HALEY WARD

WASTEWATER CAPACITY REPORT

TO: **ASHLAND**
FOR: **AVAILABLE WASTEWATER CAPACITY UNDER REGULATORY AND INTER-MUNICIPAL AGREEMENT (IMA) FLOW LIMITS**

May 2025

REPORT PREPARED BY:
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REGULATORY & IMA WASTEWATER AVAILABLE CAPACITY EVALUATION

Report Summary:

This report was prepared to provide Ashland with an understanding of their wastewater system's available capacity that can be assigned to proposed developments.

Ashland maintains two main pump stations, Chestnut Street and Brackett Road. The two stations collect most of the Ashland wastewater and discharge it to the Town of Framingham's wastewater system. The State and Framingham have flow limits on the wastewater discharge from Ashland.

We utilized Massachusetts Water Resources Authority (MWRA) flow meters located at both of Ashland's main sewer pump stations to develop historical flow patterns.

The result of the analysis indicates that the Ashland wastewater pump stations have available capacity with special considerations as noted below.

Chestnut Street Pump Station

1. The four pumps are replaced with new pumps that will return the discharge rate of the station to full capacity. The pumps are ordered and expected to be installed in June or July of this year.
2. We recommend Infiltration and inflow investigation continues in the Chestnut Street pump district to identify extraneous flows that can be removed and reduce peak flows during rain events.

Brackett Road Pump Station

1. The Ledgemere pump station is repaired and placed online, redirecting flow back to Chestnut Street.
2. Currently the Ledgemere wastewater pump station is offline for repairs and the wastewater flow is redirected to the Brackett Road pump station. The repairs will return the station to operation, however due to the poor condition of the station it is recommended that the station be replaced. The station replacement project has been included in the Town's capital plan with funding for design available. The project budget is $ 950,000.00.
3. Infiltration and inflow investigation continues in the Brackett Road pump station district to identify extraneous flows that can be removed and reduce peak flows during rain events.

We have prepared Table 1 Chestnut St Pumping District Potential Houses and Table 2 Brackett Rd Pumping District Potential Houses to provide theoretical summaries of the potential number of single family residential houses that may be added to each pumping district. This is assuming that Ashland continues to implement the above conditions for each pump station and pumping district.

Table 1 Chestnut St Pumping District Potential Houses

IMA Flow Limit	Avail. Capacity MGD [1]	Potential Residential Bedrooms [2]	Potential Residential Houses [3]
Average Daily 2.1 mgd	1.147	10,430	2,980
Maximum Daily 3.5 mgd	1.352	4,096	1,170

Table 2 Brackett Rd Pumping District Potential Houses

IMA Flow Limit	Avail. Capacity MGD [1]	Potential Residential Bedrooms [2]	Potential Residential Houses [3]
Average Daily 1.1 mgd	0.656	5,963	1,704
Maximum Daily 1.8 mgd	0.949	2,875	822

Inter-Basin Transfer Evaluation:

There are several flow limitations that Ashland must comply with as required by the Water Resources Commission (WRC) Inter-Basin Transfer (IBT) and the Inter-Municipal Agreement (IMA) with the Town of Framingham. IBT limits the allowable water to be withdrawn from the ground by drinking water wells and transferred, as wastewater, out of the water basin and discharged to the Massachusetts Resources Authority (MWRA) sewer system. The IBT limit is 3.2 million gallon per day (mgd) for the entire town's wastewater discharge.

MWRA provided excel files for their meters maintained at both the Chestnut Street and Brackett Road pump stations. Metering data provided fifteen-minute flow rate readings that were utilized to determine existing average daily flow, maximum daily flow, and peak hour flow. We are attaching applicable graphs for the flow data to this report.

We evaluated the IBT flow limits versus actual total flow leaving the Ashland wastewater collection system, by tabulating the historical Chestnut Street and Brackett Road pump station flows for the 2022 thru Aril 19, 2025 period, as recorded by the MWRA. Table 3 Town of Ashland Discharge Vs IBT Limits presents the 3 plus year historical data for total wastewater discharged from the Town as it relates to the Inter Basin Transfer limit.

Table 3 Town of Ashland Discharge Vs IBT Limits

IBT Flow Limit	2022 Avg. Daily Flow MGD	2023 Avg. Daily flow MGD	2024 Avg. Daily Flow MGD	2025 [1] Avg. Daily Flow MGD	Remaining Avail. Capacity MGD [2]
Average Daily 3.2 mgd	1.26	1.46	1.47	1.38	1.81/1.80

1: 2025 Data is to and including April 19, 2025
2: 2022-2025 is 1.81 mgd, 2022-2023 is 1.80 mgd

As seen in Table 3, the evaluation period indicates Ashland's theoretical wastewater collection system average daily available capacity is 1.81 mgd (2022 to 2025) or 1.80 mgd (2022 to 2024). We recommend utilizing the 1.80 mgd capacity, due to the temporary redirection of all Ledgemere pump station wastewater flows, from Chestnut to Brackett, beginning in January 2025 to present. We will discuss the Ledgemere flow redirection later in this report. It should be noted that we adjusted some flow data, due to extreme rainfall events in December 2023 and January 2024, that caused submergence of the metering devices that resulted in flow meter readings beyond actual.

The 15-minute readings for both the Chestnut and Brackett stations were adjusted down to the known maximum available discharge rates (3.5 mgd and 1.3 mgd respectively) for each reading that exceeded those limits. This did not substantially change the average daily flow, however it does impact the maximum and peak hour flow calculations later in this report.

As requested, we have taken the theoretical available capacity for Ashland's Chestnut Street pump station, under the INTER-BASIN TRANSFER limit, and translated that into future connections. We calculated the number of single-family residential bedrooms and homes that can be added to the Chestnut Street pumping district and remain at or under the ITB flow limit. The available capacity could be assigned to certain known commercial, industrial or mixed-use projects to determine if they will fit under the flow limits. We utilized 1.80 mgd as the available capacity, assuming. We utilized the MassDEP septic system design standard of 110 gallons per bedroom for average daily flow, with 3.5 bedrooms per house. The theoretical available capacity represents a total estimated number of bedrooms at 16,364 (1,800,000/110= 16,364) or 4,675 (16,364/3.5 = 4,675) single family houses.

Inter-Municipal Agreement with Town of Framingham

Ashland and Framingham entered into an Inter-Municipal Agreement (IMA) in 2007. Table 4 IMA Flow Limits identifies the flow limitations set by the IMA between Ashland and Framingham for the Chestnut and Brackett pump station discharges. The limits were set in the IMA to maintain Ashland discharges within Framingham's wastewater collection system theoretical available capacity.

