



**TOWN OF NEWBURGH
PLANNING BOARD
TECHNICAL REVIEW COMMENTS**

PROJECT NAME: AVION VENTURES-WAREHOUSE
PROJECT NO.: 24-16
PROJECT LOCATION: SECTION 86, BLOCK 1, LOT 37.222
REVIEW DATE: 27 MARCH 2025
MEETING DATE: 3 APRIL 2025
PROJECT REPRESENTATIVE: COLLIERS ENGINEERING AND DESIGN – CONNOR MCCORMACK, PE

1. Compliance with the Tree Preservation Ordinance, Chapter 172 of the Zoning Code is required. The applicants have identified that a tree survey is being conducted. Sample plot locations were reviewed previously by this office.
2. Applicants have identified that an application for an Article 24 Wetland Permit has been made to the New York State Department of Environmental Conservation in February 2025. A review of the NYSDEC DART system does not yet identify an application for an Article 24 Wetland Permit.
3. The SWPPP is under review by this office. A separate comment letter will be issued. All information submitted to the DEC should be shared with the Planning Board as Lead Agency.
4. It has been confirmed that the Coldenham Fire District reviewed the site plan and have found the plans acceptable including locations of proposed hydrants.
5. This office has submitted to the City of Newburgh for a flow acceptance letter.
6. Health Department approval for the watermain extension with hydrants is required. A copy of the design report has been submitted.

Respectfully submitted,

MHE Engineering, D.P.C.

Patrick J. Hines
Principal
PJH/kmm

Michael W. Weeks, P.E.
Principal

NEW YORK OFFICE

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SWPPP TECHNICAL REVIEW COMMENTS**

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1. Bioretention basin note should identify both bioretention ponds are designed to treat hot spot run off and will be lined. Bioretention note on Sheet C-401 should be revised.
2. The SWPPP identifies the project site as discharging to Orange Lake a 303D impaired water body. Review of the area topography identifies the area tributary to the wetland area which discharges through the Lakeside Road culvert located east of the site. Remember check the direction of flow there.
3. SWPPP identifies that soil testing would be performed in order to complete SWPPP and Stormwater Design.
4. The re-development .44 acres of impervious area should be specially identified on the plan sheet. The majority of the project site is currently wooded. The existing access road will be re-constructed however, evidence of highly impacted and poorly drained soils are not the majority of the area on the site.
5. Green infrastructure planning identifies that clearing limits were minimized using maximum allowable slopes retaining walls to meet grade. Small retaining walls are proposed at the loading dock area however, retaining walls are not identified on the rest of the plan sheet. In addition, roadway widths are identified as being reduced where ever possible. Roadway widths are based on the Fire Code and have not been reduced.
6. Show spot elevations for the flow weir from the sediment forebays. Flow weir is identified at 503 while topography stops at 502.
7. The SWPPP should be coordinated with the plans. Pond P-1B has the 6-inch vertical orifice grate is located at 502.5 the outlet structure grate is identified at 502.
8. Coordinate outlet control structure names with the plans and details. Outlet control structure S-22 is identified as outlet control structure SA2 in the detail. Detail for each outlet control structure should be provided with invert elevations, weir/orifice sizes.

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9. Bioretention details should specify the impermeable liner. Bioretention details should reference both bioretention facilities being lined.
10. A detail for a proprietary hydrodynamic separator is depicted on the plan sheets. This device is not addressed in the SWPPP.
11. It appears additional grading will be required for the discharge of the bioretention pipes based on proposed inverts. It is recommended the invert elevation of sections be provided on the plans. (Top of pipe invert vs. bottom pipe invert)

Respectfully submitted,

MHE Engineering, D.P.C.



Patrick J. Hines
Principal
PJH/kmm



Michael W. Weeks, P.E.
Principal

Engineer's Sewer Report

March 2025

For
Pomarico Drive Warehouse

SBL: 86-1-37.222
86-1-37.223

Town of Newburgh, Orange County, New York

Prepared for:

Avion
491 NYS 208 , Suite 112
Monroe, NY 10950

Prepared by:



Connor P. McCormack, P.E.
New York State Professional Engineer
License No. 103756 Digitally signed by Connor Patrick McCormack
Date: 2025.03.20 09:05:18-04'00'

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Project No. 24002169A

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Table of Contents

EXECUTIVE SUMMARY	3
PROJECT BACKGROUND AND HISTORY	3
SITE INFORMATION	3
OWNERSHIP AND SERVICE AREA	3
PROJECT DESCRIPTION	3
SCOPE OF PROPOSED SEWAGE DISPOSAL SYSTEM	3
DETERMINATION OF WASTEWATER FLOWS.....	4
PROPOSED PUMP SYSTEM.....	4
SANITARY SEWER SYSTEM INSTALLATION AND TESTING	4
HORIZONTAL AND VERTICAL SEPARATION	4
Appendix A – System Design Information	1
Appendix B – Specifications and Cut Sheets	2
Appendix C – Pump Installation Manual	3

EXECUTIVE SUMMARY

The purpose of this report is to propose a sewer connection to the Town of Newburgh Crossroads Sewer District. This report demonstrates that acceptable engineering solutions were used in the evaluation and design of the proposed grinder pump and force main, and the goal of the report is to provide the permitting agency with sufficient information to make an informed decision.

The proposed project will consist of a 56,000 SF warehouse building, with 3,000 SF of office spaces. The building will have 6 loading docks and 34 employee parking spaces. Other improvements include a driveway, an emergency access, sidewalks, a chamber tank and force main, and associated utilities to service the users. The facility is expected to have 3 shifts per day with a maximum of 17 employees per shift.

The proposed grinder pump and force main is required for the development since the nearest public sewer utility ends in the south end of Pomarico Drive at an elevation higher than the proposed warehouse building.

PROJECT BACKGROUND AND HISTORY

SITE INFORMATION

The project site is located in the Town of Newburgh, Orange County, New York, at Pomarico Drive, along Route 17k. The property is comprised of tax lots 86-1-37.222 and 86-1-37.223 and is located within the Town's Interchange Business (IB) Zoning District and has a total lot area of 576,342 square feet, or 13.23 acres. A small portion of the existing site is developed with the northern edge of a small parking lot. The smaller of the two parcels contains a private road, Pomarico Drive. The majority balance of the site is maintained by woods and wetlands.

New York State DEC regulated wetlands exist on site. Earth disturbance is proposed within the 100 ft. adjacent area of the NYSDEC wetland but is limited to stormwater features only. The proposed development will not impact the site wetlands.

OWNERSHIP AND SERVICE AREA

The proposed grinder pump and force main will be privately owned & maintained, will provide service to only the proposed warehouse facility on the property, and has been designed to convey sewage effluent free of industrial wastes or other waste.

PROJECT DESCRIPTION

SCOPE OF PROPOSED SEWAGE DISPOSAL SYSTEM

The proposed system shall consist of furnishing and installing approx. 8 linear feet of 6" PVC gravity sewer pipe from the building to the proposed pump station with a grinder pump inside a 5 ft. dia. manhole. From the pump station, the sewage effluent will be pumped 1,057 linear feet through a proposed 2" sanitary forcemain to the existing manhole in Pomarico drive.

DETERMINATION OF WASTEWATER FLOWS

Proposed wastewater flows were determined based on the New York State Design Standards for Intermediate Sized Wastewater Treatment Systems [NYSDEC Design Manual], dated March 5, 2014. Calculations are shown below:

As per NYSDEC Design Manual;

TYPE OF USE	NYSDEC LOADING (GALLONS PER DAY)	PROJECT DESIGN UNITS	DESIGN CALCULATION
WAREHOUSE	12 GPD PER EMPLOYEE*	51 EMPLOYEES	51 * 12 = 612 GPD

*12 GPD per employee determined by applying the 20% reduction identified in NYSDEC Design Manual Section B.6.b for establishments equipped with water saving plumbing fixtures. Total Design Flow = **612 GPD**

PROPOSED PUMP SYSTEM

To support the development and compensate for the grade change across the site, a Grinder Pump is proposed which will provide sanitary sewer conveyance to the existing sewer in Pomarico Drive through approx. 1,057 linear feet of 2" dia. PVC SCH 80 forcemain pipe.

As this is a commercial operation, a duplex pump arrangement (RGS2012 Series Submersible Grinder Pump) in a lead-lag configuration has been proposed in a 5' diameter precast pump chamber manhole. Pump specifications, calculations and details are enclosed on the plans and in the appendix of this report.

24-hour storage volume has not been provided for the system since the proposed warehouse use would not have employees working without power to the facility, therefore no wastewater flow will be generated without power to the pump and 24-hour storage is not necessary. The system has been designed to provide 24" of storage (roughly 39 CF or 293 Gallons of storage) above the alarm float to the inlet invert to the chamber. An emergency power generator that could be connected to the sewer pump system can be installed by the end user if they desire.

SANITARY SEWER SYSTEM INSTALLATION AND TESTING

All installations shall conform to *Recommended Standards for Wastewater Facilities*, Latest Edition, New York State Sanitary Code Part 5, and the standards of the Town of Newburgh.

All construction and testing will conform to the specifications of the Town of Newburgh as well as County and State Environmental Health Standards and Requirements.

HORIZONTAL AND VERTICAL SEPARATION

Horizontal separation between the proposed water main and storm (structures, piping, swales, etc.) or sanitary sewer (structures, mains, services, etc.) will be ten (10) feet or greater, unless due to constructability and impact to existing utilities warrant otherwise at which time deviation will require approval by the Engineer of Record.

Vertical separation between storm or sanitary sewers and proposed water main crossings will be maintained at 18" minimum unless due to constructability and impact to existing utilities warrant otherwise at which time deviation will require approval by the Engineer of Record.

KAS/cpm

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Appendix A – System Design Information

Velocity in Force Main (PVC schedule 80)1 pump running

Pipe inside diameter	2.00 inches (IN)
Pipe area	0.022 square feet (SF)
Operating flow rate	32.0 gallons per minute (GPM)
	0.071 cubic feet per second (CFS)
Operating velocity	3.27 feet per second (FPS)

Cycle Time

Pump Chamber DIA	5.00 FT
Pump Chamber Area	19.63 SF
Depth of effluent	1.75 feet (FT)
Quantity of effluent	34.34 cubic feet (CF)
Quantity of effluent	256.89 gallons (GAL)
Time for 1 pump to empty chamber	8.0 minutes (MIN)

Flow Estimation

Flow rate (gpd) (Average daily flow)	612 gallons per day (GPD)
Peaking factor	4.10
Peak Daily Flow Rate	2509.2 gallons per day (GPD)
Peak Daily Flow Rate	1.74 GPM

24 Hour Storage Capacity

24 Hour Volume	612 GAL
24 Hour Volume	82 CF
Pump Chamber Area	19.63 SF
Depth Req'd between Alarm Float & Pump Chamber Inlet Invert	1.50 FT (See PROPOSED PUMP SYSTEM on page 4 of report)

Quantity of Effluent in Force Main

Force main diameter	2.00 IN
Force main area	0.022 SF
Force main length	1057.00 FT
Quantity of effluent in force main	23.06 CF
Quantity of effluent in force main	172.49 GAL

Check if Forcemain is Cleared Each Cycle

Average inflow	612.0 GPD	
Average inflow	0.43 GPM	
Quantity of effluent	256.9 GAL	
Ave. Time/cycle	604.5 MIN	10.07 HRS
Peak time/cycle	62.7 MIN	1.04 HRS
Forcemain is cleared each cycle	YES	

Float Switch Height from Wet Well Invert to.....

Pump off	4.25 FT
Pump on	2.50 FT
Alarm on	2.00 FT

Slope of Pipe btwn Bldg & Pump Chamber	3.13%
Length of Pipe btwn Bldg & Pump Chamber	8 FT

Summary of Inverts & Elevations

(A)	Finish grade at location of sanitary line leaving building	513.00	FT
(B)	Invert of sanitary line leaving house	508.00	FT
(C)	Septic tank inlet elevation	507.75	FT
(D)	Invert out of septic tank	507.75	FT
(E)	Pump chamber inlet elevation	507.75	FT
(F)	Alarm float elevation	505.75	FT
(G)	Pump on elevation	505.25	FT
(H)	Pump off elevation	503.50	FT
(I)	Elevation at bottom of pump chamber	502.50	FT

Checks

Is 1 day storage (960 gallons) provided between alarm float and pump chamber inlet invert?	YES
Is a minimum velocity of 2 fps provided in the force main?	YES

Velocity in Force Main (PVC schedule 80)1 pump running

Pipe inside diameter	2.00 inches (IN)
Pipe area	0.022 square feet (SF)
Operating flow rate	32.0 gallons per minute (GPM)
	0.071 cubic feet per second (CFS)
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Cycle Time

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Pump Chamber Area	19.63 SF
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Time for 1 pump to empty chamber	8.0 minutes (MIN)

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Flow rate (gpd) (Average daily flow)	612 gallons per day (GPD)
Peaking factor	4.10
Peak Daily Flow Rate	2509.2 gallons per day (GPD)
Peak Daily Flow Rate	1.74 GPM

24 Hour Storage Capacity

24 Hour Volume	612 GAL
24 Hour Volume	82 CF
Pump Chamber Area	19.63 SF
Depth Req'd between Alarm Float & Pump Chamber Inlet Invert	4.17 FT

Quantity of Effluent in Force Main

Force main diameter	2.00 IN
Force main area	0.022 SF
Force main length	1057.00 FT
Quantity of effluent in force main	23.06 CF
Quantity of effluent in force main	172.49 GAL

Check if Forcemain is Cleared Each Cycle

Average inflow	612.0 GPD	
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Forcemain is cleared each cycle	YES	

Float Switch Height from Wet Well Invert to.....

Pump off	4.25 FT
Pump on	2.50 FT
Alarm on	2.00 FT

Slope of Pipe btwn Bldg & Pump Chamber	3.13%
Length of Pipe btwn Bldg & Pump Chamber	8 FT

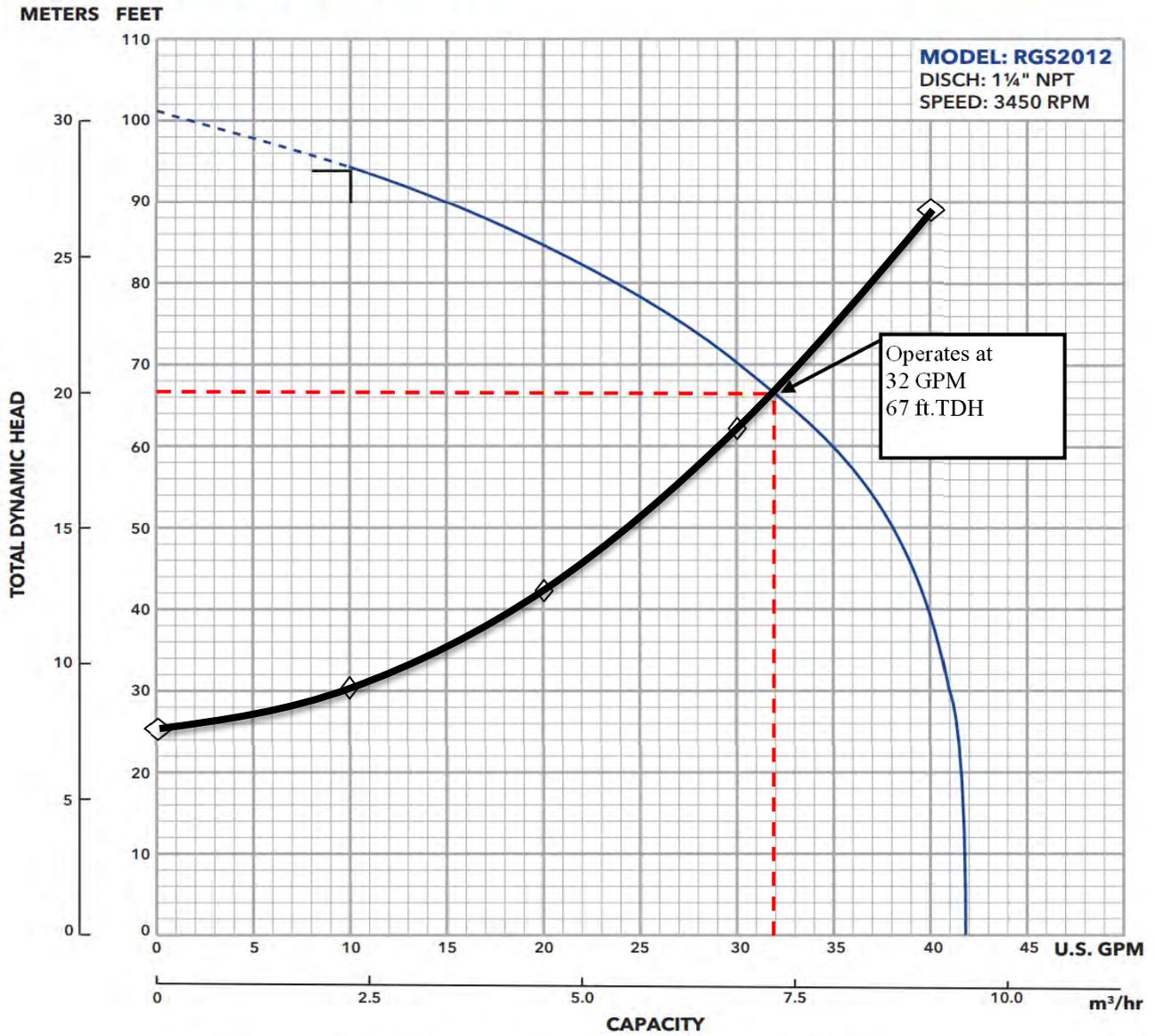
Summary of Inverts & Elevations

(A) Finish grade at location of sanitary line leaving building	513.00	FT
(B) Invert of sanitary line leaving house	508.00	FT
(C) Septic tank inlet elevation	507.75	FT
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(G) Pump on elevation	505.25	FT
(H) Pump off elevation	503.50	FT
(I) Elevation at bottom of pump chamber	502.50	FT

Checks

Is 1 day storage (960 gallons) provided between alarm float and pump chamber inlet invert?	NO
Is a minimum velocity of 2 fps provided in the force main?	YES

PERFORMANCE CURVE



┌ = A 1 1/4" minimum discharge pipe requires a minimum flow of 10 gpm to maintain a 2 ft./sec. scouring velocity. Flows less than 10 gpm will allow solids to settle in the pipe.

