WILTON PUBLIC WORKS DEPARTMENT

(203) 563-0152



TOWN HALL ANNEX 238 Danbury Road Wilton, Connecticut 06897

### **MEMORANDUM**

| TO:   | Erik Linquist – Tighe & Bond<br>(submitted via e-mail)               |
|-------|--|
| FROM: | Frank Smeriglio, PE, G, S.<br>Director of Public Works/Town Engineer |
| CC:   | Michael Wrinn – Director, Planing & Land Use Management              |
| DATE: | February 4, 2022   |

### RE: 141 Danbury Road – FDSPIN 141 DR LLC SP #481

This is written in regards to the review of revised Sanitary sewer report dated January 18, 2022. The revised Sanitary Sewer Report was modified based on our review letter dated September 17, 2021 and various e-mail discussions in December 2021 and January 2022. Based on the review of the above mentioned application at this time, the following are the Engineering Department's comments relating to the proposed sanitary sewer system:

- 1. The project is subject to obtaining approvals from Wilton's WPCA Commision to connect additional units into the sanitary sewer system. Next meeting is scheduled for Feb. 24, 2022.
- 2. Project is subject to Norwalk WPCA's review and approval. Initial Sanitary Sewer Reports were forwarded on July 27, 2021. Revised documents dated Jan. 18, 2022 were forwarded to Norwalk WPCA on Jan 24, 2022.
- 3. The project will be subject to Sewer Capital Assessment as required by the WPCA. Assessment will be levied upon completion of the project.
- 4. Final design plans shall be submitted to DPW for review and approval prior to the issuance of a Building Permit.
- 5. During Construction, Design Engineer shall evaluate if the existing ladder rungs in the manhole are located at the tie in side of the manhole. If yes, Design Engineer shall revise connection detail accordingly for our approval.

WPCA Commission February 4, 2022 Page 2 of 2

- 6. For the proposed pool:
  - a) What are the discharge frequencies and flow rates associated with the pump discharge.
  - b) General Permit for the discharge of Swimming Pool Wastewater must be filed with the Town of Wilton and/or State of Connecticut prior to the issuance of a Certificate of Ocupancy.
  - c) Pump discharge times will not be allowed between 8:00am and 11:00 pm or as approved by the Town Engineer.
- 7. Please note, Property owner shall be responsible for maintainance and any potential clogs in the lateral and/or sewer main connection points up to the main sewer line on Route 7.
- 8. All proposed sewer lines shall be air tested prior to sign off of certificate of occupancy.
- 9. All proposed work in the State Right of Way shall be subject to the State Encroachment Permit approval.
- 10. Prior to the issuance of a Certificate of Occupancy, a certified as-built drawing and certified letter signed by a Professional Engineer indicating that all work was completed in accordance with the design plans shall be submitted to the Town of Wilton.

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

q:\site plan reviews\reviews after 1-30-19\danbury road - 141 - sanitary\danbury rd - 141 - wpca commission - fdspin 141 llc.doc



141 Danbury Road Wilton, Connecticut

# **Sewer Study**

Prepared For:

FDSPIN 141 DR, LLC 1 North Water Street, Suite 100 South Norwalk, CT 06854

January 3, 2022

# Tighe&Bond

100% Recyclable

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| Appendix B | Sanitary Effluent Calculation Worksheet    |
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# Section 1 Introduction and Site Conditions

Tighe & Bond has prepared this study at the request of the Town of Wilton, Department of Public Works. FDSPIN 141 DR LLC ( "Applicant") received Planning and Zoning approval for a proposed 4½ story multi-family residential building with 173 apartments (Resolution #1121-481SP) on November 11, 2021.

The project site is located on a 4.28-acre parcel bounded by Danbury Road to the east, the Norwalk River to the west, and commercial properties to the north and south. The proposed development consists of the construction of a 173-unit residential building, atgrade parking, stormwater management systems, utility services, lighting, and associated landscaping. Refer to **Figure 1**, Site Location Map.

This study will evaluate the estimated effluent sewage generation rates for the proposed building verse the existing condition, and its impact on the 24-inch sanitary sewer main in Danbury Road.

