



**MAP, PLAN AND REPORT
For
EXTENSION No. 1
OF THE KIAMESHA SEWER DISTRICT**



SULLIVAN COUNTY, NEW YORK

Client:

Town of Thompson
4052 Route 42
Monticello, NY 12701

Prepared by:

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ADDITION TO THIS DOCUMENT IS A
NEW YORK STATE EDUCATION LAW.**

**Job No.: 20-110
Draft Date: 11 May 2020
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A. INTRODUCTION

The owners of the Countryside Bungalow Colony and Freeds Colony as well as other parcels located along Old Liberty Road and Fraser Road, listed elsewhere, have petitioned the Town Board for the consideration of an extension to the Kiamesha Sewer District located at the intersection of Old Liberty Road and Fraser Road. The Town Board therefore authorized MHE Engineering, D.P.C. to prepare the following Map, Plan and Report.

B. BENEFIT AREA

The area to be benefited includes Countryside Acres Bungalow Colony, Tax Lot 8-1-57 and Freeds Bungalow Colony, Tax Lot 8-1-47.1.

Tax Lot 8-1-10.4, which is a vacant parcel, will be added to Countryside Acres as a parking lot and will be included in the district extension.

In addition, other single-family home lots, Tax Lots 8 – 1–24.1, 24.2, 24.3, 27 and 47.2 will be added to the district extension

The district extension is generally located along Old Liberty Road and Fraser Road. The District extension is more formerly shown on Attachment No. 1 and described in Attachment No.3.

C. PROJECT DESCRIPTION

The Harris Woods housing development is presently served by a central sewage collection system and pumping station, which pumps wastewater to the Patio Homes pump station, which eventually is treated at the Kiamesha Lake Sewage Treatment Plant.

The various bungalow colonies and property owners to be included in the Sewer District No.1 Extension will develop their own sewage collection systems and connect via gravity sewer lines to the existing Harris Woods Sewage Pumping Station located off of Old Liberty Road. Attachment No.2 shows a schematic layout of how the property owners may wish to consider connecting to the pump station.

The existing Countryside Bungalow Colony and Freeds Colony are presently served by on lot subsurface sewage disposal systems at various locations on their properties. An existing central gravity sewage collection system carries wastewater from the bungalows to the multiple subsurface sewage disposal systems locations. It is the intention of the Bungalow Colonies to abandon their own lot subsurface sewage disposal systems and redirect their existing gravity sewage collection systems to a new gravity collection line to be connected to the existing Harris Woods sewage pump station to be upgraded to handle the additional flows.

The Town of Thompson Sewer Department will require that the Bungalow Colonies investigate and upgrade the existing collection systems within the colonies to eliminate any existing ground water infiltration/ inflow and other deficiencies that may exist to avoid the need to treat excessive groundwater, which may be infiltrating into the existing sewer system presently.

The various Bungalow Colonies and property owners to be included in the Sewer District Extension No.1 will develop, at their own cost and expense, their own sewage collection systems and connect via gravity sewer lines to the existing Harris Wood Sewage Pump Station located off of Old Liberty Road.

D. EXISTING AND PROPOSED IMPROVEMENTS

The existing Kiamesha Sewer District includes a central sewage collection system and sewage pumping system (Harris Woods Pump Station) designed for approximately 21,600 gallons per day. Sewage flows are pumped via a 4-inch force main from the existing Harris Woods sewage pump station along Fraser Road to Anawanna Lake Road where sewage flows by gravity via an 8-inch gravity sewer line to the Patio Homes Pump Station. From Patio Homes, wastewater is pumped to the existing Kiamesha Lake Sewage Treatment Plant.