Appendix B – Specifications and Cut Sheets

RGS2012 Series

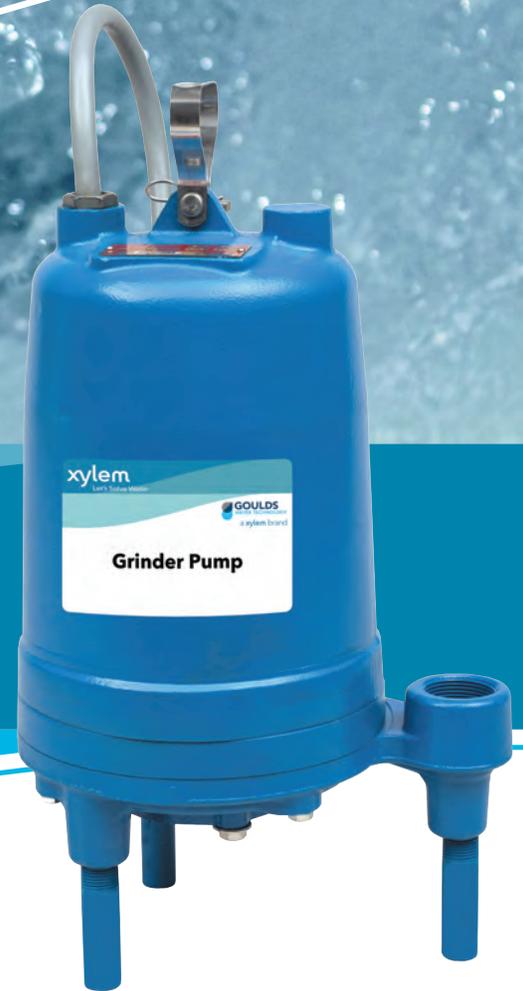
SUBMERSIBLE GRINDER PUMP



RGS2012 Series Residential Grinder Pumps are radial cutter style pumps that can be flipped once in the field, to expose the factory sharpened side of the cutting ring. It does not require external motor components in the panel. It's capable of grinding domestic sewage in individual residential applications. This "Complete. Reliable. Blue." pump is designed for residential, agriculture, and light commercial applications.

APPLICATIONS

Designed for high head sewage applications where a gravity system is not practical. Ideal for pressure sewage systems.



FEATURES

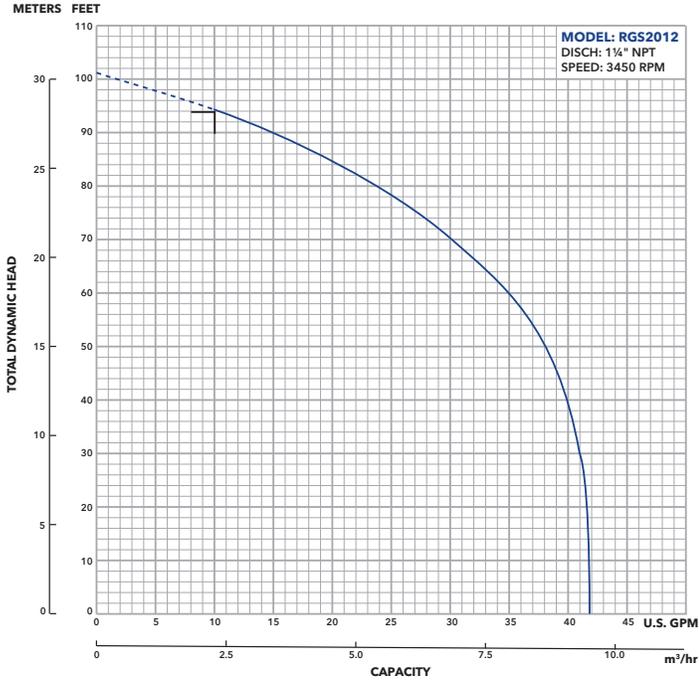
- Capable of grinding domestic sewage in individual residential applications
- Anti-roping design cutter system
- Motor is fully submerged in oil-filled chamber, allowing for more efficient heat dissipation, permanent lubrication of bearings and mechanical seal, and protection against outside environment
- Silicon bronze semi-open impeller with non-overloading two vane design and pump-out vanes for mechanical seal protection
- Cast iron volute type casing for high efficiency
- 3 year standard warranty (4 year GPDA)

PRODUCT SPECIFICATIONS

Order Number	HP	Volts	Phase	RPM	Operation	Discharge Size	Impeller Diameter (inches)	Maximum Amps	LRA	Power Cord	Weight (lbs.)
RGS2012	2	208/230	1	3450	Manual	1 1/4"	5.69"	15	59	20' with Bare Leads	75
RGS2012P					Automatic					20' with 230 V Plug	
RGS2012PA					Manual					20' with 230 V Plug and Float	76
RGS2012PS										30' with 230 V Plug	

A non-stock pump may be special ordered with optional legs by adding an "L" suffix to the Order Number. Example: RGS2012L, RGS2012SL, RGS2012PSL, etc. See "L" List Adder in price book.

PERFORMANCE CURVE



† A 1 1/4" minimum discharge pipe requires a minimum flow of 10 gpm to maintain a 2 ft./sec. scouring velocity. Flows less than 10 gpm will allow solids to settle in the pipe.

Learn more about our Grinder Solutions:

RGS2012 Pumps



Preconfigured Packages



xylem
Let's Solve Water

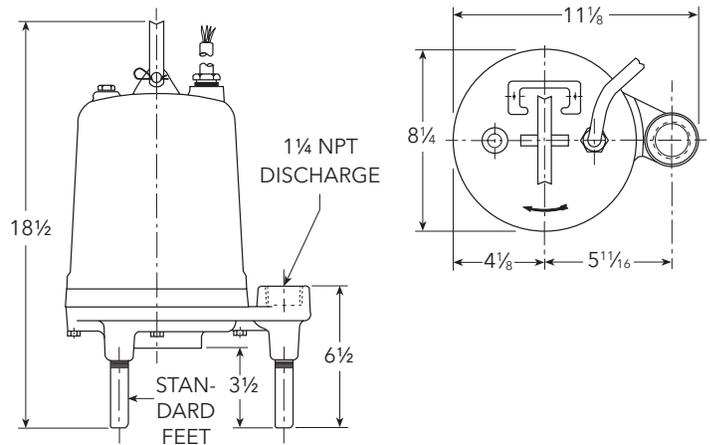
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DIMENSIONS

(All dimensions are in inches.)
Do not use for construction purposes.)



* Optional pump legs are recommended for poly or fiberglass basin installations where the pumps contact the basin floor. The order number for a package of (3) three optional pump legs is 4K639.

MATERIALS OF CONSTRUCTION

Part Name	Material
Impeller	Cast Silicon Bronze
Cutter	Type 440C Hardened Stainless Steel
Casing & Motor Dome	Cast Iron
Mechanical Seal	Silicon Carbide/Silicon Carbide
Cord	STOW
Fasteners	Stainless Steel

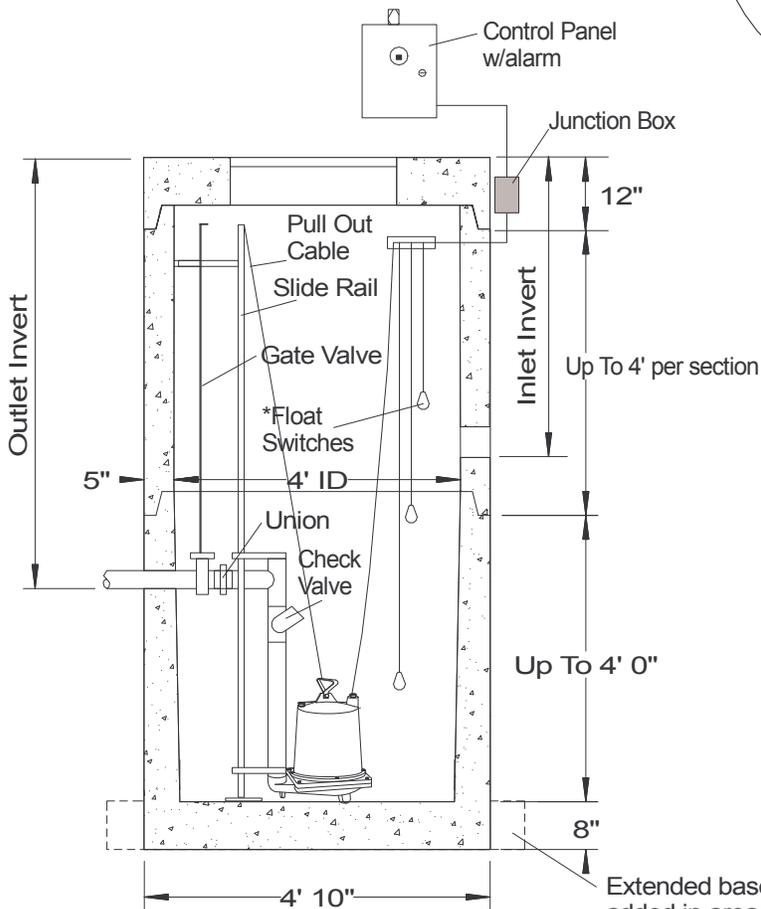
AGENCY LISTINGS

 Tested to UL778 CAN 22.2 by
CSA International (Canadian Standards Association)

**COMPLETE.
RELIABLE. BLUE.**
Learn more about
our complete line
of wastewater
products.



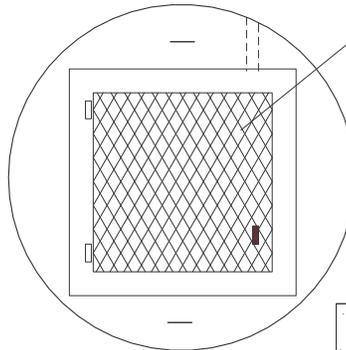
Typical Section View Commercial Pump Chamber



4' ID chamber shown
5' & 6' ID also available
All chambers are custom made as needed.

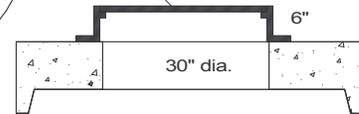
*7" minimum elevation change between on and off floats recommended for proper operation; use a pressure bell system for smaller doses (CSI Controls RK series).

Plan View

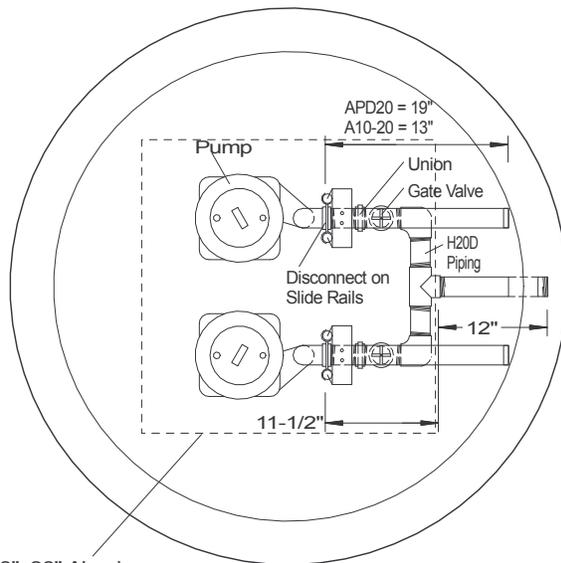


Aluminum Hatch Door
24"x24" or 30"x30" for
a 4' ID chamber, door is
watertight w/drain and has
a padlock hasp,
300 psf or H2O load rating

Roof Option:
Use cast iron 6" frame and
32" bolt down cover,
H2O load rating



Plan View of Duplex Pump Installation in a 4' ID Chamber



30"x30" Aluminum
Hatch door opening
(min. required for dual pumps with slide rails)

Extended bases can be
added in areas where high
ground water may cause
flotation.

SPECIFICATIONS

Concrete Min. Strength: 4,000 psi at 28 days
Reinforcement: Wire & Rebar / ASTM C478
Air Entrainment: 6%
Pipe Connection: Rubber Pipe Boots
Volume: 4' = 94 gal/vf, 5' = 147 gal/vf,
6' = 212 gal/vf
Load Rating: 300 psf or HS20-44

PRECAST PUMP CHAMBERS COMMERCIAL GRADE

Woodard's Concrete Products, Inc.
629 Lybolt Road, Bullville, NY 10915
(845) 361-3471 / Fax 361-1050

Appendix C – Pump Installation Manual



RGS2012E1

S or E Retrofit Kit

SUBMERSIBLE GRINDER PUMP

INSTALLATION, OPERATION AND TROUBLESHOOTING MANUAL

SAFETY INSTRUCTIONS

TO AVOID SERIOUS OR FATAL PERSONAL INJURY OR MAJOR PROPERTY DAMAGE, READ AND FOLLOW ALL SAFETY INSTRUCTIONS IN MANUAL AND ON EQUIPMENT.

THIS MANUAL IS INTENDED TO ASSIST IN THE INSTALLATION AND OPERATION OF THIS UNIT AND MUST BE KEPT WITH THE UNIT.



This is a **SAFETY ALERT SYMBOL**. When you see this symbol on the pump, the controller or in the manual, look for one of the following signal words and be alert to the potential for personal injury or property damage.

⚠ DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

NOTE: INDICATES SPECIAL INSTRUCTIONS WHICH ARE VERY IMPORTANT AND MUST BE FOLLOWED.

THOROUGHLY REVIEW ALL INSTRUCTIONS AND WARNINGS PRIOR TO PERFORMING ANY WORK ON THIS CONTROLLER.

MAINTAIN ALL SAFETY DECALS.

ALL OPERATING INSTRUCTIONS MUST BE READ, UNDERSTOOD, AND FOLLOWED BY THE OPERATING PERSONNEL. GOULDS WATER TECHNOLOGY ACCEPTS NO LIABILITY FOR DAMAGES OR OPERATING DISORDERS WHICH ARE THE RESULT OF NON-COMPLIANCE WITH THE OPERATING INSTRUCTIONS.

1. This manual is intended to assist in the installation, operation and repair of the system and must be kept with the system.
2. Installation and maintenance **MUST** be performed by properly trained and qualified personnel.
3. Review all instructions and warnings prior to performing any work on the system.
4. Any safety decals **MUST** be left on the pump.
5. The system **MUST** be disconnected from the main power supply before attempting any operation or maintenance on the electrical or mechanical part of the system. Failure to disconnect electrical power before attempting any operation or maintenance can result in electrical shock, burns or death.

