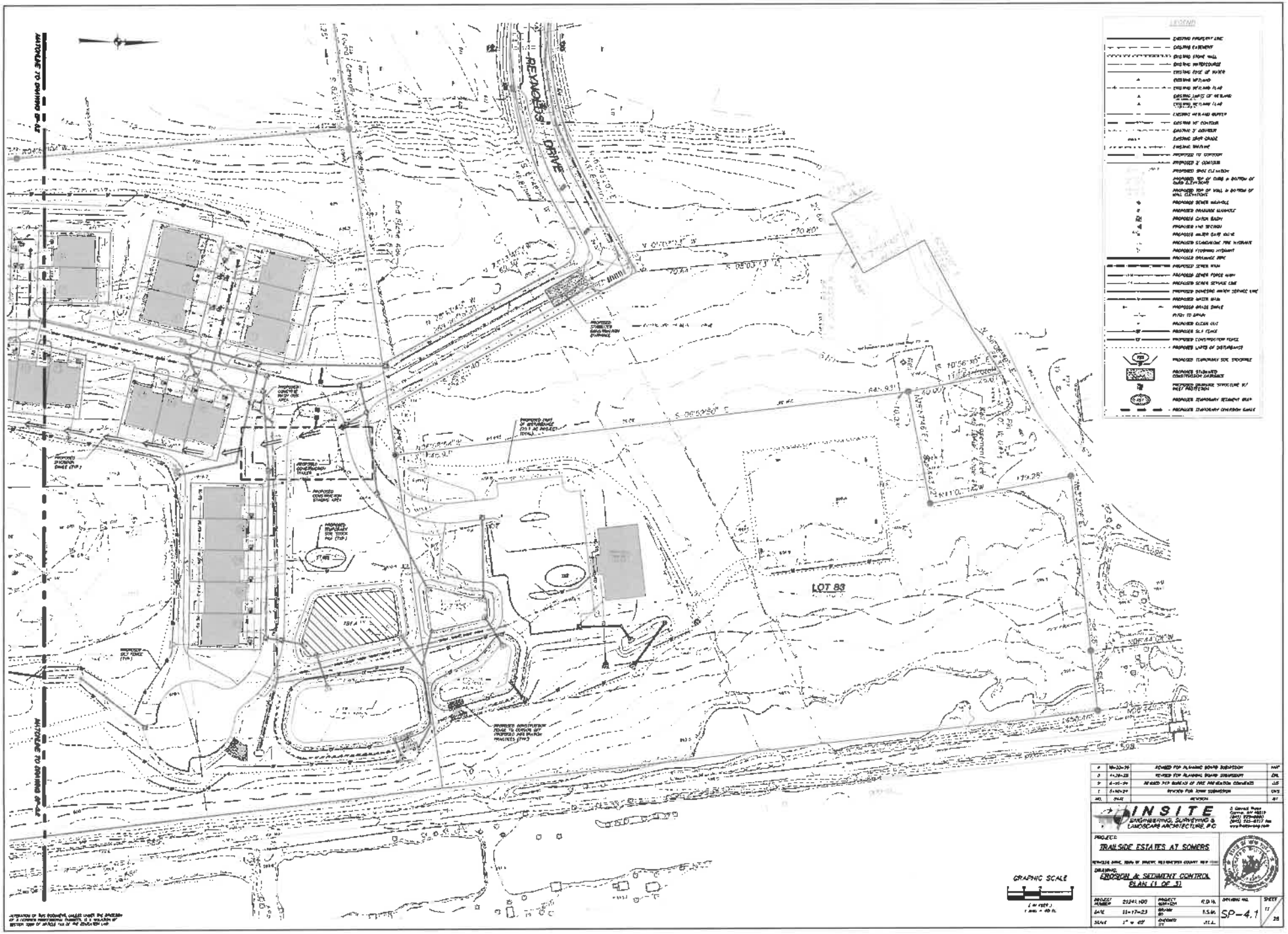
8	10-22-25	REVISED FOR PLANNING BOARD SUBMISSION	EPC
6	4-28-25	REVISED FOR PLANNING BOARD SUBMISSION	EPC
5	04-29-25	REVISED FOR PLANNING BOARD SUBMISSION	EPC
3	8-21-24	REVISED PER REVIEW OF TREE PRESERVATION OBJECTIVES	LES
2	2-16-24	REVISED FOR TOWN SUBMISSION	CMT
NO	DATE	REVISION	BY

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE P.C.
3 Garrett Place Carmel, NY 10512 (845) 225-3860 (845) 279-6917 fx www.insite-eng.com

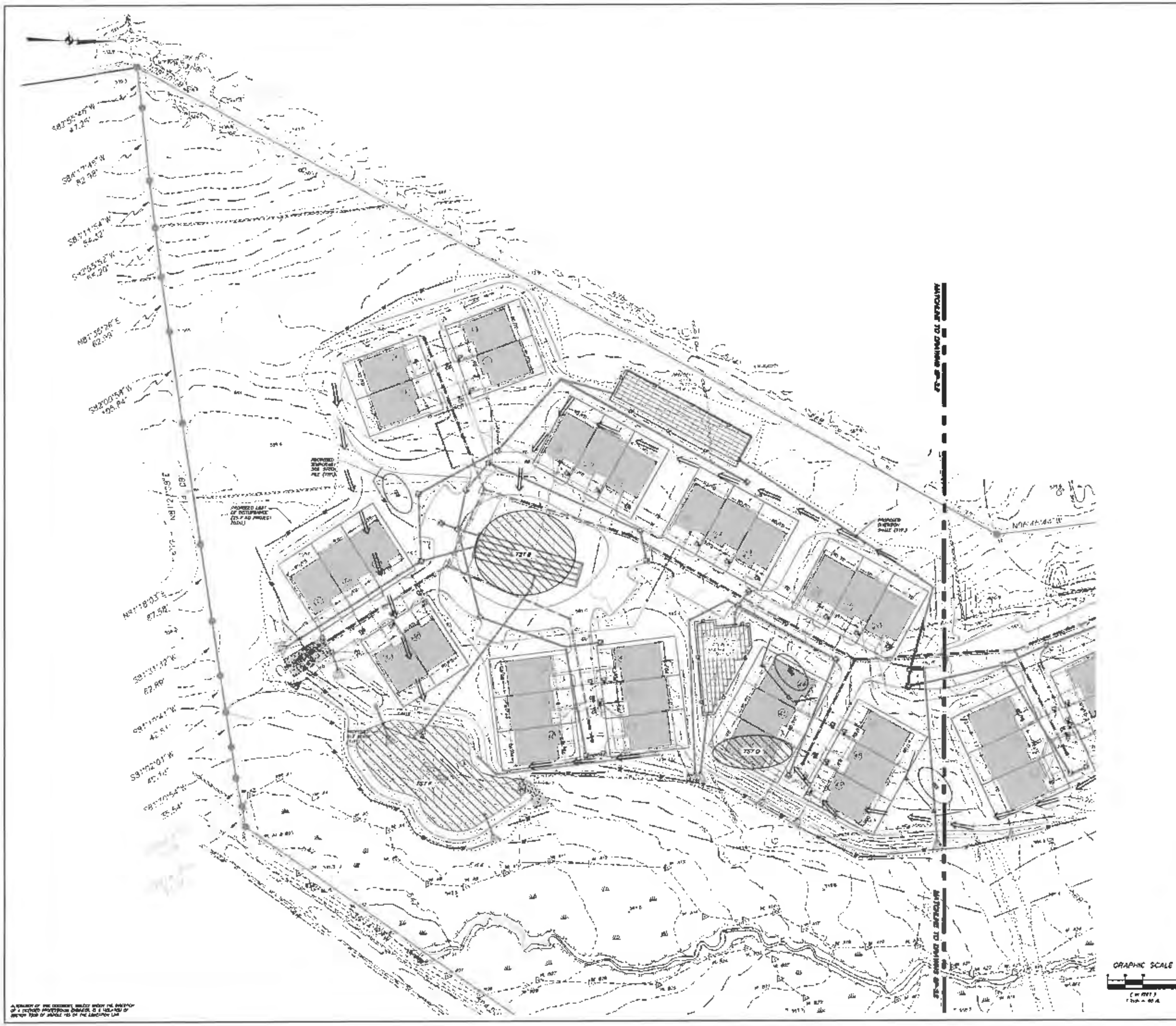
PROJECT: TRAILSIDE ESTATES AT SOMERS
DRAWING: PHASING PLAN

PROJECT NUMBER	21241.100	PROJECT MANAGER	R.D.W.
DATE	11-17-23	DRAWN BY	T.S.H
SCALE	1" = 100'	CHECKED BY	J.L.L.

DRAWING NO: SP-3 SHEET: 19 / 26


REYNOLDS DRIVE
LOT 83
GRAPHIC SCALE
1" = 100'
1 inch = 100 ft.


MATCHLINE TO DRAWING SP-3.3
MATCHLINE TO DRAWING SP-3.1
LOT 82
GRAPHIC SCALE
INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
PROJECT:
TRAILSIDE ESTATES AT SOMERS
DRAWING:
EROSION & SEDIMENT CONTROL PLAN (2 OF 3)
SP-4.2



4	10-23-25	REVISED FOR PLANNING BOARD SUBMISSION	
3	4-30-25	REVISED FOR PLANNING BOARD SUBMISSION	
2	9-21-24	REVISED FOR BUREAU OF FIRE PREVENTION COMMENTS	
1	5-10-24	REVISED FOR ... SUBMISSION	
NO.	DATE	REVISION	BY

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

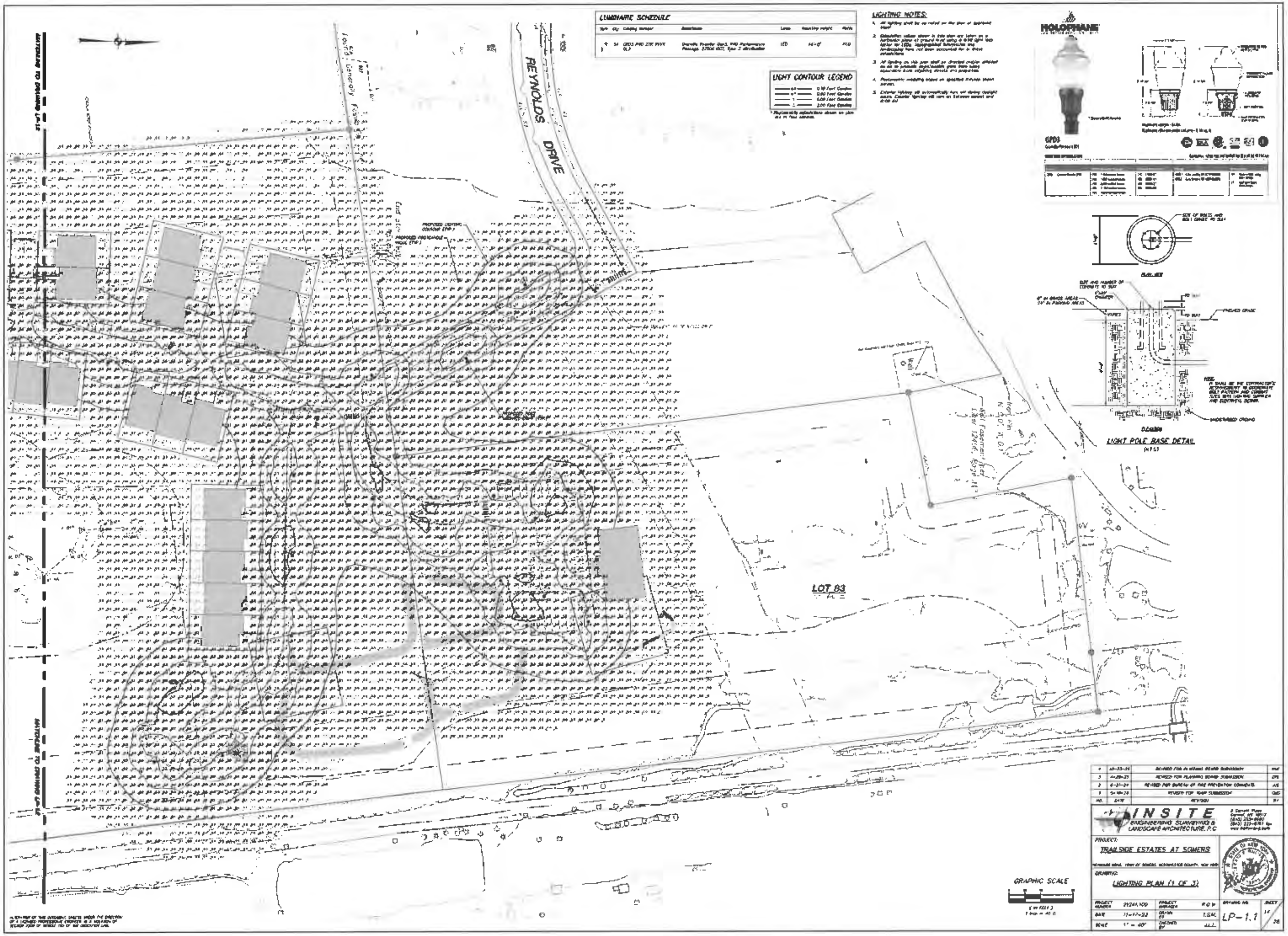
PROJECT:
TRAILSIDE ESTATES AT SOMERS

DRAWING:
EROSION & SEDIMENT CONTROL PLAN (3 OF 3)

PROJECT NUMBER	21241.100	PROJECT MANAGER	R.D.W.
DATE	11-17-23	DRAWN BY	T.S.M.
SCALE	1" = 40'	CHECKED BY	J.J.L.

DRAWING NO.: SP-4.3

SHEET 13 / 28



LUMINAIRE SCHEDULE
LIGHTING NOTES:
LIGHT CONTOUR LEGEND
HOLOPHANE
REYNOLDS DRIVE
LOT 83
LIGHT POLE BASE DETAIL
MATCHLINE TO DRAWING LP-1.2
GRAPHIC SCALE
INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
PROJECT:
TRAILSIDE ESTATES AT SOMERS
DRAWING:
LIGHTING PLAN (1 OF 3)
LP-1.1


MATCHLINE TO DRAWING LP-1.3
MATCHLINE TO DRAWING LP-1.1
LOT 82
GRAPHIC SCALE
1 inch = 40 ft.
INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.
PROJECT:
TRAILSIDE ESTATES AT SOMERS
DRAWING:
LIGHTING PLAN (2 OF 3)
PROJECT NUMBER 21741.100
PROJECT MANAGER R.D.K.
DATE 11-17-23
DRAWN BY T.S.M.
SCALE 1" = 40'
CHECKED BY J.J.L.
LP-1.2
15
23

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

PROJECT:

TRAILSIDE ESTATES AT SOMERS

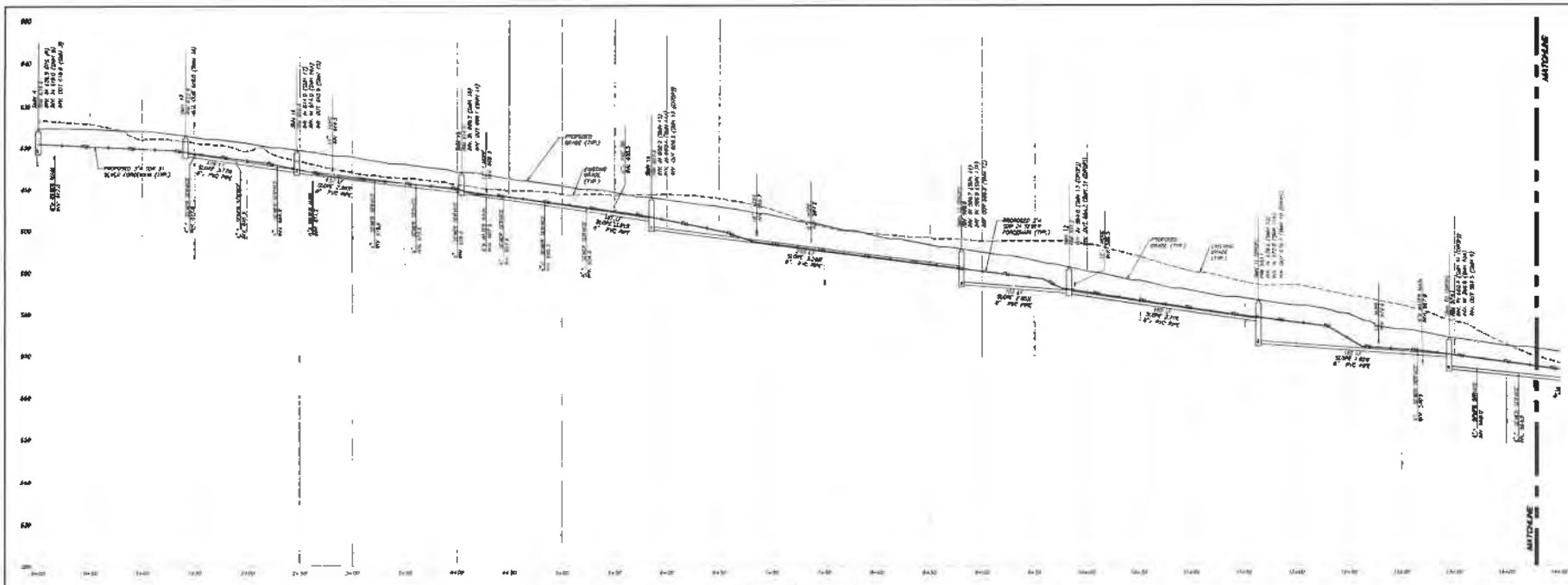
DRAWING:

LIGHTING PLAN (3 OF 3)

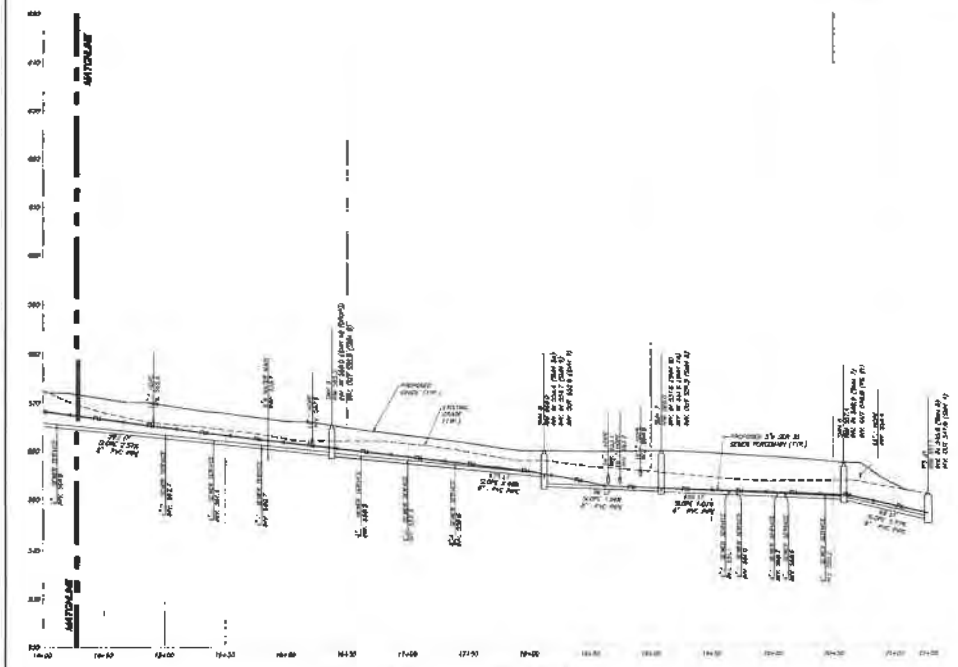
PROJECT NUMBER	21741.100	PROJECT MANAGER	R.G.W.
DATE	11-17-23	DRAWN BY	T.S.M.
SCALE	1" = 40'	CHECKED BY	J.L.L.

DRAWING NO. LP-1.3

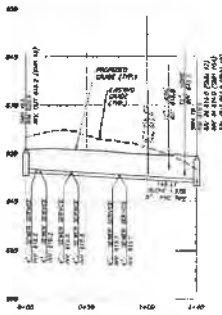
SHEET 18 / 28



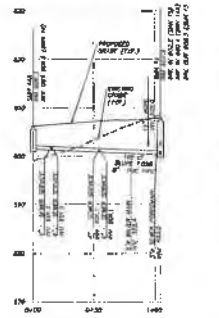
SMH 17 TO PUMP STATION #1 AND FORCE MAIN



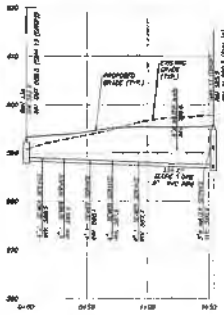
SMH 17 TO PUMP STATION #1 AND FORCE MAIN



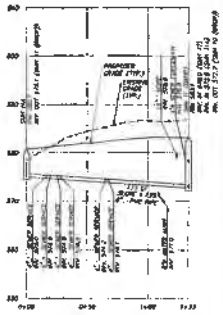
SMH 16A TO SMH 16



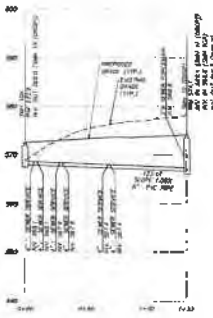
SMH 14A TO SMH 14



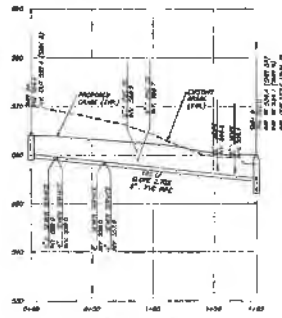
SMH 13A TO SMH 13



SMH 11A TO SMH 11



SMH 10A TO SMH 10



SMH 8A TO SMH 8

4	10-22-25	REVISED PER PLANNING BOARD SUBDIVISION	MAT
3	4-28-25	REVISED PER PLANNING BOARD SUBDIVISION	ERL
2	9-27-24	REVISED PER BUREAU OF FIRE PREVENTION COMMENTS	JMS
1	5-10-24	REVISED PER TOWN SUBMISSION	DMS
NO.	DATE	REVISION	BY

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ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

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Carmel, NY 10512
(845) 228-9580
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www.insite-ny.com