The Kiamesha Lake Sewage Treatment Plant has a rated capacity of 2,000,000 gallons per day. The existing average daily flow to the Sewage Treatment Plant approximates 432,400 gallons per day for 2019. A new Development, referred to as Lakeview Estates, was recently constructed and has paid for 33,000 gallons per day of capacity at the Kiamesha Lake Sewage Treatment Plant. Considering the existing flows to the Sewage Treatment Plant as well as the potential for in District properties to develop in the short term requiring an estimated 350,000 gallons per day, the Adelar/EPR Casino Resort project with a Phase 1 estimate of 373,100 gallons per day and the Lakeview Estates Sewer District of 33,000 gallons per day, we estimate there will be a reserve capacity at the Kiamesha Lake Sewage Treatment Plant of 811,900 gallons.

Estimated Sewage Flow for Ext. No. 1

Countryside Acres Bungalow Colony: (8-1-57, 10.4)

Existing Bungalow = 74 Units
 Existing Bedrooms = 253 Bedrooms
 Future Bedrooms to be Added = 47 Bedrooms
 Total Bedrooms = 300

Estimated Flow (300 Bedrooms X 110gpd/Bedroom) = 33,000 gpd

Frees Bungalow Colony: (8-1-47.1)

Existing Bungalows = 35 Units
 Existing Bedrooms = 74 Bedrooms
 Future Bedrooms to be added = 16 Bedrooms
 Total Bedrooms = 90 Bedrooms

Estimated Flow (90 Bedrooms X 110gpd/Bedroom) = 9,900 gpd

5 Single Family Homes (8-1-24.1, 24.2, 24.3, 27 & 47.2)

Estimated Flow (5 bedrooms x 110gpd/Bedroom) = 550 gpd per home
 Total flow = 5 x 550 gpd = 2,750 gpd

Total Flow = 45,650 gpd

Based on the permitted capacity at the Kiamesha Lake Sewage Treatment Plant, and committed flows for the casino/resort and other project developments, the sewage treatment plant has adequate capacity to treat the wastewater generated from the proposed Extension No.1 of the Kiamesha Sewer District projected to add an estimated 45,650 gallons per day of additional flow.

The Kiamesha Extension No. 1 property owners are expected to contribute to the cost to purchase their fair share of the reserve capacity at the Kiamesha Sewage Treatment Plant as provided for under Project Costs in this report.

Countryside Acres and Freeds Bungalow Colony presently have sewage collection systems, which discharge to on-lot subsurface sewage disposal systems. Modifications to the existing collection system will be required. The existing subsurface sewage disposal systems are to be abandoned in accordance with NYSDOH protocols. A gravity sewer line from strategic points in the existing Bungalow Colony collection systems will be constructed to a newly proposed gravity sewer line to be extended from both Countryside Acres and Freeds to the existing sewage pump station located at Harris Woods. The existing single-family lots will also require a new gravity collection line.

The design and construction of the collection system modifications for Freeds and Countryside will be the responsibility of the respective property owners as well as the extension of the gravity sewer line to tie into the Harris Woods Sewage Pump Station. The design and construction of the collection line to serve the single-family home lots to be included in the district extension will also be the responsibility of the various property owners.

As noted above the Town of Thompson Sewer Department will require the owners of the Bungalow Colonies to perform TV/smoke inspections of their existing sewage collection lines to determine if there are any infiltration /inflow problems or other deficiencies within the collection system requiring repairs. All repairs must be completed prior to connection of the Bungalow Colonies to the newly upgraded pump station at Harris Woods.

A sketch plan showing the schematic layout of the various collection lines to be constructed by the property owners has been included as Attachment No.2.

E. HARRIS WOODS PUMP STATION

The Harris Woods Pump Station was designed to service the build out of the Harris Woods Community, which was determined to be 98 dwellings. The average daily flow rate was determined to be 21,613 gpd, with a corresponding peak hour flow rate of 60 gpm. The pump station was designed for a flow rate of 120 gpm at a TDH of 150 feet to maintain a minimum velocity in the force main above 2 feet per second.

The proposed additional flows to the district will increase the average day flow for the pump station to a total of 67,263 gpd(21,613gpd + 45,650gpd). The corresponding peak hour flow rate is then 150 gpm.