Table 4 IMA Flow Limits

IMA Flow Limits	Chestnut PS Connection	Brackett PS Connection	Total
Average Daily Flow [1]	2.1 mgd	1.1 mgd	3.2 mgd
Maximum Daily Flow [2]	3.5 mgd	1.8 mgd	5.3 mgd
Peak Flow [3]	4.4 mgd	1.0 mgd	5.5 mgd

1: Average Daily flow shall mean total annual flow divided by number of days in year
2: Maximum Daily flow shall mean highest volume recorded during 24-hour period
3: Peak Flow shall mean maximum flow during any one-hour period.

Chestnut Street Pump Station Flow Analysis

We evaluated the IMA flow limits for Chestnut Street wastewater collection basin, by tabulating the historical MWRA Chestnut Street pump station metered flows during the 2022 through April 2025 period. Table 5 Chestnut Basin Available Capacity provides the three plus years of historical wastewater flows and theoretical available

capacity under each IMA flow limit category for the Chestnut Street pump station wastewater collection basin.

Table 5 Chestnut Basin Available Capacity

IMA Flow Limit	2022 Flow MGD	2023 Flow MGD	2024 Flow MGD	2025 [1] Flow MGD	Avail. Capacity[2] MGD	Avail. Capacity[3] MGD
Average Daily 2.1 mgd	0.882	0.988	0.988	0.827	1.147	1.179
Maximum Daily 3.5 mgd	1.266	2.646	2.533	1.105	1.352	1.613
Peak Hour 4.4 mgd	2.500	3.526	3.628	1.655	1.182	1.573

1: 2025 Data is up to and including April 19.
2: Capacity based on average of 2022-2024
3: Capacity based on average of 2022-2025

Table 5 provides an indication of theoretical available flow for the Chestnut Street pump station collection basin based on each Flow Limit category. The available flow is presented in the last two columns, based on three-year average of 2022 to 2024, and 3plus year average 2022 to 2025. We recommend utilizing the 2022 to 2024 available capacity column, due to the temporary redirection of all Ledgemere pump station wastewater flows, from Chestnut to Brackett, beginning in January 2025 to present.

As Table 5 indicates, the annual flow data for each Flow Limit category was elevated in 2023 and 2024 but remained below each limit. The increase in flow was due to the extreme weather conditions experienced in December 2023 and January 2024. There were excessive rain events leading up to December 2023, where groundwater levels may have been elevated higher than typical for December. There were several major rain events in mid-December 2023, leading to an extreme flow condition in Chestnut Street pump station where the pumps could not keep up with the wastewater flow entering the wet well. The Town had to move wastewater from Chestnut to Brackett Road pump station with tanker trucks to relieve flow from Chestnut Street to prevent surcharging of wastewater onto the ground.

We then looked at the flow patterns for the last 3 plus years and plotted the daily average for Chestnut Street, See . The figure identifies unusual wastewater flow spikes in December 2023 and January 2024, cause by a large number of rain events. Prior to the 2023-2024 extreme weather patterns the daily average was a maximum of 2.0 mgd.

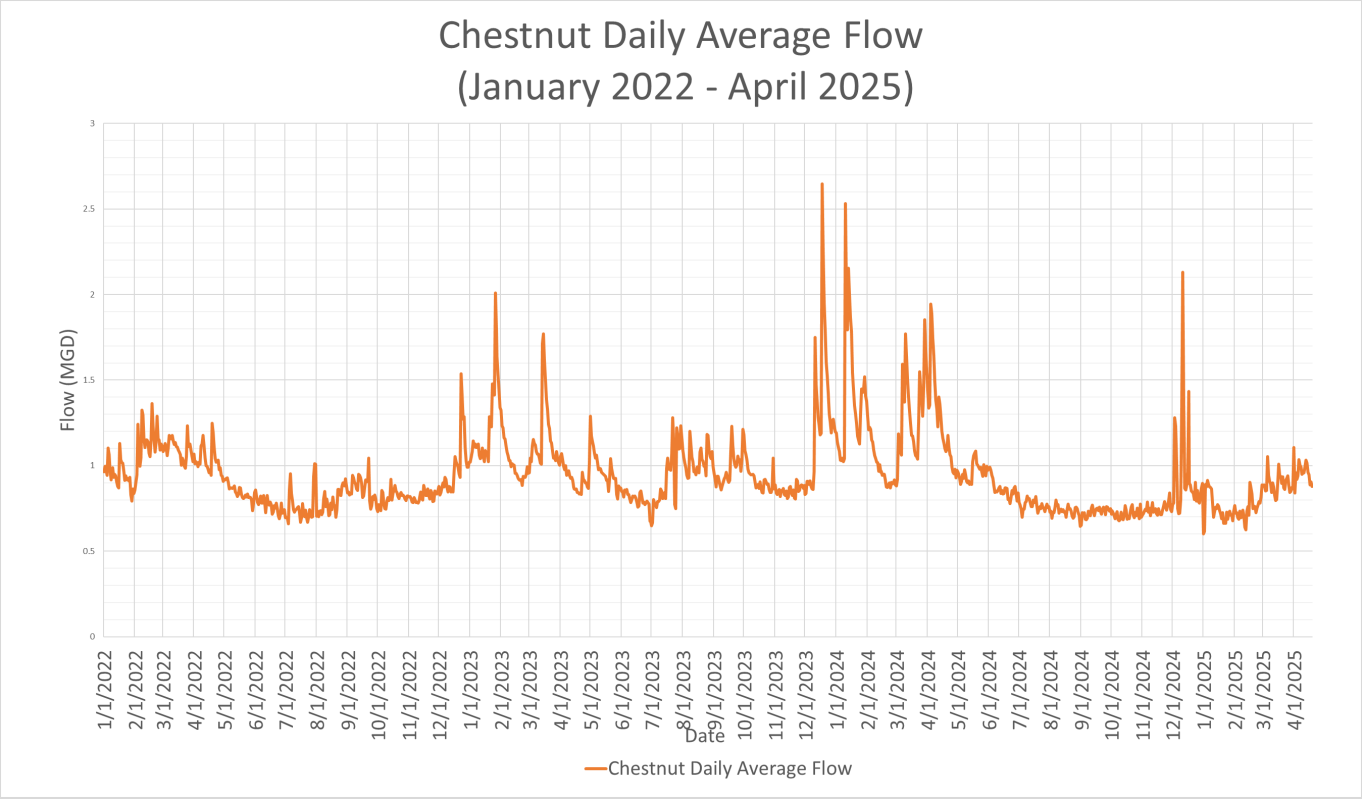

Figure 1 Chestnut Street Daily Average Flow

We then looked at the flow patterns for the last 5 plus years and plotted the maximum peak hour flow for Chestnut Street, See Figure 2 Chestnut St Peak Hourly Flow. The graph represents the maximum peak hour flow recorded for each year, that is compared to the 4.4 mgd IMA flow limit. The figure indicates December 2023 and January 2024 rain events and unusual weather patterns resulted in the major spike in the maximum peak hour flow for 2023 and 2024. Prior to the 2023-2024 extreme weather patterns, the maximum peak hour flow was 2.88 mgd in 2019. All Chestnut Street pump station peak hour flows have remained below the 4.4 mgd peak hour flow limit in the IMA with Framingham. As seen by the data points for 2025, the peak hour flow has dropped substantially, mainly due to the redirection of the Ledgemere pump station to Brackett Road.