## **1.1 Existing Conditions**

The existing site consists of a 47,040 square foot commercial building with at-grade parking. The 4.28-acre parcel is located within Wilton's DE-5 Design Enterprise District Zone. A significant portion of the site is impervious with paved parking areas, sidewalks, and building, with landscaping and lawns generally around the perimeter of the site. Utility services to the site include underground water, sewer, natural gas, overhead electric, and tele-data, connecting to service mains in Danbury Road.

The site is located on Danbury Road (Route 7) which is a north-south three lane State maintained major arterial roadway. The Town sewer main is located in the western shoulder of Danbury Road running in the same direction.

# 1.2 Project Proposal

The proposed 4½ story multi-family residential building will be home to 173 apartments consisting of one-bedroom (37), two-bedroom (122), and three-bedroom (14) units. The proposed building is situated in the central portion of the site, with driveway and parking areas along the northern and southern sides of the building. The ground floor will include surface parking spaces (covered and uncovered) as well as utility/trash rooms and building access points.

All uncovered parking will be screened from view by landscaping. The existing driveway into the property will be widened to accommodate the traffic to and from the site, with dedicated turning lanes onto Danbury Road. The western end of the property will be converted into green space with associated landscaping and walking paths along the Norwalk River. New utility services to the property are proposed including underground sewer, water, natural gas, electric, and tele-data.

Utilities will largely mimic the existing condition with all services being provided off of service mains in Danbury Road.

# Section 2 - Sanitary Sewer Service

## 2.1 Capacity Analysis

The project site is located within the Wilton WPCA Sewershed. Based on the project survey and available Town as-built maps (See **Appendix A**), there is a 24-inch gravity sanitary sewer main located in Danbury Road. The proposed building will connect to the existing sewer main thru a new 6-inch lateral by constructing an outside drop manhole at the existing manhole adjacent to the site driveway entry.

The projected wastewater flows associated with the proposed development were calculated based on the 173 residential units with 323 total bedrooms and a flow rate of 150 gallons per day (GPD) per bedroom. A peaking factor of 4 was applied to the average daily flow (48,450 GPD) to estimate a peak flow of 135 GPM or 0.299 CFS (see **Appendix B** for Calculations). Similarly, the existing flows from the site were calculated based on a 47,040 S.F. office building and a flow rate of 0.1 GPD per square foot of office. A peaking factor of 4 was also used to estimate the peak flow (13.1 GPM or 0.029 CFS) from the average daily flow of 4,704 GPD. The estimated difference between the existing and proposed flow rates was calculated to be a net increase of 0.27 CFS.

Flow metering was provided over a 4-week period in October and November of 2021 from a manhole on the 24-inch sewer main just north of the site (See Site Location Map, Figure 1). The results of the flow metering can be observed in **Appendix D** of this report. A peak flow of 1,013.1 GPM (2.26 CFS) over the 4-week period was observed on October 26<sup>th</sup> and is the basis of our capacity analysis. It is important to note that the peak flow for this analysis was roughly 40 to 50% higher than the typical daily peak flow due to significant levels of inflow and infiltration of stormwater into the system. Three lines were identified by the Town of Wilton Department of Public Works for analysis and each has been evaluated for capacity based on the peak flow observed during the flow metering (2.26 CFS) and the estimate net increase from the proposed site (0.27 CFS). The three lines used in the analysis are identified in **Appendix D** on the Town As-Built Maps, and the capacity analysis for the three lines can be observed in **Appendix C**. **Table-1** Below shows a summary of the 3 lines evaluated and their estimated flow to full capacities. Based on this evaluation it is our professional opinion that the existing sewer main in Danbury Road will have ample capacity to receive the additional flow being generated from the proposed development.

|            | Capacity Calculations |                              |                                |                                 |                           |                                 |
|------------|-----------------------|------------------------------|--------------------------------|---------------------------------|---------------------------|---------------------------------|
| Line<br>ID | Slope<br>(ft/ft)      | Maximum<br>Capacity<br>(CFS) | Existing Peak<br>Flow<br>(CFS) | Existing<br>Flow to Full<br>(%) | Proposed<br>Flow<br>(CFS) | Proposed<br>Flow to Full<br>(%) |
| 1          | 0.0007                | 6.00                         | 2.257                          | 38                              | 2.527                     | 42                              |
| 2          | 0.0017                | 9.35                         | 2.257                          | 24                              | 2.527                     | 27                              |
| 3          | 0.0019                | 9.89                         | 2.257                          | 23                              | 2.527                     | 26                              |

