

PLANNING AND ZONING DEPARTMENT

MUNICIPAL CENTER, 196 NORTH MAIN STREET
SOUTHINGTON, CONNECTICUT 06489
PHONE (860) 276-6248 – FAX (860) 628-3511



Fee: See fee schedule
+ Fire Department plan review fee

SITE PLAN APPLICATION

Date: 11/24/2020

Application Site Plan # 1810

Owner name and mailing address (please print):

Town of Southington

196 North Main Street

Southington, CT 06489

Telephone: 860-276-6231 Fax # 860-628-8669

Email grapponej@southington.org

Applicant name and mailing address (please print):

Town of Southington

196 North Main Street

Southington, CT 06489

Telephone: 860-276-6231 Fax # 860-628-8669

Email grapponej@southington.org

Address of Property 806 South Main Street, Plantsville, CT 06479

Assessor's Map # 075

Parcel # 075-171

Nature and Description of Application: Demolition of existing pump station building, concrete pad, equipment and

appurtenances. Construction of new precast pump station, related controls, concrete pads, fencing, stormwater

management facilities and landscaping

Is any portion of the site within 500 ft. of an adjoining Town Boundary? No

Zone: CB Zoning Regulation Authorizing: 4.01-11.Z

Square footage of proposed building (s) at ground level: 0 sf Total: 0 sf

Name of Engineer with mailing address (please print): Amy Sowitcky, PE

Tighe & Bond
213 Court Street

Engineer's Telephone: (860) 704-4788

Middletown, CT 06457

Fax # _____

Email: alsowitcky@tighebond.com

If application requires a special permit, special exception or variance, please provide one copy of each.

Please submit in digital form and include seven (7) copies of site plan

Signature of Owner or Applicant

J. Arape
ASST. TOWN ENGINEER

28-1928-042-01
November 24, 2020

Mr. David Lavallee
Assistant Town Planner
Town of Southington
146 North Main Street
Southington, Connecticut 06489

Re: **Plantsville Pump Station
Site Plan Application**

Dear Mr. Lavallee:

Enclosed is a Site Plan Application for replacement of the existing Plantsville sanitary sewer pump station at 806 South Main Street. In accordance with the 2014 Wastewater Facility Plan for Southington, the Town is moving forward with recommendations to replace the existing Plantsville pump station. The pump station is located on a Town-owned easement on the 806 South Main Street property, in Zone CB, Central Business.

The existing pump house, equipment and site appurtenances will be demolished and will be replaced with a new precast concrete pump station. The new pump station will be substantially below ground and will not be housed in its own building, however, portions of the station, including hatches and vents will be above grade, and weatherproof enclosures will be constructed for the new control panels, and a new standby generator on a concrete pad will also be constructed. A new chain link fence and gates will be constructed across the front of the pump station location, and the surrounding area, disturbed by the construction activity, will be repaved. A stormwater chamber will be added to encourage infiltration and improve the quality of stormwater discharged from the site, and a landscaped buffer will be added along the northwest side of the site, enhancing the vegetative buffer between the site and the river.

Background, Use and Purpose

The Plantsville sanitary sewer pump station is located at 806 South Main Street and serves the Plantsville section of Town, including approximately 204 customers consisting of homes, restaurants and businesses, with potential for serving an additional 29 customers based on undeveloped parcels. The station was constructed in 1973, and has been operational since, collecting sanitary sewerage from the Plantsville area and pumping it to the treatment plant. The pump station is located on a permanent easement on private property in favor of the Town.

Considerations for Approval

Section 9-02 of the Town of Southington Zoning Regulations (SZR) identify the considerations for site plan approval:

Traffic Access, Circulation, and Parking

SZR 9-02.1 and 9-02.2 highlight considerations for traffic access, circulation and parking. The proposed pump station is a low traffic generator, requiring minimal trips for operational and maintenance purposes, and the rehabilitation of the pump station will not generate additional traffic when it is operational. The proposed access from South Main Street will

remain unchanged. An additional area of pavement will be added to the northeast of the pump station area to better facilitate turning movements of snow plows for the purposes of snow removal. There are no dedicated parking or loading spaces at the current facility. Since the proposed facility will operate in the same manner as the existing facility, no additional parking or loading spaces are proposed.

