

Draft Supplemental Generic Environmental
Impact Statement

Prepared for:

Tri-County Business Park
13700 Tri-County Business Park
Chaffee, NY 14030

Prepared by:

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P.O. Box 159
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October 22, 2012

Rev. February 18, 2013

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E&M
Engineers and Surveyors PC

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- 1) DEC Comments and response to DGEIS dated January 2, 2013
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DRAFT Supplemental Generic Environmental Impact Statement

Proposed Action: Tri-County Business Park

Location: NYS Route 16, Sardinia, Erie County, New York

Type of Action: Type 1 Action

Applicant: Mark -1, LLC - Real Estate Development
Manfred Koch
13700 Tri-County Business Park
Chaffee, New York 14030

Lead Agency: Town of Sardinia Planning Board
Robert Hill, Planning Board Chairman
12320 Savage Road
Sardinia, New York 14134

Statement Prepared By: E&M Engineers and Surveyors, P.C.
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(716) 699-8519

Date of Acceptance by Lead Agency: _____

Date of Public Hearing: _____

Deadline for Submission of Comments: _____

**Date of Acceptance of Final Supplemental
Generic Environmental Impact Statement:** _____

INTRODUCTION

This Supplemental Generic Environmental Impact Statement (SGEIS) is prepared pursuant to the New York State Environmental Quality Review Act (SEQRA), Article 8 of the New York Environmental Conservation Law, and its implementry regulations 6 NYCRR Part 617.

The proposed action involves an application to the Town Planning Board for approval of a 13 unit townhouse subdivision on Hutchinson Road and an application to the Town Board to rezone the property from AR to BL. This action is the first phase of development of the Tri-County Business Park, which was the subject of a Generic Environmental Impact Statement and Findings Statement issued by the Planning Board on June 2012. Although the specific townhome development was not specifically evaluated in the DGEIS, after consultation with the NYSDEC it was determined that the proposed action was part of the same overall development and that as a result the SEQRA review for the proposed project should be conducted in accordance with the thresholds identified in the June 2012 Findings Statement issued by the Planning Board.

The townhouse development was not included in the original Tri-County Business Park GEIS thus triggering this SGEIS. The scope of this report also includes 2 proposed water wells for a water system to provide water to the Business Park and townhouses, and an on-site septic system for the 13 townhouses.

Parties Involved

Mark 1, LLC - Real Estate Development	Property Owner / Developer
Dream Builders, LLC	Contractor / Builder
Tri-County Water Inc.	Water Transportation Corporation (Proposed)
Tri-County Sewer Inc.	Sewer Transportation Corporation (Proposed)
Hutchinson Hill Homeowners Ass. Inc.	Homeowners Association (Proposed)
E&M Engineers and Surveyors, P.C.	Engineer
Clark Patterson Lee	Engineer - Septic System Design

Involved parties agree to be bound by any findings or conditions which may be imposed in the Planning Board's Finding Statement.

Required Approvals

The following approvals and permits may be obtained for this phase of the project.

AGENCY	APPROVAL
NYS Dept. of Environmental Conservation	SPDES Permit for storm water and sewer, Stream Disturbance Permit, & Water Supply Permit
NYS Dept. of Health (Erie County) Sardinia (T)	Septic System Approvals, Water Supply Approvals Zoning, Site Plan, Flood Plain Development, Sewer Disposal Corporation, Water Supply Coprpoation
U.S. Army Corp of Engineers	Wetland
FEMA	Floodplain

TOWNHOUSE DEVELOPMENT DESCRIPTION

Site

The relatively flat site borders Cattaraugus Creek on the south, the base of a hill to the northeast and Hutchinson Road on the west. See **EXHIBIT 1**. The site was previously occupied by a single family dwelling, garage and 2 barns.

The overall site consists of 3.8 ± acres. Plans are to build 13, 2-bedroom townhouses in two sections of 4 units and one section of 5 units. The units will be constructed in one phase. See **EXHIBIT 2** for a site plan.

Access to the site is via the private parking lot from Hutchinson Road by two entrances. The parking lot has 29 spaces or 2.2 spaces per unit. The parking lot will be paved with 10 inch thick compacted granular subbase, 2 ½" of asphalt concrete binder and 1 ½" of asphalt concrete top course.

Maintenance of the parking lot will be provided by a Home Owners Association.

Subsoil Conditions

Based upon soils maps from the Natural Resources Conservation Service of the USDA it was found that soils consist of Middlebury Silt Loam and Chenango Gravelly Loam. Middlebury soil is in hydrologic group D and has a very slow infiltration rate and are noted as having a high water table. The Chenango soil is in group A which has a high infiltration rate and considered to be well drained. The Middlebury soil occurs in the south half of the site with the Chenango soil the north half of the parcel.

No portion of the site was ever part of the Gernatt Gravel Products gravel mining operations nor sediment disposal site.

Proper site grading and basement underdrains will control subsurface water conditions.

Existing deciduous treed areas along Cattaraugus Creek and the eastern slope will be trimmed and kept in place. Unpaved areas will be seeded with shade tolerant grass and maintained as lawn areas. The area to the south of the entrance road and north of Cattaraugus Creek will be mowed infrequently to maintain more of a meadow appearance.

Sugar maple trees of 2 inch minimum caliper will be planted along the Hutchinson Road frontage to provide a buffer to the homes.

All landscaping will be maintained by the HOA.

Utilities

Electric service will be provided by the Village of Arcade Electric Department, a municipally owned electric utility. Each unit will be individually metered and billed. Electric lines will be installed underground.

Telephone service will be provided by Verizon via underground lines. Telephone charges will be born by the individual owners.

Time Warner Cable provides TV and internet services; owners will also be allowed to install their own satellite TV/internet antennas (location to be approved). Cost of either service will be paid by the individual owners.

Water will be supplied by Tri-County Water, Inc.(incorporation pending). A 3-inch PVC water main will be constructed on site to serve the units. Each unit will have a water meter and be billed according to their usage. The on-site water system will be maintained by the proposed Hutchinson Hill Homeowners Association and the Tri-County Water Inc., transportation corporation will supply the water and be responsible for the off site distribution system. The details of responsibilities will be explained in the respected documents. Water use is estimated at 2,900 gallons per day.

Sanitary sewage will be conveyed by 6-inch PVC piping to an on-site septic tank. Effluent from the tank will be pumped to an off-site absorption field. Operation and maintenance of the sewage collection system, septic tank and pump station will be the responsibility of the Hutchinson Hill Homeowners Association, Inc. The off site treatment system will be operated and maintained by Tri-County Sewer Inc., the proposed sewer disposal corporation. Plans for the proposed treatment system have been submitted to the Erie County Health Department by Mark 1, LLC - Real Estate Development. Review is currently underway. The DEC will also need to issue a SPDES permit for the discharge.

The new system is to be constructed adjacent to the Tim Horton's system. Plans for the new system by Clark Patterson Engineers are enclosed. No part of the proposed septic system (nor townhouse project) is located on the old Gernatt Gravel Products sediment disposal site. The system has been designed for pre 1980 fixtures using a flow rate of 150 gpd / bedroom (3900 gpd) instead of the post 1994 flow rate of 110 gpd / bedroom (2900gpd).

The on-site wastewater treatment system (OWTS) is proposed for this project over connecting to the municipal system due to the cost to install the sewer main from the proposed site location to the municipal treatment plant on the opposite end of the site. It is anticipated that a future Tri-County Business Park sewer and wastewater treatment system or a connection to the Arcade sewer system would replace both of these on-site septic systems. The future wastewater treatment system would also provide service to additional development of the mixed residential and commercial units in Phase I. A future Tri-county Business Park wastewater treatment system would require DEC approval as it would handle flows over 10,000 gpd. The Transportation Corporation - Tri-County Sewer Inc. will be responsible for providing wastewater treatment for the proposed sewer district.

Stormwater Management

The stormwater management system designed for this project consists of grassed swales, storm drain pipes and a detention basin. The basin is dry except during a rain event after which it automatically drains. This system is designed in accordance with NYSDEC Stormwater Management regulations. Maintenance of the stormwater system will be by the HOA. A stormwater pollution prevention plan has been prepared and a Notice of Intent filed with NYSDEC.

Refuse Disposal

Refuse from individual units is collected by Waste Management, Inc. on a weekly basis. Through an arrangement with the Town of Sardinia, Waste Management does not charge for this service. Each unit will be provided with a free garbage tote and recycling bins which will be housed in garbage can enclosures provided for each building. Each enclosure will be located at the end of the perspective building and built to blend in with the proposed buildings.

Fire Protection

Fire protection will be provided by the Sardinia Volunteer Fire Company. The company utilizes pumpers and tank trucks to fight rural fires. Wired smoke detectors will be provided in each unit as required by NYS Building Code.

Lighting

The parking lot will be illuminated at night by 2 pole mounted lights. Electrical cost of operation of the lights will be paid by the Association.

Sidewalks

Concrete sidewalks will be provided along the front of the units, edging the parking lot. Additional concrete sidewalks will be placed to the entry of each unit from the main sidewalk.

Agency Review

This townhouse subdivision has been submitted to the Erie County Health Department for review.

POTENTIAL ENVIRONMENTAL IMPACTS

Land Use and Zoning

The current zoning of the 3.8 acre parcel is Agricultural - Residential. Rezoning of the parcel from Agricultural - Residential to Business and Light Industrial is necessary and the Planning Board is conducting a concurrent review of the application for rezoning and site plan review. Townhouses are a permitted use in Business and Light Industrial zoning. The zoning law's "Schedule of Yard, Bulk, Lot area and Heights" and the proposed development are compared below.

	<u>Zoning</u>	<u>Proposed Project</u>
Min. Lot Area	2 Acres	3.8 Acres
Max. Density	1 Unit/Ac	3.4 Units/Ac
Min. Lot Width	250'	432+
Min. Front Yard	50'	50'
Min. Side Yard	25'	25'
Min. Rear Yard	50'	50'
Min. Distance Between Buildings	10'	19'
Number of Stories	2.5	2.0
Max. Building Height	35'	30.75

The proposed project unit density exceeds the allowable in accordance with the Zoning Law. The applicant intends to file for required variances with the Town Zoning Board of Appeals.

Floodplain

The southern edge of the development is Cattaraugus Creek. A portion of the site is within the 100 year base flood elevation. The attached Base Flood Elevation Certificate for planning use only places the flood elevation at 1367.00. See **EXHIBIT 3**.

The ground at the townhouses is proposed to be 1368.50. First floor elevation of the homes is 1371.0. This is well above the 100 year flood elevation. The elevation of the storm water detention basin bottom is proposed to be 1359.0 and the outlet pipe is 1361.59.

Based on comments from the DEC, an application for a C-LOMR-F is being completed. Copies will be forthcoming upon submission to FEMA. Prior to receiving final occupancy permits for the townhouses, a final LOMR-F will be needed once construction is completed.

Wetlands

A wetland delineation report for the entire Tri-County Business Park was prepared in August of 2012 by RMS Technologies, LLC. The report concluded that there are no USCOE jurisdictional wetlands (ponds excluded) on the property. The stormwater system for this project discharges directly to Cattaraugus Creek. Therefore the townhouse project will not impact wetlands.

The installation of the proposed water distribution system will cross, via open trenching, on site drainage ditches which may be considered waters of the United States, so a letter has been submitted for a jurisdictional determination of the site which may require a joint application be filed with the ACOE for a nationwide permit and the DEC for water quality certification.

Traffic

The GEIS prepared for the Tri-County Business Park included a traffic study. In that study, which included the 36 unit duplex development, it was concluded that the Hutchinson Road intersection with State Route 16 would be sufficiently controlled with one entrance and one exit lane with a stop sign (SRF Associates report pages vii and 12). The currently proposed 13 townhouses will have about 1/3 of the traffic volume or 8 trips per day. An updated traffic study is not warranted at this time.

The Town Highway Superintendent was consulted the week of February 11, 2013 regarding the necessity of improvements to Hutchinson Road due to the development of Phase 1. The Highway Superintendent's comments will be included and addressed as they become available.

Recreational Resources

There is an existing 66 foot wide (from top of bank) fishing rights easement along both sides of Cattaraugus Creek. The southern most entrance to the townhouses parking lot is beyond the 66 foot easement line. There are no impediments to the use of the fishing rights easement caused by this development. Two stormwater discharge points will cross the easement to the creek.

WATER RESOURCES

As part of the overall Tri-County Business Park Development, the applicant has decided to construct its own potable water supply wells on site. This option was not the preferred alternative, but is in accordance with the final GEIS and the impacts are evaluated below.

Tri-County's decision to construct its own wells as its water supply is based on the time frame in which water can be provided and the cost to supply water from its own wells versus outside sources. The existing Tim Horton's restaurant on Route 16 has its own well which supplies a minimal flow. The restaurant owner and Mr. Koch have had meetings, and Tim Horton's is eager to be able to connect to a prime source of plentiful, clean water, which is favorable to the construction of Tri-County Business Park's own potable water wells on site.