The additional flows tributary to the pump station will require the replacement of the existing submersible pumps, guiderail assemblies and variable frequency drives. A schematic estimate of probable construction cost is attached to this report as Attachment No.4. The total estimated cost to increase the capacity of the pump station to accommodate the additional development is \$146,000.00.

F. PROJECT COSTS

The costs associated with the Sewer District Extension No.1 include pump station improvement costs, capacity costs and annual costs. A summary of these costs is provided as follows:

PUMP STATION IMPROVEMENT COSTS

The bungalow colonies and other property owners to be included in the Sewer District Extension No.1 will be responsible for all design, construction and costs associated with the installation of infrastructure improvements for the collection of wastewater within the district extension and the gravity sewer connection to the Harris Woods Sewage Pump Station.

In addition, the users in the Kiamesha Sewer District Extension No.1 will be responsible for all costs to upgrade the pumping capacity of the existing Harris Woods Sewage Pump Station estimated at \$146,000.00. A copy of this cost estimate is provided as Attachment 4.

Assessing the pump station improvement costs on a gallon per day basis results in the following costs to each property:

- Countryside Acres: $\$146,000 \times (33,000 \text{ gpd}/45,650 \text{ gpd}) = \$105,542.16$
- Freeds Acres: $\$146,000 \times (9,900 \text{ gpd}/45,650 \text{ gpd}) = \$31,662.69$
- Single Family Home (each): $\$146,000 \times (550\text{gpd}/45,650 \text{ gpd}) = \$1,759.03$

CAPACITY COSTS

With respect to the available capacity at the Kiamesha Lake Sewage Treatment Plant, to be used by the Sewer District Extension No.1, due to the fact that the existing Kiamesha Lake Sewer District users have bought and paid for the additional available capacity in the Kiamesha Lake Sewage Treatment Plant, as an outside user the Sewer District Extension No.1 property owners will be expected to pay their fair share of the reserve capacity at a rate of \$20 per gallon per day, the cost for which is shown below.

Cost to purchase available capacity at the Kiamesha Lake Sewage Treatment Plant. Fair share cost has been established previously for other District formations (Lakeview Estates), at a cost of \$20 per gallon of Daily Capacity reserves. Capacity costs for the District Extension properties are therefore:

- Countryside Acres: $\$20/\text{gpd} \times 33,000 \text{ gpd} = \$660,000.$
- Freeds Acres: $\$20/\text{gpd} \times 9,900 \text{ gpd} = \$198,000$
- Single Family Home (each): $\$20/\text{gpd} \times 550\text{gpd} = \$11,000$

Actual capacity costs shall be determined based upon the number of actual bedrooms at the time of connection. If the number of bedrooms on any of the properties exceeds that for which the property purchased at the time of district extension, an additional capacity fee of \$20/gpd shall be assessed and payable at the time of building permit application. This additional capacity fee shall be assessed if the bedroom count is increased within a 10 year time period, commencing at the time of District Extension No.1 formation by the Town Board.

ANNUAL COSTS

The Kiamesha Sewer District assesses annual debt costs and operation and maintenance (O&M) costs on a point system, which is based upon property use classification. The current schedule of points for the District is provided in Attachment 5.

The list of parcels included in the District Extension is provided in Attachment 6 of this Report. This list includes the property classification, which is utilized to assess annual sewer costs.

The Town of Thompson Town Board has adopted the following rates for the 2022 Kiamesha Sewer District assessment:

Capital Debt Service = \$9.65/Point
Annual O&M Cost = \$54.50/Point

The annual sewer fee for a parcel in the District Extension will be calculated by multiplying the sewer points for the property classification by the rates noted above.

For example: A single-family residence with 4 bedrooms property classification of 210 would be assessed the following annual cost:

O&M (Rent) 10 Points (\$54.50/Point) = \$545.00
Capital Debt 10 Points (\$9.65/Point) = \$96.50
Total Annual Cost = \$641.50

*All costs shown above are subject to change. Costs for the Pump Station Upgrade may change based on actual Construction Costs and all increases will be the responsibility of The Kiamesha Sewer District Extension No.1 users. Any increase in costs over estimates contained herein shall be reconciled and paid in full by all properties in Extension No. 1 prior to being allowed to discharge into the system.

