Technical Memorandum

February 16, 2018

To	Michael Quinn, P.E. – Yorktown Town Engineer		
Copy to	Ray Schofield, P.E. - GHD		
From	Robert Butterworth, P.E. – GHD	Tel	315.679.5800
Subject	Jefferson Park and Farmwalk Pump Station Elimination Evaluation	Job No.	11123637

A. Introduction

The Town of Yorktown supports a number of infrastructure services to provide an above-average quality of life to its residents. These services include water supply, wastewater collection, and treatment and stormwater collection and conveyance. GHD Consulting Services Inc. (GHD) recently completed the preparation of Contract Documents for the Town of Yorktown Pump Station Upgrade Program, Walden Woods and Jefferson Valley Pump Stations, as part of the Town's Capital Improvement Plan.

The Town is investigating two potential sewer diversions involving the Jefferson Park and Farmwalk pump stations. The proposed project involves demolition of each of the pump stations and extension of existing gravity sewers to continue sewer service to residents.

As a result of the proposed projects, two sewer diversions are anticipated. Wastewater flow from the Jefferson Park pump station is currently routed to the Town of Yorktown Wastewater Treatment Plant (WWTP) and is proposed to be routed via gravity sewer to the Peekskill WWTP which is owned by Westchester County. The projected additional flow to the Peekskill WWTP as a result of the Jefferson Park Sewer diversion is 17,000 gallons per day. Wastewater flow from the Farmwalk pump station which is currently routed to the Peekskill WWTP is proposed to be routed via gravity sewer to the Town of Yorktown WWTP. The projected additional flow to the Town of Yorktown WWTP is 36,000 gallons per day as a result of the Farmwalk pump station sewer diversion. Overall the Peekskill WWTP is projected to have a flow reduction of 19,000 gallons per day as a result of the proposed projects. Figure 1 shows the proposed tie-in location to the collection system for the Peekskill WWTP.

GHD was retained by the Town to provide engineering services associated with evaluating the feasibility of the extensions. GHD met with Town staff to gain a better understanding of the Town's goal in performing this evaluation, and to determine the impact of such an extension on the existing collection system. If successful, the extension would allow the Town to eliminate the Jefferson Park and Farmwalk Pump Stations from operation, effectively reducing the Town's long term operation and maintenance costs.

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B. Scope of Work

The following tasks were performed to complete the feasibility evaluation of eliminating the Jefferson Park and Farmwalk Pump Stations and extending the 8-inch gravity sewers:

1. Existing Drawings – Review of existing drawings and background data for the Jefferson Park and Farmwalk Pump Stations.

2. Site Assessment - Field review of existing site conditions for the proposed Jefferson Park sewer extension.

3. Field Data Collection - Obtain manhole invert elevations for two existing manholes located on Campbell Court and Juniper Drive along the proposed Jefferson Park sewer extension.

4. Basis of Design - Establish a basis of design for collection system components, including:

    a. Type of sewer construction and proposed materials.

    b. Conceptual pipe routing plan (plan view).

5. Technical Memorandum - Preparation of a Technical Memorandum summarizing the evaluation results and design criteria.

C. Jefferson Park Sewer Evaluation

1. Existing Conditions

The Jefferson Park Pump Station, located along Juniper Drive, was originally constructed in 1979 and serves 37 residences within the immediate vicinity of the station. Wastewater is conveyed to the station by gravity through the existing collection system which is comprised of 8-inch cast iron piping and concrete manholes at various locations within the development. It is proposed to intercept wastewater flow at the manhole located in the center of Juniper Drive north of the Jefferson Park Pump Station. The existing manhole on Juniper Drive has a rim elevation of 560.6 feet and invert of 551.4 feet based on recent survey data. The existing manhole on Campbell Court has a rim elevation of 550.4 feet and invert elevation of 543.7 feet. A new 8-inch poly vinyl chloride (PVC) gravity sewer would be installed along the adjacent property line and existing drainage easement to the existing manhole located on the Campbell Court cul-de-sac.

Natural gas and electric utilities on Juniper Drive

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Existing subsurface utilities within the immediate vicinity of the pump station include medium pressure natural gas, underground electric, and water. Both natural gas and underground electric utilities are located on the north side of Juniper Drive (see photo); water utility supply pipe is located on the south side of Juniper Drive. It is anticipated that the new gravity sewer installation will cross below the existing natural gas and electric utilities.

2. Design Criteria and Basis of Design

In order to determine the feasibility of installing a new 8-inch gravity sewer to divert flow from the Jefferson Park Pump Station to the discharge manhole on the Campbell Court cul-de-sac, the existing site conditions were evaluated against the *Recommended Standards for Wastewater Treatment, 2014 Edition* (Ten-States Standards), which include the following:

Ten-States Standards	
Minimum pipe diameter	8 inches
Pipe slope, 8-inch (minimum)	0.4%
Velocity, full pipe (minimum)	2 ft/sec

Tax parcel maps from the Town of Yorktown, record drawings from the Campbell Estates development dated November 1975 (Attachment A), and field data were utilized to determine pipe routing for the new 8-inch gravity sewer.

a. Length of Proposed Sewer – It is anticipated that approximately 530 linear feet of 8-inch, PVC gravity sewer will be installed.

b. Manhole Invert Elevations – Survey information was obtained for the proposed extension and discharge manholes. Based on survey data, the invert elevation change between the two existing manholes is approximately 7.7-feet. This provides sufficient elevation change to accommodate both minimum slope and velocity requirements as outlined in the Ten-States Standards.

c. Subsurface Utilities – Con Edison of New York is the natural gas and electric service provider for the area, and GHD obtained utility maps to identify potential utility obstructions. Based on the utility maps, the new sewer line is anticipated to cross existing utilities in two locations -- one on Juniper Drive and the other at the end of the. Typical natural gas and electric utility depths are between 24 and 36 inches, depending on site conditions. Utility maps obtained from Con Edison of New York are included as Attachment B to this Technical Memorandum.

Evaluation criteria described above, background data obtained from the Town, and field data were used to determine the feasibility of the proposed sewer extension. It has been determined that installation of a new 8-inch PVC gravity sewer from the manhole along Juniper Drive to the discharge manhole on the Campbell Court cul-de-sac is physically feasible based on existing manhole depths, invert elevations, length of sewer to be installed, and depth of utility obstructions. However, the routing to connect these two manholes will require a new 20-foot wide utility easement to make the connection.

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As shown on the attached figures, the invert elevation at the proposed interception locations is 551.4 feet, and is 543.7 feet at the proposed discharge location. This provides 7.7 feet of elevation change between the two points, which exceeds the minimum 2.2 feet Ten-States Standards minimum slope requirements. A natural gas and underground electric utility trench is located on the north side of Juniper Drive and within the Campbell Court cul-de-sac and is typically installed 24 to 36 inches below grade. It is anticipated the new sewer invert elevation will be a minimum of 2-feet below existing natural gas and electric utilities. Based on rim and invert elevations of the interception and effluent manholes, utilities are not anticipated to impede installation of a new 8-inch PVC gravity sewer.

In order to mitigate inflow and infiltration from the drainage swale located in the drainage easement, this portion of the gravity sewer will be encased on flowable fill. The new sewer will be designed in accordance with the Ten-States Standards, 2014 Edition, as described above.

A proposed basis of design is included in the Table 1 below:

Table 1 Basis of Design – Jefferson Park Sewer Extension

Sewer Installation	
Pipe size / materials of construction	8-inch / PVC
Length of pipe	530 feet
Number of manholes	5
Manhole diameter	4 feet
Manhole Depth	5-10 feet

3. Alternatives Evaluation and Recommendation

An evaluation was conducted to determine feasible alternatives for extension of the existing 8-inch gravity sewer to the east along Juniper Drive, north along the eastern property line of Parcel No. 17.06-1-58, west to the drainage easement, and north to the discharge manhole as shown in Figure 2 (east route); or routing the new sewer to the west along Juniper Drive, north along the western property line of Parcel No. 17.06-1-58, east to the drainage easement, and north to the discharge manhole as shown in Figure 3 (west route).


West route

The east route for installation of the new sewer has an advantage of being less disruptive to the home owner during construction since it is installed on the east side of the house which appears to be unused. Disadvantages include acquisition of a larger easement, higher costs for restoration of homeowners' landscaping, and more subsurface utility restrictions.

The west route has a lower capital cost, fewer subsurface utility restrictions, and a shorter length of the easement to be acquired. Disadvantages include a more disruptive to the homeowner

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during construction since it will be installed on the west side of the property with adjacent garage access and basketball hoop.

Table 2 presents the advantages and disadvantages of the sewer extension alternatives and provides a comparison of capital costs, restoration costs, easement acquisition, subsurface utility restrictions.

Table 2 Comparison of Sewer Extension Options

Option	Advantages	Disadvantages
East Route	• Lower disruption to homeowner	• Higher capital cost • More subsurface utility obstructions • Larger easement
West Route	• Lower capital cost • Fewer subsurface utility obstructions • Smaller easement	• Higher disruption to homeowner

Based on the alternative sewer extension options, it is recommended the Town of Yorktown install the 8-inch PVC gravity sewer on the west route as shown in Figure 3. It is anticipated that easement acquisition and ease of construction will reduce the overall cost of the project based on the current competitive bidding environment.

4. **Additional Considerations**

a. Easement Acquisition – In order to construct and maintain the new sewer installation, an easement will need to be acquired by the Town from the owner of Parcel No. 17.06-1-58. The easement is anticipated to be 110 feet in length, 20 feet in width and located as shown on Figure 3.

b. Flow Diversion to the Peekskill WWTP – The proposed sewer extension will re-route wastewater flow from the Jefferson Park Pump Station, which currently conveys wastewater to the Town of Yorktown WWTP, and discharge the wastewater to the existing manhole located on the Campbell Court cul-de-sac. The collection system at the proposed discharge location conveys wastewater to the Peekskill WWTP which is owned and operated by Westchester County Department of Environmental Facilities. It is anticipated that approximately 17,000 gpd will be diverted from the Town of Yorktown WWTP to the Peekskill WWTP.

c. Bypass Pumping Test - In order to confirm available capacity in the proposed downstream sewers, it is recommended the Town set up a temporary bypass system for two weeks. The system will allow visual confirmation of available capacity which may be restricted due to infiltration/inflow, blockages, and other unknown capacity restrictions.

d. Dewatering During Construction – Soil boring information obtained during the recent Pump Station Upgrade Program – Jefferson Park, Walden Woods and Jefferson Valley design were used to identify subsurface conditions likely to be encountered on site. They identify soil types and depths, depth to bedrock or refusal, and depth to groundwater. One soil boring was

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performed at the Jefferson Park Pump Station. Groundwater was observed at 10 feet in depth and dewatering is anticipated during construction. The soil boring report is provided in Attachment C.

5. Cost Estimate

The estimated costs of the two recommended sewer installation alternatives are shown in Table 3.

Table 3 Opinion of 2017 Project Cost of East and West Routing

Recommended Improvements	Opinion of Cost (1)	
	East Routing	West Routing
Mobilization/demobilization	$5,000	$5,000
8-inch PVC Gravity Sewer	$110,000	$100,000
Manholes / Frames / Covers	$35,000	$35,000
Bypass pumping / Dewatering – 2 weeks(2)	$30,000	$30,000
Road Restoration	$15,000	$15,000
Easement(3)	$30,000	$30,000
Subtotal Contingency Legal, Fiscal, Engineering (4)	**$225,000** $40,000 $70,000	**$215,000** $40,000 $70,000
TOTAL CONSTRUCTION COST (rounded)	**$335,000**	**$325,000**

(1) All costs shown in 2017 dollars.
(2) Bypass pumping/dewatering costs do not include the bypass pumping test as outlined in Section G above.
(3) Town to provide any recent easement costs
(4) Legal, fiscal, engineering costs do not include negotiations with Westchester County regarding the proposed flow diversion to the Peekskill WWTP.

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D. Farmwalk Sewer Evaluation

1. Existing Conditions

The Farmwalk Pump Station, located along Farmwalk Road, was originally constructed in 1991 and serves approximately 80 residences within the immediate vicinity of the station and shown in Attachment E. Wastewater is conveyed to the station by gravity through the existing collection system which is comprised of 8-inch PVC piping and concrete manholes at various locations within the subdivision. It is proposed to intercept wastewater flow at the pump station located adjacent to Farmwalk Road and install a new sanitary manhole. The proposed manhole will have a rim elevation of 534.2 feet and invert of 525.4 feet based on drawings by Chase. H. Sells, Inc. (Attachment F). A new 8-inch poly vinyl chloride (PVC) gravity sewer would be installed to the west of the existing pump station, across Alden Road to Barway Drive as shown in Attachment F and Figure 4.

Existing subsurface utilities within the immediate vicinity of the proposed project include medium pressure natural gas, underground electric, and water. It is anticipated that the new gravity sewer installation will be 10-15 feet deep across the majority of the installation, below existing natural gas, water and electric utilities.

2. Design Criteria and Basis of Design

In order to determine the feasibility of installing a new 8-inch gravity sewer to divert flow from the Farmwalk Pump Station to the discharge manhole on the Barway Drive, the existing site conditions were evaluated against the *Recommended Standards for Wastewater Treatment, 2014 Edition* (Ten-States Standards), which include the following:

Ten-States Standards	
Minimum pipe diameter	8 inches
Pipe slope, 8-inch (minimum)	0.4%
Velocity, full pipe (minimum)	2 ft/sec

Tax parcel maps from the Town of Yorktown, record drawings from the Canine Realty subdivision (Attachment D and E), were utilized to determine pipe routing for the new 8-inch gravity sewer.

a. Length of Proposed Sewer – It is anticipated that approximately 1,600 linear feet of 8-inch, PVC gravity sewer will be installed.

b. Manhole Invert Elevations –The invert elevation change between the two manholes is approximately 15-feet. This provides sufficient elevation change to accommodate both minimum slope and velocity requirements as outlined in the Ten-States Standards.

c. Subsurface Utilities – Con Edison of New York is the natural gas and electric service provider for the area. Based on the depth of the new sewer, utility obstructions are not anticipated.

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Evaluation criteria described above, background data obtained from the Town were used to determine the feasibility of the proposed sewer extension. It has been determined that installation of a new 8-inch PVC gravity sewer from the Farmwalk Pump Station to the discharge manhole on the Barway Drive is physically feasible based on existing manhole depths, invert elevations, length of sewer to be installed.. However, the routing to connect these two manholes will require a new 20-foot wide utility easement to make the connection and installation within existing properties. The new sewer will be designed in accordance with the Ten-States Standards, 2014 Edition, as described above.