The boundary for the proposed water district that will serve water to the Tri County Business Park includes those parcels of property within Erie County, NY currently owned by Mark 1, LLC - Real Estate Development, including the Tim Hortons, Hutchinson Road Townhouses, and Tri County Business Park (Erie County Parcel). Details are shown on Exhibit 4

Proposed Construction

Proposed is the development of two 150 gallon per minute production wells to serve the business park. The two test wells will be converted to production wells in accordance with the "Recommended Standard for Water Works", AWWA A-100 Standard for Water Wells. Also all work will comply with requirements of NYS Departments of Health and Environmental Conservation.

Details of test wells #1 and #2 are shown in the Water Supply Application (WSA) which has been submitted to NYSDEC for review. The wells were developed for 19.5 and 22 hours respectively. Following development, both wells underwent step and 72 hour pump tests. The test data showed the capability of each well as follows:

Observation Well #2 (Production Well #2) (80' away) had a minimal drawdown of 1.6ft and observation Well #4 (350' away) had a negligible drawdown of only 0.1ft.

Well # 2 = 190 gpm with a drawdown of 11.4 feet

Observation Well #1 (Production Well #1) (80' away) had a minimal drawdown of 0.8ft and Well #4 (430' away) had a negligible drawdown of 0.1ft.

The proposed production wells are located 300 feet south of the north property line with the nearest adjacent commercial properties. The wells for these properties are located over 350 feet away, so in reviewing the drillers logs and well pump test data, it has been determined that there will be no impact on nearby wells or springs.

Water samples were taken from each well and tested for NYS Health Department Part 5 water quality parameters. Water in both wells was well under the "Maximum Contaminate Levels" of part 5.

Both wells will be fitted with pitless adapters for the installation of submersible pumps. The well cap will be secured (locked) to the top of the well with a compression gasket. The well cap will have a downward turned screened vent attached with a pipe nipple. The well casing will terminate 18" above finished grade.

The wells will have 2 new 150 gpm submersible well pumps. The pumps shall be a Flint and Walling model 6T 150B10, 3 Phase, 230V submersible motor. The pump shall be set on 20 feet of 3" threaded and coupled galvanized steel pipe. The check valve shall be installed above the first pipe section attached to the pump. The check valve shall be either lead free bronze or ductile iron and be designed for submersible pump application.

All well and pump field work shall be performed by a NY-DEC Registered and Certified Water Well Driller or Certified Pump Installer, as required by law.

Business Park Water System: Phase I

The Phase I water system is being designed to provide water to future business park development as shown in Table I below including the 13 townhouse units and Tim Hortons. Water will be available to existing and future development up to the limits shown in Table I below. However, the system will not serve additional facilities beyond what is listed in Table I without another SGEIS.

The applicant's attorney has prepared documents for the proposed water transportation corporation, Tri-County Water, Inc. The certificate of incorporation cannot be filed until the Town consents to the formation of the corporation. That cannot occur until the State Health Department has reviewed plans and approves such a filing. The plans have been reviewed and comment letters are provided in the appendix. The DEC will need to issue a water supply permit upon acceptance from the Health Department and Town.

The water supply corporation will be bound to sell water to the owners of the townhouses. It will also sell water to future businesses and residences that are developed up to the limits of

production of the water source or capacities of the Phase I development, maintaining adequate supply for the townhomes. Because Tri-County Water, Inc. will be selling water it will come under the jurisdiction of the New York State Public Service Commission. The water corporation will initiate application to the PSC before any water is sold.

Phase I Description

The proposed Phase I water system for the business park is being designed to serve a mix of residential and commercial units. Proposed there are 13-2 bedroom townhouses and 34-3 bedroom duplexes with a mix of small restaurants or other retail including a 70,000 square foot plaza. Total daily water consumption is estimated to be 25,000 gallons per day. The maximum hour design flow is 70 gpm. A table of projected water consumption is shown below.

Table I

Water Consumption - Phase I

36 - 3 bedroom townhouses @ 110 gpd/bedroom =	11,880
70,000 sq ft strip plaza @ 0.1 gpd/sf =	7,000
1, free standing non-food store - 4 employees @ 25 gpd/c =	100
1, free standing non-food store - 8 employees @ 25 gpd/c =	200
1, fast food restaurant - 30 seats @ 50 gpd/seat =	1,500
1, coffee shop - 30 seats @ 50 gpd/seat =	1,500
13 - 2 bedroom townhouses @110 gpd/bedroom =	<u>2,860</u>
 Total water use	 25,040 gal/day
 Maximum daily consumption = 2X =	 50,000 gpd = 35 gpm
 Maximum hourly consumption = 4X =	 100,000 gpd = 70 gpm

The proposed system includes the following:

1. Well pumps
2. Water filtration system
3. Filtered water storage
4. Finished water booster pumps
5. Chlorination system
6. Water mains

Well Pumps - Each submersible well pump is sized to provide 150 gpm to the pressure filters in the water treatment building. The wells discharge through 3 inch ductile iron pipe through a 3 inch water meter so that pumped water volume can be recorded. Pumps will be controlled by the water level in the finished water tanks. One well pump will run at a time with them alternating between tank fillups. A high pressure cutoff will shut down both pumps indicating that the pressure filters are approaching the blinding point.

Water Filtration System - The well water will be pumped through 2 trains of 3 cartridge filters in parallel. The first filter in each train will have 10 micron filters, the second, 5 micron filters and the third, 1 micron absolute filters. Due to the shallowness of the wells, water is being treated as if it is under the influence of surface water.

Filtered Water Storage - The filtered water will be stored in 2 - 12,500 gallon tanks. These tanks are of epoxy coated, bolted steel construction or polyethylene. Each tank is 12'-3" in diameter by 16'-2" tall. Each is covered and vented. Drain and overflow piping is included. Each tank can be shut off individually for repair or cleaning. Each one is also equipped with a drain valve and hose connection.

Finished Water Booster Pumps- Filtered water will be pumped to the Phase 1 users using a variable speed booster pump system. The Triplex Variable Speed Water Booster Pumping System will include vertical multi-stage stainless steel pumps, each rated for 35 gpm @ 162' TDH.

Chlorination System - It is proposed to use 5.25% sodium hypochlorite solution for disinfection of the water. The sodium hypochlorite solution will be fed into the water system at a rate sufficient to reach a chlorine concentration of .5mg/L of water. This solution will need to be fed into the system at a rate of approximately 0.3 gal/hr or 1.9 mL/min to achieve 0.5 mg/L residual.

Water Mains - Water Mains in Phase 1 will be 8 and 6 inch AWWA C-900 Class 150 PVC Pipe. All gate valves and fittings will be ductile iron. One water line will be 2 inch SDR 26 PVC pipe to feed the 13 town house units. Water main routing is shown on **EXHIBIT 4**.

Pressure at the discharge of the booster pump/chlorine contact point is to be set at 70psi. Residual pressure at the end of the 8 inch main (at 70gpm) will be 65 psi. Pressure at the end of the 3 inch main at the townhouses will be 50 psi (at 10gpm) as reduced by a pressure reducing valve.

All water lines will be installed, tested and disinfected in accordance with New York State Health Department regulations.

ASSESSMENT OF ENVIRONMENTAL IMPACTS

Land Use and Zoning

Once the parcel is rezoned Business / Light Industrial, the development will meet all zoning restrictions and produces no significant adverse environmental impacts

Floodplain

A portion of the proposed development is shown to be encroaching upon the 100 year flood plain elevation which is to be confirmed with FEMA.

Wetlands

Disturbance of wetlands on the site will be temporary and will not have any significant adverse environmental impacts.

Traffic

The additional traffic produced in this phase of the development will not have any significant adverse environmental impacts

Recreational Resources

There are no impediments to the use of the fishing rights easement caused by the proposed development to have any significant adverse environmental impacts.

Water Resources

The development of water system is proposed to consume on average 25,000 gallons per day and will provide a safe potable water supply for the development. The proposed water system requires approval of the Water Supply Application from the NYS Department of Environmental Conservation and NYS Department of Health. Construction of the water collection and distribution system will disturb soils temporarily requiring a NYS Department of Environmental Conservation SPDES permit for the discharge of stormwater.

**EXHIBIT 1
LOCATION MAP**

**EXHIBIT 2
SITE PLAN**

EXHIBIT 3
BASE FLOOD ELEVATION CERTIFICATE

ELEVATION CERTIFICATE

OMB No. 1660-0008
Expires March 31, 2012

Important: Read the instructions on pages 1-9.

SECTION A - PROPERTY INFORMATION

A1. Building Owner's Name <u>Dream Builders, LLC - Manfred Koch</u>		For Insurance Company Use: Policy Number
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. <u>12639 Hutchinson Road, Unit "C-13"</u>		Company NAIC Number
City <u>Chaffee</u> State <u>NY</u> ZIP Code <u>14030</u>		
A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.) SBL No. <u>327.00-1-11</u>		
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.) <u>Residential</u>		
A5. Latitude/Longitude: Lat. <u>42.535</u> Long. <u>78.476</u> Horizontal Datum: <input type="checkbox"/> NAD 1927 <input checked="" type="checkbox"/> NAD 1983		
A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.		
A7. Building Diagram Number <u>2</u>		
A8. For a building with a crawlspace or enclosure(s):		A9. For a building with an attached garage:
a) Square footage of crawlspace or enclosure(s) <u>1287</u> sq ft		a) Square footage of attached garage <u>N/A</u> sq ft
b) No. of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade <u>N/A</u>		b) No. of permanent flood openings in the attached garage within 1.0 foot above adjacent grade <u>N/A</u>
c) Total net area of flood openings in A8.b <u>N/A</u> sq in		c) Total net area of flood openings in A9.b <u>N/A</u> sq in
d) Engineered flood openings? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		d) Engineered flood openings? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

SECTION B - FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

B1. NFIP Community Name & Community Number <u>Sardinia, Town of - 360256</u>		B2. County Name <u>Erie</u>		B3. State <u>New York</u>	
B4. Map/Panel Number <u>0036</u>	B5. Suffix <u>c</u>	B6. FIRM Index Date <u>01/16/2003</u>	B7. FIRM Panel Effective/Revised Date <u>01/16/2003</u>	B8. Flood Zone(s) <u>A</u>	B9. Base Flood Elevation(s) (Zone AO, use base flood depth) <u>1367</u>
B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9. <input type="checkbox"/> FIS Profile <input checked="" type="checkbox"/> FIRM <input type="checkbox"/> Community Determined <input type="checkbox"/> Other (Describe)					
B11. Indicate elevation datum used for BFE in Item B9: <input type="checkbox"/> NGVD 1929 <input checked="" type="checkbox"/> NAVD 1988 <input type="checkbox"/> Other (Describe) _____					
B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Designation Date _____ <input type="checkbox"/> CBRS <input type="checkbox"/> OPA					

SECTION C - BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on: Construction Drawings* Building Under Construction* Finished Construction
*A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations - Zones A1-A30, AE, AH, A (with BFE), VE, V1-V30, V (with BFE), AR, AR/A, AR/AE, AR/A1-A30, AR/AH, AR/AO. Complete Items C2.a-h below according to the building diagram specified in Item A7. Use the same datum as the BFE.
Benchmark Utilized * Vertical Datum NAVD88 * OPUS DERIVED
Conversion/Comments none

Check the measurement used.

a) Top of bottom floor (including basement, crawlspace, or enclosure floor) <u>1362.3</u>	<input checked="" type="checkbox"/> feet <input type="checkbox"/> meters (Puerto Rico only)
b) Top of the next higher floor <u>1371.0</u>	<input checked="" type="checkbox"/> feet <input type="checkbox"/> meters (Puerto Rico only)
c) Bottom of the lowest horizontal structural member (V Zones only) <u>N/A</u>	<input checked="" type="checkbox"/> feet <input type="checkbox"/> meters (Puerto Rico only)
d) Attached garage (top of slab) <u>N/A</u>	<input type="checkbox"/> feet <input type="checkbox"/> meters (Puerto Rico only)
e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments) <u>N/A</u>	<input type="checkbox"/> feet <input type="checkbox"/> meters (Puerto Rico only)
f) Lowest adjacent (finished) grade next to building (LAG) <u>1368.5</u>	<input checked="" type="checkbox"/> feet <input type="checkbox"/> meters (Puerto Rico only)
g) Highest adjacent (finished) grade next to building (HAG) <u>1369.4</u>	<input checked="" type="checkbox"/> feet <input type="checkbox"/> meters (Puerto Rico only)
h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support <u>N/A</u>	<input type="checkbox"/> feet <input type="checkbox"/> meters (Puerto Rico only)

SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information. I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.
Check here if comments are provided on back of form. Were latitude and longitude in Section A provided by a licensed land surveyor? Yes No

Certifier's Name <u>Frederick J. Moricca III</u>	License Number <u>050681</u>
Title <u>Vice President</u>	Company Name <u>E&M Engineers and Surveyors, P.C.</u>
Address <u>482 S.Cascade Dr., P.O. Box 159 City Springville</u>	State <u>NY</u> ZIP Code <u>14141</u>
Signature <u>[Signature]</u>	Date <u>10/17/2012</u> Telephone <u>(716)592-2851</u>



IMPORTANT: In these spaces, copy the corresponding information from Section A.	For Insurance Company Use:
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 12639 Hutchinson Road	Policy Number
City Chaffee State NY ZIP Code 14030	Company NAIC Number

SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION (CONTINUED)

Copy both sides of this Elevation Certificate for (1) community official, (2) insurance agent/company, and (3) building owner.