G. CONCLUSIONS

The costs associated with Extension No. 1 of the existing Kiamesha Sewer District to service the benefit area are described above. The extension will not result in increased costs for existing district users.

Respectfully submitted,

MHE Engineering, D.P.C.

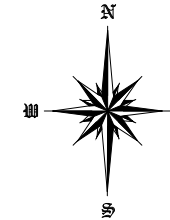
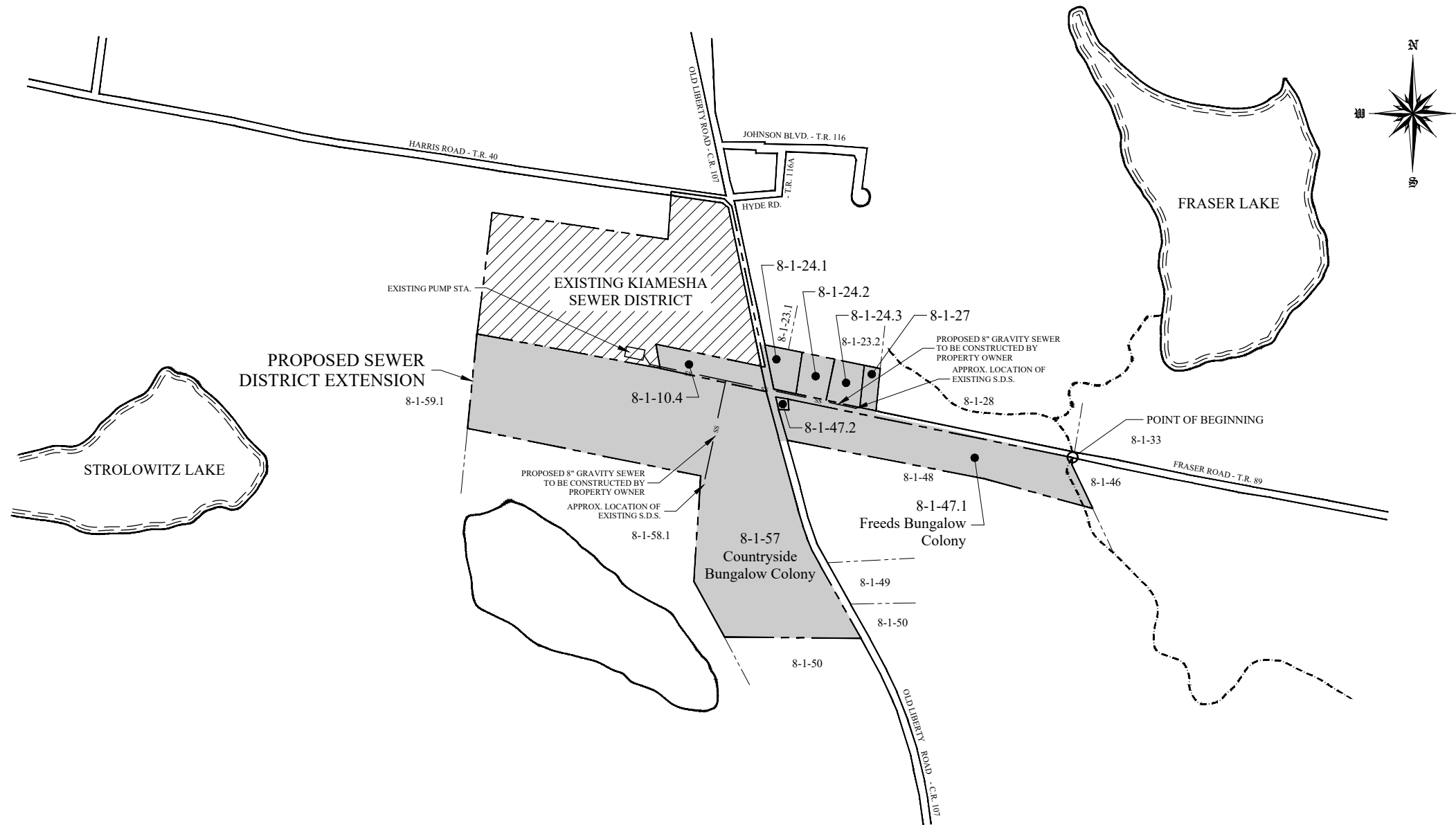