A proposed basis of design is included in Table 4 below.

Table 4 Basis of Design – Farmwalk Sewer Extensions

Sewer Installation	
Pipe size / materials of construction	8-inch / PVC
Length of pipe	1,600 feet
Number of manholes	9
Manhole diameter	4 feet
Manhole Depth	10-15 feet

3. Alternatives Evaluation and Recommendation

An evaluation was conducted to determine feasible alternatives for extension of the existing 8-inch gravity sewer from the manhole on Alden Road, southeast along Alden Road to the intersection with Iona Place, and northwest along Iona Place to the manhole in Barway Drive; or routing the new sewer from the proposed manhole on Alden Road southwest along the proposed drainage easement to the manhole on Barway Drive as shown in Figure 4.

The southeast route for installation of the new sewer has an advantage of being less disruptive to the home owners during construction since it is installed within the existing roadway and reduced easement acquisition costs. Disadvantages include additional subsurface utility obstructions and higher construction costs due to longer pipe routing, road restoration and traffic control. Routing the sewer in this location is anticipated to increase the length of installation by 800 linear feet.

The southwest route has a lower capital cost and fewer subsurface utility restrictions. Disadvantages include a more disruptive to the homeowner during construction since it will be installed within the proposed easement which runs along the homeowner's property line.

Table 5 presents the advantages and disadvantages of the sewer extension alternatives and provides a comparison of capital costs, restoration costs, easement acquisition, subsurface utility restrictions.

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Table 5 Comparison of Sewer Extension Options

Option	Advantages	Disadvantages
Southeast Route	• Lower disruption to homeowner	• Higher capital cost • More subsurface utility obstructions
Southwest Route	• Lower capital cost • Fewer subsurface utility obstructions	• Higher disruption to homeowner

Based on the alternative sewer extension options, it is recommended the Town of Yorktown install the 8-inch PVC gravity sewer on the southwest route as shown in Attachment F and Figure 4. It is anticipated that easement acquisition and ease of construction will reduce the overall cost of the project based on the current competitive bidding environment.

4. **Additional Considerations**

a. Easement Acquisition – In order to construct and maintain the new sewer installation, an easement will need to be acquired by the Town from the owner of Parcel No. 27.10-1-8, 27.10-1-2, 27.14-3-15, 27.09-3-59. The easement is anticipated to be 1,600 feet in length, 20 feet in width and located as shown in Attachment F.

b. Flow Diversion from the Peekskill WWTP – The proposed sewer extension will re-route wastewater flow from the Farmwalk Pump Station, which currently conveys wastewater to the Peekskill WWTP, and discharge the wastewater to the existing manhole located on the Granite Springs Road. The collection system at the proposed discharge location conveys wastewater to the Town of Yorktown WWTP. It is anticipated that 36,000 gpd will be diverted from the Peekskill WWTP to the Town of Yorktown WWTP.

c. Dewatering During Construction – Soil boring information was not obtained as part of the evaluation. It is recommended to obtain soil borings along the proposed route to identify subsurface conditions likely to be encountered on site. They identify soil types and depths, depth to bedrock or refusal, and depth to groundwater.

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5. Cost Estimate

The estimated costs of the two recommended sewer installation alternatives are shown in Table 6.

Table 6 Opinion of 2017 Project Cost

Recommended Improvements	Opinion of Cost (1)	
	Southwest Route	Southeast Route
Mobilization/demobilization	$50,000	$50,000
Demolition	$40,000	$40,000
8-inch PVC Gravity Sewer	$675,000	$950,000
Manholes / Frames / Covers	$100,000	$125,000
Bypass pumping / Dewatering – 2 weeks	$200,000	$200,000
Road Restoration	$25,000	$50,000
Easement	$60,000	$35,000
Subtotal Contingency Legal, Fiscal, Engineering (2)	**$1,150,000** **$350,000** **$300,000**	**$1,450,000** **$450,000** **$400,000**
TOTAL CONSTRUCTION COST (rounded)	**$1,800,000**	**$2,300,000**

(1) All costs shown in 2017 dollars.
(2) Legal, fiscal, engineering costs do not include negotiations with Westchester County regarding the proposed flow diversion from the Peekskill WWTP.

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E. Summary and Recommendation

Based on the evaluation above, gravity sewer extensions and elimination of both the Jefferson Park and Farmwalk Pump Stations are feasible alternatives to provide consistent service to residents within each subdivision. It is recommended the Town of Yorktown implement sewer diversions at both the Jefferson Park and Farmwalk Pump Stations as described in this memorandum. Completion of both projects will result in a net decrease of 19,000 gpd to the Peekskill while increasing flow to the Town of Yorktown WWTP by 19,000 gpd. A summary of capital costs of each project are shown in Table 7 below:

Table 7 Opinion of 2017 Project Cost

Recommended Improvements	
Jefferson Park Influent Sewer(1)	$325,000 (3)
Farmwalk Influent Sewer(2)	$1,800,000 (3)
Total	**$2,125,000 (3)**

(1) Based on west routing.
(2) Based on southwest routing.
(3) All costs shown in 2017 dollars.

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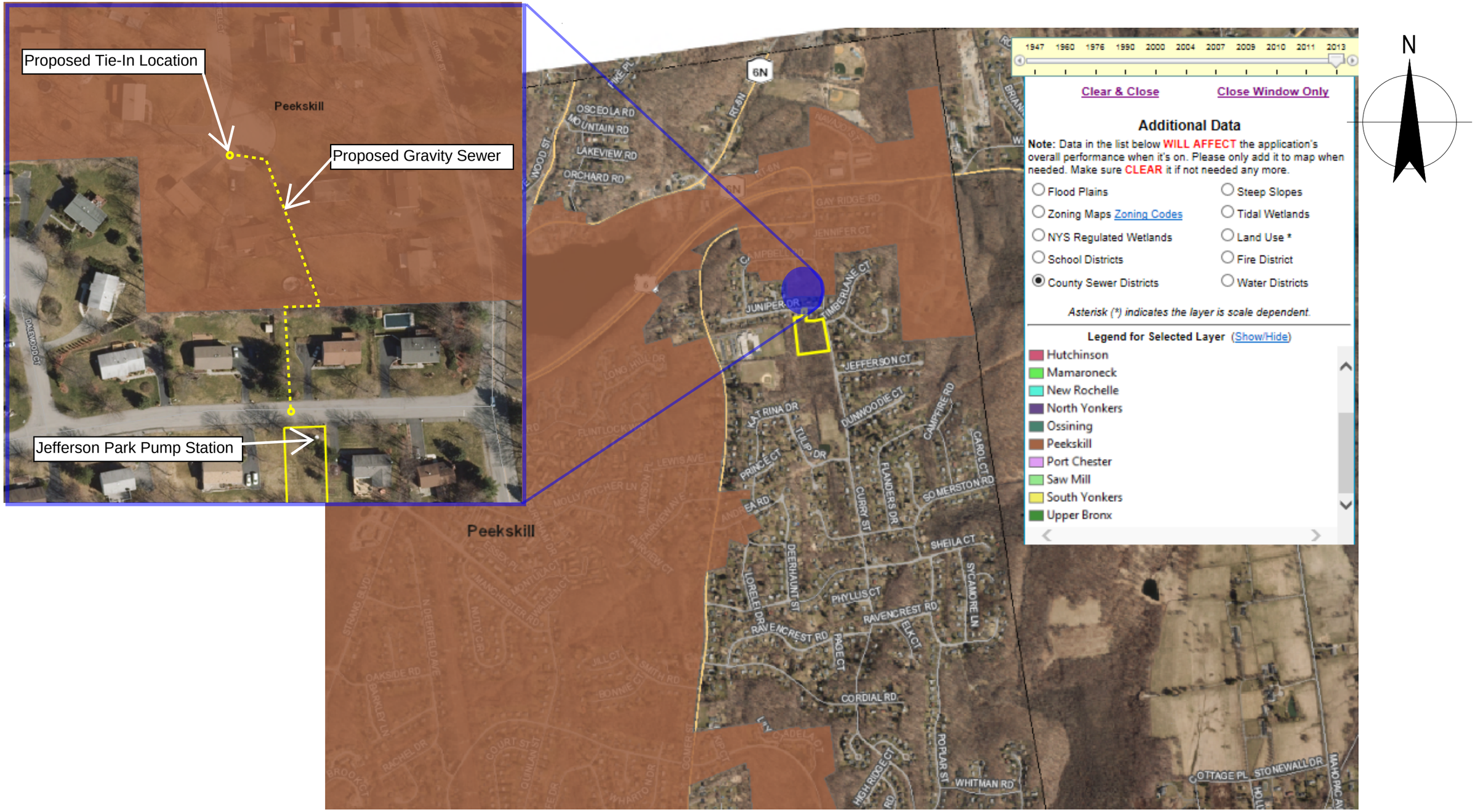


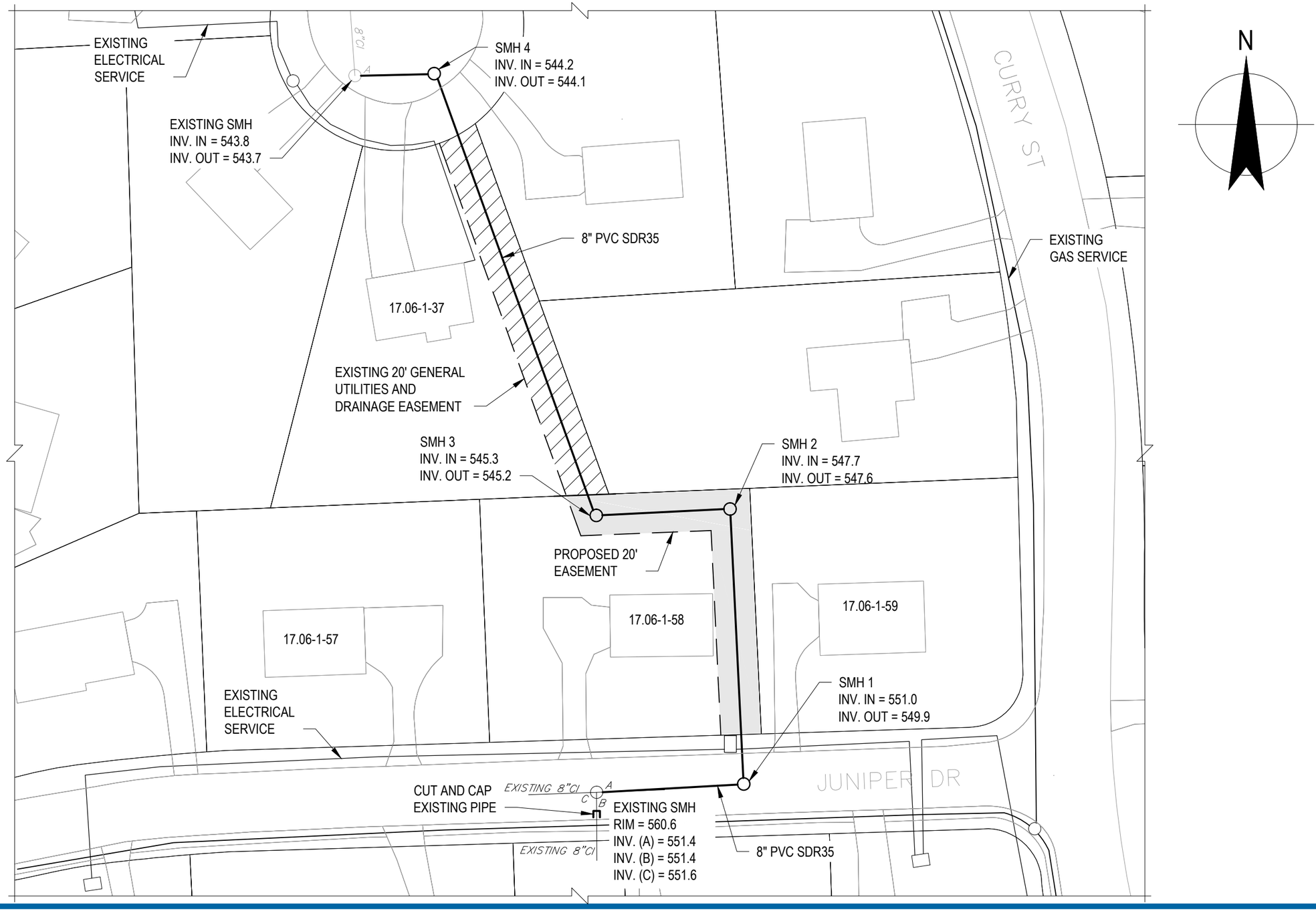
TOWN OF YORKTOWN, NEW YORK
JEFFERSON PARK PUMP STATION
ELIMINATION EVALUATION
GRAVITY SEWER ROUTING
PEEKSKILL SEWER DISTRICT

Job Number 11123637
Revision A
Date 08/2016

Figure 01

One Remington Park Drive, Cazenovia NY 13035 USA **T** 1 315 679 5800 **F** 1 315 679 5801 **E** cazmail@ghd.com **W** www.ghd.com

Plot Date: 11 August 2016 - 11:09 AM Cad File No: G:\111\11123637 Yorktown Jefferson Park Elimination\CADD\Drawings\11123637-FIG_2.dwg



LEGEND

- EXISTING 20' GENERAL UTILITIES AND DRAINAGE EASEMENT
- PROPOSED 20' EASEMENT
- MANHOLE

0 25 50 75 100'