PROJECT:
TRAILSIDE ESTATES AT SOMERS

Tax Map Parcel No. 15.-1-1, 15.-1-2, 15.-1-3, 15.-1-4, 15.-1-5, 15.-1-6, 15.-1-7, 15.-1-8, 15.-1-9, 15.-1-10, 15.-1-11, 15.-1-12, 15.-1-13, 15.-1-14, 15.-1-15, 15.-1-16, 15.-1-17, 15.-1-18, 15.-1-19, 15.-1-20, 15.-1-21, 15.-1-22, 15.-1-23, 15.-1-24, 15.-1-25, 15.-1-26, 15.-1-27, 15.-1-28, 15.-1-29, 15.-1-30, 15.-1-31, 15.-1-32, 15.-1-33, 15.-1-34, 15.-1-35, 15.-1-36, 15.-1-37, 15.-1-38, 15.-1-39, 15.-1-40, 15.-1-41, 15.-1-42, 15.-1-43, 15.-1-44, 15.-1-45, 15.-1-46, 15.-1-47, 15.-1-48, 15.-1-49, 15.-1-50, 15.-1-51, 15.-1-52, 15.-1-53, 15.-1-54, 15.-1-55, 15.-1-56, 15.-1-57, 15.-1-58, 15.-1-59, 15.-1-60, 15.-1-61, 15.-1-62, 15.-1-63, 15.-1-64, 15.-1-65, 15.-1-66, 15.-1-67, 15.-1-68, 15.-1-69, 15.-1-70, 15.-1-71, 15.-1-72, 15.-1-73, 15.-1-74, 15.-1-75, 15.-1-76, 15.-1-77, 15.-1-78, 15.-1-79, 15.-1-80, 15.-1-81, 15.-1-82, 15.-1-83, 15.-1-84, 15.-1-85, 15.-1-86, 15.-1-87, 15.-1-88, 15.-1-89, 15.-1-90, 15.-1-91, 15.-1-92, 15.-1-93, 15.-1-94, 15.-1-95, 15.-1-96, 15.-1-97, 15.-1-98, 15.-1-99, 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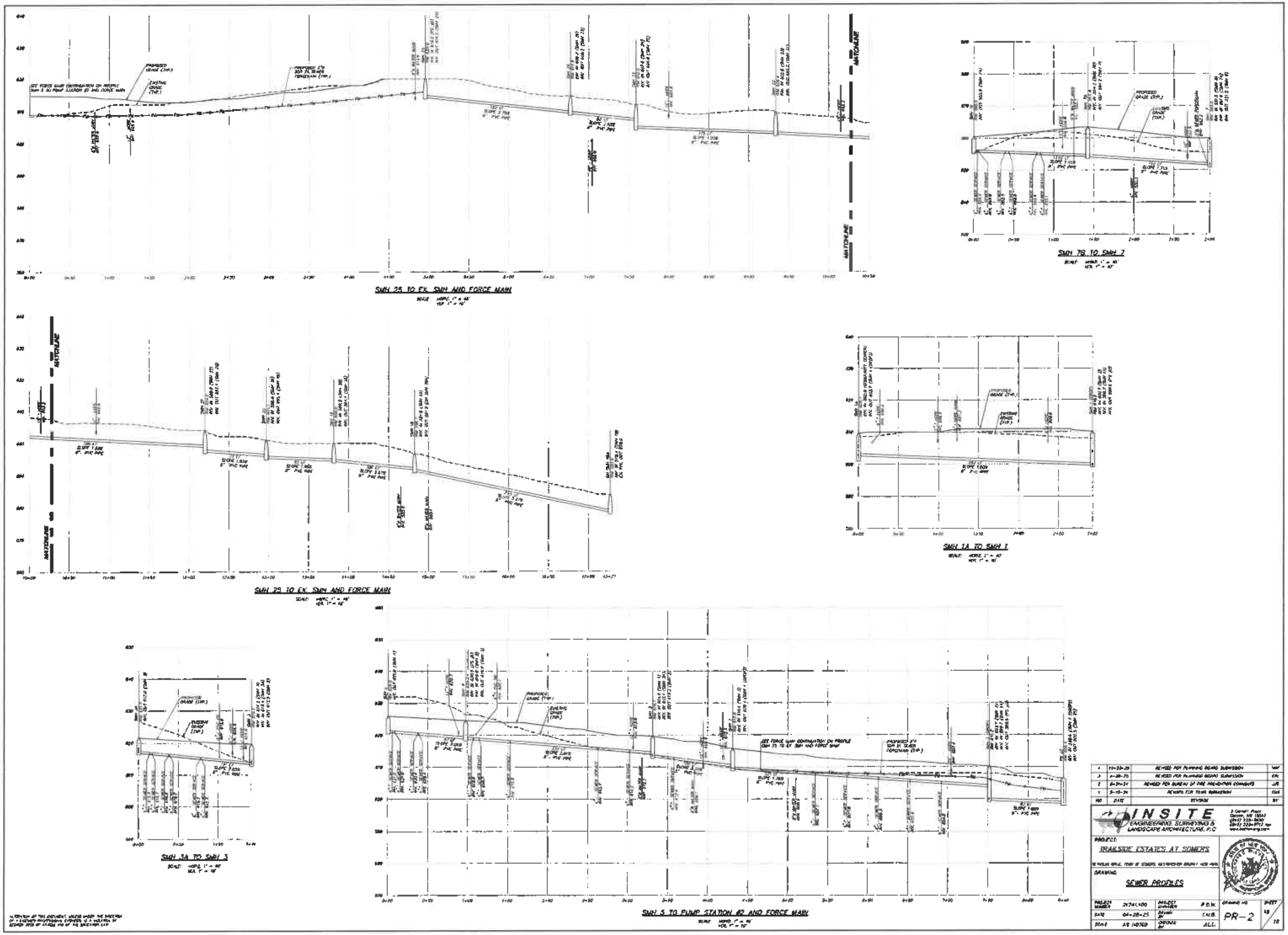
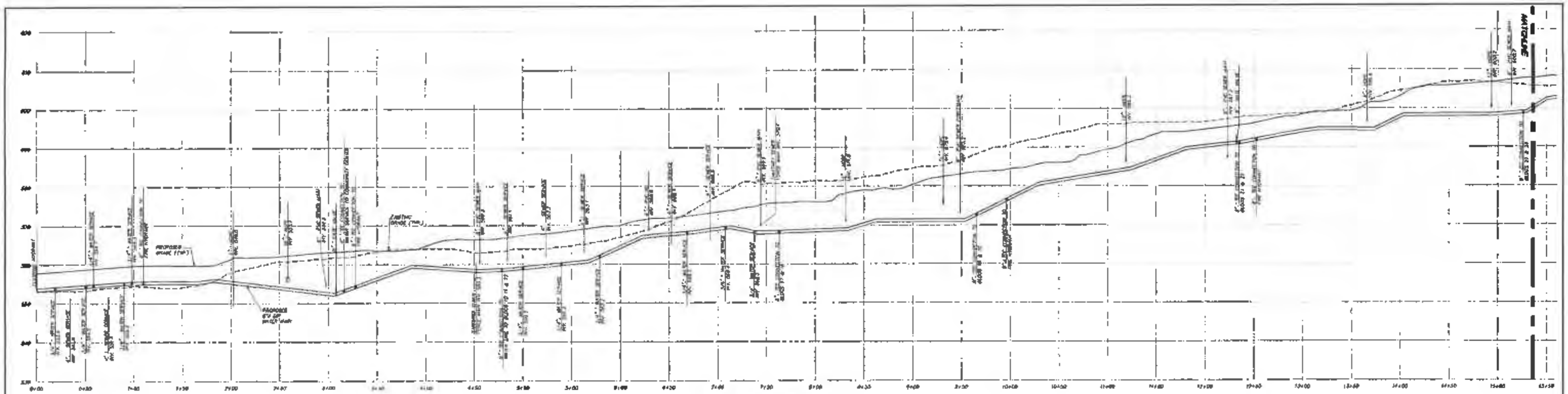
DRAWING:
SEWER PROFILES

PROJECT NUMBER	23241.100	PROJECT MANAGER	M.C.M.
DATE	04-28-25	DRAWN BY	J.W.B.
SCALE	AS NOTED	CHECKED BY	J.L.L.

DRAWING NO. PR-1
SHEET 17 OF 28

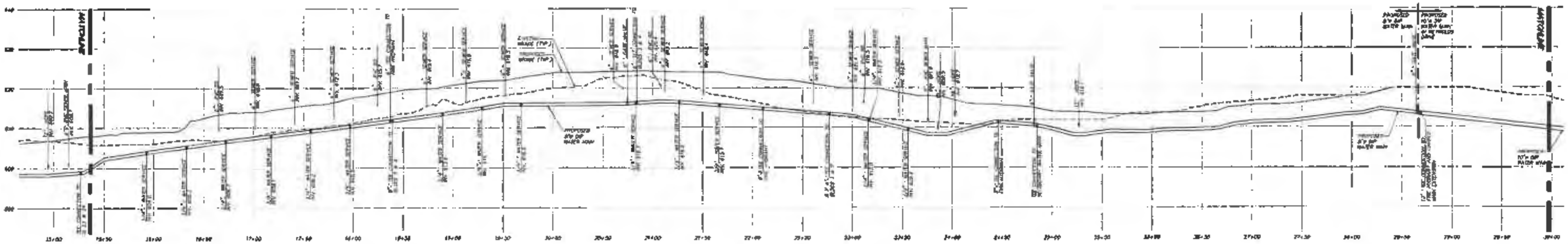


SMH 25 TO EX. SMH AND FORCE MAIN
SMH 7B TO SMH 7
SMH 25 TO EX. SMH AND FORCE MAIN
SMH 1A TO SMH 1
SMH 3A TO SMH 3
SMH 5 TO PUMP STATION #2 AND FORCE MAIN
MATCHLINE
PROPOSED GRADE (TYP.)
EXISTING GRADE (TYP.)
INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
PROJECT:
TRAILSIDE ESTATES AT SOMERS
DRAWING:
SEWER PROFILES
DATE 04-28-25
SCALE AS NOTED
DRAWING NO. PR-2



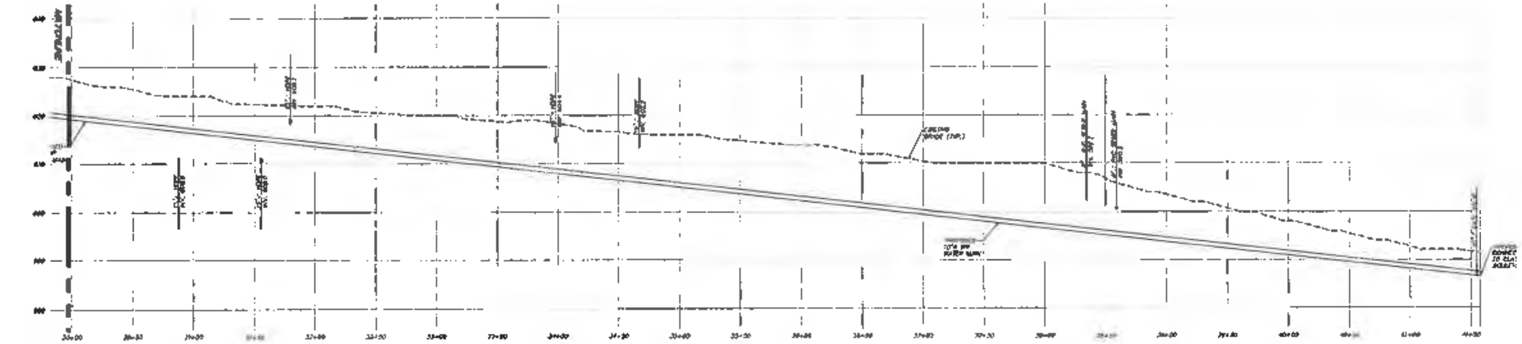
PRIMARY WATER MAIN PROFILE

SCALE: HORIZ. 1" = 40'
VER. 1" = 10'



PRIMARY WATER MAIN PROFILE

SCALE: HORIZ. 1" = 40'
VER. 1" = 10'



PRIMARY WATER MAIN PROFILE

SCALE: HORIZ. 1" = 40'
VER. 1" = 10'

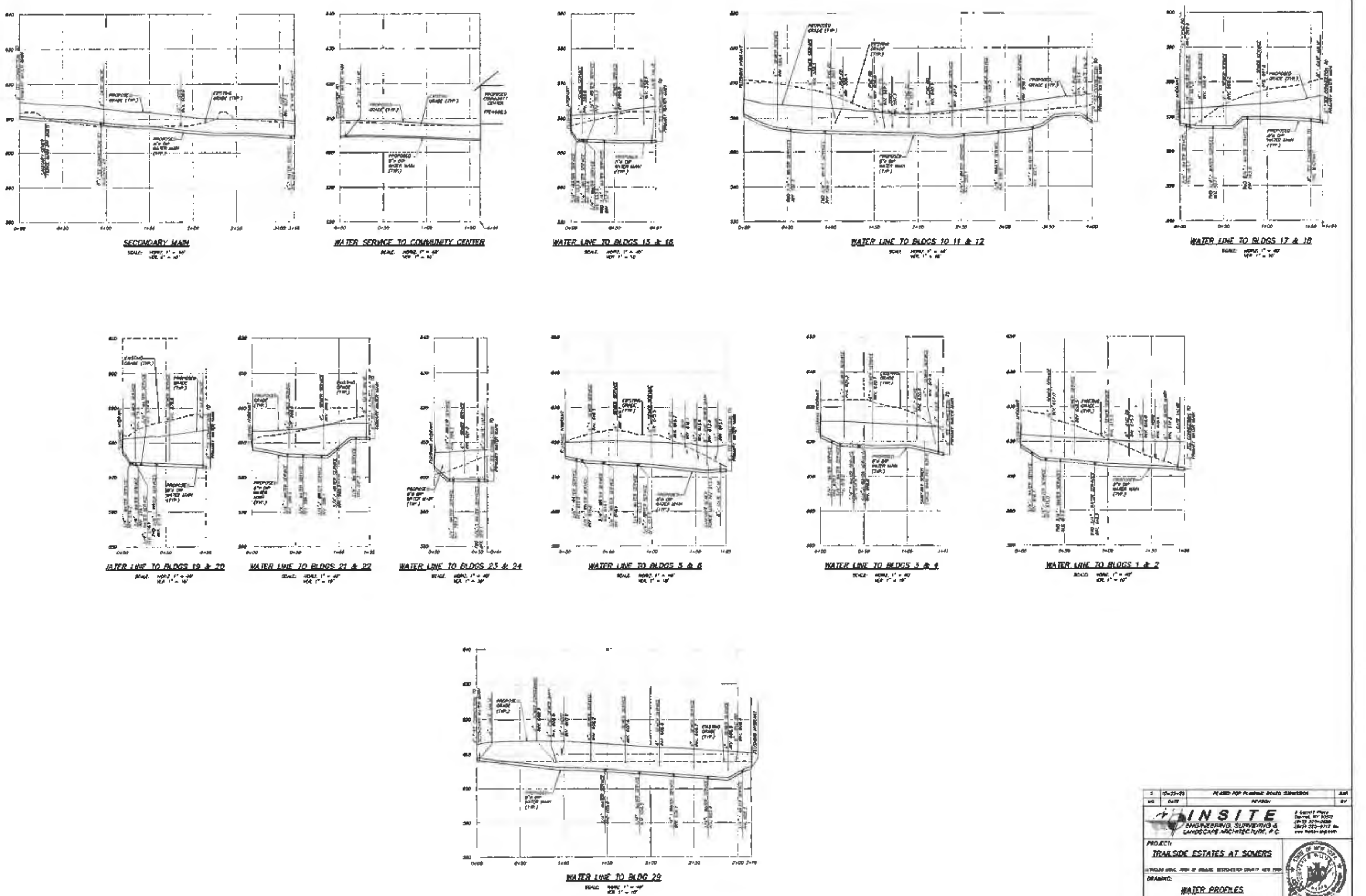
NO.	DATE	REVISION	BY
	03-23-23	REVISED FOR PLANNING BOARD SUBMISSION	

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

PROJECT:
TRAILSIDE ESTATES AT SOMERS

DRAWING:
WATER PROFILES

PROJECT NUMBER	21041.100	PROJECT MANAGER	R.D.W.	DRAWING NO.	SHEET
DATE	07-28-20	DRAWN BY	J.M.B.	PR-3	19 / 28
SCALE	AS NOTED	CHECKED BY	J.L.L.		



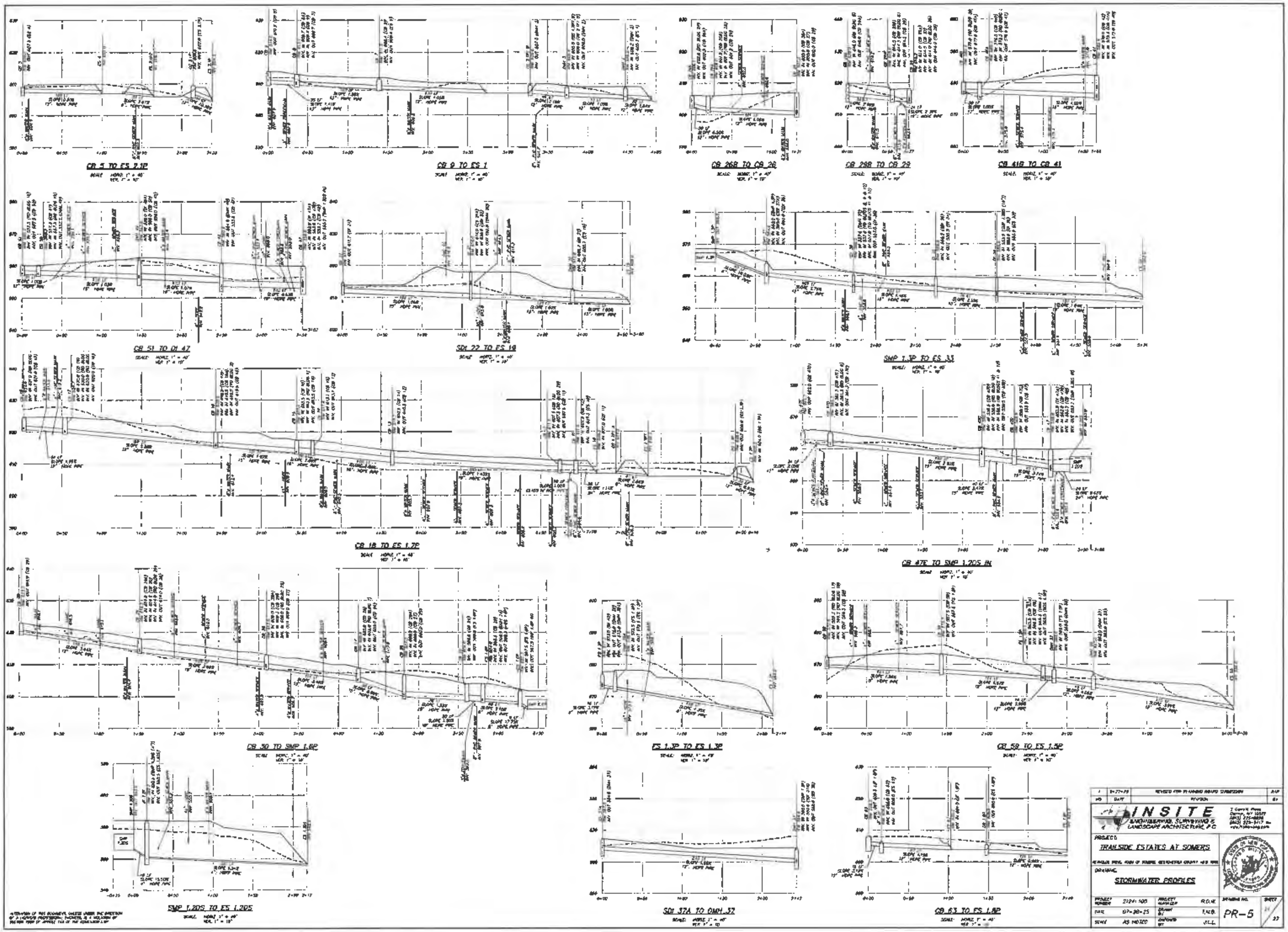
INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

PROJECT:
TRAILSIDE ESTATES AT SOMERS

DRAWING:
WATER PROFILES

DRAWING NO. PR-4

SHEET 20 / 24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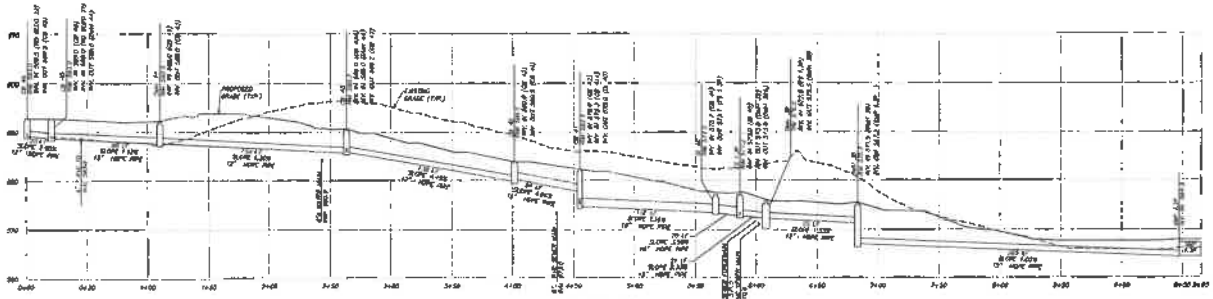
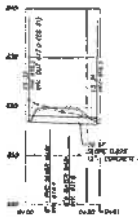
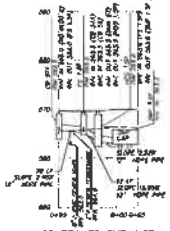
CB 9 TO ES 1
CB 26B TO CB 26
CB 29B TO CB 29
CB 41B TO CB 41
CB 51 TO DI 47
SDI 22 TO ES 19
SMP 1.3P TO ES 33
CB 18 TO ES 1.7P
CB 47E TO SMP 1.20S IN
CB 30 TO SMP 1.6P
ES 1.3P TO ES 1.3P
CB 59 TO ES 1.5P
SMP 1.20S TO ES 1.20S
SDI 37A TO DMH 37
CB 63 TO ES 1.8P
INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
PROJECT:
TRAILSIDE ESTATES AT SOMERS
DRAWING:
STORMWATER PROFILES
PROJECT NUMBER 21241.100
PROJECT MANAGER R.D.W.
DRAWN BY
CHECKED BY
SCALE AS NOTED
DRAWING NO.
PR-5
SHEET
23



CB 48 TO SMP 1.3P

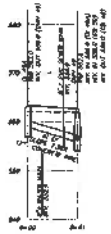


ES 32 TO ES 31

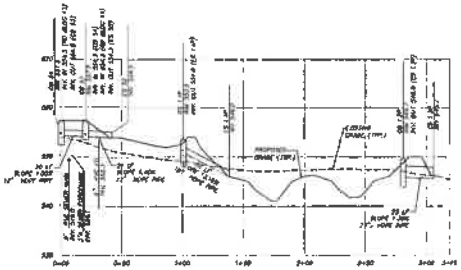


CB 57A TO SMP 1.5P

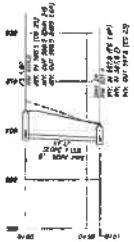
SMP 1.5P OUT TO ES 1.5P



IN 49A TO DMH 49

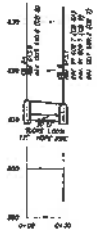


CB 54 TO ES 1.2P

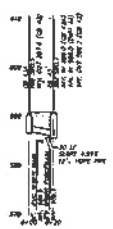


ES 1.6P TO DMH 24

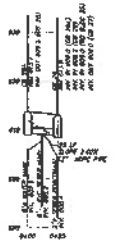
SMP 1.6P TO ES 2.3



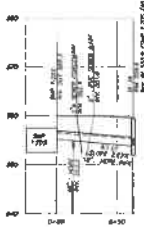
CB 8A TO CB 8



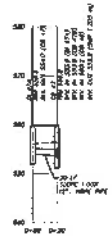
CB 43A TO CB 43



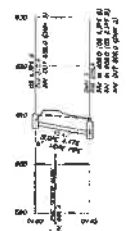
CB 28A TO CB 28



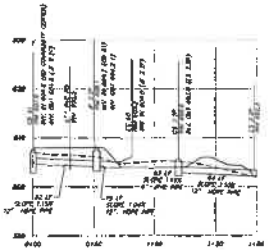
SMP 1.2DS TO DI 34



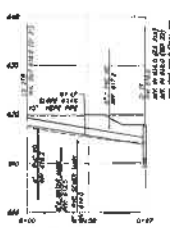
DI 67A TO CB 67



OS 1.72 TO DMH 3



CB 61 TO ES 2.2P



ES 21A TO DI 21

2	10-23-25	REVISED FOR PLANNING BOARD SUBMISSION	AJH
1	9-23-25	REVISED FOR PLANNING BOARD SUBMISSION	AJH
NO.	DATE	REVISION	BY

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Carmel, NY 10512
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(845) 225-6917 fax
www.insite-eng.com

PROJECT:
TRAILSIDE ESTATES AT SOMERS

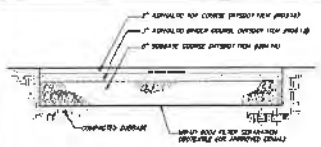
DRAWING:
STORMWATER PROFILES

PROJECT NUMBER	21241.100	PROJECT MANAGER	R.D.W.
DATE	07-26-25	DRAWN BY	J.M.B.
SCALE	AS NOTED	CHECKED BY	A.J.H.