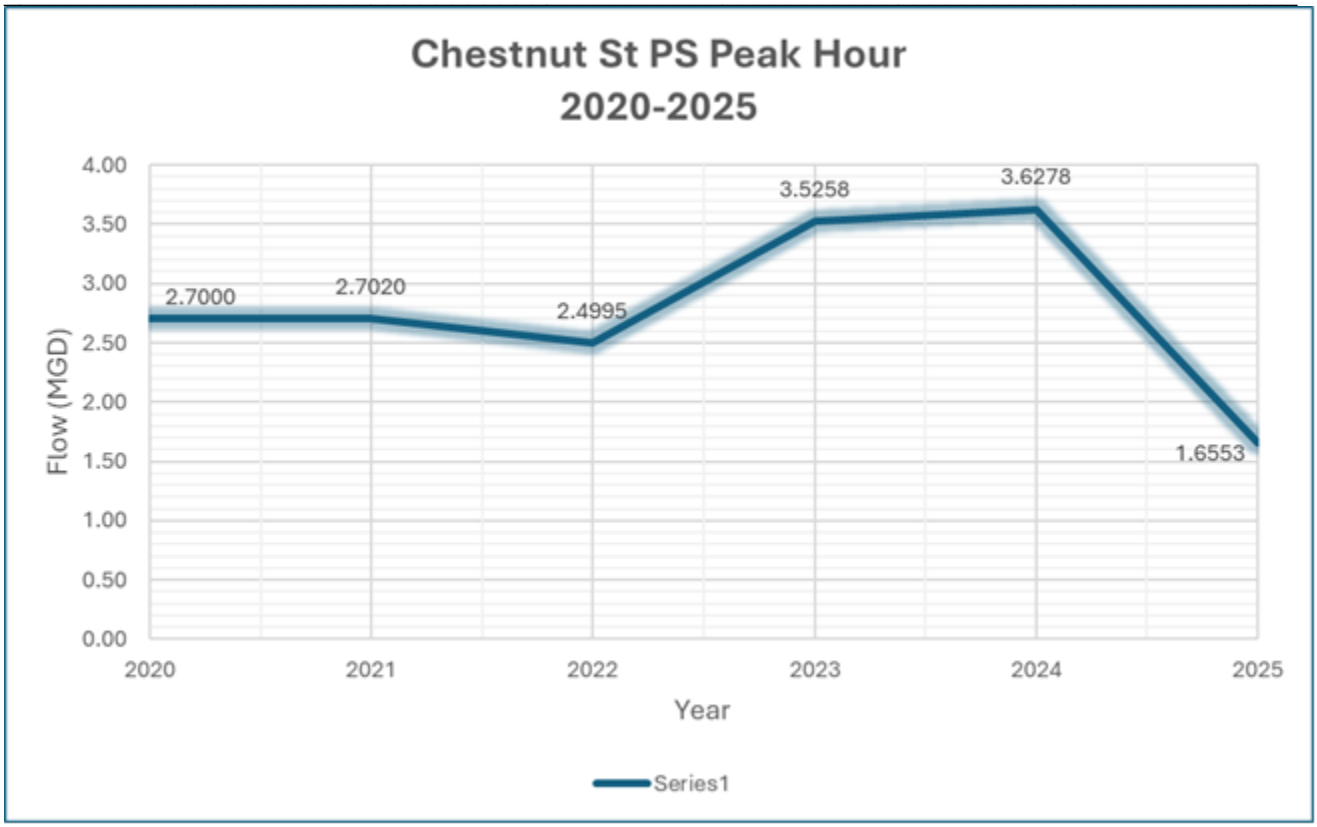

Figure 2 Chestnut Street Peak Hourly Flow

Rain Events Impacting Chestnut Street Pump Station

We then reviewed the impact rain events have on the Chestnut Street pump station hourly flow for the wet weather periods, December 1, 2023 to April 30, 2024 and December 1, 2024 to April 18, 2025, see Figure 3 Chestnut PS Hourly Flow Vs Rain 12/2023 to 4/2024 and Figure 4 Chestnut PS Hourly Flow Vs Rain 5/2024 to 4/2025.

The figures identify the relationship between rain events (red data along the top of the figure) to the pump station hourly flow. The rain events in the Winter of 2023 impacted the flow more than the rain events in the winter of 2024. The quick increase in wastewater flow following rain event may indicate a large contributor to the extraneous flow might be due to inflow sources, such as flooded manhole covers, illicit connections (roof drains, sump pumps, catch basin connections), manhole defects, among other sources. We do not have a definitive opinion as to the reason why the 2023 "spikes" were much more dramatic than the 2024 wintertime "spikes". One possibility could be that the ground in 2023 was frozen and would not allow water penetration, whereas in 2024, the ground may not have been frozen and accepted water penetration, thus leaving less water to flood certain areas.

We did anticipate a reduction in peak hour flow starting in late January 2025, after the Ledgemere pump station sewer flows were temporarily diverted to Brackett Road pump station for repairs.