Comments Proposed elevations are based on the designed site plan (attached).

The basement for this building will not have any openings in the walls for windows or any other access from the outside. Thus making the basement flood proof.

Basement floor elevation = 1362.3'

Main Building floor elevation = 1371.0'

Signature [Handwritten Signature] Date 10-17-12 Check here if attachments

SECTION E - BUILDING ELEVATION INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO AND ZONE A (WITHOUT BFE)

For Zones AO and A (without BFE), complete Items E1-E5. If the Certificate is intended to support a LOMA or LOMR-F request, complete Sections A, B, and C. For Items E1-E4, use natural grade, if available. Check the measurement used. In Puerto Rico only, enter meters.

- E1. Provide elevation information for the following and check the appropriate boxes to show whether the elevation is above or below the highest adjacent grade (HAG) and the lowest adjacent grade (LAG).
 a) Top of bottom floor (including basement, crawlspace, or enclosure) is 7.1 feet meters above or below the HAG.
 b) Top of bottom floor (including basement, crawlspace, or enclosure) is 6.2 feet meters above or below the LAG.
- E2. For Building Diagrams 6-9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 8-9 of Instructions), the next higher floor (elevation C2.b in the diagrams) of the building is N/A feet meters above or below the HAG.
- E3. Attached garage (top of slab) is N/A feet meters above or below the HAG.
- E4. Top of platform of machinery and/or equipment servicing the building is N/A feet meters above or below the HAG.
- E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance? Yes No Unknown. The local official must certify this information in Section G.

SECTION F - PROPERTY OWNER (OR OWNER'S REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without a FEMA-issued or community-issued BFE) or Zone AO must sign here. The statements in Sections A, B, and E are correct to the best of my knowledge.

Property Owner's or Owner's Authorized Representative's Name _____

Address _____ City _____ State _____ ZIP Code _____

Signature _____ Date _____ Telephone _____

Comments _____

Check here if attachments

SECTION G - COMMUNITY INFORMATION (OPTIONAL)

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Sections A, B, C (or E), and G of this Elevation Certificate. Complete the applicable item(s) and sign below. Check the measurement used in Items G8 and G9.

- G1. The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)
- G2. A community official completed Section E for a building located in Zone A (without a FEMA-issued or community-issued BFE) or Zone AO.
- G3. The following information (Items G4-G9) is provided for community floodplain management purposes.

G4. Permit Number	G5. Date Permit Issued	G6. Date Certificate Of Compliance/Occupancy Issued
-------------------	------------------------	---

- G7. This permit has been issued for: New Construction Substantial Improvement
- G8. Elevation of as-built lowest floor (including basement) of the building: _____ feet meters (PR) Datum _____
- G9. BFE or (in Zone AO) depth of flooding at the building site: _____ feet meters (PR) Datum _____
- G10. Community's design flood elevation _____ feet meters (PR) Datum _____

Local Official's Name _____ Title _____

Community Name _____ Telephone _____

Signature _____ Date _____

Comments _____

Check here if attachments

Building Photographs

See Instructions for Item A6.

Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 12639 Hutchinson Road	For Insurance Company Use: Policy Number
City Chaffee State NY ZIP Code 14030	Company NAIC Number
If using the Elevation Certificate to obtain NFIP flood insurance, affix at least two building photographs below according to the instructions for Item A6. Identify all photographs with: date taken; "Front View" and "Rear View"; and, if required, "Right Side View" and "Left Side View." If submitting more photographs than will fit on this page, use the Continuation Page, following.	



Looking south towards Hutchinson Road

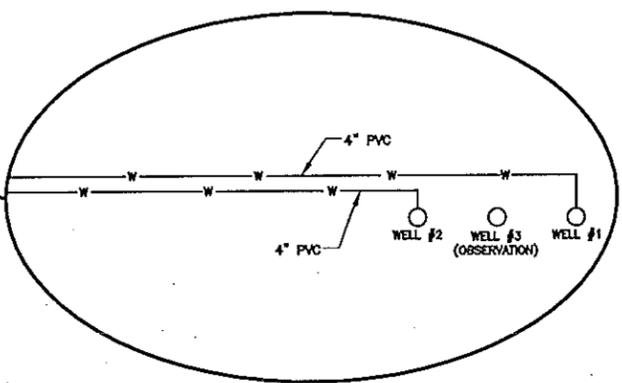
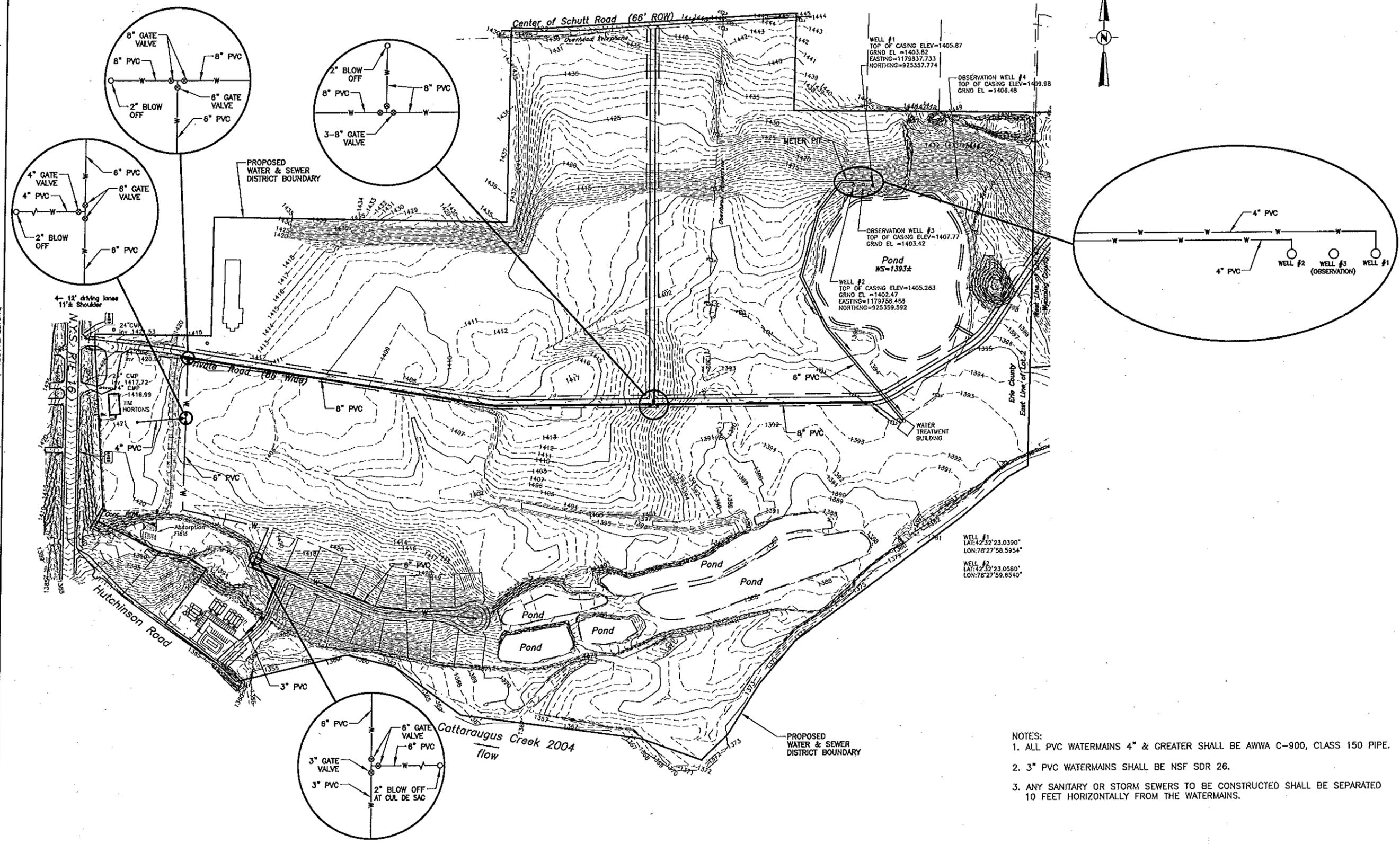
**EXHIBIT 4
PROPOSED WATER MAINS**

E&M

Engineers and Surveyors PC

NEW YORK OFFICE
P.O. BOX 159, 482 SOUTH CASCADE DRIVE
SPRINGVILLE, NY 14141-0159
TELEPHONE: (716) 592-2851
FAX: (716) 592-3558

PENNSYLVANIA OFFICE
24 DERRICK ROAD
BRADFORD, PENNSYLVANIA 16701
TELEPHONE: (814) 362-5546
FAX: (814) 362-3023



REVISIONS		
No.	DATE	DESCRIPTION
1	02/13	DISTRICT BNDRY

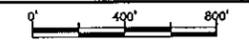
Copyright : E&M Engineers & Surveyors, P.C. 2010
ANY ALTERATION OF THIS DOCUMENT SHALL CONFORM TO THE EDUCATION LAW

Tri-County Business Park
Chaffee, N.Y. 14030

WATER SYSTEM
IMPROVEMENTS

EXHIBIT 4

TOWN OF SARDINIA
COUNTY OF ERIE
STATE OF NEW YORK



SCALE: 1" = 400'	Holland Land Company Lot: 2 Tr: 7 (R: 6) FIELD BOOK
DESIGNED BY: BDS	REC. PG.
DRAWN BY: PJF	JOB NO. 12-NY079
CHECKED BY: GDC	DATE: 10/10/2012
FILE NO.	SHEET
9-7D	1 of 1

- NOTES:
1. ALL PVC WATERMANS 4" & GREATER SHALL BE AWWA C-900, CLASS 150 PIPE.
 2. 3" PVC WATERMANS SHALL BE NSF SDR 26.
 3. ANY SANITARY OR STORM SEWERS TO BE CONSTRUCTED SHALL BE SEPARATED 10 FEET HORIZONTALLY FROM THE WATERMANS.

Friday, March 08, 2013 - 11:16am EST. S:\Data\2012 ENGINEERING\MARK 1 REALTY_CHAFFEE SITE_CONVERTED SITE\SITE2012\FEB.dwg

EXHIBIT 5
PROPOSED SEPTIC SYSTEM PLANS

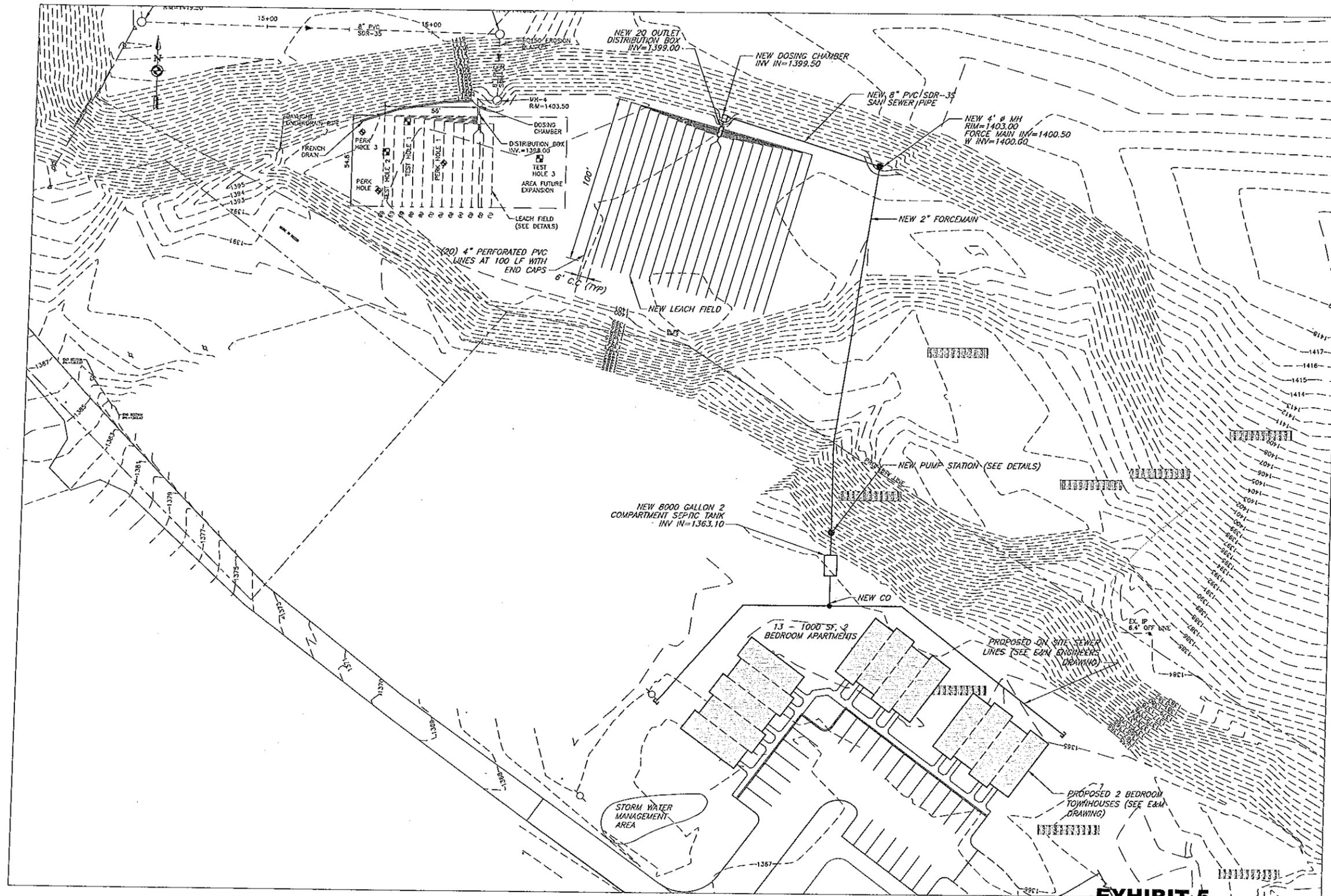
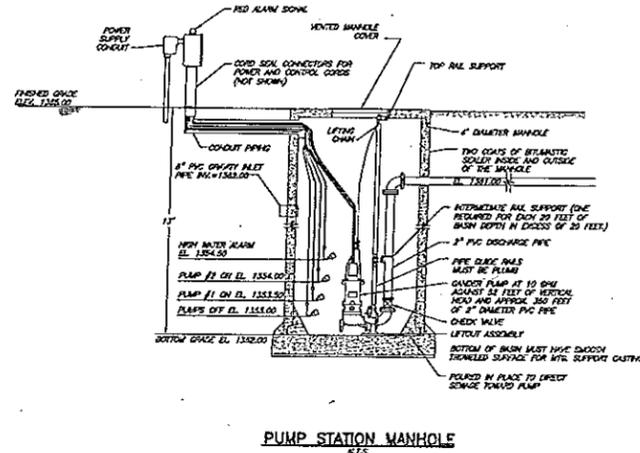
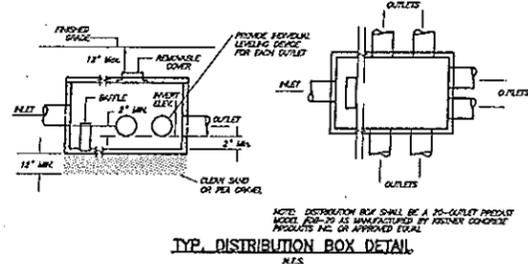