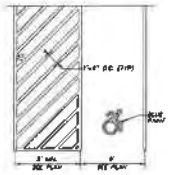
PR-6

SHEET 26 OF 27

ALTERATION OF THIS DRAWING, UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR A LICENSED LAND SURVEYOR IN ACCORDANCE WITH SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW

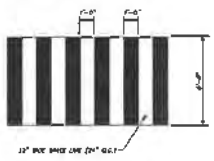


ASPHALT PAVEMENT DETAIL
(N.T.S.)

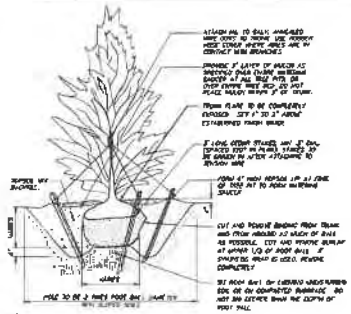


PAINTED ACCESSIBLE PARKING DETAIL
(N.T.S.)

PAINTED STOP BAR DETAIL
(N.T.S.)



CROSSWALK MARKING DETAIL
(N.T.S.)

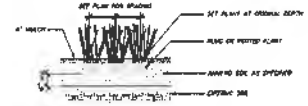


EVERGREEN TREE PLANTING DETAIL
(N.T.S.)

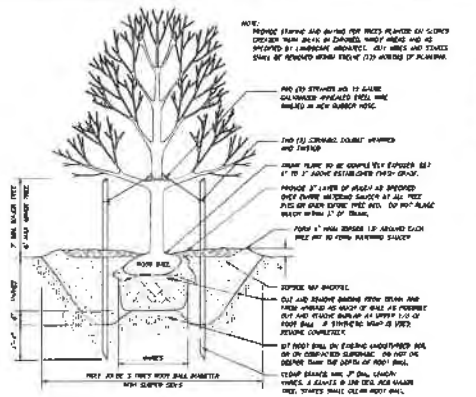
GRASS PLANT SPACING PLAN

SPACING "S"	ROW "A"	PLANTS PER 30 I.F.
12" O.C.	10.4"	61.9
15" O.C.	13.0"	49.9
18" O.C.	15.6"	41.9
21" O.C.	18.2"	35.9
24" O.C.	20.8"	31.9

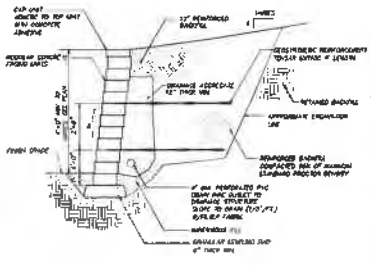
NOTES:
PLANT QUANTITIES HAVE BEEN INCREASED BY ADDING TWO ADDITIONAL ROWS TO ACCOUNT FOR PLANTING SLOPES.
NUMBER OF PLANTS PER SQ. FT. OF PLANTING SHOWN.
QUANTITY OF PLANTS AND SPACING AS NOTED IN PLANTING SCHEDULE.



PERENNIAL / ORNAMENTAL GRASS PLANTING DETAIL
(N.T.S.)

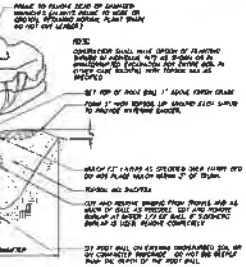


TREE PLANTING DETAIL
(N.T.S.)

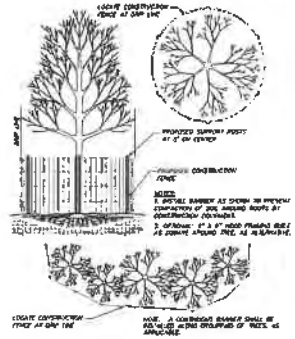


BLOCK RETAINING WALL DETAIL

NOTES:
1. A PE LICENSED WALL DESIGN SHALL BE SUBMITTED TO THE TOWN ENGINEER FOR REVIEW PRIOR TO THE CONSTRUCTION OF ANY WALL GREATER THAN 4 FEET IN HEIGHT.
2. SLOPE VEGETATION AND EROSION CONTROL MEASURES SHALL BE INSTALLED AS SOON AS POSSIBLE AFTER COMPLETION OF EACH SECTION OF WALL.
3. REMOVE TOP 6" OF ALL EXCAVATED SLOPES AND SCARIFY TO PROMOTE BONDING OF TOPSOIL.
4. DO NOT OVER EXCAVATE TRENCHES. EXCAVATE BY HAND TO FINISHED GRADE AS REQUIRED FOR PROPER PLACEMENT OF FOOTING.
5. FOUNDATION SOIL MATERIAL SHALL BE APPROVED BY THE ENGINEER PRIOR TO PLACEMENT OF CONCRETE. NOTIFY ENGINEER AT LEAST 24 HOURS IN ADVANCE OF TRENCH EXCAVATION.
6. ALL CONCRETE SHALL BE MIXED, PLACED AND CURED IN ACCORDANCE WITH ACI 301 AND ACI 318 SPECIFICATIONS AND REQUIREMENTS.
7. CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.
8. REINFORCING STEEL SHALL BE GRADE 60 DEFORMED BARS CONFORMING TO ASTM A615.
9. CONSTRUCTION JOINTS SHALL BE LOCATED AT MAXIMUM 30'-0" INTERVALS AND AT ALL CORNERS AND CHANGES IN DIRECTION.
10. CONCRETE SHALL BE PROTECTED FROM FREEZING FOR A MINIMUM OF 48 HOURS AFTER PLACEMENT.
11. BACKFILL SHALL BE PLACED IN LIFTS NOT EXCEEDING 8" AND COMPACTED TO 95% OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D698 (STANDARD PROCTOR).
12. BACKFILL SHALL BE PLACED EVENLY ON BOTH SIDES OF WALL TO PREVENT UNBALANCED LOADING.
13. DRAINAGE AGGREGATE SHALL BE INSTALLED DIRECTLY BEHIND THE WALL FOR THE FULL HEIGHT AND LENGTH OF WALL AS SHOWN ON THE DRAWINGS.
14. DRAINAGE AGGREGATE SHALL BE WRAPPED IN FILTER FABRIC TO PREVENT MIGRATION OF FINES.
15. A 4" DIAMETER PERFORATED PVC DRAIN PIPE SHALL BE INSTALLED AT THE BASE OF THE WALL AT 50'-0" INTERVALS OR AS SHOWN ON THE DRAWINGS. PIPE SHALL DISCHARGE TO DAYLIGHT OR TO A STORM DRAIN SYSTEM.
16. GEOGRID REINFORCEMENT SHALL BE PLACED AT THE LOCATIONS AND LENGTHS SHOWN ON THE DRAWINGS. GEOGRID SHALL BE PLACED PERPENDICULAR TO THE WALL FACE AND EXTEND INTO THE RETAINED SOIL MASS AS SHOWN.
17. GEOGRID SHALL BE PLACED WITH THE STRONGEST DIRECTION PERPENDICULAR TO THE WALL FACE. OVERLAPPING OF GEOGRID LAYERS IS NOT PERMITTED.
18. GEOGRID SHALL BE PLACED ON A LEVEL BEDDING SURFACE AND PULLED TAUT TO REMOVE SLACK BEFORE PLACEMENT OF THE NEXT COURSE OF BLOCKS.
19. GEOGRID SHALL BE PROTECTED FROM DAMAGE DURING PLACEMENT AND COMPACTION OF BACKFILL. DAMAGED GEOGRID SHALL BE REPLACED AT NO ADDITIONAL COST.
20. THE FACE BLOCKS SHALL BE PLACED WITH A MAXIMUM BATTER OF 1" PER COURSE. BATTER SHALL BE ACHIEVED BY SETBACK OF EACH COURSE FROM THE COURSE BELOW.
21. CAP BLOCKS SHALL BE GLUED TO THE UNITS BELOW WITH A CONSTRUCTION ADHESIVE APPROVED BY THE MANUFACTURER.
22. THE FIRST COURSE OF BLOCKS SHALL BE EMBEDDED AT LEAST 6" BELOW FINISHED GRADE AT THE FACE OF THE WALL.
23. BACKFILL SHALL BE COMPACTED IN LIFTS NOT EXCEEDING 8" IN LOOSE THICKNESS. COMPACTION SHALL BE ACHIEVED WITH LIGHT HAND-OPERATED EQUIPMENT.
24. DRAINAGE AGGREGATE SHALL BE CLEAN, CRUSHED STONE, SIZE NO. 57.
25. FOR WALLS TO BE EMBEDDED, CONTACT ALL UTILITIES AT LEAST 72 HOURS IN ADVANCE OF EXCAVATION.
26. ALL WORK SHALL COMPLY WITH OSHA REGULATIONS.
27. CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD BEFORE ORDERING MATERIALS OR BEGINNING CONSTRUCTION.
28. ANY DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
29. THE CONTRACTOR SHALL MAINTAIN A CLEAN AND ORDERLY WORK SITE AT ALL TIMES.
30. ALL DISTURBED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER UPON COMPLETION OF WORK.



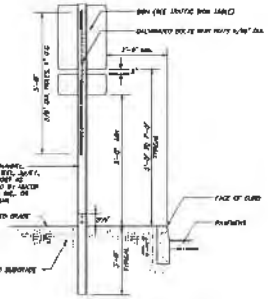
SHRUB PLANTING DETAIL
(N.T.S.)



TREE PROTECTION DETAIL
(N.T.S.)

TREE PROTECTION NOTES:

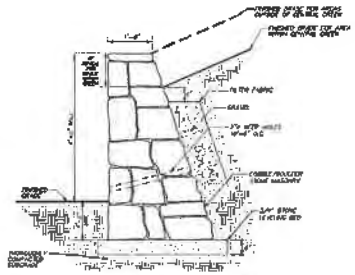
1. Areas to be protected to include all vegetation, trees and soil inside the limit of disturbance shown on the plan or as directed by the Landscape Architect prior to start of construction.
2. Install tree protection measures prior to start of any clearing or construction.
3. No encroachment whatsoever shall be permitted due to storage of soil or construction materials shall be stockpiled or stored under the canopy of trees to be preserved.
4. Refrain from removing branches, consistent with maintenance, or any damage whatsoever done to remain. Cover wounds and any injuries to the bark immediately.
5. Carefully dig back any trees branches that interfere with construction equipment.
6. When trenching for utilities is required within a tree drip line, backfilling under and around roots shall be by hand digging. If roots 2" or larger are encountered immediately adjacent to the location of the trenching, and cannot be cut smoothly, the trench shall be hand dug under the supervision of a Consulting Arborist or Landscape Architect to a depth that the tree preservation shall be maintained. All exposed roots to be kept moist and covered with burlap or backfilled as soon as possible. Do not refill trenches with soil that contains large rocks, concrete or other debris which may cause damage to the roots.
7. If tree protection fencing is to be removed for any reason, it shall be replaced as soon as possible and the area inspected by the Landscape Architect.
8. Any tree damaged during construction shall be immediately reported to the Landscape Architect for evaluation.



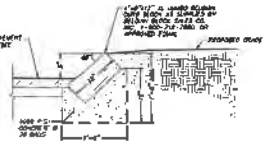
TRAFFIC SIGN DETAIL
(N.T.S.)

SIGN DATA TABLE

LOCATION NO.	SIGN	SIGN NUMBER	SIZE OF SIGN (W x H)	DESCRIPTION
1	STOP	R1-1	30" x 30"	Mounted on Post
2		R3-2	30" x 30"	White Background Black Legend Post Mounted Double Faced
3		R3-1	30" x 36"	White Background Black Legend Post Mounted Single Faced
4A	CROSSWALK	R9-15	12" x 36"	Black Background White Arrow Post Mounted
4B	CROSSWALK	R9-15	12" x 36"	Black Background White Arrow Post Mounted
5	ONE WAY	R6-1R	36" x 12" 42" x 24"	White on Post Black on White
6	NO OUTLET	M4-9	18" x 18"	R.P.M.
7	SPEED LIMIT 25	R2-1	12" x 18"	Black on White



STONE RETAINING WALL DETAIL
(N.T.S.)



MOUNTABLE BELGIAN BLOCK CURB DETAIL
(N.T.S.)

No.	DATE	REVISION	BY
5	10-22-25	REVISED PER PLANNING BOARD SUBMISSION	AJB
4	7-28-25	REVISED PER PLANNING BOARD SUBMISSION	MW
3	4-28-25	REVISED PER PLANNING BOARD SUBMISSION	PPL
2	6-24-24	REVISED PER BUREAU OF FIRE PREVENTION COMMENTS	MC
1	5-15-24	REVISED PER TOWN SUBMISSION	CWR

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Somers, NY 10589
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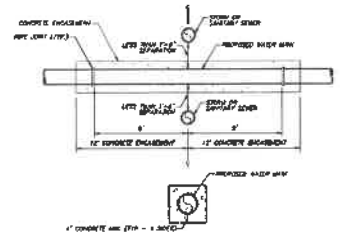
PROJECT:
TRAILSIDE ESTATES AT SOMERS
TAX MAP 15.-1-1 TOWN OF SOMERS, WESTCHESTER COUNTY, NEW YORK

DRAWING:
DETAILS

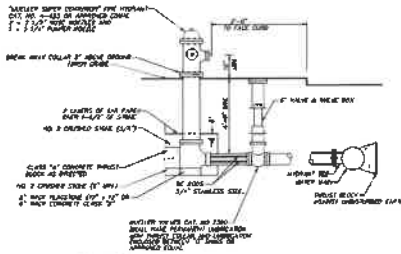
PROJECT NUMBER	24244.100	PROJECT MANAGER	M.D.W.
DATE	11-17-23	DRAWN BY	T.S.M.
SCALE	NTS	CHECKED BY	J.J.L.

DRAWING NO. D-1
SHEET 13 OF 28

ALTERATION OF THIS DOCUMENT UNLESS UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, IS A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW.

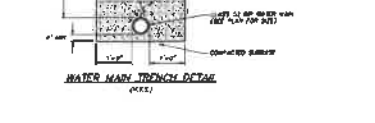


WATER MAIN CONCRETE ENCASEMENT DETAIL
(N.T.S.)



HYDRANT DETAIL
(N.T.S.)

HYDRANT NOTES:
1. HYDRANT OUTLET SHALL FACE STREET.
2. HOSE OUTLETS SHALL BE PARALLEL TO STREET.
3. L-1/2" STEAM SHALL BE PLACED AROUND THE HYDRANT FROM THE BOTTOM OF THE ELBOW, BUT AT LEAST 6" BELOW THE BASE OF THE HYDRANT, TO 6" ABOVE THE WATER OPENING AND TO A DISTANCE OF 12" AROUND THE ELBOW.
4. HYDRANT DRAINS, WHERE REQUIRED, SHALL NOT BE ABOVE THE SEASONAL GROUND WATER TABLE. IF GROUND WATER IS ENCOUNTERED WITHIN 7'-0" OF SURFACE, DRY WELL(S) (DRAINS SHOULD BE PLUGGED). WHERE THE DRAINS ARE PLUGGED, THE BARRELS MUST BE PUMPED DRY AFTER EVERY DRAINING OPERATION. WHERE HYDRANT DRAINS ARE NOT PLUGGED, A GRAVEL PACKED OR DRY WELL SHALL BE PROVIDED UNLESS THE MATERIAL SURROUNDING THE BARREL IS GRAVEL OR COARSE SAND. HYDRANT DRAIN PIPES MUST BE CONNECTED TO OR LOCATED WITHIN 10 FEET OF SANITARY SEWERS OR STORM DRAINS.



WATER MAIN TRENCH DETAIL
(N.T.S.)

DUCTILE IRON PIPE WATER MAIN NOTES:

1. All water mains shall be 6" diameter (minimum) or 10" diameter (along Windsor Road as under US Route 9) unless 8" mains are required under Town Law, Ordinance, Regulation or by the Westchester County Health Department, in private subdivisions and non-residential connections, but shall in no case be smaller than 6" diameter. All water mains shall be constructed in accordance with the latest edition of AWWA C600.
2. All water main fittings shall be Class 350 ductile iron mechanical joint, also "All Cast Iron" compression joint, properly in accordance with the latest AWWA/ANSI C110/A21.10 or mitered mechanical joint connections.
3. All water mains and appurtenances shall be installed in accordance with the latest edition of AWWA C600.
4. Gate valves shall be "resilient" or wedge-type, non-rising stem, conventional sealing, angled seated, counterclockwise to open, mechanical joint ends, complete with valve box and cover. Valves shall be manufactured in accordance with AWWA C509 and C515 and shall be suitable for a working water pressure of 150 psi. Valves shall be furnished with a 2" square operating nut.
5. Every hub joint shall be secured with "Tyton Joint" rubber gasket joint packings unless otherwise specified by the Design Engineer, and with joint harnesses.
6. All water mains and appurtenances (including minor bends) shall be in the right-of-way and on a specially located and designed location by the Westchester Joint Water Works, Design Engineer and the Westchester County Department of Health. They shall be laid in accordance with the latest edition of AWWA Standards C600.
7. All water mains and appurtenances shall be flushed, disinfected, and tested to the satisfaction of the Design Engineer, and the Westchester County Department of Health. They shall be laid in accordance with the latest edition of AWWA Standards C600, except for section 4.2.1 "No Lead Material" will not be allowed. Bacteriological reports must be submitted as noted in the Specification of Construction. Results must be accepted by WJWW prior to use of main.
8. Water mains shall be laid at least 10 feet horizontally from any existing or proposed sanitary or storm sewer. Where this distance shall be measured edge to edge. In cases where it is not practical to maintain a 10 foot separation, the Design Engineer and the Westchester County Department of Health may approve alternate installation procedure on case-by-case basis, if supported by data from the Design Engineer prior to the installation of the water main.
9. Where mains crossing sanitary or storm sewer mains shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sewer. This shall be the case where the water main is either crossing the sewer main or is parallel to the sewer main. Where the 18 inch separation cannot be maintained, one of the pipelines must be rerouted so that the sewer joints are as equidistant and as far as possible from the water main joints. Where a water main crosses under a sewer, adequate structural support shall be provided for the sewer to maintain line and grade. The relief connection shall be made by using proper sewer connections. In cases where it is not practical to maintain a 10 foot separation, the Design Engineer and Westchester County Department of Health may allow deviation with special construction procedure being used, as approved by the Design Engineer prior to the installation of the water line.
10. The Design Engineer, Westchester County Department of Health, and Town of Somers shall be notified forty eight (48) hours before chlorination is started.
11. The water mains shall not be placed in service until a certificate of completion satisfactory has been submitted to and accepted by the Westchester County Department of Health.
12. The Westchester County Department of Health and the Town of Somers must be notified forty eight (48) hours prior to pressure testing the water main improvements.
13. Connection of pipes to water main shall not exceed 30% of the maximum deflection recommended by the manufacturer, or as ordered by the Design Engineer.
14. Final inspection of all things shall be supervised in the field by the Design Engineer.
15. The Design Engineer shall be present at tunnel blasts and excavations wherever prior to blasting.
16. No contractor shall work on the water main construction shall start.

DUCTILE IRON PIPE WATER TESTING PROCEDURES

TESTS ON PRESSURE MAINS FOR TRANSMISSION OF WATER

A. Hydrostatic Pressure Test
Hydrostatic testing shall be performed in accordance with the latest edition of AWWA C600, Section 6.2 "Hydrostatic Testing".

1. Test pressure shall be as specified or, where no pressure is indicated, shall not be less than the maximum working pressure or 150 psi, whichever is higher.
2. Test pressure shall be held for the period of one hour. If there occurs a drop greater than 5 psi during the test, repairs shall be made and the test repeated until the drop in pressure does not exceed 5 psi.

B. Leakage Test
1. The leakage test shall be conducted concurrently with the pressure test.
2. The rate of makeup shall be determined at 10-minute intervals by means of volumetric measurement or by pumping water from a graduated container. The test shall be made over one hour or such greater time as is necessary to deliver 50 gallons when, by these procedures, 10-minute intervals, that the net pressure must be maintained for at least another 10 minutes.
   a. At the conclusion of the test, the pressure shall be released in the presence of the engineer.
3. All exposed pipes shall be examined during the test and all leaks, defective materials or joints shall be repaired or removed before repeating the test.
4. The allowable leakage will be determined by the following formula.

$$L = \frac{SD\sqrt{P}}{C}$$

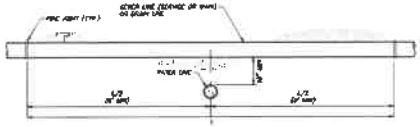
Where:
L = quantity of makeup water, in gallons per hour
S = length of pipe tested, in feet
D = nominal diameter of the pipe, in inches
P = average test pressure during the hydrostatic test, in pounds per square inch (gauge)

5. Hydrostatic of the above allowable, any visibly leaky joint be unacceptably disposed.
6. The new members shall be tested.

C. Chlorination
Prior to placing the water main into service, the new pipe shall be chlorinated and disinfected in accordance with the latest edition of AWWA C651, The New A.W.W.A. "The Continuous Feed Method". The "slug" method will not be accepted.

1. All work under any section shall be performed in the presence of the Design Engineer, and a representative of the public health authority having jurisdiction, as required.
2. Chlorination shall be attended such that personnel are trained with an experienced during normal daylight working hours. No procedure shall be performed during inclement weather or if public water is present in the pipeline.
3. Chlorination shall be for the use of a solution of water and liquid chlorine, although other methods may be satisfactorily and the amount used be determined in the type of materials as specified.
4. After an application of dry and foreign matter shall be removed by a thorough cleaning and flushing of the pipeline if necessary.
5. The pipeline section shall be introduced a chlorine through appropriate pipes and valves at the beginning of the section to be disinfected, by means of heavily calibrated device, into the structure, or other approved methods.
6. The concentration of the chlorine solution used on any points of a completed section shall be such that all water in the section has come in contact with chlorine in the area or more dangerous and shall be retained for the required time for chlorine contact, but shall be between 25 and 50 parts per million (PPM) or milligrams per liter (mg/L).
7. The chlorine treated water shall be removed or flow out or chlorinate at least 24 hours, using properly prepared flushing the chlorine content of water used shall be satisfactory when the treated residuals shall be specified.
8. The chlorine treated water shall be not less than 25 PPM (or mg/L) or any point in the pipe or structure at the end of the 24-hour retention period.
9. When existing mains by or other modified structures and pipelines of unspecified type or construction is a contaminated pipeline subsection not less than 300 PPM (mg/L) or more chlorine. The section must be applied with a swab or sprayed on the entire inner surface of the pipeline or structure. The temporary chlorination shall remain in contact with the strong solution solution for at least 30 minutes.
10. After the required treatment or groundwater water in the pipe or structure, they shall be thoroughly flushed with the approved water until test, both chlorine concentration and bacteriological tests will be made as specified in the AWWA Manual M12 or latest water supply system.
11. The disposal of chlorinated water that may pose a chlorine shall be such that it will not damage property or any vegetation, soil, or surface fish.
12. The Contractor shall make all arrangements for the removal of water quality by an approved laboratory. Two consecutive samples taken at least 24 hours apart (at least 24 hours apart), shall be collected from the new water main, in such a way and from the end of the line and at least one and every 1,000 LF of the main water main, and may not from the end of the line and at least one and every 1,000 feet. Samples for all tests must be approved by the Design Engineer and the public health authority having jurisdiction.
13. All water quality requirements shall be tested prior to the connection of the water through the line system to a public supply or the use of the line system.