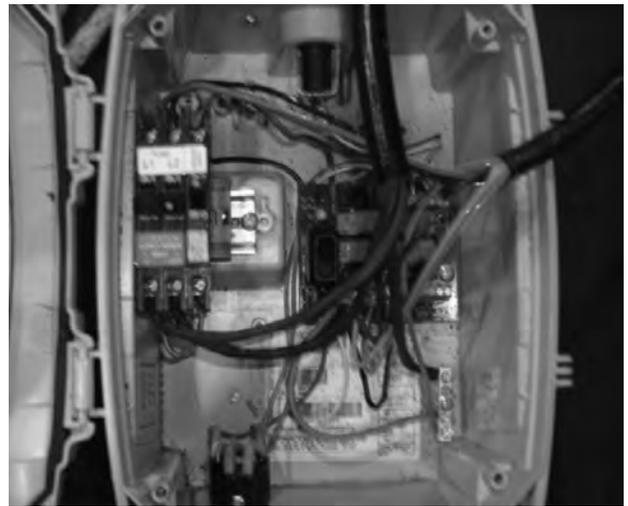
PUMP INSTALLATION

Grinder pumps should be installed in a basin that is vented per the local plumbing code in your area. The pump is not to be installed in locations that are hazardous in accordance with the NEC. All plumbing should be beneath the frost line for the region station is installed in to ensure that pipes do not freeze.

⚠ CAUTION Never lift the pump by the cord. Use the lifting rope provided with the retro-fit kit for lifting.

OLD PUMP REMOVAL

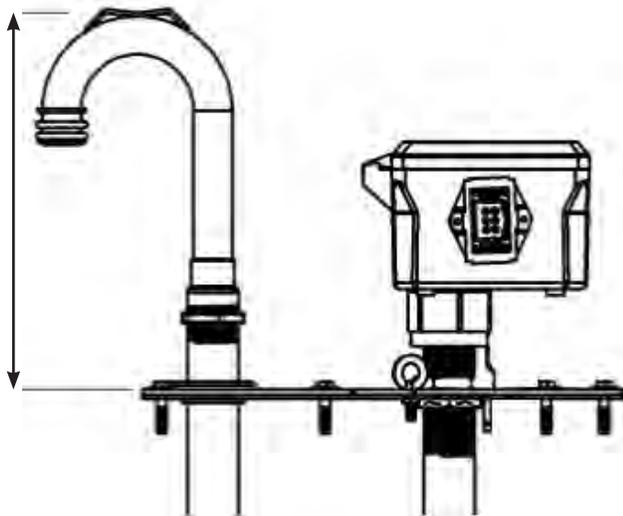
1. Supply power must be turned off
2. Goulds Water Technology recommendation is to use a 20 amp circuit breaker. Check the existing panel for breaker size and replace if necessary.



3. Remove the basin cover from the current station
4. If basin is full of water, pump water out with separate pump or vacuum truck. Discard waste in accordance with local, state and national codes.
5. Disconnect quick disconnect.

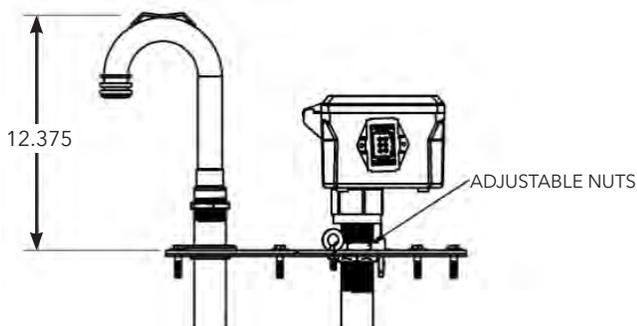


6. Check connections to make sure they are clean and dry.
7. Inspect connection, there are two styles round connectors- shown above and rectangular connectors. Ensure that the correct Retrofit Kit has been purchased for the style connection being replaced.
8. Remove bolts from cover plate of current unit
9. Close valve of current unit
10. Secure rope to hooks on cover. Lift Unit from basin.
11. Measure distance on Candy cane for setting up new retrofit - see below.



INSTALLING THE GOULDS WATER TECHNOLOGY RETROFIT KIT

1. Adjust the center nut until the candy cane elbow distance measured above matches the old unit. (This is pre-set at factory to 12.38".) Secure adjustable nuts with Loctite so that vibration does not loosen the nut.



2. Check floats so that they have an unobstructed free area in the tank. (These are pre-set at the factory.)

3. Retighten all connections, check hardware, and ensure that no wires or any other obstructions are in way of pump cutters.
4. Make sure all fittings are tight.
5. Apply gasket tape to the bottom of the cover perimeter, poke holes through the tape at the cover bolts entries.
6. Lubricate O-rings on the discharge elbow to ease installing into the receiver.
7. Using rope lower the grinder assembly in the basin. Align cover tabs to tank slots.
8. Align discharge elbow to Receiver. Unit will rest on the tank flange with the elbow fully inserted in receiver.
9. Open valve to latch with the discharge elbow. Adjustment to nut may need to be made to alter height at this point.
10. Once in place and latched install the 6 bolts back into the cover plate.
11. Reconnect the power adapter from the power to the new retrofit kit adapter.
12. Check electrical resistance to make sure that the panel is free of shorts and ground faults.
13. Check grounding connections is made properly

⚠ WARNING Licensed electricians should be present for panel or breaker energizing. If faults caused by damage or poor installation have not been detected, serious damage can result when power is applied.

14. Turn on power to breakers.
15. Fill tank to test if pump and floats operate properly. See troubleshooting chart for problems encountered.
16. Once tested and operating properly replace the basin cover.
18. Affix nameplate provided to the control panel so the new unit can be identified as a RGS2012E1S or E1E Retrofit Kit by Goulds Water Technology.

Pump specifics can be found under the standard Goulds Water Technology product RGS2012 on the website www.completewatersystems.com, Goulds Water Technology Wastewater tab.

TROUBLESHOOTING CHART



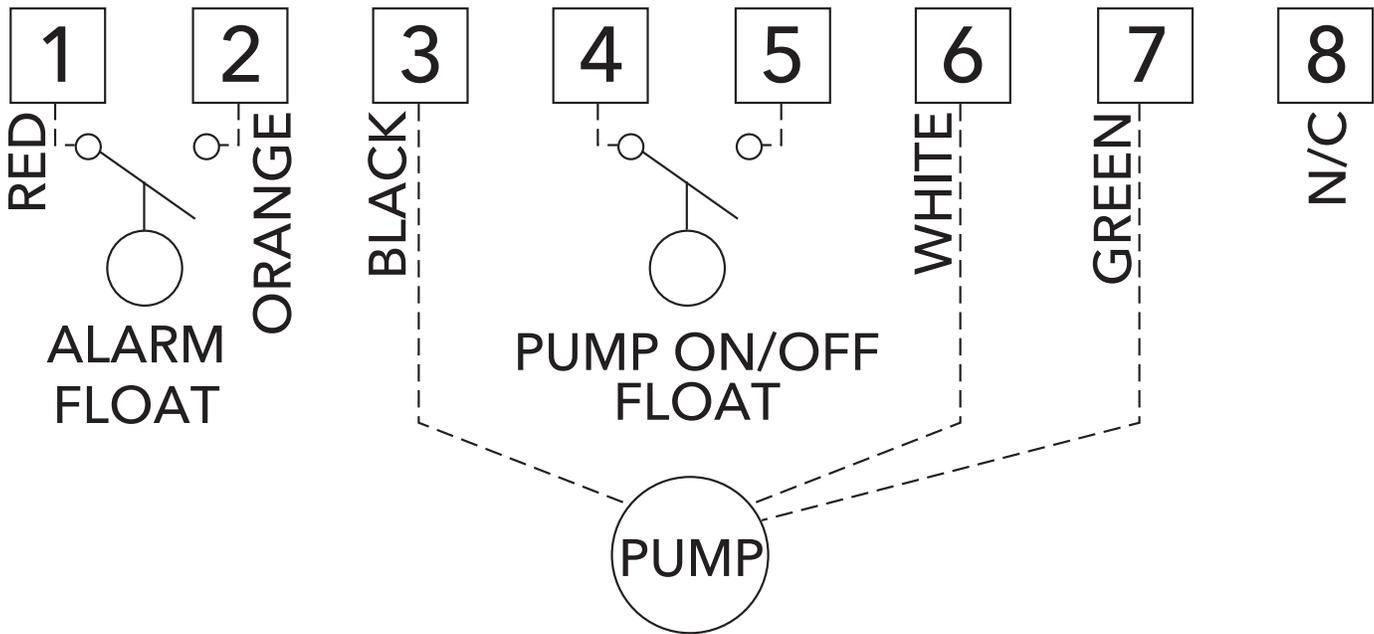
FAILURE TO DISCONNECT AND LOCKOUT ELECTRICAL POWER BEFORE ATTEMPTING ANY SERVICE CAN CAUSE SHOCK, BURNS OR DEATH.

SYMPTOM	PROBABLE CAUSE	RECOMMENDED ACTION
MOTOR NOT RUNNING	Motor thermal protector tripped.	Allow motor to cool. Insure minimum pump submergence. Clear debris from casing and impeller.
	NOTE: If circuit breaker "OPENS" repeatedly, DO NOT reset. Call qualified electrician.	Determine cause, call a qualified electrician.
a) Manual operation	Pump impeller binding or jammed.	Check motor amp draw. If two or more times higher than listed on pump nameplate, impeller is locked, motor bearings or shaft is damaged. Clear Inadequate electrical connection debris from cutter, casing and impeller, consult with dealer.
	Power cable is damaged.	
b) Automatic operation	Inadequate electrical connection in control panel.	Resistance between power leads and ground should read infinity. If any reading is incorrect, call a qualified electrician.
	No neutral wire connected to control panel.	Inspect control panel wiring. Call a qualified electrician.
NOTE: Check the pump in manual mode first to confirm operation. If pump operates, the automatic control or wiring is at fault. If pump does not operate, see above.	Inadequate electrical connection in control panel.	With switch disconnected, check continuity while activating liquid level switch. Replace switch, as required.
	Defective liquid level switch.	Allow liquid level to rise 3" to 4" (76 mm - 101 mm) above turn-on level.
	Insufficient liquid level to activate controls.	Untangle cords and insure free operation.
PUMP WILL NOT TURN OFF	Liquid level cords tangled.	Untangle cords and insure free operation.
	Pump is air locked.	Shut off pump for approximately one minute, then restart. Repeat until air lock clears. If air locking persists in a system with a check valve, a $\frac{3}{16}$ " (4.8 mm) hole may be drilled in the discharge pipe approximately 2" (51 mm) above the discharge connection.
	Influent flow is matching pump's discharge capacity.	Larger pump may be required.
LITTLE OR NO LIQUID DELIVERED BY PUMP	Check valve installed backwards, plugged or stuck closed.	Check flow arrow on valve and check valve operation.
	Excessive system head.	Consult with dealer.
	Pump inlet plugged.	Inspect and clear as required.
	Improper voltage or wired incorrectly.	Check pump rotation, voltage and wiring. Consult with qualified electrician.
	Pump is air locked.	See recommended action, above.
	Impeller is worn or damaged.	Inspect impeller, replace as required.
Liquid level controls defective or improperly positioned.	Inspect, readjust or replace as required.	

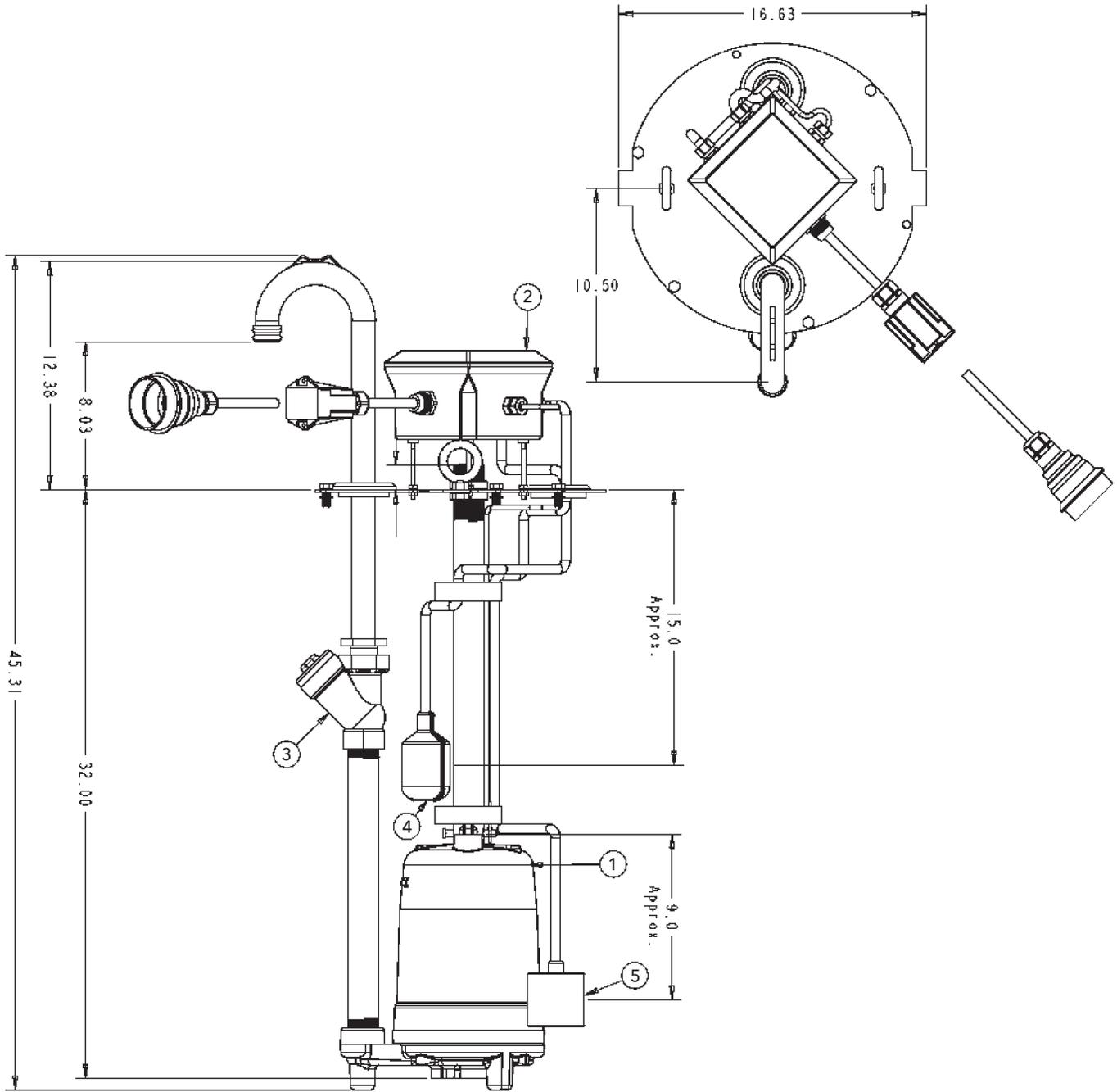
TROUBLESHOOTING CHART

SYMPTOM	PROBABLE CAUSE	RECOMMENDED ACTION
PUMP CYCLES CONSTANTLY	Discharge check valve inoperative.	Inspect, repair or replace as required.
	Sewage containment area too small.	Consult with dealer.
	Liquid level controls defective or improperly positioned.	Inspect, readjust or replace as required.
	Influent excessive for this size pump.	Consult with dealer.

JUNCTION BOX WIRING DIAGRAM



REPAIR PARTS



Item No.	Major Components	Standard	Extreme
1	RGS2010 Grinder E1	RGS2012E1	
2	Junction Box with Electrical Adaptor	9K600	9K601
3	Check / Anti-Siphon Valve	A9-12BAS	
4	Signal Master FS	A2N03	
5	Pump Master Plus FS	A2E03	

All dimensions $\pm 1/8$ tolerance unless noted.

NOTES

LIMITED CONSUMER WARRANTY

For goods sold for personal, family or household purposes, Seller warrants the goods purchased hereunder (with the exception of membranes, seals, gaskets, elastomer materials, coatings and other "wear parts" or consumables all of which are not warranted except as otherwise provided in the quotation or sales form) will be free from defects in material and workmanship for a period of one (1) year from the date of installation or eighteen (18) months from the product date code, whichever shall occur first, unless a longer period is provided by law or is specified in the product documentation (the "Warranty").

