ASSESSMENT OF CHESTERTOWN AND POTTERSVILLE WATER DISTRICTS

POTTERSVILLE
TASK 2: SITE RECONNAISSANCE

PREPARED FOR:

TOWN OF CHESTER
FEBRUARY 2012

PREPARED BY:

CEDARWOOD ENGINEERING SERVICES, PLLC

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This report was prepared for the New York State Department of State with funds provided under Title 11 of the Environmental Protection Fund Act"

ASSESSMENT OF POTTERSVILLE WATER DISTRICT
TOWN OF CHESTER, WARREN COUNTY
TASK 2 – SITE RECONNAISSANCE

Cedarwood Engineering Services, PLLC, has entered into a contract with the Town of Chester to perform an assessment of the Town's Chestertown and Pottersville Water Districts. The overall assessment addresses the portion of Chestertown Water District along Route 9, the portion of Chestertown Water District along Route 8, and the Pottersville Water District. The assessment of each study area will be performed primarily to evaluate system deficiencies requiring physical upgrades and to propose public water system expansions based on current growth trends.

The overall assessment will be conducted by performing the tasks detailed in "Attachment A". This task, "Pottersville, Task 2: Site Reconnaissance", is the subject of this report.

Pottersville Water District Overview

The Pottersville Water District, PWS NY5600110, draws its water from two wells located at Gamble Beach Road. Well #2 is the main source of water and has a yield of 250 gallons per minute. Well #1 serves as an emergency back up with a yield of 100 gallons per minute. Each well has a pump house where chlorine is added for disinfection. Soda ash is added to change the pH of the water from slightly acidic to slightly basic. After the water is treated it is pumped to a 200,000-gallon water storage tank located on Landon Hill Road. The Water District provides water through 90 service connections to a population of approximately 270 people. The average daily demand is 38,000 gallons. The single highest day was 165,000 gallons. The total water produced in 2010 was 12,686,000 gallons.

Site Reconnaissance Task Description

Cedarwood conducted site-specific reconnaissance in preparation for design. Work included identification and mapping of components identified during project scoping, including but not limited to, the following:

- Site survey showing extent of project boundary;
- Ownership/grant/lease status of all lands to be incorporated into the design;
- Existing and future land uses;

• Manmade structures, buildings, or facilities on or adjacent to the site;

• Transportation/circulation systems (truck, car, bus, ferry, train, pedestrian, bicycle, etc.) that serve or are located near the site

• Existing water supply and wastewater treatment infrastructure;

• Soils and geology, including depth to bedrock and depth to groundwater;

• Topography;

• Hydrology and drainage patterns;

• Natural resources (wetlands, steep slopes, significant habitats, etc.);

• Flood-prone areas;

• Historic and archeological resources

• Existing zoning and other relevant local development controls;

• Adirondack Park Agency land use classifications;

• Analysis of site constraints, needs and opportunities.

The inventory and analysis was based largely on existing plans and other sources of information, including previous studies, comprehensive plans, scenic byway corridor management plans, and state, regional and county Geographic Information System data. Cedarwood is submitting this draft site reconnaissance to the Department of State for review and approval and the Department's comments will be addressed in the final site reconnaissance.

Work Performed and Findings

Cedarwood conducted a site-specific reconnaissance of the Pottersville Water District, in preparation for design. The work included identification and mapping of components identified during project scoping and are as follows:

• Site survey showing extent of project boundary – The project boundary was identified and delineated in the Task 1 Report for this project. The drawings included in this report show the extent of the project boundaries.

• All work that will need to be performed is located either within the highway right-of-way or Town of Chester property.

• No specific area within the Pottersville Water District or immediately outside the District has been identified as an area for substantial growth. However, based on recent land purchases and a proposal for an expansion of a large non- residential facility, the Town is anticipating 10 percent increase in water demand over the next 10 to 15 years.

• The enclosed drawings show structures, buildings, or facilities on or adjacent to the site.

• There are no scheduled transportation/circulation systems (truck, car, bus, ferry, train, pedestrian, bicycle, etc.) that serve or are located near the site.

• The existing water supply and distribution system is shown on the attached drawings. There is no municipal wastewater treatment infrastructure. Wastewater is addressed by individual on-site wastewater systems.

• See attached map for description of soil types and delineation of observed depth to bedrock. Based on past observations the depth to groundwater is usually 10 feet or more below ground surface in the proposed work areas and may be less than 10 feet in the shallow bedrock area shown on drawn.

• Topography is shown on the enclosed drawings.

• Hydrology and drainage is shown on the enclosed drawings.

• No natural resources, such as wetlands, steep slopes, significant habitats, etc., have been identified in the proposed work areas.

• Flood-prone areas have been identified on the enclosed drawings.

• A small portion of the proposed work area has been identified as being within an Archeo Sensitive Area as per NYS Historic Preservation Office. Prior to performing any work in this area involving excavation or soil disturbance, NYS Preservation will be contacted.

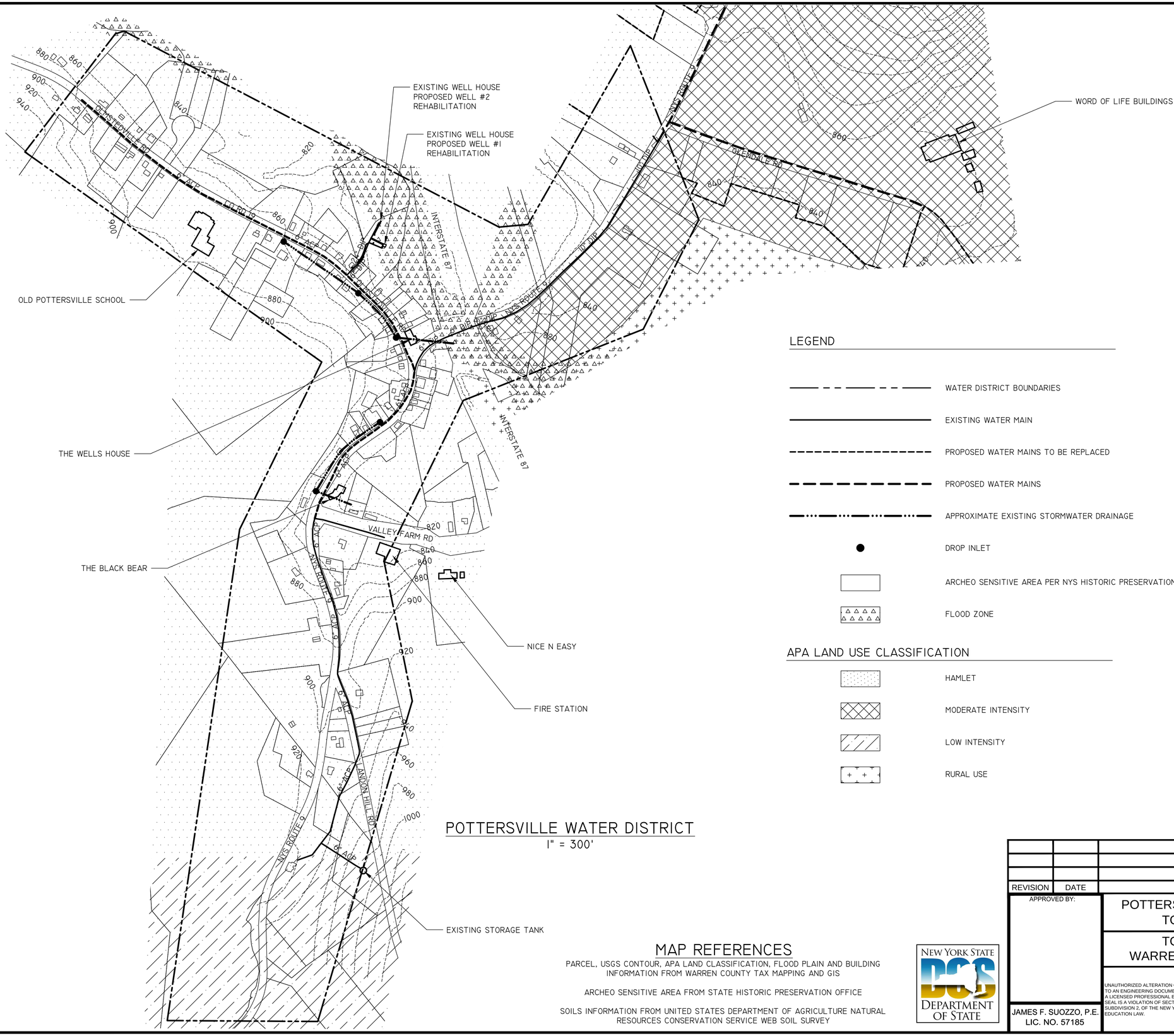
• There are no zoning requirements that apply to the proposed work for this project.