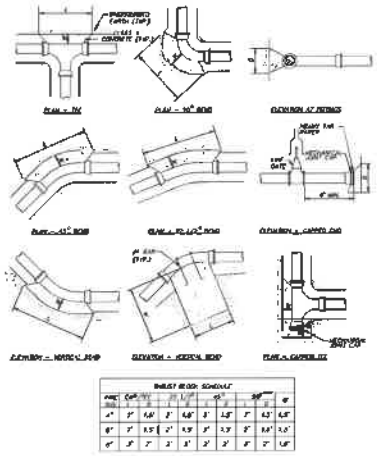
WATER LINE CROSSING UNDER
SANITARY SEWER LINE OR STORM DRAIN LINE



WATER LINE CROSSING UNDER
SANITARY SEWER LINE OR STORM DRAIN LINE

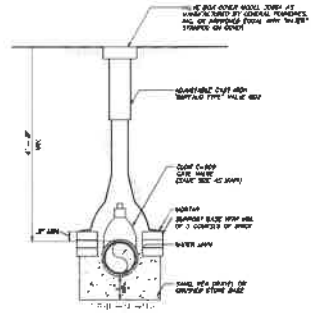
NOTES:
1. WHEN 48" SEPARATION CANNOT BE MAINTAINED, THE WATER LINE SHALL BE ENCASED IN CONCRETE (NOT 60/40) WITH PRIOR APPROVAL OF THE DESIGN ENGINEER AND DEPARTMENT OF HEALTH.
2. PRESSURE PIPE AND FITTING RESISTANCE AS REQUIRED.
3. SEE "B" ALTERNATION APPLIES TO WATER MAINS AND WATER SERVICE CONNECTIONS.

WATER LINE CROSSING DETAIL
(N.T.S.)

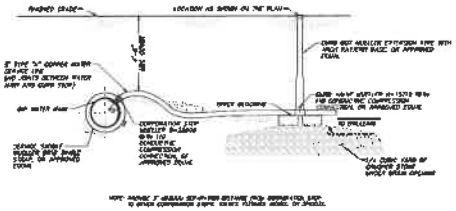


THRUST BLOCK DETAILS
(N.T.S.)

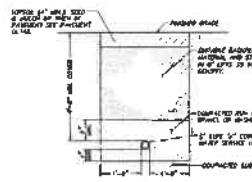
PIPE SIZE	90° BEND: MINIMUM BEARING AREA (SQUARE FEET)			45° BEND			22½° BEND			11¼°
	A	B	C	A	B	C	A	B	C	
4"	2'	1.0'	2'	0.8'	2'	2.0'	1'	0.5'	2'	0.5'
6"	2'	1.5'	2'	1.2'	2'	3.0'	2'	0.8'	2'	0.5'
8"	3'	2'	2'	2'	2'	4'	2'	1'	2'	1.0'



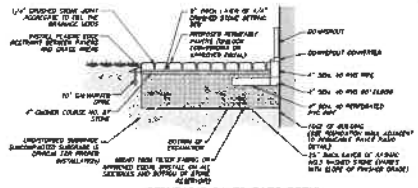
WATER MAIN GATE VALVE AND VALVE BOX DETAIL
(N.T.S.)



WATER SERVICE LINE CONNECTION TO DIP WATER MAIN DETAIL
(N.T.S.)



WATER SERVICE LINE TRENCH DETAIL
(N.T.S.)



PERMEABLE PAVER PATIO DETAIL
FOR UNITS OF THROUGH 8"
(N.T.S.)

PERMEABLE PAVER CONSTRUCTION GUIDELINES:

1. SUB-GRADE CANNOT BE OVER-COMPACTED WHEN THE ANCHORING OF THE GEOTEXTILE.
2. EXTREMELY HARD OR LOW PERMEABILITY SOILS SHOULD BE AVOIDED DURING CONSTRUCTION OF PERVIOUS ASPHALT PAVEMENTS.
3. AREAS FOR PERVIOUS PAVEMENT SYSTEMS SHALL BE ACCURATELY MARKED BEFORE ANY SITE WORK BEGINS TO AVOID SOIL DISTURBANCE AND COMPACTION DURING CONSTRUCTION.
4. PERVIOUS PAVEMENT SHOULD BE INSTALLED TOWARD THE END OF THE CONSTRUCTION PERIOD, UNTIL ALL CONSTRUCTION SHALL BE COMPLETED AND STABILIZED BEFORE CONNECTION TO PERVIOUS PAVEMENT SYSTEM. A BERM AND TEMPORARY SEDIMENT TRAP SHALL BE ESTABLISHED OVER ANY DISTURBED PERVIOUS OPERATIONS AREAS BEFORE PAVERS CAN BE ACCEPTED INTO THE FACILITY.
5. SUBGRADE SOILS SHALL BE EXCAVATED TO PROPOSED DEPTH FOLLOWING EXCAVATION EQUIPMENT SHALL NOT BE OPERATED ON SUBGRADE TO PREVENT EXCESSIVE COMPACTION. COMPACTION PRIOR TO PLACEMENT OF GEOTEXTILE AND STONE BED. ANY COMPACTION OF SUBGRADE WILL CAUSED ACCELERATION OF ONE WATERTIGHT AQUIFER SURFACE WATERING. ANY MATERIAL SHALL BE REMOVED WITH UTMOST DISCRETION AND THE UNDISTURBED SOILS SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES WITH A RAKE OR EQUIVALENT AND LIGHT TRACTOR.
6. PLACE GEOTEXTILE AND PROVIDE BED ACCORDANCE MANUFACTURER'S RECOMMENDATIONS. ADJACENT STRIPS OF FILTER CLOTH SHALL OVERLAP AT LEAST 18 INCHES. FABRIC SHALL BE SECURED AT LEAST 6 FEET OUTSIDE OF BED. THE FIRST LIFT SHALL CONSIST OF PLACE LAYER, ALL BANK SIDES EXPOSED TO BEDS ARE STABILIZED AND VEGETATED.
7. AT THE TIME OF FINAL GRADING, PAVERS SHOULD BE SET BACK TO THE EDGE OF THE BED.
8. INSTALL AGGREGATE COURSE IN LIFTS OF 6-10 INCHES, WITH COMPLIANT MOVEMENT OVER 3 PASSES AND ADVANCED TO A MINIMAL INITIAL AGGREGATE TO ENSURE ADHESION OF THE ORDINANCE.

5	05-23-25	REVISED FOR PLANNING BOARD SUBMISSION	KMP
4	7-28-23	REVISED FOR PLANNING BOARD SUBMISSION	KMP
3	6-26-23	REVISED FOR PLANNING BOARD SUBMISSION	CTL
2	3-21-21	REVISED PER BUREAU OF FIRE PREVENTION COMMENTS	JJB
1	8-30-19	REVISED FOR TOWN SUBMISSION	CDC
NO	DATE	REVISED	BY

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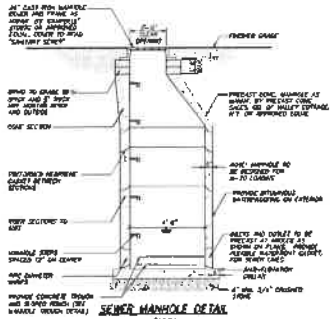
PROJECT:
TRAILSIDE ESTATES AT SOMERS

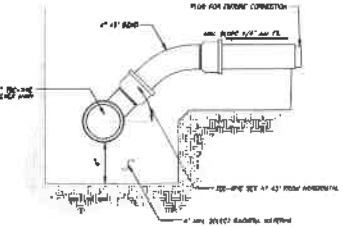
DRAWING:
DETAILS

PROJECT NUMBER	212-11.100	PROJECT ENGINEER	P.B.W.
DATE	11-17-23	DESIGN BY	T.S.M.
SCALE	N/S	DRAWING BY	A.L.

DRAWING NO. 0-2 SHEET 24 OF 28



SEWER MANHOLE DETAIL
(N.T.S.)



SEWER SERVICE CONNECTION DETAIL
(N.T.S.)

SEWER FORCE MAIN TRENCH DETAIL
(N.T.S.)

SEWER MAIN NOTES

1. All sewer mains shown on these plans shall be 8" diameter polyvinyl chloride (PVC) SDR 35, or sewer service risers on these plans shall be 4" diameter polyvinyl chloride (PVC) SDR 35.
2. Sewers shall be laid at least 10 feet horizontally from any existing or proposed water main. The distance shall be measured edge to edge. In cases where it is not practical to maintain a 10 foot horizontal separation, the Public Engineer and Baltimore County Department of Health may allow deviation with water mains or a case-iron pipe sleeve, if approved by other than the Design Engineer, the horizontal separation may approach 6 feet.
3. Sewers crossing water mains shall be laid to provide a minimum vertical distance of 18 inches between the outside of the water main and the outside of the sewer. This shall be accomplished by laying the water main at a sufficient depth below the sewer main grade. Where a sewer main crosses under a water main, adequate structural support shall be provided for the sewer main and joints, as water mains 6 is not practical to maintain a 18 inch separation, the sewer shall be constructed of water pipe and joints equivalent to those specified for water mains crossing sewers, and one length of water pipe shall be centered on the crossing, if supported by stone bedding, special support shall be provided for the pipe. The vertical separation also applies to service connections.
4. Sanitary sewer manholes shall not be located in conjunction with any water mains as the sewers are to be constructed (see, and in accordance with the latest Baltimore County Department of Health Rules & Regulations.
5. Plugging of the manholes with the plugging shall not be permitted backfilled of manholes have been placed in their intended permanently at each sewer.
6. Testing/tests / manholes taken samples shall not exceed 500 gallons per inch of pipe diameter per mile per day. Sewer lines shall be pressured under a minimum positive head of 2 feet 65 feet for ASTM sewer. Line pressure for testing is permitted for this sewer and should conform to ASTM C828 (Water testing) is permitted for this sewer, but is not permitted for this type.
7. The owner/contractor shall be responsible for adequate supervision of the construction of this sanitary sewer that has been approved by the Baltimore County Department of Health.
8. The owner/developer shall be responsible for providing three (3) copies of as-built drawings signed and sealed by a licensed and registered New York State Professional Engineer to the Westchester County Department of Health at the completion of the construction.
9. The Design Engineer, manufacturer County Department of Health, and Town Engineering Department shall be notified forty eight (48) hours before construction is started.
10. Any sanitary sewer pumps shall not be placed into service with a certificate of satisfaction indicating they have been satisfied in and tested by the Baltimore County Department of Health.
11. The Westchester County Department of Health and the New York City Department of Environmental Protection must be notified forty eight (48) hours prior to pressure testing the sewer main improvements.
12. Should a sewer be a severe to be removed because [illegible] to 24" opening of material must be [illegible] to be making "RELIEF" and to have an 1/4" to 1/2" rock voids. (use soil covers where necessary)
13. The diameter of all manholes shall be covered with an approved asphalt waterproofing.
14. Concrete base caps shall be of portland cement with a minimum design strength of 3,000 psi.
15. The Architects shall submit shop drawings of the precast manholes to the Design Engineer for review and acceptance.
16. Precast manholes shall have sufficient [illegible] of 0.12 cu. in. per sq. in. per 24 hours as determined in accordance with A.S.T.M. C-478 and shall meet all ASTM design loading.
17. Precast base sections to have the required number of gaskets and openings as shown and specified.
18. Precast manhole sections shall employ a watertight gasket arrangement between each section approved by the Design Engineer.
19. Openings for pipes shall be circular in diameter based [illegible] or joints, and pipe connections to manholes shall be resilient and watertight and acceptable with the type of pipe being used.
20. The length of pipe sections or stubs may not be greater than 3'-0".
21. Precast manholes under 5'-0" deep shall have a "flat top" slab roof.
22. Contractor to submit the pipe manufacturer to maintain even grades a minimum of 0.5% slope between manholes.

SEWER TESTING PROCEDURES

NOTES FOR NON-PRESSURE GRAVITY FOR TRANSPORT OF SEWAGE

The following shall be considered as additional information or for purposes of

A. Infiltration Testing

1. Infiltration tests shall be made by filling a section or pipeline with water and measuring the decrease in height.
2. The head of water at the beginning of the test shall be at least 2 feet above the highest pipe where the section being tested 10 feet or higher measured at the following:
   a. Sewer construction on easements where the section being tested are above ground water for the test shall be 2 feet above the highest portion of the groundwater.
   b. Sewers constructed of 2 feet or greater above the highest pipe where any part of the sewer line to be tested the test method is a minimum head of water about 0.5 feet, shorter method of testing shall be employed.

B. Exfiltration Testing

1. Exfiltration tests will be allowed only when the water table adjacent determines the groundwater level to be 2 feet or more above the highest pipe of the section being tested.
2. Allowable test shall be made by measuring the quantity of water supply into or outside of pipeline.
3. Measurements of the differences shall be by means of a calibrated weir construction as the owner of the section being tested.

C. Allowable Leakage for Non-Pressure Pipeline

1. The allowable leakage (infiltration or exfiltration) for non-pressure pipeline shall not exceed the following in gallons per 24 hours per inch of diameter per mile feet of pipe:

Concrete pipe or manholes or concrete pipe joints	Gallons per inch diameter per mile per 24 hours
Polyvinyl chloride, ductile pipe or manholes and nylon pipe	100
Cast iron pipe	0

2. Regardless of the above allowable leakage, any visible leak observed shall be permanently located.

D. Air Pressure Air Testing

1. Air testing for groundwater shall not be performed with the groundwater level high saturation.
2. Air pressure or test shall conform to ASTM F 1417 or ASTM 7049-89, Section 8.7.2. Air testing and time allowed for a 0.5 psi drop in pressure for pipe shall not be allowed less than 5 minutes.
3. An excess of allowance shall be accepted and repaired prior to testing.
4. Low air shall be held at the starting pressure of 3.5 to 4.0 psi gauge. No time allowed for the 3.5 psi drop in pressure, measured in minutes, will be computed based on the size and length of the test section by the Engineer.
   a. When groundwater is present, the pressure test pressure of 3 psi shall be added any head pressure due to the groundwater level.
   b. The minimum pressure allowed under any condition in an empty pipe is 10 psig. The maximum groundwater test to be taken by 5 ft from above the top of the pipe.
5. The equipment required for air testing shall be furnished by the Contractor and shall include the necessary compressor, valves, pressure and gages to allow for the monitoring of the pressure. All personnel shall be made non-hazardous.
   a. The test gauge shall be sized to allow for the measurement of the 0.5 psi pressure drop within the test period and shall be set at a location as directed by the Engineer.

E. Deflection Testing

1. Deflection testing shall be performed 30 days after backfilling. The test shall be made by passing a test or cylinder no less than 95% of the pipe diameter through the pipe. The test shall be performed without mechanical pulling through the pipe.

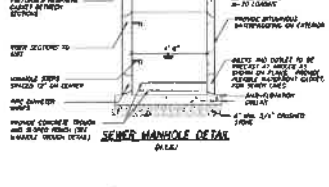
F. Manhole Testing

1. General
   a. Each manhole shall be tested by water infiltration, exfiltration or vacuum testing.
   b. A manhole will be acceptable if the leakage does not exceed an amount of one gallon per vertical foot of depth for 24 hours. Regardless of the allowable leakage, any visible deviation shall be corrected/repaired.
2. Exfiltration tests shall be performed after backfilling. The test shall be made by filling the manhole with water and observing the level for a minimum of eight hours.
3. Infiltration tests shall be performed after backfilling when the groundwater level is above the base of the manhole section or a pipeline diameter.
4. Vacuum testing shall be performed after backfilling in accordance with the latest revision of ASTM C1244-93 as follows:
   a. The test head shall be placed at the top of the manhole in accordance with the manufacturer's recommendations.
   b. A vacuum of 10 in. of mercury shall be drawn on the manhole. The valve on the vacuum line to the test head closed, and the vacuum pump shut off. The time shall be measured for the vacuum to drop to 9 in. of mercury.
   c. The manhole's test pass if the time for the vacuum reading to drop from 10 in. of mercury to 9 in. of mercury meets or exceeds the values indicated below.

Minimum Test Times for Vented Manhole Diameters in Seconds

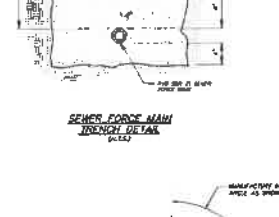
Depth (ft)	Diameter (inches) 48	60
	Time (seconds)	
8 or less	75	90
10	90	112
12	105	135
14	120	157
16	135	180
18	150	202
20	165	225

   d. If the manhole fails the initial test, necessary repairs shall be made by an approved method. The manhole shall then be retested prior to backfilling and is required.

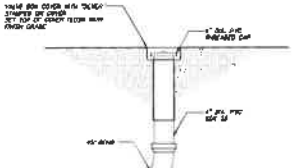


SEWER SERVICE LINE CLEANOUT DETAIL
(N.T.S.)

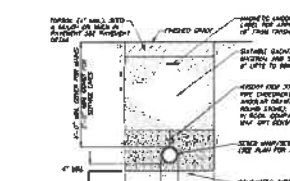
SEWER MAIN/SEWER SERVICE TRENCH DETAIL
(N.T.S.)



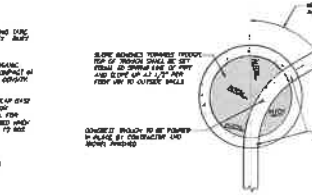
TYPICAL MANHOLE TROUGH DETAIL
(N.T.S.)



END SECTION DETAIL
(N.T.S.)

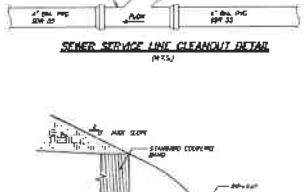


ROCK OUTLET PROTECTION DETAIL
(N.T.S.)

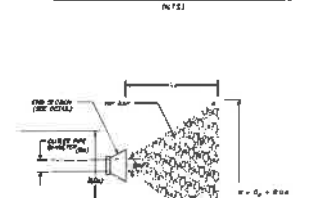


CATCH BASIN DETAIL
(N.T.S.)

30" X 48" DRAIN INLET DETAIL
(N.T.S.)



DRAINAGE MANHOLE DETAIL
(N.T.S.)



SIDE DRAIN INLET DETAIL
(N.T.S.)

DRAINAGE LINE TRENCH DETAIL
(N.T.S.)

UNDERDRAIN DETAIL
(N.T.S.)

GRASS SWALE DETAIL
(N.T.S.)

SWALE	BOTTOM WIDTH (a)	SIDE SLOPE (Z:1)	TOP WIDTH (b)	DEPTH (d)
SW 1	4'-0"	4	12'-0"	1'-0"
SW 2	1'-0"	4	9'-0"	1'-0"
SW 3	1'-0"	4	9'-0"	1'-0"
SW 4	2'-0"	4	9'-0"	1'-0"
SW 5	2'-0"	4	11'-0"	1'-0"
SW 6	1'-0"	4	9'-0"	1'-0"
SW 7	1'-0"	2	5'-0"	1'-0"
SW 8	1'-0"	2	5'-0"	1'-0"
SW 9	1'-0"	2	5'-0"	1'-0"

8	10-22-24	REVISED FOR PLANNING BOARD SUBMISSION	RWR
6	7-29-24	REVISED FOR PLANNING BOARD SUBMISSION	RWR
5	4-30-24	REVISED FOR PLANNING BOARD SUBMISSION	RTC
4	4-21-24	REVISED PER BUREAU OF FIRE PREVENTION COMMENTS	RTC
3	3-20-24	REVISED FOR TOWN SUBMISSION	CMC
NO.	DATE	REVISION	BY

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PROJECT:
TRAILSIDE ESTATES AT SOMERS

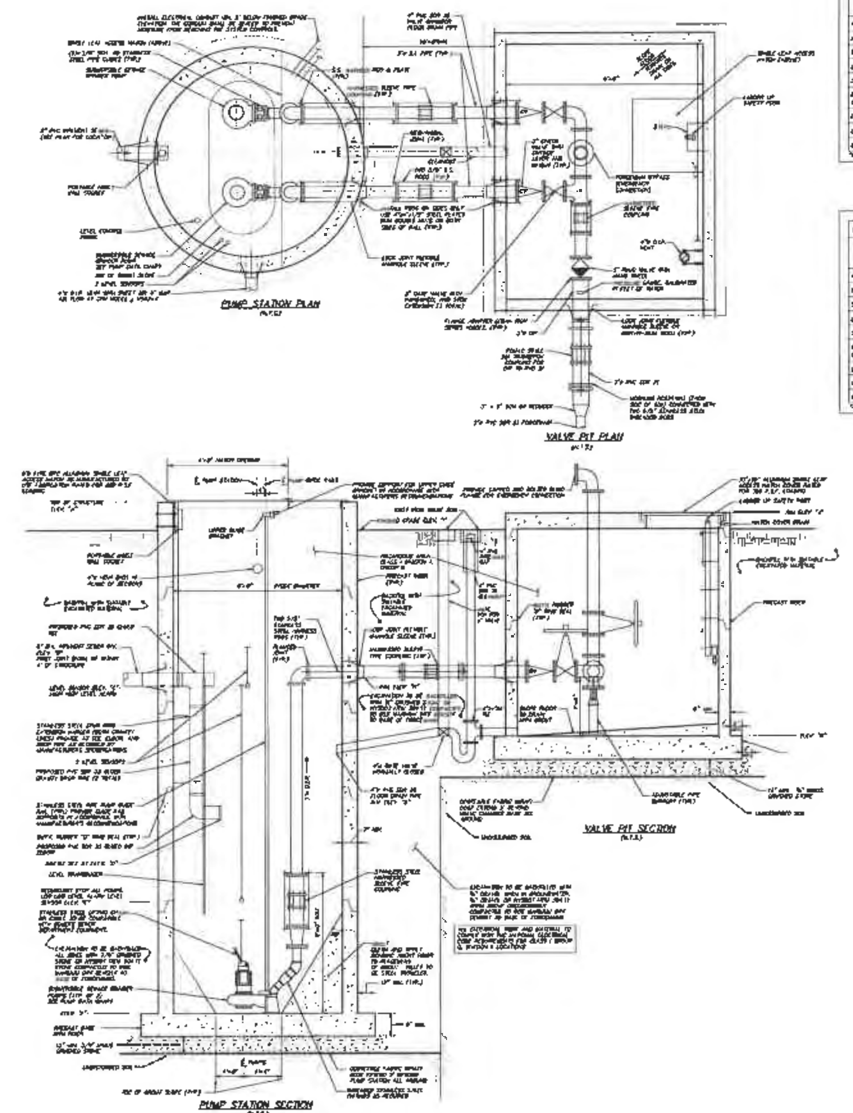
ADDRESS: ROUTE 22 SOMERS, WESTCHESTER COUNTY, NEW YORK

DRAWING:
DETAILS

PROJECT NUMBER	24144.100	PROJECT MANAGER	R.D.W.
DATE	11-17-23	DESIGN BY	T.G.D.
SCALE	NTS	CHECKED BY	R.D.W.