EXHIBIT 5
PROPOSED SEPTIC SYSTEM PLAN



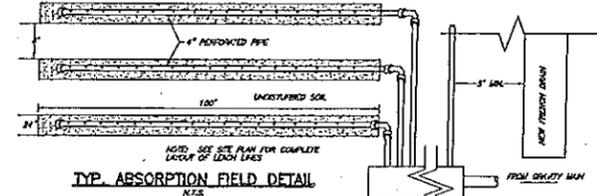
PUMP STATION MANHOLE
K.L.S.



TYP. DISTRIBUTION BOX DETAIL
K.L.S.

GENERAL NOTES:

1. ALL UTILITIES AND SITE IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE POINT OF RECORD AND ALL UTILITIES SHALL BE RELOCATED AS NECESSARY.
2. METHOD OF SERVICE DISPOSAL TO BE INDIVIDUAL SURFACE SEWAGE DISPOSAL SYSTEM (DITCH, DRAIN & LEACH FIELD).
3. THE SEPTIC SYSTEM MUST BE INSPECTED BY A LICENSED NYS PROFESSIONAL ENGINEER PRIOR TO BACKFILLING.
4. MAINTENANCE OF THE SEWAGE DISPOSAL SYSTEM SHALL BE THE RESPONSIBILITY OF THE BUILDING OWNER.
5. THE PROPOSED LEACH FIELD IS NOT LOCATED WITHIN A 100 YEAR FLOOD ZONE.
6. EROSION CONTROL, PROGRESS OF WORK, SHIELDING & UTILITIES SHALL BE RESTRICTED TO THE LIMITS OF THE SITE.
7. MAINTENANCE OF UTILIZATION CONTROLS SHALL REMAIN THE RESPONSIBILITY OF THE OWNER UNTIL ALL DISTURBED GRASS COVER HAS BEEN RE-ESTABLISHED. EROSION CONTROL DEVICES SHALL BE REPLACED AS THEY BECOME CLOGGED AND IMPERMEABLE.
8. THE CONTRACTOR SHALL DETERMINE EXIST LOCATION AND ELEVATION OF UNDERGROUND UTILITIES BEFORE COMMENCING CONSTRUCTION. CONTRACTOR SHALL HAVE EXPLOSION OPERATIONS TO LOCATE EXISTING UNDERGROUND UTILITIES IF NECESSARY.



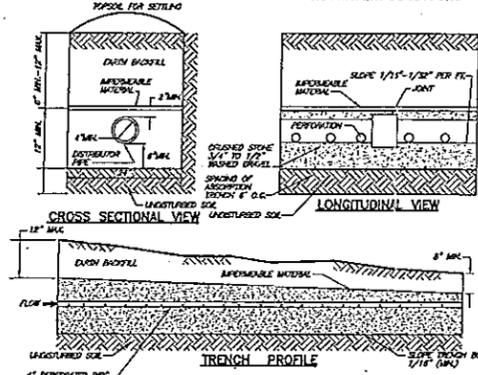
TYP. ABSORPTION FIELD DETAIL
K.L.S.

DESIGN DATA:

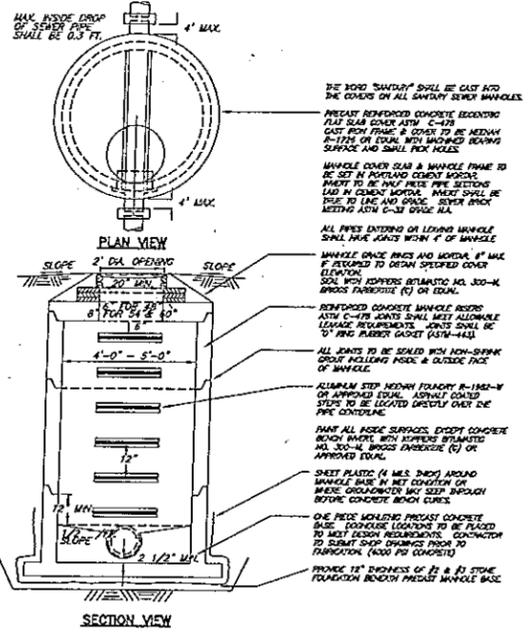
- DEEP HOLE 1 RESULTS (2/11/84)
 0' - 8" SPREAD
 8" - 80" SLOPE BRICK
 NO WATER, NO SEEPAGE, NO ROCK
- DEEP HOLE 2 RESULTS (2/11/84)
 0' - 8" SPREAD
 8" - 80" SLOPE BRICK
 NO WATER, NO SEEPAGE, NO ROCK
- DEEP HOLE 3 RESULTS (2/11/84)
 0' - 8" SPREAD
 8" - 80" SLOPE BRICK
 NO WATER, NO SEEPAGE, NO ROCK
- PERM TEST RESULTS (BY GEOTECH CONSULTANT)
 TEST HOLE DEPTH: 10' (STABILIZED)
 1. HOLE 1: 30" @ 4 MNL
 2. HOLE 2: 30" @ 4 MNL
 3. HOLE 3: 30" @ 4 MNL
- Q = APPLICATION RATE = 1.00 GPM/SQ.FT.
 REQUIRED LENGTH OF ABSORPTION TRENCH = 13.75 FT.
 INSTALL DENSITY (AT 100 FOOT LINES = 2,000 LBS/FT. FEET)
 USE WITH A 3,000 GAL. SEPTIC TANK.

SPECIFICATIONS:

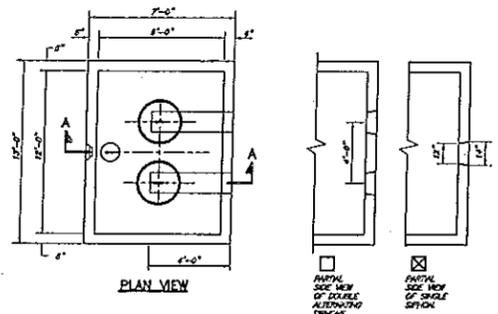
1. 8000 GAL. (8000) PRECAST CONCRETE DUAL CHAMBER SEPTIC TANK WITH 24\"/>
2. THE FOLLOWING MINIMUM DISTANCES SHALL BE MAINTAINED:
 - A. SEPTIC TANK TO BUILDING - 10 FEET
 - B. SEPTIC TANK TO PROPERTY LINE - 10 FEET
 - C. LEACH FIELD TO BUILDING - 20 FEET
 - D. LEACH FIELD TO PROPERTY LINE - 10 FEET
 - E. LEACH FIELD TO WATER LINE - 10 FEET
 - F. LEACH FIELD TO WATER WELL - 10 FEET
 - G. CENTER TO CENTER OF LEACH LINES - 6 FEET
3. SPACING OF THE LEACH FIELD AREA SHALL PROVIDE FOR POSITIVE DRAINAGE AWAY FROM THE LEACHING SYSTEM.
4. STORM WATER FOOTING DRAINAGE WATER SOFTENER BACKWASH AND SURFACE RUN-OFF SHALL BE DISCHARGED AWAY FROM THE LEACHING SYSTEM.
5. NEWLY EQUIPMENT SHALL BE RESTRICTED FROM THE LEACH FIELD AREA.
6. NEITHER PARKING AREAS OR DRIVEWAYS SHALL BE ALLOWED OVER THE LEACH FIELD AREA.
7. EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE AREA OF THE SYSTEM.
8. NO STORAGE WATER IN THE LEACH FIELD AREA IS ALLOWED.
9. THE TRENCHES SHALL BE COVERED WITH A BARRIER MATERIAL THAT PREVENTS SOIL FROM ENTERING THE ABSORPTION TRENCHES. THE BARRIER SHALL BE PERMEABLE TO AIR AND MOISTURE TO PASS THROUGH. POLYETHYLENE AND TRIPLE BARRIER PAPER ARE RELATIVELY IMPERMEABLE AND SHALL NOT BE USED.
10. THE TOP SURFACE OF THE LEACH FIELD SHALL BE COVERED WITH A MINIMUM OF 2\"/>
11. EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGHOUT THE AREA OF THE SYSTEM.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS PRIOR TO BACKFILLING AND PREPARE A SECOND DRAWING TO BE SUBMITTED TO THE OWNER.
13. INSPECTION OF THE FINAL DRAINAGE, DEPTH OF TRENCH, SLOPES AND ANY OTHER ITEM DEEMED APPROPRIATE BY THE LICENSED PROFESSIONAL ENGINEER.



TYP. ABSORPTION TRENCH DETAIL
K.L.S.



STANDARD SANITARY MANHOLE
K.L.S.



DOSING CHAMBER
K.L.S.

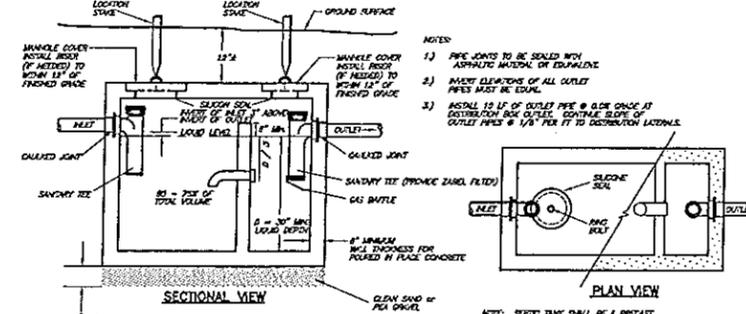
SPECIFICATIONS:

- CONCRETE: 4000 P.S.I. @ 28 DAYS
 REINFORCING: #4 @ 12\"/>

SPYON: MODEL 413-15 AS MANUFACTURED BY FLOYD SPYMONS (SEE TO \"C\" DIMENSION)

CONSTRUCTION: SEALED NEW 1\"/>

EROSION CONTROL: BARRIERS



8000 GAL SEPTIC TANK DETAIL
K.L.S.

NOTES:

1. PIPE JOINTS TO BE SEALED WITH ASPHALTIC MATERIAL OR EQUIVALENT.
2. INVERT ELEVATIONS OF ALL OUTLET PIPES MUST BE EQUAL.
3. INSTALL 10' LF OF 4\"/>

**APPENDIX 1
DEC COMMENTS AND RESPONSES
TO
DSGEIS**

New York State Department of Environmental Conservation
Division of Environmental Permits, Region 9
182 E. Union, Suite 3, Allegany, New York 14706-1328
Phone: (716) 372-0645 • Fax: (716) 372-2113
Website: www.dec.ny.gov



Joe Martens
Commissioner

January 2, 2013

Mr. Robert Hill, Planning Board Chair
Sardinia Town Hall
12320 Savage Road
Sardinia, New York 14134

SEQR Lead Agency Designation
Tri-County Business Park/Hutchinson Road Townhomes

Dear Mr. Hill:

This letter is in response to the SEQR Lead Agency request letter from Schroder, Joseph Associates, LLP, for the above-referenced project. This Department concurs that the Town of Sardinia Planning Board (Town) should act in the role of SEQR Lead Agency as the proposal is primarily of local significance.