Except as otherwise required by law, Seller shall, at its option and at no cost to Buyer, either repair or replace any product which fails to conform with the Warranty provided Buyer gives written notice to Seller of any defects in material or workmanship within ten (10) days of the date when any defects or non-conformance are first manifest. Under either repair or replacement option, Seller shall not be obligated to remove or pay for the removal of the defective product or install or pay for the installation of the replaced or repaired product and Buyer shall be responsible for all other costs, including, but not limited to, service costs, shipping fees and expenses. Seller shall have sole discretion as to the method or means of repair or replacement. Buyer's failure to comply with Seller's repair or replacement directions shall terminate Seller's obligations under this Warranty and render this Warranty void. Any parts repaired or replaced under the Warranty are warranted only for the balance of the warranty period on the parts that were repaired or replaced. The Warranty is conditioned on Buyer giving written notice to Seller of any defects in material or workmanship of warranted goods within ten (10) days of the date when any defects are first manifest.

Seller shall have no warranty obligations to Buyer with respect to any product or parts of a product that have been: (a) repaired by third parties other than Seller or without Seller's written approval; (b) subject to misuse, misapplication, neglect, alteration, accident, or physical damage; (c) used in a manner contrary to Seller's instructions for installation, operation and maintenance; (d) damaged from ordinary wear and tear, corrosion, or chemical attack; (e) damaged due to abnormal conditions, vibration, failure to properly prime, or operation without flow; (f) damaged due to a defective power supply or improper electrical protection; or (g) damaged resulting from the use of accessory equipment not sold or approved by Seller. In any case of products not manufactured by Seller, there is no warranty from Seller; however, Seller will extend to Buyer any warranty received from Seller's supplier of such products.

Goulds Water Technology Policy Concerning Online Sales to Consumers. Homeowners using the Internet to locate information regarding residential water systems, residential wastewater systems, controls and tanks may discover several sites offering a direct-to-consumer purchasing opportunity. Residential water and wastewater systems are mission critical applications and are designed to be installed by qualified professionals. Goulds Water Technology has an extensive nationwide network of distributors and dealers, including authorized resellers. For a complete view of Goulds Water Technology recognized distributors, dealers and authorized resellers, please refer to our locator at: <http://goulds.com/sales-service/>

No warranty is offered on Goulds Water Technology equipment purchased over the Internet, including web-based options from unauthorized retailers. This policy is necessary to ensure that Goulds Water Technology equipment is installed properly, in compliance with applicable laws, rules and codes, in a manner that addresses safety concerns and the proper performance of Goulds Water Technology equipment.

THE FOREGOING WARRANTY IS PROVIDED IN PLACE OF ALL OTHER EXPRESS WARRANTIES. ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO ONE (1) YEAR FROM THE DATE OF INSTALLATION OR EIGHTEEN (18) MONTHS FROM THE PRODUCT DATE CODE, WHICHEVER SHALL OCCUR FIRST. EXCEPT AS OTHERWISE REQUIRED BY LAW, BUYER'S EXCLUSIVE REMEDY AND SELLER'S AGGREGATE LIABILITY FOR BREACH OF ANY OF THE FOREGOING WARRANTIES ARE LIMITED TO REPAIRING OR REPLACING THE PRODUCT AND SHALL IN ALL CASES BE LIMITED TO THE AMOUNT PAID BY THE BUYER FOR THE DEFECTIVE PRODUCT. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY OTHER FORM OF DAMAGES, WHETHER DIRECT, INDIRECT, LIQUIDATED, INCIDENTAL, CONSEQUENTIAL, PUNITIVE, EXEMPLARY OR SPECIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF PROFIT, LOSS OF ANTICIPATED SAVINGS OR REVENUE, LOSS OF INCOME, LOSS OF BUSINESS, LOSS OF PRODUCTION, LOSS OF OPPORTUNITY OR LOSS OF REPUTATION.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

To make a warranty claim, check first with the dealer from whom you purchased the product or visit www.xylem.com for the name and location of the nearest dealer providing warranty service.



Xylem Inc.
2881 East Bayard Street Ext., Suite A
Seneca Falls, NY 13148
Phone: (888) 325-4210
Fax: (888) 322-5877
www.gouldswatertechnology.com

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Engineering & Design

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PRELIMINARY

PRELIMINARY CONCEPTUAL PLAN
FOR
AVION - POMARICO DRIVE NEWBURGH

NYS ROUTE 17K
TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK

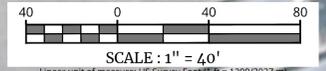
WESTCHESTER
400 Columbus Avenue,
Suite 180E
Valhalla, NY 10595
Phone: 914.347.7500
COLLIERS ENGINEERING & DESIGN
ARCHITECTURE, LANDSCAPE ARCHITECTURE,
SURVEYING, P.C.

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	2/22/25	J.F.M.	P.J.G.
PROJECT NUMBER:	DRAWING NAME:		
24002169A	R-CMPT		

SHEET TITLE:
CONCEPT PLAN

SHEET NUMBER:
CP-01

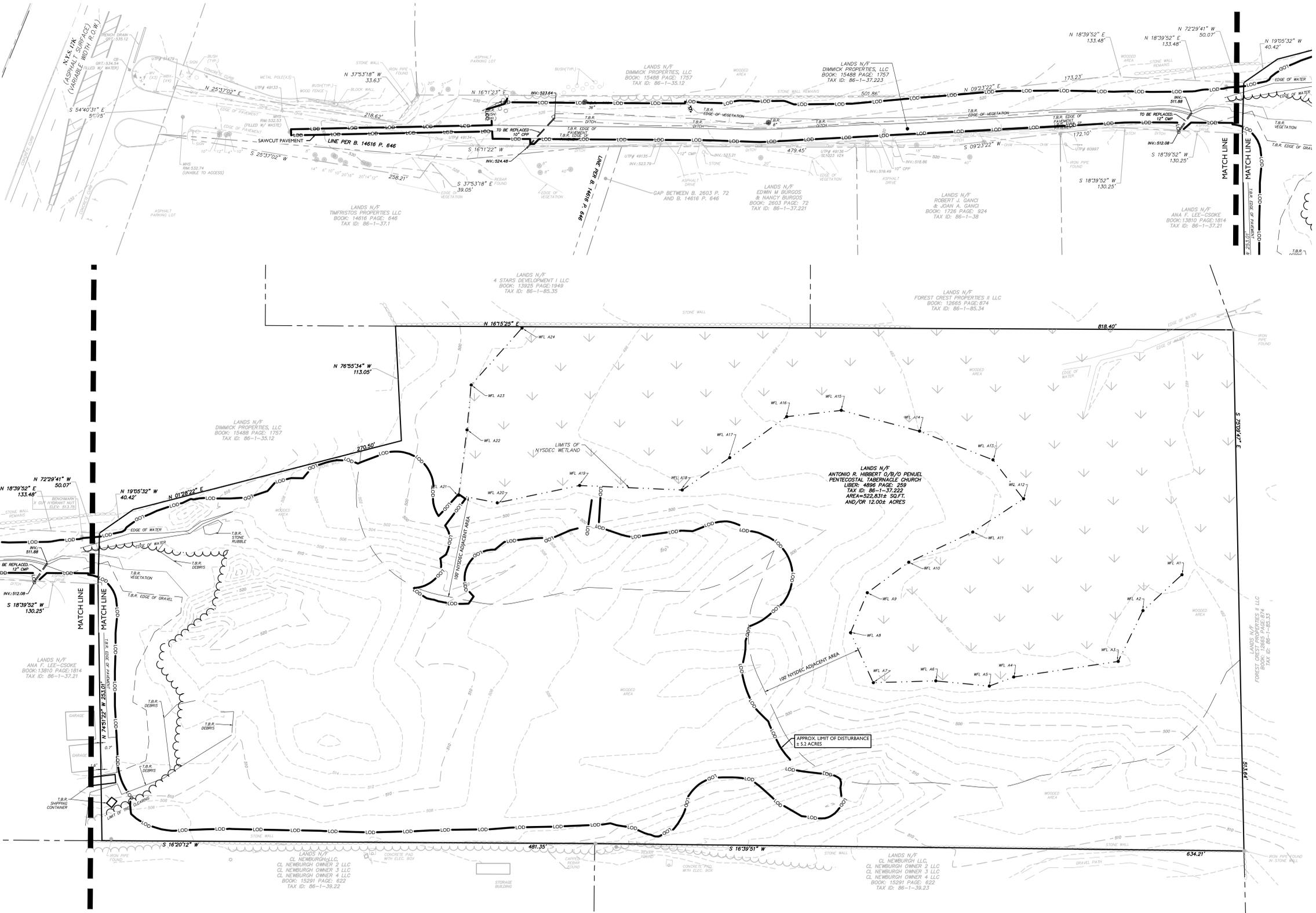
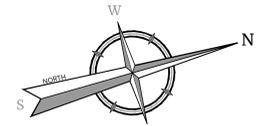
NOTE
SCALE REDUCTION
ALL INDICATED SCALES ARE
REDUCED TO HALF SIZE.
ORIGINAL DRAWING SIZE: 22"X34"



2024/02/25/AVION - POMARICO DRIVE NEWBURGH CONCEPT PLAN.dwg (CP-01) By: J.F.M.

UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY OR ENGINEERING MAP BEARING A LICENSED LAND SURVEYOR OR PROFESSIONAL ENGINEER IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW. ONLY MAPS WITH THE LAND SURVEYOR OR PROFESSIONAL ENGINEER'S SEAL ARE GENUINE TRUE AND CORRECT COPIES OF THE LAND SURVEYOR OR PROFESSIONAL ENGINEER'S ORIGINAL WORK AND OPINION.

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.

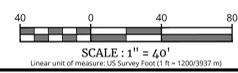


DEMOLITION NOTES:

- IN ACCORDANCE WITH STATE LAW, THE CONTRACTOR SHALL BE REQUIRED TO CALL THE BOARD OF PUBLIC UTILITIES ONE CALL DAMAGE PROTECTION SYSTEM FOR UTILITY MARK OUT IN ADVANCE OF ANY EXCAVATION. UDIG NY, 811 OR WWW.UDIGNY.ORG. A RE-DEMOLITION CONFERENCE WILL NEED TO BE ARRANGED WITH UDIG NY AND MUST BE HELD A MINIMUM OF 7 DAYS BEFORE THE START OF ANY DEMOLITION.
- CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING SITE IMPROVEMENTS AND UTILITIES. ALL DISCREPANCIES SHALL BE IDENTIFIED TO THE ENGINEER IN WRITING.
- ALL DEMOLITION DEBRIS TO BE REMOVED BY CONTRACTOR IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.
- ALL DEMOLITION ACTIVITIES ARE TO BE PERFORMED IN ACCORDANCE WITH THESE PLANS, AS WELL AS ALL FEDERAL, STATE AND LOCAL REGULATIONS. ANY DISCREPANCIES OR DEVIATIONS SHALL BE IDENTIFIED BY THE CONTRACTOR TO COLLIER'S ENGINEERING & DESIGN IN WRITING FOR RESOLUTION PRIOR TO INITIATION OF SITE ACTIVITY.
- PRIOR TO STARTING ANY DEMOLITION CONTRACTOR IS RESPONSIBLE FOR:
 - ENSURING COPIES OF ALL PERMITS AND APPROVALS MUST BE MAINTAINED ON SITE AND AVAILABLE FOR REVIEW (SEE "EVIDENCE AND SEDIMENT CONTROL PLAN" THIS DRAWING SET).
 - INSTALLING THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO SITE DISTURBANCE.
 - ALL UTILITIES AND SERVICES INCLUDING BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE, THE CONTRACTOR SHALL USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES.
 - PROTECTING AND MAINTAINING IN OPERATION, ALL ACTIVE SYSTEMS THAT ARE NOT BEING REMOVED DURING ALL DEMOLITION ACTIVITIES.
 - FAMILIARIZING THEMSELVES WITH THE APPLICABLE UTILITY SERVICE PROVIDER, AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING PROVIDER AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION REQUIRED FOR THE PROJECT. THE CONTRACTOR SHALL PROVIDE THE OWNER WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH JURISDICTIONAL AND UTILITY COMPANY REQUIREMENTS.
 - CLEAN THE EXISTING UTILITY STRUCTURES ON-SITE PRIOR TO CONSTRUCTION AND VERIFY THE INVERTS FOR CONNECTION.
- COLLIERS ENGINEERING & DESIGN IS NOT RESPONSIBLE FOR JOB SITE SAFETY OR SUPERVISION. CONTRACTOR IS TO PROCEED WITH THE DEMOLITION IN A SYSTEMATIC AND SAFE MANNER, FOLLOWING ALL THE O.S.H.A. REQUIREMENTS, TO INSURE PUBLIC AND CONTRACTOR SAFETY.
- THE CONTRACTOR SHALL PROVIDE ALL THE "MEANS AND METHODS" NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF EXISTING STRUCTURES, AND ANY OTHER IMPROVEMENTS THAT ARE REMAINING ON OR OFF SITE. THE DEMOLITION CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS OF DAMAGE TO ALL ITEMS THAT ARE TO REMAIN AS A RESULT OF HIS ACTIVITIES. ALL REPAIRS SHALL USE NEW MATERIAL. THE REPAIRS SHALL RESTORE THE ITEM TO THE PRE-DEMOLITION CONDITION.
- CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AND GENERALLY ACCEPTED SAFE PRACTICES IN CONFORMANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL", AS WELL AS FEDERAL, STATE, AND LOCAL REGULATIONS WHEN DEMOLITION RELATED ACTIVITIES IMPACT ROADWAYS OR ROADWAY RIGHTS-OF-WAY.

- CONDUCT DEMOLITION ACTIVITIES IN SUCH A MANNER TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, SIDEWALKS, WALKWAYS, AND OTHER ADJACENT FACILITIES. STREET CLOSURE PERMITS NOT BE RECEIVED FROM THE APPROPRIATE GOVERNMENTAL AUTHORITY (AS APPLICABLE).
- DEMOLITION ACTIVITIES AND EQUIPMENT SHALL NOT USE AREAS OUTSIDE THE DEFINED PROPERTY LINE WITHOUT WRITTEN PERMISSION OF THE OWNER, AND/OR APPROPRIATE GOVERNMENT AGENCY.
- THIS DEMOLITION PLAN IS INTENDED TO IDENTIFY THOSE EXISTING ITEMS/CONDITIONS WHICH ARE TO BE REMOVED. IT IS NOT INTENDED TO PROVIDE DIRECTION OTHER THAN THAT ALL METHODS AND MEANS ARE TO BE IN ACCORDANCE WITH STATE, FEDERAL, LOCAL, AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL O.S.H.A. AND OTHER SAFETY PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK SITE.
- DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL DEMOLITION WASTES AND DEBRIS (SOLID WASTE) SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL TOWN, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES.
- DEMOLITION SHALL NOT PROCEED UNTIL THE APPROXIMATE LOCATION OF THE EXISTING UTILITIES ARE MARKED IN THE FIELD AND ALL UTILITY CONNECTIONS ARE SUITABLY SHUT OFF AND DISCONNECTED AND PROPER DEMOLITION PERMITS ARE IN PLACE WITH THE APPROPRIATE JURISDICTION.
- PROTECT ALL EXISTING UTILITIES TO REMAIN (INCLUDING DRAINAGE STRUCTURES, HYDRANTS, VALVES, SEWER MANHOLES, ETC.) DURING DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIMSELF OR SUB-CONTRACTORS.
- THIS SET OF PLANS IS NOT DEPICTING ENVIRONMENTAL CONDITIONS OR A CERTIFICATION/WARRANTY REGARDING THE PRESENCE OR ABSENCE OF ENVIRONMENTALLY IMPACTED SITE CONDITIONS. COLLIER'S ENGINEERING & DESIGN HAS PERFORMED NO EXPLORATORY OR TESTING SERVICE, INTERPRETATIONS, CONCLUSIONS OR OTHER SITE ENVIRONMENTAL SERVICES RELATED TO THE DETERMINATION OF POTENTIAL FOR CHEMICAL, TOXIC, OR RADIOACTIVE OR OTHER TYPE OF CONTAMINANTS AFFECTING THE PROPERTY AND THE UNDERSIGNED PROFESSIONAL IS NOT QUALIFIED TO DETERMINE THE EXISTENCE OF SAME. SHOULD ENVIRONMENTAL CONTAMINATION OR WASTE BE DISCOVERED, THE OWNER AND CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE LAW AND REGULATIONS.
- TREE CLEARING AND REMOVAL SHALL OCCUR BETWEEN OCTOBER 1ST AND MARCH 31ST TO MITIGATE POTENTIAL IMPACTS TO THE INDIANA BAT.