DRAWING NO. D-3
SHEET 25 OF 28

A REPLICA OF THIS DOCUMENT, SEALED WITH THE EMBOSSED OR A SIGNED PHOTOCOPY SHALL BE A VIOLATION OF SECTION 7209 OF ARTICLE 145 OF THE EDUCATION LAW



PUMP STATION PLAN

VALVE PIT PLAN

PUMP STATION SECTION

VALVE PIT SECTION

PUMP STATION 1

CONTROL ELEVATION SCHEDULE	LEVEL CONTROL PROBE	LEVEL FLOAT SENSOR
HIGH HIGH ALARM	-	[illegible]
HIGH LEVEL ALARM	[illegible]	-
START LAG PUMP	[illegible]	-
LEAD PUMP ON	[illegible]	-
STOP BOTH PUMPS*	[illegible]	
BOTTOM ELEVATION OF LEVEL TRANSDUCER	[illegible]	
LOW LEVEL ALARM	[illegible]	-
LOW LOW ALARM	-	[illegible]
BOTTOM PIT	[illegible]	-

*ALTERNATE LEAD/LAG PUMPS

ELEVATION SCHEDULE	
ELEV.	
A	[illegible]
B	[illegible]
C	[illegible]
D	[illegible]
E	[illegible]
F	[illegible]
G	[illegible]
H	[illegible]
I	[illegible]
J	[illegible]
K	[illegible]

PUMP DATA	
PUMP	[illegible]
MODEL	[illegible]
HORSEPOWER	4
POWER	[illegible]
PERFORMANCE	[illegible]
EXPLOSION PROOF, CLASS 1, DIVISION 1, GROUP D	

PUMP STATION 2

CONTROL ELEVATION SCHEDULE	LEVEL CONTROL PROBE	LEVEL FLOAT SENSOR
HIGH HIGH ALARM		[illegible]
HIGH LEVEL ALARM	600.0	-
START LAG PUMP	597.0	-
LEAD PUMP ON	597.0	-
STOP BOTH PUMPS*	595.0	-
BOTTOM ELEVATION OF LEVEL TRANSDUCER	595.0	
LOW LEVEL ALARM	595.3	-
LOW LOW ALARM		595.0
BOTTOM PIT	593.3	-

*ALTERNATE LEAD/LAG PUMPS

ELEVATION SCHEDULE	
ELEV.	
A	609.9
B	590.6
C	598.0
D	597.0
E	595.0
F	593.0
G	600.5
H	603.5
I	606.4
J	600.0
K	596.0

PUMP DATA	
PUMP	[illegible]
MODEL	[illegible]
HORSEPOWER	[illegible]
POWER	[illegible]
PERFORMANCE	[illegible]
EXPLOSION PROOF, CLASS 1, DIVISION 1, GROUP D	

PUMP STATION CONSTRUCTION NOTES:

1. [illegible]
2. ALL TANKS SHALL BE PLACED ON ... [illegible]
3. IF UNSUITABLE MATERIAL IS ENCOUNTERED, IT SHALL BE REMOVED ... [illegible]
4. THE ENTIRE OUTSIDE SURFACE OF STRUCTURE SHALL BE ... [illegible]
5. ALL JOINTS SHALL HAVE PRE-FORMED JOINT SEALING COMPOUND.
6. ALL HARDWARE TO BE STAINLESS STEEL.
7. THE CONTRACTOR SHALL BACKFILL ... [illegible]
8. [illegible]
9. [illegible]
10. ALL ELECTRICAL WORK ... [illegible]
11. 120 VOLT GFCI OUTLET SHALL BE PROVIDED WITHIN THE VICINITY OF THE PUMP STATION.
12. [illegible]
13. A GENERATOR SHALL BE PROVIDED TO POWER THE SYSTEM IN CASE OF PRIMARY POWER FAILURE. ... [illegible]

PUMP STATION TESTING PROCEDURES

1. THE PUMP SYSTEM SHALL BE TESTED ONCE ALL OTHER SEWER COMPONENTS HAVE BEEN TESTED.
2. AFTER THE CONTRACTOR HAS STATED TO THE ENGINEER THAT THE INSTALLATION IS COMPLETE AND READY FOR CONTINUOUS OPERATION, ... [illegible]
3. ALL EQUIPMENT AND CONTROLS ... [illegible]
4. ONCE THE DESIGN ENGINEER IS SATISFIED ... [illegible]
5. TRAINING FOR SYSTEM OPERATORS SHALL BE PROVIDED FOR CONTROLS, PUMPS AND GENERATOR BY ... [illegible]

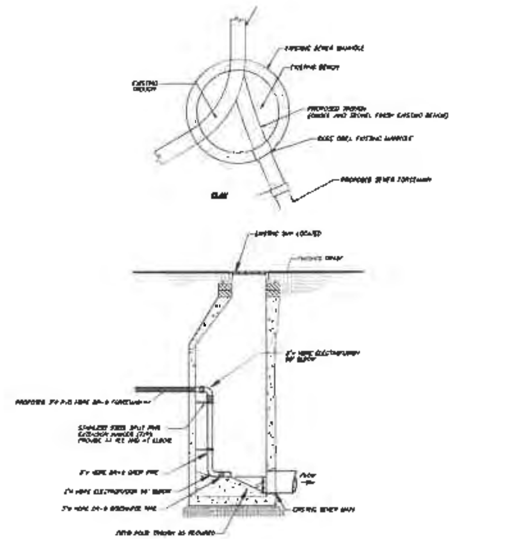
PUMP STATION CONTROL NOTES

1. [illegible]
2. [illegible]
3. Pumps shall automatically alternate between lead and lag after each cycle.
4. [illegible]
5. [illegible]
6. [illegible]
7. [illegible]
8. The station shall have an audio and visual alarm.
9. The pumps and pump alarms shall be connected to separate circuits.

SEWER FORCEMAIN TESTING PROCEDURES

TESTS ON PRESSURE PIPING FOR TRANSPORT OF SEWAGE

A. Hydrostatic Pressure and Leakage Test
  1. [illegible]
  2. [illegible]
  3. [illegible]
  4. [illegible]
  5. [illegible]
  6. [illegible]



SECTION

SEWER FORCEMAIN TERMINAL MANHOLE DETAIL

SEWER FORCEMAIN NOTES

1. [illegible]
2. All fittings for PVC SDR-21 shall be ... [illegible]
3. [illegible]
4. All fittings for HDPE pipe shall be ... [illegible]
5. [illegible]
6. [illegible]

NO	DATE	REVISION	BY
	[illegible]	REVISED FOR PLANNING BOARD SUBMISSION	[illegible]

INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

PROJECT: TRAILSIDE ESTATES AT SOMERS

DRAWING: DETAILS

PROJECT NUMBER	[illegible]	PROJECT MANAGER	[illegible]	DRAWING NO.	SHEET
DATE	[illegible]	DRAWN BY	[illegible]	D-4	25/28
SCALE	NTS	CHECKED BY	[illegible]		

REQUIRED EROSION CONTROL SWPPP CONTENTS:

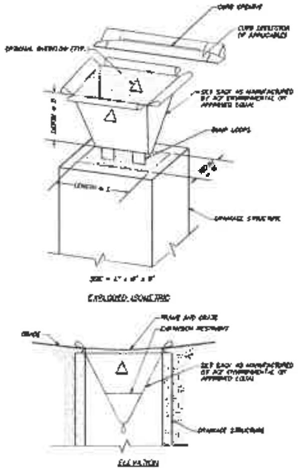
[illegible]

REQUIRED POST-CONSTRUCTION STORMWATER MANAGEMENT PRACTICE COMPONENTS:

[illegible]

EROSION & SEDIMENT CONTROL NOTES:

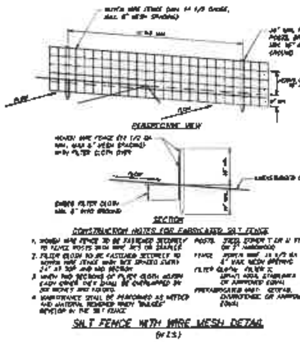
[illegible]



FABRIC PROPERTIES	MINIMUM ACCEPTABLE VALUE	TEST METHOD
Grab Tensile Strength (lbs)	110	ASTM D 4632
Mullen Burst Strength (PSI)	300	ASTM D 3786
Puncture Strength (lbs)	60	ASTM D 4833
Minimum Trapezoidal Tear Strength (lbs)	50	ASTM D 4533
Flow Through Rate (gal/min/sf)	28	ASTM D 4491
Equivalent Opening Size	40-80	[illegible]

MANUFACTURED INSERT INLET PROTECTION DETAIL

(N.T.S.)

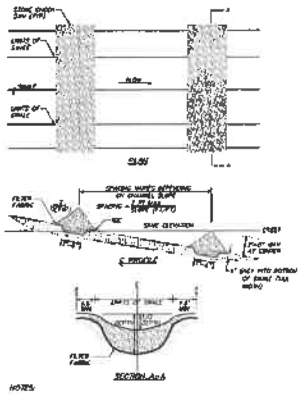


CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

[illegible]

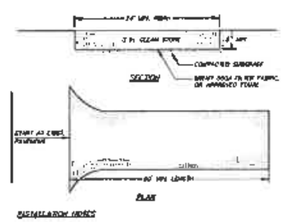
SILT FENCE WITH WIRE MESH DETAIL

(N.T.S.)



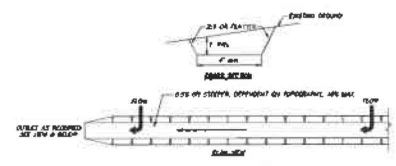
STONE CHECK DAM DETAIL

(N.T.S.)



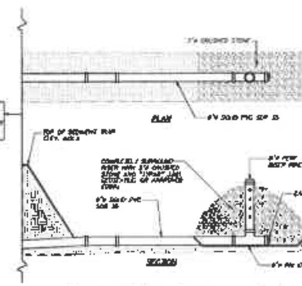
STABILIZED CONSTRUCTION ENTRANCE DETAIL

(N.T.S.)



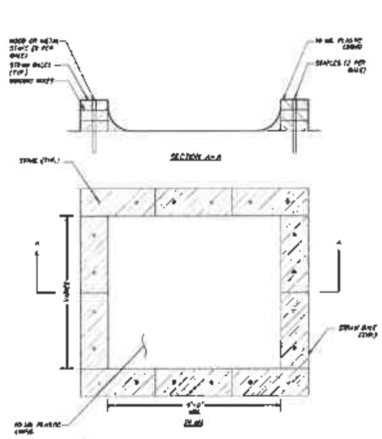
TEMPORARY SWALE DETAIL

(N.T.S.)



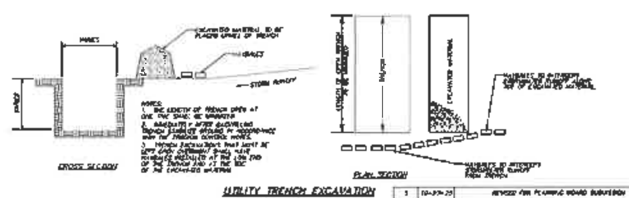
TEMPORARY SEDIMENT TRAP OUTLET DETAIL

(N.T.S.)



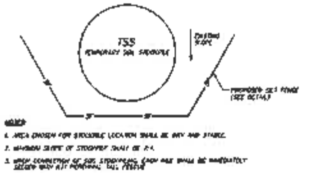
CONCRETE WASHOUT AREA DETAIL

(N.T.S.)



UTILITY TRENCH EXCAVATION EROSION CONTROL DETAIL

(N.T.S.)



TEMPORARY SOIL STOCKPILE DETAIL

(N.T.S.)

EROSION AND SEDIMENT CONTROL MAINTENANCE SCHEDULE

MONITORING REQUIREMENTS				MAINTENANCE REQUIREMENTS	
PRACTICE	DAILY	WEEKLY	AFTER RAINFALL	DURING CONSTRUCTION	AFTER CONSTRUCTION
[illegible]	Inspect	*	Inspect	[illegible]	N/A
[illegible]	Inspect	-	Inspect	[illegible]	N/A
SILT FENCE BARRIER	-	Inspect	Inspect	Clean/Replace	Remove
STABILIZED CONSTRUCTION ENTRANCE	Inspect	-	Inspect	Clean/Replace Stone and Fabric	Remove
DUST CONTROL	Inspect	*	Inspect	Mulching/Spraying Water	N/A
VEGETATIVE ESTABLISHMENT	-	Inspect	-	[illegible]	[illegible]
INLET PROTECTION	-	Inspect	Inspect	[illegible]	Remove
SOIL STOCKPILES	*	Inspect	Inspect	Mulching/Silt Fence Repair	Remove
[illegible]	-	Inspect	Inspect	[illegible]	[illegible]
CHECK DAMS	-	Inspect	Inspect	Clean/Replace Stones/Repair	Clean/Replace Stones/Repair
CONCRETE WASHOUT AREA	Inspect	-	-	[illegible]	-
CONCRETE DRAINAGE STRUCTURES	-	Inspect	Inspect	Clean Sumps/Remove Debris/Repair/Replace	Clean Sumps/Remove Debris/Repair/Replace
DRAINAGE PIPES	-	Inspect	Inspect	Clean/Flush	Clean/Flush
ROAD & PAVEMENT	-	Inspect	Inspect	Clean	Clean
[illegible]	-	Inspect	Inspect	[illegible]	[illegible]
[illegible]	-	Inspect	Inspect	Remove Silt/Debris and Repair Rip Rap	Remove Debris and Repair Rip Rap

[illegible]

SOIL RESTORATION REQUIREMENTS

[illegible]

Type of Soil Disturbance	Soil Restoration Requirement		Comments/Examples
No soil disturbance	Restoration not permitted		Preservation of Natural Features
Minimal soil disturbance	Restoration not required		Clearing and grubbing
[illegible]	HSG A&B	HSG C&D	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	HSG A&B	HSG C&D	
[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]		
[illegible]	[illegible]		[illegible]
Redevelopment projects	[illegible]		

[illegible]

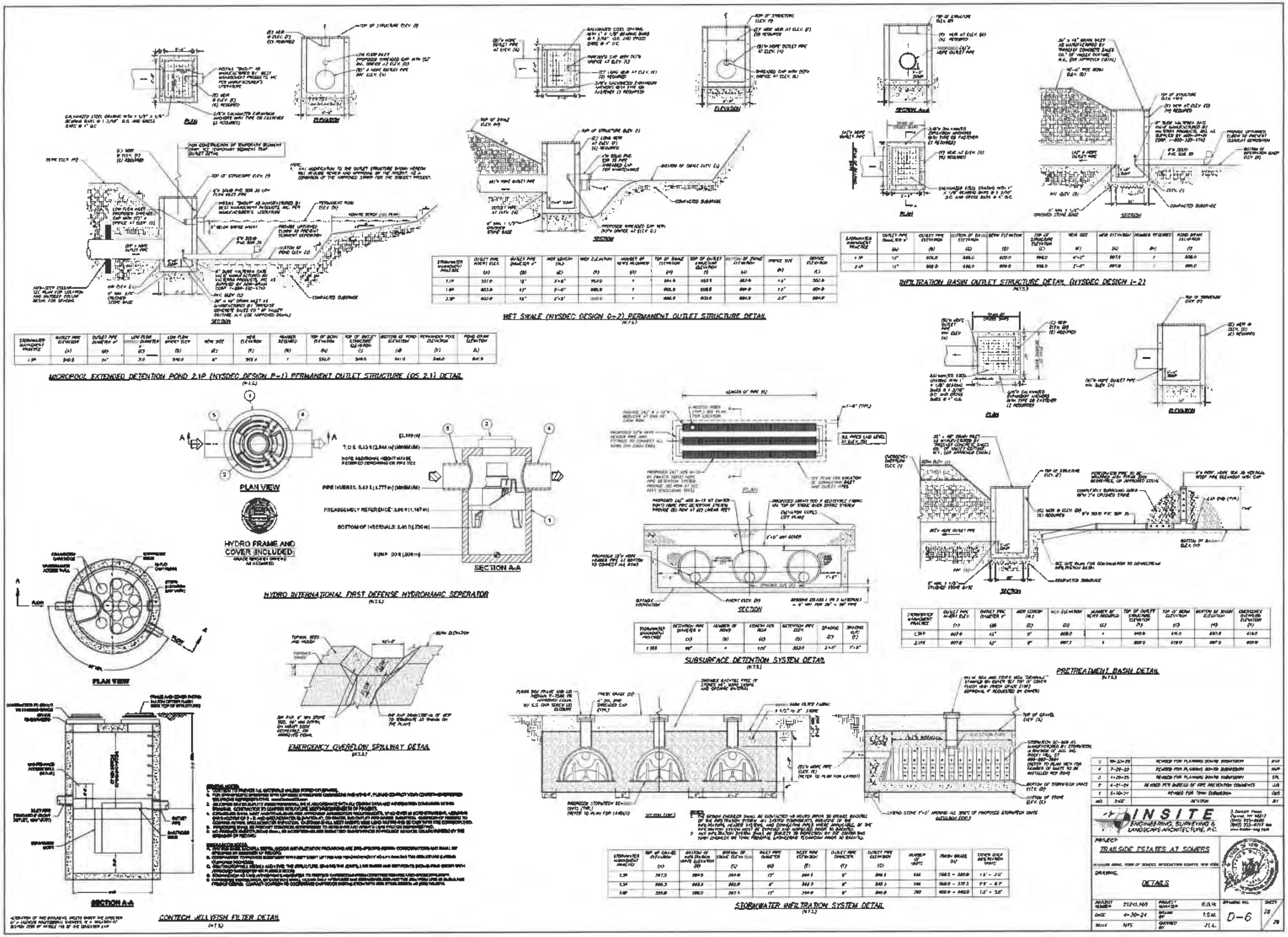
5	10-27-25	REVISED FOR PLANNING BOARD SUBMISSION	RAB
4	7-28-25	REVISED FOR PLANNING BOARD SUBMISSION	MAF
3	4-28-25	REVISED FOR PLANNING BOARD SUBMISSION	PM
2	9-11-24	REVISED PER BUREAU OF FIRE PREVENTION COMMENTS	JAS
1	6-10-24	REVISED FOR TOWN SUBMISSION	[illegible]
NO.	DATE	REVISION	BY

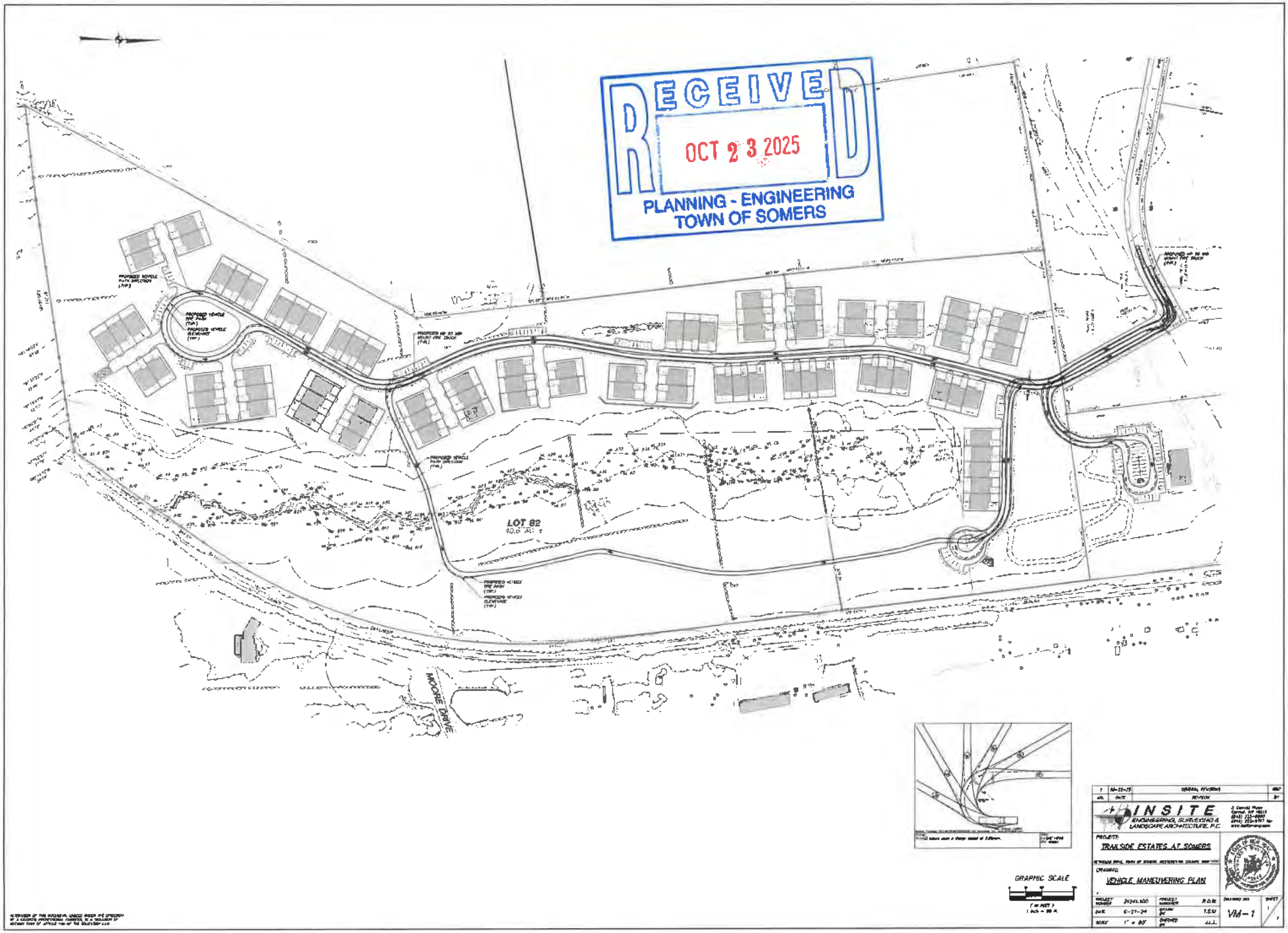
INSITE ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

PROJECT: TRAILSIDE ESTATES AT SOMERS

DRAWING: **DETAILS**

PROJECT NUMBER	21742.100	PROJECT MANAGER	R.B.W.	DRAWING NO.	SHEET
DATE	11-17-23	DRAWN BY	T.S.M.	D-5	27 / 28
SCALE	NTS	CHECKED BY	J.L.C.		


MICROPOOL EXTENDED DETENTION POND 2.1P (NYSDEC DESIGN P-1) PERMANENT OUTLET STRUCTURE (OS 2.1) DETAIL
WET SWALE (NYSDEC DESIGN O-2) PERMANENT OUTLET STRUCTURE DETAIL
INFILTRATION BASIN OUTLET STRUCTURE DETAIL (NYSDEC DESIGN I-2)
PLAN VIEW
HYDRO FRAME AND COVER INCLUDED
SECTION A-A
HYDRO INTERNATIONAL FIRST DEFENSE HYDRODYNAMIC SEPERATOR
SUBSURFACE DETENTION SYSTEM DETAIL
PRETREATMENT BASIN DETAIL
EMERGENCY OVERFLOW SPILLWAY DETAIL
CONTECH JELLYFISH FILTER DETAIL
STORMWATER INFILTRATION SYSTEM DETAIL
INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
PROJECT:
TRAILSIDE ESTATES AT SOMERS
DRAWING:
DETAILS
D-6


RECEIVED
OCT 23 2025
PLANNING - ENGINEERING
TOWN OF SOMERS
LOT 82
40,0 AC ±
MOORE DRIVE
GRAPHIC SCALE
(IN FEET)
1 inch = 80 ft.
INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.
PROJECT:
TRAILSIDE ESTATES AT SOMERS
DRAWING:
VEHICLE MANEUVERING PLAN
VM-1

INSITE
ENGINEERING, SURVEYING &
LANDSCAPE ARCHITECTURE, P.C.

WATER ENGINEERING REPORT

For

Trailside Estates at Somers
Town of Somers, New York

October 23, 2025

Prepared By
Insite Engineering, Surveying & Landscape Architecture, P.C.
3 Garrett Place
Carmel, New York 10512

1.0 INTRODUCTION

The applicant, Parkview B & G, LLC is proposing to construct an 81-unit townhouse community and community center on two parcels totaling 56.8± acres in the Town of Somers. The townhouse units will consist of (58) three-bedroom units and (23) two-bedroom units. The community center will be dedicated to the Town of Somers. The tax parcels are identified as 4.20-1-12 and 15.08-1-4, located in the PH, R40 and R80 zoning districts. Access to the property is proposed through the Somers Realty Planned Hamlet via Reynolds Drive. The site is located on the south side of US Route 6 and between the Somers Realty Planned Hamlet and the North County Trailway.

The project site is located within the Amawalk Shenorock Water District. A 10" diameter DIP water main extension down Reynolds Drive is proposed which will connect to the existing watermain on Clayton Boulevard. The project will be serviced by public water by a water main extension from the existing terminus in the Planned Hamlet, down Reynolds Drive and onto the subject parcel. Separate domestic and fire water service lines are proposed to connect from the watermain extension on the subject parcel to the proposed community center. Fire sprinkler systems are not proposed for the townhouse development. Fire protection will be provided by fire hydrants located throughout the townhouse development.

Sewer service will be provided by an onsite sewer collection and conveyance system which will connect to the terminal manhole in Hoyt Street which was reviewed and approved by the Town and WCDOH as part of the Somers Realty Phase 3 subdivision.

2.0 PROJECT DESIGN FLOWS AND ANTICIPATED FLOWS TO BE INCLUDED IN THE DISTRICT

The project domestic maximum daily water demand used for design is anticipated to be the same as the maximum daily wastewater demand. As such the design maximum daily water flows for the proposed project, are based on the hydraulic loading rates given in the New York State Department of Environmental Conservation (NYSDEC) publication *Design Standards for Intermediate Sized Wastewater Treatment Works – 2014* (DEC 2014). The design maximum daily water demand is a conservative design flow on which the water infrastructure will be designed. This value does not represent the average daily demand which is expected to be less.

