The Buzzards Bay Stormwater Collaborative

Illicit Discharge Investigation Trailer

Town of Marion Report

August 2022

MassDEP MS4 Municipal Assistance Grant Program 2020-2021

MassDEP MS4 Municipal Assistance Grant Program 2021-2022

Marion Town Contract with Massachusetts Maritime Academy FY2022

Marion Town Contract with Massachusetts Maritime Academy FY2023

Collaborative Partners: Massachusetts Maritime Academy, Buzzards Bay National Estuary Program and the municipalities of Bourne, Wareham, Marion, Mattapoisett, Fairhaven, Acushnet, Dartmouth, and Westport.

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Marion IDDE Report

Illicit Discharge Detection and Elimination Field Work during April 12th through April 15th of 2021, July 5th through July 8th of 2021, June of 2022, and spring of 2023.

This report summarizes the findings from the Buzzards Bay Stormwater Collaborative discharge investigation under the 2021 MassDEP Stormwater Investigation Trailer grant. A total of 99 storm drain networks were examined for illicit connections. Each storm drain network is a collection of connected structures that discharge to one point and is referred to by the facility ID of the outfall pipe. Each network is a reflection of the stormwater catchment in which the structures collect stormwater and runoff. The purpose of an IDDE is to detect illicit connections that do not comply with the MS4 permit for stormwater discharges. There were no illicit connections detected in the observed storm drain networks. The stormdrain issues found are minor and itemized in this report with recommendations of possible actions to address.

Within the networks surveyed, each structure was opened by the DPW and inspected for evidence of illicit connections. Any indications of odors, unusual colors, excessive trash or debris, sheens, suds, or structural issues were recorded. Each pipe entering the structure was recorded for size, material type, and invert from the rim. Dry weather flow and standing water in the structures were also recorded. Directions to adjacent structures were verified and pipes with no apparent connection were checked with a camera or other method to best determine the situation. In areas with potential for a sewer cross connection the camera was used to inspect the pipe. Additionally, a few water samples were collected and analyzed for various parameters.

Some general observations for all the catchments visited: catchbasins are well maintained but a few had some composted debris accumulation; roadways and sidewalks had excessive pet waste in some areas; there were some sump pump and yard drain connections to catchbasins, and the public that stopped by to chat were generally interested in the environment. Another factor for the Town is the integration of the Tabor Academy drainage system with the Town systems. This makes the Town ultimately responsible for the stormwater drainage coming from the private school.

Of these observations, one of the most significant observations of the investigations, was the pet waste and the composted debris in structures. The most effective action to address the pet waste is an outreach effort to educate individuals about the negative impacts. This could be done with a newspaper editorial as a cost effect approach to appeal to individuals willing to correct their own behavior. The debris in the catchbasins is a challenging issue because the Town of Marion is already dedicating substantial resources to catchbasin cleaning. A review of procedures and equipment for possible improvements is recommended.

Another significant feature observed during multiple rounds of the investigation process were multiple sump pump connections found in several catchbasins. Sump pumps and yard drains are acceptable under the MS4 permit and local policy provided that only groundwater is pumped into the storm drain network. The sump pump connections were not running so no samples could be collected. An outreach effort on proper use of sump pumps is recommended. This could be done with a newspaper editorial as a cost effect approach to appeal to individuals willing to correct their own illicit connections. Other sump pump issues would need to be addressed on a case-by-case basis when discovered.

The data collected was used to update the Buzzards Bay National Estuary Program stormwater GIS. Despite the extensive mapping of the Marion drain network that the team started with before the investigation, there were opportunities for many corrections and additions while going through the investigation process. Updated maps depicting the inspected networks are included below. Red stars indicate outfall pipes, light blue squares show

catchbasins, brown circles show drain manholes, and blue lines show connecting pipes. Issues found within the network are annotated. Issues and recommendations are included in the text below each map.

Below are the observations made for 114 storm drain systems. Each drain system is referenced by the facility ID of the outfall pipe.

NSH1070PI – Front Street: No issues found, note that the Cumberland Farm's drainage system does not connect to this network.

NSH1064PI- Front Street: No issues found. The NSH1064PI network used to traverse the ball field but has been rerouted around the field. At location A the catch basin is covered with a silt fence.

NSH1063PI- Front Street: No significant issues found. The manhole at point A was packed with dirt and had significant root growth. The Town cleaned it out and the connection between manholes was confirmed. It has previously flooded in this area. Further maintenance within the pipes may still be needed to avoid this.

NSH1066PI (1/2) – Front Street and Ryders Lane: No issues found. This system was installed in 2013 to re-route the stream North of Ryders Lane from traversing the ball field and directs it to a treatment system at Old Landing Wharf.

NSH1066PI (2/2) – Ryders Lane and Spring Street: No issues found.

NSH1062PI and NSH1061PI – Front Street: No issues found. The catchbasins at the sailing center do not appear to connect to the Town's network. At point A, a pipe exits the catchbasin in the direction of a wetland. The wetland fills with water during rain events. Extremely likely there is an outfall buried there that is fully functioning. However, it could not be confirmed.

NSH1060PI – Front Street: No issues found. The catch basins in the dining hall parking lot do not connect to this network. They appear to connect to the grease trap which drains to the sewer system causing inflow.

NSH1054PI, NSH1052PI, NSH1055PI, NSH1056PI, and NSH1058PI – Front Street: No issues found. NSH1052PI enters an artificial wetland with a manifold and then discharges to NSH1055PI. NSH1056PI was previously determined to be an abandoned outfall servicing no structures.

NSH1045PI – Main Street: No issues found. NSH1044PI – South Street: No issues found; this system was constructed in 2013 and includes a treatment system at the intersection of Water Street and South Street.

NSH1036PI – Vine Street and Water Street: No issues found. NSH1035PI – Water Street: No issues found; this culvert drains a stream from Front Street where a network drains into the channel. NSH1125PI – Water Street: No structures found connected to this outfall, it may be a seep drain for the wall. NSH1126PI – Water Street: Located below NSH1135PI and appears to drain the adjacent catchbasin on Water Street.

NSH1123PI – Holmes Street: No significant issues found; newly documented outfall; this is a very old network with various structures poorly added; excessive pet waste in area. Community outreach is recommended.

NSH1027PI – Allen Street: No significant issues found; this is also an old network with excessive pet waste in area. Community outreach is suggested.

NSR1099PI and NSR1093PI- Brook Haven Lane: No issues found. NSR1107PI and NSR1009RC- Ichabod Lane: No issues found. NSR1102PI- Pinewood Drive: No issues found.

NSH1095PI and NSH1087PI- Parkway Lane: No Issues found. NSH1089PI- Coves End Road: No Issues found. Outfall is buried or submerged. Still in working order.

NSH1113PI, NSH1122PI, and NSH1096PI- Creek Road: No issues found.

NSH1115PI and NSH1098PI- Creek Road: No issues found.

NSH1128PI-Point Road and Creek Road: No issues found. At point B a 12” pipe enters the catchbasin. Its origin is unknown.

NSH1093PI, NSH1094PI, and NSH1080PI- Joanne Drive: No issues found.