Table-1 – Capacity Analysis of Danbury Road Sewer Main

# **Tighe&Bond**

**APPENDIX A** 



SITE LOCATION MAP



NORTH

FIGURE 1



Danbury

141

Fuller\002

Bond,



### ALBERTSON, SHARP & BACKUS, INC. CONSULTING ENGINEERS NORWALK, CONN.







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ved: 10/14/2021 On:Oct 14, 2021-4:09pm By: SansoneM v Bond: 1:\FyF0173 Fuller\002 141 Danhury Road\Drawings-Figures\Sheefs\F0

# **Tighe&Bond**

**APPENDIX B** 



Project Name: 141 Danbury Road Project Number: F0173-002 Project Location: Wilton, CT Description: Sanitary Sewer Effluent Calculation Prepared By: EWL Date: January 3, 2021

### 141 Danbury Road (PROPOSED)

### **Total Bedrooms**

|  | 323       | Total E    | Bedrooms       |
|--|-----------|------------|----------------|
| Total Residential Units =              | 173       |            |                |
| 2 Bedroom Units =<br>3 Bedroom Units = | 122<br>14 | x 2<br>x 3 | 244<br>42      |
| 1 Bedroom Units =                      | 37        | x 1        | Bedrooms<br>37 |
|  |           |            |                |

### Average Daily & Peak Flow

| 323 | Units            |         |       |           |
|-----|------------------|---------|-------|-----------|
| 150 | GPD per Bedr     | oom     |       |           |
|     |                  |         |       |           |
|     |                  | 323     | x 150 |           |
|     | Average Flow =   | 48,450  | GPD   |           |
|     | —                |         | —     |           |
| Pe  | ak Flow Factor = | 4       |       |           |
| 10  |                  | •       |       |           |
|     | Peak Flow -      | 103 800 | CPD   |           |
|     | Feak How =       | 195,000 |       |           |
|     | =_               | 134.6   | GPM   | 0.299 CFS |

### 141 Danbury Road (EXISTING)

| 47,040<br>0.1 | S.F. Office<br>GPD per S.F. |                |              |           |
|---------------|-----------------------------|----------------|--------------|-----------|
|               | Average Flow =              | 4,704          | _GPD         |           |
| Pea           | ak Flow Factor =            | 4              |              |           |
|               | Peak Flow =<br>=            | 18,816<br>13.1 | _GPD<br>_GPM | 0.029 CFS |

Net Increase in effluent generated on site = 0.299 CFS - 0.029 CFS

= 0.27 CFS Net Increase

# **Tighe&Bond**

**APPENDIX C** 



Project Name: **141 Danbury Road** Project Number: **F-0731-002** Project Location: **Wilton, CT** Description: **Pipe Capacity Calculation** Prepared By: **EWL** Date: **1/3/2022** 

# Pipe Capacity Calculation

Pipe Section 1 (Station 1+38 to 2+23)

### **Pipe Properties**

| D = Pipe Diameter                   | = | 2.00   | ft    |
|-------------------------------------|---|--------|-------|
| A = Flow Area                       | = | 3.14   | sf    |
| C = Circumference                   | = | 6.28   | ft    |
| HR = Hydraulic Radius               | = | 0.50   | ft    |
| S = Pipe Slope                      | = | 0.0007 | ft/ft |
| n = Manning's Roughness Coefficient | = | 0.013  |       |

### **Maximum Capacity of Pipe**

### $Q = (1.49/n) * A * HR^{2/3} * S^{1/2}$

| Maximum Capacity $Q_{full}$ =             | 6.00      | CFS         |
|---|-----------|-------------|
|   |           |             |
| Existing Peak Flow, Q <sub>E</sub>        | 2.257 CFS | 1,013.1 GPM |
| Existing Flow to Full $Q_E/Q_{full}$      | 0.376     | 38%         |
| Proposed Added Flow $Q_P$                 | 0.27 CFS  |             |
| Proposed Total Flow, $Q = Q_E + Q_P$      | 2.527 CFS | 1,160.8 GPM |
| Propsoed Flow to Full Q/Q <sub>full</sub> | 0.421     | 42%         |

Existing flow is based on flow meeting test results provided in Appendix D.