• The majority of the project has an Adirondack Park Agency land use classification of Hamlet with a small portion of the project being located in an area with an Adirondack Park Agency land use classifications of moderate intensity, low intensity, and rural use. All Adirondack Park Agency land use classifications are shown on the enclosed drawings.

• A site constraint is the shallow bedrock which is present along approximately 2,500 feet of existing waterline. The existing water line was not buried deep enough to prevent frost heave due to shallow bedrock. The waterline in this area should be replaced due to the occurrence of frequent leaks. A replacement line should be installed with proper insulation or should be re-routed to the other side of the road way where the depth to bedrock is greater.

Another issue that needs to be addressed is the water system does not meet NYSDOH's requirement that peak daily flow must be met with the largest source out of service. If the well that produces 250 gallons per minute is taken out of service, the remaining 100 gallon per minute (144000 gpd) well cannot meet peak demand. A new water supply well should be located and connected to the system.

Another issue that should be addressed is that both well casings are located in a confined space as defined by OSHA. The well houses be re-designed to eliminate any confined space area.



LEGEND

- WATER DISTRICT BOUNDARIES
- EXISTING WATER MAIN
- PROPOSED WATER MAINS TO BE REPLACED
- PROPOSED WATER MAINS
- APPROXIMATE EXISTING STORMWATER DRAINAGE
- DROP INLET
- ARCHEO SENSITIVE AREA PER NYS HISTORIC PRESERVATION OFFICE
- FLOOD ZONE

APA LAND USE CLASSIFICATION

- HAMLET
- MODERATE INTENSITY
- LOW INTENSITY
- RURAL USE

POTTERSVILLE WATER DISTRICT

1" = 300'

MAP REFERENCES

PARCEL, USGS CONTOUR, APA LAND CLASSIFICATION, FLOOD PLAIN AND BUILDING INFORMATION FROM WARREN COUNTY TAX MAPPING AND GIS

ARCHEO SENSITIVE AREA FROM STATE HISTORIC PRESERVATION OFFICE

SOILS INFORMATION FROM UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY

NEW YORK STATE DEPARTMENT OF STATE

REVISION	DATE	NOTE

APPROVED BY:

JAMES F. SUOZZO, P.E.
LIC. NO. 57185

POTTERSVILLE WATER DISTRICT
TOWN OF CHESTER

TOWN OF CHESTER
WARREN COUNTY, NEW YORK

SCALE 1" = 300'
DATE 2-8-12
DRAWN BY ZNM

11-065

SHEET 1 OF 2

Cedarwood Engineering Services, PLLC
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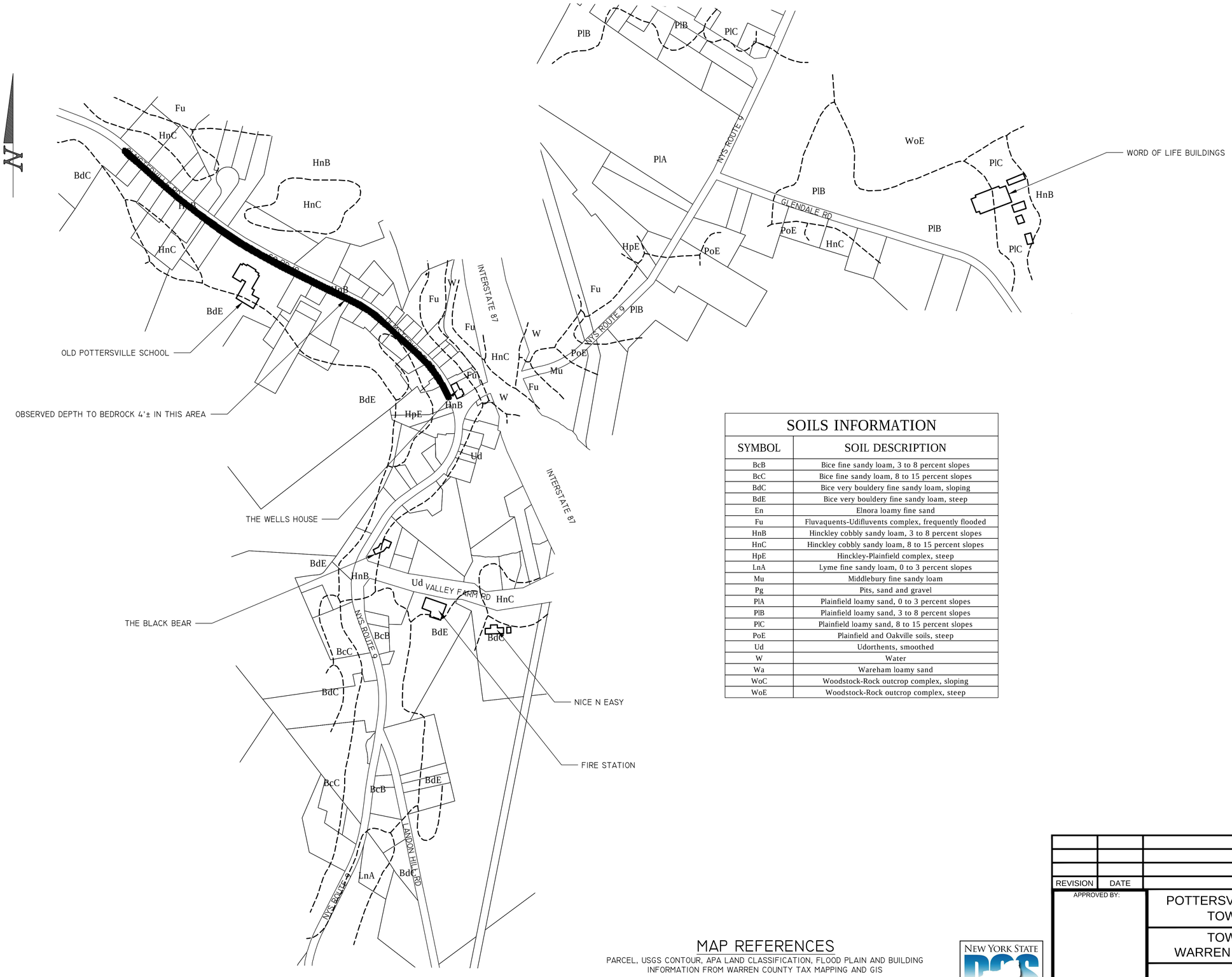

POTTERSVILLE WATER DISTRICT

1" = 300'