SCALE 1"=50' AT ORIGINAL SIZE

TOWN OF YORKTOWN, NEW YORK
JERFFERSON PARK PUMP STATION
ELEMINATION EVALUATION

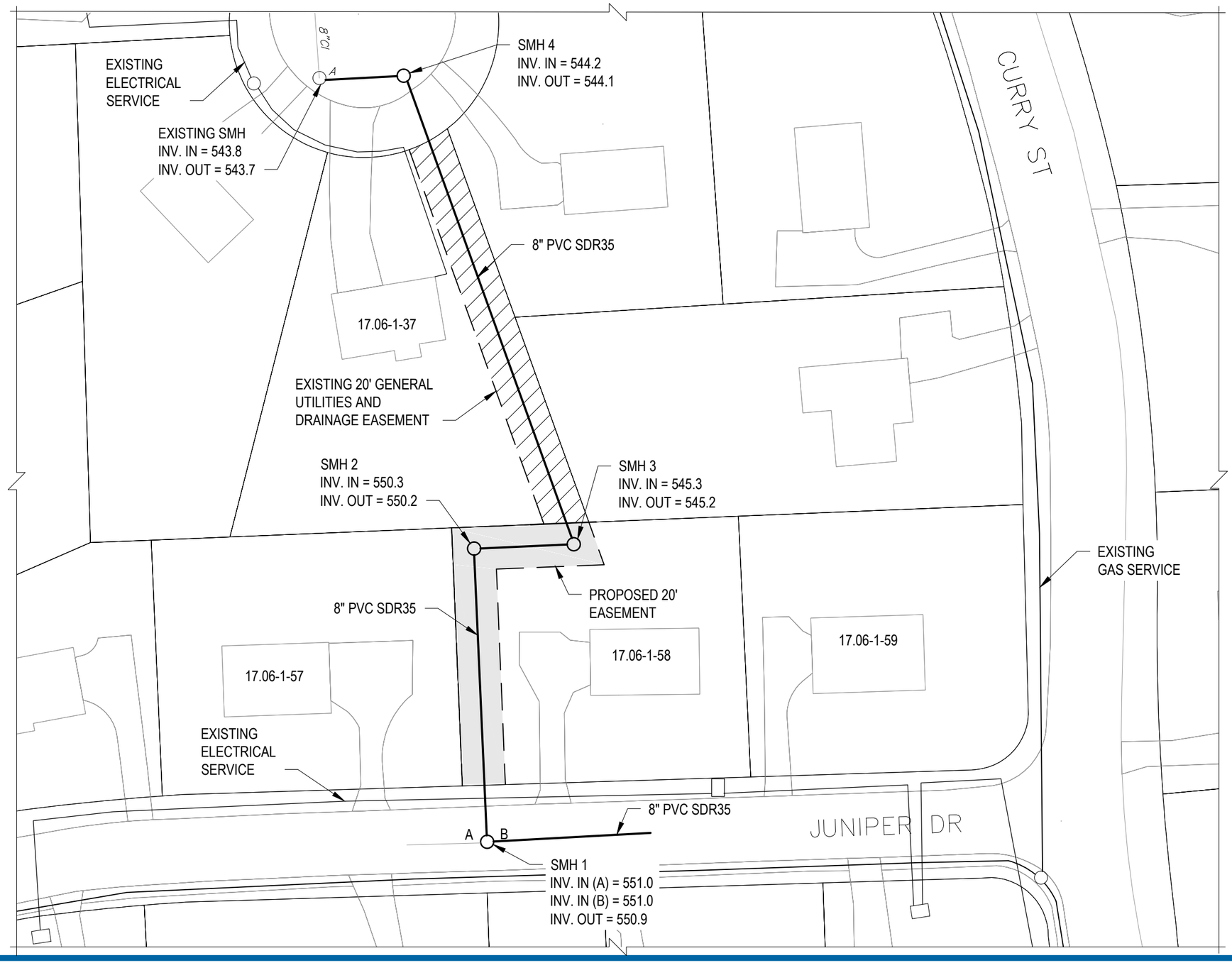
GRAVITY SEWER ROUTING EAST ROUTE OPTION

Job Number	11123637
Revision	A
Date	08/2016

Figure 02

One Remington Park Drive, Cazenovia NY 13035 USA **T** 1 315 679 5800 **F** 1 315 679 5801 **E** cazmail@ghd.com **W** www.ghd.com

Plot Date: 11 August 2016 - 11:10 AM Cad File No: G:\111\11123637 Yorktown Jefferson Park Elimination\CADD\Drawings\11123637-FIG_1.dwg



LEGEND

- EXISTING 20' GENERAL UTILITIES AND DRAINAGE EASEMENT
- PROPOSED 20' EASEMENT
- MANHOLE

0 25 50 75 100'

SCALE 1"=50' AT ORIGINAL SIZE

TOWN OF YORKTOWN, NEW YORK
JEFFERSON PARK PUMP STATION
ELIMINATION EVALUATION

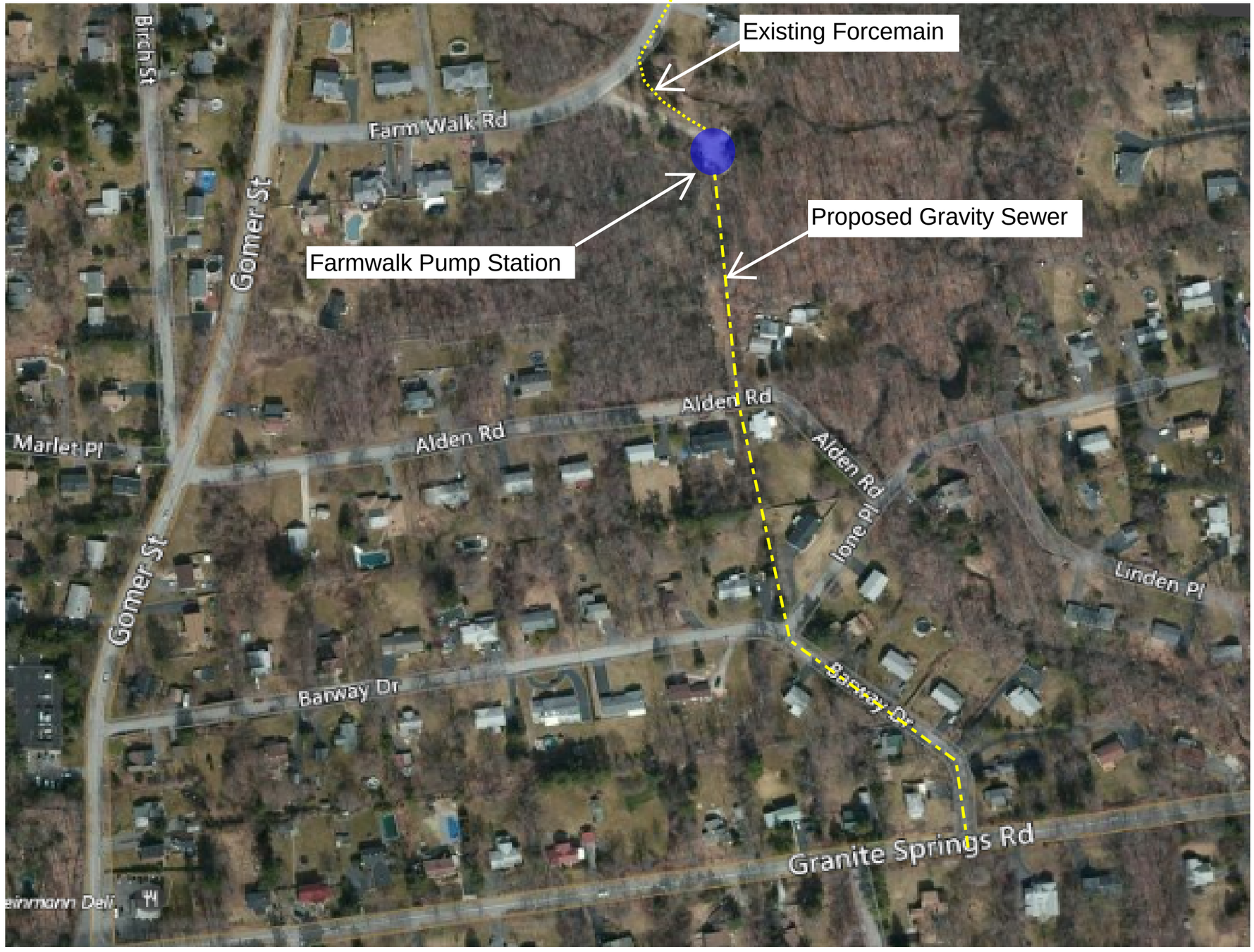
GRAVITY SEWER ROUTING
WEST ROUTE OPTION

Job Number 11123637
Revision A
Date 08/2016

Figure 03

One Remington Park Drive, Cazenovia NY 13035 USA **T** 1 315 679 5800 **F** 1 315 679 5801 **E** cazmail@ghd.com **W** www.ghd.com

Plot Date: 11 August 2016 - 11:09 AM Cad File No: G:\111\11123637 Yorktown Jefferson Park Elimination\CADD\Drawings\11123637-FIG_2.dwg



N

0 100 200 300 400'

SCALE 1"=200' AT ORIGINAL SIZE

TOWN OF YORKTOWN, NEW YORK
FARMWALK PUMP STATION
ELIMINATION EVALUATION

GRAVITY SEWER ROUTING
SOUTHWEST ROUTE

Job Number 11123637
Revision A
Date 08/2016

Figure 04

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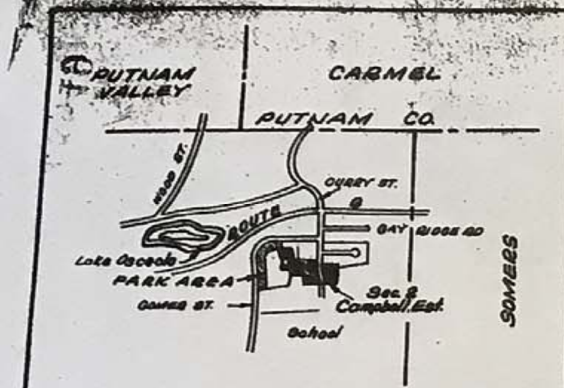
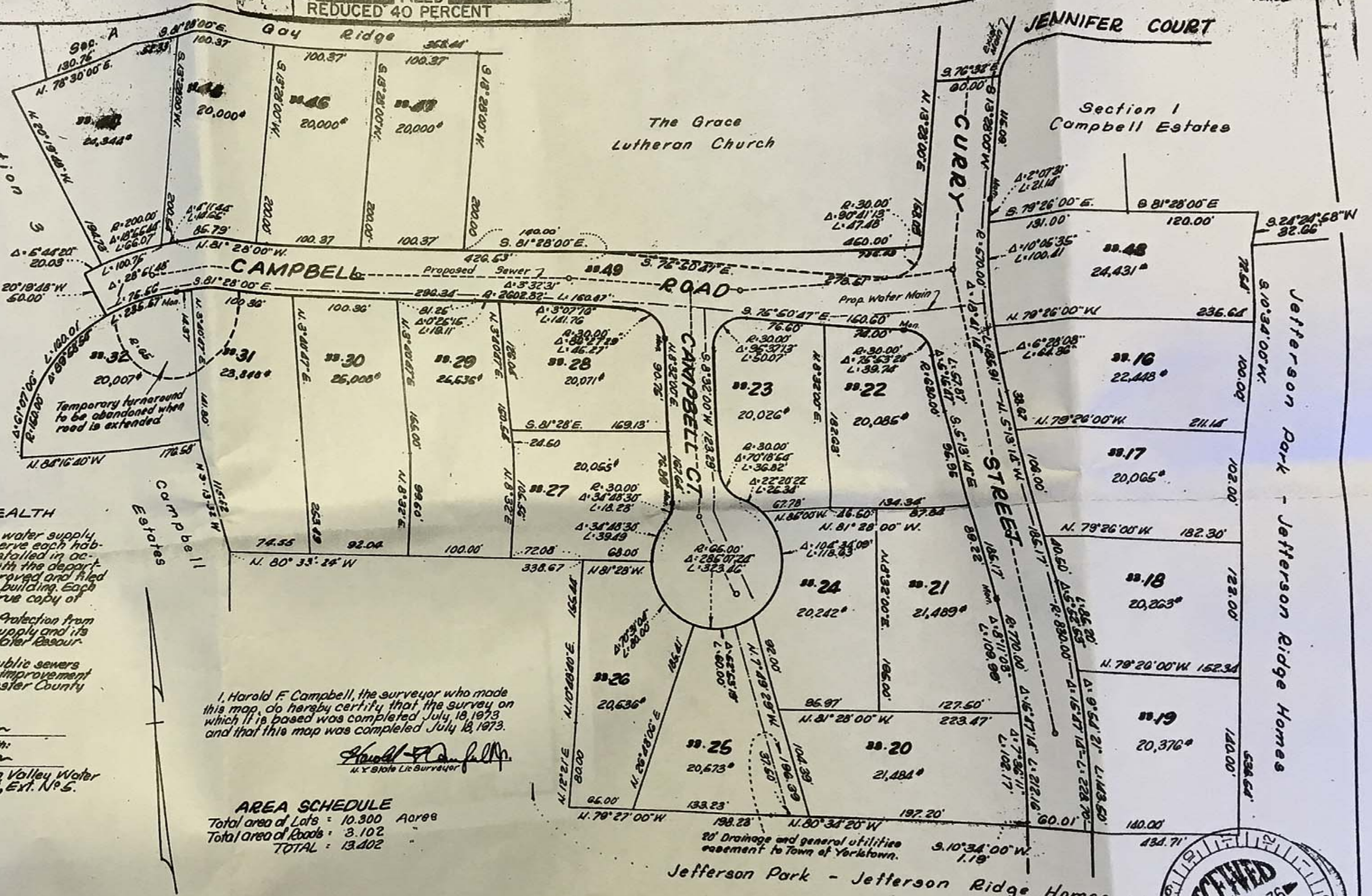
Attachment A – Jefferson Park Pump Station - Tax and Development Maps

MAP No. [redacted] FILED [redacted]
REDUCED 40 PERCENT



LOCATION MAP
Scale: 1" = 800'



NOTE: The 6.9 acre park site to be dedicated to the Town satisfies the recreation requirement for the area shown on the preliminary map and designated Section 67, Parcel 2.

WESTCHESTER COUNTY DEPT. OF HEALTH

Approved subject to the provision of public water supply and separate sewage disposal facilities to serve each habitable building hereafter constructed to be installed in accordance with the improvement plan on file with the department and plans and specifications duly approved and filed in this office prior to the construction of such building. Each purchaser of property shall be furnished a true copy of map showing this endorsement.

Subject to the Rules and Regulations for the Protection from Contamination of the City of New York Water Supply and its Sources. Office of the New York City Board of Water Resources, Route 35, Katonah, N.Y.

Approved subject to the installation of dry public sewers for future use to be installed in accordance with improvement plans on file with and approved by the Westchester County Department of Health.

April 17, 1974 — [illegible]
Date — Commissioner of Health:
June 24, 1975 — [illegible]

Parcel shown hereon lies within the Jefferson Valley Water District and the Jefferson Valley Sewer District, Ext. No 5.

Zoning is R1-20 (20,000 sq. ft. min.)
Min. Road frontage is 100'
Min. Lot width at building line is 100'
Min. Setback from road R.O.W. is 40'
Min. side yard distance is 15'
Min. sum of two side yards is 40'
Min. rear yard distance is 40'

Town of Yorktown Tax Map designation Section 67, Parcel No 2, Lots as shown.

All public open spaces and roads shown on this map are hereby offered for dedication to the Town of Yorktown. Such offer of dedication is recorded in West'r Co. Clerk's Office in Liber   Pg.