Landscaping and Screening

SZR 9-02-3 requires that general landscaping of the site is in character with that generally prevailing in the neighborhood. The project includes a landscaped vegetated buffer along the northwestern fence line, which is set back from the left (east) bank of the Quinnipiac River.

Illumination

SZR 9-02.4 requires that lighting be of a reasonable intensity for the purposes served. The proposed lighting has been designed such that it is properly shielded to avoid adverse impacts to abutting properties.

Character and Appearance

SZR 9-02.5 states that the character and appearance of the proposed use will be in general harmony with the character and appearance of the surrounding neighborhood and will not adversely affect the general welfare of the inhabitants of the Town. The proposed pump station is an identical use of the permanent easement as that exists today. The area is bounded by industrial uses to the northwest, and commercial automotive repair uses to the southwest and northeast.

Siting of Buildings

SZR 9-02.6 stipulates that buildings be arranged in a manner that allows for safe and proper visibility from public roadways and promotes the safe and efficient movement of vehicular and pedestrian traffic. The proposed pump station structure, weatherproof control enclosures and generator are located in the same general footprint of the existing pump station area.

Application Requirements

SZR 9-03 lists minimum application and plan requirements.

Utility Impacts

The proposed project will be served by existing utilities in South Main Street. Electric service is provided to the site underground by Eversource from a utility pole on South Main Street just north of the site driveway. Natural gas is also provided by Eversource from a 6" cast iron main located on the east side of South Main Street. The existing gas service will be replaced. Since the site is a sanitary sewer pump station, sanitary sewer service is available. All existing utility services will be adequate to serve the requirements of the replacement pump station.

Storm Drainage Impacts

Southington is regulated under the CTDEEP's MS4 Municipal Stormwater Program, which requires water quality volume treatment for stormwater runoff. Since the existing disconnected impervious coverage on the site exceeds 40 percent of the site area, one-half of the water quality volume shall be retained on site. We propose one stormwater chamber to infiltrate the impervious coverage on the site. Our design is supported by a test pit that was excavated to expose the soil profile over the proposed infiltration system, and an on-site double ring infiltrometer test.

The current site discharge by sheet flow, across steep slopes to the river that are within 50 feet of the edge of pavement, and therefore do not qualify as being disconnected for the purposes of the MS4 General Permit. The runoff would be directed to a catch basin west of the proposed pump station and would enter the stormwater chamber, infiltrating into the ground. Overflow from large storm events would come out of the catch basin and discharge across the proposed landscaped buffer northwest of the pump station. In addition to retaining and infiltrating one half of the water quality volume, the proposed chamber will drain in less than the 48 to 72 hour maximum timeframe recommended by the 2004 Connecticut Stormwater Quality Manual. Computations appear in **Appendix A** of this application package.

Floodplain Impacts

The Plantsville Pump Station is situated adjacent to the Quinnipiac River. Federal Emergency Response Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel 09003C0584G, effective May 16, 2017, the station is outside of the Regulatory Floodway and the 1% and 0.2% Annual Chance Special Flood Hazard Areas. No work will occur within the regulatory floodplain or floodway.

Sediment and Erosion Control

The area of proposed disturbance will be less than a quarter acre. Sediment and erosion controls in accordance with the 2002 Connecticut Erosion and Sediment Guidelines, and include haybales, silt fence, and dewatering sediment traps.

Very truly yours,

TIGHE & BOND, INC.