SOILS INFORMATION

SYMBOL	SOIL DESCRIPTION
BcB	Bice fine sandy loam, 3 to 8 percent slopes
BcC	Bice fine sandy loam, 8 to 15 percent slopes
BdC	Bice very bouldery fine sandy loam, sloping
BdE	Bice very bouldery fine sandy loam, steep
En	Elnora loamy fine sand
Fu	Fluvaquents-Udifluvents complex, frequently flooded
HnB	Hinckley cobbly sandy loam, 3 to 8 percent slopes
HnC	Hinckley cobbly sandy loam, 8 to 15 percent slopes
HpE	Hinckley-Plainfield complex, steep
LnA	Lyme fine sandy loam, 0 to 3 percent slopes
Mu	Middlebury fine sandy loam
Pg	Pits, sand and gravel
PlA	Plainfield loamy sand, 0 to 3 percent slopes
PlB	Plainfield loamy sand, 3 to 8 percent slopes
PlC	Plainfield loamy sand, 8 to 15 percent slopes
PoE	Plainfield and Oakville soils, steep
Ud	Udorthents, smoothed
W	Water
Wa	Wareham loamy sand
WoC	Woodstock-Rock outcrop complex, sloping
WoE	Woodstock-Rock outcrop complex, steep

MAP REFERENCES

PARCEL, USGS CONTOUR, APA LAND CLASSIFICATION, FLOOD PLAIN AND BUILDING INFORMATION FROM WARREN COUNTY TAX MAPPING AND GIS

ARCHEO SENSITIVE AREA FROM STATE HISTORIC PRESERVATION OFFICE

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POTTERSVILLE WATER DISTRICT
TOWN OF CHESTER

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SHEET 2 OF 2

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ASSESSMENT OF POTTERSVILLE WATER DISTRICT

TASK 3: SCHEMATIC DESIGN
TASK 4: CONSTRUCTION REQUIREMENT ANALYSIS
TASK #5: DRAFT FEASIBILITY STUDY

PREPARED FOR:

TOWN OF CHESTER
MARCH 2012

PREPARED BY:

CEDARWOOD ENGINEERING SERVICES, PLLC

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ASSESSMENT OF POTTERSVILLE WATER DISTRICT

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ASSESSMENT OF POTTERSVILE WATER DISTRICT

TASK 3: Schematic Design
TASK 4: Construction Requirement Analysis
TASK 5: Draft Feasibility Study

INTRODUCTION

Cedarwood Engineering Services, PLLC (Cedarwood) has been contracted to perform public water system assessment for the Pottersville water district in the Town of Chester, Warren County. The assessment was performed to determine if physical deficiencies are present in the existing systems which could impact yield or water quality and to determine needed upgrades to make the system compliant with applicable regulations and to recommend possible expansion of systems based on growth trends. Task 1 identified the assessment area boundaries and Task 2 involved performing a site reconnaissance of the assessment areas. A description of all assessment tasks can be found in Appendix A. Tasks 1 & 2 of the assessment study have been completed. The subjects of this report are; Task 3 - Schematic Design, Task 4 - Construction Requirement Analysis, and Task 5 - Draft Feasibility Study for the Pottersville Water District assessment area.

Description of Water System

The Pottersville Water District, PWS NY5600110, draws its water from two wells located at Gambles Beach Road. Well #2 is the main source of water and has a yield of 150 gallons per minute. Well #1 serves as an emergency back up with a yield of 100 gallons per minute. Each well has a pump house where chlorine is added for disinfection. Soda ash is added to change the pH of the water from slightly acidic to slightly basic. After the water is treated it is pumped to a 200,000 gallon water storage tank located on Landon Hill Road. The Water District provides water through 90 service connections to a population of approximately 270 people. The average daily demand is 38,000 gallons. The single highest day was 165,000 gallons. The total water produced in 2010 was 12,686,000 gallons. The Pottersville Water District is shown in Appendix C – Sheet 1 of 3.

Water District Deficiencies/ Recommended Upgrades

Peak Demand

This water system does not meet the NYSDOH requirement that max daily demand must be met with the largest producing water source out of service. Since Well #1 only produces 100 gpm or 144,000 gallons per day (gpd), if Well #2 had to be removed from

service, Well #1 could not meet maximum daily demand of 165,000 gpd. Well #1 may be redeveloped to provide the higher flow required. As additional service connections are made to the system this problem becomes more serious.

Distribution Leaks

The 350 foot section of water main located on the south side of County Route 19 (Olmstedville Road) frequently leaks and requires repair. The unusually high number of breaks is due to; the pipe not being buried below frost level, sections of the pipe are reportedly resting on ledge rock, and the pipe is made of asbestos concrete (AC pipe). AC pipe is more prone to breakage when compared to ductile iron (DI) pipe.

Confined Space and Flooding in Existing Well Pits

Well #1 and Well #2 both have casings which terminate in a recessed pit located in a well house. Well #2 also has gauges, valves and chemical feed injectors in the recessed pit that need to be routinely maintained by the operator. According to the operator the pits experience seasonal flooding. These existing pit areas are confined spaces as defined by OSHA. A confined space is defined as any work space that is 1) big enough to enter, 2) not designed for continuous employee occupancy, and 3) hard to enter or exit. The operator has to enter the pits to check various pieces of equipment. A solution to the space and flooding problems is to move this equipment out of the pit. Well #1 can be raised to 24" above existing grade with the addition of a pitless adaptor. Well #2's casing and the section of pipe with gauges, valves and injectors could be raised up to ground floor level (see Appendix C - Sheet 2 of 3). This would eliminate the need to enter the confined space.

Water District Expansion

Based on growth trends, a 1,770± feet section of Route 9 and 1,000± foot section Glendale Rd. of this assessment area is developing. See Appendix C - Sheet 3 of 3 for proposed water district extensions. Commercial and residential projects have either been approved or are in the planning stage in these two areas. As the building density increases, there will be increased demand for public water. Without public water, development in this study area will likely be restricted and have a negative impact on the local economy. As more service connections are added to the system more revenue is available to maintain the system.

To estimate the potential full build out in this assessment area, Cedarwood identified all properties with frontage bordering the proposed section of Route 9 and the Glendale Road extensions to determined how many lots or parcels could be created based on APA classifications (See Appendix B). To estimate the possible water demand for each possible lot, each lot was assigned an Equivalent Domestic Unit (EDU) value. An EDU is based on the average water used per capita for the average number of individuals per household (domestic unit). Studies have shown that the typical equivalent domestic unit is estimated to be between 250 to 300 gallons per day. It is recommended that 280

gallons is used for one domestic unit. For possible commercial or industrial use each lot was assigned a value of 2 EDUs.

Cedarwood recommends that the Pottersville Water District be expanded to include the properties as delineated on Appendix C - Sheet 3 of 3. The projected additional water use is estimated to be 68,520 gallons per day at full build out. Using a growth rate of 1% per year for 10 years would estimate the demand for the two areas to be 0.01X10X(68,520)= 6,852 gallons per day. If this additional flow is added to the existing max day demand of 165,000 gallons, the total projected max demand would be 171,900 gallons per day. If Well #1 is redeveloped to 150 gpm (216,000 gpd) the system could meet the DOH requirement of meeting peak day demand with the largest producing well out of service.

Task 3: Schematic Designs

Cedarwood has prepared alternative schematic designs of the Pottersville assessment area. Best management practices will be incorporated to minimize or avoid impacts to water quality, wetlands and other sensitive natural resources.

Where applicable, stormwater will be addressed as required by NYSDEC SPDES General Permit for Stormwater Discharge from Construction Activity GP-0-10-001. This project does not involve State designated Significant Coastal Fish and Wildlife Habitat areas, Scenic areas of Statewide Significance or other Coastal Management Program areas. A Jurisdictional Inquiry Form (JIF) will be submitted to the Adirondack Park Agency and if APA determines that wetlands will be impacted by this project, the Town will comply with all conditions as required by the APA.

Most of the proposed improvements and expansions to this water system involve underground work and installations. The following options involve possible improvements that have visual aspects:

- A visual aspect of the this project is a the removal of well house for Well #1 located on Gambles Beach Rd. along Trout Brook. Well #1 would remain and the only visual aspect would be the well casing extending 24”± above the ground surface or a flush concrete slab.

The existing well house for Well # 2 may need to be enlarged to allow for raising the well and associated treatment assemblies up from the existing pit. The proposed schematic layout of equipment for the existing well house is shown on Appendix C - Sheet 2 of 3.