The owner certifies he is familiar with this map and its contents and its legends and hereby consents to its filing.

Nov 5, 1975 — [illegible] (Pres)
Date — Fregomac Construction Co, Inc.
3770 Curry St
Yorktown Hts N.Y
Address

NOTE: All homes shall be connected to the sanitary sewer and the existing septic tanks pumped out and filled in at the time these dry sewers are useable.

I, Harold F. Campbell, the surveyor who made this map, do hereby certify that the survey on which it is based was completed July 18, 1973 and that this map was completed July 18, 1973.

[illegible]
N.Y. State Lic. Surveyor

AREA SCHEDULE

Total area of Lots	10.300	Acres
Total area of Roads	3.102	"
TOTAL	13.402	"

Approved by the Planning Board of the Town of Yorktown by resolution dated the 13th day of October, 1975, subject to all requirements and conditions of said resolution. Any change, erasure, modification or revision of this plat as approved shall void this approval.

Signed this 30th day of October 1975

[illegible]
Chairman

[illegible]
Secretary

SECTION 2
MAP OF
CAMPBELL ESTATES
IN THE
TOWN OF YORKTOWN
WESTCHESTER COUNTY, NEW YORK.

Scale: 1" = 60.
July 20, 1973
Block 11332, Sh. 297, County Index Sys.
Revised: Oct 13, 1975

Harold F. Campbell, Civil Engineers & Surveyors, Chappaqua, New York.

SECTION 5 SHEET 20

STREET

50' R.O.W.

ROUTE

MAHOPAC STREET

MATCH LINE ASSESSED ON MAP 6.6

GOMER

Lot No 93
Area : 0.015 Ac Road Widening
EXEMPT - TOWN

Lot No 91
Area : 0.0327 Ac R.O.W.
EXEMPT - TOWN
Deeded to Town

Lot No 92
Area : 0.0372 Ac R.O.W.
EXEMPT - TOWN
Deeded to Town

2 40 Area : 6.886 Ac EXEMPT - TOWN Parkland

BARRICADE

2 34 3.156 Ac

STREET

M/R

MATCH LINE

SECTION 2 SHEET 7

THOMAS JEFFERSON SCHOOL

4 1 Area : 4.023 Ac Park EXEMPT - TOWN DEEDED TO TOWN 5 MAY 1969 6857 PASS

6 Area : 3.56 Ac EXEMPT

TULIP DRIVE

SECTION 6 SHEET 6

5' Easement Town of Yorktown

JUNIPER DRIVE

CAMPBELL COURT

Lot No 503 8" AC

Lot No 504 8" AC

DALEWOOD COURT

CAMPBELL ESTATES SECTION TWO DRY SEWERS

CAMPBELL ESTATES SECTION ONE

Lot No 33 3.49 Ac Bonds EXEMPT (To be EXEMPT) DRY SEWERS

CURRY STREET

TIMBERLANE COURT

JEFFERSON COURT

JENNIFER COURT

GAY RIDGE ROAD

MAIN STREET

EXTENSION

Lot No 001 Area : 3.086 Ac Roads EXEMPT - Town & Yorktown

RO 12241 GAY RIDGE SECTION 2

Grace Lutheran Church

4" C.I. Force Main

LIFT STATION

8" AC

8" ACP

DRY SEWERS

33.55 33.56 33.57 33.58 33.59 33.60 33.61 33.62 33.54 33.53 33.52 33.32 33.31 33.30 33.29 33.27 33.28 33.26 33.25 33.24 33.23 33.22 33.21 33.20 33.19 33.18 33.17 33.16 33.48 33.47 33.46 33.45 33.44

3643 3647 3646 3648 3650 3685

SAN SEWER LINE
PREPARED BY
ENGINEERING DEPT.
TOWN OF YORKTOWN
W.E.M. 1977
REVISED 1983

SECTION 6 SHEET 17

SECTION 6.7

REVISED

CARROLL AGSTRZ (A&S)

SCALE 1" per 100'

0 100' 200' 300' 400'

N

MAP PREPARED FROM AERIAL PHOTOGRAPHY DATED DEC 1, 1968
PROPERTY DATA PREPARED FROM THE TOWN OF YORKTOWN
REGISTRY OF DEEDS RECORDS AS OF DEC 1, 1968
MAP COMPLETED AUGUST 1970
MAP COMPILED BY MK

INTERNATIONAL RESOURCES AND GEOTECHNICS, INC.
WESTCHESTER COUNTY AIRPORT, WHITE PLAINS, NEW YORK

TAX MAP
TOWN OF
YORKTOWN
WESTCHESTER COUNTY, NEW YORK

FOR TAX PURPOSES ONLY NOT TO BE USED FOR CONVEYANCE

Attachment B - Utility Maps

139-BJ

GAS MAINS AND SERVICE PLATE

PLOTTED ON 20151011

TOWN OF YORKTOWN

NOTE: GAS,&ELEC.
IN COMMON TRENCH.

138-BH

138-BK

CONSOLIDATED EDISON CO. OF N.Y. INC. - WESTCHESTER 137-BJ MAPS & RECORDS BUREAU SCALE 1"= 50' LAST MODIFIED ON 20151009 PLATE NO. 138-BJ

G.M. G136-BK

PLOTTED ON 06/27/2016

139-BJ

LOW TENSION MAINS AND SERVICE PLATE

TOWN OF YORKTOWN

138-BH

138-BK

CONSOLIDATED EDISON CO. OF N.Y. INC. - WESTCHESTER 137-BJ MAPS & RECORDS BUREAU SCALE 1"= 50' LAST MODIFIED 06/27/2016 PLATE NO.138-BJ

P.M. 137-BK

139-BK

GAS MAINS AND SERVICE PLATE

PLOTTED ON 20150531

TOWN OF YORKTOWN

138-BJ

138-BL

U.G.5

NOTE: GAS & ELEC. IN COMMON TRENCH

CURRY

(JEFFERSON PK. DRIVE)

JUNIPER DR

TIMBERLANE

STONEWALL CT

JEFFERSON CT

ST

GAS AND ELECT. IN COMMON TRENCH

GAS & ELEC. IN COMMON TRENCH

NO GAS (ALL ELECTRIC)

CONSOLIDATED EDISON CO. OF N.Y. INC. - WESTCHESTER

MAPS & RECORDS BUREAU SCALE 1"= 50' LAST MODIFIED ON 20150530 PLATE NO. 138-BK

137-BK

G.M. G136-BK

PLOTTED ON 06/23/2016

139-BK

LOW TENSION MAINS AND SERVICE PLATE

TOWN OF YORKTOWN

138-BJ

138-BL

CONSOLIDATED EDISON CO. OF N.Y. INC. - WESTCHESTER

137-BK

MAPS & RECORDS BUREAU SCALE 1''= 50' LAST MODIFIED 06/23/2016 PLATE NO.138-BK

P.M. 137-BK

PLOTTED ON 06/27/2016

140-BJ

LOW TENSION MAINS AND SERVICE PLATE

TOWN OF YORKTOWN

NEW ROUTE SIX

3751 CURRY ST.

3*4 AL 64'

24649

ST

2-2,1-4/0 AL 106'

2-2,1-4/0 AL 92'

2-2,1-4/0 AL 92'

2-2,1-4/0 AL 94'

2-81

1-4/0 AL 127'

1-4/0 AL 100'

3845 3*1/0 AL 75'

3837 3*1/0 AL 55'

3829 3*1/0 AL 65'

3821 3*1/0 AL 55'

3787

3817 3*4 AL 60'

2-1/0 AL, 1-4/0 AL 125'

2-1/0 AL, 1-4/0 AL 120'

2-1/0 AL, 1-4/0 AL 125'

2-1/0 AL, 1-4/0 AL 120'

2-2, 1-4/0 AL 123'

EXT.

SHRUB2 150Y DLCSP

SHRUB2 37.5A DLCSP

SHRUB2 50A DLCSP

GOMER ST

3*1/0 AL 90'

3*1/0 AL 100'

3*1/0 AL 117'

4-4/0 AL 100'

FR

*3830 GOMER ST EXT. GRACE LUTHERAN CHURCH

LOT-49 3788

3796 LOT-48 R

3804 LOT-47 R

3812

CURRY RD

TT-9793 16W02

TT-18103 16W02

TT6461 16W02

139-BH

139-BK

LOT-46

LOT-47

VS6493 URD 16W02 50C

3-350 AL DBC 10'

11186

CUST.3c1/0 AL DBC 35'

3-1/0 AL DBC 35'

172

3-1/0 AL DBC 175'

180

3-1/0 AL DBC 50'

188

LOT-45

VS1898 URD 16W02 50C

11185

CUST.3c1/0 AL DBC 50'

LOT-44

3-1/0 AL DBC 40'

191

LOT-33-62

3-1/0 AL DBC 150'

200

CUST.3c1/0 AL DBC 150'

CAMPBELL CT

DBC 40'

CUST.3c1/0 AL DBC 135'

4"-C 31'

4"-C 31'

CUST.3c1/0 AL DBC 125'

CUST.3c2 DBC 240'

2" HDPE 225'

3-2/0 370'4" 303'

LOT-33-61 206

3-1/0 AL DBC 165'

CUST.3c1/0 AL DBC 165'

4"-C 110'

3-1/0 AL DBC 160'

LOT-32 195

212

CUST.3c1/0 AL DBC 90'

3-1/0 AL DBC 90'

LOT-33-60

16W02 25C

V4212 MINI-PAD

CUST.3c1/0 AL DBC 105'

218

3-1/0 AL DBC 105'

LOT-33-59

CUST.3c1/0 AL DBC 105'

LOT-33-52

3-1/0 AL DBC 105'

217

3-2 225' 2" 215' HDPE

LOT-33-53

223

3-1/0 AL DBC 135'

185

LOT-31

LOT-30

3-1/0 AL DBC 125'

175

LOT-29

3-1/0 AL DBC 130'

169

157

LOT-28

LOT-27

LOT-23

LOT-22

3701 CURRY ST.

3700

3-2 DBC 166' 2" HDPE

3-3/0 AL DBC 135'

3650

3-3/0 AL DBC 45'

3-3/0 AL DBC 50'

CUST.3c3/0 AL DBC 45'

CUST.3c3/0 AL DBC 85'

CUST.3c1/0 AL DBC 50'

2' COVER

LOT-24

LOT-21

V13365 MINI-PAD SHRUB2 50C

3-350 AL DBC 2'

10758

3647

3-3/0 AL DBC 85'

CUST.3c3/0 AL DBC 45'

3648

CUST.3c3/0 AL DBC 100'

DALEWOOD CT

VS6273 URD 16W02 50C

11187

3-350 AL DBC 10'

CUST.3c3/0 AL DBC 145'

3-3/0 AL DBC 145'

3643

LOT-26

CUST.3c1/0 AL DBC 120'

3-1/0 AL DBC 120'

3680

3-2 DBC 150' 2" HDPE 92'

LOT-25

3685

CUST.3c1/0 AL DBC 80'

LOT-20

3-1/0 AL DBC 80'

3689

3649 (3646)

3-3/0 AL DBC 100'

NOTE:GAS & ELECTRIC IN COMMON TRENCH

3-2 270' 2" 250'

LOT-33-58

224

LOT-33-57

3-1/0 AL DBC 155'

CUST.3c1/0 AL DBC 234'

CUST.3c1/0 AL DBC 120'

LOT-33-54

3-1/0 AL DBC 120'

35233

CONSOLIDATED EDISON CO. OF N.Y. INC. - WESTCHESTER

138-BJ

MAPS & RECORDS BUREAU SCALE 1"= 50' LAST MODIFIED 06/27/2016 PLATE NO. 139-BJ

P.M. 139-BK

Attachment C - Soil Boring Report

Phone
(203) 262-9328

Telefax
(203) 264-3414

WHITE PLAINS, N.Y.
(914) 946-4850

SOILTESTING, INC.

90 DONOVAN ROAD - OXFORD, CONN. 06478-1028

GEOTECHNICAL / ENVIRONMENTAL SUBSURFACE INVESTIGATIONS - Test Borings - Core Drilling
Monitoring Wells - Recovery Wells - Direct Push/Probe Sampling
UNDERPINNING - HELICAL PILES - SOIL NAILS

July 9, 2015

GHD
One Remington Park Drive
Cazenovia, New York 13035
315-679-2741

Attn: Cosimo Pagano III

Re: Pump Station Rehabilitaion - 3 Sites **G148-0101-15**
Jefferson Park, Walden Woods & Jefferson Valley
Yorktown, NY

Dear Mr. Pagano,

Enclosed are boring logs and location plan for the above referenced project site.

If you have any questions, please do not hesitate to contact us.

Very truly yours,
SOILTESTING, INC.

James A DeAngelis

James A. DeAngelis
President

JAD:ec

SOILTESTING, INC. 57th ANNIVERSARY 1958 OXFORD, CT 2015

SOILTESTING, INC. 90 DONOVAN RD. OXFORD, CT 06478 CT (203) 262-9328 NY (914) 946-4850	CLIENT: GHD Consulting Services	SHEET 1 OF 1 HOLE NO. BJP-1
	PROJECT NO. G148-0101-15	
	PROJECT NAME Proposed Jefferson Park Pump Station	BORING LOCATIONS per Plan
FOREMAN - DRILLER TP/ad	LOCATION Juniper Drive Yorktown, NY	
INSPECTOR	CASING / SAMPLER / CORE BAR	OFFSET
	TYPE: HSA / SS	DATE START 6/26/15
GROUND WATER OBSERVATIONS	SIZE I.D.: 4 ¼" / 1 3/8"	DATE FINISH 6/25/15
AT 10 FT AFTER 0 HOURS	HAMMER WT.: 140# / BIT	SURFACE ELEV.
AT 3'10" FT ON 7-7-15	HAMMER FALL: 30"	GROUND WATER ELEV.