Proposed Flow is based on sanitary effluent calculations provided in Appendix B.



Project Name: **141 Danbury Road** Project Number: **F-0731-002** Project Location: **Wilton, CT** Description: **Pipe Capacity Calculation** Prepared By: **EWL** Date: **1/3/2022** 

### **Pipe Capacity Calculation** Pipe Section 2 (Station 31+87 to 32+88)

### **Pipe Properties**

| D = Pipe Diameter                   | = | 2.00   | ft    |
|-------------------------------------|---|--------|-------|
| A = Flow Area                       | = | 3.14   | sf    |
| C = Circumference                   | = | 6.28   | ft    |
| HR = Hydraulic Radius               | = | 0.50   | ft    |
| S = Pipe Slope                      | = | 0.0017 | ft/ft |
| n = Manning's Roughness Coefficient | = | 0.013  |       |
|                                     |   |        |       |

### **Maximum Capacity of Pipe**

### $Q = (1.49/n) * A * HR^{2/3} * S^{1/2}$

| Maximum Capacity $Q_{full}$ =             | 9.35      | CFS         |
|---|-----------|-------------|
|   |           |             |
| Existing Peak Flow, Q <sub>E</sub>        | 2.257 CFS | 1,013.1 GPM |
| Existing Flow to Full $Q_E/Q_{full}$      | 0.241     | 24%         |
| Proposed Added Flow $Q_P$                 | 0.27 CFS  |             |
| Proposed Total Flow, $Q = Q_E + Q_P$      | 2.527 CFS | 1,160.8 GPM |
| Propsoed Flow to Full Q/Q <sub>full</sub> | 0.270     | 27%         |

Existing flow is based on flow meeting test results provided in Appendix D.

Proposed Flow is based on sanitary effluent calculations provided in Appendix B.



Project Name: **141 Danbury Road** Project Number: **F-0731-002** Project Location: **Wilton, CT** Description: **Pipe Capacity Calculation** Prepared By: **EWL** Date: **1/3/2022** 

# Pipe Capacity Calculation

Pipe Section 3 (Station 71+74 to 73+80)

### **Pipe Properties**

| D = Pipe Diameter                   | = | 2.00   | ft    |
|-------------------------------------|---|--------|-------|
| A = Flow Area                       | = | 3.14   | sf    |
| C = Circumference                   | = | 6.28   | ft    |
| HR = Hydraulic Radius               | = | 0.50   | ft    |
| S = Pipe Slope                      | = | 0.0019 | ft/ft |
| n = Manning's Roughness Coefficient | = | 0.013  |       |

### **Maximum Capacity of Pipe**

### $Q = (1.49/n) * A * HR^{2/3} * S^{1/2}$

| Maximum Capacity Q <sub>full</sub> =      | 9.89      | CFS         |
|---|-----------|-------------|
|   |           |             |
| Existing Peak Flow, Q <sub>E</sub>        | 2.257 CFS | 1,013.1 GPM |
| Existing Flow to Full $Q_E/Q_{full}$      | 0.228     | 23%         |
| Proposed Added Flow $Q_P$                 | 0.27 CFS  |             |
| Proposed Total Flow, $Q = Q_E + Q_P$      | 2.527 CFS | 1,160.8 GPM |
| Propsoed Flow to Full Q/Q <sub>full</sub> | 0.256     | 26%         |

Existing flow is based on flow meeting test results provided in Appendix D.

Proposed Flow is based on sanitary effluent calculations provided in Appendix B.