Task 4: Construction Requirement Analysis

Cedarwood has prepared an analysis of all federal, state and local requirements for the selected schematic design alternative, including necessary permits and approvals, and a description of how these requirements will be satisfied by the design.

The Town of Chester will need to address requirements from:

- NY Department of State;
- NYS Department of Health;
- NYS Department of Environmental Conservation (NYS DEC) - Water Supply Application;
- NYS DEC/ Army Corps Joint Application;
- NYS DEC - General Stormwater Permit (T.B.D)
- NYS DEC SEQRA
- Article 15 – Freshwater Wetland Permit (T.B.D)
- Adirondack Park Agency
- NYS Department of Transportation
- Town of Chester Town Board
- Warren County Planning
- Warren County Building Codes

Design criteria will be based on the latest revisions of:

- Recommended Standards for Water Works;
- NYS Department of Health Sub-Part 5-1,Public Water Systems;
- NYS Building Code; Insurance Services Office (ISO);
- NYS Energy Code; AWWA and ANSI Standards;
- Americans with Disabilities Act (ADA);
- NYS DOT Standard Specifications and Sheets;
- Adirondack Park Agency Zoning and Land Use Policies and Regulations;
- NYS DEC Stormwater Design Manual (If applicable).

Water Main Replacement

Cedarwood recommends replacement of 4,150± feet of the 6” ACP water main section with 8” DIP water main on the south side of County Route 19 (Olmstedville Road). The water main replacement is shown on Appendix C - Sheet 1 of 3.

The required approvals/ permits:

- NYS Department of Health
- NYS DEC - Water Supply Application
- NYS DEC - General Stormwater Permit (T.B.D)

- NYS DEC SEQRA
- Article 15 – Freshwater Wetland Permit (T.B.D)
- Adirondack Park Agency
- NYS Department of Transportation
- Town of Chester Town Board

Based on the information presently available, no significant permitting and/or approval problems are anticipated. In general, the project will be constructed in open areas along County and State roads. Stream crossings are not anticipated and the project area appears to be within highway right of way.

Water Main Extensions

Cedarwood is recommending 1,000± feet of 8" diameter ductile iron pipe (DIP) water main extension along NY State Route 9 and 1,770± feet of 8" DIP water main extension along Glendale Road. The water main extensions are shown on Appendix C - Sheet 1 of 3.

The required approvals/ permits:

- NYS Department of Health
- NYS Department of Environmental Conservation
  Water Supply Application
- NYS Department of Environmental Conservation
  General Stormwater Permit (T.B.D)
- SEQRA
- Adirondack Park Agency
- NYS Department of Transportation
- Town of Chester Town Board

Based on the information presently available, no significant permitting and/or approval problems are anticipated. In general, the project will be constructed in open areas along Town and State roads. Stream crossing are not anticipated and the entire project area appears to be within highway right of way.

Supply Well Redevelopment

Cedarwood recommends the redevelopment of Well #1 and removal of the existing well house and pit.

- DEC Water Supply Application (T.B.D.)
- DEC/Army Corp. Joint Application (T.B.D.)

- SEQRA
- DOH Approval of Plans for Municipal Systems
- Town Board Approval
- Warren County Approval (Demolition Permit)

Based on the information presently available, no significant permitting and/or approval problems are anticipated.

Confined Space and Flooding

Well #2's casing terminates in a recessed pit in a well house and there are gauges, valves and chemical feed injectors in the recessed pit that need to be maintained routinely by the operator. Each pit area is a confined space as defined by OSHA. It has also been reported that there is seasonal flooding in the pit. The required permits and approvals to elevate piping and enlarge the well house are:

- DOH Approval of Plans for Municipal Systems
- Town Board Approval
- Warren County Approval (Building Permit)

Based on the information presently available, no significant permitting and/or approval problems are anticipated

Task 5: Draft Feasibility Study

Cedarwood has prepared the following feasibility study for the Pottersville Water District project. As stated previously, the existing public water system cannot meet the NYS DOH requirement of having peak demand met with the largest producing well out of service and the system cannot meet minimum pressure requirements under fire flow conditions. These conditions will be further exacerbated if the proposed main extensions are added to the system.

Cedarwood believes that the following water district improvements/upgrades must be provided and should not be considered optional to meet regulatory requirements:

- Redevelopment of supply Well #1 and remove well house
- Water main extensions
- Remove well head and water treatment equipment from confined space areas at Well #2.

Redevelop Supply Well #1

Redevelop Well #1 to provide higher flow to meet NYSDOH's requirement that maximum daily demand must be met with the largest producing water source out of service. This would require a visual inspection of the casing with a camera. Based on

visual observations a determination would be made of how the well would need to be redeveloped. This will require a drill rig to perform the work. Once Well #1 has been reestablished, it will be piped to Well #2 well house for treatment and distribution into the system.

The estimated cost for well inspection and redevelopment is $50,000. Estimated O&M - $0.0

Water Main Replacement

Cedarwood is recommending the replacement of 4,150± feet of the 6" ACP water main section with 8" DIP water main on the south side of County Route 19 (Olmstedville Road). The water main replacement is shown on Appendix C - Sheet 1 of 3. Cedarwood recommends abandoning the 6" ACP in place and placing insulation on top of the 8" DIP replacement pipe.

The estimated cost of pipe replacement is $280,000. The increase in O&M estimate is $0.0.

Water Main Extension

Cedarwood is recommending 1,000± feet of 8" DIP water main extension along NY State Route 9 and 1,770± feet of 8" DIP water main extension along Glendale Road. The water main extensions are shown on Appendix C - Sheet 1 of 3.

The estimated cost of the main extensions is $192,000. The increase in O&M estimate is $500/year.

The Water District Expansion must be approved prior to extending the water mains.

Confined Space and Flooding

Well #2's casing terminates in a recessed pit in a well house and there are gauges, valves and chemical feed injectors in the recessed pit that need to be maintained routinely by the operator. The operator been reported that the existing pit experiences flooding during seasonal high water events. Cedarwood recommends elevating the casing and piping out of the confined space area.

The estimated cost is $25,000. No additional O&M cost.

Recommendations and Conclusions

Cedarwood recommends that the existing water district be extended along Route 9 and Glendale Road to include the properties that will benefit from being provided water service as development continues. See Appendix C - Sheet 3 of 3 for proposed Pottersville Water District expansion. District expansion would have to meet the

requirements of New York State Town Law Article 12. All options allowed under State law for district expansion require a detailed engineering report that describes the system, the boundaries of the designated service area, cost of construction, annual fees. The water district expansion will require oversight and guidance by the Town's attorney.

Cedarwood recommends the redevelopment of Well #1. Redevelopment of this well is needed to meet existing maximum demand requirements and to meet future demand.

Cedarwood recommends raising the well assembly and associated treatment process at Well #2 to above ground level to eliminate confined space and flooding issues.

Cedarwood is recommending the replacement of 4,150± feet of the 6" ACP water main section with 8" DIP water main on the south side of County Route 19 (Olmstedville Road) to reduce the frequent water main breaks and disruptions in water service.

Deficiencies/Needs	Recommendations	Cost
NYSDOH Max day requirement not met	Redevelop Well#1 to increase yield. Pipe to Well#2	Capital - $50,000 O&M - $0
Confined Space/ Flooding of Well Casing	Elevate Piping out of pit	Capital - $25,000 O&M - $0
Frequent main leaks along section of Olmstedville Rd.	Replace AC pipe with DI pipe	Capital - $280,000 O&M- $0
Projected Growth and Development	Install Extensions/ Expand District	Capital - $192,000 O&M - $500/ year

APPENDIX A

SCOPE OF WORK

POTTERSVILLE

Task 1: Study Area Boundary

In consultation with the Department and project advisory committee Cedarwood Engineering Services, PLLC (Cedarwood), shall prepare a graphic and narrative description of the proposed area to be included in the water district assessment study. Cedarwood or its consultant(s) will perform detailed field topographic and planimetric survey utilizing ground method. Topography will be based on approximate USGS elevation. No tie in to the state plane coordinates system will be made. Provide digital mapping of proposed route.

