



## TECHNICAL COMMITTEE MEETING MINUTES

Wednesday, January 17, 2024

4:30PM

Via VIDEO/TELECONFERENCE

### Attendees:

|                  |                                      |
|------------------|--------------------------------------|
| Ed Kelly         | Acting Chairman, Technical Committee |
| Merritt Nesin    | Committee Member                     |
| Steve Bagwin     | Committee Member                     |
| Bill Brink, P.E. | Executive Director, WPCA             |
| Ann Brown, P.E.  | Supervising Engineer, WPCA           |
| Steve Pietrzyk   | Collection System Supervisor, WPCA   |

1. Call to Order and Roll Call – E. Kelly called the meeting to order at 4:30PM and announced the attendees as listed above.
2. Approval of December 13, 2023 Meeting Minutes - E. Kelly made a motion to approve the minutes of the December 13, 2023 Technical Committee Meeting. The motion was seconded by S. Bagwin. Motion carried 3-0-0.
3. Public Comments – None. E. Kelly stated that he spoke with a member of the public, Nick Tamburro, 18 Willard Terrace, who indicated he wants to attend the pre-bid meeting. A. Brown will provide the meeting information to him so he can attend.
4. Discussion and approval of Amendment #1 to Tighe & Bond's contract for Perna Lane Sewer Extension for Bidding Services in an amount not to exceed \$17,700 – A. Brown reviewed Tighe & Bond's Amendment #1 to their Agreement for Engineering Services. This amendment is for the bidding phase of the contract and includes:
  - Attending a pre-bid meeting with potential bidders
  - Responding to bidder's questions during the bid period
  - Preparing two addenda with backup documentation
  - Tabulating, reviewing, and analyzing bid results.
  - Investigating qualifications of the lowest bidder
  - Making recommendations for award of the contract to WPCA.

The fee for the Bidding Phase is an amount not to exceed \$17,700. The Technical Committee agreed to recommend approval of Amendment #1 to the Full Board.

5. Notification of CTDEEP's approval of Synagro's requested Air Permit Modification to Operate the Sludge Dryer at a greater throughput up to a daily average of 12 transport pods per hour – A. Brown notified the Committee that the air permit modification submitted by Synagro was approved. The permit requires an hourly processing limit to ensure emissions limits set in the permit are not exceeded. The dryer has no mechanism to measure tons/hour processed directly, so transports/hour is a calculated rate that is used. The permit limit was 7.8 transports/hour. The permit now specifies 12 transports/hour daily average.
6. Discussion on Collection System – S. Pietrzyk presented the Monthly Pump Station and Collection Activities, which is attached and made part of these minutes. Steve reviewed issues with Cove Island Pump Station PLC. He also indicated that they are having success with the trial of the Wet Well Wizard and will continue with the trial period.
7. Discussion on Plant Operations – R. Pudelka was absent from the meeting. Bil Brink presented the Monthly Operating Report and Equipment Update with the Committee, which is attached and made part of these minutes. Bill advised the Committee that the plant has experienced high flows from the wet weather and the monthly average in December was almost 20 mgd. Rob had previously expressed concern that the influent loads to the plant for BOD and TSS were approaching the design loads used in the 2004 plant

upgrade. Bill asked Wright-Pierce to look at the model of the system and advise on the BOD and Total Suspended Solid loads (pounds per day) used in their design of the most recent upgrade. Rob prepared the comparison of the 5-year averages from 2014-2018 to 2019-2023 which showed that although average flow remained the same at 15.8 mgd (66% of plant capacity), average BOD and TSS influent loads increased 17% and 14%, respectively. Average BOD loads have reached 80% of design loads and average TSS loads are 76% of design loads.

8. Update on Engineering Studies and Designs – A. Brown provided the Committee with a Capital Projects Update including engineering studies and designs, which is attached and made part of these minutes. E. Kelly asked for clarification on the RFQ for Operation and Maintenance of the Dryer Facility. How will we handle the contract with Synagro if we do not have a firm in place before Synagro's contract expires? Bill responded that we would extend Synagro's contract, which we have done in previous years.
9. Update on Construction Projects – A. Brown provided the Committee with a Capital Projects Update including construction projects, which is attached and made part of these minutes. Ann provided an update to the Perna Lane Sewer Extension as follows:
  - Advertised for bids on 1/11.
  - Pre-bid meeting 1/23.
  - Bid opening 2/22.
  - Bidders may ask questions/clarifications till 2/12.
10. Old Business – None.
11. New Business – None.