Matthew Sickler, P.E.

Attachment 1

Kiamesha Sewer District No. 1

SCHEMATIC DESIGN



UNAUTHORIZED ADDITION OR ALTERATION OF THIS PLAN IS A VIOLATION OF SECTION 7209(2) OF THE NEW YORK STATE EDUCATION LAW.

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KIAMESHA SEWER DISTRICT

FOR TOWN OF THOMPSON
4052 ROUTE 42
MONTICELLO, N.Y. 12701

SEWER DISTRICT EXTENSION No. 1

REVISIONS		
NO.	DESCRIPTION	DATE
A	ADDED LOT 8-1-27	12/16/21

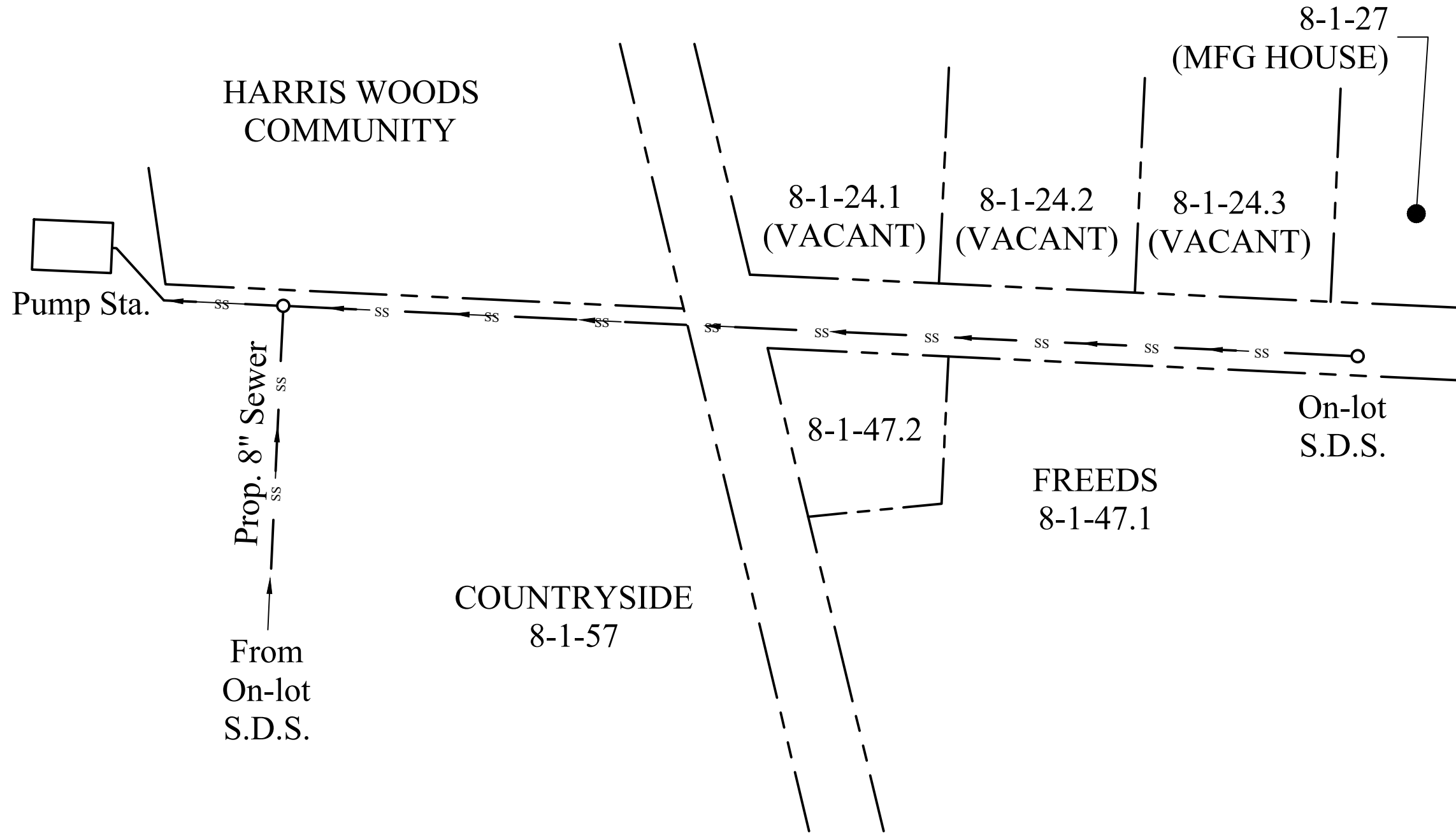
ISSUED DATE: 2 NOV. 2021
DESIGN BY: MJS
DRAWN BY: HPBjr
CHECKED BY: MJS
REVIEWED BY: MJS