Products: Narrative and map of the water district assessment study area boundary submitted to the Department for review and approval.

Task 2: Site Reconnaissance

Cedarwood or its consultant(s) shall conduct site-specific reconnaissance, in preparation for design. Work shall include identification and mapping of components identified during project scoping, including but not limited to, the following:

- Site survey showing extent of project boundary;
- Ownership/grant/lease status of all lands to be incorporated into the design;
- Existing and future land uses;
- Manmade structures, buildings, or facilities on or adjacent to the site;
- Transportation/circulation systems (truck, car, bus, ferry, train, pedestrian, bicycle, etc.) that serve or are located near the site
- Existing water supply and wastewater treatment infrastructure;
- Soils and geology, including depth to bedrock and depth to groundwater;
- Topography;
- Hydrology and drainage patterns;

- Natural resources (wetlands, steep slopes, significant habitats, etc.);

- Flood-prone areas;

- Historic and archeological resources

- Existing zoning and other relevant local development controls;

- Adirondack Park Agency land use classifications;

- Analysis of site constraints, needs and opportunities.

The inventory and analysis will be based largely on existing plans and other sources of information, including previous studies, comprehensive plans, scenic byway corridor management plans, and state, regional and county Geographic Information System data. Cedarwood shall submit the draft site reconnaissance to the Department for review and approval and the Department's comments will be addressed in the final site reconnaissance.

Products: Draft and final site reconnaissance including map(s) and written materials describing the above information and any other appropriate information identified during project scoping submitted to the Department for review and approval.

Task 3: Schematic Designs

Cedarwood or its consultant(s) shall prepare alternative schematic designs of the facility or facilities, considering and including a summary of the following:

- Best management practices to be employed to avoid or reduce water quality impairments from upland runoff or in-water activities, and

- Impacts, if any, to State designated Significant Coastal Fish and Wildlife Habitat areas, Scenic Areas of Statewide Significance, other Coastal Management Program special management areas, or other sensitive resources, and how those impacts should be avoided or mitigated;

- Opportunities for restoration and enhancement of wetlands, including, but not limited to, the following information: habitat functions to be created, restored or improved; targeted plants, animals, and natural communities; hydrologic modifications planned; and numbers and density of appropriate native plants to be planted.

The schematic designs shall include graphics and illustrative materials (conceptual and detailed site plans, elevation drawings, section drawings, perspective drawings) to convey to municipal leaders and the public how the developed site and immediate area will look after the development is completed.

Unless otherwise specified during project scoping, Cedarwood or its consultant(s) shall prepare a minimum of three alternative schematic designs for review by the project advisory committee and the Department.

In consultation with the Department and the project advisory committee, the Cedarwood its consultant(s) shall select one of the alternative schematic designs as the basis for final design and engineering/construction plans and specifications, or shall work with the consultant(s) to develop a final schematic design incorporating elements of or building upon the alternative schematic designs. Final design and engineering/construction plans and specifications shall be prepared based on the selected schematic design. Cedarwood shall submit the draft schematic designs to the Department for review and approval and the Department's comments will be addressed in the final schematic designs.

Products: Schematic design alternative selected and submitted to the Department for review and approval.

Task 4: Construction Requirement Analysis

Cedarwood or its consultant(s) shall prepare an analysis of all federal, state and local requirements for the selected schematic design alternative, including necessary permits and approvals, and a description of how these requirements will be satisfied by the design. This analysis shall be submitted to appropriate project partners and the Department for review. A prepermitting meeting with the Department and the identified federal, state and local entities may be required to discuss any revisions needed to satisfy regulatory requirements. Work on final design shall not proceed prior to the Department approval of the construction requirement analysis and the pre-permitting meeting, if necessary.

Products: Written construction requirement analysis submitted to the Department for review and approval. Pre-permitting meeting with identified entities.

Task 5: Draft Feasibility Study

Cedarwood or its consultant(s) shall prepare a draft feasibility study which includes the following components:

- A description of the project need; an overview of the study area and existing conditions; an evaluation of existing water supply related problems; and a description of future growth and water supply needs in the study area.

- An identification and feasibility of alternatives; recommend the most feasible alternative(s) based on minimization of potential environmental impacts, costs (including construction and operation and maintenance), technical feasibility, and compatibility with regulatory standards; and preliminary layouts of proposed infrastructure.

• Recommended actions for implementing the preferred alternative(s), including lead agency, project partners, proposed project budget, including anticipated operation and maintenance budget; potential funding sources, financing methods, and anticipated charges for users; organizational and staffing requirements; and estimated project timeline.

• Analysis of all required federal, state and local permits and approvals, including the State Environmental Quality Review Act.

Cedarwood or its consultant(s) shall submit the draft feasibility study to the Department for review and approval.

Products: Draft feasibility study submitted to the Department for review and approval.

Task 6: Public information meeting

Following completion of the schematic designs and draft feasibility study, Cedarwood or its consultant(s) shall conduct a public information meeting to present the information and obtain input from project stakeholders and the public. Potential meeting dates shall be discussed with the Department and notification of the Department shall occur at least two weeks prior to any meeting or workshop. Cedarwood or its consultant(s) shall document public comment and submit a summary of the public meeting to the Department for review. The draft agenda and any meeting materials shall be submitted to the Department for review and approval.

Product: Public information meeting held. Minutes of the public information meeting submitted to the Department for review and approval.

Task 7: Draft Final Design

Cedarwood or its consultant(s) shall prepare a draft final design based on the selected schematic design alternative. The draft final design shall include all required maps, tables, data, written discussions, and other information identified in the contract and subcontract work plans and during project scoping. The draft final design shall be provided to the Department and the project advisory committee for review at least two weeks prior to the due date for comments. The Department comments must be addressed to the satisfaction of the Department in subsequent revisions of the products and the final design.

Products: Draft final design and supporting materials submitted to the Department for review and approval.

Task 8: Final Design and Construction Documents

Cedarwood or its consultant(s) shall prepare the final design and construction drawings, plans, specifications, and cost estimates. The final design and construction documents

shall be provided to the Department and the project advisory committee for review at least two weeks prior to the due date for comments. Final design and construction documents are subject to approval by the Department. These documents must be certified by an engineer, architect, or landscape architect and the appropriate seal must be affixed to these documents.

Products: Final design and construction documents, certified by an engineer, architect or landscape architect submitted to the Department for review and approval.

Task 9: Environmental Quality Review

Cedarwood or its consultant(s) shall prepare all documents necessary to comply with the State Environmental Quality Review Act (SEQRA) through determination of significance.

Products: SEQRA documents necessary to complete a determination of significance submitted to the Department for review and approval.

Task 10: Permits

After the final design and construction documents have been approved by the Department, Cedarwood or its consultant(s) shall prepare the necessary permit or other approval applications and obtain the required permits or approvals. A pre-application meeting with the Department and the appropriate federal, state and local regulatory authorities may be required to discuss the necessary permit or other approval applications. Prior to filing, Cedarwood or its consultant(s) shall submit all applications to the Department for review and comment.

Potential permitting and approval agencies include but are not limited to:

- federal agencies such as the United States Army Corps of Engineers;

- the Department, pursuant to the consistency provisions of the federal Coastal Zone Management Act;

- other New York State agencies such as the Department of Environmental Conservation; the Office of General Services pursuant to the Public Lands Law, or similar authorization from the Power Authority (in certain areas of the St. Lawrence Seaway) or Canal Authority (in the State Canal System), in order to use or occupy certain State-owned lands or waters overlying those lands; and the Office of Parks, Recreation, and Historic Preservation or the State Historic Preservation Officer; and

- agencies of a county, city, town, village, or special purpose district, including but not limited to: town boards, boards of trustees, or city councils; planning commissions, boards or departments; and/or building or health officials.