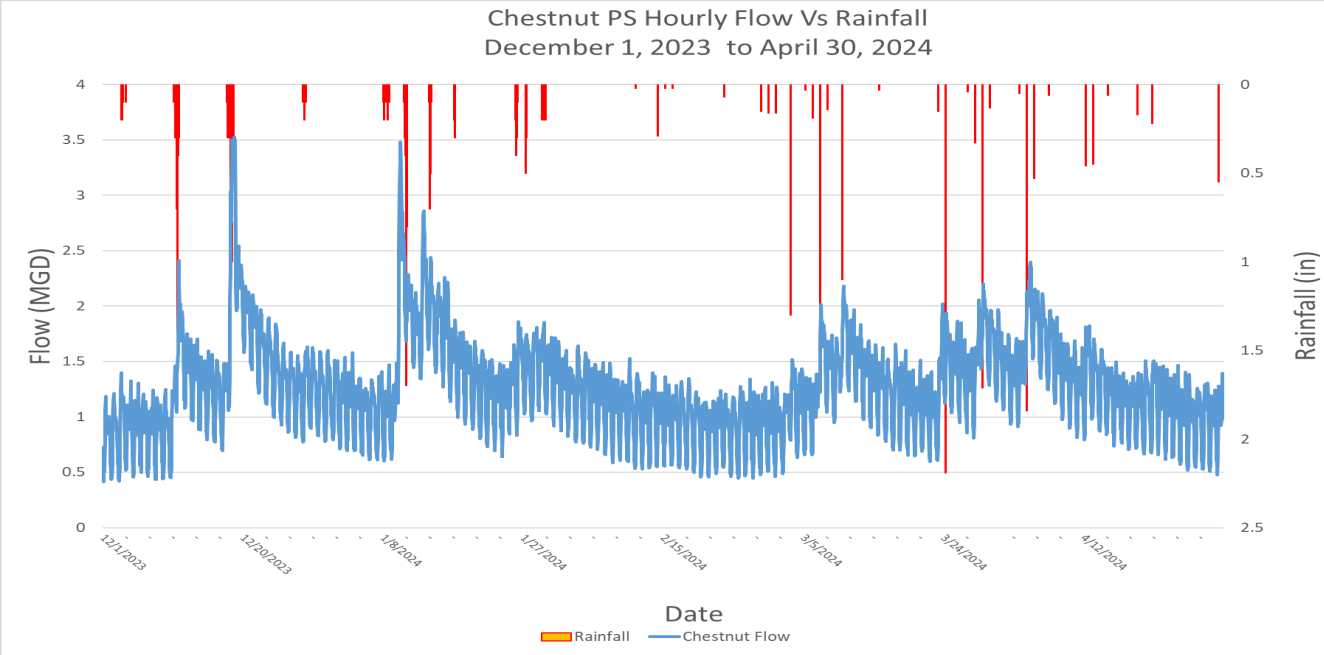

Figure 3 Chestnut PS Hourly Flow Vs Rain 12/2023 to 4/2024

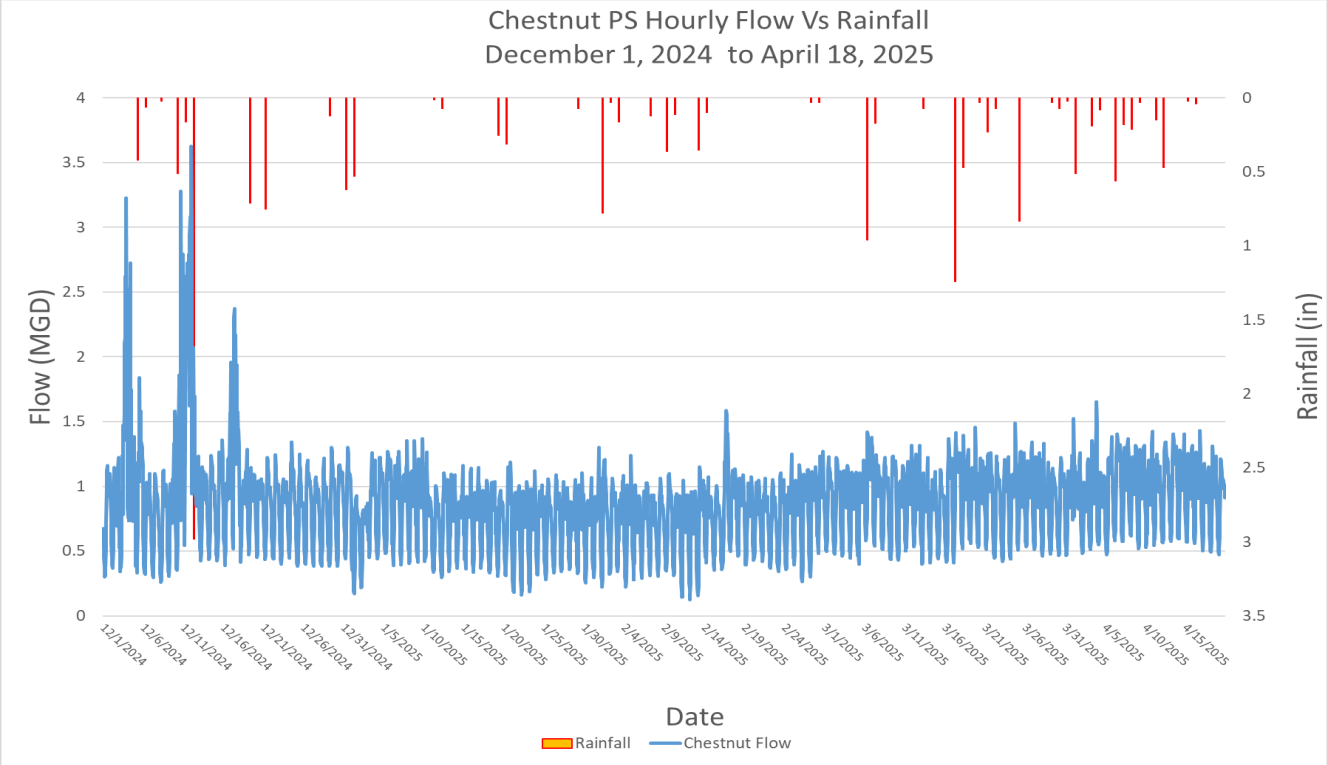

Figure 4 Chestnut PS Hourly Flow Vs Rain 5/2024 to 4/2025

The I/I investigation program over the previous years has not identified a large quantity of I/I sources that could represent the spikes seen during the December 2023 and January 2024 storms. The extreme weather patterns coupled with unusually high groundwater could indicate illicit discharges might be the main part of this recent spike in wastewater flow. The upcoming I/I contract will include investigation into potential illicit discharges, which we will discuss later in this report.

The Chestnut Street pump station contains four (4) wastewater pumps, three have similar capacities and one has a smaller capacity. During the December 2023 and January 2024 storm events the Town operated three (3) pumps continuously for the day until the flow receded. Operating four (4) pumps together does not provide additional capacity. We tested the pumps on April 23, 2024, and confirmed the following approximate rates for each pump and combination of pumps based on station flow meters.

Pump #1 discharge rate (100% speed): 940 gpm
Pump #2 Discharge rate (100% speed): 1,360 gpm
Pump #3 discharge rate (100% speed): 1,013 gpm
Pump #4 Discharge rate (100% speed): 1,340 gpm
Pump #1 & #2 discharge rate (100% speed): 1,292 gpm
Pump #2 & #4 discharge rate (100% speed): 2,443 gpm
Pump #1, #2, & #4 Discharge rate (100% speed): 2,443 gpm

The pump test on April 23, 2024, indicates the present maximum discharge rate for the Chestnut Street pump station, pump 1, pump 2 & pump 4, is approximately 3.5 mgd (2,443 gpm). Where pump No.1 was not contributing flow due to pump wear.