There being no further issues to discuss, E. Kelly made a motion to adjourn the meeting, seconded by S. Bagwin; motion carried 3-0-0. The meeting adjourned at 5:25pm.

Revised February 5, 2024

Due to a Technical Error this meeting was not recorded.

## Monthly Activities (12/12/23 to 01/15/24)

### Collection and Pump Station Division

#### Overview of Pump Station and Gravity Collection Systems:

1. Pump station inspections for 22-sanitary sewer and 4-stormwater stations (118)
2. Pump station call-out activities (29)
3. Manhole Inspections (296)
4. Gravity line service calls investigated (12)
5. Private lateral investigations and repairs in City ROW (4)
6. Sewer line repair (0)
7. Manhole repair(s) (5)
8. CCTV sanitary sewer lines (0 LF)
9. Sewer line cleaning (2.72 miles)

#### Pump Stations:

1. Performed monthly landscape maintenance activities at pump stations.
2. Exercised portable generators.
3. Performed electrical preventative maintenance inspections at various pump stations.
4. WPCA electrician worked with Knapp Engineering on a PLC problem that occurred in the control cabinet at Cove Island (12/29). While this work was on going, WPCA's Electrician asked GA Fleet to come down and determine if they could install temporary level control device for the pump station to avoid having staff monitor and manually control pump operations over the long holiday weekend. On 1/2/24, Knapp Engineering installed the new PLC card and processor and GA Fleet disconnected the temporary level control device, so the station was operating normally. Through this event, WPCA's electrician also determined the drive for VFD pump #3 had failed and a replacement was ordered from Flowtech.
5. Staff have been monitoring the effectiveness of the wet well wizard in limiting grease accumulation in the wet well at Bonner Pump Station. Staff may relocate the trial equipment at another pump station for another 30 day trial period.

#### Collection System:

1. Crew jetted lines on Edice RD.; Snow Crystal LN., Wild Horse RD., Club RD., Malvern RD., Stillwater Ave., West Park PL., Main ST., Summer ST. Ext., Orange ST., Lockwood Ave., Broad ST., and Elm ST.
2. Crews responded to a spill incident caused by CTDOT and their contractors on 12/21/23. CTDOT and their contractors were excavating a section of the stormwater conveyance system receiving stormwater flow from I-95 and failed to notify WPCA in advance of these excavation activities to mark-out the sanitary sewer line in vicinity. As a result, these entities broke the sanitary sewer line. WPCA's staff assisted in containing the spill and provided necessary pipe and fittings and supervised and directed these entities in completing the sewer line repair.

#### Miscellaneous:

1. Continue to work with CDMSmith on the GIS upgrade project.
2. Provided sanitary sewer plan sheet information to various civil engineers and/or contractors working on City development projects.

**Overview of Regulatory Compliance:**

1. Initial building permit reviews (6)
2. Re-review of building permit applications (45)
3. Sanitary sewer tie-in plan reviews (0)
4. Zoning permit application reviews (4)
5. Initial Food Service Establishment (FSEs) Inspections (2)
6. FSE Follow-up Inspections (6)
7. Notice of violations (NOVs) Issued (1)
8. CTDEEP General Permit plan reviews or applications (13)

**Work performed by outside contractors:**

1. Vitti Construction repaired two (2) manhole frame and cover at 127 Hartswood RD. and 86 Ogden RD.
2. Vitti Construction repaired four (4) laterals in the City ROW at 55 Elm Tree PL., 17 Greenwood Hill ST., 227 Bedford ST., and 225 Greenwich Ave.
3. Cavalier Construction re-set manhole frames (3) at Tremont Ave. and Courtland Ave., Courtland Ave., and 1103 East Main ST.
4. Knapp Engineering installed new PLC card and processor at Cove Island pump station.
5. GA Fleet installed temporary level control device for the Cove Island pump station.