Prior to construction Cedarwood or its consultant(s) shall also demonstrate that the project is in compliance with 6 NYCRR Part 502, "Floodplain Management Criteria For State Projects" by obtaining a floodplain development permit, if local regulations establish such requirements, or by submitting a signed certification, by an official authorized to enforce local floodplain management regulations, that the project complies with the requirements of the statute. Copies of all required permits and approvals shall be submitted to the Department upon receipt.

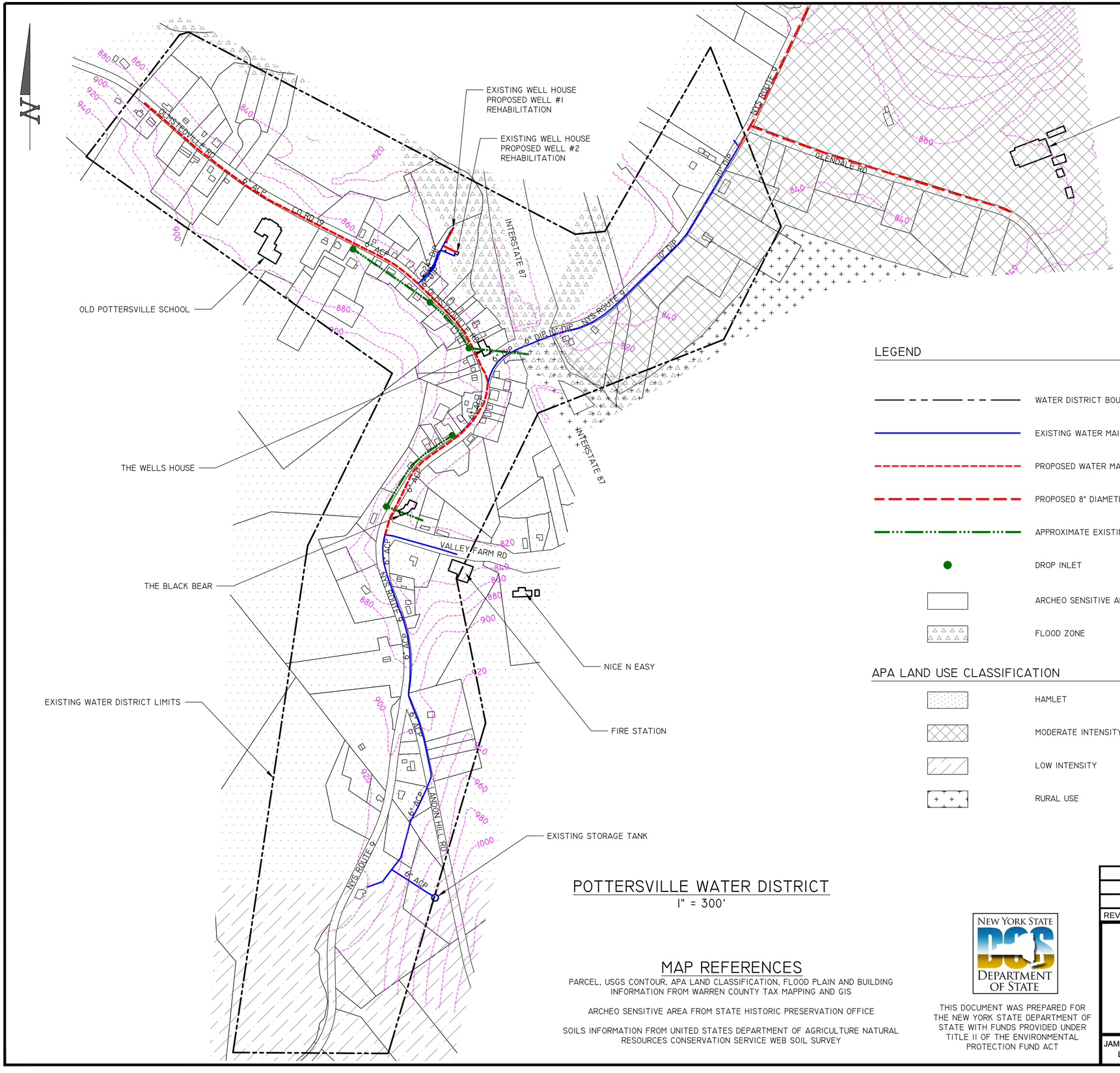
Products: All required permits and approvals received and written certification of compliance with floodplain management regulations (if applicable) submitted to the Department for review and approval.

APPENDIX B

POTTERSVILLE

Tax Map ID	Physical Location	Property Class Description	Owner 1	Mailing Address 1	City and State	ZIP Code	Acres	Min Lot Size	Potential Lots	EDU/Lot	USAGE
35.4-2-6.1	OLMSTEDVILLE RD	Res vac land	Cosenza & Sons Inc	603 Old Tilton Rd	Pleasantville NY	8232	1.87	0.25	8	1	2240
35.4-2-6.2	OLMSTEDVILLE RD	Res vac land	Cosenza & Sons Inc	603 Old Tilton Rd	Pleasantville NY	8232	0.89	0.25	4	1	1120
35.4-2-6.3	OLMSTEDVILLE RD	Res vac land	Cosenza & Sons Inc	603 Old Tilton Rd	Pleasantville NY	8232	0.92	0.25	4	1	1120
35.4-2-6.4	OLMSTEDVILLE RD	Res vac land	Cosenza & Sons Inc	603 Old Tilton Rd	Pleasantville NY	8232	1.76	0.25	8	1	2240
36.3-1-12	8021-8035 STATE RTE 9	>1use sm bld	Beadland Park LLC	PO Box 369	Warrensburg NY	12885	21.4	0.25	86	2	48160
36.3-2-1	4273 GLENDALE RD	Com vac w/imp	McKee, Michael	PO Box 4	Schroon Lake NY	12870	1.19	1.3	1	2	560
36.3-2-2	4267 GLENDALE RD	Mfg housing	Cooper, Michael	14 Taylor St	Cohoes NY	12047	0.63	1.3	1	1	280
36.3-2-3	4255-4259 GLENDALE RD	Res Multiple	McClain, David S	PO Box 240	Pottersville NY	12860	2.02	1.3	2	1	560
36.3-2-4	4251 GLENDALE RD	1 Family Res	Waldman, Melvin R	53 Loudonwood E	Loudonville NY	12211	1.26	1.3	1	1	280
36.3-2-5	4241 GLENDALE RD	Seasonal res	Greening, John R	1108 Fort Hunter Rd	Schenectady NY	12303	0	1.3	0	1	0
36.3-2-6	4231 GLENDALE RD	Seasonal res	Waldman, Melvin	53 Loudonwood E	Loudonville NY	12211	1.33	1.3	2	1	560
36.3-2-7	16 HERITAGE LN	1 Family Res	Heritage Lane Inc	2091 Mission Dr	Naples FL	34109	3.48	1.3	3	1	840
36.3-2-8	4205 GLENDALE RD	1 Family Res	Gardner, Douglas	15 Cobblestone Ln	Newtown CT	6470	2.01	1.3	2	1	560
								Total	**122**	**15**	**58520**

APPENDIX C



LEGEND

- WATER DISTRICT BOUNDARIES
- EXISTING WATER MAIN
- PROPOSED WATER MAINS TO BE REPLACED WITH 8" DIAMETER DIP
- PROPOSED 8" DIAMETER DIP WATER MAINS
- APPROXIMATE EXISTING STORMWATER DRAINAGE
- DROP INLET
- ARCHEO SENSITIVE AREA PER NYS HISTORIC PRESERVATION OFFICE
- FLOOD ZONE

APA LAND USE CLASSIFICATION

- HAMLET
- MODERATE INTENSITY
- LOW INTENSITY
- RURAL USE

POTTERSVILLE WATER DISTRICT

1" = 300'