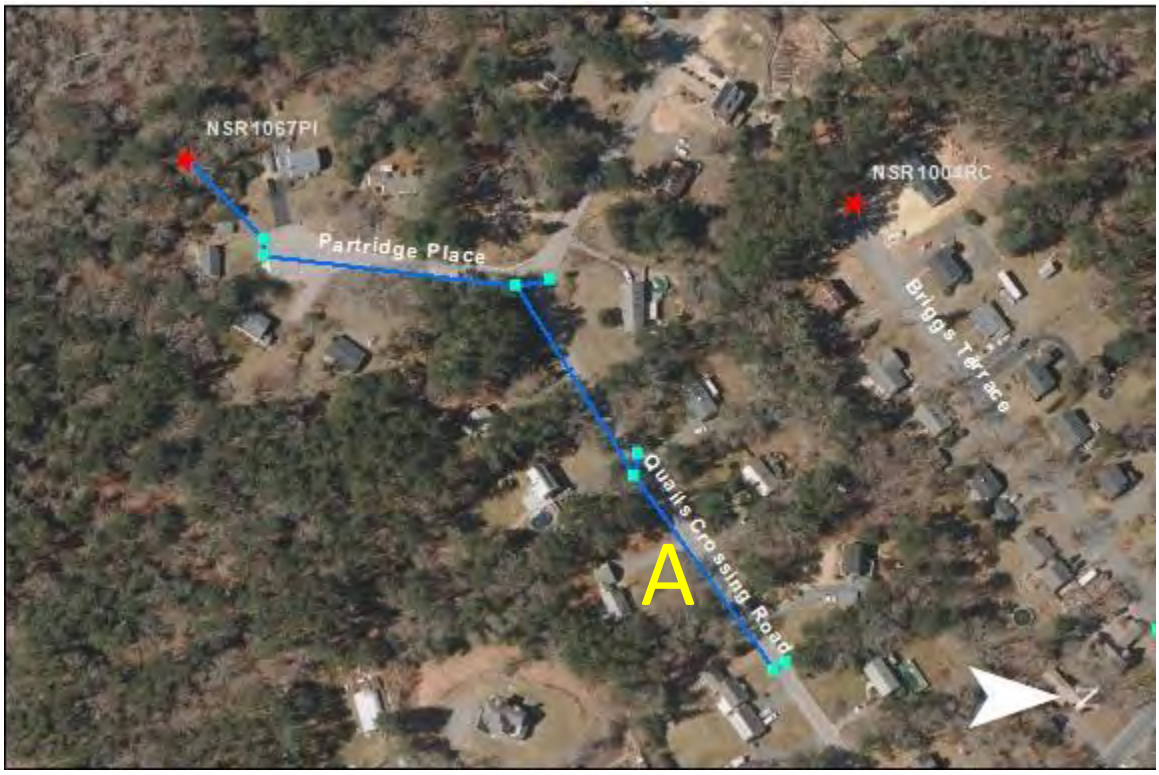
NSH1079PI and NSH1077PI- Joanne Drive and Jenna Drive: No issues found.

NSR1117PI and NSR1122PI- River Road: No issues found.

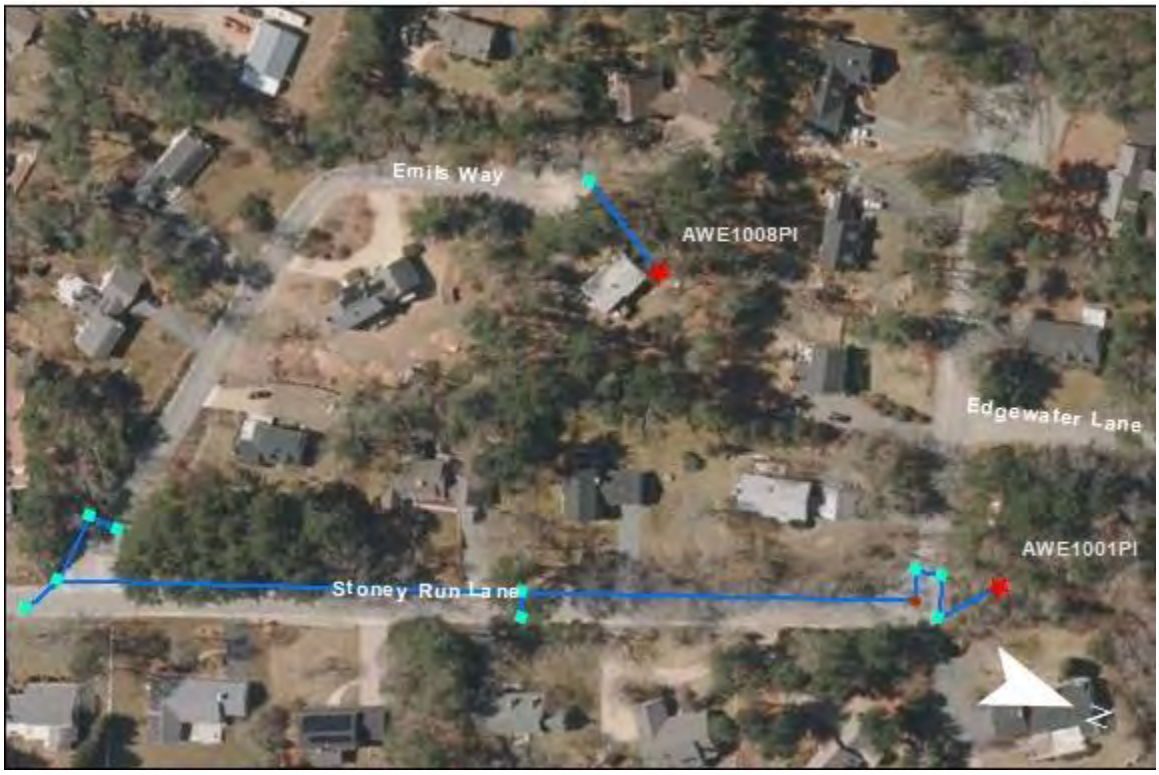
NSH1127PI- Green Street: No issues found. Catchbasins on Green Street are all infiltration basins except for the one shown connected to the outfall.

NSH1076PI and NSH1075PI- Sarah Sherman Lane: No issues found.
NSH1078PI- Oakdale Avenue: Pipe may be collapsed or buried. Unable to locate outfall. At point A, a clay pipe enters the catchbasin. Evidence pipe is broken in yard just South of basin.

NSR1091PI- Cranberry Way: No issues found.



NSR1067PI- Partridge Place: No issues found. At point A groundwater is penetrating catchment at pipe seam.