Joseph Canas, PE, LEED AP, CFM
Principal Engineer

J:\S\S1928 Southington\042 Plantsville Pump Station\Reports\Planning-Zoning\Components\S1928-042 2020_11-20 site plan letter.docx

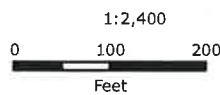


LEGEND

- Approximate Site Parcel
- Approximate Parcel Boundary

Tighe & Bond

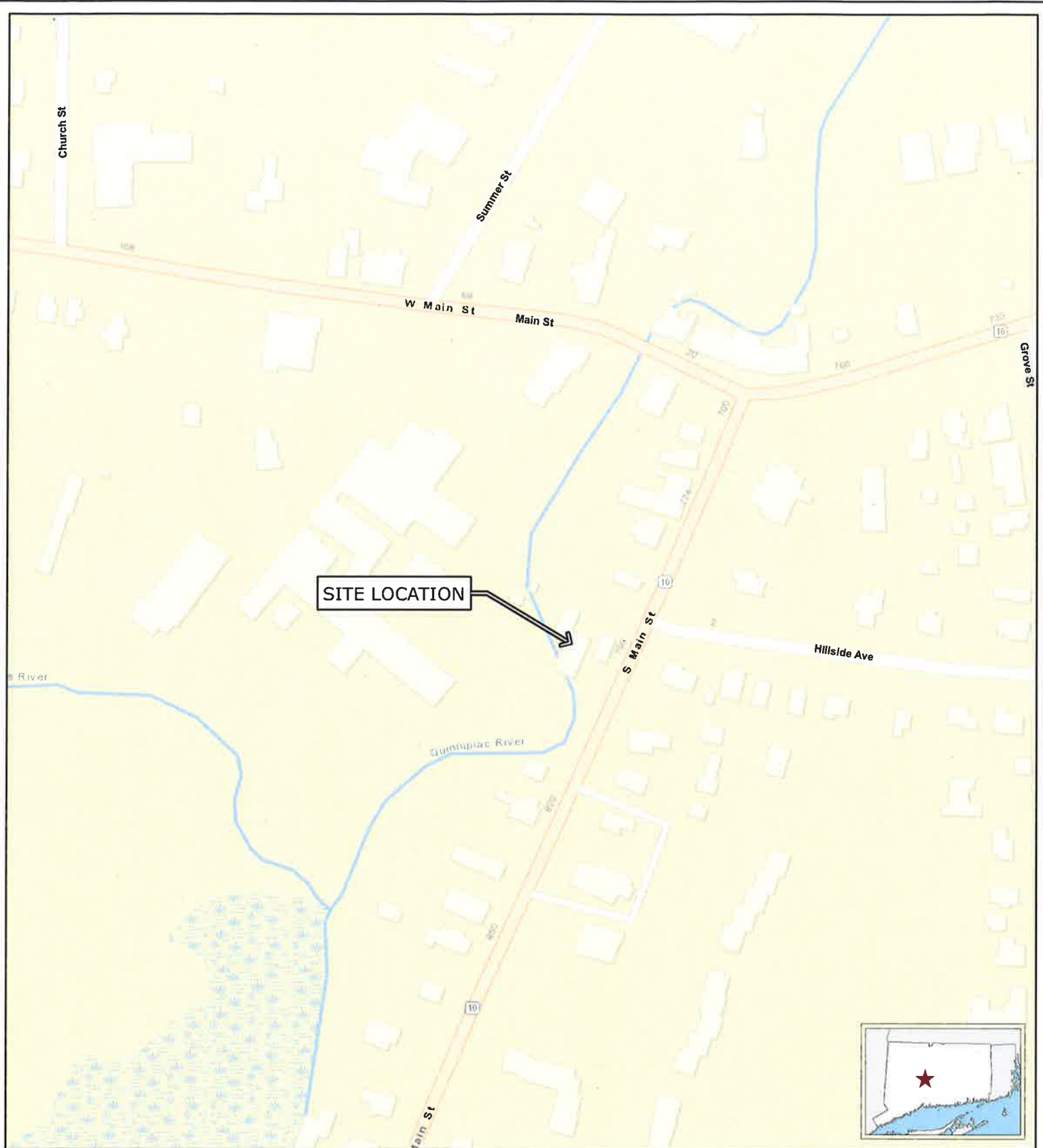
Based on 2019 Statewide Leaf-Off Orthophotography,
 Courtesy of CTECO.
 Parcels downloaded from CTDEEP and are approximate.