The Town, acting in the role of SEQR Lead Agency, should now determine when the Draft Supplemental Generic Environmental Impact Statement (DSGEIS) is adequate for public review. According to the SEQR Regulations (NYCRR Part 617), draft (and final) EISs must be preceded by a cover sheet stating: the name or descriptive title of the action; a concise description of the proposed action, its purpose, public need and benefits, including social and economic considerations; a description of the mitigation measures; list of alternatives including the no action, and must analyze the significant adverse impacts and evaluate all reasonable alternatives. The document must be analytical and not encyclopedic, and must assemble relevant and material facts upon which the agencies' decisions are to be made.

The Town should examine the previously reviewed SEQR Action with the SEQR Action currently under review, and use the standards established in the previous Draft and Final GEIS and the Town's written findings statement to determine what information must be included, as well as the SEQR EIS content requirements in its decision making on the adequacy of the document. Based on the standards as set forth in SEQR, and also including additional items as discussed below, the Department considers the presently submitted document to be inadequate for public review at this time.

Department staff have reviewed the DSGEIS, and as it relates to application submissions received to date for Department permits for the project [e.g., Water Supply, Protection of Waters, and State Pollutant Discharge Elimination System Permit (SPDES) for the on-site sanitary wastewater treatment system (OWTS)], and have the following comments:

1. For the DSGEIS, the Applicant is listed as Mark-1 Development, LLC; for the previous GEIS, the applicant was listed as Mark-1 Real Estate Development, LLC; and the applicant for the OWTS SPDES Permit is Mark 1 Real Estate Development (with the Corporate box indicated in the Type of Ownership question). Please be aware that if the applicant for a Department permit is a corporation, a permit will only be issued to a corporation which has filed for corporation status with the NYS Department of State Division of Corporations (DOSDOC), and on the DOSDOC website (please be aware that none of the

three referenced corporations were found listed on the DOSDOC website). The Department also understands that water and/or sewage works corporations may be formed at a later date after agency review and conceptual approval, and subsequent Town approval. After this has occurred, Department Water Supply and SPDES permit applications with the appropriate corporation name appearing as the applicant must be submitted to the Department for permitting purposes.

2. On page 2, in the 2nd paragraph under Introduction, it states that "The townhouses were not included in the original GEIS thus triggering this SGEIS. The scope also includes 2 proposed water wells for the townhouses and Business Park and an on site septic system for the townhouses."

In addition and in accordance with the original draft GEIS, Final GEIS (FGEIS), and/or the Town's Finding Statement, a Supplemental GEIS will also be required/triggered (among other things?) when there is a significant alteration to the layout of the park or the stormwater management facilities, or any individual parcel development impacts the Cattaraugus Creek or the 66-foot Fishing Rights Access Easement.

3. The DSGEIS should contain a table listing all of the approving agencies and the required approval(s) for each agency.
4. Under Utilities on page 2 of the Draft SGEIS, it states that "Operation and maintenance of the sewage collection and treatment system will be by Mark 1 Development. Water use is estimated at 2,900 gallons per day. Plans have been submitted to the Erie County Health Department along with a SPDES Permit application."
 - a. For the previous FGEIS, the preferred alternative for the handling of sanitary wastewater was a connection to the Village of Arcade Wastewater Treatment Plant. In addition, there was a feasibility study for a "Yorkshire Corners Area" treatment system, for which the inclusion of the Tri-County Business Park was an option. However, there is no "alternatives" discussion on why these options are not being considered over the current plan to use on-site OWTS(s).
 - b. Legal ownership of the 3 townhouse buildings, 13-2 bedroom townhouse units, utilities (including the OWTS) and common areas must be clearly established in the DSGEIS. In accordance with 6 NYCRR Part 750-1.6(f), a permit for a sewage disposal system or approval of a sewer extension serving or intended to serve more than one separately owned property shall be issued only to a governmental agency, municipality, or a Sewage Disposal Corporation (SDC). A SDC must also be approved by the local municipality. The proposed legal entity responsible for the OWTS should be described in detail in the DSGEIS.
 - c. Please be advised that the proposed OWTS for the 13-2 bedroom townhouses will require a SPDES permit from this Department, not the Erie County Health Department (ECHD). A conventional on-site OWTS [e.g., septic tank/absorption field with a groundwater discharge less than 10,000 gallons per day (gpd)], may also qualify for a Department SPDES General Permit (GP), GP 0-05-001. The ECHD (under contract with this Department) reviews proposed OWTS designs for discharges of less than 10,000 gpd to groundwater.

- d. This office recently obtained a copy of the SPDES permit application previously submitted to the ECHD, which indicates a daily flow rate of 3,900 gpd (a flow rate of 2900 gpd was indicated in the DSGEIS). Please explain or correct this discrepancy as appropriate in the DSGEIS and/or the SPDES application, including providing an appropriate legally responsible party for the permit. See also items 1 and 4.b. above.
 - e. The proposed Phase 1 description also includes development of additional mixed residential and commercial units with a total daily water consumption estimated at 25,000 gpd. However, there is no discussion as to how the sanitary wastewater from these units will be treated.
5. Floodplain - There is no Base Flood Elevation (BFE) provided on the Flood Insurance Rate Map ("FIRM") as indicated on the Elevation Certificate under Section B and entered in Box B9 (The FIRM shows an un-numbered Zone A, without BFEs only). Was the BFE determined from HEC RAS modeling? The specific modeling information used to establish the elevation should be included in the SDGEIS, the Elevation Certificate should be corrected, and the FIRM should be amended to show more accurately the limits of the 100-year flood hazard area.
- a. In Section C on the Elevation Certificate form, the box for "Construction Drawings" is checked, indicating that building elevations are based upon drawings only. This item is followed by the statement printed on the form: "Note that a new Elevation Certificate will be required when construction of the building is complete." Therefore, the Elevation Certificate is only a planning tool at this point and should be identified as such.
 - b. The plan sheet "Subdivision Site Plan Exhibit 2" has a drawn line labeled "100-year flood plain Zone A" using the approximate Zone A line from FIRM 360256 0036 C dated January 16, 2003, whereas the SDGEIS (page 3) says that the BFE Certificate places the flood elevation at 1367.00. Does the proposed 1367 BFE change as flood water flows from the upstream to the downstream reach of the site? The Zone A approximate line and the non-verified elevation are not compatible and cannot be accepted as provided until FEMA approves the BFE.
 - c. The most logical method of resolving these inconsistencies is for the developer to provide all of the substantiating information to FEMA, to apply for and obtain a Conditional Letter of Map Revision ("C-LOMR"). The C-LOMR would be used to revise the FIRM to show all of the changes proposed regarding uses in or near the flood plain, to more accurately map the 100-year flood hazard area using a BFE, to use the accumulated topographic information to more accurately map the flood hazard area, and to ensure that the methodology used to determine the proposed BFE meets FEMA mapping standards.

The C-LOMR is a way for FEMA to review the data provided by the developer to make sure it meets FEMA standards, and to assure the developer that if they build in the manner proposed, that FEMA will agree to amend the map in the manner requested. It also provides the Town of Sardinia assurances that the project will be reasonably safe from flooding, which is a review and approval requirement under the flood plain management regulations adopted by the town.

A C-LOMR must be followed up by a Final LOMR once construction is complete. As-built data must be provided to FEMA by the developer. As a condition of site plan approval, the developer must apply for and obtain a Final LOMR before Occupancy Permits can be issued for structures located in or near the flood hazard area. The C-LOMR should become part of the SDGEIS. An alternative to requiring a C-LOMR is to eliminate all flood plain encroachments.

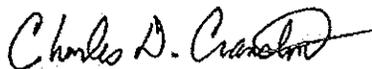
6. Wetlands – Under this section, it states that the wetland delineation report prepared for the project concluded that there are not USCOE jurisdictional wetlands (pond excluded) on the property. However, please be advised that the referenced report states that “The diversion ditches throughout the property are not considered wetlands, but may be regulated as ‘Waters of the United States’ by State and Federal agencies”. The alignment of the waterlines as shown in Exhibit 4 in the SDGEIS will cross some of these ditches. Has the Army Corps of Engineers, Buffalo District (BCOE) reviewed the wetland delineation report and confirmed its conclusions? Are the ditches federally jurisdictional? Will a permit be required from the BCOE, and if so, the type of permit should be discussed. Alternatives should be discussed, including how the waterline installation will be accomplished (e.g., open trenching, boring, etc.). In addition, if Water Quality Certification is required as part of the federal permit process, this Department will be the issuing agency.
7. Water Resources - What is the boundary of the proposed water supply district? Department staff could not find a general map for the proposed service area included in the Water Supply Application. Is it outlined on Exhibit 4 in the DSGEIS? If so, the proposed townhouse project currently under review appears to be outside of the district boundary. In addition, if any water is proposed to be supplied outside of the boundary of the Tri-County Business Park (which includes the Tim Horton’s restaurant and the Hutchinson Road Townhouse project), this must be part of the DSGEIS and Department Water Supply application.
 - a. The Water Supply Application submitted to the Department was for the taking of 100,000 gpd. In a December 6, 2012 letter to Christopher J. Auer (NYS Department of Health) from Glenn D. Cooley, it states that the water usage for full project buildout is 150,000 gpd. However, the design capacity of the pump (two pumps alternating) is 150 gpm, which equates to 216,000 gpd. Please explain these discrepancies.
 - b. What is the zone of depression for the wells? Are there adjacent residential or business wells that will be affected by the proposed wells? This item needs to be discussed in the DSGEIS.
 - c. Under the heading Business Park Water System: Phase I (page 5 of the DSGEIS), it states that the system is being designed for more than just the 13 townhouse units, and that the system will not serve additional facilities without another SGEIS. Does this mean that each additional proposed business, residential development, etc., taking water from the on-site water system will first require a SGEIS to take water?

The applications submitted for the Department Water Supply, Protection of Waters, and OWTS SPDES permits will remain “Incomplete” until the appropriate revisions have been made to the applications and a DSGEIS has been accepted by the lead agency.

Mr. Robert Hill
January 2, 2013
Page 5

Thank you for providing this office with the opportunity to review the proposed project. If you have any questions, please feel free to contact me at the above telephone number.

Respectfully,



Charles D. Cranston
Deputy Regional Permit Administrator

CDC

cc: Maureen Brady, Esq., NYSDEC Office of General Counsel
Mssrs. Jeffrey Konsella, Brian Hourigan, Daniel Judd, James Vogel, William Murray,
and Ms. Rebecca Anderson, NYSDEC Division of Water
Ms. Jennifer Delaney, Assistant Public Health Engineer, Erie County Health Department
Linda Joseph, Esq., Schroder, Joseph Associates, LLP
Ben Slotman, P.E., E&M Engineers and Surveyors PC
Richard Henry, P.E., Clark Patterson Associates

cc: Mr. Manfred Koch, Mark I LLC, Project Sponsor



482 S Cascade Drive
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Springville NY 14141-0159
716-592-2851
Fax 716-592-3558
www.emengineers.com

Christopher M. Ernst, PE
Roy R. Pedersen, PE
Frederick J. Moricca, PLS
Allan R. Vanderpoel, PE
Garrett M. Hacker, PE

Engineers and Surveyors PC

February 18, 2013

Charles D. Cranston
Deputy Regional Permit Administrator
NYS DEC
182 East Union Street, Suite 3
Allegany, NY 14706-1328

Re: Tri-County Business Park
Hutchinson Road Town Houses
DSGEIS Comments

Dear Mr. Cranston:

This letter is in response to your comments dated January 2, 2013 and is numbered accordingly.

- 1) The applicant is Mark 1 Real Estate Development, LLC. The DSGEIS has been modified to show the proper name. Permits will be reissued with appropriate corporation names for permitting purposes upon Agency and Town approvals.
- 2) Acknowledged
- 3) The DSEIS now contains a listing of approving agencies.
- 4)
 - a. The DGEIS has been modified to discuss why the OWTS has been proposed.
 - b. The proposed sewer treatment system for the Hutchinson Road Townhouses will be operated and maintained by the proposed Tri-County Sewer Inc. The operation and maintenance of the sewer collection system, septic tank, and pump station will be the responsibility of the Hutchinson Hill Homeowners Association, Inc.
 - c. The proposed system for the Hutchinson Rd Townhouses discharges to groundwater and is less than 10,000 gpd.