# **Tighe&Bond**

APPENDIX D



# **Flow Monitoring Report**

# Fall 2021

Prepared For:

# **Tighe & Bond**

Services Performed In:

# Wilton, CT

Prepared by:

## EST Associates Inc.

124 Crescent Road, Needham, MA 02494 Tel: (781) 455-0003 ESTAssociates.com



# 149 Danbury Rd - Wilton, CT



124 Crescent Road, Needham, MA 02494 tel: 781-455-0003 fax: 781-455-8336



# SITE INVESTIGATION FORM

| Client:           | Tighe & Bond          | Meter ID:              | Wilton CT 149 Danbury   |
|-------------------|-----------------------|------------------------|-------------------------|
| Location:         | Wilton, CT            | Address:               | 149 Danbury Rd          |
| INSTALL DATA      |                       |                        |                         |
| Date:             | 10/21/2021            |                        |                         |
| Time:             | 1:30PM                |                        |                         |
| GPS Coordinates:  | 41.18039, -73.41613   | 3                      |                         |
| Sensor Location:  | US1                   |                        |                         |
| Installed By:     | JC SP                 |                        |                         |
| LINE DESCRIPTIONS | S                     |                        |                         |
|                   | Size Pip<br>(in) Mate | e Debris<br>erial (in) | Shape Depth<br>(ft, in) |



124 Crescent Road, Needham, MA 02494 • Tel (781) 455-0003 Fax (781) 455-8336 www.estassociates.com

# Wilton, CT 149 Danbury Rd





# Wilton CT 149 Danbury, Danbury, CT Daily Flow Rate Table

| Date/Time  | Average Flow Rate | <b>Minimum Flow</b> | Time of Minimum | Maximum Flow | Time of Maximum  | Total Flow    |
|------------|-------------------|---------------------|-----------------|--------------|------------------|---------------|
|            |                   | Rate                | Flow Rate       | Rate         | Flow Rate        |               |
| (m/d/yyyy) | (gpm)             | (gpm)               | (h:mm)          | (gpm)        | (h:mm)           | (gal)         |
| 10/21/2021 | 328.9             | 211.0               | 1:45 AM         | 463.1        | 3:30 PM          | 473,658.2     |
| 10/22/2021 | 316.8             | 171.1               | 2:15 AM         | 461.9        | 1:45 PM          | 456,221.8     |
| 10/23/2021 | 302.3             | 179.5               | 5:15 AM         | 429.1        | 3:30 PM          | 435,310.4     |
| 10/24/2021 | 327.2             | 225.9               | 4:00 AM         | 437.1        | 11:45 AM         | 471,202.7     |
| 10/25/2021 | 394.4             | 219.7               | 4:15 AM         | 576.4        | 11:00 AM         | 567,997.5     |
| 10/26/2021 | 672.9             | 301.8               | 2:00 AM         | 1,013.1      | 10:30 PM         | 968,994.1     |
| 10/27/2021 | 673.9             | 469.3               | 1:30 AM         | 837.4        | 12:15 PM         | 970,368.7     |
| 10/28/2021 | 563.5             | 410.9               | 1:30 AM         | 902.4        | 5:15 PM          | 811,430.4     |
| 10/29/2021 | 533.6             | 383.3               | 3:30 AM         | 672.5        | 1:30 PM          | 768,358.8     |
| 10/30/2021 | 524.7             | 399.6               | 12:30 AM        | 693.9        | 11:45 AM         | 755,534.2     |
| 10/31/2021 | 503.2             | 375.9               | 5:00 AM         | 640.6        | 10:45 AM         | 724,595.3     |
| 11/1/2021  | 500.4             | 373.6               | 2:30 AM         | 667.7        | 12:45 PM         | 720,581.8     |
| 11/2/2021  | 484.1             | 354.1               | 3:15 AM         | 650.8        | 3:15 PM          | 697,126.2     |
| 11/3/2021  | 484.8             | 330.8               | 3:15 AM         | 700.3        | 1:30 PM          | 698,140.7     |
| 11/4/2021  | 482.5             | 336.1               | 3:00 AM         | 658.5        | 12:45 PM         | 694,731.4     |
| 11/5/2021  | 475.2             | 323.1               | 3:00 AM         | 685.7        | 2:15 PM          | 684,290.6     |
| 11/6/2021  | 444.1             | 310.4               | 4:15 AM         | 575.5        | 1:15 PM          | 639,463.2     |
| 11/7/2021  | 449.3             | 332.0               | 5:45 AM         | 590.0        | 1:15 PM          | 647,013.9     |
| 11/8/2021  | 463.8             | 318.2               | 5:00 AM         | 635.9        | 4:30 PM          | 667,904.7     |
| 11/9/2021  | 456.8             | 311.2               | 3:45 AM         | 652.8        | 2:15 PM          | 657,745.0     |
| 11/10/2021 | 445.4             | 303.2               | 5:15 AM         | 587.2        | 12:15 PM         | 641,353.4     |
| 11/11/2021 | 449.1             | 307.2               | 3:00 AM         | 610.3        | 4:00 PM          | 646,741.8     |
| 11/12/2021 | 472.9             | 311.4               | 3:45 AM         | 659.8        | 1:15 PM          | 680,952.8     |
| 11/13/2021 | 463.3             | 349.7               | 1:15 AM         | 589.7        | 4:45 PM          | 667,120.2     |
| 11/14/2021 | 439.4             | 306.5               | 5:15 AM         | 566.9        | 5:15 PM          | 632,696.3     |
| 11/15/2021 | 488.1             | 336.5               | 4:15 AM         | 655.6        | 1:30 PM          | 702,865.0     |
| 11/16/2021 | 486.6             | 346.9               | 5:15 AM         | 630.5        | 12:45 PM         | 700,725.7     |
| 11/17/2021 | 484.4             | 337.0               | 3:30 AM         | 697.0        | 11:45 AM         | 697,584.5     |
| 11/18/2021 | 409.9             | 324.5               | 4:15 AM         | 563.6        | 10:15 AM         | 590,245.1     |
| Flow Total | Average Flow Rate | <b>Minimum Flow</b> | Time of Minimum | Maximum Flow | Time of Maximum  | Average Total |
|            | Total             | Rate                | Flow Rate       | Rate         | Flow Rate        | Flow          |
| (gal)      | (gpm)             | (gpm)               | (m/d/yyyy h:mm) | (gpm)        | (m/d/yyyy h:mm)  | (gal)         |
| 19,470,954 | 466.3             | 171.1               | 10/22/2021 2:15 | 1,013.1      | 10/26/2021 22:30 | 671,412.2     |