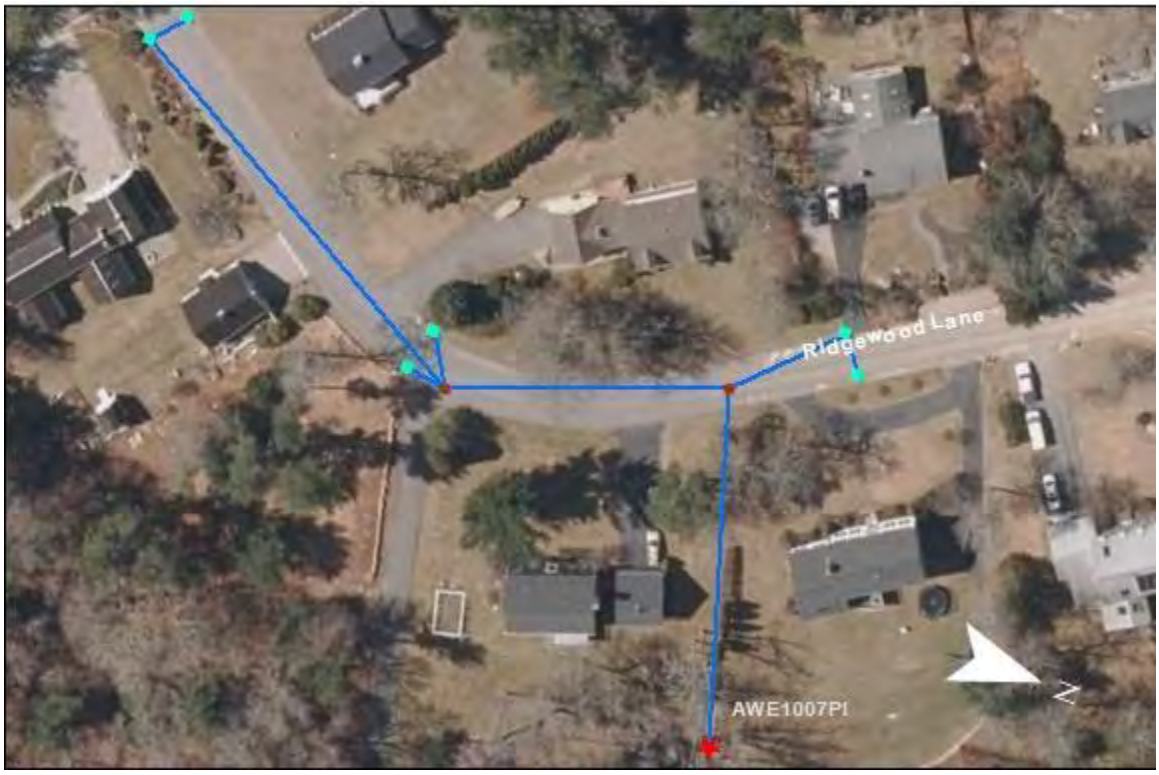


AWE1008PI- Emils Way: No issues found.
AWE1001PI- Stoney Run Lane: Structures near outfall are completely full of sand. Difficult to inspect due to debris. Further maintenance is suggested.

AWE1003PI- Edgewater Lane: No issues found.

NSH1103PI- Point Road: No issues found. Pipe enters catchbasin at point A. Origin of pipe unknown.

NSH1130PI- Point Road: No issues found.

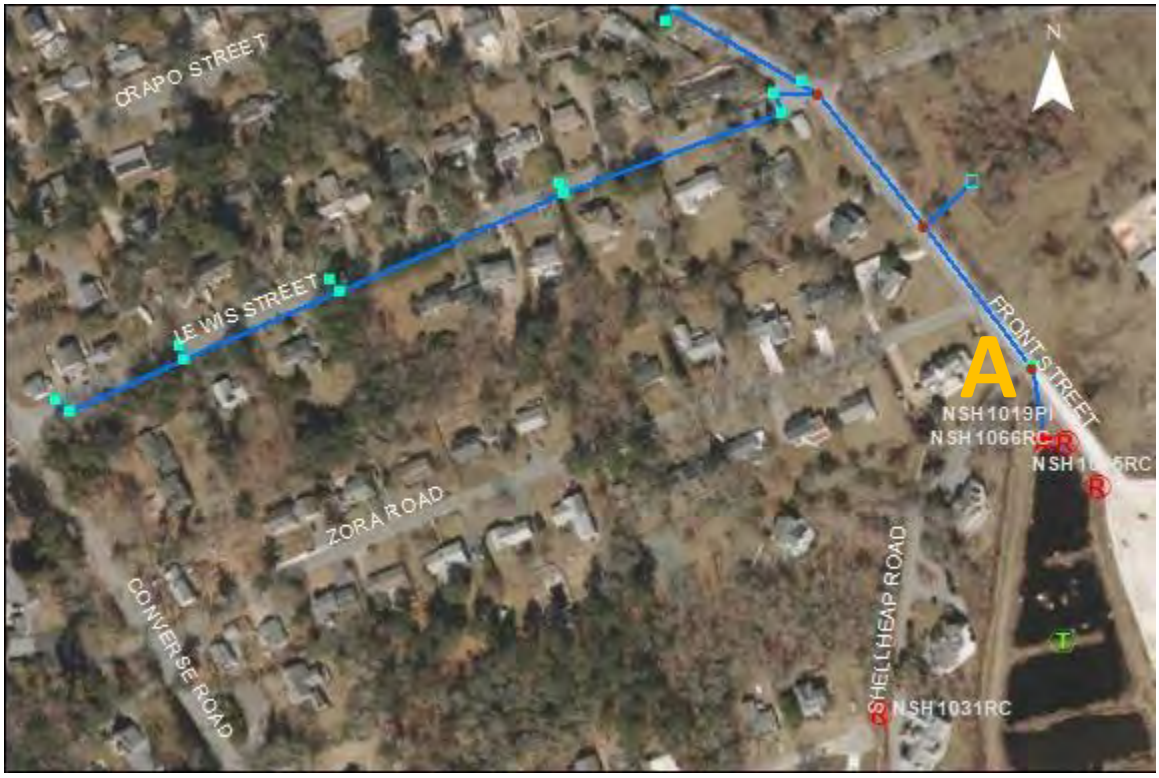


AWE1007PI- Ridgewood Lane: No issues found.

AWE1000PI- Cross Neck Road: No issues found.

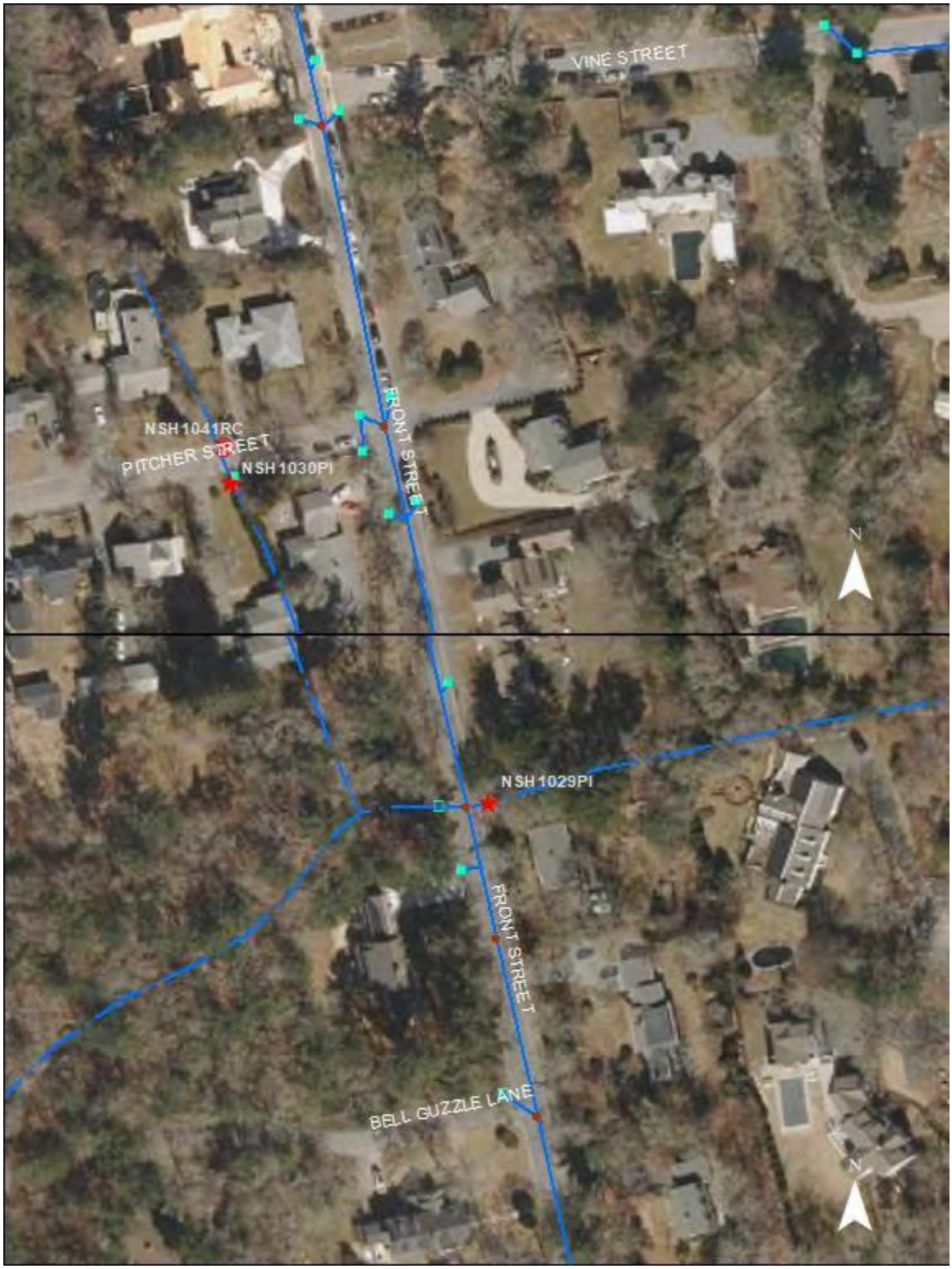
AWE1002PI- Delano Road: No issues found.