DEMOLITION LEGEND	
	TO BE REMOVED (T.B.R.)
	TO BE RELOCATED
	TO REMAIN
	TO BE DEMOLISHED
	SAWCUT LINE



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REV	DATE	DRAWN BY	DESCRIPTION

REV	DATE	DESCRIPTION	REVISIONS FOR PLANNING BOARD COMMENTS
1			
2			

Connor Patrick McCormack
NEW YORK LICENSED PROFESSIONAL ENGINEER
LICENSE NUMBER: 109756
COLLIERS ENGINEERING & DESIGN CT, P.C.
N.Y. C.E.A.# 0017609

PRELIMINARY SITE PLAN
FOR
AVION
POMARICO DRIVE
SECTION 86
BLOCK 1
LOTS 37.222 & 37.223
TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK STATE

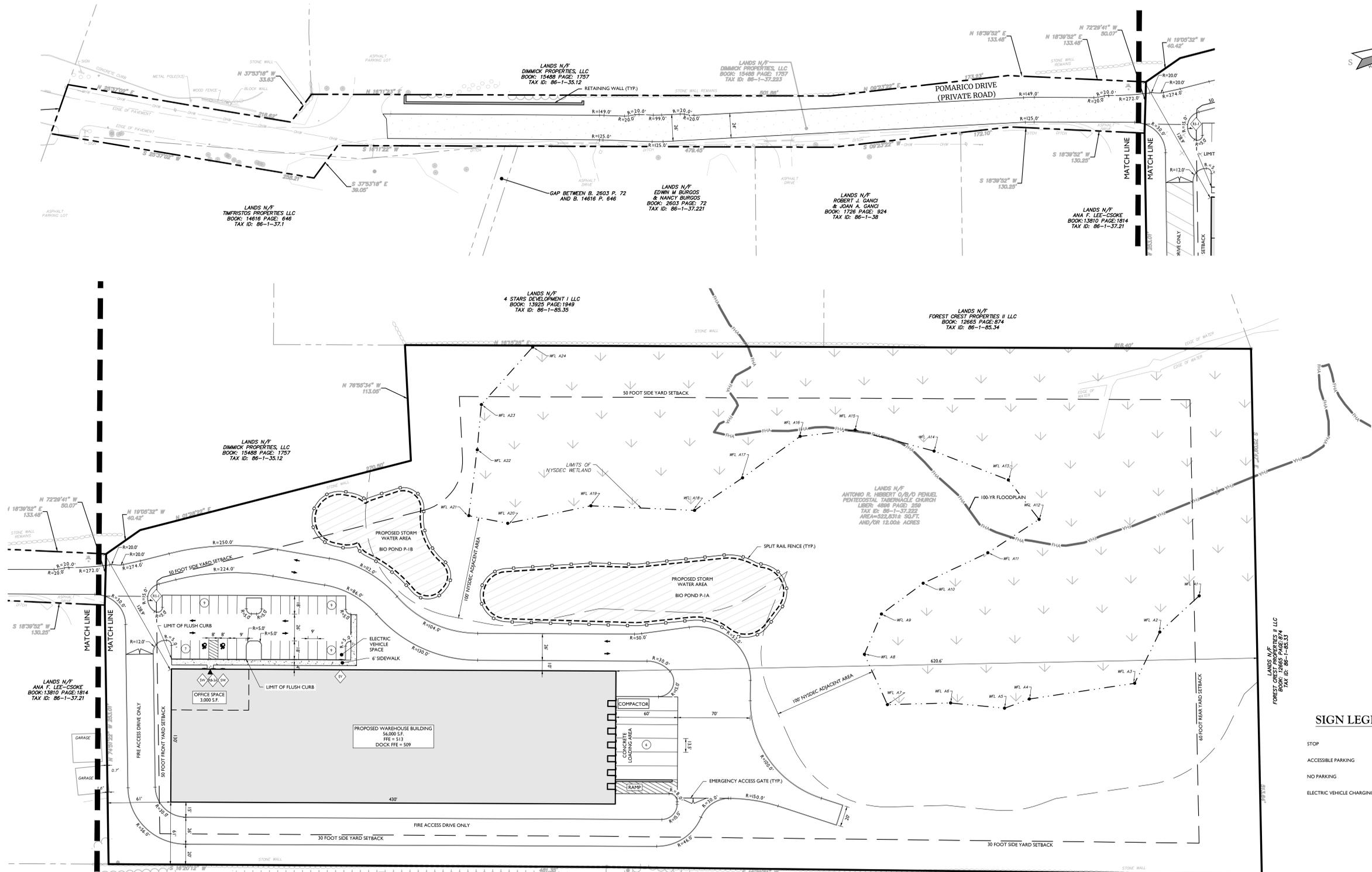
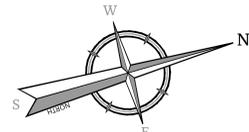
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555 Hudson Valley Avenue
Suite 101
New Windsor, NY 12553
Phone: 845.564.4495

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ARCHITECTURE, ENGINEERING & DESIGN
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SURVEYING, P.C. 2000 RIVER ST. SUITE 200
NEWBURGH, NY 10975

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	06/06/2024	KAS	CPM
PROJECT NUMBER:	DRAWING NAME:		
24002169A	C-DEM0		

SHEET TITLE:
SITE DEMOLITION PLAN

SHEET NUMBER:
C-200



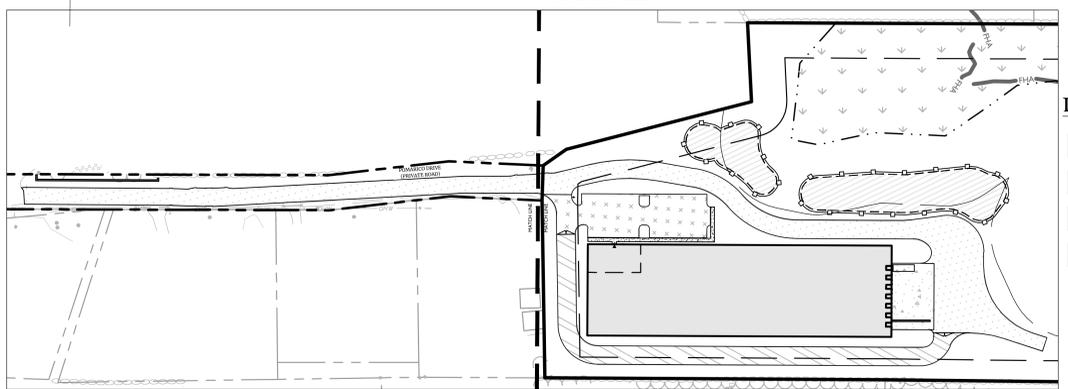
SIGN LEGEND:

- STOP (R-1)
- ACCESSIBLE PARKING (R-2)
- NO PARKING (R-3)
- ELECTRIC VEHICLE CHARGING (EV)

EXISTING		LEGEND		PROPOSED	
	TRAVERSE LINE		CENTER LINE		RIGHT OF WAY LINE
	PROPERTY LINE		EDGE OF PAVEMENT		FACE BACK
	CURB		DEPRESSED CURB		SIDEWALK
	FENCES		TREELINE		ROADWAY SIGNS
	WETLAND LINE		MUNICIPAL BOUNDARY LINE		STALL COUNT
	ADA ACCESSIBLE STALL		DEPRESSED CURB AND ADA RAMP		DIRECTION OF TRAFFIC FLOW

PAVEMENT LEGEND:

- CONCRETE LOADING AREA
- HEAVY DUTY ASPHALT PAVEMENT
- EMERGENCY ASPHALT PAVEMENT
- STANDARD DUTY ASPHALT PAVEMENT



PAVEMENT KEY MAP

SCALE: 1" = 100'



SCALE: 1" = 40'
Linear unit of measure: US Survey Feet (1 ft = 1200/3937 mm)

OWNER:

(86-1-37-222)
PENTECOSTAL TABERNACLE CHURCH
P.O. BOX 10694
NEWBURGH, NY 12552

(86-1-37-223)
DIMMICK PROPERTIES, LLC
402 VT ROUTE 107
SOUTH ROTALTON, VT, 05068

APPLICANT:

AVION
491 RT. 208
MONROE, NY 10950

TAX LOT:

SBL: 86-1-37-222 SBL: 86-1-37-223
452,881 S.F. 453,514 S.F.
±12.0 ACRES ±1.23 ACRES

PARKING REQUIREMENTS:

OFFICE BUILDING: 1 PER 200 S.F. OF FLOOR AREA FOR THE FIRST 20,000 S.F. OF FLOOR AREA, THEN 1 PER 300 S.F. OF ADDITIONAL FLOOR AREA
WAREHOUSE: 2 PER 3 EMPLOYEES ON THE PREMISES AT ANY ONE TIME
3,000 S.F. OFFICE SPACE PROPOSED
3,000 / 200 = 15 SPACES REQUIRED
17 EMPLOYEES PER SHIFT / 3 EMPLOYEES X 2 = 12 SPACES REQUIRED
TOTAL REQUIRED SPACES = 27 PARKING SPACES
TOTAL SPACES PROVIDED 34 PARKING SPACES

ZONING INFORMATION:

ZONING DISTRICT: IB (INTERCHANGE BUSINESS)
WAREHOUSE USE SUBJECT TO SITE PLAN REVIEW BY THE PLANNING BOARD

TABLE OF BULK REQUIREMENTS

MINIMUM	REQUIRED	PROPOSED	REMARKS
LOT AREA	40,000 S.F.	452,881 S.F.	OK
LOT WIDTH	150 FEET	231 FEET	OK
LOT DEPTH	150 FEET	411.14 FEET	OK
FRONT YARD	50 FEET	±40.0 FEET	OK
REAR YARD	40 FEET	4620.48 FEET	OK
1 SIDE YARD	20 FEET	241.0 FEET	OK
BOTH SIDE YARDS	80 FEET	± 189.37 FEET	OK
MAXIMUM			
LOT BUILDING COVERAGE	40%	11%	OK
BUILDING HEIGHT	40 FEET	40 FEET	OK
LOT SURFACE COVERAGE	60%	23.5%	OK

LOADING REQUIREMENTS:

2 SPACES UP TO THE FIRST 40,000 S.F. OF BUILDING SPACE AND 1 EXTRA SPACE FOR EACH ADDITIONAL 40,000 S.F.
INITIAL 40,000 S.F. = 2 SPACES
REMAINING 16,000 S.F. = 1 SPACE
TOTAL REQUIRED LOADING = 3 SPACES
TOTAL PROVIDED LOADING = 6 SPACES

SITE NOTES:

- THE PROPERTY IS WITHIN A ONE-HUNDRED-YEAR FLOOD PLAIN AS PER FLOOD INSURANCE RATE MAP NO. 360703138E DATED AUGUST 3, 2009.
- SCHOOL DISTRICT: VALLEY CENTRAL SCHOOL DISTRICT
- FIRE DEPARTMENT: COLDENHAM FIRE
- NO PROPOSED WORK WITHIN THE NEW YORK STATE RIGHT-OF-WAY AT THIS TIME.

PRELIMINARY SITE PLAN

FOR
AVION
POMARICO DRIVE

SECTION 86
BLOCK 1
LOTS 37.222 & 37.223

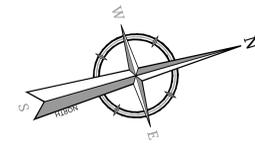
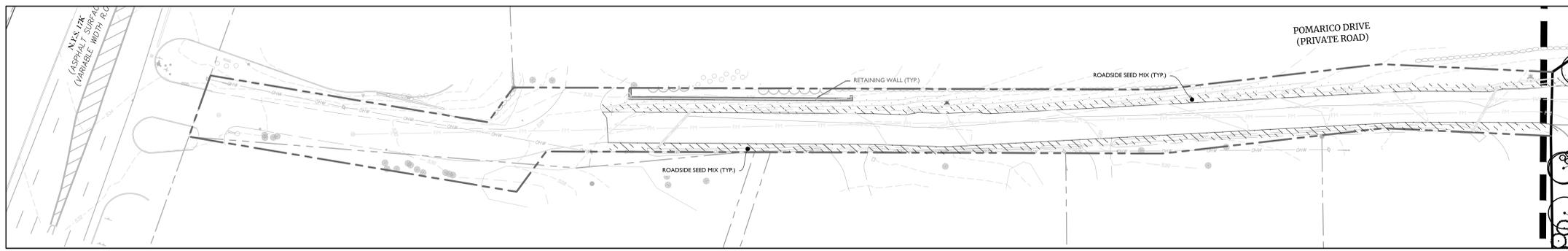
TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK STATE

NEWBURGH
555 Hudson Valley Avenue
Suite 101
New Windsor, NY 12553
Phone: 845.564.4495

SCALE: AS SHOWN DATE: 06/06/2024 DRAWN BY: KAS CHECKED BY: CPM
PROJECT NUMBER: 24002169A DRAWING NAME: C-LAY1

OVERALL
DIMENSION PLAN

SHEET NUMBER
C-300



Colliers

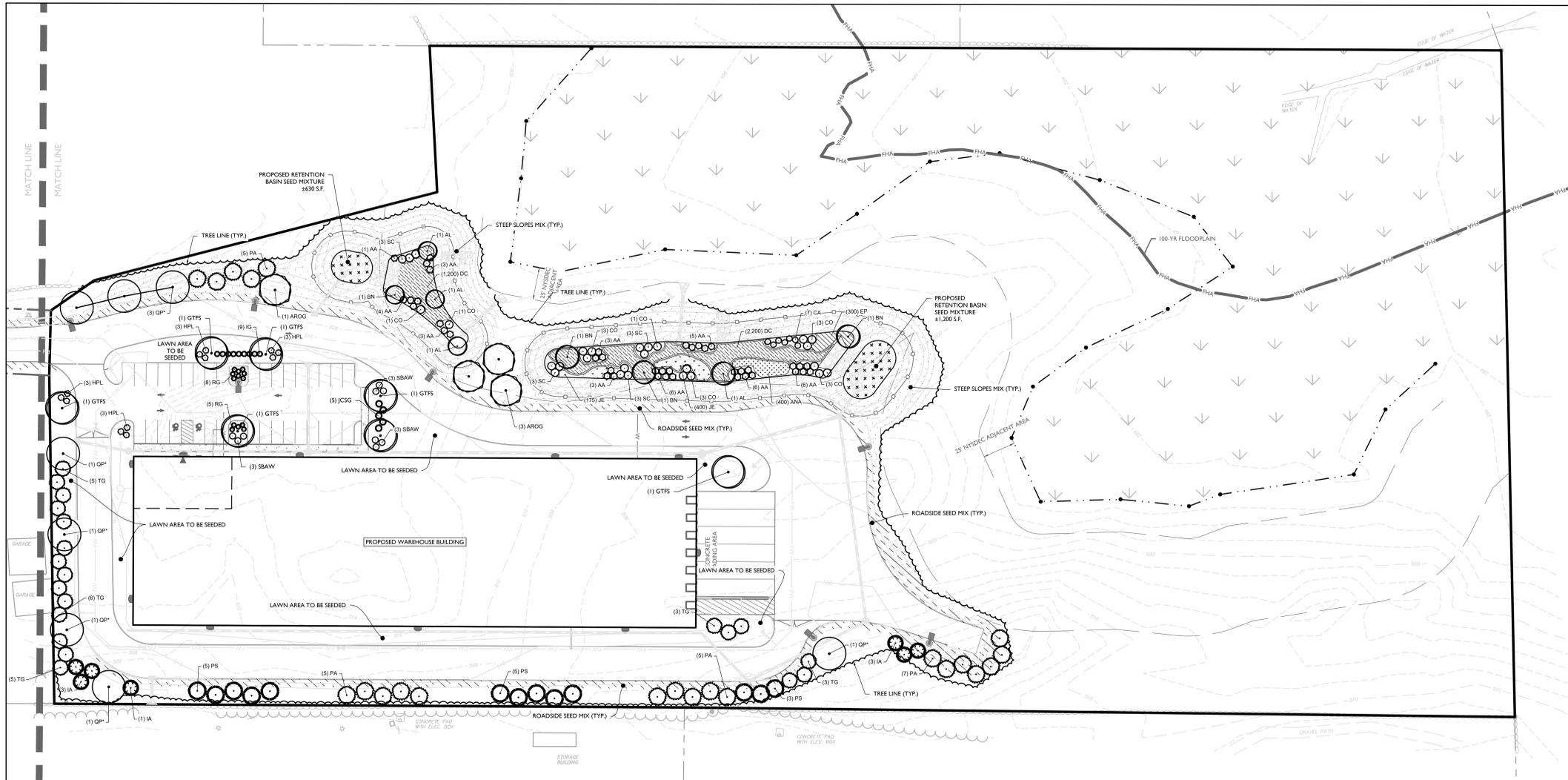
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REV	DATE	DESCRIPTION	DRAWN BY	DATE	DESCRIPTION
1		ISSUED FOR PERMITS			
2		ISSUED FOR PLANNING BOARD COMMENTS			

REV	DATE	DESCRIPTION	DRAWN BY	DATE	DESCRIPTION
1		ISSUED FOR PERMITS			
2		ISSUED FOR PLANNING BOARD COMMENTS			



Justin Eric Dates
NEW YORK REGISTERED LANDSCAPE ARCHITECT
LICENSE NUMBER: 001964-01
COLLIERS ENGINEERING & DESIGN CT, P.C.