SHEET NO.
Attachment No. 1
PROJECT #20-110 PHASE #

Attachment 2

Sketch Plan of Schematic Layout of Collection Lines

F:\2020\20-110 Thompson Harris Woods Sewer Extension\Drafting\20-110SP.dwg, Layout1, 12/16/2021 7:59:22 AM



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KIAMESHA SEWER DISTRICT EXT. SCHEMATIC SEWER EXTENSION No. 1

FOR TOWN OF THOMPSON
4052 ROUTE 42
MONTICELLO, N.Y. 12701

REVISIONS		
NO.	DESCRIPTION	DATE
A	ADDED LOT 8-1-27	12/16/21
ISSUED DATE:		03 NOV, 2021
DESIGN BY: MJS		CHECKED BY: MJS
DRAWN BY: HPBJr		REVIEWED BY: MJS

SHEET NO.
Attachment No. 2

PROJECT #20-110 PHASE #

Attachment 3

Description of District Extension

Beginning at a point, being the northeast corner of TM 8-1-47.1, said corner also being on the boundary of Fraser Road; Thence

1. Westerly, 1,318 feet more or less, along the southerly boundary of Fraser Road, also being the northern boundary of TM 8-1-47.1, to a point; thence
2. Northerly, 42 feet more or less, across Fraser Road to a point, being the southeastern corner of TM 8-1-27; thence
3. Northerly, 281 feet more or less, along the easterly boundary of TM 8-1-27 to a point, said point being the northeasterly corner of TM 8-1-27; thence
4. Westerly, 775 feet more or less, along the northerly boundary of TM 8-1-27, TM 8-1-24.3, TM 8-1-24.2 and TM 8-1-24.1 to a point, said point being the northwesterly corner of TM 8-1-24.1 and being located on the boundary of Old Liberty Road; thence
5. Southerly, 156 feet more or less, along the easterly boundary of Old Liberty Road, also being the westerly boundary of TM 8-1-24.1, to a point; thence
6. Westerly, 57 feet more or less, across Old Liberty Road to a point, said point being the northeasterly corner of TM 8-1-10.4; thence
7. Westerly, 704 feet more or less, along the northerly boundary of TM 8-1-10.4, also being the southerly boundary of the Kiamesha Sewer District, to a point, said point being the northwesterly corner of TM 8-1-10.4; thence
8. Southerly, 161 feet more or less, along the westerly boundary of TM 8-1-10.4, also being the easterly boundary of the Kiamesha Sewer District to a point, said point being the southwesterly corner of TM 8-1-10.4; thence
9. Westerly, 1,223 feet more or less, along the northerly boundary of TM 8-1-57, also being the southerly boundary of the Kiamesha Sewer District, to a point, said point being the northwesterly corner of TM 8-1-57, thence
10. Southerly, 624 feet more or less, along the westerly boundary of TM 8-1-57 to a point, said point being the southwesterly corner of TM 8-1-57; thence
11. Easterly, 1,563 feet more or less, along the southerly boundary of TM 8-1-57 to a point, said point being an inside corner of TM 8-1-57; thence
12. Southerly, 692 feet more or less, along the westerly boundary of TM 8-1-57 to a point, said point being a corner of TM 8-1-57; thence
13. Southeasterly, 418 feet more or less, along the westerly boundary of TM 8-1-57 to a point, said point being the southwest corner of TM 8-1-57; thence