NSH1107PI, NSH1118PI, and NSH1117PI- Point Road: No issues found.

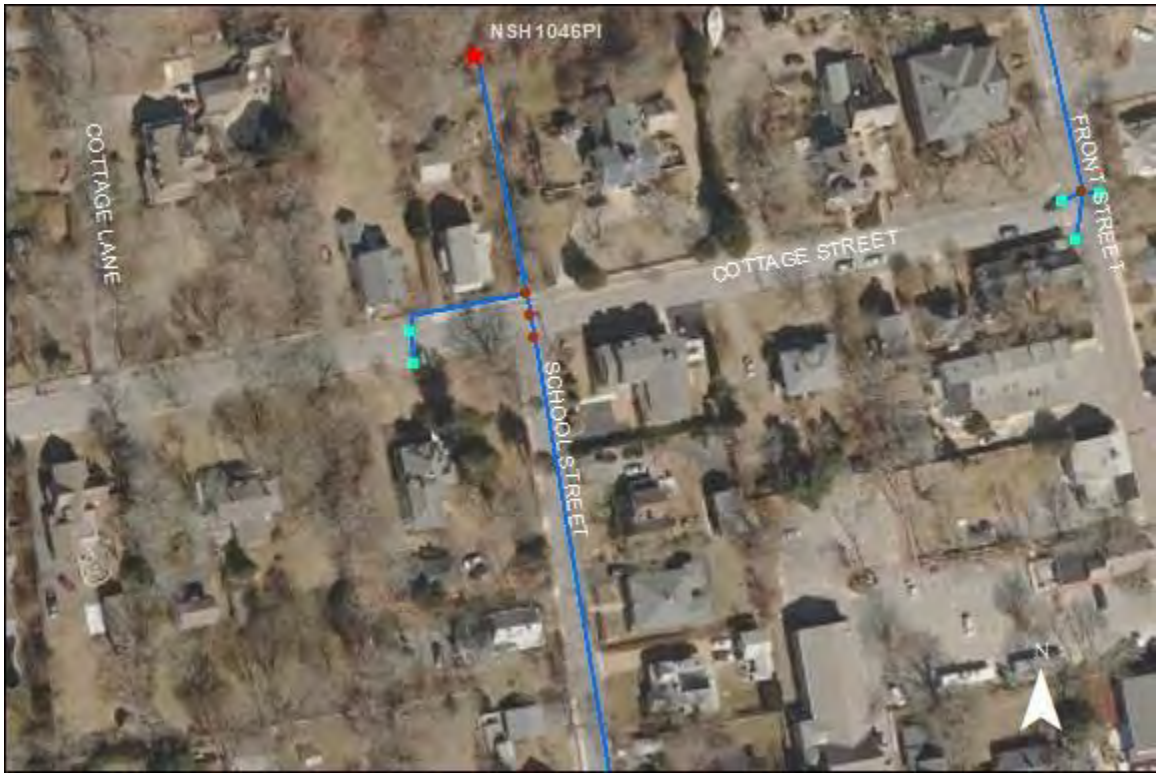


NSH1019PI (1/3)- Front Street and Lewis Street: No significant issues found. Two 12-inch concrete pipes enter the manhole at point A. Their origins are unknown. Several basins on Lewis Street had large amount of sand and leaf debris. Further maintenance is suggested.

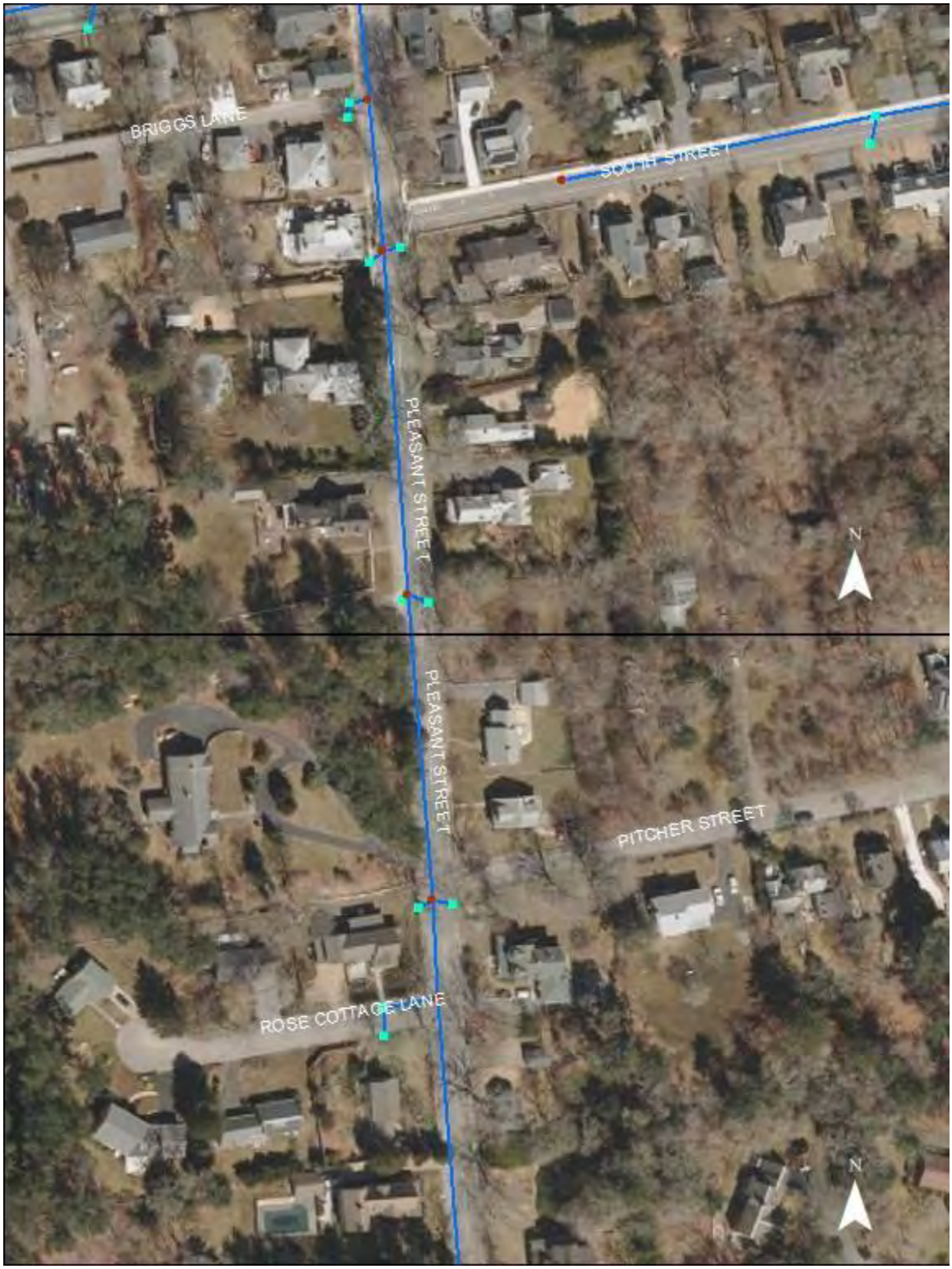
NSH1019PI (2/3)- Front Street: At point A and B the catchbasins have begun to sink. Both are in need of repair. Preventative maintenance is recommended.