PRELIMINARY SITE PLAN
FOR
AVION
POMARICO DRIVE

SECTION 86
BLOCK 1
LOTS 37.222 & 37.223
TOWN OF NEWBURGH
ORANGE COUNTY
NEW YORK STATE

Colliers 555 Hudson Valley Avenue
Suite 101
New Windsor, NY 12553
Phone: 845.564.4495
COLLIERS ENGINEERING & DESIGN
REGISTERED LANDSCAPE ARCHITECTS
REGISTERED PROFESSIONAL ENGINEERS & SURVEYORS

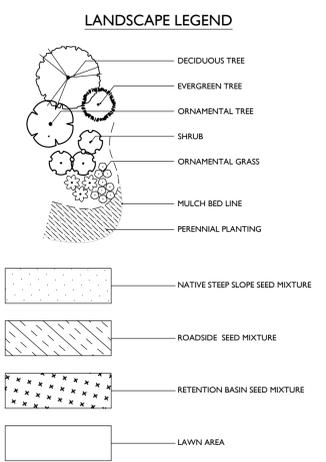
SCALE: AS SHOWN DATE: 06/06/2024 DRAWN BY: KAS CHECKED BY: CPM
PROJECT NUMBER: 240021696 DRAWING NAME: C-LAND

SHEET TITLE: **LANDSCAPE PLAN**

SHEET NUMBER: **C-601**

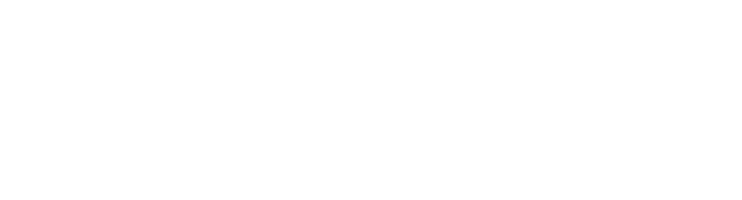
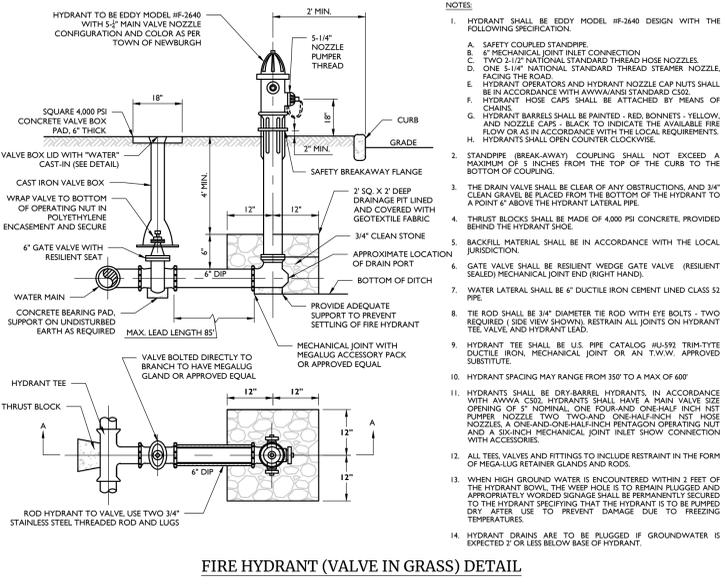
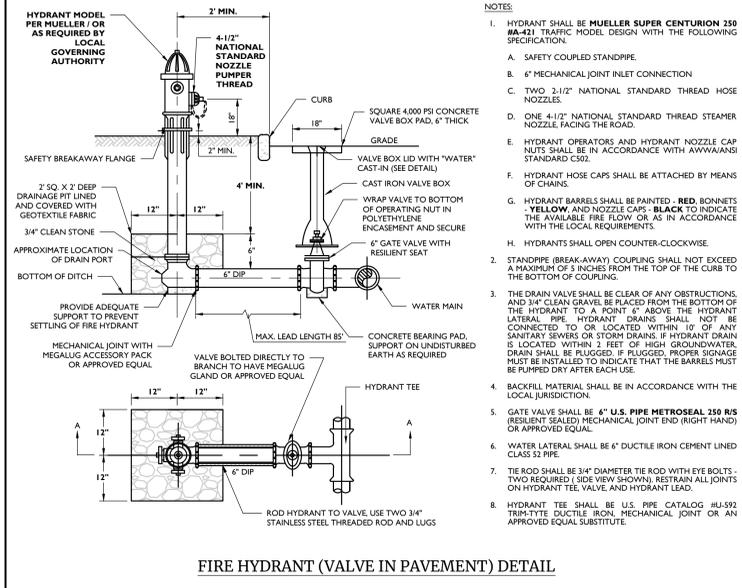
SITE PLANTING SCHEDULE						
DECIDUOUS TREES	QTY	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	REMARKS
AROG	4	Acer rubrum 'October Glory'	October Glory Red Maple	B & B	2-2 1/2"	STRAIGHT LEADER/SYM. BRANCHING
GTFS	6	Gleditsia tricanadensis 'Skyline'	Skyline Honey Locust	B & B	2-2 1/2"	STRAIGHT LEADER/SYM. BRANCHING
QP*	8	Quercus palustris	Pin Oak	B & B	2-2 1/2"	STRAIGHT LEADER/SYM. BRANCHING
EVERGREEN TREES	QTY	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	REMARKS
IA	7	Ilex opaca	American Holly	B & B	6-8" Ht.	DENSE / TYP. SPECIES HABIT
PA	22	Picea abies	Norway Spruce	B & B	6-8" Ht.	DENSE / TYP. SPECIES HABIT
PS	13	Pinus strobus	White Pine	B & B	6-8" Ht.	DENSE / TYP. SPECIES HABIT
TG	22	Thuja occidentalis 'Green Giant'	Green Giant Arborvitae	B & B	6-8" Ht.	DENSE / TYP. SPECIES HABIT
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	REMARKS
HPL	12	Hydrangea paniculata 'Limelight'	Limelight Panicle Hydrangea	CONT.	24" 30"	TYPICAL SPECIES HABIT
IG	9	Ilex glabra 'Shamrock'	Inkberry	CONT.	24" 30"	TYPICAL SPECIES HABIT
RG	13	Rhus aromatica 'Gro-Low'	Gro-Low Fragrant Sumac	CONT.	18" - 24"	TYPICAL SPECIES HABIT
SBAW	9	Spiraea x bumalda 'Anthony Waterer'	Anthony Waterer Bumald Spiraea	CONT.	30" - 36"	TYPICAL SPECIES HABIT

BIORETENTION AREA PLANTING SCHEDULE						
TREES	QTY	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	REMARKS
AL	4	Ailanthus laevis	Alhambra Serviceberry	CONT.	6" - 8"	MULTISTEM / TYP. SPECIES HABIT
BN	4	Betula nigra	River birch	CONT.	6" - 8"	MULTISTEM / TYP. SPECIES HABIT
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	REMARKS
AA	40	Aronia arbutifolia	Red Chokeberry	CONT.	24" 30"	TYPICAL SPECIES HABIT
CA	7	Clethra alnifolia	Summersweet	CONT.	18" - 24"	TYPICAL SPECIES HABIT
CO	15	Cephalanthus occidentalis	Button Bush	CONT.	18" - 24"	TYPICAL SPECIES HABIT
SC	12	Sambucus canadensis	Elderberry	CONT.	18" - 24"	TYPICAL SPECIES HABIT
PERENNIALS	QTY	BOTANICAL NAME	COMMON NAME	ROOT	SIZE	REMARKS
ANA	400	Aster novae angliae	New England Aster	1 GAL. CONT.	CLUMPS, 24" O.C.	
DC	3,400	Deschampsia cespitosa	Tufted Hair Grass	#SP3 CONT.	CLUMPS, 12" O.C.	
EP	300	Echinacea purpurea	Coneflower	1 GAL. CONT.	CLUMPS, 24" O.C.	
JE	575	Juncus effusus	Common Rush	#SP3 CONT.	CLUMPS, 12" O.C.	



UNAUTHORIZED ALTERATION OR ADDITION TO A SURVEY OR ENGINEERING MAP BEARING A LICENSED LAND SURVEYOR OR PROFESSIONAL ENGINEER IS A VIOLATION OF SECTION 7209, SUB-DIVISION 2, OF THE NEW YORK STATE EDUCATION LAW. ONLY MAPS WITH THE LAND SURVEYOR OR PROFESSIONAL ENGINEER'S SEAL ARE GENUINE TRUE AND CORRECT COPIES OF THE LAND SURVEYOR OR PROFESSIONAL ENGINEER'S ORIGINAL WORK AND OPINION.

NOTE: DO NOT SCALE DRAWINGS FOR CONSTRUCTION.



- NOTES:**
- HYDRANT SHALL BE MUELLER SUPER CENTURION 150 #A-421 TRAFFIC MODEL DESIGN WITH THE FOLLOWING SPECIFICATION.
 - SAFETY COUPLED STANDPIPE.
 - MECHANICAL JOINT INLET CONNECTION.
 - TWO 2-1/2" NATIONAL STANDARD THREAD HOSE NOZZLES.
 - ONE 4-1/2" NATIONAL STANDARD THREAD STEAMER NOZZLE FACING THE ROAD.
 - HYDRANT OPERATORS AND HYDRANT NOZZLE CAP NUTS SHALL BE IN ACCORDANCE WITH AWWA'S STANDARD C502.
 - HYDRANT HOSE CAPS SHALL BE ATTACHED BY MEANS OF CHAINS.
 - HYDRANT BARRELS SHALL BE PAINTED - RED, BONNETS - YELLOW, AND NOZZLE CAPS - BLACK TO INDICATE THE AVAILABLE FIRE FLOW AS IN ACCORDANCE WITH THE LOCAL REQUIREMENTS.
 - HYDRANTS SHALL OPEN COUNTER-CLOCKWISE.
 - HYDRANT BARRELS SHALL BE PAINTED - RED, BONNETS - YELLOW, AND NOZZLE CAPS - BLACK TO INDICATE THE AVAILABLE FIRE FLOW AS IN ACCORDANCE WITH THE LOCAL REQUIREMENTS.
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 - HYDRANTS SHALL OPEN COUNTER-CLOCKWISE.
 - STANDPIPE (BREAK-AWAY) COUPLING SHALL NOT EXCEED A MAXIMUM OF 3 INCHES FROM THE TOP OF THE CURB TO THE BOTTOM OF COUPLING.
 - THE DRAIN VALVE SHALL BE CLEAR OF ANY OBSTRUCTIONS, AND 3/4" CLEAN GRADE BE PLACED FROM THE BOTTOM OF THE HYDRANT TO A POINT 6" ABOVE THE HYDRANT LATERAL PIPE. HYDRANT DRAINS SHALL NOT BE CONNECTED TO OR LOCATED WITHIN 10' OF ANY SANITARY SEWER OR STORM DRAIN. IF HYDRANT DRAIN IS LOCATED WITHIN 2 FEET OF HIGH GROUND/WATER, DRAIN SHALL BE PLUGGED. IF PLUGGED, PROPER SIGNAGE MUST BE INSTALLED TO INDICATE THAT THE BARRELS MUST BE PUMPED DRY AFTER EACH USE.
 - BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH THE LOCAL JURISDICTION.
 - GATE VALVE SHALL BE 6" U.S. PIPE METROSEAL 150 RS (RESILIENT SEALED) MECHANICAL JOINT END (RIGHT HAND) OR APPROVED EQUAL.
 - WATER LATERAL SHALL BE 6" DUCTILE IRON CEMENT LINED CLASS 52 PIPE.
 - THE ROD SHALL BE 3/4" DIAMETER TIE ROD WITH EYE BOLTS - TWO REQUIRED (SIDE VIEW SHOWN). RESTRAIN ALL JOINTS ON HYDRANT TEE, VALVE, AND HYDRANT LEAD.
 - HYDRANT TEE SHALL BE U.S. PIPE CATALOG #HJ-592 TRIM-TITE DUCTILE IRON MECHANICAL JOINT OR AN APPROVED EQUAL SUBSTITUTE.
 - HYDRANT SHALL BE EDDY MODEL #F-2400 WITH 5/2" MAIN VALVE NOZZLE CONFIGURATION AND COLOR AS PER TOWN OF NEWBURGH.
 - SAFETY COUPLED STANDPIPE.
 - MECHANICAL JOINT INLET CONNECTION.
 - TWO 2-1/2" NATIONAL STANDARD THREAD HOSE NOZZLES.
 - ONE 5-1/4" NATIONAL STANDARD THREAD STEAMER NOZZLE FACING THE ROAD.
 - HYDRANT OPERATORS AND HYDRANT NOZZLE CAP NUTS SHALL BE IN ACCORDANCE WITH AWWA'S STANDARD C502.
 - HYDRANT HOSE CAPS SHALL BE ATTACHED BY MEANS OF CHAINS.
 - HYDRANT BARRELS SHALL BE PAINTED - RED, BONNETS - YELLOW, AND NOZZLE CAPS - BLACK TO INDICATE THE AVAILABLE FIRE FLOW AS IN ACCORDANCE WITH THE LOCAL REQUIREMENTS.
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 - BACKFILL MATERIAL SHALL BE IN ACCORDANCE WITH THE LOCAL JURISDICTION.
 - GATE VALVE SHALL BE RESILIENT WEDGE GATE VALVE (RESILIENT SEALED) MECHANICAL JOINT END (RIGHT HAND).
 - WATER LATERAL SHALL BE 6" DUCTILE IRON CEMENT LINED CLASS 52 PIPE.
 - THE ROD SHALL BE 3/4" DIAMETER TIE ROD WITH EYE BOLTS - TWO REQUIRED (SIDE VIEW SHOWN). RESTRAIN ALL JOINTS ON HYDRANT TEE, VALVE, AND HYDRANT LEAD.
 - HYDRANT TEE SHALL BE U.S. PIPE CATALOG #HJ-592 TRIM-TITE DUCTILE IRON MECHANICAL JOINT OR AN APPROVED EQUAL SUBSTITUTE.
 - HYDRANT SPACING MAY RANGE FROM 150' TO A MAX OF 600'
 - HYDRANTS SHALL BE DRY-BARREL HYDRANTS. IN ACCORDANCE WITH AWWA C502, HYDRANTS SHALL HAVE A MAIN VALVE SIZE OPENING OF 2" NOMINAL, ONE FOUR-AND-ONE-HALF INCH NPT PUMPER NOZZLE, TWO TWO-AND-ONE-HALF INCH NPT HOSE NOZZLES, A ONE-AND-ONE-HALF INCH PENTAGON OPERATING NUT AND A SIX-INCH MECHANICAL JOINT INLET. SHOW CONNECTION WITH ACCESSORIES.
 - ALL TEE, VALVE AND FITTINGS TO INCLUDE RESTRAINT IN THE FORM OF MEGALUG RETAINER GLANDS AND RODS.
 - WHEN HIGH GROUND WATER IS ENCOUNTERED WITHIN 2 FEET OF THE HYDRANT BOWL, THE WEEP HOLE IT TO REMAIN PLUGGED AND APPROPRIATELY WORKED STORAGE SHALL BE PERMANENTLY SECURED TO THE HYDRANT SPECIFYING THAT THE HYDRANT IS TO BE PUMPED DRY AFTER USE TO PREVENT DAMAGE DUE TO FREEZING TEMPERATURES.
 - HYDRANT DRAINS ARE TO BE PLUGGED IF GROUNDWATER IS EXPECTED 2' OR LESS BELOW BASE OF HYDRANT.