The following table calculates the maximum daily domestic demand / flow rate in gallons per day (gpd) that will be used for design in the proposed project.

Table 1: Project Design Maximum Daily Flow Rate

	Proposed Use	Hydraulic Loading Rate	Design Maximum Daily Domestic Flow (gpd)
Residential Townhomes	58 – Three Bedroom	330 gpd/dwelling	19,140
	23 – Two Bedroom	220 gpd/dwelling	5,060
Town Community Center	450 Visitors	4 gpd/visitor	1,800
Total			**26,000**

For preliminary purposes, an estimate of 1,800 gpd was calculated for the proposed community center to be dedicated to the Town of Somers. The design flow was calculated based on an assumed maximum number of visitors on a peak day. It is anticipated that the peak use for the proposed community center will be during the weekend with the use of the sports arena. The maximum 450 visitors per day assumes six 1-hour practices during a single day including 50 kids per practice along with half of the parents using the facilities either during practice or while dropping off/picking up their kids. As the project advances an actual maximum daily flow for the community center will be established based on discussions with the Town on anticipated use.

The anticipated design average daily flows for the project is expected to be significantly less than the design maximum daily design flow. The design maximum daily flows represent conservative flows to

ensure that the proposed water works are designed with an ample factor of safety. The anticipated actual flows are based on occupancy rates and measured data for water use. Statistical data (obtained from *Rutgers University, Center for Urban Policy Research, Residential Demographic Multipliers*, June 2006) for the average number of occupants in a single-family attached dwelling which are owner-occupied (based on number of bedrooms) was used to calculate the expected number of residents anticipated for the project as shown in the table below. Data from the American Water Works Association (AWWA) Water Conservation Division Subcommittee Report, Water Conservation Measurement Metrics Guidance Report, dated January 2010 shows that the average in home water use is 69.3 gpd per person. This number is reduced to 43.5 gpd per person when water saving fixtures are used, which is the case for this project.

Table 2: Design Average Daily Flow

Proposed Use	Occupancy Rate	Total Anticipated Residents	Water Use Per Resident (gpd)	Water Use (gpd)
Town Community Center	-	-	-	1,800
58 –Three Bedroom Townhomes	3.08 people/unit	179	43.5	7,787
23 – Two Bedroom Townhomes	2.16 people/unit	50	43.5	2,175
Total Anticipated Water Use (gpd)				**11,762**

As demonstrated above, through the use of water saving fixtures as required by current building code, a design maximum flow of 26,000 gpd is proposed for the project, while the actual anticipated flows are 11,762 gpd.

Although the anticipated average daily flow for the project is lower than the design maximum daily flows, the design maximum daily flows are used for the design of the system. This provides an additional factor of safety in the proposed design.

The peak hourly flow for the domestic water is calculated using a peaking factor that is based on the populations of the subject project. The *Recommended Standards for Wastewater Facilities – 2014* was used to determine a peaking factor of four:

Peak Hourly Flow

26,000 gpd ÷ 24 hr/day ÷ 60 min/hr = 18 gallons per minute (gpm)
Peak Hourly Flow = 18 gpm x 4 = **72 gpm**

The requirements for fire water demand were preliminarily established for the project. Based on similar projects, a preliminary fire sprinkler water demand of 200 gpm is anticipated for the community center. As previously stated, the townhomes will not be sprinklered, therefore fire protection will be provided by onsite fire hydrants throughout the development. For pressure and watermain sizing calculations a sprinkler demand 200 gpm and a hose stream allowance of 500 gpm will be used. This results in a peak combined flow of:

Peak Combined Flow

72 gpm + 200 gpm + 500 gpm = **772 gpm**

3.0 PROPOSED CONNECTION TO THE AMAWALK SHENOROCK WATER DISTRICT

The project is located within the Amawalk Shenorock Water District. The Amawalk Shenorock Water District is reported to be approved to use up to 550,000 gpd. Based on review of the 2022 Water Quality Report the Amawalk Shenorock Water District treated 105 million gallons during the year 2022. This equates to an average daily flow of just under 290,000 gpd. As such, there is adequate water supply for the project.

As part of the Somers Realty Master Plan Findings Statement, Somers Realty was required to provide a hydropneumatic emergency water supply system. As part of the Somers Realty Phase 3 subdivision approval, Somers Realty entered into an agreement with the Town to fund the construction of a water main between the Hidden Meadow at Somers project and Mahopac Avenue. Separately the

Hidden Meadow at Somers project, Westchester County and the Town of Somers entered into an Intermunicipal Developer Agreement (IMDA) to allow for the construction of several public improvements funded by the County, but administered by the Town. One of the Hidden Meadow at Somers project components that was recently constructed under a Town contract is the extension of the water main in Windsor Road to the portion of the water main extension funded by Somers Realty. This allowed for the emergency water supply required by the Phase 3 approval.

As part of designing the Somers Realty funded water main extension, Woodard and Curran, PC modeled the current flow and pressure within the Amawalk-Shenorock Water District, incorporating 15 gpm of design flow associated with future developments within the Planned Hamlet, 51 gpm of peak flow from AvalonBay, and 10 gpm for Hidden Meadow. Since the Woodard and Curran report was first generated, The Crossroads at Baldwin Place, Hidden Meadow, and additional lots in the Planned Hamlet have been constructed. Hydrant flow testing has been performed to confirm available flows and pressures. The hydrant flow test data can be found in Appendix A.

Recommended Standards for Water Works (RSWW) provides minimum pressure requirements for distribution systems. For domestic water a minimum pressure of 35 psi at the highest service connection is required and 20 psi must be maintained at the highest service connection during fire flow conditions.

4.0 PROPOSED WATER SERVICE CONNECTIONS

A 10" diameter DIP water main extension down Reynolds Drive was reviewed and approved by the Town and WCDOH as part of the Somers Realty Phase 3 subdivision. The project will be serviced by public water by a water main extension from Reynolds Drive onto the subject parcel.

An 8" diameter Class 52 DIP water main is proposed to connect to the 10" DIP water main along Reynolds Drive (not yet constructed) and extend along the proposed roadways on the subject parcel. Separate domestic and fire service lines will be provided for the proposed community center from the 8" DIP water main. The proposed townhomes will be serviced by individual connections to the 8" DIP water main for domestic water and fire protection will be provided by onsite fire hydrants located throughout the development for the proposed townhomes.

Fire hydrants are proposed onsite along the proposed roadways in such a manner that no building is more than 500' from a hydrant. All hydrants will be manufactured by Mueller as required by the Town. Fire hydrants will be painted yellow per Town standards. In addition, a flushing hydrant is proposed at the dead ends of the water main extension on the subject parcel for flushing the mains.

Restrained joint connections will be provided at all pipe bends through the use of Mega-lug fittings, or approved equal. In addition, thrust blocks will be provided at all vertical and horizontal bends. Upon completion of the water main and service line installation pressure testing and disinfection will be performed in accordance with AWWA standards. Details for the construction, testing and disinfection of the proposed water main / water service lines have been provided on the project drawings.

Recommended Standards for Water Works (RSWW) provides minimum pressure requirements for distribution systems. For domestic water a minimum pressure of 35 psi at the highest service connection is required and 20 psi must be maintained at the highest service connection during fire flow conditions. Hydrant flow testing for the existing water main along Clayton Boulevard was performed by the Town of Somers Water and Sewer Department on October 7, 2025. See Appendix A attached for the flow data obtained from the testing. The flowed hydrant measured is located on the east corner of the Hoyt Street intersection to the northeast of the project site and the residual hydrant is located on the east corner of the Halstead Street intersection to the northeast of the project site. A static pressure of 75 psi was measured at the residual hydrant and during the flow test a residual pressure of 50 psi was witnessed with a flow rate of 949 gpm. The test results from the hydrants along Clayton Boulevard will be used in the calculations below.

4.1 Static Pressures

The static pressure at the first-floor elevation (FFE) of the highest building will be calculated in relation to the elevation of the hydrant flow testing static pressure available:

Static Pressure at residual hydrant	= 75 psi
Approximate Elevation of residual hydrant	= 574' ±
First Floor Elevation of highest Townhome (FFE):	= 629' ±
Static Head Change = Residual Hydrant - FFE = 574 - 629 =	= -55' ±
Static Pressure Change (SPC) = Static Head Change / 2.31 ft/psi	
SPCB = -55' / 2.31 ft/psi =	= -23.8 psi
Static Pressure at FFE = 75 psi + (-23.8 psi) =	= 51.2 psi

4.2 Domestic Flow Calculation:

The equation below is taken from AWWA M17. The equation is used to calculate flow available at different pressures or difference in the residual pressure that would result from different flow rates. Here the equation is used to calculate the residual pressure at the observation hydrant for the peak combined flow, using the pressures and flow rates measuring during the flow test. The available pressure was calculated for 2 separate design flows; (1) peak domestic flow, (2) combined peak domestic and fire flow for the project.

$Q_R = Q_F * h_r^{0.54} / h_f^{0.54}$

Where:

- Q_R = peak combined flow (gpm)
- Q_F = flow from hydrant during test (949 gpm)
- h_r = the difference in pressure between the static pressure measured at the observation hydrant and the residual pressure at the total combined flow
- h_f = the difference between the static pressure and residual pressure measured at the observation hydrant during the flow test, (25 psi)

Peak Domestic Flow

$$72 \text{ gpm} = 949 \text{ gpm} * h_r^{0.54} / 25\text{psi}^{0.54}$$

$$h_r = 0.2 \text{ psi}$$

This results in a residual pressure of 74.8 psi at the residual pressure hydrant.

Calculations of the head loss in the watermains under domestic peak hourly flow (72 gpm) were performed to evaluate the pressure at the highest FFE during the respective flow conditions. These calculations can be found in Appendix B. The calculations are based on a 10" diameter watermain along Clayton Boulevard and Reynolds Drive and an 8" diameter watermain through the project site.

Calculated Residual Pressure at residual hydrant	74.8 psi
Loss of Static Pressure at FFE of Proposed Building	-23.8 psi
Friction loss of pressure through 10" DIP Water Main	0.1 ft (0.0 psi)
Friction loss of pressure through 8" DIP Water Main	0.2 ft (0.1 psi)
Residual pressure at FFE of Proposed Building during Domestic Peak Hourly Flow:	50.9 psi

As noted above, the 50.9 psi pressure under peak hourly flow conditions exceeds the RSWW requirement of 35 psi for peak hourly domestic flow conditions.

4.3 Fire Flow Calculation:

Using the same equation for flow calculations used above, the difference in pressure for the combined peak and domestic fire flow was calculated below:

Combined Peak Domestic and Fire Flow

$$772 \text{ gpm} = 949 \text{ gpm} * h_r^{0.54} / 25\text{psi}^{0.54}$$

$$h_r = 17.1 \text{ psi}$$

This results in a residual pressure of 57.9 psi at the residual pressure hydrant.

Calculations of the head loss in the watermains under peak combined flow were performed to evaluate the pressure at the highest FFE during the respective flow conditions. These calculations can be found in Appendix B. The calculations are based on a 10" diameter watermain along Clayton Boulevard and Reynolds Drive and an 8" diameter watermain through the project site.

Calculated Residual Pressure at residual hydrant	57.9 psi
Loss of Static Pressure at FFE of Proposed Building	-23.8 psi
Friction loss of pressure through 10" DIP Water Main	8 ft (3.5 psi)
Friction loss of pressure through 8" DIP Water Main	14 ft (6.1 psi)
Residual pressure at FFE of Proposed Building during Combined Peak Hourly Flow:	24.5 psi

As noted above, the 24.5 psi pressure exceeds the RSWW requirement of 20 psi for fire flow conditions.

APPENDIX A

Hydrant Flow Test

Figure 3.

Flow Test Report

Location Clayton Blvd. @ Hoyt & Halstead Date 10/7/25

Test Made by SCWD Time 10:15 A M

Representative of _____

Witness Fred McQuillan

State Purpose of Test Insite retest / Somers Commons valve chamber open to flow from Meadow Park Rd.

Consumption Rate During Test N/A

If Pumps Affect Test, Indicate Pumps Operating N/A

Flow Hydrants	Static PSI	Residual PSI
A_1 #238	75	45

Size Nozzle 2.5"

Pitot Reading 32 Total gpm _____

gpm _____

Static B #237 75 psi Residual B 50 psi

Projected results:

at 20 psi Residual _____ gpm; or at _____ psi Residual _____ gpm

Remarks _____

Location Map: Show line sizes and distance to next cross connected line. Show valves and hydrant branch size. Indicate North. Show flowing hydrants—label A_1, A_2, A_3. Show location of Static and Residual—label B.

Indicate B Hydrant ✓ Sprinkler _____ Other (identify) _____

Flow Test Map

City: Baldwin Place

		Formula: $Q=(29.83(C(d^2)p^{0.5}))$						Formula: $AFF=Q(((S-20)^{0.54}/((S-R)^{0.54})))$					
Test No.	Location	Q (total gallons flowing)	29.83	Coefficient C = .9	diameter (d) of outlet flowed in inches	Number of outlets flowing	Pitot (p)	Available Fire Flow (AFF)	Total Gallons Flowing	Static (S)	Residual (R)	Test Date	Witnessed By
1	Clayton Blvd.	**949**	29.83	0.9	2.5	1	32	**1,317**	949	75	45	10/7/2025	FM
2		**0**	29.83	0.9	2.5	1		-	0				
3		**0**	29.83	0.9	2.5	1		-	0				
4		**0**	29.83	0.9	2.5	1		-	0				
5		**0**	29.83	0.9	2.5	1		-	0				
6		**0**	29.83	0.9	2.5	1		-	0				
7		**0**	29.83	0.9	2.5	1		-	0				
8		**0**	29.83	0.9	2.5	1		-	0				
9		**0**	29.83	0.9	2.5	1		-	0				
10		**0**	29.83	0.9	2.5	1		-	0				
11		**0**	29.83	0.9	2.5	1		-	0				
12		**0**	29.83	0.9	2.5	1		-	0				
13		**0**	29.83	0.9	2.5	1		-	0				
14		**0**	29.83	0.9	2.5	1		-	0				
15		**0**	29.83	0.9	2.5	1		-	0				
16		**0**	29.83	0.9	2.5	1		-	0				
17		**0**	29.83	0.9	2.5	1		-	0				
18		**0**	29.83	0.9	2.5	1		-	0				
19		**0**	29.83	0.9	2.5	1		-	0				
20		**0**	29.83	0.9	2.5	1		-	0				
21		**0**	29.83	0.9	2.5	1		-	0				
22		**0**	29.83	0.9	2.5	1		-	0				
23		**0**	29.83	0.9	2.5	1		-	0				
24		**0**	29.83	0.9	2.5	1		-	0				
25		**0**	29.83	0.9	2.5	1		-	0				
26		**0**	29.83	0.9	2.5	1		-	0				
27		**0**	29.83	0.9	2.5	1		-	0				
28		**0**	29.83	0.9	2.5	1		-	0				
29		**0**	29.83	0.9	2.5	1		-	0				
30		**0**	29.83	0.9	2.5	1		-	0				

APPENDIX B

Head Loss Calculations

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

Trailside Estates at Somers
Domestic Peak Hourly Flow Friction Headloss

Loss in 10" Watermain

	C	115	Roughness coefficient for ductile iron pipe
	d	10 in	Diameter of Pipe
	L	1560 ft	Length of Pipe
	Q	72 gpm	Flow Rate
	V	0.3 ft/s	Velocity
	L_e	80 ft	Equivalent length to account for losses in valves and bends
	L_t	1640 ft	Total Length = $L + L_e$
Head Loss in Watermain		-0.1 ft	$HL = \frac{10.44(L_t)(Q^{1.85})}{(C^{1.85})(d^{4.87})}$

Loss in 8" Watermain to highest FFE

	C	115	Roughness coefficient for ductile iron pipe
	d	8 in	Diameter of Pipe
	L	960 ft	Length of Pipe
	Q	72 gpm	Flow Rate
	V	0.5 ft/s	Velocity
	L_e	50 ft	Equivalent length to account for losses in valves and bends
	L_t	1010 ft	Total Length = $L + L_e$
Head Loss in Watermain		-0.2 ft	$HL = \frac{10.44(L_t)(Q^{1.85})}{(C^{1.85})(d^{4.87})}$

Note:
This is the most restrictive condition on the 8" water main.

INSITE
ENGINEERING, SURVEYING & LANDSCAPE ARCHITECTURE, P.C.

Trailside Estates at Somers
Combined Peak Hourly Flow Friction Headloss

Loss in 10" Watermain

	C	115	Roughness coefficient for ductile iron pipe
	d	10 in	Diameter of Pipe
	L	1560 ft	Length of Pipe
	Q	772 gpm	Flow Rate
	V	3.2 ft/s	Velocity
	L_e	80 ft	Equivalent length to account for losses in valves and bends
	L_t	1640 ft	Total Length = L + L_e
Head Loss in Watermain		-8 ft	$HL = \frac{10.44(L_t)(Q^{1.85})}{(C^{1.85})(d^{4.87})}$

Loss in 8" Watermain to highest FFE

	C	115	Roughness coefficient for ductile iron pipe
	d	8 in	Diameter of Pipe
	L	960 ft	Length of Pipe
	Q	772 gpm	Flow Rate
	V	4.9 ft/s	Velocity
	L_e	50 ft	Equivalent length to account for losses in valves and bends
	L_t	1010 ft	Total Length = L + L_e
Head Loss in Watermain		-14 ft	$HL = \frac{10.44(L_t)(Q^{1.85})}{(C^{1.85})(d^{4.87})}$

Note:
This is the most restrictive condition on the 8" water main.

GALLAGHER BASSETT | TECHNICAL SERVICES

SOIL MANAGEMENT PLAN

For The

"Trailside Estates" Property
Town of Somers tax lot: Section 4.20, Block 1, Lot 12
Westchester County, New York

October 2025

GBTS File: 21003-0092

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22 IBM Road – Suite 101
Poughkeepsie, NY 12601
O: 845-867-4715
www.gallagherbassett.com

GALLAGHER BASSETT | TECHNICAL SERVICES

SOIL MANAGEMENT PLAN

October 2025

GBTS File: 21003-0092

Prepared By

Gallagher Bassett Technical Services
22 IBM Road, Suite 101
Poughkeepsie, New York 12601

Prepared For

Kearney Realty & Development Group, Inc.
57 Route 6, Suite 207
Baldwin Place, New York 10505

The undersigned have prepared and reviewed this Soil Management Plan and certify to Kearney Realty & Development Group, Inc. that the information provided in this document is to the best of our abilities considered accurate as of the date of issuance by this office.

Richard Hooker
Gallagher Bassett Technical Services
Manager, Environmental Consulting

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Purpose

This Soil Management Plan (SMP) provides a detailed description of the response actions that are proposed by Gallagher Bassett Technical Services (GBTS) to address ACM/LBP containing subsurface debris potentially present in the subsurface at the "Trailside Estates" Property Town of Somers, Westchester County, New York. All proposed work will be conducted according to a Site specific Health and Safety Plan (HASP), provided as Appendix B

1.2 Site Location and Description

The Site is a 18.2-acre vacant overgrown/wooded parcel. A Site Location Map is provided in Appendix A.

1.3 Development Plan

The proposed development plans for the site include new construction of passive recreation (dog park) and single-family residential buildings.

1.4 Previous Environmental Report

A Phase I Environmental Site Assessment (Phase I ESA) was prepared for the Site and an adjoining lot by this office, dated July 26, 2021.

The subject property is vacant wooded land located in a suburban setting, comprised of one tax lots totaling 18.2-acres. Available historical records document prior agricultural use of the property, including active orchard operations from as early as 1941 through at least 1996. Releases at orchard areas are likely to have resulted in contamination of surface soils with metals (arsenic and lead) and persistent organic compounds (e.g. DDT and breakdown products, and dieldrin). The Phase I ESA concluded that this suspect contamination represents a REC and a potential exposure hazard. The subject property was not considered likely to have been historically used for significant commercial purposes and has no history of manufacturing or industrial use.

1.5 Known Environmental Conditions

Fourteen (14) surface soil samples (S-1 through S-14) collected by Tim Miller Associates during the summer of 2025 were analyzed for pesticides, lead and arsenic. Nine of the samples contain pesticides or arsenic at concentrations likely from historical orchard operations and above NYSDEC regulations for Residential use indicating a potential exposure risk; contaminated surface soil, therefore, will require special handling during any future site development activities. Impacted soil, if disposed off-site, will require management as a regulated waste.

2.0 SOIL MANAGEMENT PLAN

This SMP details response actions to address surface and shallow soils (0-~18") at the Site, as identified in Section 1.4, above. All proposed work will be conducted according to a Site specific HASP, provided as Appendix B.

For the purpose of the work detailed in this SMP, the "Client" is defined Kearney Realty & Development Group, Inc., who will contract with the environmental consultant and/or remediation firm (hereafter referred to as the On-site Coordinator [OSC]) to provide the services detailed below.

2.1 Overview of Proposed Oversight Services

The proposed remedial services described in detail in subsequent sections of this SMP consist of the following:

1. Oversight of the on-site management and/or disposal of soils impacted with pesticides, arsenic and lead (Section 2.3.1, below);

2. Preparation of a Closure Report (CR) for the Client and NYSHCR (Section 2.3.2, below).

Prior to, or in conjunction with, the initiation of these actions (see Section 2.3), the tasks detailed in Section 2.2, below, will also be conducted.

2.2 Proposed Site Preparation Services

This section of the SMP provides details on activities and services necessary to be initiated and/or completed prior to the implementation of Site oversight services. The following Excavation Oversight tasks will be performed:

2.2.1 Equipment Calibration

A photo-ionization detector (PID) will be utilized to screen encountered materials for the presence of volatile vapors. The PID will be calibrated at the onset of each workday, and a written calibration log will be maintained for this project. The PID will be calibrated to read parts per million gas equivalents of isobutylene in accordance with protocols set forth by the equipment manufacturer.

2.2.2 Excavation Clean-Up Levels

Clean-up levels will aim to achieve concentrations of contaminants in excavation endpoint samples at or below NYSDEC Brownfield Cleanup Program (BCP) Residential Soil Cleanup Objectives (SCOs) category, as provided in 6 NYCRR Subpart 375.

2.2.3 Subcontractor Coordination

Subcontractors will perform requested services under the direct supervision of the OSC. Prior to the initiation of fieldwork, all subcontractors will be notified of the components of the HASP (see 2.2.5, below). All necessary insurance certificates will be secured from subcontractors by the Client and/or by the OSC. At this time, the following subcontractors are anticipated to be used on this project:

- Excavation Contractor
- Soil Removal Contractor (as necessary/appropriate)
- Analytical Laboratory

2.2.4 Health and Safety Plan

The site-specific HASP will be reviewed with on-site personnel (including subcontractors) prior to the initiation of fieldwork. All proposed work will be performed in "Level D" personal protective equipment; however, all on-site field personnel will be prepared to continue services wearing more protective levels of equipment should field conditions warrant.

2.2.5 Community Air Monitoring Plan

A CAMP will be initiated during all ground intrusive activities described in this SMP that are reasonably likely to generate significant dust and/or vapors. The implementation of the CAMP will document the presence or absence of specific compounds in the air surrounding the work zone, which may migrate off-site due to fieldwork activities. This plan provides guidance on the need for implementing more stringent dust and emission controls based on air quality data. Air monitoring will be conducted for dust. See Appendix C for a copy of the CAMP.

2.3 Proposed Specific Oversight Services

This section of the SMP provides a detailed description of the remedial tasks that will be conducted at the Site. Appropriate measures (e.g., vehicle traffic patterns, stormwater run-off controls, etc.) will be implemented to ensure that contaminated soil is minimally disturbed during the course of all remedial activities.

2.3.1 Excavation and Management of Soils impacted with pesticides and arsenic.

The project site contains vacant areas that will be subject to construction excavation that had been previously been used as orchards and residual pesticides and arsenic are present in surface soils.