Chestnut Street Available Capacity

The Chestnut Street pump station could not maintain the wastewater flow without the wet well continuing to fill during the excessive weather event on December 18, 2023. This required the Sewer Department to transport wastewater to the Brackett Road pump station. The 3-year pumping data indicates Chestnut Street has capacity available under the IMA three (3) Flow Limit categories, as indicated in Table 5. The issue with Chestnut Street pump station capacity is the current pumping equipment poor condition. The Town has contracted with a Contractor to replace all four (4) wastewater pumps, motors and piping that is expected to be completed by July of 2025. The project includes the replacement of all four (4) pumps with larger capacity pumps. This project will provide the town with additional peak flow pumping capability for Chestnut Street pump station that exceeds the previous documented peak flows entering the station during the December 2023 storm events.

Therefore, until the pumps are replaced in the Chestnut Street pump station, technically there is no additional capacity when considering flow patterns created by unusual weather patterns as experienced in December 2023 and into January 2024.

There were two manual decreases in wastewater flows to the Chestnut Street pump station, one started in October 2021, when the town removed the by-pass plug in the Cedar Street sewer to allow a portion of the Ledgemere pump station wastewater flow to be redirected to the Brackett Road pump station. The second started January 10, 2025, when the town redirected all Ledgemere wastewater flows to the Brackett Road pump station, when there was equipment failure at the Ledgemere pump station. When Ledgemere station is repaired and back online, the flows will be redirected back to the Chestnut Street pump station. The Cedar Street by-pass plug can be reinstalled if necessary to reduce flow to the Brackett Road pump station, however there is a case to keep the bypass open to avoid pumping wastewater twice, with Ledgemere and Chestnut Street pump stations.

As requested, we have taken the theoretical available capacity for Ashland's Chestnut Street pump station, under the INTER-MUNICIPAL AGREEMENT limits, and translated that into future connections. We calculated the number of single-family residential bedrooms and homes that can be added to the Chestnut Street pumping district and remain at or under the IMA flow limit. The available capacity could be assigned to certain known commercial, industrial or mixed-use projects to determine if they will fit under the flow limits. The IMA included three flow limits, average daily, maximum daily and peak hour. We utilized the average daily and the maximum daily limits, as shown in Table 6 Chestnut St Pumping District Potential Capacity. As seen in Table 4, the IMA flow limits are the controlling factor for development in the Chestnut Street pump station district, as the Inter-Basin Transfer Limits allowed 4,675 single family residential houses to be added.

Table 6 Chestnut St Pumping District Potential Capacity

IMA Flow Limit	Avail. Capacity MGD [1]	Potential Residential Bedrooms [2]	Potential Residential Houses [3]
Average Daily 2.1 mgd	1.147	10,430	2,980
Maximum Daily 3.5 mgd	1.352	4,096	1,170

1: Available capacity based on average of 2022-2024
2: Utilized 110 gallons per day per bedroom, based on Mass Title V design standard
3: Utilize 3.5 bedrooms per residential house

In addition to the Chestnut Street pump station upgrade project, Ashland continues to identify and remove extraneous sources of water entering the sewer system in the form of infiltration and inflow (I/I). As sources are identified and removed, that will add available capacity back into the system, however not as a 1to1 basis. Depending on the I/I type, we recommend in some cases fractional credit should be added to available capacity, as all I/I sources removed are not 100% effective. We will discuss the I/I program later in this report.

Brackett Road Pump Station

We evaluated the IMA flow limits for Brackett Road wastewater collection basin, by tabulating the historical MWRA Brackett Raod pump station metered flows during the 2022 thru April 2025 period. Table 7 Brackett Rd Basin Available Capacity provides the three plus years of historical wastewater flows and theoretical available capacity under each IMA flow limit category for the Brackett Road pump station wastewater collection basin.

Table 7 Brackett Rd Basin Available Capacity

IMA Flow Limit	2022 Flow MGD	2023 Flow MGD	2024 Flow MGD	2025 [1] Flow MGD	Avail. Capacity [2] MGD	Avail. Capacity [3] MGD
Average Daily 1.1 mgd	0.378	0.472	0.481	0.559	0.656	0.625
Maximum Daily 1.8 mgd	0.533	1.074	0.946	0.750	0.949	0.974
Peak Hour 1.0 mgd	0.866	1.358	1.308	1.160	0	0

1: 2025 Data is up to and including April 19.
2: Capacity based on average of 2022-2024
3: Capacity based on average of 2022-2025

The IMA with Framingham includes a peak flow limitation due to pipe capacity issues in Framingham. The IMA identified pipe enlargement projects that will increase the allowable peak hour flow for Brackett Road pump station.

Table 7 provides an indication of theoretical available flow for the Brackett Road pump station collection basin based on each flow limit category. We modified the raw MWRA data on December 18 and 19, 2023, to eliminate flow spikes caused by the transfer of wastewater from Chestnut to Brackett Road pump station by septic trucks, which we will talk about later in this report. We recommend utilizing the 2022 to 2024 available capacity column, due to the temporary redirection of all Ledgemere pump station wastewater flows, from Chestnut to Brackett, beginning in January 2025 to present.

As Table **7** Brackett Rd Basin Available Capacity indicates, the annual flow data for each Flow Limit category was elevated in 2023 and 2024, but remained below the average and maximum daily limits. The increase in flow was due to the extreme weather conditions experienced in December 2023 and January 2024. There were excessive rain events leading up to December 2023, where groundwater levels may have been elevated compared to typical Decembers.

There were several major rain events in mid-December 2023, leading to an extreme flow condition in Chestnut Street pump station where the pumps could not keep up with the wastewater flow entering the wet well. The Town had to move wastewater from Chestnut to Brackett Road pump station with tanker trucks to relieve flow from Chestnut Street to prevent surcharging of wastewater onto the ground.

We then looked at the flow patterns for the last 3 plus years and plotted the daily average for Brackett Road, see Figure 5 Brackett Rd Average Daily Flow. The figure identifies the December 2023 and January 2024 rain events and unusual weather patterns resulting in spikes in the daily average flow to 0.47 mgd for the 3 plus year average, 2022 to 2025. Prior to the 2023-2024 extreme weather patterns, the daily average, 2019 to 2022 was 0.26 mgd.