- 14.** Easterly, 898 feet more or less, along the southerly boundary of TM 8-1-57 to a point, said point being the southeasterly corner of TM 8-1-57 and on the westerly boundary of Old Liberty Park road; thence
- 15.** Northwesterly, 1,444 feet more or less, along the easterly boundary of TM 8-1-57, also being the westerly boundary of Old Liberty Park road to a point; thence
- 16.** Easterly, 50 feet more or less, across Old Liberty Park Road to a point, said point being the southwesterly corner of TM 8-1-47.1; thence
- 17.** Easterly, 2,055 feet more or less, along the southern boundary of TM 8-1-47.1 to a point, said point being the southeastern corner of TM 8-1-47.1; thence
- 18.** Northwesterly, 323 feet more or less, along the easterly boundary of TM 8-1-47.1 to a point on said boundary; thence
- 19.** Northerly, 43 feet more or less, along the westerly boundary of TM 8-1-47.1 to point, said point being the northeasterly corner of TM 8-1-47.1 and also being the point of beginning.

Attachment 4

Schematic Estimate of Probable Cost



Harris Woods Sewer District
Pump Station Improvements Project
Town of Thompson
Sullivan County, New York
Schematic Estimate of Probable Construction Cost

Last Revised:
 2-Nov-21
Revised By:
 MJS

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	EXT. PRICE	TOTALS
<u>Harris Woods Pump Station</u>						
1	Submersible pumps 426 gpm @ 84 ft	2	EA	\$ 22,000.00	\$ 44,000	
2	Variable Frequency Drive	2	LF	\$ 5,000.00	\$ 10,000	
3	Guide Rail Assembly	2	EA	\$ 3,000.00	\$ 6,000	
4	Misc hardware and electrical components	1	LS	\$ 5,000.00	\$ 5,000	
5	Manufacturer startup & training	1	LS	\$ 2,000.00	\$ 2,000	
6	Bypass pumping and flow management	4	DAY	\$ 1,500.00	\$ 6,000	
7	Labor, crew of 4	5	DAY	\$ 3,200.00	\$ 16,000	
8	General conditions, bonds, ins, etc.	1	LS	\$ 10,000.00	\$ 10,000	
9	Contractor OH&P	1	LS	\$ 20,000.00	\$ 20,000	
				Subtotal		\$ 119,000
				<i>Construction Contingencies</i>		\$ 9,000
				Total Construction Cost		\$ 128,000
				<i>preliminary design and DEC approval</i>		\$ 5,000
				<i>bid documents and process</i>		\$ 6,000
				<i>construction administration/observation</i>		\$ 7,000
				Total Design & Construction Cost		\$ 146,000

Attachment 5

2020 Schedule of Points

1/28/2021

2020 Schedule of Points

This Schedule refers to domestic, or sanitary, sewage
 Multi-use properties will be assigned points summed for each use