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# **CALIBRATION & DATA COLLECTION**

| Client:      | Tighe + Bowl       | Meter ID: WITTON CTILIG DANbury      |
|--------------|--------------------|--------------------------------------|
| Address:     | 149 DANSUN, Rd     |                                      |
| SERVICE      | S PERFORMED        |                                      |
| Date:        | 10/21/21           | Technicians: JC/SP                   |
| Time:        | 13:43              | Meter Serial Number: <u>EST-25</u> 2 |
|              | Sensor Cleaning    | Calibration Check                    |
|              | Data Download      | Other: Meter INSTall                 |
| Data Downlo  | Daded: Yes [       | No                                   |
|              | To Laptop          |                                      |
| Battery Repl | Existing voltage:  | No New voltage:                      |
| Dessicant St | Replaced:          | No                                   |
| METER R      | READINGS           |                                      |
| Levels:      | Meter: <u>5.75</u> | (in.) Actual: <u>5,75</u> (in.)      |
|              | Recalibrated:      | Yes No                               |
| Sensor Type  | : Area Velocity    | Ultrasonic Laser                     |
| Velocity:    | Meter: 1,59        | (ft/s) Actual: 1, 5 9 (ft/s)         |
| NOTES        |                    |                                      |
| Notes:       |                    |                                      |