DEPTH	CASING BLOWS PER FOOT	SAMPLE NO	Type	PEN	REC.	DEPTH @ BOT	BLOWS PER 6 IN ON SAMPLER (FORCE ON TUBE) 0 - 6 / 6 - 12 / 12 - 18	CORE TIME PER FT (MIN)	DENSITY OR CONSIST / MOIST	STRATA CHANGE DEPTH / ELEV	FIELD IDENTIFICATION OF SOIL REMARKS INCL. COLOR, LOSS OF WASH WATER, SEAMS IN ROCK, ETC.
											sm cobbles, boulders
											Boulder at 4'
5		1	ss	24"	20"	7'0"	18 / 9		moist		Brn/Gry SILT, sm FM sand, lit FC gravel
							7 / 19		v stiff		Gry SILT, lit FM sand, clay, tr wood, roots (fill)
10										10'0"	
		2	ss	24"	15"	12'0"	9 / 4		moist/wet	11'0"	Brn FMC SAND, sm clayey silt, lit F gravel
							5 / 12		loose		Gry CLAY lit cobbles from 10 - 11' lit cobbles at 13'
15										15'0"	
		3	ss	24"	14"	17'0"	5 / 5		wet		Gry SILT, sm clay, FMC sand, tr F gravel
							4 / 9		stiff	18'0"	
20		4	ss	24"	0"	22'0"	12 / 16				no recovery
							13 / 21				
25		5	ss	24"	18"	27'0"	19 / 26		wet		Gry CLAYEY SILT & FMC SAND, lit F GRAVEL
							22 / 23		hard		
30		6	ss	18"	18"	31'6"	25 / 73		wet hard	32'0"	SAME AUGER REFUSAL
											E.O.B. 32'0"
35											**Installed 1" SCH 40 PVC observation well to 23' with 10' screen length.**
40											

NOTE: Subsoil conditions revealed by this investigation represent conditions at specific locations and may not represent conditions at other locations or times.

GROUND SURFACE TO _____FT. USED _____CASING THEN _____ CASING TO _____FT. **HOLE NO. BJP-1**

A = AUGER UP = UNDISTURBED PISTON T = THINWALL V = VANE TEST

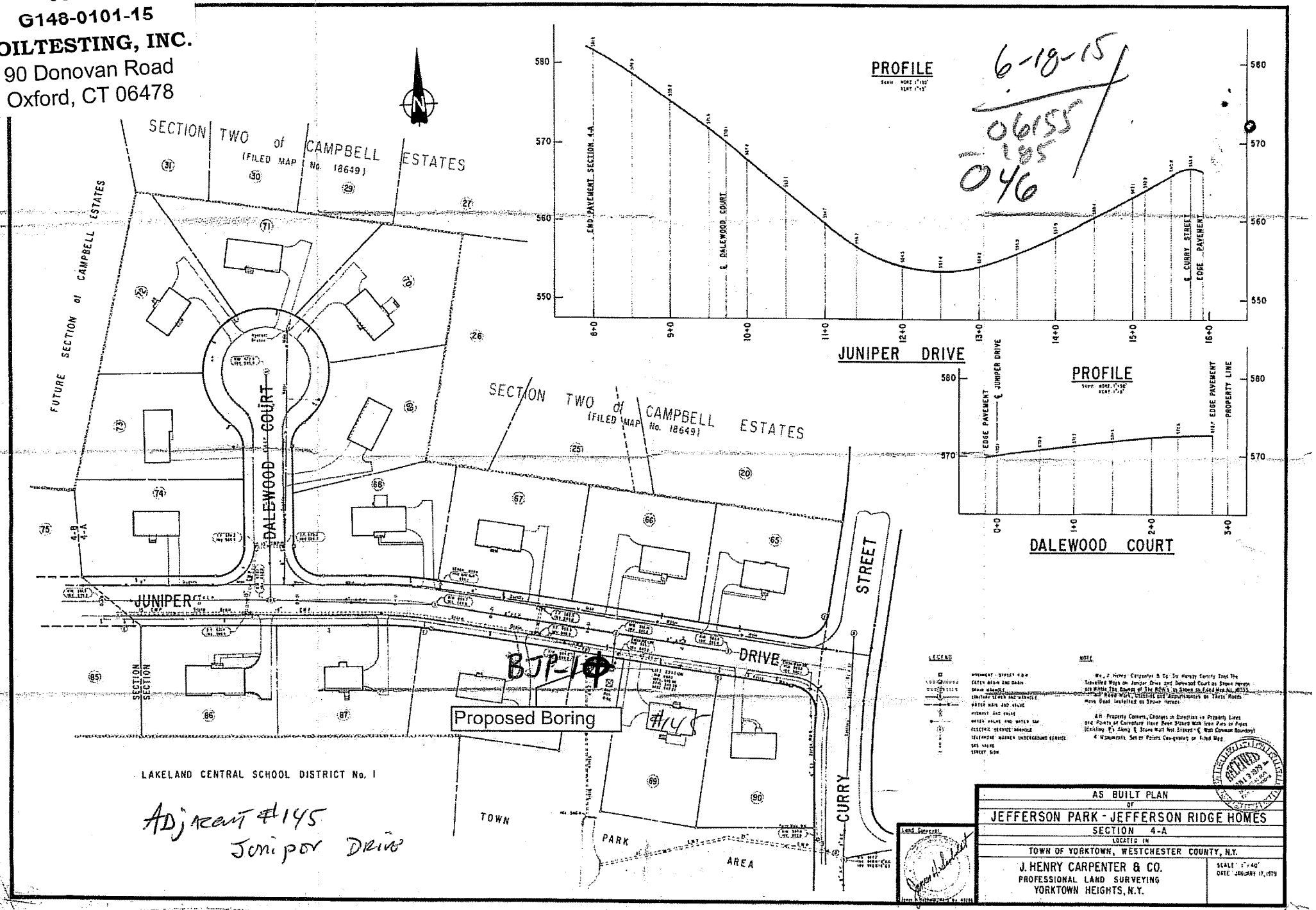
WOR = WEIGHT OF RODS WOH = WEIGHT OF HAMMER & RODS

SS = SPLIT TUBE SAMPLER H.S.A. = HOLLOW STEM AUGER

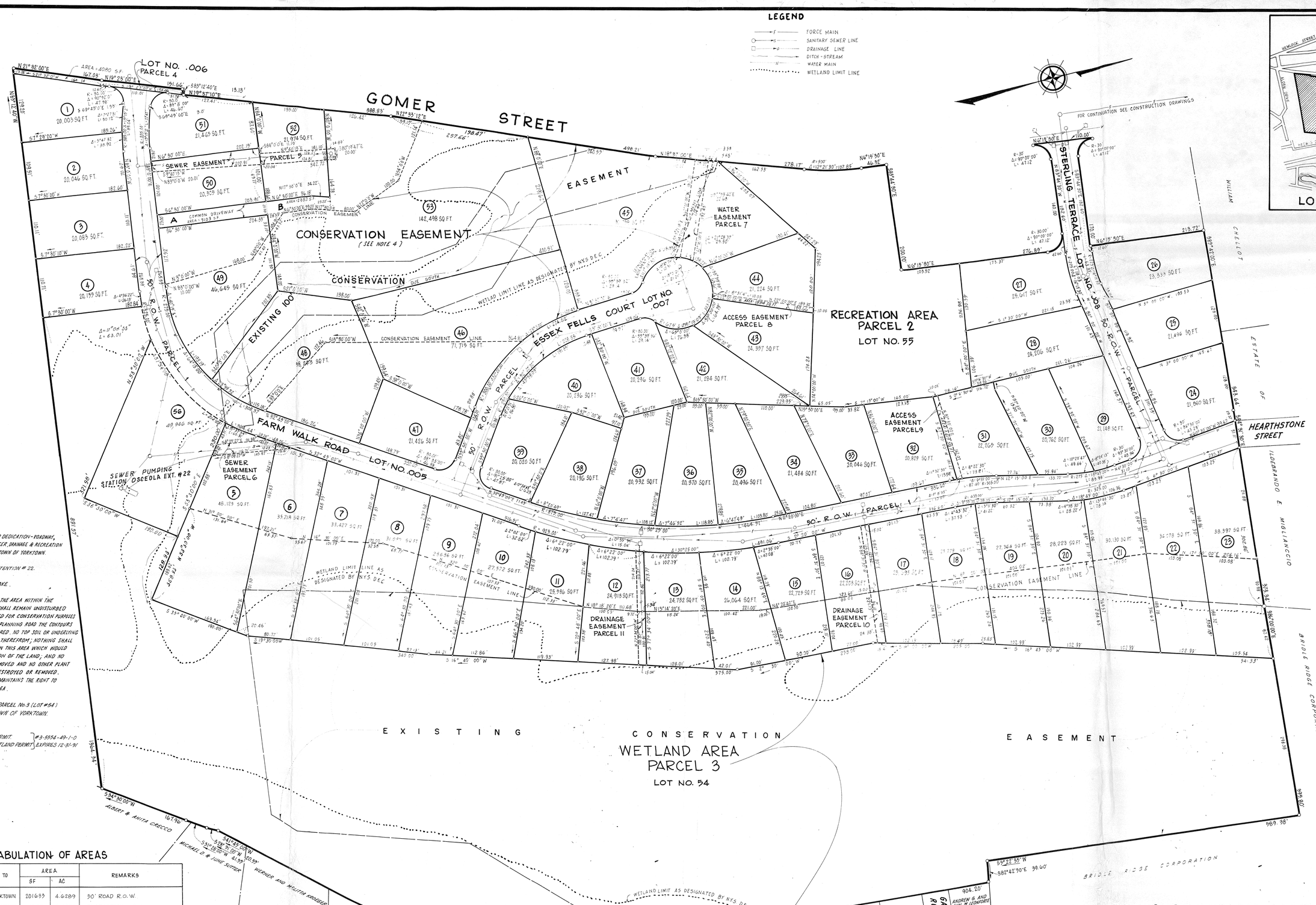
PROPORTIONS USED: TRACE = 0 - 10% LITTLE = 10 - 20% SOME = 20 - 35% AND =35 - 50%

C = COARSE
M = MEDIUM
F = FINE

JOB NO.
G148-0101-15
SOILTESTING, INC.
90 Donovan Road
Oxford, CT 06478



Attachment D - Farmwalk Pump Station - Tax and Development Maps - Canine Realty Subdivision



NOTES:

1. DEVELOPER WILL OFFER FOR DEDICATION - ROADWAY, RIGHT OF WAYS, SEWER, WATER, DRAINAGE & RECREATION ACCESS EASEMENTS, TO THE TOWN OF YORKTOWN.
2. SEWER DISTRICT OSCEOLA EXTENTION # 22.
3. WATER DISTRICT - SPARKLE LAKE.
4. THE NATURAL RESOURCES OF THE AREA WITHIN THE "CONSERVATION EASEMENT" SHALL REMAIN UNDISTURBED EXCEPT AS MAY BE REQUIRED FOR CONSERVATION PURPOSES UPON THE APPROVAL OF THE PLANNING BOARD. THE CONTOURS THEREOF SHALL NOT BE ALTERED. NO TOP SOIL OR UNDERLYING SOIL SHALL BE EXCAVATED THEREFROM; NOTHING SHALL BE PERMITTED TO OCCUR ON THIS AREA WHICH WOULD CONTRIBUTE TO THE EROSION OF THE LAND; AND NO TREES SHALL BE CUT OR REMOVED AND NO OTHER PLANT OR VEGETATION SHALL BE DESTROYED OR REMOVED. THE OWNER OF FEE SIMPLE MAINTAINS THE RIGHT TO EXCLUSIVE USE OF THE AREA.
5. PARCEL No. 2 (LOT #55) & PARCEL No. 3 (LOT #54) TO BE DEDICATED TO THE TOWN OF YORKTOWN.
6. D.E.C. PERMITS
   ARTICLE 15. DAM SAFETY PERMIT } #3-5954-49-1-0
   ARTICLE 24. FRESHWATER WETLAND PERMIT } EXPIRES 12-31-91

TABULATION OF AREAS

PARCEL #	TO BE DEEDED TO	AREA SF	AREA AC	REMARKS
1	TOWN OF YORKTOWN	201683	4.6289	50' ROAD R.O.W.
2	TOWN OF YORKTOWN	112990	2.5939	RECREATION AREA
3	TOWN OF YORKTOWN	1117873	25.6628	WETLAND AREA
4	TOWN OF YORKTOWN	4080	0.0937	FUTURE HIGHWAY WIDENING
5	TOWN OF YORKTOWN	79994	0.1835	SEWER EASEMENT
6	TOWN OF YORKTOWN	2373	0.0545	SEWER EASEMENT
7	TOWN OF YORKTOWN	4731	0.1686	WATER EASEMENT
8	TOWN OF YORKTOWN	1617	0.0371	RECREATION AREA ACCESS EASEMENT
9	TOWN OF YORKTOWN	1894	0.0435	RECREATION AREA ACCESS EASEMENT
10	TOWN OF YORKTOWN	3341	0.0767	DRAINAGE EASEMENT
11	TOWN OF YORKTOWN	3210	0.0737	DRAINAGE EASEMENT

TOTAL AREA OF SUBDIVISION = 69.391 ACRES

THE BOUNDARY SURVEY FOR THIS MAP IS IN ACCORDANCE WITH SURVEY PREPARED BY HENRICIS ..... ON JULY 19, 1986

WE, CHAS H. SELLS, INC. THE SURVEYORS WHO MADE THIS MAP DO HEREBY CERTIFY THAT THE SURVEY ON WHICH THIS MAP IS BASED WAS COMPLETED JULY 19 1986 AND THIS MAP WAS COMPLETED JUNE 13 - 1988

CHAS. H. SELLS, INC.

BY: _____
NEW YORK STATE LICENSED SURVEYOR

PROPERTY SHOWN HEREON IS SUBJECT TO RULES AND REGULATIONS FOR THE PROTECTION FROM CONTAMINATION OF THE CITY OF NEW YORK WATER SUPPLY AND ITS SOURCES, OFFICES OF THE CITY OF NEW YORK DEPARTMENT OF WATER RESOURCES, BOX D, KATONAH, NEW YORK.
APPROVED BY RESOLUTION OF THE PLANNING BOARD
TOWN OF YORKTOWN

DATE _____ DATE _____

_____ _____
CHAIRMAN SECRETARY

CUNNANE DEVELOPMENT CORPORATION
THIS SUBDIVISION MAP APPROVED FOR FILING
BY _____ (VICE PRESIDENT)
OWNER CUNNANE DEVELOPMENT CORPORATION

WESTCHESTER COUNTY DEPARTMENT OF HEALTH
WHITE PLAINS, N.Y.

APPROVED SUBJECT TO THE PROVISION OF PUBLIC WATER SUPPLY AND PUBLIC SANITARY SEWER FACILITIES TO SERVE ALL STRUCTURES INTENDED FOR HUMAN OCCUPANCY CONSTRUCTED HEREIN, INSTALLED AS SHOWN ON PLANS APPROVED AND FILED IN THIS OFFICE.
EACH PURCHASER OF PROPERTY SHOWN HEREON SHALL BE FURNISHED A TRUE COPY OF MAP SHOWING THIS ENDORSEMENT.
ANY ERASURES, CHANGES ADDITIONS OR ALTERATIONS OF ANY KIND EXCEPT THE ADDITION OF SIGNATURES OF OTHER APPROVING AUTHORITY AND THE DATE THEREOF, MADE ON THIS PLAN AFTER THE DATE OF THIS APPROVAL, SHALL INVALIDATE THIS APPROVAL.