# JANUARY 2024 TECHNICAL COMMITTEE REPORT

| Monthly Operating Report data: | December Results |                  |                              | Permit Limit      |
|--------------------------------|------------------|------------------|------------------------------|-------------------|
|                                | This month (Dec) | Last month (Nov) | Historical (Dec) Monthly AVG |                   |
| Q (FLOW) DAILY AVG MGD         | 19.9             | 15.7             | 16.7                         | 24 MGD DESIGN AVG |
| Q MAXIMUM DAILY AVG MGD        | 29.1             | 20.7             | 23.9                         | 58 MGD MAX AVG    |
| BOD INFLUENT AVG MG/L          | 207              | 263              | 221                          |                   |
| BOD INFLUENT AVG LBS/D         | 32,529           | 34,437           |                              |                   |
| BOD EFFLUENT AVG MG/L          | 5                | 4                | 4                            |                   |
| BOD EFFLUENT MAX MG/L          | 9                | 6                |                              | 20 mg/L           |
| BOD REMOVAL %                  | 97.3             | 98.5             | 98.1                         | 85%               |
| TSS INFLUENT AVG MG/L          | 267              | 430              | 298                          |                   |
| TSS INFLUENT AVG LBS/D         | 41,958           | 56,303           |                              |                   |
| TSS EFFLUENT AVG MG/L          | 11               | 7                | 11                           |                   |
| TSS EFFLUENT MAX MG/L          | 21               | 12               |                              | 20 MG/l           |
| TSS REMOVAL %                  | 95.2             | 97.6             | 96.1                         | 85%               |
| TOTAL N INFLUENT AVG MG/L      | 28.9             | 38.5             | 33.5                         |                   |
| TOTAL N INFLUENT AVG LBS/D     | 4542             | 5041             | 4508                         |                   |
| TOTAL N EFFLUENT AVG MG/L      | 1.96             | 2.20             | 3.31                         |                   |
| TOTAL N EFFLUENT AVG LBS/D     | 337              | 294              | 465                          | 926 LBS/D         |
| N REMOVAL %                    | 93.2             | 94.3             | 89.6                         |                   |
| TOTAL P INFLUENT AVG MG/L      | 3.81             | 5.3              | 4.72                         |                   |
| TOTAL P EFFLUENT AVG MG/L      | 0.57             | 0.86             | 0.69                         |                   |
| P REMOVAL %                    | 85               | 83.8             | 85.1                         |                   |
| UV EXCEEDANCES <30 mJ/cm2      | 0                | 0                |                              |                   |

## Plant Equipment Update

TWAS Pump #1

Admin Heating System

Primary Building RTU

Admin Building Domestic H2O

Main Generator

Trojan UV

BFP PLCs

6" & 3" Submersibles

BFP Belts

New VFD installed

Clearwater completed acid cleaning and replacement of glycol

New burner ordered - back ordered

Need to replace hot water heaters

Diesel Fuel replaced; Block Heater needs replacement;

Diesel Fuel filtration system needed

Installed Streaming connection to remote connect

Knapp to provide and program replacement and spare

GA Fleet to repair both pumps

Replacement of three torn belts

\*\*\* Primary tanks bypassed from 11/28 - 12/29/23 due to the leaking sludge line on #2 and construction to primary tank #1