MECHANICAL JOINTS

ANGLE	D =	R =	L =
45°	1 x 1.414	1 x 1.000	D-2A
22.5°	1 x 2.413	1 x 2.414	D-2A
11.25°	1 x 5.126	1 x 5.027	D-2A

O.D. = 12"

- NOTES:**
- WATER MAIN MAY CROSS ABOVE OBSTRUCTION IF 4" MINIMUM COVER IS MAINTAINED ABOVE THE WATER MAIN AND FINISH GRADE.
 - MINIMUM VERTICAL SEPARATION BETWEEN SANITARY OR STORM SEWER TO WATER MAIN SHALL BE 18" IF THE HORIZONTAL SEPARATION IS LESS THAN 10'. BETWEEN WATER MAIN AND OTHER UTILITIES, THE MINIMUM VERTICAL SEPARATION SHALL BE 12".
 - WATER MAIN SHALL BE SIZE AND MATERIAL SPECIFIED ON THE PLAN, WITH MECHANICAL JOINT OR PUSH-ON AND ALL FITTINGS BE CAST IRON MECHANICALLY JOINT.
 - OFFSETS MAY BE SUBSTITUTED FOR A "T" UP TO 24" IF APPROVED BY THE ENGINEER.
 - CONCRETE THRUST BLOCKS SHALL BE PROVIDED AT ALL BENDS OR OTHER POINTS OF PIPE DIRECTION CHANGE.
 - THE RODS SHALL BE UTILIZED TO RESTRAIN PIPE JOINTS IF THRUST BLOCK IS NOT USED. DETAILS OF THE TIE ROD ASSEMBLY SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL. THE RODS SHALL BE SUFFICIENT TO RESTRAIN THE THRUST DEVELOPED AT 100 PSI WORKING PRESSURE. MEGALUG RESTRAINT ALSO ACCEPTABLE IN PLACE OF THE RODS.

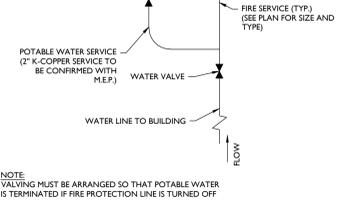
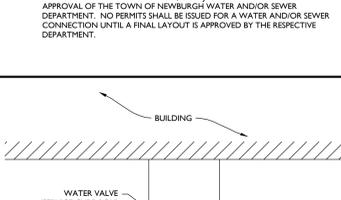
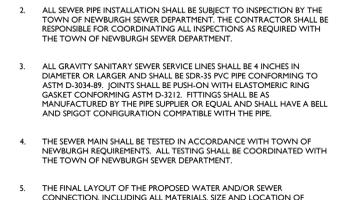
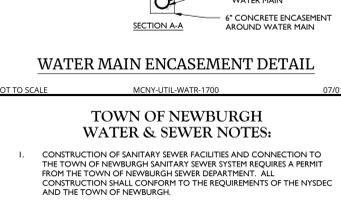
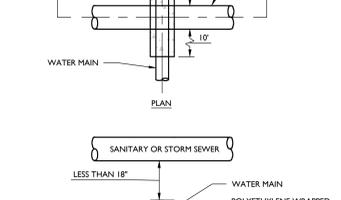
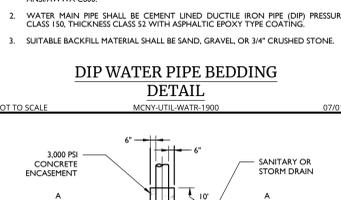
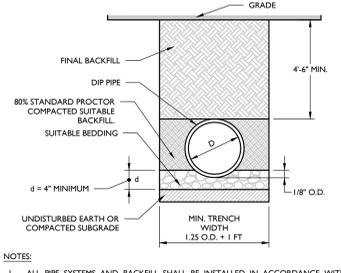
- TOWN OF NEWBURGH WATER & SEWER NOTES:**
- CONSTRUCTION OF SANITARY SEWER FACILITIES AND CONNECTION TO THE TOWN OF NEWBURGH SANITARY SEWER SYSTEM REQUIRES A PERMIT FROM THE TOWN OF NEWBURGH SEWER DEPARTMENT. ALL CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE NYSDEC AND THE TOWN OF NEWBURGH.
 - ALL SEWER PIPE INSTALLATION SHALL BE SUBJECT TO INSPECTION BY THE TOWN OF NEWBURGH SEWER DEPARTMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL INSPECTIONS AS REQUIRED WITH THE TOWN OF NEWBURGH SEWER DEPARTMENT.
 - ALL GRAVITY SANITARY SEWER SERVICE LINES SHALL BE 4 INCHES IN DIAMETER OR LARGER AND SHALL BE 50%-33 PVC PIPE CONFORMING TO ASTM D-3034-89. JOINTS SHALL BE PUSH-ON WITH ELASTOMERIC RING GASKET CONFORMING WITH D-312. FITTINGS SHALL BE AS MANUFACTURED BY THE PIPE SUPPLIER OR EQUAL AND SHALL HAVE A BELL AND SPIGOT CONFIGURATION COMPATIBLE WITH THE PIPE.
 - THE SEWER MAIN SHALL BE TESTED IN ACCORDANCE WITH TOWN OF NEWBURGH REQUIREMENTS. ALL TESTING SHALL BE COORDINATED WITH THE TOWN OF NEWBURGH SEWER DEPARTMENT.
 - THE FINAL LAYOUT OF THE PROPOSED WATER AND/OR SEWER CONNECTION, INCLUDING ALL MATERIALS, SIZE AND LOCATION OF SERVICE AND ALL APPURTENANCES, IS SUBJECT TO THE REVIEW AND APPROVAL OF THE TOWN OF NEWBURGH WATER AND/OR SEWER DEPARTMENT. NO PERMITS SHALL BE ISSUED FOR A WATER AND/OR SEWER CONNECTION UNTIL A FINAL LAYOUT IS APPROVED BY THE RESPECTIVE DEPARTMENT.

- NOTES:**
- USE OF MECHANICAL JOINT RESTRAINER EQUIVALENT TO THAT LISTED IN THE TABLE FOR CLAMPS AND RODS.
 - LENGTHS ARE BASED ON THE FOLLOWING CRITERIA: 150 PSI MAXIMUM PRESSURE AND 3/4" OF COVER. TABLE IS FOR USE WITH CAST IRON PIPE OR DUCTILE IRON PIPE ONLY. IF TEST CONDITIONS ARE MORE SEVERE OR LARGE SIZE PIPE IS USED, THEN SPECIAL COMPUTATIONS MUST BE PROVIDED BY LICENSED PROFESSIONAL ENGINEER.

- NOTES:**
- IF VALVE BOX IS NOT IN PAVEMENT, PROVIDE 18" SQUARE 4000 PSI CONCRETE COLLAR 4" DEEP AROUND THE VALVE BOX.
 - VALVE BOX SHOULD HAVE EXTENSION IF WATER MAIN OR SERVICE IS PLACED DEEPER THAN 5 FEET.
 - CURB STOP VALVE BOX SHALL BE MUELLER EXTENSION TYPE WITH ARCH PATTERN BASE, OR APPROVED EQUAL.
 - WATER MAIN VALVE BOX SHALL BE SCREW TYPE ADJUSTABLE MUD, RESILIENT WEDGE GATE VALVE FIGURE #A-2860-23 AS MANUFACTURED BY MUELLER OR APPROVED EQUAL.

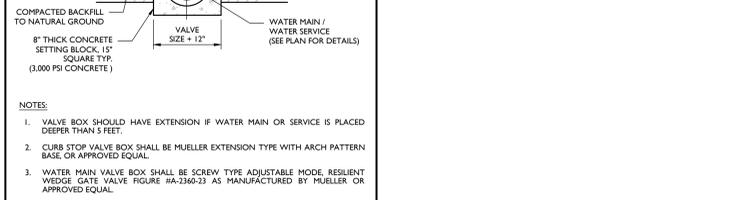
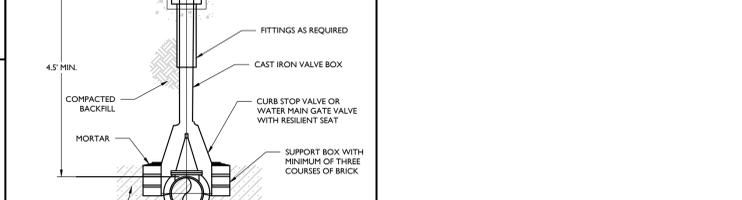
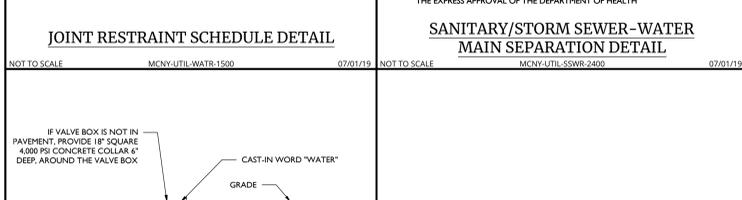
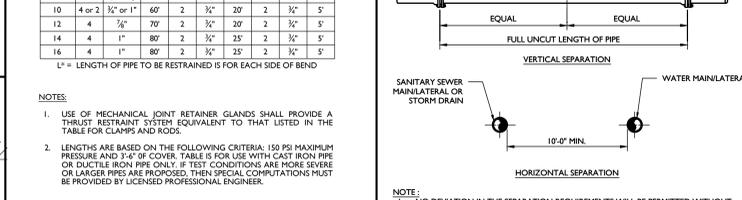
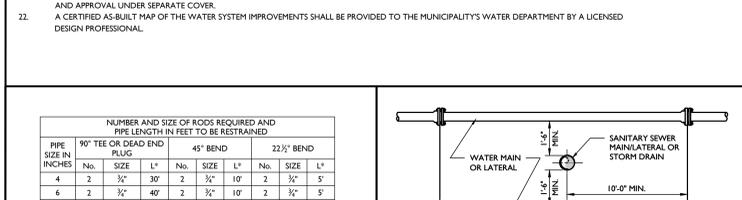
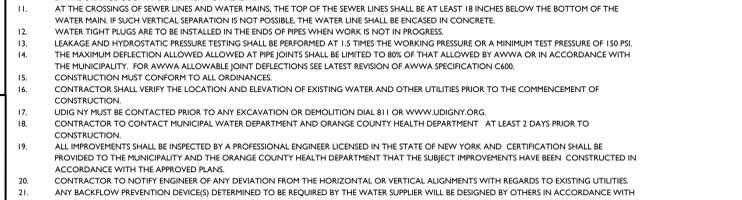
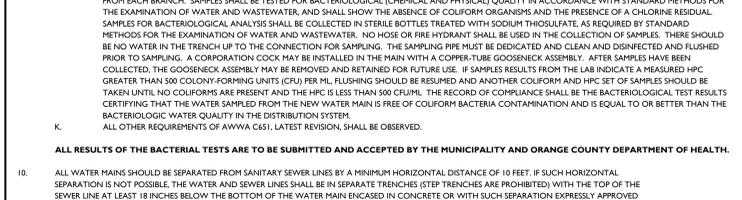
- NOTES:**
- ALL METHODS, MATERIALS, FITTINGS, DEVICES, DIMENSIONAL REQUIREMENTS AND PROCEDURES NECESSARY TO COMPLETE THE WORK SHOWN HEREON SHALL MEET THE APPROPRIATE CURRENT AWWA SPECIFICATIONS IN EFFECT AS WELL AS ALL REQUIREMENTS DEEMED APPLICABLE BY THE MUNICIPALITY OR ANY OTHER GOVERNING BODY HAVING JURISDICTION OVER SAID WORK.
 - ALL WATER MAIN PIPE SHALL BE AWWA C151/A21.51-03 THICKNESS CLASS FIFTY-TWO (52) CEMENT LINED DUCTILE IRON PUSH-ON (RUBBER GASKET) TYPE AND INSTALLED WITH THREE (3) BRONZE WEDGES PER JOINT. JOINT INSTALLATION SHALL BE "TYPE 2" AS PRESCRIBED IN THE LATEST REVISION OF AWWA C600. MECHANICAL JOINTS SHALL HAVE RETAINER GLANDS.
 - ALL PIPE FITTINGS SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF THE AWWA SPECIFICATION C151/A21.53-00.
 - ALL GATE VALVES SHALL BE "MUELLER" OR APPROVED EQUAL, RESILIENT-SEALED GATE VALVES WITH MECHANICAL JOINT CONNECTIONS. OPENING SHALL BE LEFT (C/W) AND OPERATION SHALL BE BY "SQUARE WRENCH NUT". MINIMUM WORKING PRESSURE SHALL BE 250 PSI. GATE VALVES ARE TO BE IN ACCORDANCE WITH LATEST REVISION OF AWWA SPECIFICATION C599.
 - ALL VALVE BOXES SHALL BE EXTENSION TYPE BY MUELLER SET ON BRICKS AND POSITIONED PERPENDICULAR TO THE PIPE AND ON COMPACTED BACKFILL.
 - ALL CHANGES IN PIPE LINE DIRECTION, BOTH HORIZONTAL AND VERTICAL SHALL BE TIE-RODDED AND THRUST BLOCKED WITH CONCRETE AGANST UNDISTURBED EARTH AS DIRECTED BY THE ENGINEER.
 - A PRELIMINARY HYDROSTATIC TEST PRESSURE OF 150 PSI SHALL BE MAINTAINED IN THE WATER MAIN FOR A PERIOD OF THIRTY (30) MINUTES AND A FINAL HYDROSTATIC TEST PRESSURE OF 150 PSI SHALL BE MAINTAINED IN THE WATER MAIN ONCE WATER SERVICES ARE INSTALLED FOR A MINIMUM PERIOD OF TWO (2) HOURS. RESULTS OF THE TESTS SHALL BE SUBMITTED BY THE MUNICIPALITY AND THE ORANGE COUNTY DEPARTMENT OF HEALTH.
 - THE MUNICIPAL ENGINEER MUST BE NOTIFIED FORTY-EIGHT (48) HOURS PRIOR TO PRESSURE TESTING.
 - ALL WATER LINES AND APPURTENANCES SHALL BE DISINFECTED TO THE SATISFACTION OF THE MUNICIPALITY, AND IN ACCORDANCE WITH THE STANDARDS OF THE OCOOH. THIS SHALL ALSO BE DONE IN ACCORDANCE WITH THE LATEST REVISION OF AWWA C651. A MINIMUM OF TWO (2) BACTERIAL TESTS TAKEN TWENTY-TWO (24) HOURS AFTER REQUIRED. RESULTS OF TESTS ARE TO BE SUBMITTED AND ACCEPTED BY THE MUNICIPALITY, AS PER AWWA C651. LATEST REVISION, WATER MAIN DISINFECTION PROCEDURE SHALL GENERALLY BE AS FOLLOWS, EXCLUDING THE TABLE METHOD:
 - INSPECTING MATERIALS TO BE USED TO INSURE THEIR INTEGRITY.
 - PREVENTING CONTAMINATING MATERIALS FROM ENTERING THE WATER MAIN DURING STORAGE, CONSTRUCTION, OR REPAIR AND NOTING POTENTIAL CONTAMINATION AT THE CONSTRUCTION SITE.
 - REMOVING, BY FLUSHING OR OTHER MEANS, THOSE MATERIALS THAT MAY HAVE ENTERED THE WATER MAIN.
 - CHLORINATING ANY RESIDUAL CONTAMINATION THAT MAY REMAIN, AND FLUSHING THE CHLORINATED WATER FROM THE MAIN.
 - PROTECTING THE EXISTING DISTRIBUTION SYSTEM FROM BACKFLOW CAUSED BY HYDROSTATIC PRESSURE TEST AND DISINFECTION PROCEDURES.
 - DOCUMENTING THAT AN ADEQUATE LEVEL OF CHLORINE CONTACTED EACH PIPE TO PROVIDE DISINFECTION.
 - DETERMINING THE BACTERIOLOGICAL QUALITY BY LABORATORY TEST AFTER DISINFECTION.
 - FINAL CONNECTION OF THE APPROVED NEW WATER SERVICE TO THE ACTIVE DISTRIBUTION SYSTEM.
 - THE CONTINUOUS-FEED METHOD SHALL BE IMPLEMENTED FOR CHLORINATION, AS DESCRIBED IN AWWA C651, LATEST REVISION. AFTER CHLORINATION, THE CONTRACTOR SHALL FLUSH THE MAINS AS PER FINAL FLUSHING REQUIREMENTS OF AWWA C651, LATEST REVISION. WHEN CUTTING INTO OR REPAIRING AN EXISTING MAIN, DISINFECTION PROCEDURES MUST BE OBSERVED AS DETAILED IN DISINFECTION PROCEDURES WHEN CUTTING INTO OR REPAIRING EXISTING MAINS OF AWWA C651, LATEST REVISION.
 - VERIFICATION SHALL BE ACCOMPLISHED VIA BACTERIOLOGICAL TESTS. AFTER FINAL FLUSHING AND BEFORE THE NEW WATER MAIN IS CONNECTED TO THE DISTRIBUTION SYSTEM, TWO CONSECUTIVE SETS OF ACCEPTABLE SAMPLES, TAKEN AT LEAST 24 HR APART, SHALL BE COLLECTED FROM THE NEW MAIN. AT LEAST ONE SET OF SAMPLES SHALL BE COLLECTED FROM EVERY 1200 FT OF THE NEW WATER MAIN, PLUS ONE SET FROM THE END OF THE LINE AND AT LEAST ONE SET FROM EACH BRANCH. SAMPLES SHALL BE TESTED FOR BACTERIOLOGICAL, CHEMICAL AND PHYSICAL QUALITY IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, AND SHALL SHOW THE ABSENCE OF COLIFORM ORGANISMS AND THE PRESENCE OF A CHLORINE RESIDUAL. SAMPLES FOR BACTERIOLOGICAL ANALYSIS SHALL BE COLLECTED IN STERILE BOTTLES TREATED WITH SODIUM THIOSULFATE, AS REQUIRED BY STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER. NO HOSE OR PIPE WORK SHALL BE USED IN THE COLLECTION OF SAMPLES. THERE SHOULD BE NO WATER IN THE TRENCH UP TO THE CONNECTION FOR SAMPLING. THE SAMPLING PIPE MUST BE DEDICATED AND CLEAN AND DISINFECTED AND FLUSHED PRIOR TO SAMPLING. A CORPORATION COCK MAY BE INSTALLED IN THE MAIN WITH A COPPER-TUBE GOOSENECK ASSEMBLY. AFTER SAMPLES HAVE BEEN COLLECTED, THE GOOSENECK ASSEMBLY MAY BE REMOVED AND RETAINED FOR FUTURE USE. IF SAMPLES FROM THE LAB INDICATE A MEASURED HPC GREATER THAN 500 COLONY-FORMING UNITS (CFU) PER ML, FLUSHING SHOULD BE RESUMED AND ANOTHER COLIFORM AND HPC SET OF SAMPLES SHOULD BE TAKEN UNTIL NO COLIFORMS ARE PRESENT AND THE HPC IS LESS THAN 500 CFU/ML. THE RECORD OF COMPLIANCE SHALL BE THE BACTERIOLOGICAL TEST RESULTS CERTIFYING THAT THE WATER SAMPLED FROM THE NEW WATER MAIN IS FREE OF COLIFORM BACTERIA CONTAMINATION AND IS EQUAL TO OR BETTER THAN THE BACTERIOLOGICAL WATER QUALITY IN THE DISTRIBUTION SYSTEM.
 - ALL OTHER REQUIREMENTS OF AWWA C651, LATEST REVISION, SHALL BE OBSERVED.