Attn: Charles D. Cranston
Re: Tri-County Business Park
Hutchinson Road Town Houses
DSGEIS Comments
Date: February 18, 2013
Page: 2

- d. The septic system designed by Clark Patterson was designed for pre 1980 fixtures using a flow rate of 150 gpd / bedroom (3900 gpd) instead of the post 1994 flow rate of 110 gpd / bedroom (2900 gpd), which is being used for water calculations.
- e. A discussion on treatment of wastewater for the additional water consumption for additional residential and commercial units is discussed in the DGEIS on pg 3.
- 5) Applications for a C-LOMR -F are being completed along with all substantiating information. Copies will be forthcoming upon submission to FEMA to assure the Town that the development will be reasonably safe from flooding. The DSGEIS was modified on pg 5 to include a discussion on the C-LOMR-F and makes note that a Final LOMR-F will be necessary to obtain final occupancy permits.
- 6) The wetland delineation report has not been reviewed by the BACOE as there has not been any proposed development on the site until recently. The installation of the water distribution system will cross onsite drainage ditches and could require a nationwide permit from the ACOE. The joint application will need to be filed. The Wetland section of the DSGEIS has been modified to include discussion on the installation of the water distribution system on pg 5.
- 7) The Hutchinson Road Townhouses are within the water supply district boundary which is described in the DSGEIS. An updated map is included in the Exhibit 4 which highlights the boundary.
- a. As stated in the DGEIS under the heading Business Park Water System: Phase I (pg 7), the water system is being designed to provide water to future business park development as shown in Table I below including the 13 townhouse units and Tim Hortons. The 100,000 gpd is being applied for now as it is the volume required to meet the needs of the Phase I proposed development for peak flows as shown in Table 1 (pg 7). The 150,000 gpd is the average water usage proposed for the full project build out that would equate to the 25,000 gpd average being proposed currently for Phase I. The production wells through development were capable of producing 190gpm and 400 gpm, so 150 gpm well pumps are being installed based on the well development capacities. These pumps will operate intermittently to fill onsite water storage tanks that will be used to service the water distribution system.
- b. The Engineer's Report - Water System for Tri-County Business Park show the well pump test data in Exhibit 8 - Test Well Data. The diagrams show that test well #4, which is 350 feet away, shows minor fluctuations while pumping test well #1 at 400 gpm. Copies are attached for your use. The adjacent property wells are located over 350 feet

Attn: Charles D. Cranston
Re: Tri-County Business Park
Hutchinson Road Town Houses
DSGEIS Comments
Date: February 18, 2013
Page: 3

from the proposed production wells and will not be affected. The SGEIS has been modified to include discussion on these items. (pg 6)

c. The SGEIS has been modified to allow for development within Phase I up to the limit of 25,000 gpd average, or 100,000gpd peak, as shown in Table 1 without an additional SGEIS. However once the capacity listed in Table 1 is reached, alteration to the proposed water system for expansion will have to be made.

Very Truly Yours,
E & M ENGINEERS AND SURVEYORS, PC

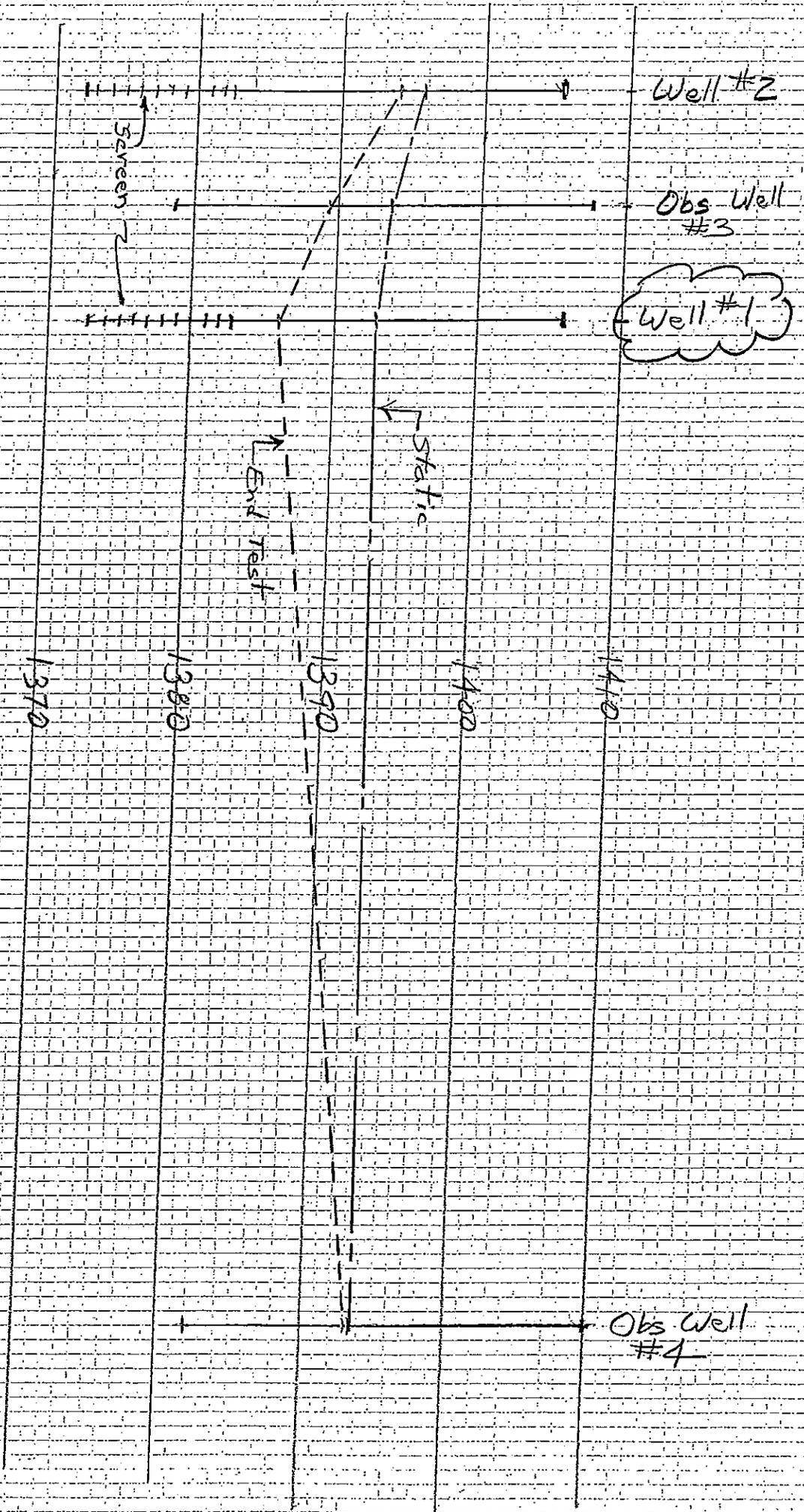


Ben Slotman
Staff Engineer

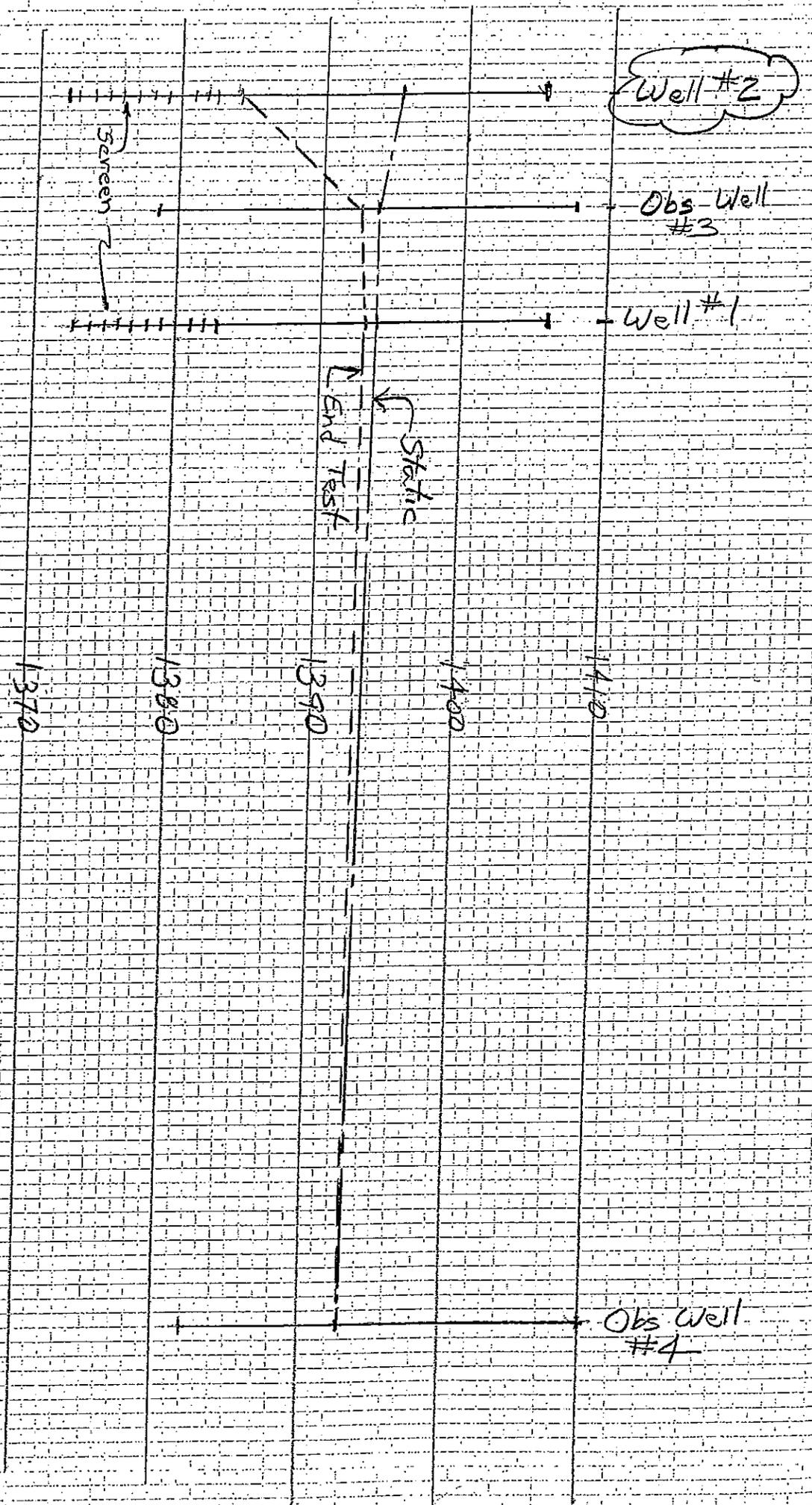
enc: Tri-County Business Park DSGEIS dated: Rev. February 18, 2013

cc: Manfred Koch

1 1/2" = 50' Horiz
1" = 10' Vert



TST - County Business Park
Wells
Well #1 72 Hr Test
400 ± GPM



1" = 50' Horz
 1" = 10' Vert

TRI-County Business Park
 Wells
 Well #2 72 hr test
 190 ± GPM

**APPENDIX 2
NYSDOH COMMENTS AND RESPONSES
TO
WATER SUPPLY APPLICATION**

NEW YORK
state department of
HEALTH

Nirav R. Shah, M.D., M.P.H.
Commissioner

Sue Kelly
Executive Deputy Commissioner

October 4, 2012

Glenn D Cooley, PE
E&M Engineers & Surveyors PC
PO Box 159
Springville, NY 14141

Re: Tri-County Water & Sewer LLC
13700 Tri-County Business Park
BWSP Log 19145
Chaffee, NY Zip 14030
(T) Sardinia, Erie Co

Dear Mr Cooley,

The Bureau of Water Supply Protection (BWSP) is in receipt of plans, and an engineering report re: the above project dated June 25, 2012, and in conjunction with the Erie County Department of Health, offer the comments below.

General and Engineer's Report Comments:

1. We understand that a water and sewer entity will be formed that will be responsible for all water and sanitary sewer treatment and infrastructure. Please provide written verification of the existence of these entities.
2. Fire protection must be included in the Engineer's Report; waterCAD or EPANet hydraulic calculations please.
3. Please include static headloss in pressure calculations. It appears that the high point for the 8-inch piping is at a grade elevation of approximately 1417 ft.
4. What is the anticipated population (# of people) for this phase? For full project build-out? What is the expected flow rate at full project build-out?
5. Will the Tim Horton's on the neighbor property be connected to the water system during this phase? BWSP generally favors consolidation.
6. Will any other existing buildings be connected to the system during this phase (i.e. plaza on neighbor property, owners other business)?
7. Backup power must be addressed in the Engineer's report.
8. Security must be addressed in the Engineer's report.
9. We have received documentation of application of the following permits. Please provide documentation of review and approval when received.
 - a. Stormwater NOI for the proposed residential developments (Hutchinson Road Town Houses and Hutchinson Hill Duplexes).
 - b. Joint Application for Permit and Application for a Water Supply Permit (Joint Application Supplement W-1) from the NYSDEC/USACOE.
10. A short EAF form is generally inadequate for a development of this sort; please verify that is acceptable to Mr. Cranston of the NYSDEC. While DOH is not the lead on SEQR, we'd like

HEALTH.NY.GOV
facebook.com/NYSDOH
twitter.com/HealthNYGov

to see that the law be observed; please provide a copy of lead agency solicitation letter, Neg Dec, & ENB Publication.