The OSC will retained and be responsible for identifying any soils which, based on previous environmental reports and additional sampling as necessary/appropriate, require special handling including on-site internment and/or off-site disposal.

On-Site Management

In consultation with the developer the OSC will coordinate with the architect, GC and structural engineer to ensure that remaining arsenic and pesticide impacted soils are rendered inaccessible by the installation of a composite cover system comprised of the new building slab; concrete and asphalt pavement; and, soil cover in vegetative areas.

Where a soil cover is to be used it will be a minimum of two feet of soil placed over a demarcation layer, with the upper six inches of soil of sufficient quality to maintain a vegetative layer. Soil cover material, including any fill material brought to the site, will meet the RRU SCOs for cover material for the use of the site as set forth in 6 NYCRR Part 375-6.7(d). Substitution of other materials and components may be allowed where such components already exist or are a component of the tangible property to be placed as part of site redevelopment. Such components may include, but are not necessarily limited to: pavement, concrete, paved surface parking areas, sidewalks, building foundations and building slabs.

All concrete foundation components of the cover system and any exterior pavement will have a minimum thickness of four (4) inches. Imported or existing on-site clean soil (or similar materials, e.g., gravel) at exterior areas will have a minimum thickness of two (2) feet.

Off-Site Disposal

Where a determination is made that contaminated material requires to be disposed of off-site, the OSC will monitor the removal of contaminated material, including monitoring the trucks and establishing the designated truck routes. The OSC will also ensure that any unforeseen environmental conditions (e.g., previously unknown USTs) are managed in accordance with applicable federal and state regulations.

Soils will be excavated and removed from the Site consistent with the following procedures:

- Soils will be tested and/or characterized in a manner satisfactory to the repository(ies) selected to accept these soils. Approximate volumes of waste soils will be calculated and repository(ies) approvals will be secured.

- Soils will be excavated and, as warranted, segregated and stockpiled for off-site disposition. Soils requiring special handling will be stockpiled on 6 mil plastic and overlain with plastic.

- Excavation of soils will be conducted in a manner consistent with field conditions and technical observations from field personnel.

- Any contaminated soils and/or regulated debris will be loaded on properly permitted (e.g. NYSDEC "Part 364 Permits") and all manifests will be signed by the Site Owner or the OSC prior to the trucks exiting the Site. All manifests and other records of soil management will be maintained by the OSC for inclusion in the Closure Report (see Section 2.3.2).

2.3.2 Closure Report

A Closure Report (CR) will be submitted following implementation of the excavation management defined in this SMP. The CR will provide the documentation that the oversight work required under this SMP was completed and performed in compliance with this plan. The CR will provide a comprehensive account of the locations and characteristics of all material removed from the Site.

APPENDIX A

Site Location Map

Site Location Map
Trailside Estates
Town of Somers
Westchester, County, New York

N

File No: 21003-0092

October 2025

Appendix A

APPENDIX B

Health and Safety Plan

GALLAGHER BASSETT | TECHNICAL SERVICES

HEALTH AND SAFETY PLAN

FOR

SITE REMEDIATION

(INCORPORATING COMMUNITY HEALTH AND SAFETY PLAN)

"Trailside Estates" Property
Town of Somers,
Westchester County, New York

October 2025

GBTS File: 21003-0092

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TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 Purpose

This Health and Safety Plan for Site Remediation (HASP) has been developed to provide the requirements and general procedures to be followed by Gallagher Bassett Technical Services (GBTS) and on-site subcontractors while performing remedial services at the "Trailside Estates" Property Town of Somers, Westchester County, New York. This document supersedes all other health and safety plans prepared by GBTS for this Site.

This HASP incorporates policies, guidelines, and procedures that have the objective of protecting the public health of the community during the performance of fieldwork activities, and therefore serves as a Community Health and Safety Plan (CHASP). The objectives of the CHASP are met by establishing guidelines to minimize community exposure to hazards during fieldwork, and by planning for and responding to emergencies affecting the public.

This HASP describes the responsibilities, training requirements, protective equipment, and standard operating procedures to be utilized by all personnel while on the Site. All on-site personnel and visitors shall follow the guidelines, rules, and procedures contained in this safety plan. The Project Manager or Site Health and Safety Officer (SHSO, see Table 1, below) may impose any other procedures or prohibitions believed to be necessary for safe operations. This HASP incorporates by reference the applicable Occupational Safety and Health Administration (OSHA) requirements in 29 CFR 1910 and 29 CFR 1926.

The requirements and guidelines in this HASP are based on a review of available information and evaluation of potential on-site hazards. This HASP will be discussed with Site personnel and will be available on-site for review while work is underway. On-site personnel will report to the SHSO in matters of health and safety. The on-site project supervisor(s) are responsible for enforcement and implementation of this HASP, which is applicable to all field personnel, including contractors and subcontractors.

This HASP is specifically intended for the conduct of activities within the defined scope of work in specified areas of the Site. Changes in Site conditions and future actions that may be conducted at the Site may necessitate the modification of the requirements of the HASP. Although this HASP can be made available to interested persons for informational purposes, GBTS has no responsibility over the interpretations or activities of any other persons or entities other than employees of GBTS or GBTS's subcontractors.

1.2 Site Location and Description

The subject property is a 18.2-acre vacant overgrown/wooded parcel. No structures are currently located on the property. A Site Location Map is included as an Attachment to this HASP.

1.3 Work Activities

Environmental remediation activities are detailed in the Soil Management Plan (SMP), dated October 2025. The specific tasks detailed in the SMP are wholly incorporated by reference into this HASP. The SMP was prepared to oversee excavation of potential subsurface debris/urban dill from the site.

2.0 HEALTH AND SAFETY HAZARDS

2.1 Hazard Overview for On-Site Personnel

The possibility exists for on-site personnel to have contact with contaminated soils during site remedial work. Contact with contaminated substances may present a skin contact, inhalation, and/or ingestion hazard. These potential hazards are addressed in Sections 3.0 through 11.0, below.

2.2 Potential Hazards to the Public from Fieldwork Activities

The potential exists for the public to be exposed to pesticide, arsenic and lead contaminated soils, which may present a skin contact, inhalation, and/or ingestion hazard. Additional potential hazards to the public that are associated with fieldwork activities include mechanical/physical hazards, traffic hazards from fieldwork vehicles, and noise impacts associated with operation of mechanical equipment.

Impacts to public health and safety are expected to be limited to hazards that could directly affect on-site visitors and/or trespassers. These effects will be mitigated through site access and control measures (see Section 6.0, below). Specific actions taken to protect the public health (presented in Sections 3.0 through 11, below, and in the Community Air Monitoring Plan) are anticipated to minimize any potential off-site impacts from contaminant migration, noise, and traffic hazards.

3.0 PERSONAL PROTECTIVE EQUIPMENT

The levels of protection identified for the services specified in the SIWP represent a best estimate of exposure potential and protective equipment needed for that exposure. Determination of levels was based on data provided by previous studies of the Site and information reviewed on current and past Site usage. The SHSO may recommend revisions to these levels based on an assessment of actual exposures and may at any time require Site workers, supervisors, and/or visitors to use specific safety equipment.

The level of protective clothing and equipment selected for this project is Level D. Level D personal protective equipment (PPE) provides minimal skin protection and no respiratory protection, and is used when the atmosphere contains no known hazard, oxygen concentrations are not less than 19.5%, and work activities exclude splashes, immersion, or the potential for unexpected inhalation or contact with hazardous levels of chemicals. Workers will wear Level D protective clothing including, but not limited to, a hard hat, steel-toed boots, nitrile gloves (when handling soils and/or groundwater), hearing protection (foam ear plugs or ear muffs, as required), and safety goggles (in areas of exposed groundwater and when decontaminating equipment). PPE will be worn at all times, as designated by this HASP. Disposable gloves will be changed immediately following the handling of contaminated soils, water, or equipment. Tyvek suits will be worn during activities likely to excessively expose work clothing to contaminated dust or soil (chemically-resistant over garments will be required in situations where exposures could lead to penetration of clothing and direct dermal contact by contaminants).

The requirement for the use of PPE by official on-site visitors shall be determined by the SHSO, based on the most restrictive PPE requirement for a particular Work Zones (see Section 6.0 for Work Zone definitions). All on-site visitors shall, at a minimum, be required to wear an approved hardhat and be provided with appropriate hearing protection as necessary.

The need for an upgrade in PPE will be determined based upon encountered Site conditions, including measurements taken in the breathing zone of the work area using a photo-ionization detector (PID). An upgrade to a higher level of protection (Level C) will begin when specific action levels are reached (see Section 5.0, below), or as otherwise required by the SHSO. Level C PPE includes a full-face or half-mask air-purifying respirator (NIOSH approved for the compound[s] of concern), hooded chemical-resistant clothing, outer and inner chemical-resistant gloves, and (as needed) coveralls, outer boots/boot covers, escape mask, and face shield. Level C PPE may be used only when: oxygen concentrations are not less than 19.5%; contaminant contact will not adversely affect any exposed skin; types of air contaminants have been identified, concentrations measured, and a cartridge or canister is available that can remove the contaminant; atmospheric contaminant concentrations do not exceed immediately dangerous to life or health (IDLH) levels; and job functions do not require self-contained breathing apparatus (SCBAs). The need for Level B or Level A PPE is not anticipated for the planned remedial activities at this Site.

If any equipment fails and/or any employee experiences a failure or other alteration of their protective equipment that may affect its protective ability, that person will immediately leave the work area. The Project Manager and the SHSO will be notified and, after reviewing the situation, determine the effect of the failure on the continuation of on-going operations. If the failure affects the safety of personnel, the work site, or the surrounding environment, personnel will be evacuated until appropriate corrective actions have been taken.

4.0 CONTAMINANT CONTROL

Precautions will be taken during dry weather (e.g., wetting or covering exposed soils) to avoid generating and breathing dust-generated from soils. A PID and digital dust indicator (or equivalent equipment) will be used to monitor potential contaminant levels. Response to the monitoring will be in accordance with the action levels provided in Section 5.0.

5.0 MONITORING AND ACTION LEVELS

Concentrations of organic compounds in the air are expected to be below the OSHA Permissible Exposure Limits (PELs). A Community Air Monitoring Plan (CAMP) will be implemented for all fieldwork (a copy of the CAMP is provided in the SIWP). Air monitoring will be conducted for VOCs and dust. Monitoring will be conducted at all times that fieldwork activities which are likely to generate emissions are occurring. PID readings consistently in excess of 5 ppm, and dust levels in excess of 100 µg/m^3 of the background level (150 µg/m^3 after mitigation techniques have been instituted), will be used as an indication of the need to initiate personnel monitoring, increase worker protective measures, and/or modify or cease on-site operations in order to mitigate off-site community exposure.

PID and/or dust readings that consistently exceed background in the breathing zone (during any of the proposed tasks) will necessitate moving away from the source or implementing a higher PPE level.

6.0 SITE CONTROL/WORK ZONES

Site control procedures will be established to reduce the possibility of worker/visitor contact with compounds present in the soil, to protect the public in the area surrounding the Site and to limit access to the Site to only those persons required to be in the work zone. Notices will be placed near the Site warning the public not to enter fieldwork areas and directing visitors to report to the Project Manager or SHSO. Measures will be taken to limit the entry of unauthorized personnel into the specific areas of field activity and to safely direct and control all vehicular traffic in and near the Site (e.g., placement of traffic cones and warning tape).

The following Work Zone will be established:

Exclusion Zone ("Hot Zone") - The exclusion zone will be that area immediately surrounding the work being performed for remediation purposes (i.e. the area where contaminated media are being handled). It is anticipated that much of the work will be accomplished with heavy equipment in the exclusion zone. Only individuals with appropriate PPE and training are allowed into this zone. It is the responsibility of the Site Health and Safety Officer to prevent unauthorized personnel from entering the exclusion zone. When necessary, such as in high traffic areas, the exclusion zone will be delineated with barricade tape, cones, and/or barricades.

Decontamination Area - A decontamination area for personnel and equipment is not anticipated being required during completion of the SIWP; however, care will be taken to remove gloves, excess soil from boots, and soiled clothing (if necessary) before entering the Intermediate Zone.

Contamination Reduction Zone and Support Zone - Not anticipated being required during the completion of the SIWP.

Intermediate Zone (Decontamination Zone) - The intermediate zone, also known as the decontamination zone, is where patient decontamination should take place, if necessary. A degree of contamination still is found in this zone; thus, some PPE is required, although it is usually of a lesser degree than that required for the hot zone.

Command Zone - The command zone is located outside the decontamination zone. All exposed individuals and equipment from the "hot zone" and decontamination zone should be decontaminated before entering the command zone. Access to all zones must be controlled. Keeping the media and onlookers well away from the Site is critical and will be the responsibility of both the SHSO and the Project Manager, and other Site personnel as appropriate.

7.0 NOISE CONTROL

All fieldwork activities will be conducted in a manner designed to reduce unnecessary noise generation, and to minimize the potential for both on-site and off-site harmful noise levels. The Project Manager and SHSO will establish noise reduction procedures (as appropriate to the Site and the work) to meet these requirements.

8.0 PERSONNEL TRAINING

Work zones that will accomplish the general objective stated above will be established by the Project Manager and the SHSO. Site access will be monitored by the SHSO, who will maintain a log-in sheet for personnel that will include, at the minimum, personnel on the Site, their arrival and departure times, and their destination on the Site. All workers will be properly trained in accordance with OSHA requirements (29 CFR 1910). Personnel exiting the work zone(s) will be decontaminated prior to exiting the Site.
Site-specific training will be provided to each employee. Personnel will be briefed by the SHSO as to the potential hazards to be encountered. Topics will include:

- Availability of this HASP;
- General site hazards and specific hazards in the work areas, including those attributable to known of suspect on-site contaminants;
- Selection, use, testing, and care of the body, eye, hand, and foot protection being worn, with the limitations of each;
- Decontamination procedures for personnel, their personal protective equipment, and other equipment used on the Site;
- Emergency response procedures and requirements;
- Emergency alarm systems and other forms of notification, and evacuation routes to be followed; and,
- Methods to obtain emergency assistance and medical attention.

9.0 DECONTAMINATION

The SHSO will establish a decontamination system and decontamination procedures (appropriate to the Site and the work) that will prevent potentially hazardous materials from leaving the Site. Trucks will be brushed to remove materials adhering to their surfaces. Sampling equipment will be segregated and, after decontamination, stored separately from splash protection equipment. Decontaminated or clean sampling equipment not in use will be covered with plastic and stored in a designated storage area in the work zone.

10.0 EMERGENCY RESPONSE

10.1 Notification of Site Emergencies

In the event of an emergency, the SHSO will be immediately notified of the nature and extent of the emergency (the names and contact information for key site safety and management personnel, as well as other site safety contact telephone numbers, shall be posted at the Site).

Table 1 in this HASP contains Emergency Response Telephone Numbers, and immediately following is a map detailing the directions to the nearest hospital emergency room. This information will be maintained at the work Site by the SHSO. The location of the nearest telephone will be determined prior to the initiation of on-site activities. In addition to any permanent phone lines, a cellular phone will be in the possession of the SHSO, or an authorized designee, at all times.

10.2 Responsibilities

Prior to the initiation of on-site work activities, the SHSO will:

- Notify individuals, authorities, and/or health care facilities of the potentially hazardous activities and potential wastes that may develop as a result of the remediation.
- Confirm that first aid supplies and a fire extinguisher are available on-site.
- Have a working knowledge of safety equipment available.
- Confirm that a map detailing the most direct route to the hospital is prominently posted with the emergency telephone numbers.

The SHSO will be responsible for directing notification, response, and follow-up actions and for contacting outside response personnel (ambulance, fire department, or others). In the case of an evacuation, the SHSO will account for personnel. A log of individuals entering and leaving the Site will be kept so that everyone can be accounted for in an emergency.

Upon notification of an exposure incident, the SHSO will contact the appropriate emergency response personnel for recommended medical diagnosis and, if necessary, treatment. The SHSO will determine whether and at what levels exposure actually occurred, the cause of such exposure, and the means to prevent similar incidents from occurring.

10.3 Accidents and Injuries

In the event of an accident or injury, measures will be taken to assist those who have been injured or exposed and to protect others from hazards. If an individual is transported to a hospital or doctor, a copy of the HASP will accompany the individual.

The SHSO will be notified and will respond according to the severity of the incident. The SHSO will perform an investigation of the incident and prepare a signed and dated report documenting the investigation. An exposure-incident report will also be completed by the SHSO and the exposed individual. The form will be filed with the employee's medical and safety records to serve as documentation of the incident and the actions taken.

10.4 Communication

No special hand signals will be utilized within the work zone. Field personnel will utilize standard hand signals during the operation of heavy equipment.

10.5 Safe Refuge

Vehicles and on-site structures will serve as the immediate place of refuge in the event of an emergency. If evacuation from the area is necessary, project vehicles will be used to transport on-site personnel to safety.

10.6 Site Security and Control

Site security and control during emergencies, accidents, and incidents will be monitored by the SHSO. The SHSO is responsible for limiting access to the Site to authorized personnel and for oversight of reaction activities.

10.7 Emergency Evacuation

In case of an emergency, personnel will evacuate to the safe refuge identified by the SHSO, both for their personal safety and to prevent the hampering of response/rescue efforts.

10.8 Resuming Work

A determination that it is safe to return to work will be made by the SHSO and/or any personnel assisting in the emergency, e.g., fire department, police department, utility company, etc. No personnel will be allowed to return to the work areas until a full determination has been made by the above-identified personnel that all field activities can continue unobstructed. Such a determination will depend upon the nature of the emergency (e.g., downed power lines -- removal of all lines from the property; fire -- extinguished fire; injury -- safe transport of the injured party to a medical facility with either assurance of acceptable medical care present or completion of medical care; etc.).

Before on-site work is resumed following an emergency, necessary emergency equipment will be recharged, refilled, or replaced. Government agencies will be notified as appropriate. An Incident Report Form will be filed.

10.9 Fire Fighting Procedures

A fire extinguisher will be available in the work zone during on-site activities. This extinguisher is intended for small fires. When a fire cannot be controlled with the extinguisher, the area will be evacuated immediately. The SHSO will be responsible for directing notification, response, and follow-up actions and for contacting ambulance and fire department personnel.

10.10 Emergency Decontamination Procedure

The extent of emergency decontamination depends on the severity of the injury or illness and the nature of the contamination. Whenever possible, minimum decontamination will consist of washing, rinsing, and/or removal of contaminated outer clothing and equipment. If time does not permit decontamination, the person will be given first aid treatment and then wrapped in plastic or a blanket prior to transport.

10.11 Emergency Equipment

The following on-site equipment for safety and emergency response will be maintained in the on-site vehicle of the SHSO:

- Fire extinguisher;
- First-aid kit; and,
- Extra copy of this Health and Safety Plan.

11.0 SPECIAL PRECAUTIONS AND PROCEDURES

The activities associated with this remediation may involve potential risks of exposure to both chemical and physical hazards. The potential for chemical exposure to hazardous or regulated substances will be significantly reduced through the use of monitoring, personal protective clothing, engineering controls, and implementation of safe work practices.

11.1 Heat/Cold Stress

Training in prevention of heat/cold stress will be provided as part of the site-specific training. The timing of this project is such that heat/cold stress may pose a threat to the health and safety of personnel. Work/rest regimens will be employed, as necessary, so that personnel do not suffer adverse effects from heat/cold stress. Special clothing and appropriate diet and fluid intake regimens will be recommended to personnel to further reduce this temperature-related hazard. Rest periods will be recommended in the event of high/low temperatures and/or humidity to counter the negative effects of heat/cold stress.

11.2 Heavy Equipment

Working in the vicinity of heavy equipment is the primary safety hazard at the Site. Physical hazards in working near heavy construction equipment include the following: overhead hazards, slips/trip/falls, hand and foot injuries, moving part hazards, improper lifting/back injuries, and noise. All workers will be properly trained in accordance with OSHA requirements (29 CFR 1910). No workers will be permitted within any excavated areas without proper personal protective equipment (PPE), including, as warranted, any necessary Level C equipment (e.g., respirators and protective suits). Air monitoring in excavation areas will be conducted for VOCs in accordance with Section 5.0 and the Community Air Monitoring Plan.

11.3 Additional Safety Practices

The following are important safety precautions which will be enforced during this remediation:

- Medicine and alcohol can aggravate the effect of exposure to certain compounds. Controlled substances and alcoholic beverages will not be consumed during remediation activities. Consumption of prescribed drugs will only be at the discretion of a physician familiar with the person's work.
- Eating, drinking, chewing gum or tobacco, smoking, or other practices that increase the probability of hand-to-mouth transfer and ingestion of material is prohibited except in areas designated by the SHSO.
- Contact with potentially contaminated surfaces will be avoided whenever possible. Workers will not unnecessarily walk through puddles, mud, or other discolored surfaces; kneel on the ground; or lean, sit, or place equipment on drums, containers, vehicles, or the ground.
- Personnel and equipment in the work areas will be minimized, consistent with effective site operations.
- Unsafe equipment left unattended will be identified by a "DANGER, DO NOT OPERATE" tag.
- Work areas for various operational activities will be established.