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| (       | <b>CALIBRATION &amp; DATA COLLECTION</b> |   |                                       |  |  |  |  |
|---------|--|---|---------------------------------------|--|--|--|--|
|         | Client: Tig)                             | e 9 Bond  | Meter ID: Wilton CT 149 Panbury       |  |  |  |  |
|         | Address: 149                             | Panbury Rip   | · · · · · · · · · · · · · · · · · · · |  |  |  |  |
|         | SERVICES PERF                            | ORMED   |                                       |  |  |  |  |
|         | Date: 10/2.                              | d and a second se | Technicians: <u>SP/BU</u>             |  |  |  |  |
|         | Time: <u>10</u> :3                       | 13  | Meter Serial Number: EST-252          |  |  |  |  |
|         | Sensor C                                 | leaning   | Calibration Check                     |  |  |  |  |
|         | Data Dov                                 | vnload  | Other:                                |  |  |  |  |
| C       | Data Downloaded:                         | Yes By Modem on: To Laptop  | No<br>Serial Number: <u>42</u>        |  |  |  |  |
|         | Battery Replacement:<br>Existing ve      | Ditage:   | New voltage:                          |  |  |  |  |
|         | Dessicant Status:<br>Replaced:           | 6007<br>Yes   | No                                    |  |  |  |  |
|         | METER READIN                             | GS  |                                       |  |  |  |  |
|         | Levels:                                  | Meter: <u>6.9</u>   | (in.) Actual: 6,9 (in.)               |  |  |  |  |
|         |  | Recalibrated:   | Yes No                                |  |  |  |  |
|         | Sensor Type:                             | Area Velocity   | Ultrasonic Laser                      |  |  |  |  |
|         | Velocity:                                | Meter: 1.94   | (ft/s) Actual:(ft/s)                  |  |  |  |  |
| <u></u> | NOTES                                    |   |                                       |  |  |  |  |
| C       | Notes:                                   |   |                                       |  |  |  |  |



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|                     | <b>CALIBRATION &amp; DATA COLLECTION</b>       |
|---------------------|--|
| Client:<br>Address: | Tight & Bond Meter ID: WITON CT 149 DANK       |
| SERVICES            | S PERFORMED                                    |
| Date:               | 11/3/21 Technicians: JR/BM                     |
| Time:               | 09:41 Meter Serial Number:                     |
|                     | Sensor Cleaning Calibration Check              |
|                     | Data Download Other:                           |
| Data Downloa        | Inded:     Yes     No       By Modem on:       |
| Battery Repla       | cement: Yes No Existing voltage:               |
| Dessicant Sta       | tus:<br>Replaced: Yes No                       |
| METER RI            | EADINGS  |
| Levels:             | Meter:(in.) Actual:(in.)<br>Recalibrated:YesNo |
| Sensor Type:        | Area Velocity Ultrasonic Laser                 |
| Velocity:           | Meter: 1.73 (ft/s) Actual: 1,73 (ft/s)         |
| NOTES               |  |



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# **CALIBRATION & DATA COLLECTION**

| Client: <u>Tig</u>   | he good           | Meter ID:       | Hon ct                      | 149 Danb-re |
|----------------------|-------------------|-----------------|-----------------------------|-------------|
| Address: 14          | 19 Dunbury        |                 |                             |             |
| SERVICES PERF        | ORMED             |                 |                             |             |
| Date:                | 10                | Technicians:    | SP/BN                       |             |
| Time:                |                   | Meter Serial N  | umber: <u>128</u>           | 1-252       |
| Sensor C             | leaning           | Calibration Che | eck                         |             |
| Data Dov             | vnload [          | Other:          |                             |             |
| Data Downloaded:     | Yes [             | No              |                             |             |
|                      | To Laptop         | Serial Number:  | \$2                         |             |
| Battery Replacement: | Yes               | No              |                             |             |
| Existing v           | (, ord            | New Voltage:    |                             |             |
| Replaced:            | Yes               |                 | teer                        |             |
| METER READIN         | GS                |                 |                             |             |
| Levels:              | Meter: <u>6.7</u> | (in.) Actual:   | 6.7                         | (in.)       |
|                      | Recalibrated:     | Yes             | No                          |             |
| Sensor Type:         | X Area Velocity   | Ultrasonic      | Laser                       |             |
| Velocity:            | Meter: 1.6        | (ft/s) Actual:  | 1.7                         | (ft/s)      |
| NOTES                |                   |                 | · · · · · · · · - · · - · · |             |
| Notes:               |                   |                 |                             |             |
|                      |                   |                 |                             |             |