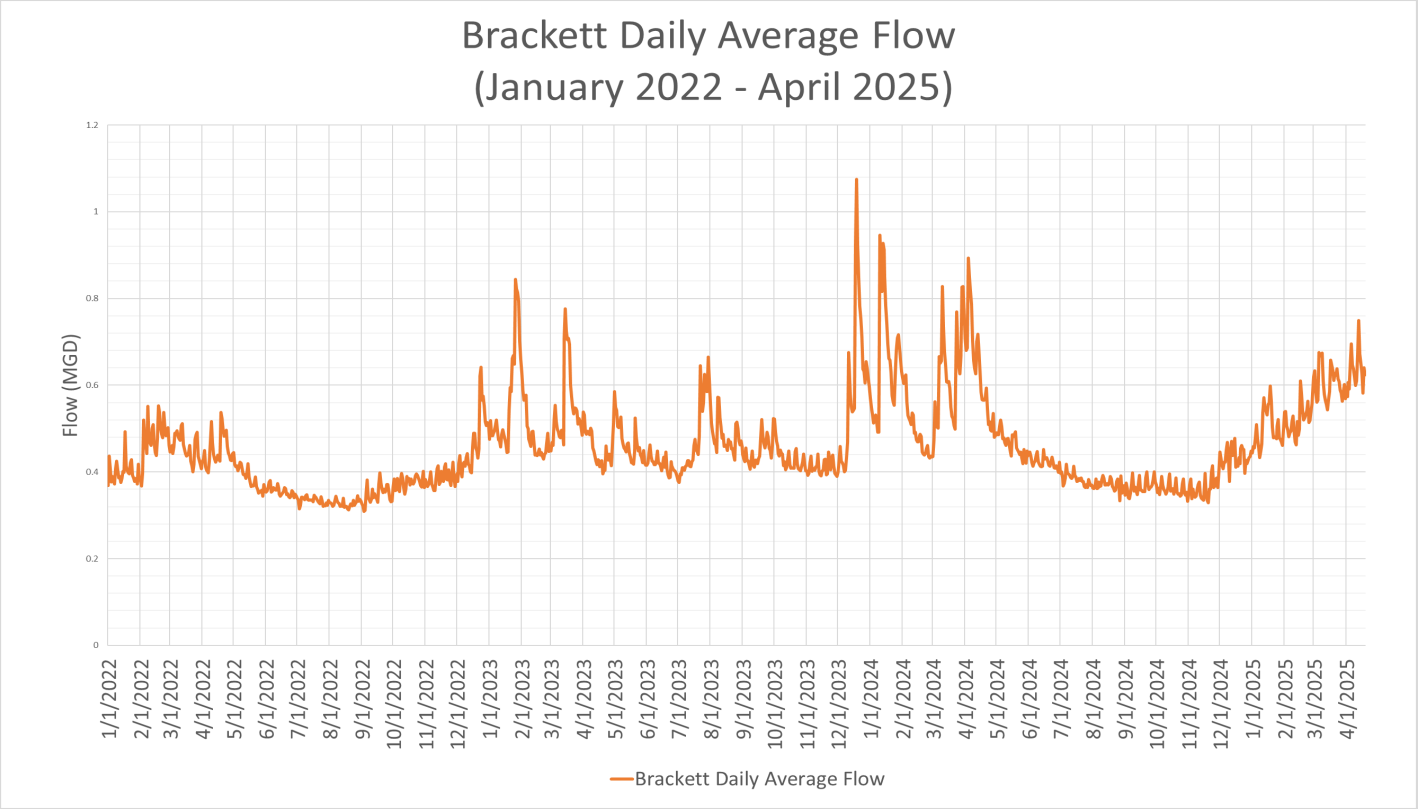

Figure 5 Brackett Rd Average Daily Flow

We then looked at the flow patterns for the last 5 plus years and plotted the maximum peak hour flow for Brackett Road pump station, see Figure 6 Brackett Rd Peak Hour Flow. The graph represents the maximum peak hour flow recorded for each year, compared to the 1.0 mgd IMA peak hour flow limit.

You can see that the December 2023 and January 2024 rain events and unusual weather patterns resulted in the spike in the maximum peak hour flow for 2023 and 2024. Prior to the 2023-2024 extreme weather patterns, the maximum peak hour flow was below 0.6 mgd in 2021 and 2022.

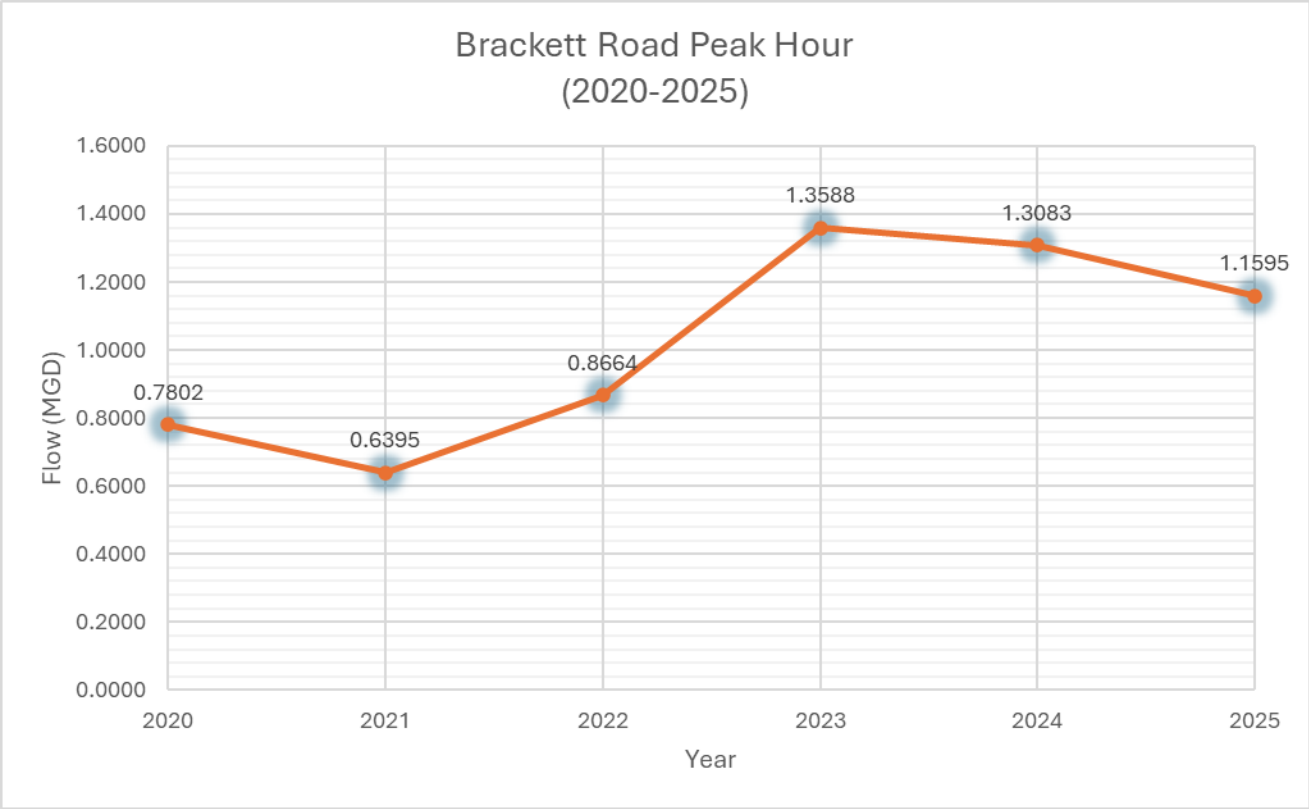

Figure 6 Brackett Rd Peak Hour Flow

We reviewed the flow data to see why the peak hour flows exceeded the limit, which was not expected, and we identified a substantial increase in the flow readings, during the 4:00 am period on December 23, 2022. The increase was almost double the flow from 0.228 mgd on December 22, 2022 to 0.39 mgd. Starting on December 23, 2022, the 15-minute flows all increased substantially for December 22, 2023 and remained high throughout each day for several weeks.