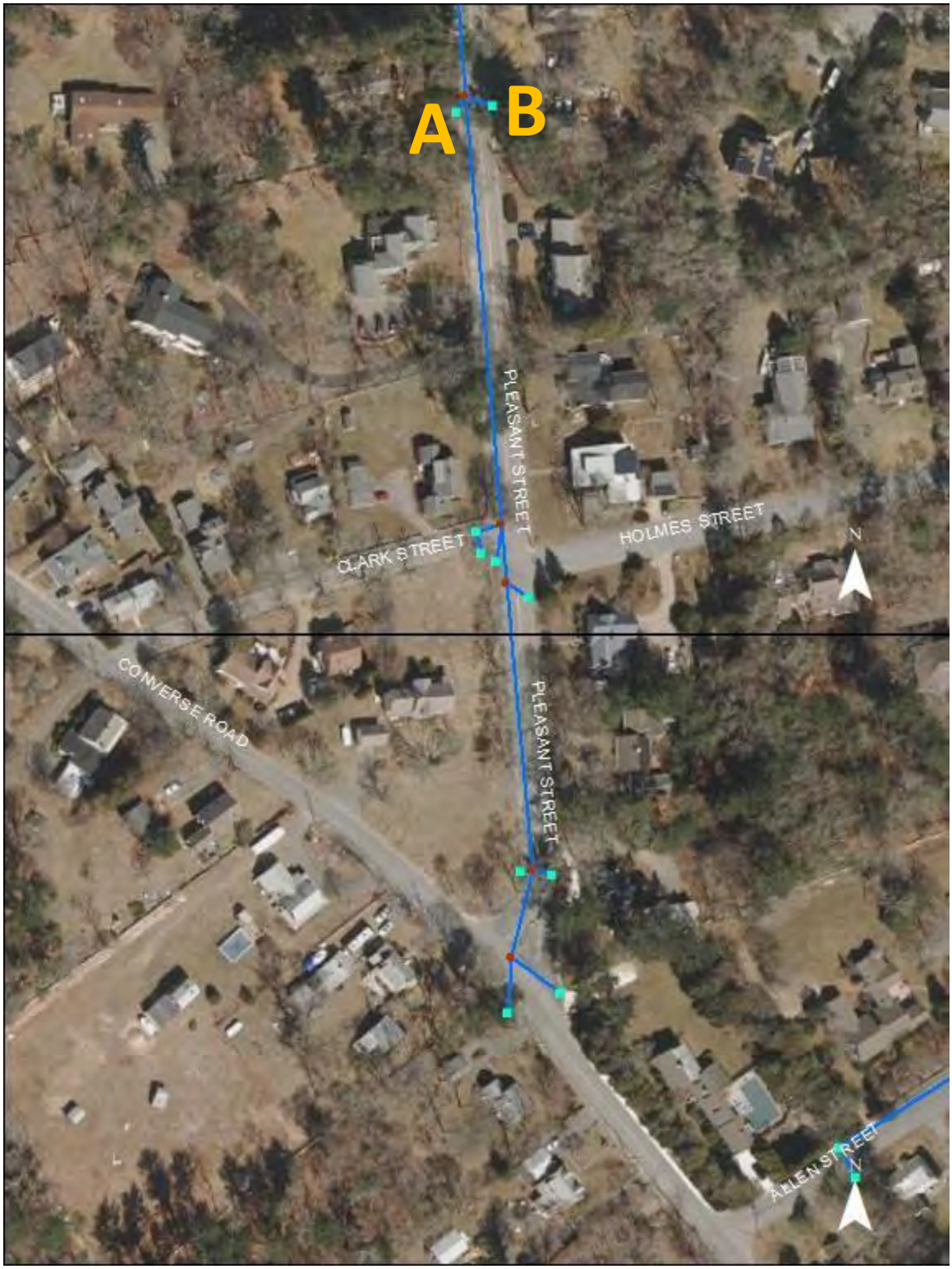


NSH1019PI (3/3)- Front Street: No issues found.