*=per unit

Property Class	Property Use	Rent Points	Debt Points
210	Single-family dwellings		
	1 to 4 bedrooms	10	10
	5 or more bedrooms	20	20
215, 220	Home with apartment, Two-family dwellings	20	20
230	Three-family dwelling	30	30
260	Seasonal Homes	10	10
280	Residential multistructure, multipurpose*	20	20
411	Apartment*		
	one-bedroom	7	7
	two-bedroom	8	8
	three-bedroom	10	10
	Residences with HOA offering plans will be assigned a share of the Points for the related common facilities		
Condominiums			
270, 416	Mobile home, manufactured home parks*	5	5
260	Seasonal Residences	10	10
414, 415, 418	Hotels, Motels, Inns		
	Office, first unit, small kitchen each sleeping unit*	20	20
	each efficiency unit*	5	5
		6	5
417	Camps, cottages, bungalows; unheated; per unit*	5	10
	add for day camps and/or school facilities	15	15
421, 424	Restaurants, Night clubs	80	80
422, 423, 425, 426	Diners, Fast Food and bars	40	40
431, 432, 433	Autodealers, Service Stations, Body shops	20	30
434, 435, 436	Car wash	70	70
437, 438	Parking lots	0	10
440, 441, 442, 446, 449	Storage, warehouse, distribution facility plus 4 point/1000 sqft	20	20
447	Truck terminal	100	100
451, 452, 453, 454	Large Retail plus 6 points/1000 sqft limited facilities 4 points/1000 sqft	50	50
455, 471, 472	Sales (non-auto), funeral home, kennel	30	30
460, 461, 462, 463	Banks	60	60
464, 465	Office and Professional building	100	100
480, 482, 483	Multi-use commercial, row type, converted residence	15	15
484, 485, 486	Small commercial, mini-marts	30	30
512, 534, 541, 542	Movie theatre, social halls, bowling alleys, ice rinks	90	90
543, 544, 545, 546, 553	Recreational and sport facilities	120	120
550, 552, 682	Recreational acreage without facilities, per acre (ex golf courses, parks, etc)	0	5
554	Outdoor pools, no facilities	20	20
612, 613, 614, 615	Schools, Colleges, Special Institutions (day use) plus 5 point/1000 sqft	20	20
611, 620, 632, 681	Library, Cultural, Religious, Benevolent	20	20
641	Hospitals plus 20 points/1000 sq ft	50	50
614, 633	(Residential) Nursing Home, Group Home, Special Institutions, Assisted Living plus 25 points/1000 sq ft	50	50
642	Small health care office plus 8 points/1000 sq ft	20	20
652	Government Office	100	100
710, 712, 714	Manufacturing and Processing	50	50
720, 721	Mining	10	10
822, 823 853	water supply, water treatment, wastewater treatment according to volume of sewage sent to Town		
300	Vacant, Subdivided lots		
	Each buildable residential lot	0	3
	Each commercial lot	0	4
	Each waterfront lot	0	4
	Acreage per acre	0	5
	SPECIAL CLASSIFICATION: parcels or units included in the district which can not be feasibly served at this time, the property line being more than 200 feet from the sewer line or other circumstances making connection infeasible.	0	0.01
	OUTSIDE USERS shall be assigned points on the same basis and using the same formula used for all parcels within the district, with an additional 10% Administration fee		
	If a user is a MUNICIPAL GOVERNMENT, the Town and such municipal government may by contract agree on the charge to be imposed for use of the sewer system, which such contract may include the successor to such municipal government		

The Town Board will make decisions on questions of classifications of properties

Attachment 6

List of Parcels for District Extension

List of Parcels for District Extension

Tax Map Parcel	Acreage	Property Classification
8-1-24.1	1.55	370 – Residence Vacant
8-1-24.2	1.41	311 – Residence Vacant
8-1-24.3	1.46	311 – Residence Vacant
8-1-27	0.69	270 – MFG Housing
8-1-47.1	13.77	417 – Cottage
8-1-47.2	0.3	210 – 1 Family Residence
8-1-10.4	2.76	314 – Rural Vacant
8-1-57	48.83	417 – Cottage