There were also days where the flow readings jumped from 0.297 mgd at 3:30 am and the next 15 minute reading jumped to 0.849 mgd and stayed high for three to four 15 minute readings. It is our opinion that the MWRA meters at Brackett might have been inaccurate for periods of time leading to the intermittent spikes in flow readings.

This was also seen in the December 18, 2023 major rain events, where the flow increased above 1.0 mgd at 11:45 am and remained above 1.0 mgd until 9:30 pm on December 19, 2023, with high readings reaching 1.896 mgd, according to the MWRA metering data.

To provide reference to the spikes recorded by the MWRA flow meters, a 1.0 mgd flow would equate to a pump running 24 hours a day at 700 gpm. It is our understanding from review of Brackett Road pump station trends with Dan Maurer, for December 18 and 19, 2023, that a pump did not stay running 24 hrs straight. It is however reasonable to expect that the IMA peak hour flow limit was exceeded if a pump remained running for more than one (1) hour at or above 700 gpm, which equals the 1.0 mgd peak hour flow limit.

Rain Events Impacting Brackett Road Pump Station

The next thing we reviewed were rain events versus Brackett Road hourly flow for the period from December 1, 2023 to April 30, 2024 and December 1, 2024 to April 18, 2025, see Figure 7 Brackett PS Hourly Flow Vs Rain 12/2023 to 4/2024 and Figure 8 Brackett PS Hourly Flow Vs Rain 5/2024 to 4/2025.

The figures identify the relationship between rain events (red data along the top of the figure) to the pump station hourly flow. As the Chestnut Street peak hourly graphs indicated, the rain events in the Winter of 2023 impacted the station flow much more than the rain events in the winter of 2024. The 2024 wintertime "spikes" in flow were not as dramatic as the 2023 wintertime spikes, with similar rain events.

The quick response in wastewater flow following or during a rain event may indicate a large portion of the extraneous flow causing the flow spikes might be due to inflow sources, such as flooded manhole covers, illicit connections (roof drains, sump pumps, catch basin connections), manhole defects, among other sources.

We do not have a definitive opinion as to the reason why the 2023 "spikes" were much more dramatic than the 2024 wintertime "spikes". One possibility could be that the ground in 2023 was frozen and would not allow water penetration, whereas in 2024, the ground may not have been frozen and accepted water penetration, thus leaving less water to flood certain areas.

We did anticipate an increase in peak hour flow starting in late January 2025, after the Ledgemere pump station sewer flows were temporarily diverted to Brackett Road pump station for repairs.