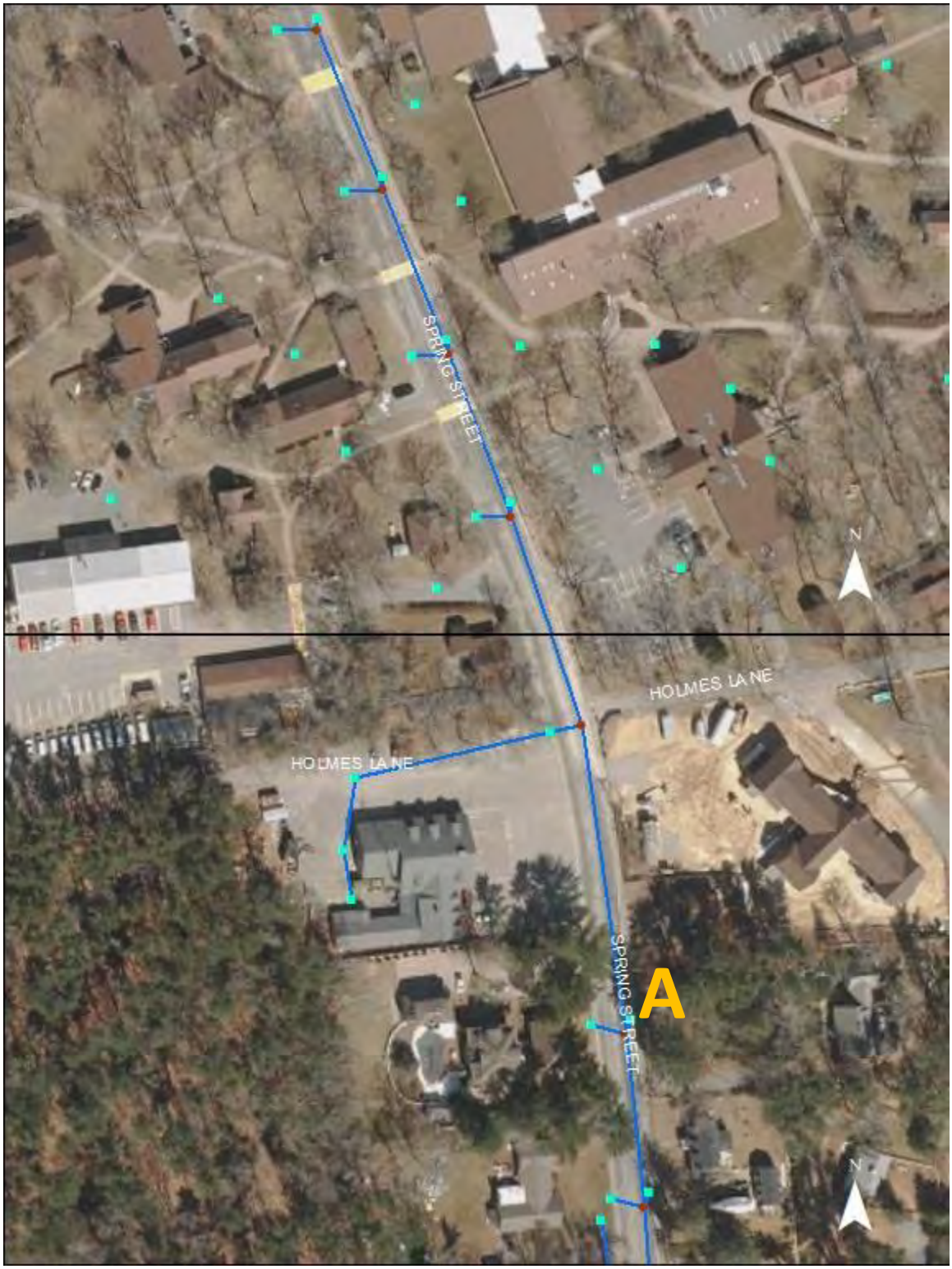


NSH1046PI (1/2) - School Street and Cottage Street: No issues found.


BRIGGS LANE
SOUTH STREET
PLEASANT STREET
N
PLEASANT STREET
PITCHER STREET
ROSE COTTAGE LANE
N



NSH1046PI (2/2) - Pleasant Street: At point A the bricks on the inside of the catchbasin are beginning to crumble. Catchbasin is in need of repair. At point B the catchbasin is full of dirt and not draining properly. The structure is in need of cleaning.


SPRING STREET
HOLMES LANE
HOLMES LANE
SPRING STREET
A
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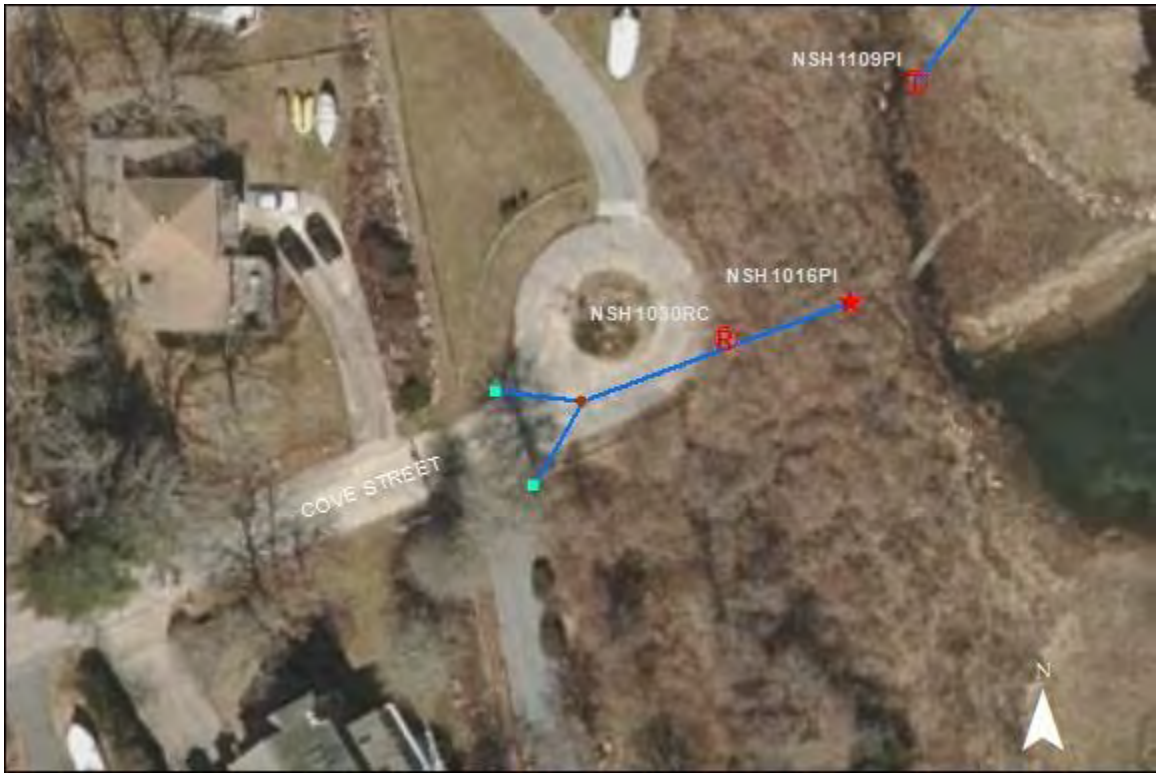
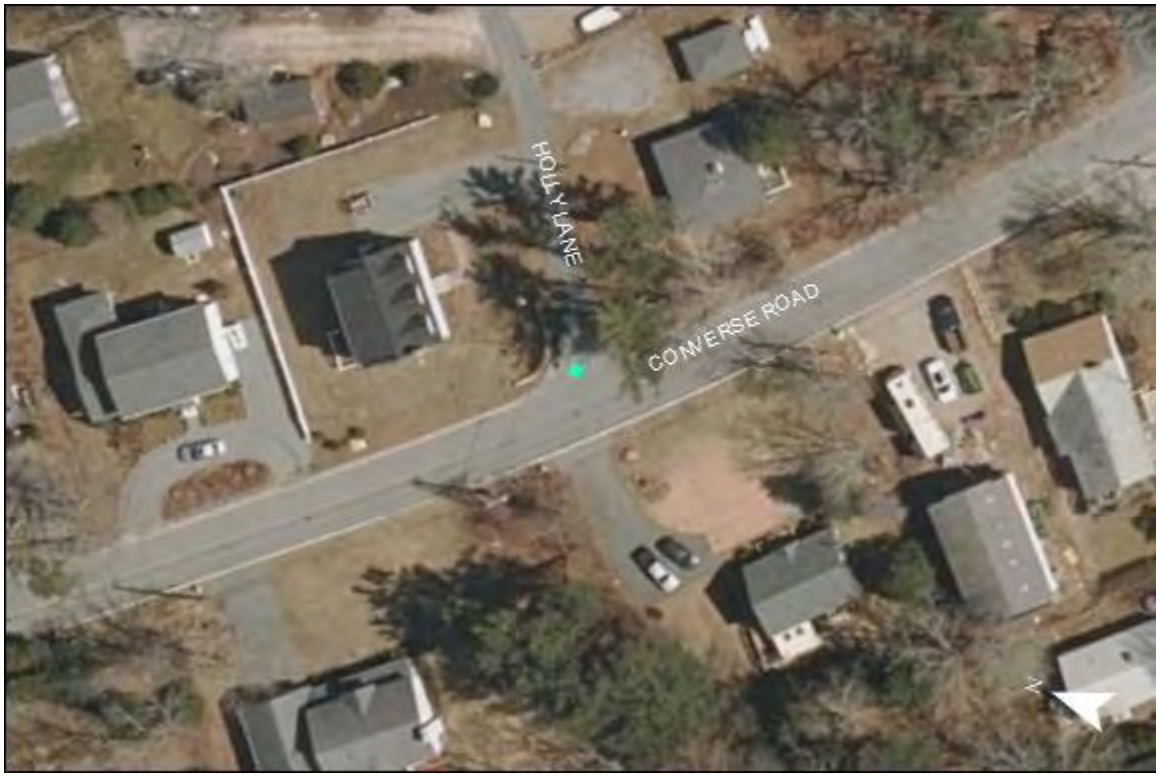
NSH1114PI and NSH1047PI- School Street: At point A there is a large construction sandbag inside the catchbasin. Its removal is recommended.