MAP REFERENCES

PARCEL, USGS CONTOUR, APA LAND CLASSIFICATION, FLOOD PLAIN AND BUILDING INFORMATION FROM WARREN COUNTY TAX MAPPING AND GIS

ARCHEO SENSITIVE AREA FROM STATE HISTORIC PRESERVATION OFFICE

SOILS INFORMATION FROM UNITED STATES DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY

NEW YORK STATE DOS DEPARTMENT OF STATE

THIS DOCUMENT WAS PREPARED FOR THE NEW YORK STATE DEPARTMENT OF STATE WITH FUNDS PROVIDED UNDER TITLE II OF THE ENVIRONMENTAL PROTECTION FUND ACT

REVISION	DATE	NOTE

APPROVED BY:

JAMES F. SUOZZO, P.E.
LIC. NO. 57185

WATER DISTRICT
POTTERSVILLE WATER DISTRICT

TOWN OF CHESTER
WARREN COUNTY, NEW YORK

SCALE 1" = 300'
DATE 3-8-12
DRAWN BY ZNM

11-065

SHEET 1 OF 3

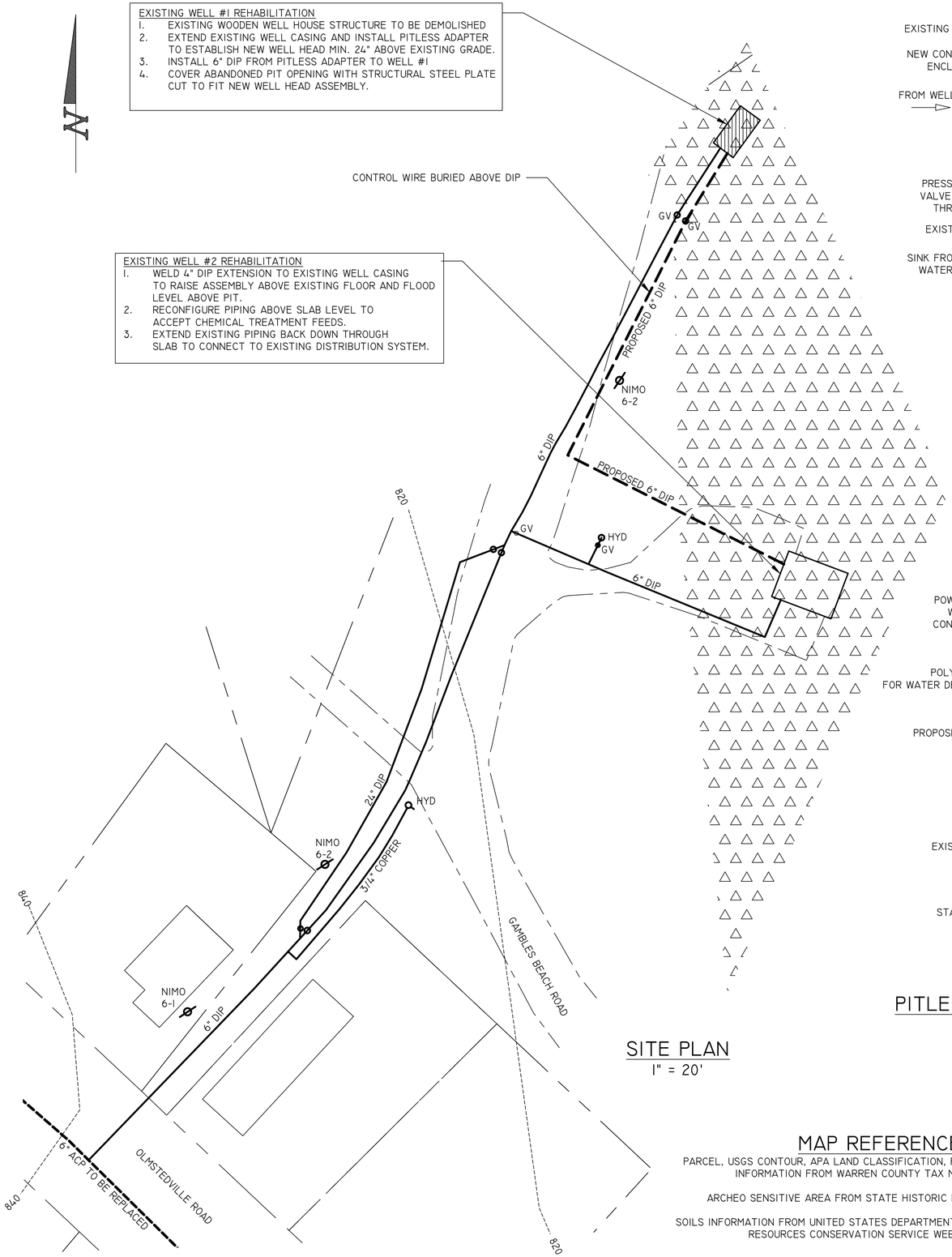
Cedarwood Engineering Services, PLLC
CIVIL & ENVIRONMENTAL ENGINEERING AND FACILITY OPERATIONS
8-12 Dietz Street, Suite 303, Oneonta, New York 13820, 607-432-8073
248 Main Street, PO Box 203, North Creek, New York 12853, 518-251-5160

EXISTING WELL #1 REHABILITATION

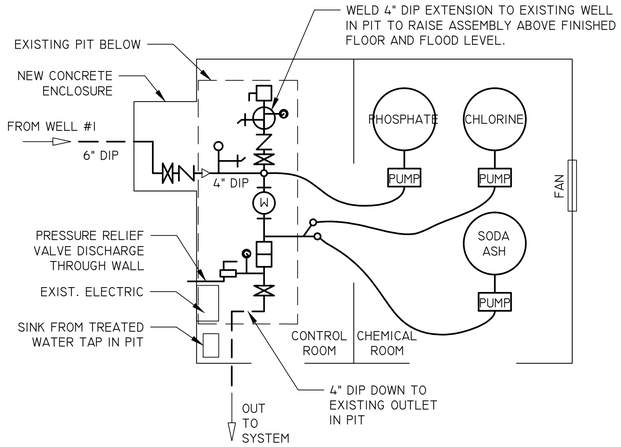
1. EXISTING WOODEN WELL HOUSE STRUCTURE TO BE DEMOLISHED
2. EXTEND EXISTING WELL CASING AND INSTALL PITLESS ADAPTER TO ESTABLISH NEW WELL HEAD MIN. 24" ABOVE EXISTING GRADE.
3. INSTALL 6" DIP FROM PITLESS ADAPTER TO WELL #1
4. COVER ABANDONED PIT OPENING WITH STRUCTURAL STEEL PLATE CUT TO FIT NEW WELL HEAD ASSEMBLY.

EXISTING WELL #2 REHABILITATION

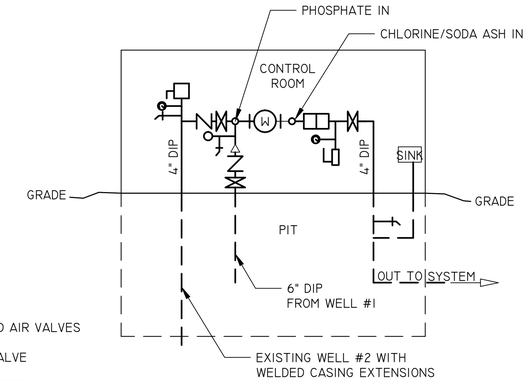
1. WELD 4" DIP EXTENSION TO EXISTING WELL CASING TO RAISE ASSEMBLY ABOVE EXISTING FLOOR AND FLOOD LEVEL ABOVE PIT.
2. RECONFIGURE PIPING ABOVE SLAB LEVEL TO ACCEPT CHEMICAL TREATMENT FEEDS.
3. EXTEND EXISTING PIPING BACK DOWN THROUGH SLAB TO CONNECT TO EXISTING DISTRIBUTION SYSTEM.