RECOMMENDED BY

_____ P.E. _____
ASSISTANT COMMISSIONER DATE
BUREAU OF ENVIRONMENTAL QUALITY

_____ _____
COMMISSIONER OF HEALTH DATE

PREPARED BY CHAS. H. SELLS, INC.
_____
NEW YORK STATE LICENSED PROFESSIONAL ENGINEER

SUBDIVISION MAP

PREPARED FOR

CUNNANE REALTY CORP.

SITUATED IN THE

TOWN OF YORKTOWN

WESTCHESTER COUNTY, NEW YORK

SCALE: 1" = 60'

0 50 100 150 200

COUNTY BLOCK 11332 SHEET 280
TOWN TAX MAP SECTION 0602 PARCEL 18 LOTS 2 & 4.5

CHAS. H. SELLS, INC.
CIVIL ENGINEERS & SURVEYORS
BEDFORD HILLS, N.Y.

REVISED JAN. 19, 1989 REVISED FEB. 12, 1990 REVISED MARCH 13 1990

87-035

Attachment E - Farmwalk Pump Station Extension Site Plan

SPECIAL NOTE:

NO TEMPORARY CULVERT WILL BE PERMITTED FOR THE MAJOR STREAM CROSSING ON ROAD "A" MAJOR CONSTRUCTION IN THIS AREA WILL PERMITTED ONCE, AND ONLY DURING PERIODS OF LOW FLOW.

LEGEND

- WETLAND LIMIT LINE
- 100 YEAR FLOOD LINE
- MANHOLE (SEWER OR DRAINAGE)
- HYDRANT
- CATCH BASIN
- S — SANITARY SEWER LINE
- W — WATER LINE
- D — DRAINAGE PIPE
- CONSERVATION EASEMENT
- PROPERTY LINE
- EASEMENT (WATER-SEWER)
- THRUST BLOCK
- GATE VALVE

PROPERTY ZONE R1-20

SILT CONTROL NOTES:

1. PRIOR TO THE START OF ANY CONSTRUCTION WORK, THE CONTRACTOR SHALL INSTALL SILT CONTROL MEASURES IN THE AREA WHERE WORK IS GOING TO TAKE PLACE.
2. SILT CONTROL MEASURES ARE TO BE INSPECTED OFTEN AFTER PROLONGED PERIODS OF RAIN.
3. ALL EXCAVATED AREAS OR EMBANKMENT AREAS LEFT STANDING FOR A PERIOD OF THREE MONTHS OR MORE WITHOUT FURTHER CONSTRUCTION ARE TO BE SEEDED AND MULCHED.
4. INSTALLATION AND MAINTENANCE OF EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE "WESTCHESTER COUNTY BEST MANAGEMENT PRACTICES MANUAL."
5. STOCKPILE OF ANY MATERIAL WILL NOT BE PERMITTED WITHIN THE LIMITS OF WETLANDS AND STREAMS WITHIN 100 FT. FROM THESE LIMITS.
6. ALL STOCKPILED MATERIAL, SUBJECT TO ERODABILITY, SHALL BE ENCIRCLED WITH SILT CONTROL MEASURES.
7. BALED HAY TO BE PLACED ON EACH CATCH BASIN AS SHOWN.

GENERAL NOTES

1C. ALL SHOP DRAWINGS WILL BE SUBMITTED TO THE TOWN ENGINEER PRIOR TO FABRICATION OR ORDERING FOR APPROVAL.

1B. ALL CONSTRUCTION ALONG GOMER STREET WHERE THE FORCE MAIN IS PROPOSED SHALL BE PHOTOGRAPHED AND PICTURES BE FURNISHED TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE DEVELOPER SHALL REPAIR ALL DRIVEWAYS, STONE WALLS AND VEGETATION AS PRACTICAL TO THE SATISFACTION OF THE TOWN ENGINEER.

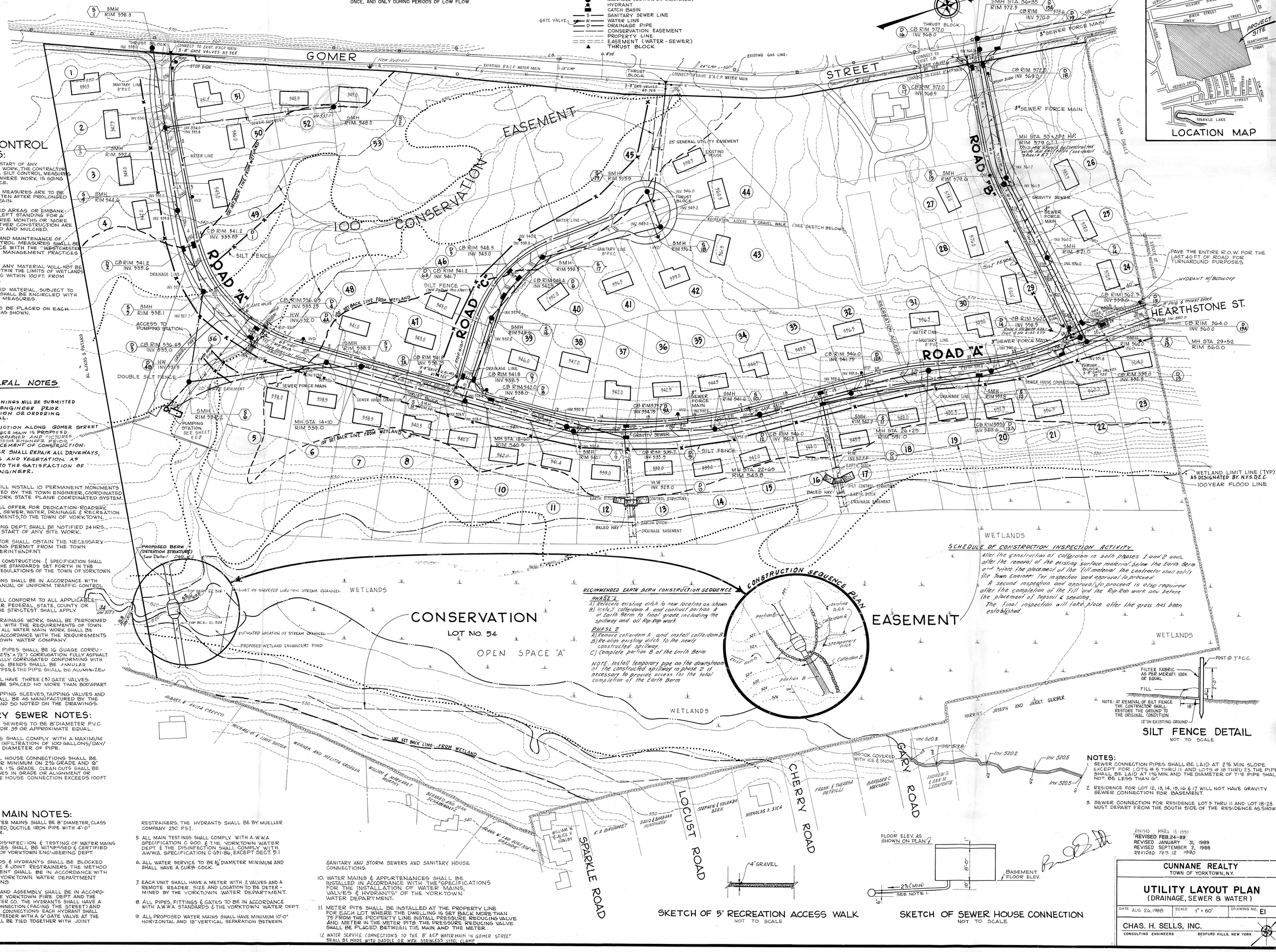
1. DEVELOPER WILL INSTALL 10 PERMANENT MONUMENTS WHERE DIRECTED BY THE TOWN ENGINEER, COORDINATED IN THE NEW YORK STATE PLANE COORDINATED SYSTEM.
2. DEVELOPER WILL OFFER FOR DEDICATION-ROADWAY, RIGHT OF WAYS, SEWER, WATER, DRAINAGE & RECREATION ACCESS EASEMENTS, TO THE TOWN OF YORKTOWN.
3. THE ENGINEERING DEPT. SHALL BE NOTIFIED 24 HRS. PRIOR TO THE START OF ANY SITE WORK.
4. THE CONTRACTOR SHALL OBTAIN THE NECESSARY STREET OPENING PERMIT FROM THE TOWN HIGHWAY SUPERINTENDENT.
5. ALL METHODS OF CONSTRUCTION & SPECIFICATION SHALL COMPLY WITH THE STANDARDS SET FORTH IN THE SUBDIVISION REGULATIONS OF THE TOWN OF YORKTOWN.
6. ALL TRAFFIC SIGNS SHALL BE IN ACCORDANCE WITH N.Y.S.D.O.T. "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES."
7. ALL WORK SHALL CONFORM TO ALL APPLICABLE CODES WHETHER FEDERAL, STATE, COUNTY OR LOCAL AND THE STRICTEST SHALL APPLY.
8. ALL SEWER & DRAINAGE WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF TOWN OF YORKTOWN. ALL WATER MAIN WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE YORKTOWN WATER COMPANY.
9. ALL DRAINAGE PIPES SHALL BE 16 GUAGE CORRUGATED STEEL (2⅔" x ½") CORRUGATION FULLY ASPHALT COATED. HELICALLY CORRUGATED CONFORMING WITH A.A.S.H.O.M-36. BENDS SHALL BE ANNULAR CORRUGATED TYPE, & THE PIPE SHALL BE ALUMINIZED STEEL TYPE II.
10. ALL TEES SHALL HAVE THREE (3) GATE VALVES. VALVES SHALL BE SPACED NO MORE THAN 800' APART.
11. ALL VALVES, TAPPING SLEEVES, TAPPING VALVES AND HYDRANTS SHALL BE AS MANUFACTURED BY THE MUELLER CO. AND SO NOTED ON THE DRAWINGS.

SANITARY SEWER NOTES:

1. ALL SANITARY SEWERS TO BE 8" DIAMETER P.V.C. SEWER PIPE SDR 39 OR APPROXIMATE EQUAL.
2. LEAKAGE TESTS SHALL COMPLY WITH A MAXIMUM EXFILTRATION-INFILTRATION OF 100 GALLONS/DAY/MILE/INCH OF DIAMETER OF PIPE.
3. ALL INDIVIDUAL HOUSE CONNECTIONS SHALL BE OF 4" DIAMETER MINIMUM ON 2% GRADE AND 6" DIAMETER ON A 1% GRADE. CLEAN OUTS SHALL BE USED AT CHANGES IN GRADE OR ALIGNMENT OR WHENEVER THE HOUSE CONNECTION EXCEEDS 100 FT. IN LENGTH.

WATER MAIN NOTES:

1. PROPOSED WATER MAINS SHALL BE 8" DIAMETER, CLASS 52, CEMENT LINED, DUCTILE IRON PIPE WITH 4'-0" MINIMUM COVER.
2. INSTALLATION, DISINFECTION & TESTING OF WATER MAINS & APPURTENANCES SHALL BE WITNESSED & CERTIFIED BY THE TOWN OF YORKTOWN ENGINEERING DEPT.
3. ALL TEES, BENDS & HYDRANTS SHALL BE BLOCKED WITH CONCRETE & JOINT RESTRAINERS. THE METHOD OF RESTRAINMENT SHALL BE IN ACCORDANCE WITH THE TOWN OF YORKTOWN WATER DEPARTMENT SPECIFICATIONS.
4. ALL HYDRANTS AND ASSEMPLY SHALL BE IN ACCORDANCE WITH THE YORKTOWN FIRE DEPT. AND THE YORKTOWN WATER CO. THE HYDRANTS SHALL HAVE A 4½" PUMPER CONNECTION (FACING THE STREET) AND TWO 2½" HOSE CONNECTIONS EACH HYDRANT SHALL HAVE A 6" DIA. FEEDER WITH A 6" GATE VALVE AT THE MAIN AND SHALL BE TIED TOGETHER WITH JOINT RESTRAINERS. THE HYDRANTS SHALL BE BY MUELLER COMPANY 250 P.S.I.
5. ALL MAIN TESTINGS SHALL COMPLY WITH A.W.W.A SPECIFICATION C 600 & THE YORKTOWN WATER DEPT & THE DISINFECTION SHALL COMPLY WITH AWWA SPECIFICATION C 651-86, EXCEPT SECT. 5.1
6. ALL WATER SERVICE TO BE ¾" DIAMETER MINIMUM AND SHALL HAVE A CURB COCK.
7. EACH UNIT SHALL HAVE A METER WITH 2 VALVES AND A REMOTE READER. SIZE AND LOCATION TO BE DETERMINED BY THE YORKTOWN WATER DEPARTMENT.
8. ALL PIPES, FITTINGS & GATES TO BE IN ACCORDANCE WITH A.W.W.A. STANDARDS & THE YORKTOWN WATER DEPT.
9. ALL PROPOSED WATER MAINS SHALL HAVE MINIMUM 10'-0" HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN SANITARY AND STORM SEWERS AND SANITARY HOUSE CONNECTIONS.
10. WATER MAINS & APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE "SPECIFICATIONS FOR THE INSTALLATION OF WATER MAINS, VALVES & HYDRANTS" OF THE YORKTOWN WATER DEPARTMENT.
11. METER PITS SHALL BE INSTALLED AT THE PROPERTY LINE FOR EACH LOT WHERE THE DWELLING IS SET BACK MORE THAN 75' FROM THE PROPERTY LINE. INSTALL PRESSURE REDUCING VALVE AND METER IN THE METER PITS. THE PRESSURE REDUCING VALVE SHALL BE PLACED BETWEEN THE MAIN AND THE METER.
12. WATER SERVICE CONNECTIONS TO THE 8" A.C.P. WATER MAIN IN GOMER STREET SHALL BE MADE WITH SADDLE OR WITH STAINLESS STEEL CLAMP.



LOCATION MAP

RECOMMENDED EARTH BERM CONSTRUCTION SEQUENCE

PHASE 1
A) Relocate existing ditch to new location as shown
B) Install collerdam A and construct portion A of Earth Berm to final grade including the spillway and all Rip-Rap work

PHASE 2
A) Remove collerdam A and install collerdam B
B) Re-align existing ditch to the newly constructed spillway.
C) Complete portion B of the Earth Berm

NOTE Install temporary pipe on the downstream of the constructed spillway in phase 2 if necessary to provide access for the total completion of the Earth Berm

SCHEDULE OF CONSTRUCTION INSPECTION ACTIVITY

After the construction of collerdam in both phases 1 and 2 and after the removal of the existing surface material, below the Earth Berm and before the placement of the fill material the contractor shall notify the Town Engineer for inspection and approval to proceed.