11. Please provide a completed DOH-348 form.

Plan Comments:

1. Please provide plan sheets of water distribution piping at a scale of not more than 1"=100'. The 200 scale mapping is OK as a concept/location map ; please keep - just add typical plan/profile views, details, etc at a larger scale.
2. Part of the project is a 2 inch water line. Ten States requires a minimum of a 3 inch water main. If this size cannot be found, please increase to 4-inch.
3. Please include the location of all active gas lines on the plans.
4. The plans must include the location of sanitary facilities, and sanitary and storm water lines.
5. Include finished grade in addition to existing grade contours.
6. Please include a restrained length table on the plans and show restrained length of waterline on plans.
7. Include line valves on the plans at a minimum 800 ft. distance.
8. Please include typical details for service connections and waterline plug or cap on the plans, hydrants, thrust block dimensions.
9. Include a note on the plans requiring a minimum 10 ft. parallel separation distance between waterlines and sanitary or storm sewers.
10. Include a thrust block sizing table on the plans.
11. Please reference AWWA C605 regarding the pressure and leakage testing.
12. Please change the reference in note 7 on sheet 3 of 3 from AWWA C601 to AWWA C651 Disinfecting Watermains, and note the tablet method is excepted.
13. We suggest providing flushing hydrants on the waterline.
14. Sheet 2 of 3 please note overflow piping shall terminate with a 24-mesh non-corrodible screen.
15. Sheet 2 of 3 please show elevation view of tank, detailing inlets/outlets arrangement maximizing mixing.
16. The building seems much larger than necessary; and has a 16 foot wide overhead door; please take steps to prevent motor vehicles being stored/repared near potable water facilities.

Well Comments:

1. Please relocate the meters and raw water taps from the proposed meter pit to the treatment building to provide for accessibility, protection, and to facilitate daily monitoring and better process control.
2. A detail of the well construction must be included on the plans.
3. What is the elevation of the water in the pond (near wells) and of the bank of the pond?
4. The well information needs to be included in the engineers report, including well logs, all sample results, and pump test results.
5. Please discuss the new wells' cones of depression relative to Tim Horton's existing well & whether the Tri-County is willing to commit to supplying water should the Tim Horton well go dry. Based on its previous well going dry after it was built this is a realistic concern we would like to see addressed beforehand.
6. Please discuss need for wells to be so shallow; whether deeper formations are unproductive, poor quality, etc.

General and Filtration System Comments:

1. Include flow restrictors on each treatment train to prevent exceeding the design capacity.
2. Will the appropriate test kits, operations manuals, and maintenance manuals be provided?

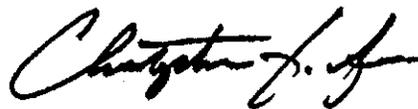
3. What is the source water turbidity? Cartridge filtration is only acceptable if raw water turbidity is less than 3ntu.
4. We understand the filtration system consists of two treatment trains, each with 10 micron, 5 micron, and 1 micron filters. Please confirm that the 1 micron filter is an absolute, not nominal, size.
5. What is the gallons per minute design flow rate of each treatment train? Must be sized to the lowest capacity filter.
6. We understand that redundancy in treatment is provided by the two treatment trains; please verify.
7. Provide documentation that the filters and housing meet NSF Standard 61 or equivalent.
8. Pressure gauges must be installed before and after the filters.
9. An automatic turbidity reader recorder is required that measures turbidity for each treatment train (or after both combined) and at the entry point to the distribution system.
10. Will extra filters will be available at the site?

Chlorine System Comments:

1. A new chlorine contact time calculation must be run based on the temperature and pH of the raw water.
2. The chlorine injection point must be after filtration, prior to any storage.
3. Please include a backup chlorinator, preferably plumbed into the treatment system for speed and ease of change-over for maintenance or emergency purposes.
4. Should have an automatic chlorine residual monitor at the entry point of the water system.
5. What is the piping configuration inside the 12500 gallon storage tanks? Is there one pipe or two pipes? At what depth does the water enter the tank? At what depth does the water draw from the tank? Is there sufficient mixing? Are they baffled? Please provide a detail of the tanks.
6. Will the metering pumps be controlled by the well pumps or booster pumps? In other words, will the chlorine meter pump come on with the well pumps or booster pumps?
7. The engineers report calls for distilled water to be used for mixing the chlorine in the day tank. Will a tank be provided for storing distilled water? Due to the inconvenience of using distilled water this practice will most likely not be maintained. Are there concerns for using the finished water at the plant as the make-up water?
8. Extra parts must be kept on hand for the chlorination system.

We may be reached at 518-402-7650 with any questions or comments.

Sincerely,



Christopher J. Auer, P.E.
Senior Sanitary Engineer
Bureau of Water Supply Protection

cc: WRO, Attn: Ms. Kellerhouse
ECHD, Attn. Ms. Delaney



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Glenn D. Cooley, PE
Roy R. Pedersen, PE
Christopher M. Ernst, PE
Frederick J. Moricca, PLS
Allan R. Vanderpoel, PE
Garrett M. Hacker, PE

Engineers and Surveyors PC

December 6, 2012

Christopher J. Auer, P.E.
Senior Sanitary Engineer
NYS Department of Health
Erastus Corning Tower, Room 1142
Albany, NY 12237

Re: Tri-County Business Park
BWSP Log 19145

Dear Mr. Auer,

This Letter is in answer to your comments dated October 4, 2012 and is numbered accordingly.

General and Engineers' Report Comments:

1. The applicant has started the process of forming a water transportation corporation named Tri-County Water, Inc. Formation cannot be completed until the Town of Sardinia consents to the corporation. The Town has been sent a copy of the current plans for its review. The process also requires the consent of the appropriate approval agency; in this case it is the State Department of Health. See also the attached letter to Charles Cranston of the NYS DEC dated October 9, 2012.
2. At this stage of development the applicant is proposing that fire protection will be provided by the Chaffee-Sardinia Volunteer Fire Company. The company obtains its water for its pumpers from tanker trucks. The applicant will also provide a dry hydrant at the on site pond.
3. The headloss calculations were produced by Haestad Methods "Flowmaster" software. They include elevation (static) and dynamic head losses in the results presented.
4. The projected user population (residents and transient employee, customer uses) is 465 persons. This is shown on amended EXHIBIT 1 in the revised engineering report.

The water usage projected for full project buildout is 150,000gpd and user population of 1500. This population is composed of residents, employees and customers of on site development.

5. Tim Hortons restaurant is to be connected in this phase. The restaurant owner is desirous of a more plentiful and clean water supply than is provided by his on-site well. The applicant and restaurant owner have been in informal discussion about this.
6. Other than Tim Hortons, no existing buildings will be connected to the water system in this phase.
7. A backup electrical generator has been added to the water system. It will be located outside the treatment building and engage with an automatic transfer switch upon failure of the main electric supply.
8. A security discussion has been added to the revised engineering report.
9. Permits received include (: attached):
 - a. Stormwater SPDES # NYR 10V415 for Hutchinson Road Town House.
 - b. Stormwater SPDES # NYR 10V474 for Hutchinson Hill Duplexes.
10. A Draft Supplemental Generic Environmental Impact Statement for the project has been prepared and submitted to the lead agency, the Town of Sardinia Planning Board. A copy is enclosed. By copy of this letter Mr. Cranston is also receiving a copy of the DSGEIS.
11. A completed DOH-348 is enclosed.

Plan Comments:

1. Scale plan/profile sheets have been added to the plans. They are at a scale of 1"=100' horizontally and 1"=10' vertically.
2. The 2 inch water main has been changed to 3 inch PVC NSF, SDR 26.
3. Active gas lines are shown on Sheet 1 and are on Route 16 with one side line feeding an existing onsite building.
4. Existing sanitary facilities are shown on the plans. This is the septic system for the Tim Hortons restaurant. There are no other existing sanitary, storm or water lines on the property.
5. Finished grade where existing is to be changed is now shown.

6. A restrained length table is now included on the plans as are the locations on the plans.
7. Line valves have been added at approximately 800 foot intervals
8. (these details and notes have been added)
9. (these details and notes have been added)
10. (these details and notes have been added)
11. AWWA notes added/changed.
12. AWWA notes added/changed.
13. Flushing hydrants have been added and are shown on the plans.
14. Tank details added to the plan sheet
15. Tank details added to the plan sheet
16. The building is existing and the door size is necessary to install the new equipment and tanks. The owner has no intention of storing or servicing vehicles in the building. The new equipment layout precludes vehicle access.

Well Comments

1. Well water meters have been moved to the treatment building.
2. A well construction detail has been added to the plans.
3. The pond water level is about 1393; top of bank at the pond is about 1400 average around the pond.
4. A copy of the water supply application package is enclosed for all well test data.
5. The new wells cones of depression will not impact Tim Hortons well due to the extreme separation (3,000 ft.) And the limited draw down the applicant has intentions of supplying water to Tim Hortons upon project completion. Well construction drawing and draw down test graphs are now in the engineers report.
6. Both wells were developed to a depth of 33+ feet. Soils below that elevation changed to brown/gray silty clay and were not water bearing. See EXHIBIT II in the enclosed WSA.

General & Filtration System Comments

1. Each filter train has a capacity of 300gpm or together 600gpm in normal operation. The well pump capacity is 150gpm and as such cannot overload the filters. Additionally, when (if) the filters reach "blinding" a pressure switch will shut off the well pump.
2. The contractor will furnish operation and maintenance manuals for all equipment. The following test equipment will be provided:
 1. Turbidimeter calibration kit
 2. pH meter, Hack Model HQ 11d
 3. Chlorine (free & total) test kit, Hack Model CN-66
 4. Thermometer
3. The source water turbidity is :
Well # 1 = 2.1 ntu

Well # 2 = 8.6 ntu

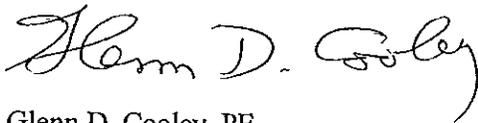
Since well # 2 has high turbidity the duplex filter system will be designed in accordance with 10 States Standards, "Policy Statement on Bag and Cartridge Filters for Public Water Supplies".

We are in the process of retesting the wells to get particulate samples to adequately size the 2, pretreatment filters and then the 3rd will have an "LT2" filter. Final design will have the final filter porosities.
- 4,5,6 There are 2 filter trains, each sized to process 300gpm. The full 150 gpm from each production well cannot exceed filter capacity. Therefore, operating in parallel, each one will only be filtering 75gpm or 25 percent of it's rated capacity. Currently we are proposing 10 micron, 5 micron and 1 micron absolute. As indicated above, these will change. The final filter will be an "LT2".
7. NSF Certification of the filters and housing is attached.
8. Pressure gauges have been added before and after the filters on each side.
9. Two automatic turbidimeters with recorders have been added. One ahead of the filters; one at the point of discharge to the water system.
10. The operator will have two extra sets of filters of each size on site.

Chlorine System Comments

1. We have calculated a new CT based on the USEPA "The Groundwater Rule (GWR) contact time (CT) calculator including temperature and pH. The CT using this method is 7.0 and is satisfactory (calculation in Engineer's report).
2. The chlorine injection point has been moved to upstream of the storage tanks. The four- in series pressure tanks is the chlorine contact chamber.
- 3&4. A backup, plumbed-in chlorinator has been added to the system as well as a chlorine residual monitor.
5. There is one inlet pipe, discharging half way up on the side of the tank and one discharge pipe placed at the bottom. See the detail on plan sheet 6/6. There are no baffles; mixing is accomplished by the mid point discharge into the tank.
6. The chlorine metering pumps are controlled by flow switch on the filter discharge line. (In effect when the well pump turns on.)
7. The report has been revised to call for chlorine solution to be made from system finished water instead of distilled. A 60 gallon feed tank will hold the solution; where a 14 day supply is equal to 40 gallons.
8. The operator will have a set of normal spare parts upon startup.

Very Truly Yours,
E&M ENGINEERS AND SURVEYORS, P.C.



Glenn D. Cooley, PE
Chairman of the Board

encl:

cc: ECHD, Ms. Delaney
NYS DEC, Mr. Cranston
Town of Sardinia, Planning Board
Tri-County Business Park, Mr. Koch



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Allan R. Vanderpoel, PE
Garrett M. Hacker, PE

*Note 1/4/13 CWS
DON-348 FORM WITHIN*

December 6, 2012

Christopher J. Auer, P.E.
Senior Sanitary Engineer
NYS Department of Health
Erastus Corning Tower, Room 1142
Albany, NY 12237

RECEIVED
SARDINIA
DEC 10 2012

Re: Tri-County Business Park
BWSP Log 19145

**WHAT IS THE WATER SUPPLY/WSA PERMIT # FOR THIS?*

Dear Mr. Auer,

This Letter is in answer to your comments dated October 4, 2012 and is numbered accordingly.

General and Engineers' Report Comments:

- ✓ 1. The applicant has started the process of forming a water transportation corporation named Tri-County Water, Inc. Formation cannot be completed until the Town of Sardinia consents to the corporation. The Town has been sent a copy of the current plans for its review. The process also requires the consent of the appropriate approval agency; in this case it is the State Department of Health. See also the attached letter to Charles Cranston of the NYS DEC dated October 9, 2012.
- ✓ 2. At this stage of development the applicant is proposing that fire protection will be provided by the Chaffee-Sardinia Volunteer Fire Company. The company obtains its water for its pumpers from tanker trucks. The applicant will also provide a dry hydrant at the on site pond.
- ✓ 3. ^{65-75 gpm range} The headloss calculations were produced by Haestad Methods "Flowmaster" software. They include elevation (static) and dynamic head losses in the results presented.
- ✓ 4. The projected user population (residents and transient employee, customer uses) is 465 persons. This is shown on amended EXHIBIT 1 in the revised engineering report.