## Stamford Average Daily Flow - MGD

| calendar year  | 2014  | 2015  | 2016  | 2017  | 2018  | 2019  | 2020  | 2021  | 2022        | 2023  | 10 YR<br>AVG | 5 YR<br>AVG<br>'14-'18 | 5 YR<br>AVG<br>'19-'23 | 5 YR<br>%<br>Change |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------------|-------|--------------|------------------------|------------------------|---------------------|
| January  | 15.7  | 16.4  | 15.8  | 16.4  | 14.2  | 21.7  | 16.7  | 16.1  | 14.5        | 16.3  | 16.4         | 15.7                   | 17.1                   |                     |
| February   | 16.1  | 14.5  | 18.4  | 15.6  | 18.3  | 18.5  | 16.7  | 15.8  | 16.0        | 14.7  | 16.5         | 16.6                   | 16.3                   |                     |
| March  | 17.3  | 20.8  | 16.1  | 15.8  | 21.3  | 18.4  | 16.1  | 16.4  | 15.8        | 16.9  | 17.5         | 18.3                   | 16.7                   |                     |
| April  | 19.2  | 18.2  | 15.7  | 20.7  | 18.2  | 17.7  | 17.3  | 15.8  | 18.3        | 15.0  | 17.6         | 18.4                   | 16.8                   |                     |
| May  | 20.8  | 15.1  | 15.6  | 17.4  | 15.6  | 20.0  | 15.9  | 15.3  | 15.4        | 17.4  | 16.9         | 16.9                   | 16.8                   |                     |
| June   | 15.5  | 15.8  | 14.5  | 15.4  | 14.3  | 15.9  | 13.7  | 14.6  | 15.0        | 13.5  | 14.8         | 15.1                   | 14.5                   |                     |
| July   | 14.7  | 14.9  | 13.8  | 14.6  | 14.2  | 17.3  | 13.5  | 19.7  | 13.8        | 14.3  | 15.1         | 14.4                   | 15.7                   |                     |
| August   | 13.7  | 13.8  | 14.0  | 13.4  | 15.6  | 14.8  | 13.2  | 14.6  | 12.4        | 14.3  | 14.0         | 14.1                   | 13.9                   |                     |
| September  | 13.2  | 13.3  | 13.3  | 13.2  | 17.2  | 13.2  | 12.9  | 20.8  | 12.8        | 16.4  | 14.6         | 14.0                   | 15.2                   |                     |
| October  | 13.4  | 13.7  | 13.2  | 12.9  | 20.2  | 14.3  | 13.3  | 16.4  | 13.4        | 17.9  | 14.9         | 14.7                   | 15.1                   |                     |
| November   | 13.8  | 13.8  | 13.5  | 13.3  | 20.0  | 14.7  | 14.9  | 15.2  | 13.0        | 15.7  | 14.8         | 14.9                   | 14.7                   |                     |
| December   | 18.0  | 14.7  | 15.3  | 12.6  | 20.4  | 19.0  | 17.2  | 13.5  | 14.9        | 19.9  | 16.6         | 16.2                   | 16.9                   |                     |
|  |       |       |       |       |       | <13   | ≥20   |       | Lowest flow |       |              |                        |                        |                     |
| <b>annual average</b>                                    | 16.0  | 15.4  | 14.9  | 15.1  | 17.5  | 17.1  | 15.1  | 16.2  | 14.6        | 16.0  | 15.8         | 15.8                   | 15.8                   | <b>0%</b>           |
| <b>% of Permit Design for Avg Monthly Flow of 24 MGD</b> | 66%   | 64%   | 62%   | 63%   | 73%   | 71%   | 63%   | 67%   | 61%         | 67%   | 66%          | 66%                    | 66%                    |                     |
| <b>annual precipitation - inches</b>                     | 48.05 | 40.74 | 40.17 | 42.30 | 66.65 | 58.03 | 44.43 | 58.51 | 40.87       | 57.43 | 49.7         | 47.6                   | 51.9                   | 8%                  |

## Stamford Average Influent BOD - mg/L

| year   | 2014   | 2015   | 2016   | 2017   | 2018   | 2019   | 2020   | 2021   | 2022   | 2023   | 10 YR<br>AVG | 5 YR<br>AVG<br>'14-'18 | 5 YR<br>AVG<br>'19-'23 | 5 YR %<br>Change |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------|------------------------|------------------------|------------------|
| January  | 211    | 190    | 184    | 175    | 255    | 170    | 202    | 190    | 309    | 216    | 210          | 203                    | 217                    |                  |
| February   | 205    | 218    | 151    | 181    | 164    | 182    | 237    | 245    | 248    | 254    | 209          | 184                    | 233                    |                  |
| March  | 184    | 152    | 185    | 177    | 130    | 178    | 235    | 227    | 252    | 222    | 194          | 166                    | 223                    |                  |
| April  | 154    | 164    | 184    | 151    | 169    | 184    | 197    | 212    | 231    | 303    | 195          | 164                    | 225                    |                  |
| May  | 174    | 236    | 190    | 185    | 219    | 192    | 247    | 284    | 245    | 212    | 218          | 201                    | 236                    |                  |
| June   | 222    | 189    | 205    | 224    | 260    | 255    | 277    | 242    | 275    | 313    | 246          | 220                    | 272                    |                  |
| July   | 261    | 173    | 202    | 232    | 239    | 205    | 294    | 224    | 310    | 301    | 244          | 221                    | 267                    |                  |
| August   | 240    | 212    | 196    | 236    | 190    | 234    | 290    | 246    | 281    | 296    | 242          | 215                    | 269                    |                  |
| September  | 281    | 217    | 221    | 268    | 230    | 258    | 267    | 205    | 293    | 222    | 246          | 243                    | 249                    |                  |
| October  | 254    | 199    | 278    | 250    | 202    | 302    | 335    | 274    | 305    | 295    | 269          | 237                    | 302                    |                  |
| November   | 296    | 212    | 246    | 251    | 172    | 342    | 236    | 268    | 297    | 263    | 258          | 235                    | 281                    |                  |
| December   | 184    | 204    | 245    | 275    | 158    | 195    | 193    | 295    | 237    | 207    | 219          | 213                    | 225                    |                  |
|  |        |        |        |        |        | >300   |        |        |        |        |              |                        |                        |                  |
| <b>annual average</b>  | 222    | 197    | 207    | 217    | 199    | 225    | 251    | 243    | 274    | 259    | 229          | 209                    | 250                    | 17%              |
| annual average flow - MGD  | 16.0   | 15.4   | 14.9   | 15.1   | 17.5   | 17.1   | 15.1   | 16.2   | 14.6   | 16.0   | 15.8         | 15.8                   | 15.8                   | 0%               |
| ave annual Inf BOD - lb/da   | 29,553 | 25,351 | 25,812 | 27,353 | 28,975 | 32,099 | 31,623 | 32,752 | 33,332 | 34,570 | 30,203       | 27,432                 | 32,981                 | 17%              |
| <b>W-P % of Design for PE BOD loadings to Bioreactors = 41,233 lbs/d</b> | 72%    | 61%    | 63%    | 66%    | 70%    | 78%    | 77%    | 79%    | 81%    | 84%    | 73%          | 67%                    | 80%                    |                  |