A second inspection and approval to proceed is also required after the completion of the fill and the Rip-Rap work and before the placement of topsoil & seeding.

The final inspection will take place after the grass has been established

NOTE: AT REMOVAL OF SILT FENCE THE CONTRACTOR SHALL RESTORE THE GROUND TO THE ORIGINAL CONDITION

SILT FENCE DETAIL

NOT TO SCALE

SKETCH OF 5' RECREATION ACCESS WALK

NOT TO SCALE

SKETCH OF SEWER HOUSE CONNECTION

NOT TO SCALE

NOTES:

1. SEWER CONNECTION PIPES SHALL BE LAID AT 2% MIN. SLOPE EXCEPT FOR LOTS # 5 THRU 11 AND LOTS # 18 THRU 23, THE PIPES SHALL BE LAID AT 1% MIN. AND THE DIAMETER OF THE PIPE SHALL NOT BE LESS THAN 6".
2. RESIDENCE FOR LOT 12, 13, 14, 15, 16 & 17 WILL NOT HAVE GRAVITY SEWER CONNECTION FOR BASEMENT.
3. SEWER CONNECTION FOR RESIDENCE LOT 9 THRU 11 AND LOT 18-23 MUST DEPART FROM THE SOUTH SIDE OF THE RESIDENCE AS SHOWN.

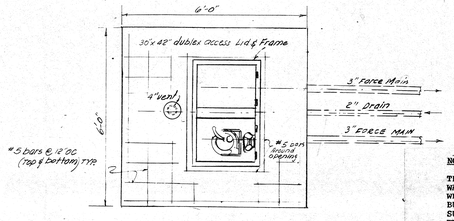
REVISED MARCH 13 1990
REVISED FEB. 24-89
REVISED JANUARY 31, 1989
REVISED SEPTEMBER 2, 1988
REVISED FEB. 12 1990

CUNNANE REALTY
TOWN OF YORKTOWN, N.Y.

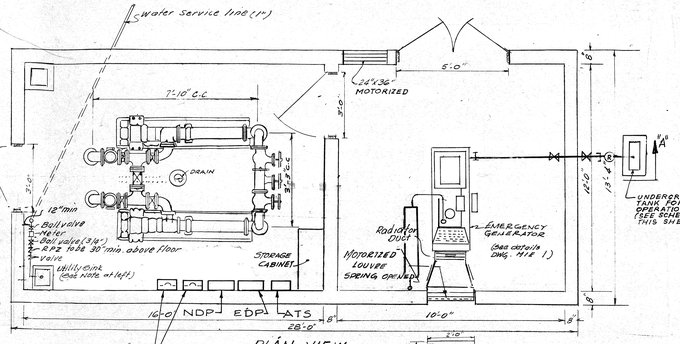
UTILITY LAYOUT PLAN
(DRAINAGE, SEWER & WATER)

DATE	SCALE	DRAWING NO.
AUG 26, 1988	1" = 60'	E1

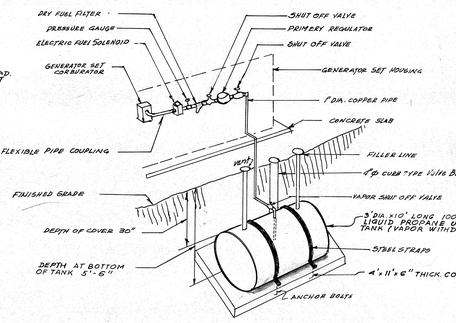
CHAS. H. SELLS, INC.
CONSULTING ENGINEERS — BEDFORD HILLS, NEW YORK



TOP SLAB PLAN
N.T.S

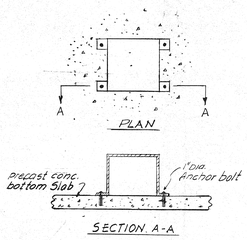


PLAN VIEW
PUMP BLDG
N.T.S

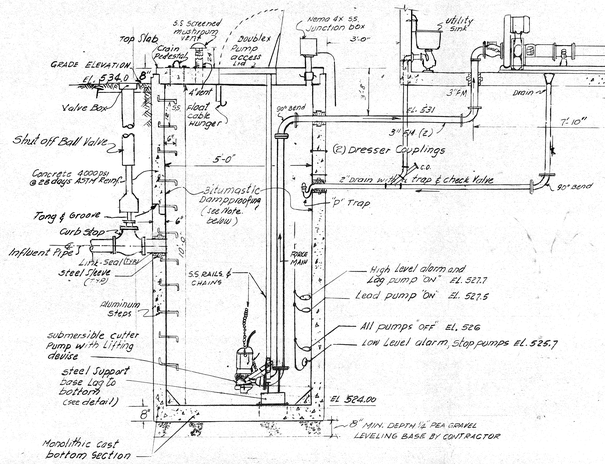


NOTES
1. Fuel line shall be laid on a positive grade from the LPG Tank to the Generator set carburator in order to allow condensate to flow back to the LPG Tank.
2. Valves, regulators, filters and Solenoid Valves shall all be installed within the housing for th Generator set.

L.P.G FUEL SYSTEM FOR GENERATOR SET
(SCHEMATIC LAYOUT)
N. T. S.



CAST IRON SUPPORT BASE
FOR SUBMERSIBLE PUMPS
N. T. S



ELEVATION
Submersible Pump Station
N.T.S

SECTION "A-A"
N.T.S

Note: Dampproofing
The contractor shall coat the bottom and inner walls of the wet well with Bituminastic dampproofing

Note:
1. Refer to the Architect for Building Details
2. Dampproofing: The Contractor shall coat the bottom and inner walls of the wet well with bituminastic dampproofing.
3. For Electrical & Mechanical See Dwgs. MIE 1, MIE 2, & MIE 3.
4. All Pump Station doors shall be constructed of steel
5. All lock sets shall be manufactured by Sargent and Company, Morris Lock Set Number 7715 6DC x 26D (master key number LG 774134M).

GOMER FARMS SEWAGE PUMPING STATION DESIGN

A. Inflow average daily 19.0 gpm
Peak 47.0 gpm
Station output
Q 80 gpm
TDH 207'

B. SUBMERSIBLE PUMPS (2)

Operating Condition: each pump shall be rated 80 gpm, @ 25 ft. total head, also be capable of operation at 260 gpm & 10 ft. head.

Pumps: Class 30, 3 H.P. Max., 1750 Max. r.p.m. for 208/3/60, four (4) wire service, with internal thermal overload protection, and seal leak sensor. The motors shall be oil-filled, and the motors shall be capable of pumping continuously at four (4) HP load while motor temperature remains below 105 degrees F.

Pump manufacturing, inspection, quality control, and testing shall be according to Military Standards MIL-I-45208 and MIL-C45662-A (PROSSER-ENPO MODEL 32 IDES 160 impeller diameter 5.511" (140 MM) or equal).

A complete spare submersible pump with lifting chain shall be supplied to the owner for on site storage.

C. POSITIVE DISPLACEMENT PUMPS & MOTORS (2)

Operating Conditions: 83 gpm
THD 182

The positive displacement pumps shall be progressive cavity type, The pump speed shall be 207 rpm by means of an HTD belt drive, and no vee-belts may be used. The drive shall be enclosed in an OSHA belt guard. The motors shall be open drip-proof construction (ODP), 10 HP, 900 rpm, 8-pole, 208/3/60, with internal thermal sensor, Corro-Duty type for sever service.

The pump housing shall be Class 30 cast iron. The pump shall have two (2) handhole cleanouts, located on opposites of the pump suction housing.

The pump shall be mounted on a full length steel baseplate with solid top. The baseplate shall have a full length drip containment rim with 3/4" NPTF drain connections on opposite sides as shown in the drawings. The pumps, motor supports, guards and pumps shall be grey epoxy-coated. (SEEPEX PUMP CO. Model 35-12 12-stage or equal.)

Positive displacement pump spares shall include:

1 complete spare pump

2 sets packing and lantern rings

6 permalube lubricators

2sets all gaskets and/or O-rings.

F. ALARM SYSTEM

Alarm system shall be comparable to the Verbatim 1600 alarm system, series VSS as manufactured by RECO REMOTE ALARMS and be approved by the Engineer. The unit should have the remote supervising control option and the NEMA 4X enclosure option.

D. EMERGENCY GENERATOR

The emergency arrangement in the event of power failure or simultaneous failure of both pumps shall by means of an engine-driven generator, equal to Kohler 45RZ, LP, gas fuel, water-cooled, radiator type, with 45 KW generator, 208/3/60, 3-phase 4-wire. The engine shall be equal Kohler 100 HP @ 1800 rpm, and fuel consumption at full load shall not exceed 298 cubic feet per hour.

The engine generator shall be equipped with a 30% dummy load connected through the control panel to be activated when the generator is operating unloaded. The radiator discharge wall louver shall be 36" high by 24" wide, with a damper motor having spring-to-open and motor-to-close operation. The generator room shall have a motorized louver with an area not less than twelve (12) square feet.

The muffler shall be critical silencer type with stainless steel flexible exhaust connector. The exhaust shall be vertical through the roof, with rain cap, and a stainless steel sleeve shall fire-protect the roof material.

The complete emergency generator system and automatic transfer switch shall be placed into full operation by a generator service company.

E. ELECTRIC & CONTROLS

The control panel enclosure shall be double door type, Nema 12. The panel lamps shall be 12-volt bayonet base with a single lamp test push button.

The control panel shall be Klockner-Moeller Co. fuseless design with main disconnect and starters (for both pump panels) and shall include: "HAND-OFF-AUTO" switches, run lights red, seal leak lights yellow, automatic alternation, circuit breakers, magnetic starters, control circuit breaker (with alarm), elapsed time meters, selector switches for each pump, indicating lamp and test switch for each float switch. There shall be an adjustable time delay to allow three seconds interval between the submersible pump start and the positive displacement pump start. A selector switch shall permit "OFF-LEAD-1-2" pump selection for each pump. A flow alarm system shall be provided to shut down a positive displacement pump that fails to pump. Failure to pump shall be signalled by a limit switch mounted on each check valve lever.

A lockout circuit shall be provided to permit operation of only one submersible pump and one progressing cavity pump when operating on emergency power.

G. JUNCTION BOX

A U.S. Energy NEMA 4X stainless steel junction box 12" high by 16" wide by 6" deep with a welded 4" NPTF bottom connection flange shall be supplied. It shall be installed on top of the wet well cover with a 12" long nipple of 4" stainless steel pipe to serve as both the support mounting and the conduit for the cables from the wet well.

The junction box shall be fitted with heavy duty barrier type terminals with retained screws, including ten (10) percent spare terminals. All terminals shall be identified with engraved terminal strips.

H. CONDUITS

The electrician shall fit the bottom of the junction box with two (2) conduit connections and run conduit as shown on the drawings.

The float switch cables shall be run in a separate conduit from the pump power cords conduit.

All electrical conduit used in the performance of this contract shall be corrosion resistant metal conduit, and no plastic conduit is permitted in the work covered in this contract.

I. VALVES & PIPING

The piping used in the installation in the wet well and the valving shall be 3" size Schedule 40 steel pipe. The valves shall be:

2 DeZurik 3" valves, series 100, lever operated, 150# flanged, 8" long.

2 Dresser M & H Style 159-02 3" check valves, 125# ANSI flanged, 10 1/4" F-F, lever and weight type, one right hand and one left hand and arranged with lever nearest outside wall.

2 Pressure gage assemble per August 1896 "Operations Forum," range 0 to 35 ft. H_2O.

All flange tee-bolts and nuts in the pump station and the wet well shall be ceramic-coated or equal non-corrosive type. The 2" drain from the pump building into the wet well shall terminate there in a "P" trap with a 2" brass check valve on the vertical leg.

J. ACCESS LIDS

A duplex pump access hatch shall be cast into the top slab of the wet well as shown on the drawings. The hatch shall be of aluminum checkerplate, 300 psf rating, opening size 30" x 42", with stainless steel hardware, and padlocking capability.

K. FLOOD SWITCH CONTROLS

There shall be four (4) float switches suspended from a stainless steel float hanger attached to the frame of the pump access hatch frame. The float switch cable shall be of heavy Neoprene, MSHA grade, rated for 600 volts, and plastic cords are not acceptable. The float switches shall be U.S. Energy Mode 1902.

The float switch control shall be as follows:

No. 4 - High level alarm and lag pump "ON"

No. 3 - Lead pump "ON"

No. 2 - All pumps "OFF"

No. 1 - Low level alarm, stops pumps

The float switch cables shall be run in a separate conduit from the pump power cords conduit.

L. STRUCTURES AND APPURTENANCES

Precast Concrete Structure

Wet Well: 5'x5' square and 10' deep

The wet well shall be of reinforced concrete, 4,000# test @ 28 days, with a monolithic cast bottom section. The steel reinforcing shall meet or exceed the requirements of ASTM A-82, A-185, A-496, or A-615 Gr. 60 or latest revision(s) thereof. Joints shall be of the tongue and groove type and sealed with mastic in the field assembly.

A U.S. Energy Corp. 4" size vent coupling plate shall be cast into the top slab of the wet well as shown on the drawings. A 4" s.s. nipple 24" long and stainless steel screened mushroom vent cap shall be supplied with the dry pit vent coupling. A 12" nipple shall be furnished with the wet well cast-in coupling.

REVISED JULY 11, 1990
REVISED MARCH 13-1990
REVISED FEB 12, 1990

CUNNANE REALTY
TOWN OF YORKTOWN, N.Y.