The water usage projected for full project buildout is 150,000gpd and user population of 1500. This population is composed of residents, employees and customers of on site development.

5. Tim Hortons restaurant is to be connected in this phase. The restaurant owner is desirous of a more plentiful and clean water supply than is provided by his on-site well. The applicant and restaurant owner have been in informal discussion about this.

6. Other than Tim Hortons, no existing buildings will be connected to the water system in this phase.

7. A backup electrical generator has been added to the water system. It will be located outside the treatment building and engage with an automatic transfer switch upon failure of the main electric supply.

8. A security discussion has been added to the revised engineering report. *PAGE 4*
** SHEET 16; add the alarm, lights, and fences/locking gates referred to in the security discussion.*

9. Permits received include (: attached):

- a. Stormwater SPDES # NYR 10V415 for Hutchinson Road Town House.
- b. Stormwater SPDES # NYR 10V474 for Hutchinson Hill Duplexes.

10. A Draft Supplemental Generic Environmental Impact Statement for the project has been prepared and submitted to the lead agency, the Town of Sardinia Planning Board. A copy is enclosed. By copy of this letter Mr. Cranston is also receiving a copy of the DSGEIS.

11. A completed DOH-348 is enclosed.

5/12/03
** THERE IS A FLOWING HYDRANT DIRECTLY OVER THE EXISTING SEWER @ TIM HORTONS; ABOVE NORTH OR WEST.*

Plan Comments:

1. Scale plan/profile sheets have been added to the plans. They are at a scale of 1"=100' horizontally and 1"=10' vertically.

2. The 2 inch water main has been changed to 3 inch PVC NSF, SDR 26.

3. Active gas lines are shown on Sheet 1 and are on Route 16 with one side line feeding an existing onsite building.

4. Existing sanitary facilities are shown on the plans. This is the septic system for the Tim Hortons restaurant. There are no other existing sanitary, storm or water lines on the property.

5. *PROPOSED ROADWAYS NOT GRADED LIKE ROADS/NO PROP'D CONTOURS FOUND*
Finished grade where existing is to be changed is now shown.

** New Stamp/Signature on DOH 348 Form.*
2

- ✓ 6. A restrained length table is now included on the plans as are the locations on the plans.
- ✓ 7. Line valves have been added at approximately 800 foot intervals
- ✓ 8. (these details and notes have been added)
- ✓ 9. (these details and notes have been added)
- 10. (these details and notes have been added)
- 11. AWWA notes added/changed.
- 12. AWWA notes added/changed.
ONE IS OVER A SAN. SEWER; MOVE N OR W
- 13. Flushing hydrants have been added and are shown on the plans.
- 14. Tank details added to the plan sheet
- 15. Tank details added to the plan sheet
OVERFLOW PIPING SHOULD BE ON ELEVATION SHEET.
- ✓ 16. The building is existing and the door size is necessary to install the new equipment and tanks. The owner has no intention of storing or servicing vehicles in the building. The new equipment layout precludes vehicle access.

PLEASE INDICATE WHERE

Well Comments

- ✓ 1. Well water meters have been moved to the treatment building.
- 2. *WHERE?* A well construction detail has been added to the plans.
- ✓ 3. The pond water level is about 1393; top of bank at the pond is about 1400 average around the pond.
- 4. *JUST RAW DATA; NO MCL COMPARISON*
A copy of the water supply application package is enclosed for all well test data.
- ✓ 5. The new wells cones of depression will not impact Tim Hortons well due to the extreme separation (3,000 ft.) And the limited draw down the applicant has intentions of supplying water to Tim Hortons upon project completion. Well construction drawing and draw down test graphs are now in the engineers report.
- ✓ 6. Both wells were developed to a depth of 33+ feet. Soils below that elevation changed to brown/gray silty clay and were not water bearing. See EXHIBIT II in the enclosed WSA.

General & Filtration System Comments

✓ 1. Each filter train has a capacity of 300gpm or together 600gpm in normal operation. The well pump capacity is 150gpm and as such cannot overload the filters. Additionally, when (if) the filters reach "blinding" a pressure switch will shut off the well pump.

✓ 2. The contractor will furnish operation and maintenance manuals for all equipment. The following test equipment will be provided:

1. Turbidimeter calibration kit
2. pH meter, Hack Model HQ 11d
3. Chlorine (free & total) test kit, Hack Model CN-66
4. Thermometer

3. The source water turbidity is :

Well # 1 = 2.1 ntu

Well # 2 = 8.6 ntu

Since well # 2 has high turbidity the duplex filter system will be designed in accordance with 10 States Standards, "Policy Statement on Bag and Cartridge Filters for Public Water Supplies".

We are in the process of retesting the wells to get particulate samples to adequately size the 2, pretreatment filters and then the 3rd will have an "LT2" filter. Final design will have the final filter porosities.

4,5,6 There are 2 filter trains, each sized to process 300gpm. The full 150 gpm from each production well cannot exceed filter capacity. Therefore, operating in parallel, each one will only be filtering 75gpm or 25 percent of it's rated capacity. Currently we are proposing 10 micron, 5 micron and 1 micron absolute. As indicated above, these will change. The final filter will be an "LT2".

7. NSF Certification of the filters and housing is attached. *→ Show the NAME/MODEL # OF THE HARMSCO FILTRATION EQPT ON SHEET 6.*

8. Pressure gauges have been added before and after the filters on each side. *WOULDN'T IT BE EASIER TO REPLACE THE CORRECT FILTER BY MOVING A GAUGE BEFORE/AFTER EACH HOUSING?*

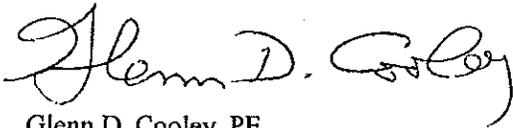
✓ 9. Two automatic turbidimeters with recorders have been added. One ahead of the filters; one at the point of discharge to the water system. *EACH HOUSING?*

✓ 10. The operator will have two extra sets of filters of each size on site.

Chlorine System Comments

- ✓ 1. We have calculated a new CT based on the USEPA "The Groundwater Rule (GWR) contact time (CT) calculator including temperature and pH. The CT using this method is 7.0 and is satisfactory (calculation in Engineer's report).
- ✓ 2. The chlorine injection point has been moved to upstream of the storage tanks. The four- in series pressure tanks is the chlorine contact chamber.
- ✓ 3&4. A backup, plumbed-in chlorinator has been added to the system as well as a chlorine residual monitor.
5. *BAFFLE FACTOR OF 0.7 IS FOR SUPERIOR BAFFLING. THE PARALLEL ARRANGEMENT WITH INLET/OUTLET AS SHOWN WITH THE INLET/OUTLET AS THEY ARE SHOULD HAVE G.F. < 0.3*
There is one inlet pipe, discharging half way up on the side of the tank and one discharge pipe placed at the bottom. See the detail on plan sheet 6/6. There are no baffles; mixing is accomplished by the mid point discharge into the tank.
- ✓ 6. The chlorine metering pumps are controlled by flow switch on the filter discharge line. (In effect when the well pump turns on.)
- ✓ 7. The report has been revised to call for chlorine solution to be made from system finished water instead of distilled. A 60 gallon feed tank will hold the solution; where a 14 day supply is equal to 40 gallons.
- ✓ 8. The operator will have a set of normal spare parts upon startup.

Very Truly Yours,
E&M ENGINEERS AND SURVEYORS, P.C.



Glenn D. Cooley, PE
Chairman of the Board

encl:

cc: ECHD, Ms. Delaney
NYS DEC, Mr. Cranston
Town of Sardinia, Planning Board
Tri-County Business Park, Mr. Koch

General and Engineer's Report Comments:

2. Please provide a letter from the local Volunteer Fire Company noting provision of a dry hydrant for their use is sufficient for fire protection purposes.
3. Regarding waterline design and water pressure:
 - 3a) Please include the pressure setting for the PRV on the plans.
 - 3b) Has the need for an air release valve for Tim Hortons Restaurant been evaluated?
 - 3c) It appears that 90-degree bends are proposed for the waterline at horizontal and vertical (eg. near the treatment building) bends. Is this correct?
7. Please include the specifications for the electrical generator in the engineer's report, regardless of it being designed by others.

Plan Comments:

1. Regarding waterline plan/profile/details:
 - 1a) Where does distribution piping change from 3-inch in the treatment building to 8-inch diameter?
 - 1b) Please add items (eg. valves) shown on the plan views to the profiles.
2. For 3-inch water pipe, please include the NSF standard for potable water piping (#61) in the notes and state the pipe shall display the NSF-PW mark.
6. Please provide calculations for the restrained length table. The restrained lengths in the table do not appear adequate.
7. Please include a line valve at STA 4+50 +/- at the townhomes.
10. Please add to the thrust blocks table the minimum depth for blocks in addition to bearing area.
11. It does not appear that AWWA C605 regarding the pressure and leakage testing, has been added to the plan. Please include, or explain why this reference has not been included.
14. Please add a note to the plans regarding a screen for the overflow piping on the storage tanks.

Well Comments:

1. Where are the raw water sample taps? It does not appear that they are within the treatment building, as was requested.

General and Filtration System Comments:

1. It does not appear that flow restrictors have been added to each treatment train. Please add.
3. According to the 2012 edition of 10 States Standards, "Policy Statement on Bag and Cartridge Filters for Public Water Supplies", the source water should have a turbidity of <3 NTU. Considering that particulate testing has indicated turbidity of >3 NTU from one of the wells, pretreatment such as media filters or larger opening cartridge filters is strongly recommended to provide a more consistent water quality and extend filter life. Approval of the plans is contingent on final filter sizing.

Chlorine System Comments:

5. Please calculate chlorine contact time for surface water rather than groundwater.



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March 13, 2013

Christopher J. Auer, P.E.
Senior Sanitary Engineer
NYS Department of Health
Erastus Corning Tower, Room 1142
Albany, NY 12237

Re: Tri-County Business Park
BWSP Log 19145

Dear Mr. Auer:

This letter is in response to your hand written comments dated January 4, 2012 and comments from the Erie County Health Department dated January 17, 2013. Responses are numbered according to previous comments.

General and Engineers' Report Comments:

2. A letter from the Sardinia Volunteer Fire Department is included in the Engineers Report noting that the provision of a dry hydrant is acceptable for their use.
3.
 - a) The pressure setting for the PRV is shown on plan sheet 4 at 45 psi.
 - b) There is no need for an air release valve for the Tim Hortons Restaurant.
 - c) Yes, the main leaving the water treatment building has a 90 degree bend. See detail on plan sheet 6
7. The electrical generator is specified on plan sheet 6.
8. Sheet 6 includes locking doors, exterior lighting, and alarms.

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Plan Comments:

1. a) Plan sheet 2 & 6 show where the distribution piping changes from 3 inch to 8 inch.
b) Valves and blow offs were added to the profiles.
2. A note was added to plan sheet 5 indicating the standards for the 3 inch water main.
5. Proposed grade is shown along the profiles where grades vary. Flushing hydrant at Tim Hortons was moved to provide separation for the sanitary sewer.
6. Calculator printouts showing restraint length are enclosed and include calculations for dead ends (valves). Plan Sheet 5 includes these additions.
7. A line valve was added at station 4+00 ± for the townhouses.
10. As discussed with the Erie County Department of Health on 2-19-13, the thrust block minimum depth is equal to the water mains bury depth.
11. AWWA C605 testing requirements are shown on plan sheet 5, upper right corner.
14. A note regarding a screen on the overflow for the storage tanks is shown on plan sheet 6

Well Comments

1. Raw water sample taps are located inside the treatment building on the 4" lines from the wells.
2. A detail showing a typical well is shown on plan sheet 5
4. A raw water sample data comparison is enclosed showing a summary of detectable levels of parameters in each well.

General & Filtration System Comments

1. Flow regulator valves have been added to each treatment train and are shown on the plans
3. Pretreatment is the same for both treatment trains as they can be fed by either well.
- 4,5,6,7 Final pretreatment filter selection is dependent on completion of a particulate test which has not yet been completed.
7. Name and model numbers of equipment have been added to plan sheet 6
8. Pressure gauges have been added to the treatment trains between each cartridge housing.

Chlorine System Comments

4. Calculations for CT have been revised using the CT Tables in Part 5 for surface water as discussed with the Erie County Department of Health. The revised calculations are included in the revised Engineers Report – Water System for Tri-County Business Park dated: rev March 5, 2013, and enclosed.

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Enclosed is a set of revised plans, Engineers Report, and a stamped DOH 348 form.

Very Truly Yours,

E & M ENGINEERS AND SURVEYORS, PC



Ben Slotman
Staff Engineer

cc/w encl. Manfred Koch, Tri-County Business Park
Jennifer Delaney, Erie County Department of Health
Charles Cranston, NYS Department of Environmental Conservation