Wright-Pierce (Hankins) Design Daily Influent BOD Loadings = 41,233 lbs/d. (24mgd\*206mg/l\*8.34lbs) (90%=37,110)

**If using the last five year avg of 250 mg/l, then we will hit 90% of design at 17.80 MGD w/ extended anoxic zone.**

## Stamford Average Primary Effluent BOD - mg/L

| year   | 2014   | 2015   | 2016   | 2017   | 2018   | 2019   | 2020   | 2021   | 2022   | 2023   | 10 YR<br>AVG | 5 YR<br>AVG<br>'14-'18 | 5 YR<br>AVG<br>'19-'23 | 5 YR %<br>Change |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------|------------------------|------------------------|------------------|
| January  | 107    | 96     | 96     | 128    | 128    | 102    | 111    | 124    | 127    | 107    | 113          | 111                    | 114                    |                  |
| February   | 101    | 104    | 81     | 132    | 110    | 113    | 118    | 162    | 122    | 100    | 114          | 106                    | 123                    |                  |
| March  | 94     | 85     | 92     | 127    | 110    | 113    | 123    | 182    | 127    | 101    | 115          | 102                    | 129                    |                  |
| April  | 89     | 79     | 93     | 109    | 85     | 128    | 102    | 212    | 100    | 116    | 111          | 91                     | 132                    |                  |
| May  | 84     | 95     | 95     | 97     | 89     | 116    | 142    | 204    | 109    | 103    | 113          | 92                     | 135                    |                  |
| June   | 101    | 91     | 98     | 103    | 113    | 129    | 167    | 214    | 108    | 145    | 127          | 101                    | 153                    |                  |
| July   | 94     | 93     | 90     | 82     | 100    | 115    | 148    | 138    | 112    | 140    | 111          | 92                     | 131                    |                  |
| August   | 91     | 101    | 93     | 89     | 88     | 111    | 148    | 165    | 122    | 134    | 114          | 92                     | 136                    |                  |
| September  | 99     | 92     | 97     | 104    | 90     | 121    | 148    | 129    | 115    | 128    | 112          | 96                     | 128                    |                  |
| October  | 107    | 115    | 105    | 115    | 90     | 123    | 145    | 128    | 123    | 139    | 119          | 106                    | 132                    |                  |
| November   | 122    | 107    | 108    | 119    | 95     | 129    | 138    | 128    | 123    | 162    | 123          | 110                    | 136                    |                  |
| December   | 92     | 100    | 112    | 122    | 86     | 106    | 125    | 134    | 120    | 196    | 119          | 102                    | 136                    |                  |
| <b>annual average</b>  | 98     | 97     | 97     | 111    | 99     | 117    | 135    | 160    | 117    | 131    | 116          | 100                    | 132                    | <b>24%</b>       |
| <b>annual average flow - MGD</b>   | 16.0   | 15.4   | 14.9   | 15.1   | 17.5   | 17.1   | 15.1   | 16.2   | 14.6   | 16.0   | 15.8         | 15.8                   | 15.8                   | <b>0%</b>        |
| <b>ave annual Inf BOD - lb/da</b>  | 13,092 | 12,407 | 12,039 | 13,934 | 14,366 | 16,734 | 16,967 | 21,595 | 14,295 | 17,497 | 15,289       | 13,177                 | 17,407                 | <b>24%</b>       |
| <b>CH2M % of Design for PE BOD loadings to Bioreactors = 29700 lbs/d</b> | 44%    | 42%    | 41%    | 47%    | 48%    | 56%    | 57%    | 73%    | 48%    | 59%    | 51%          | 44%                    | 59%                    |                  |
| <b>W-P % of Design for PE BOD loadings to Bioreactors = 21,797 lbs/d</b> | 60%    | 57%    | 55%    | 64%    | 66%    | 77%    | 78%    | 99%    | 66%    | 80%    | 63%          | 54%                    | 80%                    |                  |