- ALL RESULTS OF THE BACTERIAL TESTS ARE TO BE SUBMITTED AND ACCEPTED BY THE MUNICIPALITY AND ORANGE COUNTY DEPARTMENT OF HEALTH.**
- ALL WATER MAINS SHOULD BE SEPARATED FROM SANITARY SEWER LINES BY A MINIMUM HORIZONTAL DISTANCE OF 10 FEET. IF SUCH HORIZONTAL SEPARATION IS NOT POSSIBLE, THE WATER AND SEWER LINES SHALL BE IN SEPARATE TRENCHES (STEP TRENCHES ARE PROHIBITED) WITH THE TOP OF THE SEWER LINE AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN ENCASED IN CONCRETE OR WITH SUCH SEPARATION EXPRESSLY APPROVED BY THE ORANGE COUNTY DEPARTMENT OF HEALTH.
 - AT THE CROSSINGS OF SEWER LINES AND WATER MAINS, THE TOP OF THE SEWER LINES SHALL BE AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN. IF SUCH VERTICAL SEPARATION IS NOT POSSIBLE, THE WATER LINE SHALL BE ENCASED IN CONCRETE.
 - WATER TIGHT PLUGS ARE TO BE INSTALLED IN THE ENDS OF PIPES WHERE SUCH IS NOT IN PROGRESS.
 - LEAKAGE AND HYDROSTATIC PRESSURE TESTING SHALL BE PERFORMED AT 1.5 TIMES THE WORKING PRESSURE OR A MINIMUM TEST PRESSURE OF 150 PSI.
 - THE MAXIMUM DEFLECTION ALLOWED ALLOWED AT PIPE JOINTS SHALL BE LIMITED TO 80% OF THAT ALLOWED BY AWWA OR IN ACCORDANCE WITH THE MUNICIPALITY. FOR AWWA ALLOWABLE JOINT DEFLECTIONS SEE LATEST REVISION OF AWWA SPECIFICATION C600.
 - CONSTRUCTION MUST CONFORM TO ALL ORDINANCES.
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 - CONTRACTOR TO NOTIFY ENGINEER OF ANY DEVIATION FROM THE HORIZONTAL OR VERTICAL ALIGNMENTS WITH REGARDS TO EXISTING UTILITIES.
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 - A CERTIFIED AS-BUILT MAP OF THE WATER SYSTEM IMPROVEMENTS SHALL BE PROVIDED TO THE MUNICIPALITY'S WATER DEPARTMENT BY A LICENSED DESIGN PROFESSIONAL.



- WATER NOTES:**
- ALL METHODS, MATERIALS, FITTINGS, DEVICES, DIMENSIONAL REQUIREMENTS AND PROCEDURES NECESSARY TO COMPLETE THE WORK SHOWN HEREON SHALL MEET THE APPROPRIATE CURRENT AWWA SPECIFICATIONS IN EFFECT AS WELL AS ALL REQUIREMENTS DEEMED APPLICABLE BY THE MUNICIPALITY OR ANY OTHER GOVERNING BODY HAVING JURISDICTION OVER SAID WORK.
 - ALL WATER MAIN PIPE SHALL BE AWWA C151/A21.51-03 THICKNESS CLASS FIFTY-TWO (52) CEMENT LINED DUCTILE IRON PUSH-ON (RUBBER GASKET) TYPE AND INSTALLED WITH THREE (3) BRONZE WEDGES PER JOINT. JOINT INSTALLATION SHALL BE "TYPE 2" AS PRESCRIBED IN THE LATEST REVISION OF AWWA C600. MECHANICAL JOINTS SHALL HAVE RETAINER GLANDS.
 - ALL PIPE FITTINGS SHALL BE IN ACCORDANCE WITH THE LATEST REVISION OF THE AWWA SPECIFICATION C151/A21.53-00.
 - ALL GATE VALVES SHALL BE "MUELLER" OR APPROVED EQUAL, RESILIENT-SEALED GATE VALVES WITH MECHANICAL JOINT CONNECTIONS. OPENING SHALL BE LEFT (C/W) AND OPERATION SHALL BE BY "SQUARE WRENCH NUT". MINIMUM WORKING PRESSURE SHALL BE 250 PSI. GATE VALVES ARE TO BE IN ACCORDANCE WITH LATEST REVISION OF AWWA SPECIFICATION C599.
 - ALL VALVE BOXES SHALL BE EXTENSION TYPE BY MUELLER SET ON BRICKS AND POSITIONED PERPENDICULAR TO THE PIPE AND ON COMPACTED BACKFILL.
 - ALL CHANGES IN PIPE LINE DIRECTION, BOTH HORIZONTAL AND VERTICAL SHALL BE TIE-RODDED AND THRUST BLOCKED WITH CONCRETE AGANST UNDISTURBED EARTH AS DIRECTED BY THE ENGINEER.
 - A PRELIMINARY HYDROSTATIC TEST PRESSURE OF 150 PSI SHALL BE MAINTAINED IN THE WATER MAIN FOR A PERIOD OF THIRTY (30) MINUTES AND A FINAL HYDROSTATIC TEST PRESSURE OF 150 PSI SHALL BE MAINTAINED IN THE WATER MAIN ONCE WATER SERVICES ARE INSTALLED FOR A MINIMUM PERIOD OF TWO (2) HOURS. RESULTS OF THE TESTS SHALL BE SUBMITTED BY THE MUNICIPALITY AND THE ORANGE COUNTY DEPARTMENT OF HEALTH.
 - THE MUNICIPAL ENGINEER MUST BE NOTIFIED FORTY-EIGHT (48) HOURS PRIOR TO PRESSURE TESTING.
 - ALL WATER LINES AND APPURTENANCES SHALL BE DISINFECTED TO THE SATISFACTION OF THE MUNICIPALITY, AND IN ACCORDANCE WITH THE STANDARDS OF THE OCOOH. THIS SHALL ALSO BE DONE IN ACCORDANCE WITH THE LATEST REVISION OF AWWA C651. A MINIMUM OF TWO (2) BACTERIAL TESTS TAKEN TWENTY-TWO (24) HOURS AFTER REQUIRED. RESULTS OF TESTS ARE TO BE SUBMITTED AND ACCEPTED BY THE MUNICIPALITY, AS PER AWWA C651. LATEST REVISION, WATER MAIN DISINFECTION PROCEDURE SHALL GENERALLY BE AS FOLLOWS, EXCLUDING THE TABLE METHOD:
 - INSPECTING MATERIALS TO BE USED TO INSURE THEIR INTEGRITY.
 - PREVENTING CONTAMINATING MATERIALS FROM ENTERING THE WATER MAIN DURING STORAGE, CONSTRUCTION, OR REPAIR AND NOTING POTENTIAL CONTAMINATION AT THE CONSTRUCTION SITE.
 - REMOVING, BY FLUSHING OR OTHER MEANS, THOSE MATERIALS THAT MAY HAVE ENTERED THE WATER MAIN.
 - CHLORINATING ANY RESIDUAL CONTAMINATION THAT MAY REMAIN, AND FLUSHING THE CHLORINATED WATER FROM THE MAIN.
 - PROTECTING THE EXISTING DISTRIBUTION SYSTEM FROM BACKFLOW CAUSED BY HYDROSTATIC PRESSURE TEST AND DISINFECTION PROCEDURES.
 - DOCUMENTING THAT AN ADEQUATE LEVEL OF CHLORINE CONTACTED EACH PIPE TO PROVIDE DISINFECTION.
 - DETERMINING THE BACTERIOLOGICAL QUALITY BY LABORATORY TEST AFTER DISINFECTION.
 - FINAL CONNECTION OF THE APPROVED NEW WATER SERVICE TO THE ACTIVE DISTRIBUTION SYSTEM.
 - THE CONTINUOUS-FEED METHOD SHALL BE IMPLEMENTED FOR CHLORINATION, AS DESCRIBED IN AWWA C651, LATEST REVISION. AFTER CHLORINATION, THE CONTRACTOR SHALL FLUSH THE MAINS AS PER FINAL FLUSHING REQUIREMENTS OF AWWA C651, LATEST REVISION. WHEN CUTTING INTO OR REPAIRING AN EXISTING MAIN, DISINFECTION PROCEDURES MUST BE OBSERVED AS DETAILED IN DISINFECTION PROCEDURES WHEN CUTTING INTO OR REPAIRING EXISTING MAINS OF AWWA C651, LATEST REVISION.
 - VERIFICATION SHALL BE ACCOMPLISHED VIA BACTERIOLOGICAL TESTS. AFTER FINAL FLUSHING AND BEFORE THE NEW WATER MAIN IS CONNECTED TO THE DISTRIBUTION SYSTEM, TWO CONSECUTIVE SETS OF ACCEPTABLE SAMPLES, TAKEN AT LEAST 24 HR APART, SHALL BE COLLECTED FROM THE NEW MAIN. AT LEAST ONE SET OF SAMPLES SHALL BE COLLECTED FROM EVERY 1200 FT OF THE NEW WATER MAIN, PLUS ONE SET FROM THE END OF THE LINE AND AT LEAST ONE SET FROM EACH BRANCH. SAMPLES SHALL BE TESTED FOR BACTERIOLOGICAL, CHEMICAL AND PHYSICAL QUALITY IN ACCORDANCE WITH STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER, AND SHALL SHOW THE ABSENCE OF COLIFORM ORGANISMS AND THE PRESENCE OF A CHLORINE RESIDUAL. SAMPLES FOR BACTERIOLOGICAL ANALYSIS SHALL BE COLLECTED IN STERILE BOTTLES TREATED WITH SODIUM THIOSULFATE, AS REQUIRED BY STANDARD METHODS FOR THE EXAMINATION OF WATER AND WASTEWATER. NO HOSE OR PIPE WORK SHALL BE USED IN THE COLLECTION OF SAMPLES. THERE SHOULD BE NO WATER IN THE TRENCH UP TO THE CONNECTION FOR SAMPLING. THE SAMPLING PIPE MUST BE DEDICATED AND CLEAN AND DISINFECTED AND FLUSHED PRIOR TO SAMPLING. A CORPORATION COCK MAY BE INSTALLED IN THE MAIN WITH A COPPER-TUBE GOOSENECK ASSEMBLY. AFTER SAMPLES HAVE BEEN COLLECTED, THE GOOSENECK ASSEMBLY MAY BE REMOVED AND RETAINED FOR FUTURE USE. IF SAMPLES FROM THE LAB INDICATE A MEASURED HPC GREATER THAN 500 COLONY-FORMING UNITS (CFU) PER ML, FLUSHING SHOULD BE RESUMED AND ANOTHER COLIFORM AND HPC SET OF SAMPLES SHOULD BE TAKEN UNTIL NO COLIFORMS ARE PRESENT AND THE HPC IS LESS THAN 500 CFU/ML. THE RECORD OF COMPLIANCE SHALL BE THE BACTERIOLOGICAL TEST RESULTS CERTIFYING THAT THE WATER SAMPLED FROM THE NEW WATER MAIN IS FREE OF COLIFORM BACTERIA CONTAMINATION AND IS EQUAL TO OR BETTER THAN THE BACTERIOLOGICAL WATER QUALITY IN THE DISTRIBUTION SYSTEM.
 - ALL OTHER REQUIREMENTS OF AWWA C651, LATEST REVISION, SHALL BE OBSERVED.

- ALL RESULTS OF THE BACTERIAL TESTS ARE TO BE SUBMITTED AND ACCEPTED BY THE MUNICIPALITY AND ORANGE COUNTY DEPARTMENT OF HEALTH.**
- ALL WATER MAINS SHOULD BE SEPARATED FROM SANITARY SEWER LINES BY A MINIMUM HORIZONTAL DISTANCE OF 10 FEET. IF SUCH HORIZONTAL SEPARATION IS NOT POSSIBLE, THE WATER AND SEWER LINES SHALL BE IN SEPARATE TRENCHES (STEP TRENCHES ARE PROHIBITED) WITH THE TOP OF THE SEWER LINE AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN ENCASED IN CONCRETE OR WITH SUCH SEPARATION EXPRESSLY APPROVED BY THE ORANGE COUNTY DEPARTMENT OF HEALTH.
 - AT THE CROSSINGS OF SEWER LINES AND WATER MAINS, THE TOP OF THE SEWER LINES SHALL BE AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN. IF SUCH VERTICAL SEPARATION IS NOT POSSIBLE, THE WATER LINE SHALL BE ENCASED IN CONCRETE.
 - WATER TIGHT PLUGS ARE TO BE INSTALLED IN THE ENDS OF PIPES WHERE SUCH IS NOT IN PROGRESS.
 - LEAKAGE AND HYDROSTATIC PRESSURE TESTING SHALL BE PERFORMED AT 1.5 TIMES THE WORKING PRESSURE OR A MINIMUM TEST PRESSURE OF 150 PSI.
 - THE MAXIMUM DEFLECTION ALLOWED ALLOWED AT PIPE JOINTS SHALL BE LIMITED TO 80% OF THAT ALLOWED BY AWWA OR IN ACCORDANCE WITH THE MUNICIPALITY. FOR AWWA ALLOWABLE JOINT DEFLECTIONS SEE LATEST REVISION OF AWWA SPECIFICATION C600.
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- NOTES:**
- VALVE BOX SHOULD HAVE EXTENSION IF WATER MAIN OR SERVICE IS PLACED DEEPER THAN 5 FEET.
 - CURB STOP VALVE BOX SHALL BE MUELLER EXTENSION TYPE WITH ARCH PATTERN BASE, OR APPROVED EQUAL.
 - WATER MAIN VALVE BOX SHALL BE SCREW TYPE ADJUSTABLE MUD, RESILIENT WEDGE GATE VALVE FIGURE #A-2860-23 AS MANUFACTURED BY MUELLER OR APPROVED EQUAL.

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