SITE PLAN
1" = 20'



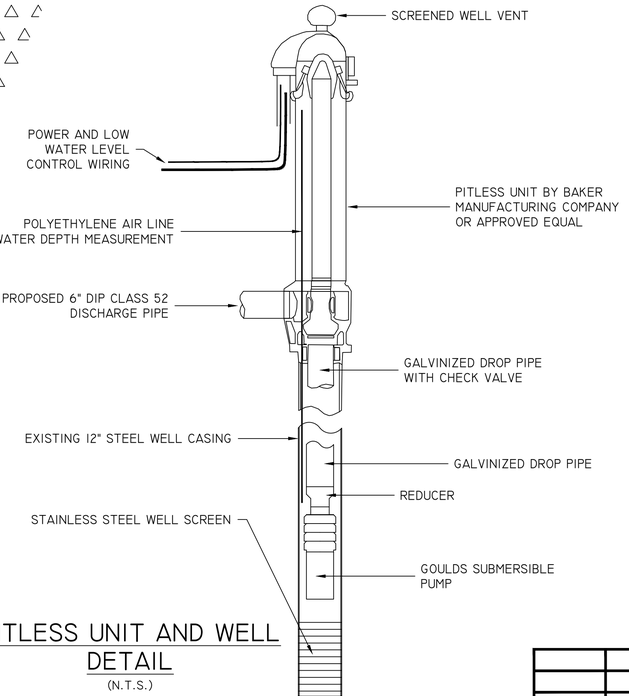
WELL HOUSE SCHEMATIC SITE PLAN
N.T.S.



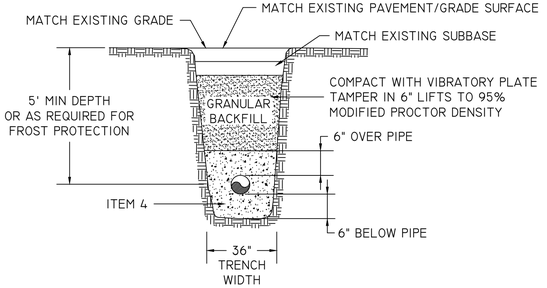
WELL HOUSE SCHEMATIC ELEVATION
N.T.S.

LEGEND

- VACUUM AND AIR VALVES
- 4" CHECK VALVE
- 4" WATER METER
- PRESSURE GAUGE
- 4" BUTTERFLY VALVE
- 4" MECHANICAL COUPLING
- PRESSURE RELIEF VALVE
- PRESSURE VALVE
- REDUCER



PITLESS UNIT AND WELL DETAIL
(N.T.S.)



TYPICAL TRENCH DETAIL
(N.T.S.)

MAP REFERENCES

PARCEL, USGS CONTOUR, APA LAND CLASSIFICATION, FLOOD PLAIN AND BUILDING INFORMATION FROM WARREN COUNTY TAX MAPPING AND GIS

ARCHEO SENSITIVE AREA FROM STATE HISTORIC PRESERVATION OFFICE

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NEW YORK STATE DOS DEPARTMENT OF STATE

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REVISION	DATE	NOTE

APPROVED BY:

JAMES F. SUOZZO, P.E.
LIC. NO. 57185

PROPOSED WELL REHABILITATION
POTTERSVILLE WATER DISTRICT

TOWN OF CHESTER
WARREN COUNTY, NEW YORK

SCALE AS NOTED
DATE 3-8-12
DRAWN BY J.L.C.

11-065

SHEET 2 OF 3

Cedarwood Engineering Services, PLLC
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8-12 Dietz Street, Suite 303, Oneonta, New York 13820, 607-432-8073
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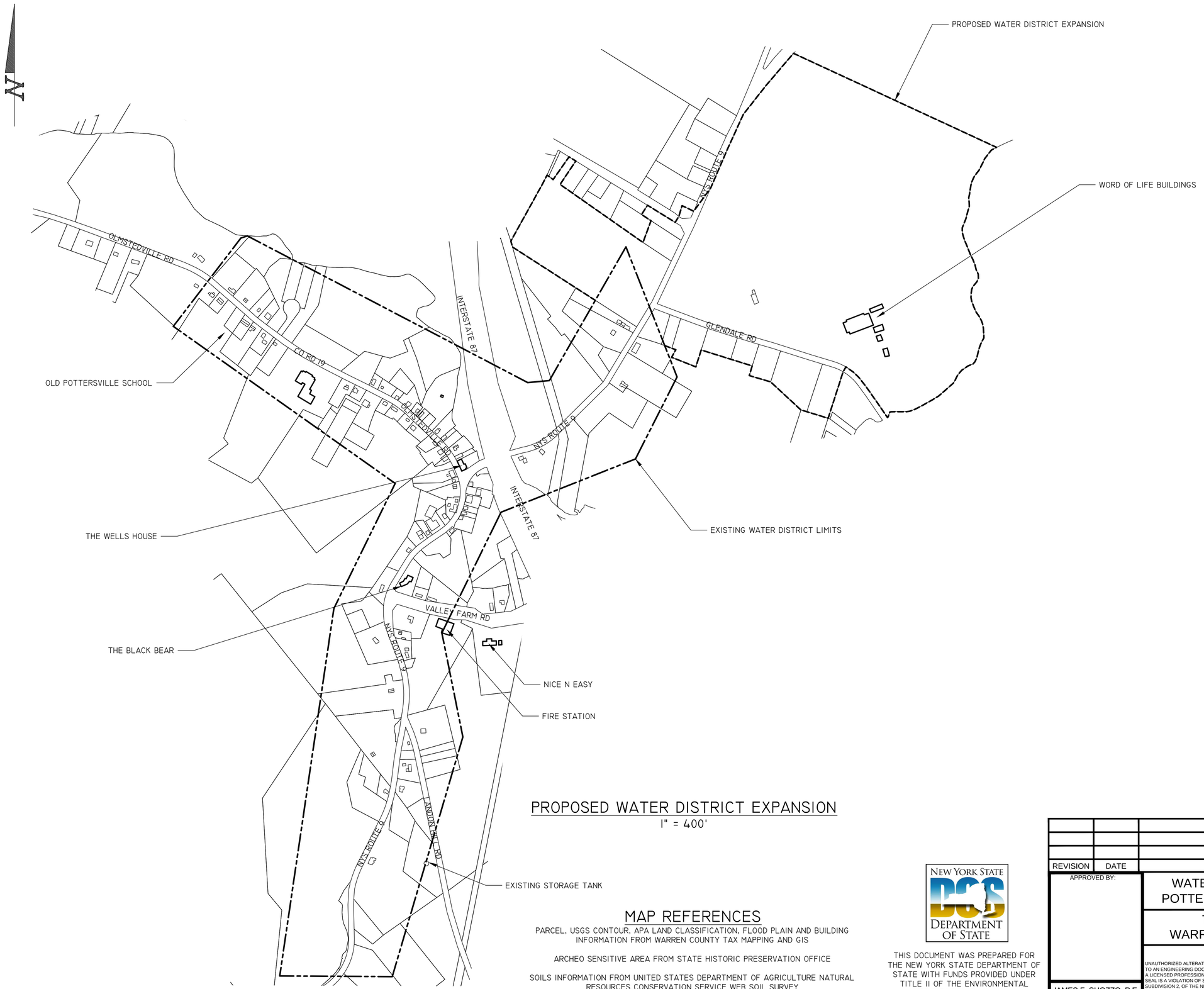

PROPOSED WATER DISTRICT EXPANSION

1" = 400'

MAP REFERENCES

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NEW YORK STATE DEPARTMENT OF STATE

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REVISION	DATE	NOTE

APPROVED BY:

JAMES F. SUOZZO, P.E.
LIC. NO. 57185

WATER DISTRICT EXPANSION
POTTERSVILLE WATER DISTRICT

TOWN OF CHESTER
WARREN COUNTY, NEW YORK

SCALE 1" = 400'
DATE 3-8-12
DRAWN BY ZNM

11-065

SHEET 3 OF 3

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