CH2M Design Daily BOD Primary Effluent Loadings = 29,701 lb/d. (24mgd\*148mg/l\*8.34lbs) 90% = 26,7309

Wright-Pierce (Hankins) Design Daily BOD Primary Effluent Loadings = 21,797 lb/d.(24mgd\*109mg/l\*8.34l 90% = 19,781

**If using the five year avg of 132 mg/l, then we will hit 90% of design at 17.97 MGD w/extended anoxic zone**



## Stamford Average Influent TSS - mg/L

| year  | 2014   | 2015   | 2016   | 2017   | 2018   | 2019   | 2020   | 2021   | 2022   | 2023   | 10 YR<br>AVG | 5 YR<br>AVG<br>'14-'18 | 5 YR<br>AVG<br>'19-'23 | 5 YR %<br>Change |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------|------------------------|------------------------|------------------|
| January   | 271    | 283    | 258    | 255    | 390    | 255    | 235    | 218    | 446    | 266    | 288          | 291                    | 284                    |                  |
| February  | 282    | 307    | 218    | 243    | 232    | 241    | 295    | 279    | 360    | 364    | 282          | 256                    | 308                    |                  |
| March   | 252    | 204    | 296    | 221    | 165    | 254    | 326    | 314    | 308    | 311    | 265          | 228                    | 303                    |                  |
| April   | 200    | 244    | 262    | 223    | 249    | 268    | 269    | 309    | 357    | 372    | 275          | 236                    | 315                    |                  |
| May   | 202    | 331    | 275    | 245    | 340    | 281    | 333    | 420    | 341    | 280    | 305          | 279                    | 331                    |                  |
| June  | 318    | 297    | 349    | 351    | 494    | 460    | 397    | 330    | 359    | 384    | 374          | 362                    | 386                    |                  |
| July  | 390    | 279    | 318    | 352    | 426    | 343    | 392    | 275    | 471    | 485    | 373          | 353                    | 393                    |                  |
| August  | 346    | 345    | 331    | 363    | 285    | 490    | 397    | 381    | 434    | 373    | 375          | 334                    | 415                    |                  |
| September   | 458    | 365    | 367    | 414    | 400    | 440    | 398    | 272    | 439    | 256    | 381          | 401                    | 361                    |                  |
| October   | 375    | 277    | 464    | 316    | 293    | 480    | 559    | 396    | 422    | 358    | 394          | 345                    | 443                    |                  |
| November  | 372    | 304    | 370    | 355    | 223    | 639    | 312    | 405    | 452    | 430    | 386          | 325                    | 448                    |                  |
| December  | 260    | 276    | 356    | 365    | 222    | 293    | 249    | 407    | 304    | 267    | 300          | 296                    | 304                    |                  |
|   |        |        |        |        |        |        | >400   |        |        |        |              |                        |                        |                  |
| <b>annual average - mg/L</b>  | 311    | 295    | 322    | 309    | 310    | 370    | 347    | 334    | 391    | 346    | 333          | 309                    | 358                    | <b>13%</b>       |
| <b>annual average flow - MGD</b>  | 16.0   | 15.4   | 14.9   | 15.1   | 17.5   | 17.1   | 15.1   | 16.2   | 14.6   | 16.0   | 15.8         | 15.8                   | 15.8                   | <b>0%</b>        |
| <b>annual avg Inf TSS - lb/da</b>   | 41,370 | 37,930 | 40,103 | 38,883 | 45,125 | 52,892 | 43,726 | 45,057 | 47,647 | 46,176 | 43,913       | 40,688                 | 47,145                 | <b>14%</b>       |
| <b>W-P % of Design for PE TSS loadings to Bioreactors =61,849 lbs/day</b> | 67%    | 61%    | 65%    | 63%    | 73%    | 86%    | 71%    | 73%    | 77%    | 75%    | 71%          | 66%                    | 76%                    |                  |