12.0 TABLE AND FIGURES

Table 1: Emergency Response Telephone Numbers

Emergency Agencies	Phone Numbers
EMERGENCY	**911**
Westchester Medical Center 100 Woods Road, Valhalla, NY 10595	**(914) 493-7000**
Police Department	**(914) 277-3651 or 911**
Town of Somers Supervisor	**(914) 248-5604**
Fire Department	**(914) 749-7626**
Water and Sewer	**(914) 248-5181**
Project Manager – Richard Hooker	**(845) 867-4715**
Site Supervisor and Health and Safety Officer – Richard Hooker and/or on-site GBTS personnel	**(845) 867-4715**

Figure 1: Directions to Hospital

- Get on Taconic State Pkwy in Yorktown from NY-118 S/Tomahawk St, US-202 W and Underhill Ave

  15 min (8.0 mi)

- Follow Taconic State Pkwy to NY-100 S/Bradhurst Ave in Hawthorne. Take the NY-100 S exit from Sprain Brook Pkwy S

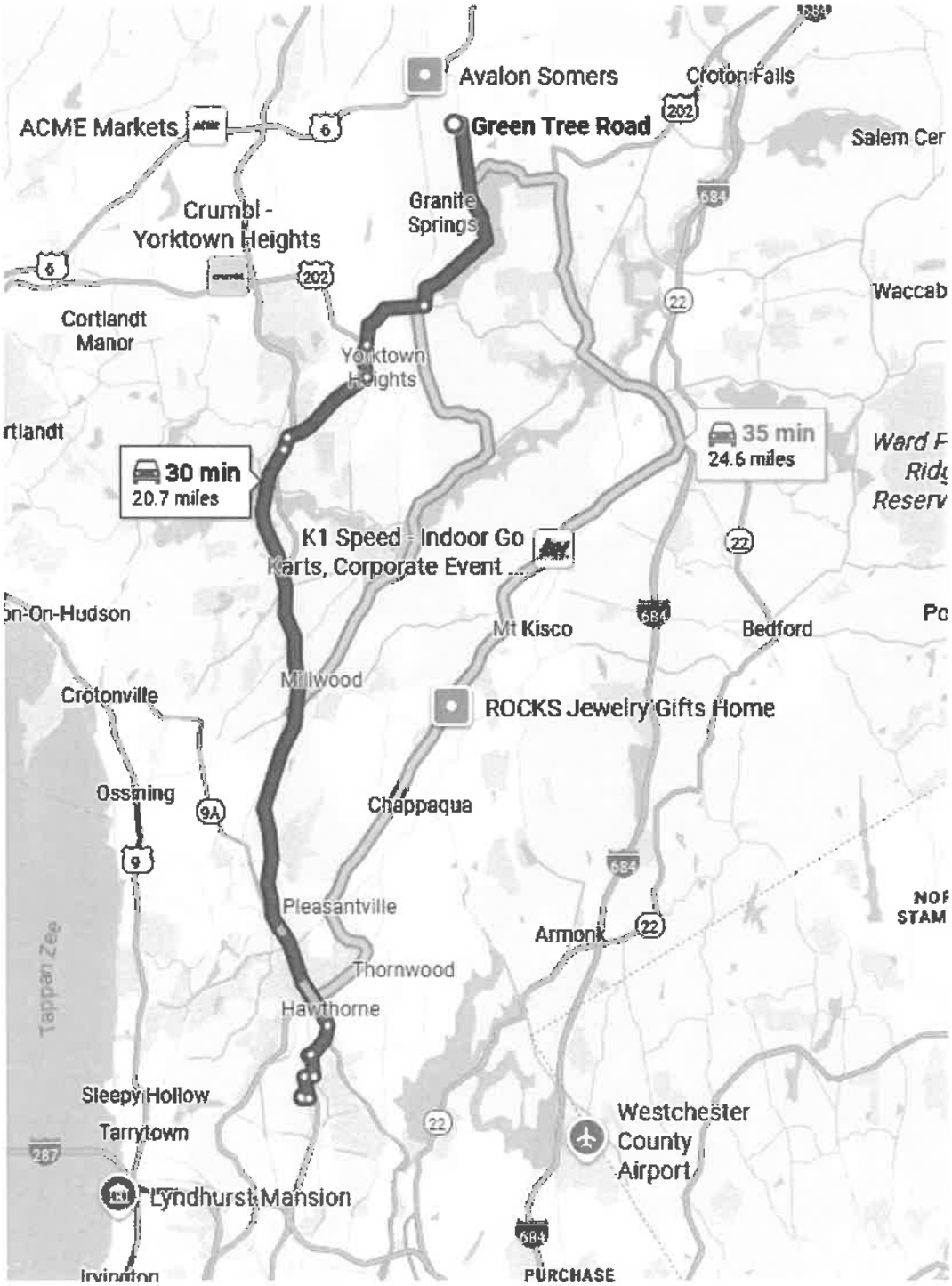
  11 min (11.6 mi)

- Continue on NY-100 S/Bradhurst Ave to your destination

  4 min (1.1 mi)

Westchester Medical Center Emergency Department
100 Woods Rd, Valhalla, NY 10595

Figure 2: Map to Hospital (overview)



GALLAGHER BASSETT | TECHNICAL SERVICES

Site Location Map
Trailside Estates
Town of Somers
Westchester, County, New York

N

File No: 21003-0092

October 2025

Attachment

APPENDIX C

Community Air Monitoring Plan

Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions, particularly if wind direction changes. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

December 2009

Woodard & Curran Engineering
and Geological Services P.A. P.C.
800 Westchester Avenue
Suite N507
Rye Brook, New York 10573
www.woodardcurran.com

T 800.426.4262
T 914.448.2266
F 914.448.0147

MEMORANDUM

TO: Town of Somers Planning Board

CC: Wendy Getting, Town of Somers

David Smith, Consulting Town Planner

FROM: Steven C. Robbins, P.E., LEED AP

DATE: December 11, 2025

RE: 2524: Verizon Wireless Special Use Permit Application
2580 Route 35, Somers, New York 10578
TM: 37.13-2-3

GENERAL

The purpose of this memorandum is to provide the Planning Board with a summary of our comments related to our review of the Special Use Permit Application for a proposed removal and installation of Verizon equipment at an existing American Tower wireless telecommunications facility located at 2580 Route 35 in Somers.

The Applicant proposes the removal of existing antennas, RRHs, and one GPS antenna from the tower, and installation of updated antennas and RRHs on the tower. The Applicant asserts changes to the equipment will not increase the height of the facility by more than 20ft or 10%, will not extend further than the existing antennas by more than 20 feet, will not increase the number of equipment cabinets by more than the standard number, will not require excavation or deployment outside of the current site, will not defeat concealment efforts of the facility, and will not violate prior conditions of approval.

This review focused on the engineering design and the associated Town Code requirements in accordance with the following:

- Town of Somers Code, Article XXIIA: *Wireless Telecommunications Facilities.*

DOCUMENTS RECEIVED

- Drawing Set, Verizon Amendment Drawings Site Number 207786 2580 Route 35, prepared by American Tower Engineering Services, PLLC, dated January 27, 2025. Drawing Set includes:

Sheet Number	Sheet Name	Dated	Revised
G-001	TITLE SHEET	January 27, 2025	
G-002	GENERAL NOTES		
C-101	DETAILED SITE PLAN	January 27, 2025	

C-201	TOWER ELEVATION	January 27, 2025	
C-401	ANTENNA INFORMATION & SCHEDULE	January 27, 2025	
C-501	CONSTRUCTION DETAILS	January 27, 2025	
E-501	GROUNDING DETAILS	January 27, 2025	
R-601	SUPPLEMENTAL		
R-602	SUPPLEMENTAL		
R-603	SUPPLEMENTAL		
R-604	SUPPLEMENTAL		
R-605	SUPPLEMENTAL		

- Town of Somers Application for Special Use Permit Wireless Telecommunications Facility, dated September 10, 2025.
- NB+C Verizon Wireless/Verizon Modification Letter, dated November 18, 2025.
- Structural Analysis Report, prepared by American Tower Engineering Services, PLLC, dated January 3, 2025.
- Visual Tower Inspection, prepared by American Tower Engineering Services, PLLC, dated March 9, 2021.
- Certificate of Insurance Coverage, dated November 18, 2025.
- Certificate of Insurance Coverage, dated June 13, 2025.
- Verizon Project Referral, dated November 24, 2025.
- Tax Letter, prepared by Christina Rossiter, dated October 8, 2025.
- Certificate of NYS Workers' Compensation Insurance Coverage, dated November 18, 2025.
- Radio Frequency – Electromagnetic Energy Jurisdictional Report, prepared by Hurricane Hill Development Company, dated May 9, 2023.

PERMITS AND APPROVALS REQUIRED

1. Town of Somers Planning Board: New Special Use Permit

DISCUSSION

1. Provide a Certificate of Authorization for American Tower Engineering Services, PLLC, to provide engineering services in New York State or documentation that one is not required.

2. Deterioration of 2 appurtenance branches was noted in the visual inspection of the tower from 2021. Please confirm the date of the next visual inspection of the tower.

NB+C
TOTALLY COMMITTED.

November 18, 2025

Town of Somers
335 Route 202
Somers, NY 10589

RE: Verizon Wireless /Verizon Modification
American Tower Site: 207786
Verizon Site 5000181280
2580 Route 35
Katonah, NY 10536

To Whom It May Concern.

The following application is for the modification of Verizon Equipment on an existing Tower located at the above referenced address. The proposed scope of work includes removing (12) Antenna, (6) RRHs, and (1) GPS Antenna. Verizon will install (9) Antennas and (6) RRHs.

It is Verizon's stance that the aforementioned application is "non-substantive" in nature, and pursuant to Section 6409(a) of the Middle-Class Tax Relief Act should be reviewed in an expedited manner accordingly.

The Federal Communications Commission (FCC) issued a report and order, FCC 14-153, on Section 6409 on October 21, 2014. Many municipalities have already changed their respective code provisions to implement these requirements. Other municipalities have begun the practice of waiving public hearings or issuing "6409 letters" to applicants in place of an extended zoning process to meet the spirit of the order.

Under the order, a modification of an existing cellular site is entitled to mandatory approval if it meets the following criteria:

- The proposal does not increase the height of the facility by more than 20 feet or 10%, whichever is greater.
- The proposal does not protrude from the edge of the tower more than 20 feet or the width of the tower, whichever is greater.
- No more than the standard number of new equipment cabinets appropriate to the technology will be installed.
- The proposal does not involve excavation or deployment outside the current site boundaries.
- The proposal would not defeat existing concealment elements.

- The proposal is not inconsistent with other conditions of the underlying approval unless the non-compliance is due to an increase in height, increase in width, addition of antennas/cabinets, or new excavation that does not exceed the corresponding "substantial change" thresholds.

Verizon confirms that this site meets all relevant criteria. The dimensions of the compound will not change as a result of the proposal, and no excavation or deployment outside of the current site boundaries are being proposed.

In these types of situations, the FCC order provides that a compliant application must be approved within 60 days of submission. In evaluating an application, "governments may only require applicants to provide documentation that is reasonably related to determining whether the request meets the requirements of" Section 6409. Beyond this, an approval may only be conditioned on "generally applicable building, structural, electrical, and safety codes and with other laws codifying objective standards reasonably related to health and safety." A municipality may not require a carrier to prove a business case for a modification, or require other subjective documentation and evidence, of the type frequently requested or presented at a public hearing. A municipality must comply with the strict approval timeframe laid out in the FCC order of 60 days for any application that meets the requirements of Section 6409. The 60 day timeframe begins when the application is made, and if not approved within that timeframe an application is deemed granted. Any requests for additional information on a submitted application must identify the specific code sections the application does not comply with.

Please feel free to contact me if you have any questions or concerns.

Thank you, and best regards,

Darryl Gresham

Darryl Gresham
267.304.1349
dgresham@nbcllc.com
1777 Sentry Parkway West
Veva 17, Suite 400
Blue Bell, PA 19422

RECEIVED
NOV 20 2025
PLANNING - ENGINEERING
TOWN OF SOMERS

SO ATC 207786, 14903073

TOWN OF SOMERS
WESTCHESTER COUNTY, NEW YORK
APPLICATION FOR SPECIAL USE PERMIT
WIRELESS TELECOMMUNICATIONS FACILITY

Facility Owner/User American Tower /InSite Towers, LLC **Tel. #:** 781-926-4500
Address: 10 Presidential Way, Woburn MA 01801
Property Owner: Umberto Santarpi **Tel. #:**
Address: 2580 Route 35 Katonah NY, 10536
Applicant: Verizon Wireless c/o Darryl Gresham (Agent) **Tel. #:** 267-304-1349
Address: 1777 Sentry Pkwy W Veva 17 Ste 400 Blue Bell PA 19422 dgresham@nbcllc.com
Managing Agent: Darryl Gresham **Tel. #:** 267-304-1349
Address: 1777 Sentry Pkwy Veva 17 Suite 400 Blue Bell PA 19422 dgresham@nbcllc.com
Westchester County Agent: **Tel. #**
Address:

Premises: Sheet: 37.13 **Block:** 2 - **Lot:** 3 **Situated on the** East **side of** Amawalk Rd (Route 35) (Street) 1000 **feet from the intersection of** Lake Road (Street)
Zoning District R-80
PROJECT TITLE: Verizon Modification
DESCRIPTION OF WORK AND PURPOSE:
Verizon will remove 12 Antennas, 6 RRHs, and 1 GPS Antennas.
Verizon will install 9 Antennas and 6 RRHs.

TYPE OF PERMIT REQUESTED:
ORIGINAL/NEW
Amend SUP **AMENDED (Date of Original Permit)**
RENEWAL (Date of Original Permit)

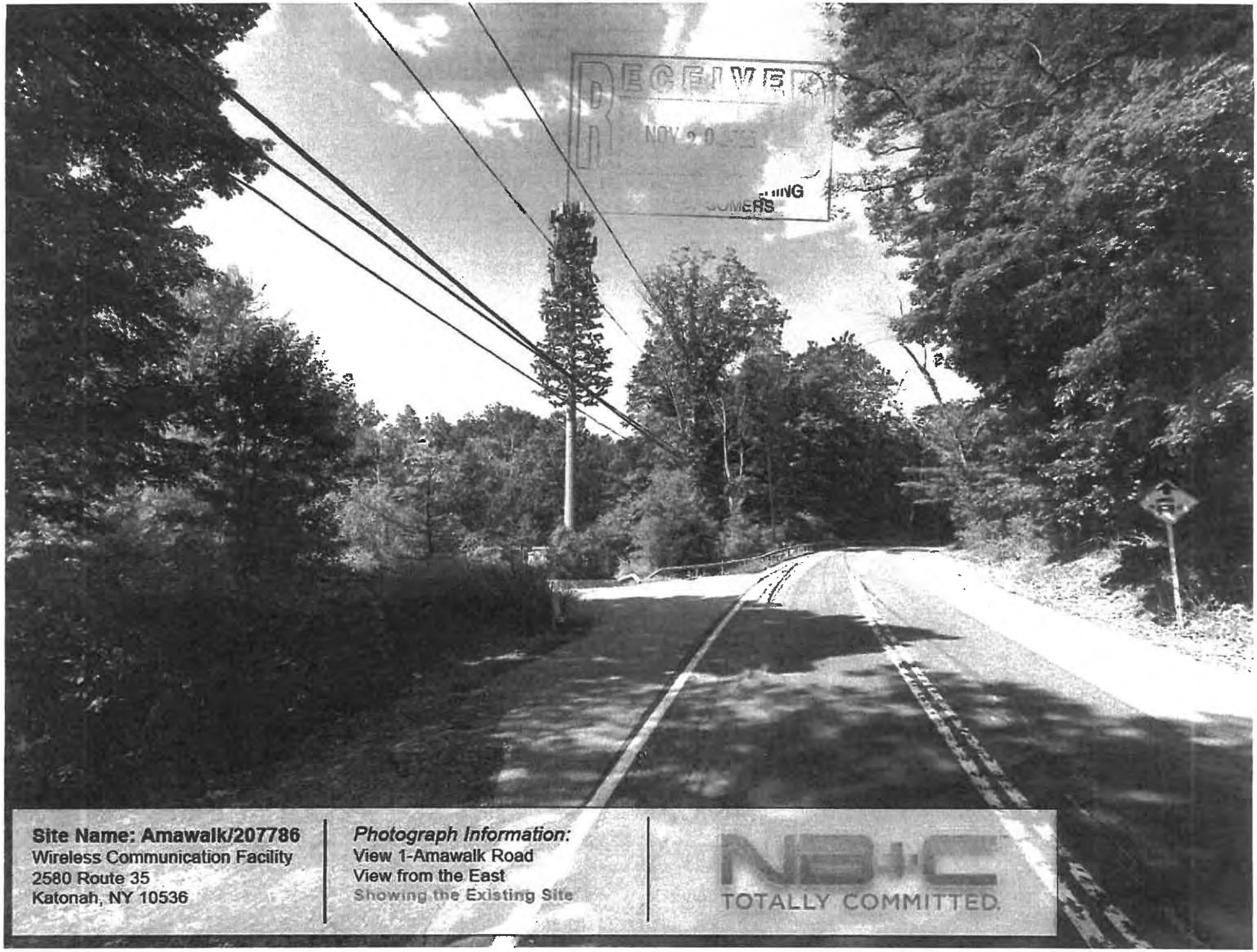
SIZE OF ACTIVITY AREA: Inside the 52'x74' ATC existing compound area.
ESTIMATED TOTAL VALUE OF WORK: 25,000
PROPOSED STARTING DATE: TBD
PROPOSED COMPLETION DATE: Approximately 15 to 30 days after construction start.
PLANS PREPARED BY: A.T Engineering Services. **DATED:** 1-27-2025
Plans must be submitted with application.

APPLICATION FEE:
$1,000.00 Original/New Special Use Permit Application
$ 800.00 Amended Special Use Permit Application
$ 500.00 Renewal of Special Use Permit Application (every 5 years)

Based upon Somers Town Code §133-2. At the time of submission of any application, an Escrow Account shall be established to pay for the costs of professional review services.

DOCUMENTS TO BE SUBMITTED WITH THIS APPLICATION:
14 Copies of all correspondence and plans submitted to the Planning Board.
Please refer to Somers Town Code §170-129.8, Application procedure. for the required documents to be submitted. (see attached)

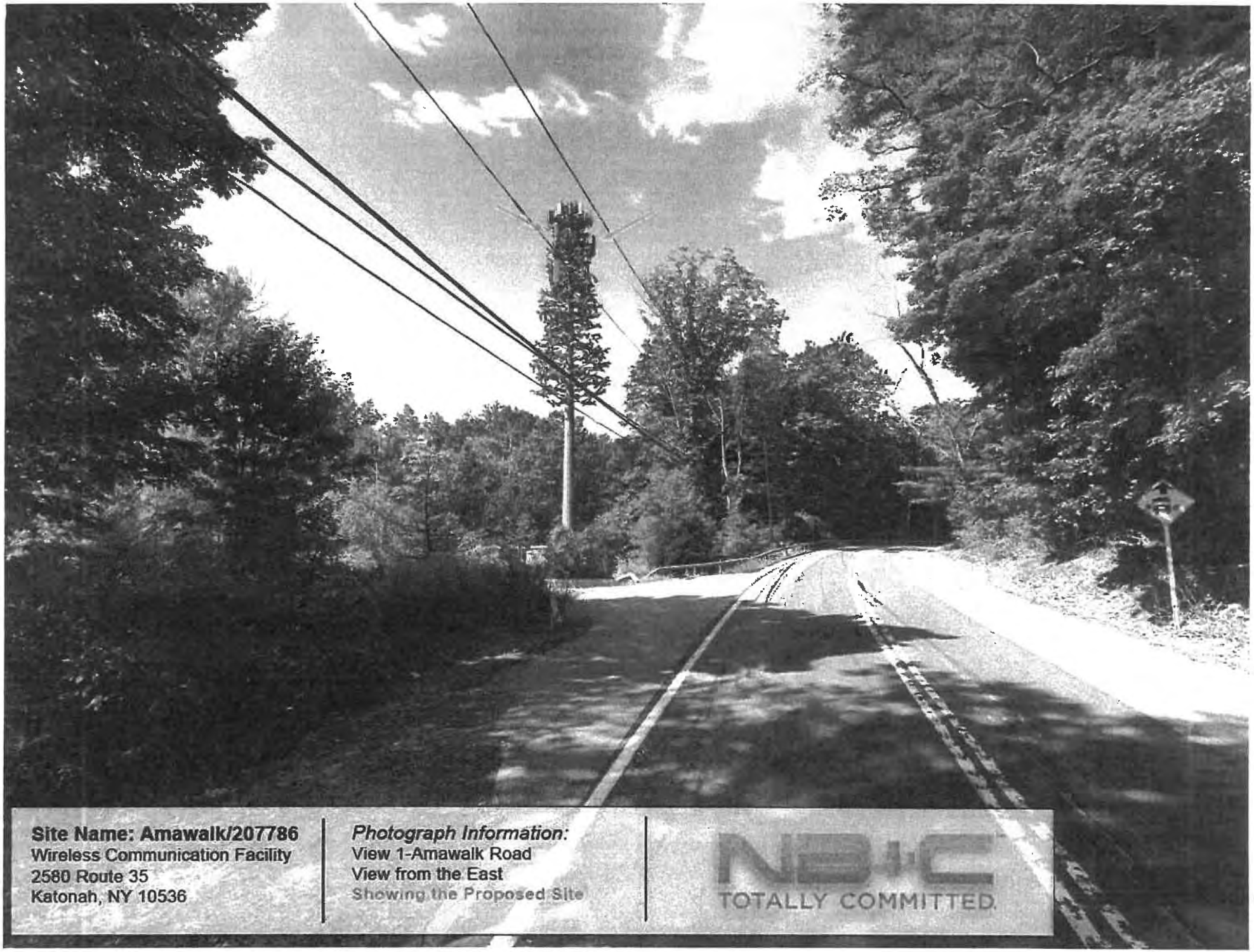
APPLICANT/FACILITY/OWNER/USER SIGNATURE: Darryl Gresham
DATE: 9-10-25
PROPERTY OWNER'S SIGNATURE: Carol Santarpi
DATE: 9-10-25



Site Name: Amawalk/207786
Wireless Communication Facility
2580 Route 35
Katonah, NY 10536

Photograph Information:
View 1-Amawalk Road
View from the East
Showing the Existing Site

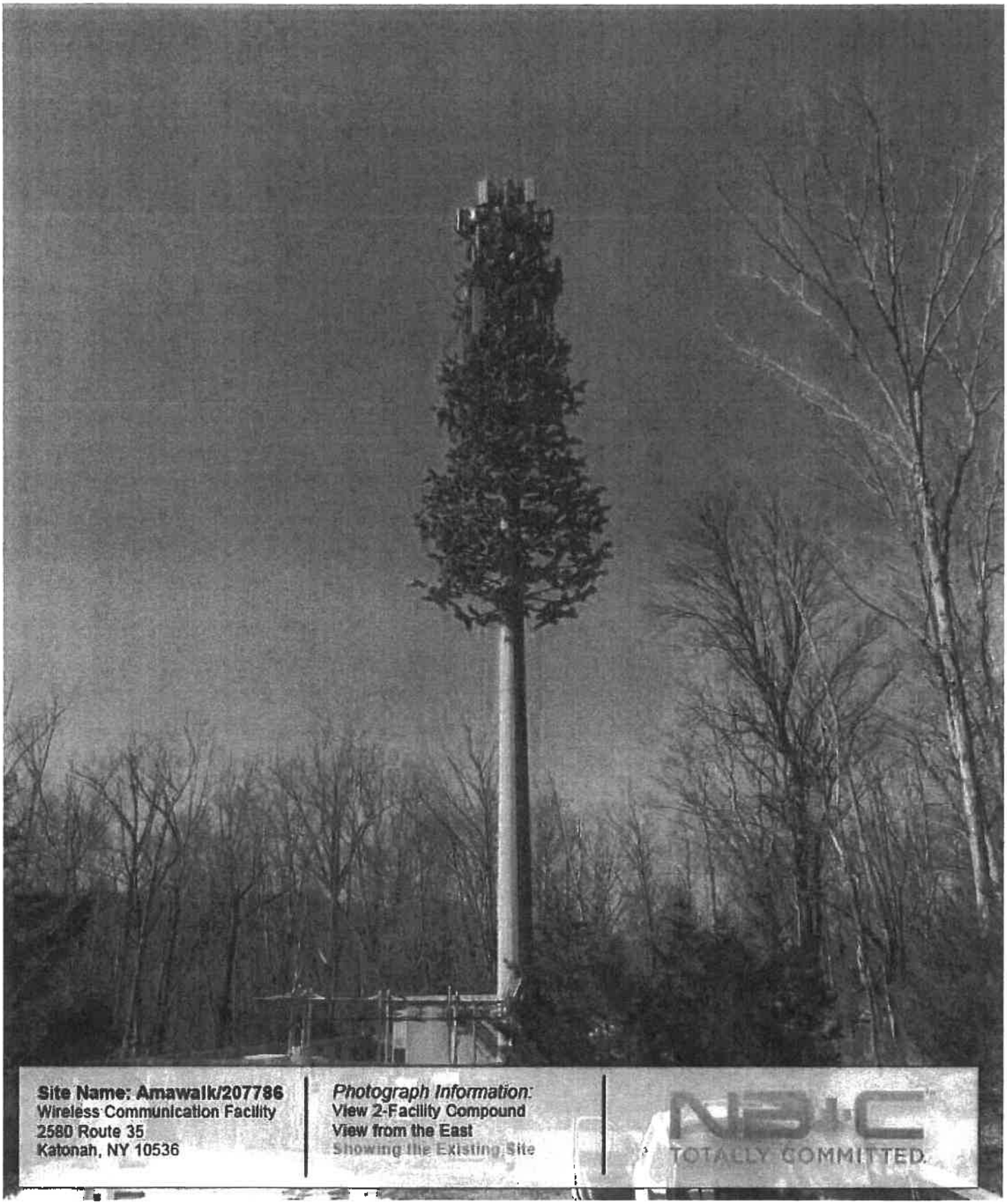
NB+C
TOTALLY COMMITTED.



Site Name: Amawalk/207786
Wireless Communication Facility
2580 Route 35
Katonah, NY 10536

Photograph Information:
View 1-Amawalk Road
View from the East
Showing the Proposed Site

NB&C
TOTALLY COMMITTED.



Site Name: Amawalk/207786
Wireless Communication Facility
2580 Route 35
Katonah, NY 10536

Photograph Information:
View 2-Facility Compound
View from the East
Showing the Existing Site

NB+C
TOTALLY COMMITTED.


Site Name: Amawalk/207786
Wireless Communication Facility
2580 Route 35
Katonah, NY 10536
Photograph Information:
View 2-Facility Compound
View from the East
Showing the Proposed Site
NB+C
TOTALLY COMMITTED.