**FIGURE 1
 ORTHOPHOTOGRAPH**

806 South Main Street
 Plantsville, Connecticut

November 2020



SITE LOCATION

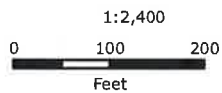
**FIGURE 2
SITE PLAN**

806 South Main Street
Plantsville, Connecticut

November 2020

Tighe & Bond

Based on 2019 Statewide Leaf-Off Orthophotography,
Courtesy of CTECO.



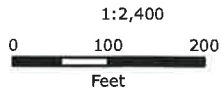


LEGEND

-  FEMA Floodway
-  100-Year Flood Zone
-  500-Year Flood Zone

Tighe&Bond

Based on 2019 Statewide Leaf-Off Orthophotography,
 Courtesy of CTECO,
 FEMA data from CTDEEP



**FIGURE 3
 ORTHOPHOTOGRAPH**

806 South Main Street
 Plantsville, Connecticut

November 2020

Tighe&Bond

APPENDIX A

Water Quality Volume Computations Plantsville Pump Station

Date: November 16, 2020

Prepared by: J. Canas

Existing Conditions Site

Existing Impervious Cover= 2,776 sf

Existing Directly Connected Impervious Cover = 2,776 sf

Note: runoff sheets off, but there is not a minimum of 50' across flat area to qualify sheet flow as disconnected.

Total Site Area = 5,173 sf = 0.1188 acres

Existing DCIA = 53.67%

Since the existing site DCIA exceeds 40%, the required treatment volume is one-half of the water quality volume of the post-developed site.

Proposed Conditions Site

Proposed Site Impervious Cover= 3,351 sf

Total Site Area = 5,173 sf = 0.1188 acres

Impervious Cover = 64.78%

WQV = 1" (R) (A) / 12

WQV = Water Quality Volume (acre-feet)

R = Volumetric Runoff Coefficient = 0.005 + 0.009(I)

I = percent impervious cover

A =-site area (acres)

R = 0.005 + 0.009(64.78)

R = 0.005 + 0.583023

R = 0.58802

WQV = 1" (0.58802) (0.1188) / 12

WQV = 0.06986 / 12

WQV = 0.005821 acre - ft

WQV = 254 ft³

Required treatment: 127 ft³



**Groundwater Recharge Volume Computations
Plantsville Pump Station**

Date: November 16, 2020

Prepared by: J. Canas

Underlying Hydrologic Soil Group:

A 1,932 sf = 0.04435 acres

D 3,241 sf = 0.07440 acres

Recharge requirements:

Table 7-4 Groundwater Recharge Depth		
NRCS Hydrologic Soil Group	Average Annual Recharge	Groundwater Recharge Depth (D)
A	18 inches/year	0.4 inches
B	12 inches/year	0.25 inches
C	6 inches/year	0.10 inches
D	3 inches/year	0 inches (waived)

Calculate GRV for "A" portion

$$GRV = (D)(A)(I)/12$$

Where: GRV = groundwater recharge volume (acre-feet)
 A = area (acres)
 D = depth of runoff to be recharged from Table 7-4, (inches)
 I = post development site imperviousness, decimal

$$GRV = 0.4 (0.04435) (0.6478) / 12$$

$$GRV = 0.00096 \text{ acre-feet}$$

$$GRV = 42 \text{ ft}^3$$

Since chamber volume > GRV, GRV requirement met

Check drawdown time

From soil testing: 30 minutes/inch = 2 inches /hour

Apply safety factor of 2.0 per CTDEEP Stormwater Manual:

Design infiltration rate = 1 inch/hour

Maximum chamber depth: 42.5 inches

Chamber will drain in 42.5 hours, exceeding the maximum 48 to 72 hour drawdown time requirement.