Wright-Pierce (Hankins) Design Daily Influent TSS Loadings = 61,849 lbs/d. (24mgd \* 309 mg/l \* 8.34lbs) (90% = 55,664 lb/d)  
**If using the last five year avg of 358 mg/l, then we will hit 90% of design at 18.64 MGD w/ extended anoxic zone.**

## Stamford Average Primary Effluent TSS - mg/L

| year   | 2014   | 2015   | 2016   | 2017   | 2018   | 2019   | 2020   | 2021   | 2022   | 2023   | 10 YR<br>AVG | 5 YR<br>AVG<br>'14-'18 | 5 YR<br>AVG<br>'19-'23 | 5 YR %<br>Change |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------|------------------------|------------------------|------------------|
| January  | 87     | 83     | 87     | 120    | 133    | 132    | 108    | 117    | 93     | 94     | 105          | 102                    | 109                    |                  |
| February   | 87     | 93     | 79     | 122    | 125    | 141    | 120    | 146    | 90     | 88     | 109          | 101                    | 117                    |                  |
| March  | 81     | 80     | 88     | 117    | 126    | 138    | 112    | 244    | 106    | 76     | 117          | 98                     | 135                    |                  |
| April  | 75     | 79     | 82     | 119    | 82     | 188    | 100    | 225    | 82     | 83     | 112          | 87                     | 136                    |                  |
| May  | 78     | 83     | 81     | 110    | 95     | 166    | 131    | 305    | 81     | 71     | 120          | 89                     | 151                    |                  |
| June   | 80     | 79     | 79     | 109    | 136    | 130    | 181    | 351    | 81     | 95     | 132          | 97                     | 168                    |                  |
| July   | 79     | 77     | 76     | 78     | 114    | 129    | 148    | 156    | 86     | 101    | 104          | 85                     | 124                    |                  |
| August   | 74     | 78     | 87     | 95     | 104    | 113    | 146    | 172    | 85     | 94     | 105          | 88                     | 122                    |                  |
| September  | 89     | 78     | 85     | 119    | 107    | 125    | 165    | 162    | 80     | 93     | 110          | 96                     | 125                    |                  |
| October  | 96     | 89     | 81     | 109    | 103    | 128    | 151    | 108    | 90     | 116    | 107          | 96                     | 119                    |                  |
| November   | 89     | 84     | 88     | 128    | 122    | 125    | 130    | 108    | 90     | 154    | 112          | 102                    | 121                    |                  |
| December   | 88     | 85     | 100    | 122    | 103    | 110    | 111    | 86     | 85     | 211    | 110          | 100                    | 121                    |                  |
| <b>annual average - mg/L</b>   | 84     | 82     | 84     | 112    | 113    | 135    | 134    | 182    | 87     | 106    | 112          | 95                     | 129                    | <b>26%</b>       |
| <b>annual average flow - MGD</b>   | 16.0   | 15.4   | 14.9   | 15.1   | 17.5   | 17.1   | 15.1   | 16.2   | 14.6   | 16.0   | 15.8         | 15.8                   | 15.8                   | <b>0%</b>        |
| <b>ave annual Inf TSS - lb/da</b>  | 11,119 | 10,586 | 10,514 | 14,154 | 16,380 | 19,341 | 16,841 | 24,519 | 10,650 | 14,211 | 14,746       | 12,502                 | 16,996                 | <b>26%</b>       |
| <b>CH2M % of Design for PE TSS loadings to Bioreactors =14,720 lbs/day</b> | 76%    | 72%    | 71%    | 96%    | 111%   | 131%   | 114%   | 167%   | 72%    | 97%    | 100%         | 85%                    | 115%                   |                  |
| <b>W-P % of Design for PE TSS loadings to Bioreactors =24,219 lbs/day</b>  | 46%    | 44%    | 43%    | 58%    | 68%    | 80%    | 70%    | 101%   | 44%    | 59%    | 61%          | 52%                    | 70%                    |                  |

CH2M Design Daily TSS Primary Effluent Loadings = 14,720 lbs/d.