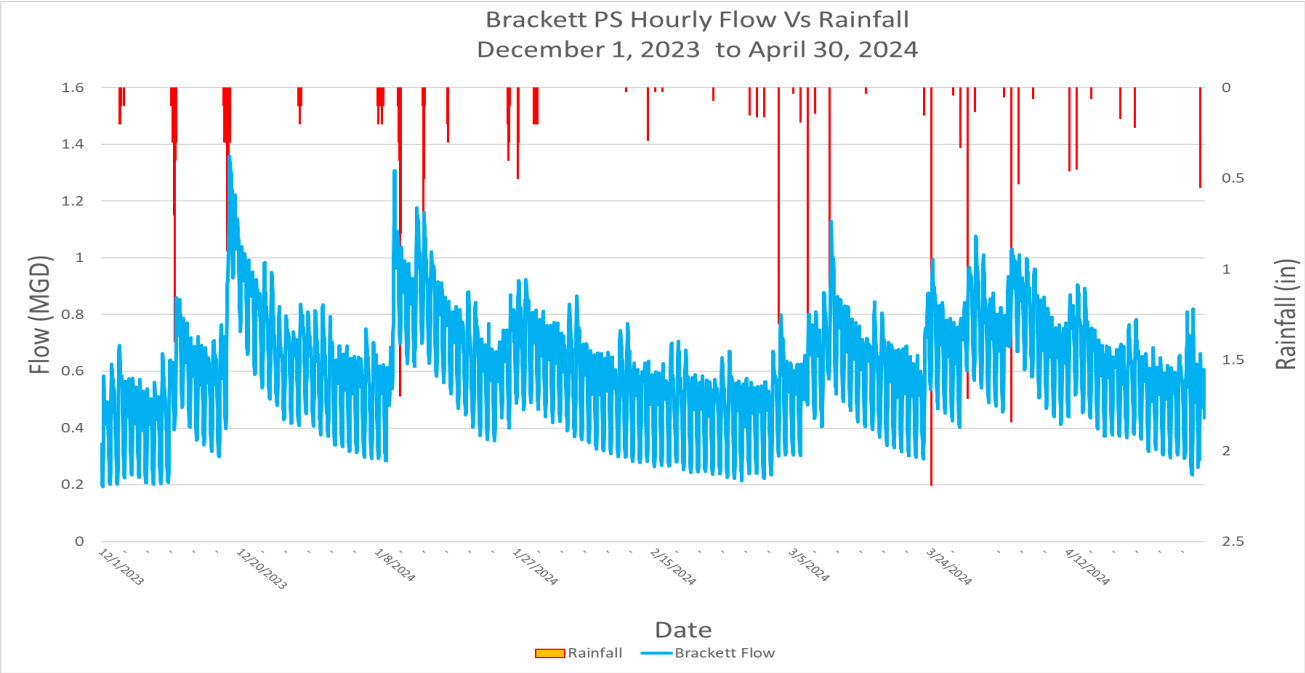

Figure 7 Brackett PS Hourly Flow Vs Rain 12/2023 to 4/2024

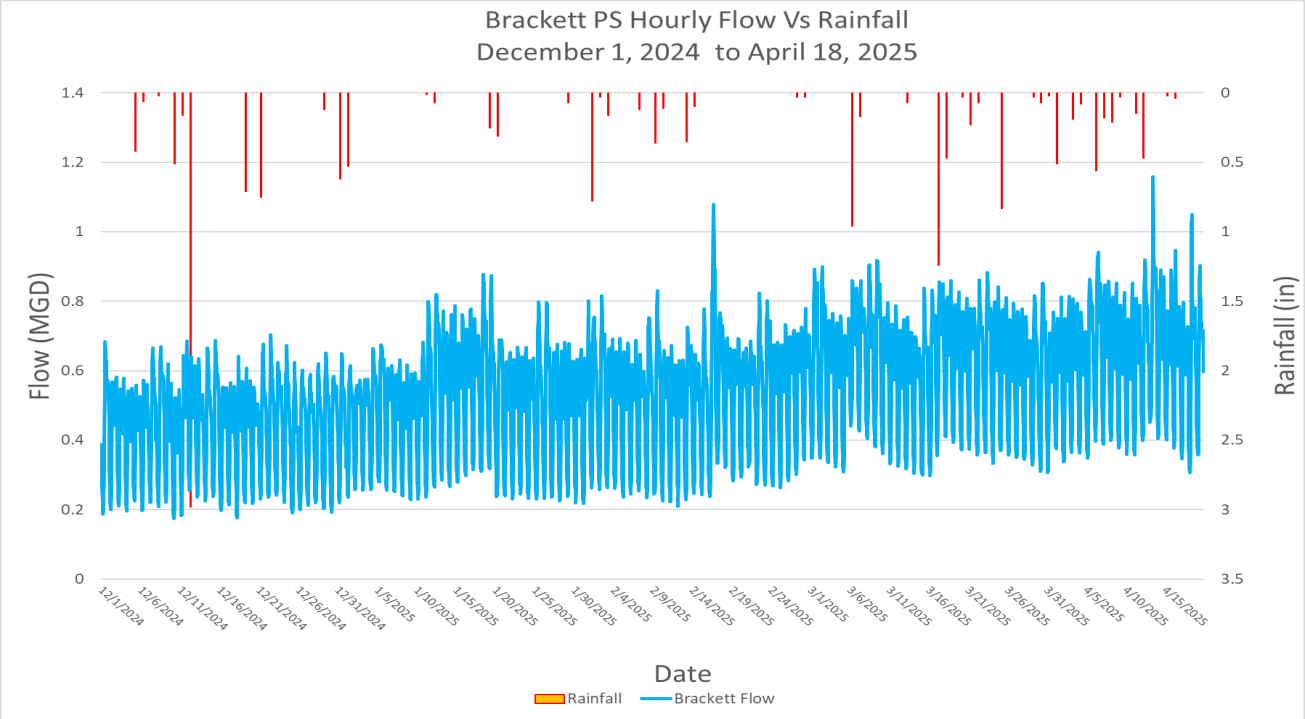

Figure 8 Brackett PS Hourly Flow Vs Rain 5/2024 to 4/2025

As discussed previously under Chestnut Street, the I/I investigation program over the previous years has not identified a large quantity of I/I sources that could represent the spikes seen during the December 2023 and January 2024 storms. The extreme weather patterns coupled with unusually high groundwater could indicate illicit discharges might be the main part of this recent spike in wastewater flow. The upcoming I/I contract will include investigation into potential illicit discharges, which we will discuss later in this report.

Brackett Road Available Capacity

The Brackett Road pump station could maintain the wastewater flow without the wet well surcharging during the excessive weather event on December 18, 2023. There were high flow rates occurring starting on December 18, 2023 and continuing into December 19, 2023, that were elevated by the transfer of wastewater from Chestnut to Brackett station by septic tanker trucks.

The 3-year pumping data indicates Brackett Road pump station has capacity available under the average daily and maximum daily IMA flow limit categories, as indicated in Table 7 Brackett Rd Basin Available Capacity. The available capacity is negatively impacted by rain events that spike the flow pattern and exceed the peak hour flow limit. Therefore, the Brackett Road pump station technically does not have additional capacity when considering peak hour flow patterns created by unusual weather patterns as experienced in December 2023 and into January 2024. Ashland can provide additional capacity for that basin if one or a combination of the following were to occur.

1. Increase the peak hour IMA limit through upsizing of a gravity sewer in Framingham, as identified in the Ashland-Framingham IMA.
2. Reduce extraneous flows entering the basin, through I/I investigation and removal efforts.
3. Install by-pass plug in Cedar Street gravity sewer, during extreme rain events.

We wanted to provide Ashland with a theoretical number of houses that could be connected to the Bracket Road pumping district, assuming one or more of the above resolutions were implemented. We have taken the theoretical available capacity for Ashland's Brackett Road pump station, under the INTER-MUNICIPAL AGREEMENT limits (average daily and maximum daily), and translated that into future connections. We calculated the number of single-family residential bedrooms and homes that can be added to the Brackett Road pumping district and remain at or under the IMA flow limit.

The available capacity could be assigned to certain known commercial, industrial or mixed-use projects to determine if they will fit under the flow limits. We prepared Table 8 Brackett Rd Pumping District Potential Capacity to summarize the potential number of bedrooms and houses that might be added to the district. As with chestnut Street, the IMA flow limits are the controlling factor for development in the Brackett Road pump station district, as the Inter-Basin Transfer Limits allowed 4,675 single family residential houses to be added.

Table 8 Brackett Rd Pumping District Potential Capacity

IMA Flow Limit	Avail. Capacity MGD [1]	Potential Residential Bedrooms [2]	Potential Residential Houses [3]
Average Daily 1.1 mgd	0.656	5,963	1,704
Maximum Daily 1.8 mgd	0.949	2,875	822

1: Available capacity based on average of 2022-2024
2: Utilized 110 gallons per day per bedroom, based on Mass Title V design standard
3: Utilize 3.5 bedrooms per residential house

Ashland continues to identify and remove extraneous sources of water entering the sewer system in the form of infiltration and inflow (I/I). As sources are identified and removed, that will add available capacity back into the system, however not as a 1to1 basis. Depending on the I/I type, we recommend in some cases fractional credit should be added to available capacity, as all I/I sources removed are not 100% effective. We will discuss the I/I program in the next section of this report.

Infiltration/Inflow Program

Ashland has contracted with a company that will conduct I/I removal work and continue the I/I investigation work. The mission is to reduce extraneous flow and reduce the excessive peak flows such as seen in the December 2023 and January 2024 storm events. At this time the removal scope of work for 2025, will remove approximately 32,000 gpd of identified infiltration and inflow sources. There is an additional approximately 44,300 gpd of identified I/I sources that will be removed under the second phase of the contract. There is also approximately 162,800 gpd of suspected infiltration sources that will be further investigated to determine if they are actual infiltration sources. If found to be actual extraneous flow sources, they will be removed under the current construction contract.

Illicit discharges, sump pumps, roof drains, driveway drains, catch basins, among others are difficult to locate. Ashland will continue their efforts to identify some of these illicit discharges, others will be investigated through the I/I contract.

End of Report