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# **CALIBRATION & DATA COLLECTION**

| Client:          | Tighe + Bord Meter ID: 149 Danbury   |
|------------------|--|
| Address:         |  |
| SERVICES         | PERFORMED  |
| Date:            | 11-18-21 Technicians: <u>MK / TA</u>                                       |
| Time:            | 1020 Meter Serial Number: EST 252  |
| Se Da            | ta Download Other:   |
| Data Downloade   | d: Yes No By Modem on:   |
|                  | To Laptop Serial Number:   |
| Battery Replacen | nent: Yes No   |
| Dessicant Status | Sting Voltage: New Voltage:  |
| Rep              | laced: Yes No  |
| METER REA        | DINGS  |
| Levels:          | Meter: <u>6,543</u> (in.) Actual: <u>6.5</u> (in.)<br>Recalibrated: Yes No |
| Sensor Type:     | Area Velocity Ultrasonic Laser   |
| Velocity:        | Meter: <u>1, 70.3</u> (ft/s) Actual: <u>1, 7</u> (ft/s)                    |
| NOTES            |  |
| Notes:           |  |
|                  |  |



# Rain Gauge - Wilton, CT

# Daily Rainfall Table

|            |                  |                  | Time of          |                  | Time of          |                |
|------------|------------------|------------------|------------------|------------------|------------------|----------------|
| Date       | Average Rainfall | Minimum Rainfall | Minimum Rainfall | Maximum Rainfall | Maximum Rainfall | Total Rainfall |
|            | (in)             | (in)             | hh:mm            | (in)             | hh:mm            | (in)           |
| 10/21/2021 | 0.000            | 0.000            | 2:00 PM          | 0.000            | 2:00 PM          | 0.000          |
| 10/22/2021 | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| 10/23/2021 | 0.000            | 0.000            | 12:00 AM         | 0.010            | 11:00 PM         | 0.010          |
| 10/24/2021 | 0.000            | 0.000            | 12:00 AM         | 0.010            | 11:30 PM         | 0.020          |
| 10/25/2021 | 0.000            | 0.000            | 1:00 AM          | 0.150            | 10:00 PM         | 0.370          |
| 10/26/2021 | 0.040            | 0.000            | 12:00 AM         | 0.230            | 1:00 PM          | 3.670          |
| 10/27/2021 | 0.000            | 0.000            | 3:00 AM          | 0.030            | 12:00 AM         | 0.160          |
| 10/28/2021 | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| 10/29/2021 | 0.000            | 0.000            | 12:00 AM         | 0.090            | 11:30 PM         | 0.160          |
| 10/30/2021 | 0.000            | 0.000            | 2:00 AM          | 0.050            | 5:30 AM          | 0.450          |
| 10/31/2021 | 0.000            | 0.000            | 12:00 AM         | 0.020            | 6:30 PM          | 0.040          |
| 11/1/2021  | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| 11/2/2021  | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| 11/3/2021  | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| 11/4/2021  | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| 11/5/2021  | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| 11/6/2021  | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| 11/7/2021  | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| 11/8/2021  | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| 11/9/2021  | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| 11/10/2021 | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| 11/11/2021 | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| 11/12/2021 | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| 11/13/2021 | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| 11/14/2021 | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| 11/15/2021 | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| 11/16/2021 | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| 11/17/2021 | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| 11/18/2021 | 0.000            | 0.000            | 10:15 AM         | 0.010            | 10:30 PM         | 0.020          |
| 11/19/2021 | 0.000            | 0.000            | 1:00 AM          | 0.010            | 12:00 AM         | 0.050          |
| 11/20/2021 | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| 11/21/2021 | 0.000            | 0.000            | 12:00 AM         | 0.000            | 12:00 AM         | 0.000          |
| Rainfall   | Average Rainfall | Minimum Rainfall | Time of Minimum  | Maximum Rainfall | Time of Maximum  | Average Total  |
| Total      |                  |                  | Rainfall         |                  | Rainfall         | Rainfall       |
| (in)       | (in)             | (in)             | (m/d/yyyy h:mm)  | (in)             | (m/d/yyyy h:mm)  | (in)           |
| 4.950      | 0.001            | 0.000            | 10/21/21 14:00   | 0.230            | 10/26/21 13:00   | 0.155          |

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