(24mgd \* 73mg/l \* 8.34lb) 90% = 13,248 lb/d

Wright-Pierce Design Daily TSS Primary Effluent Loadings = 24,219 lbs/d.

(24mgd \* 107mg/l \* 8.34lb) 90% = 21,797 lb/d

**If using the last five year avg of 129 mg/l, then we will hit 90% of design at 20.2 MGD w/extended anoxic zone**



**UPDATE OF CAPITAL PROJECTS  
TECHNICAL COMMITTEE MEETING  
January 17, 2024**

**ENGINEERING STUDIES AND DESIGNS:**

**1. Infiltration Inflow Study**

The contractor has completed the pipe lining. He will move to the manhole repairs next.

**2. Sludge Management Plan**

Hazen has begun working on the fermentation study.

**3. Plant Water, Return Activated Sludge (RAS) and Waste Activated Sludge (WAS)**

Gannett Fleming is working on the preliminary and final design of this project. We have had meetings to review pump and piping layouts.

**4. RFQ for Evaluation of the Alvord Lane, Commerce Rd, and Saddle Rock Pump Stations**

Basis of Design Report for the pump station upgrades was completed. The Saddle Rock Road pump station is in the worst shape so the design and construction of that station will be the priority. The design of Alvord Lane and Commerce Rd will be done together and follow Saddle Roack Rd.

**5. RFP for the Design and Supply of a Standby Generator at Clay Hill Pump Station and West Avenue Pump Station**

Technical specifications are being finalized and will be reviewed by the collection system electrician. Bid documents should be completed by the end of this month.

**6. Perna Lane, Phase I Collection Sewers**

The project schedule is as follows:

Advertised for bids on 1/11.

Pre-bid meeting 1/23.

Bid opening 2/22.

Bidders may ask questions/clarifications till 2/12.

**7. Structural Evaluation of the Columns in the Sludge Dewatering Building**

Preparing bid documents for the repair.

**8. Bid for Design Build Standby Generator for the Greenwich Ave. Pump Station**

Preparing the bid documents to purchase and install a generator for Greenwich Ave Pump Station. The controls will be provided by the WPCA. Bid documents should be completed by the end of this month.

**9. RFQ for the Operation and Maintenance of Stamford WPCF Sludge Drying Facility and Transportation and Beneficial Use or Disposal of Biosolids**

The selection committee reviewed the qualifications. A Request for Proposals is being sent to qualified firms.



## CONSTRUCTION PROJECTS:

### 1. **Electrical Preventive Maintenance / Arc Flash**

We authorized Siemens to proceed with the Arc Flash study. A kickoff meeting is scheduled for 1/18.

### 2. **Modular Office Trailers for Collection System Staff**

The trailers are in place. The power and cable for phone and internet is installed. The collection system staff has moved into the trailers. We are negotiating a cost with our contractor for the installation of a water line and sewer lateral to the trailers.

### 3. **Painting of Final Clarifiers # 1, 2 and 4**

A kickoff meeting will be scheduled soon. Work will be scheduled for the spring when the weather is warmer.

### 4. **Repair of Storm Water Pumps #1 and 3 at Cummings Pump Station**

Awarded to New England Pump and Valve. They have been out to the site to assess removal of the pumps. They will begin repairing one pump at a time.

### 5. **Sludge Degritting System Upgrade**

CH Nickerson is working on the following:

- Demo equipment pads in Primary PS basement.
- Primary Sludge Pump #2-move, tie-in, and test.
- Backfilling the jacking pit for Clarifier #1.
- Excavating the jacking pit for Clarifier #2.
- Baffles and weir in Clarifier #2.

### 6. **Repair/Replacement of approximately 175 LF of 12" Sewer on Edice Rd**

Vitti was awarded the bid. A kickoff meeting was held on 1/16. Vitti will be starting work after the winter season, so that there are fewer work stoppages due to periodic inclement weather.

## **PAYMENT/CHANGE ORDER LOG AS OF 10/10/2023**

### Sludge Degritting System Upgrade (Contractor – CH Nickerson)

Original Value of the Contract = \$ 9,165,000.00

Total Approved CO Amount = \$ 0

Contract Sum to Date = \$ 9,165,000.00