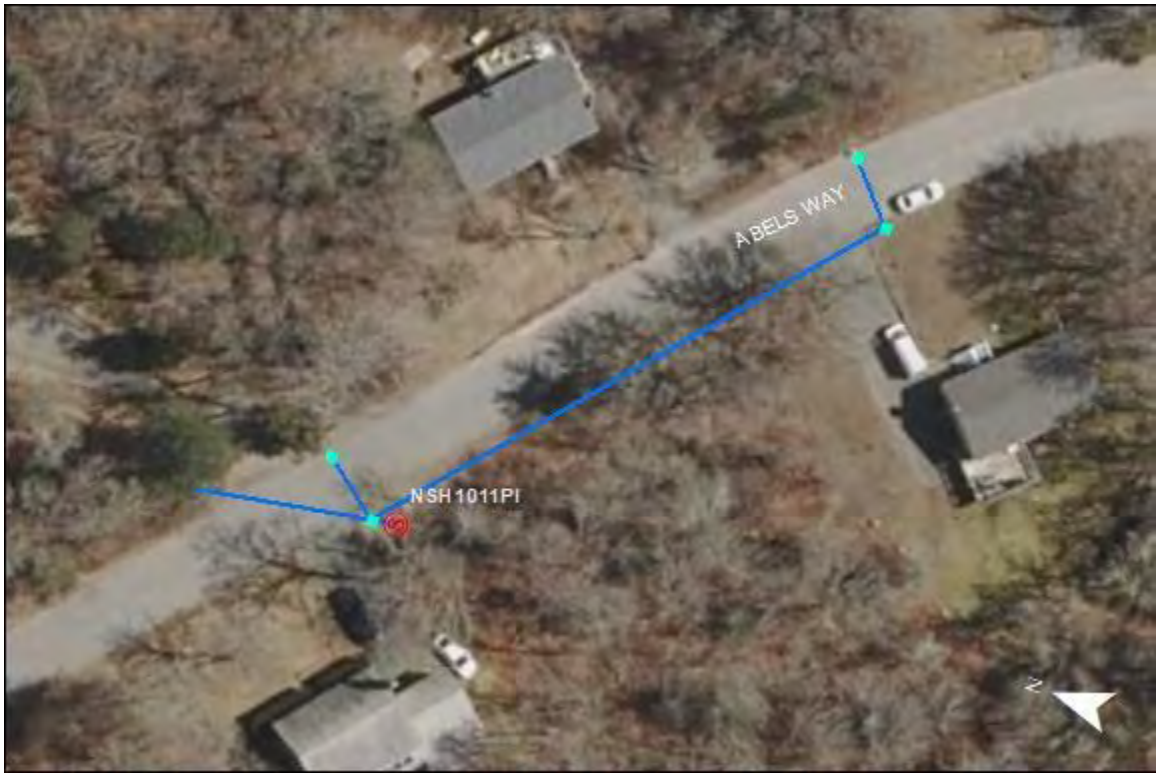
NSH1030RC and NSH1016PI- Cove Street: Catchbasins and the manhole on Cove Street are full of sand. Further maintenance is recommended.

NSH1067PI- Maple Avenue: No issues found.

NSH1065PI- Spring Street: No issues found.



Holly Lane: No issues found. Catchbasin is a standalone infiltration basin.



NSH1011PI- Abels Way: No issues found.

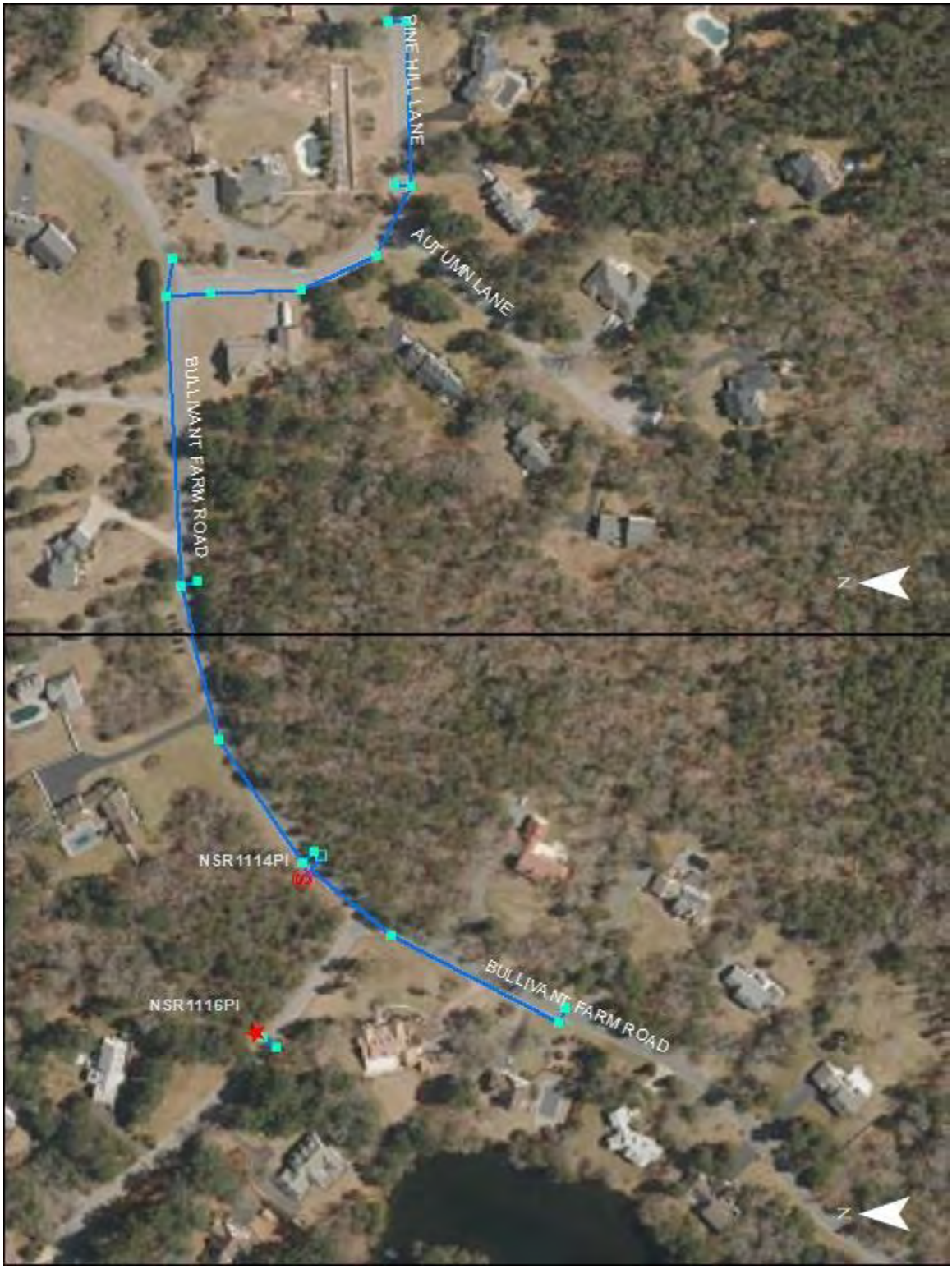
NSH1014PI and NSH1012PI- Giffords Corner Road: No issues found.