PUMPING STATION DETAILS

DATE	SCALE	DRAWING NO.
8/17/89	N.T.S.	EE 2

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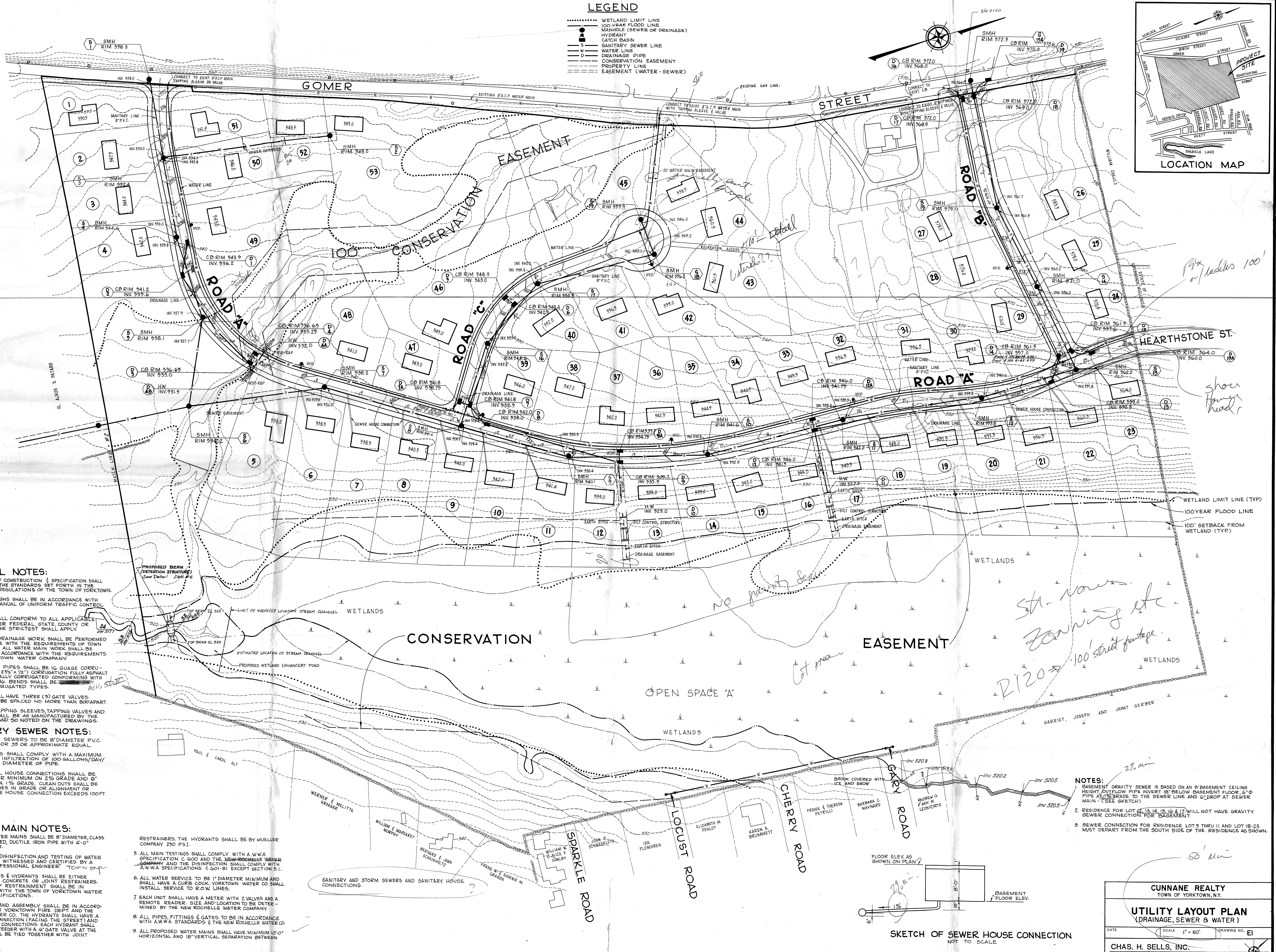
CONSULTING ENGINEERS — BEDFORD HILLS, NEW YORK

Attachment F - Farmwalk Sewer Extension Drawings, Chase. H. Sells, Inc.



GENERAL NOTES:

1. ALL METHODS OF CONSTRUCTION & SPECIFICATION SHALL COMPLY WITH THE STANDARDS SET FORTH IN THE SUBDIVISION REGULATIONS OF THE TOWN OF YORKTOWN.
2. ALL TRAFFIC SIGNS SHALL BE IN ACCORDANCE WITH N.Y.S.D.O.T. "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES."
3. ALL WORK SHALL CONFORM TO ALL APPLICABLE CODES WHETHER FEDERAL, STATE, COUNTY OR LOCAL AND THE STRICTEST SHALL APPLY.
4. ALL SEWER & DRAINAGE WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF TOWN OF YORKTOWN. ALL WATER MAIN WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE YORKTOWN WATER COMPANY.
5. ALL DRAINAGE PIPES SHALL BE 16 GUAGE CORRUGATED STEEL (2⅔" x ½") CORRUGATION FULLY ASPHALT COATED. HELICALLY CORRUGATED CONFORMING WITH A.A.S.H.O. M-36. BENDS SHALL BE ~~HUGGER OR~~ ANNULAR CORRUGATED TYPES. ALU, STL IV
6. ALL TEES SHALL HAVE THREE (3) GATE VALVES. VALVES SHALL BE SPACED NO MORE THAN 800' APART.
7. ALL VALVES, TAPPING SLEEVES, TAPPING VALVES AND HYDRANTS SHALL BE AS MANUFACTURED BY THE MUELLER CO. AND SO NOTED ON THE DRAWINGS.

SANITARY SEWER NOTES:

1. ALL SANITARY SEWERS TO BE 8" DIAMETER P.V.C. SEWER PIPE SDR 35 OR APPROXIMATE EQUAL.
2. LEAKAGE TESTS SHALL COMPLY WITH A MAXIMUM EXFILTRATION - INFILTRATION OF 100 GALLONS/DAY/MILE/INCH OF DIAMETER OF PIPE.
3. ALL INDIVIDUAL HOUSE CONNECTIONS SHALL BE OF 4" DIAMETER MINIMUM ON 2% GRADE AND 6" DIAMETER ON A 1% GRADE. CLEAN OUTS SHALL BE USED AT CHANGES IN GRADE OR ALIGNMENT OR WHENEVER THE HOUSE CONNECTION EXCEEDS 100 FT. IN LENGTH.

WATER MAIN NOTES:

1. PROPOSED WATER MAINS SHALL BE 8" DIAMETER, CLASS 52, CEMENT LINED, DUCTILE IRON PIPE WITH 4'-0" MINIMUM COVER.
2. "INSTALLATION, DISINFECTION AND TESTING OF WATER MAINS SHALL BE WITNESSED AND CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER." TOWN ENGR.
3. ALL TEES, BENDS & HYDRANTS SHALL BE EITHER BLOCKED WITH CONCRETE OR JOINT RESTRAINERS. THE METHOD OF RESTRAINMENT SHALL BE IN ACCORDANCE WITH THE TOWN OF YORKTOWN WATER COMPANY SPECIFICATIONS.
4. ALL HYDRANTS AND ASSEMBLY SHALL BE IN ACCORDANCE WITH THE YORKTOWN FIRE DEPT. AND THE YORKTOWN WATER CO. THE HYDRANTS SHALL HAVE A 4½" PUMPER CONNECTION (FACING THE STREET) AND TWO 2½" HOSE CONNECTIONS EACH HYDRANT SHALL HAVE A 6" DIA. FEEDER WITH A 6" GATE VALVE AT THE MAIN AND SHALL BE TIED TOGETHER WITH JOINT RESTRAINERS. THE HYDRANTS SHALL BE BY MUELLER COMPANY 250 P.S.I.
5. ALL MAIN TESTINGS SHALL COMPLY WITH A.W.W.A SPECIFICATION C 600 AND THE ~~NEW ROCHELLE WATER COMPANY~~ AND THE DISINFECTION SHALL COMPLY WITH A.W.W.A SPECIFICATIONS C 601-81 EXCEPT SECTION 5.1.
6. ALL WATER SERVICE TO BE 1" DIAMETER MINIMUM AND SHALL HAVE A CURB COCK. YORKTOWN WATER CO. SHALL INSTALL SERVICE TO R.O.W. LINES.
7. EACH UNIT SHALL HAVE A METER WITH 2 VALVES AND A REMOTE READER. SIZE AND LOCATION TO BE DETERMINED BY THE NEW ROCHELLE WATER COMPANY.
8. ALL PIPES, FITTINGS & GATES TO BE IN ACCORDANCE WITH A.W.W.A. STANDARDS & THE NEW ROCHELLE WATER CO.
9. ALL PROPOSED WATER MAINS SHALL HAVE MINIMUM 10'-0" HORIZONTAL AND 18" VERTICAL SEPARATION BETWEEN SANITARY AND STORM SEWERS AND SANITARY HOUSE CONNECTIONS. ?

NOTES:

1. BASEMENT GRAVITY SEWER IS BASED ON AN 8' BASEMENT CEILING HEIGHT, OUTFLOW PIPE INVERT 18" BELOW BASEMENT FLOOR, 6" Φ PIPE AT 1% GRADE TO THE SEWER LINE AND 6" DROP AT SEWER MAIN - (SEE SKETCH) 2% min
2. RESIDENCE FOR LOT 12, 13, 14, 15, 16 & 17 WILL NOT HAVE GRAVITY SEWER CONNECTION FOR BASEMENT.
3. SEWER CONNECTION FOR RESIDENCE LOT 5 THRU 11 AND LOT 18-23 MUST DEPART FROM THE SOUTH SIDE OF THE RESIDENCE AS SHOWN.

FLOOR ELEV. AS SHOWN ON PLAN?
8'-0"
18"
BASEMENT FLOOR ELEV.
1%
6"

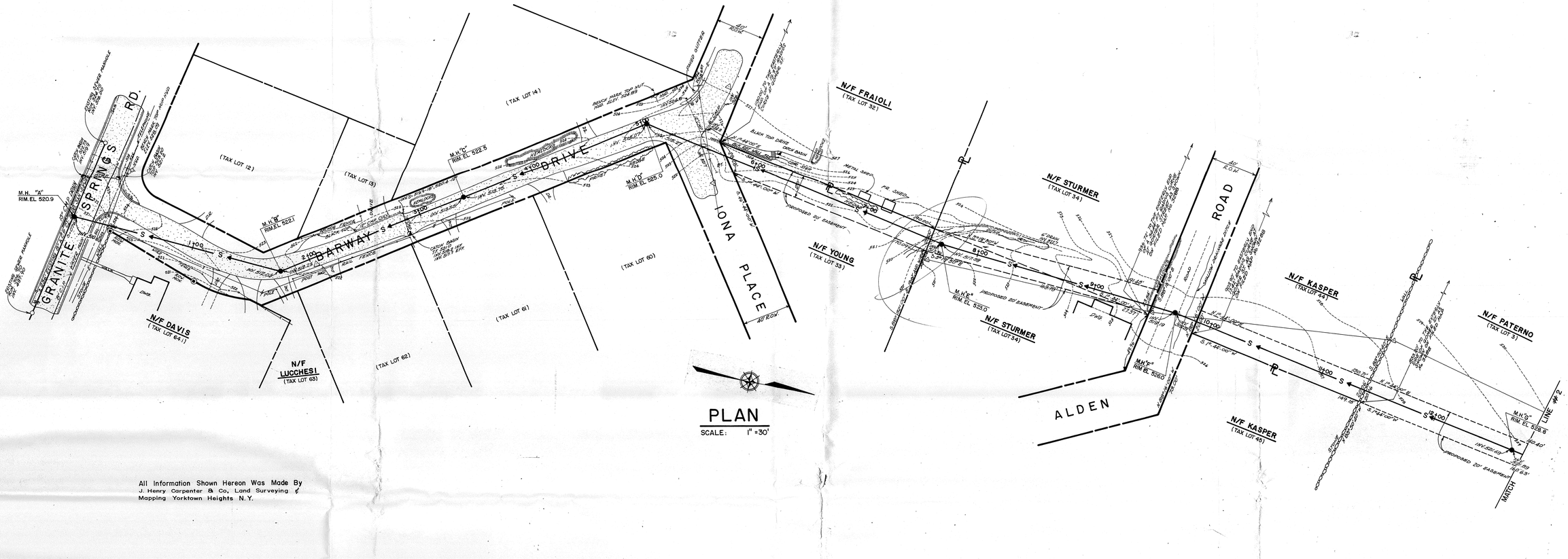
SKETCH OF SEWER HOUSE CONNECTION
NOT TO SCALE

CUNNANE REALTY
TOWN OF YORKTOWN, N.Y.

UTILITY LAYOUT PLAN
(DRAINAGE, SEWER & WATER)

DATE	SCALE 1" = 60'	DRAWING NO. E1

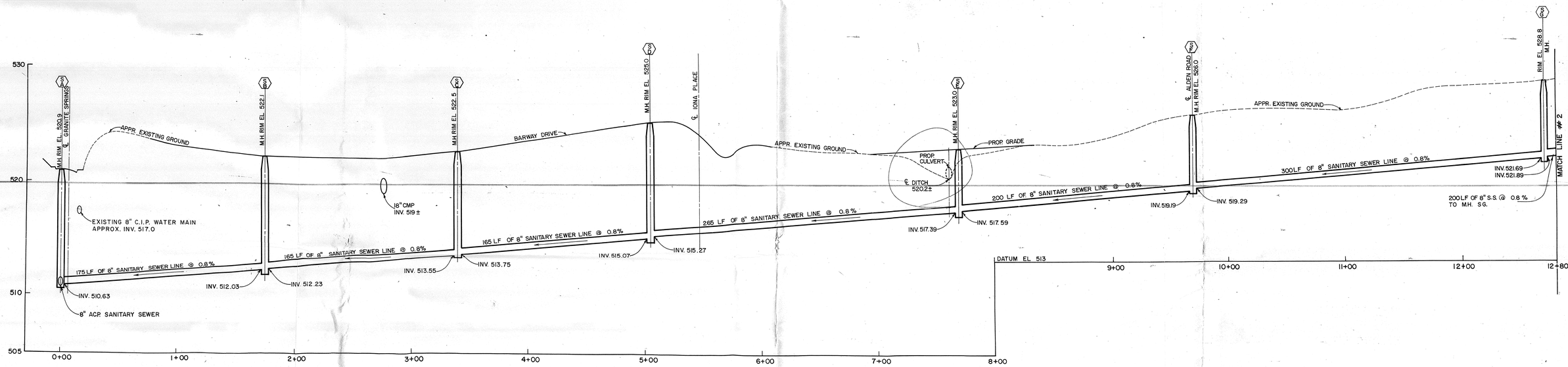
CHAS. H. SELLS, INC.
CONSULTING ENGINEERS BEDFORD HILLS, NEW YORK



PLAN

SCALE: 1" =30'

All Information Shown Hereon Was Made By
J. Henry Carpenter & Co. Land Surveying &
Mapping Yorktown Heights N.Y.



SEWER PROFILE

SCALE: HORIZ. 1" = 30'
VERT. 1" = 3'

CUNNANE REALTY
TOWN OF YORKTOWN, N.Y.

ROAD & SEWER PROFILES

DATE	SCALE	DRAWING NO.
	AS SHOWN	E 3

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