Project Information: Date:
 Plantsville Pump Station
 Cultec System for 1/2 WQV

 9/17/2020

Number of Rows -	1	units
Total number of chambers -	1	units
HVLV FC-24 Feed Connectors -	0	units
Stone Void -	40	%
Stone Base -	6	inches
Stone Above Units -	6	inches
Area -	66.47	ft ²
Base of Stone Elevation-	132.73	ft

[Click for Metric](#)

66.47 Min. Area Required

Note: Min. Area required is based on
12" around the system and typ. spacing

CULTEC Recharger 330XLHD Incremental Storage Volumes						
Height of System	Chamber Volume	HVLV FC-24 Feed Connector Volume	Stone Volume	Cumulative Storage Volume	Total Cumulative Storage Volume	Elevation
In	ft ³	ft ³	ft ³	ft ³	ft ³	ft
42.5	0.00	0.00	2.22	2.22	132.20	136.27
41.5	0.00	0.00	2.22	2.22	129.98	136.19
40.5	0.00	0.00	2.22	2.22	127.77	136.11
39.5	0.00	0.00	2.22	2.22	125.55	136.02
38.5	0.00	0.00	2.22	2.22	123.34	135.94
37.5	0.00	0.00	2.22	2.22	121.12	135.86
36.5	0.00	0.00	1.11	1.11	118.91	135.77
36	0.16	0.00	2.15	2.31	117.80	135.73
35	0.43	0.00	2.04	2.48	115.49	135.65
34	0.71	0.00	1.93	2.64	113.01	135.56
33	1.05	0.00	1.79	2.85	110.37	135.48
32	1.28	0.00	1.71	2.98	107.52	135.40
31	1.47	0.00	1.63	3.10	104.54	135.31
30	1.62	0.00	1.57	3.19	101.44	135.23
29	1.76	0.00	1.51	3.27	98.25	135.15
28	1.88	0.00	1.46	3.34	94.98	135.06
27	1.98	0.00	1.42	3.40	91.64	134.98
26	2.07	0.00	1.39	3.46	88.23	134.90
25	2.16	0.00	1.35	3.51	84.77	134.81
24	2.24	0.00	1.32	3.56	81.26	134.73
23	2.30	0.00	1.29	3.60	77.70	134.65
22	2.41	0.00	1.25	3.66	74.10	134.56
21	2.50	0.00	1.22	3.71	70.44	134.48
20	2.52	0.00	1.21	3.73	66.73	134.40
19	2.54	0.00	1.20	3.74	63.00	134.31
18	2.56	0.00	1.19	3.75	59.26	134.23
17	2.58	0.00	1.19	3.76	55.51	134.15
16	2.58	0.00	1.18	3.77	51.75	134.06
15	2.60	0.00	1.18	3.78	47.99	133.98
14	2.66	0.00	1.15	3.81	44.21	133.90
13	2.73	0.00	1.12	3.85	40.40	133.81
12	2.74	0.00	1.12	3.86	36.55	133.73
11	2.75	0.00	1.12	3.86	32.69	133.65
10	2.75	0.00	1.11	3.87	28.83	133.56
9	2.76	0.00	1.11	3.87	24.96	133.48
8	2.78	0.00	1.10	3.88	21.08	133.40
7	2.82	0.00	1.09	3.91	17.20	133.31
6	0.00	0.00	2.22	2.22	13.29	133.23
5	0.00	0.00	2.22	2.22	11.08	133.15
4	0.00	0.00	2.22	2.22	8.86	133.06
3	0.00	0.00	2.22	2.22	6.65	132.98
2	0.00	0.00	2.22	2.22	4.43	132.90
1	0.00	0.00	2.22	2.22	2.22	132.81