NSR1096PI, NSR1123PI, NSR1092PI, and NSR1124PI- County Road at Point Road: No significant issues. Pipe at point A is clogged. Further maintenance is recommended.

NSR1120PI- Tucker Lane: No issues found.

NSR1121PI, NSR1139PI, and NSR1138PI- Tucker Lane: Catchbasins at A, B, and C have all begun to sink. Preventative maintenance is recommended.

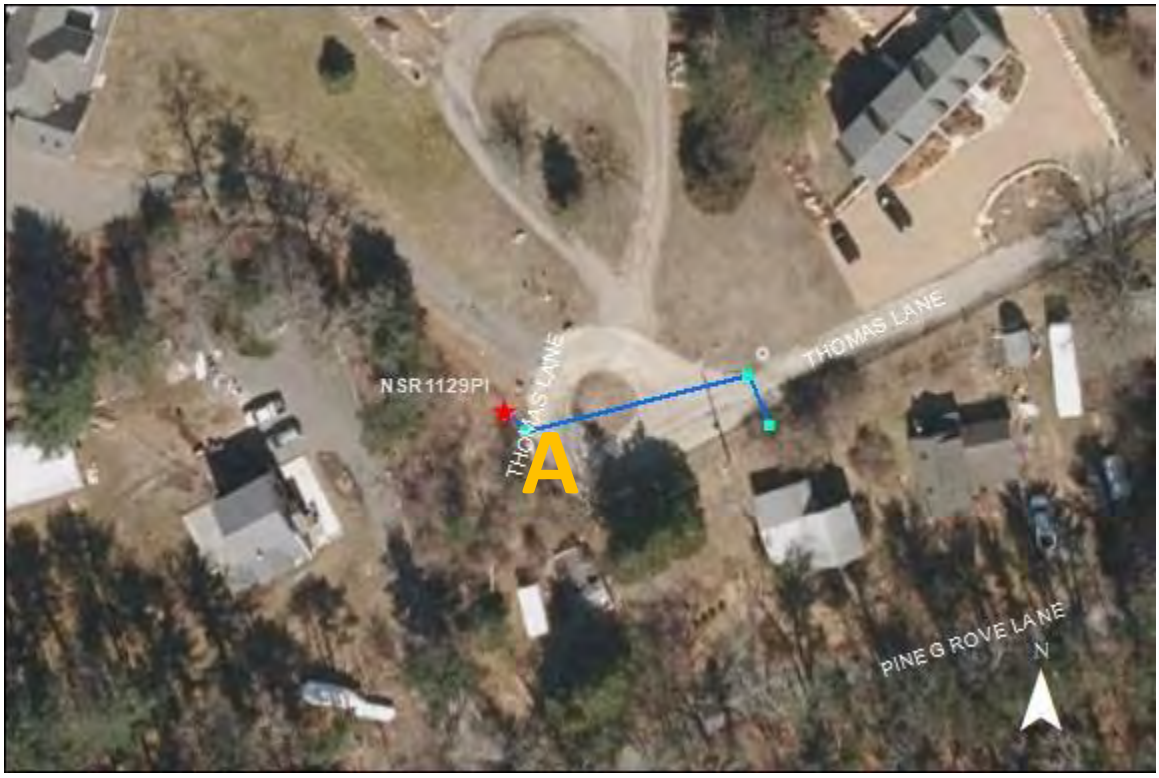
NSR1119PI and NSR1128PI- Bullivant Farm Road: No issues found.



NSR1114PI and NSR1116PI: Bullivant Farm Road and River View Lane: No issues found.

NSH1120PI- Pine Hill Lane: No issues found.

NSR1111PI- Bullivant Farm Road: No issues found.



NSR1129PI- Thomas Lane: The catchbasin at point A had a lot of lumber dumped into it. Catchbasin should be cleared of debris.

NSR1118PI- West River Road: No issues found.

NSR1137PI and NSR1130PI- Village Drive: No issues found.

NSR1133PI, NSR1132PI, and NSR1134PI- Field Stone Lane: No issues found.

NSR1134PI and NSR1135PI- Village Drive: No issues found.

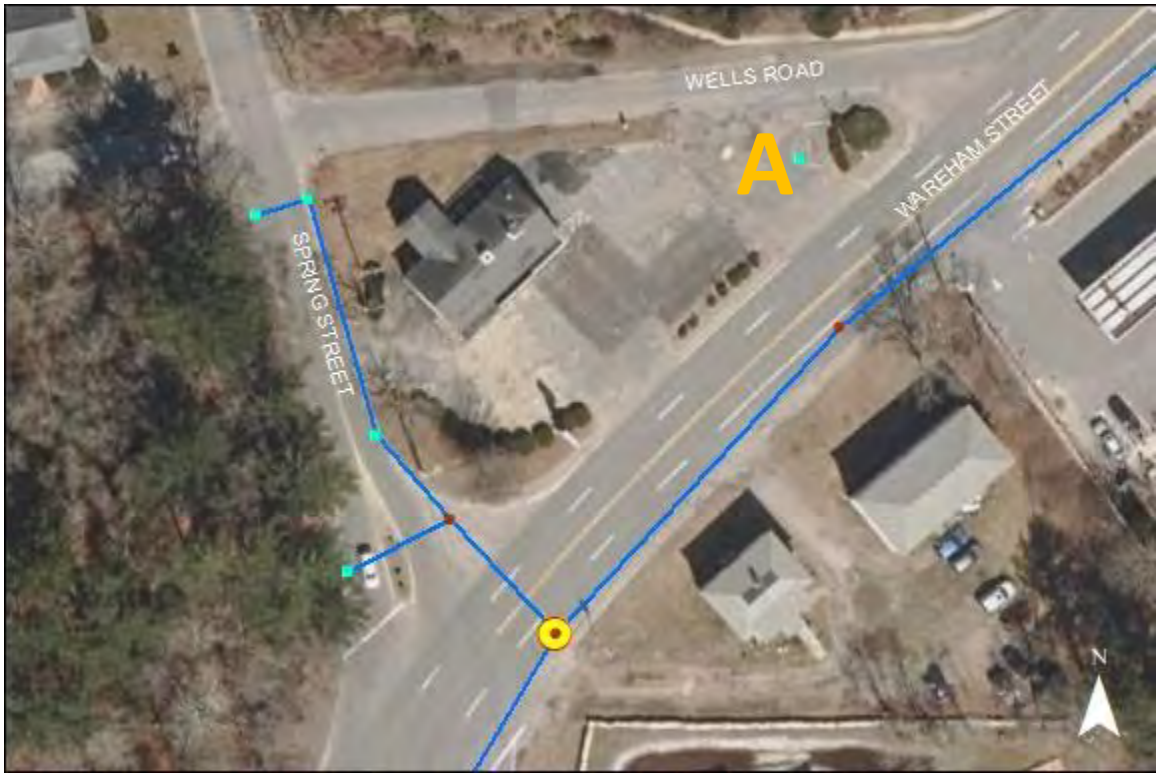
NSH1009PI- Upland Way and Olde Logging Road: At point A, B, and C, the catchbasins are beginning to sink and the frames are beginning to chip. Preventative maintenance is recommended.

NSH1021PI- Converse Road: No issues found. Landowner would not allow access for the inventorying of the discharge.

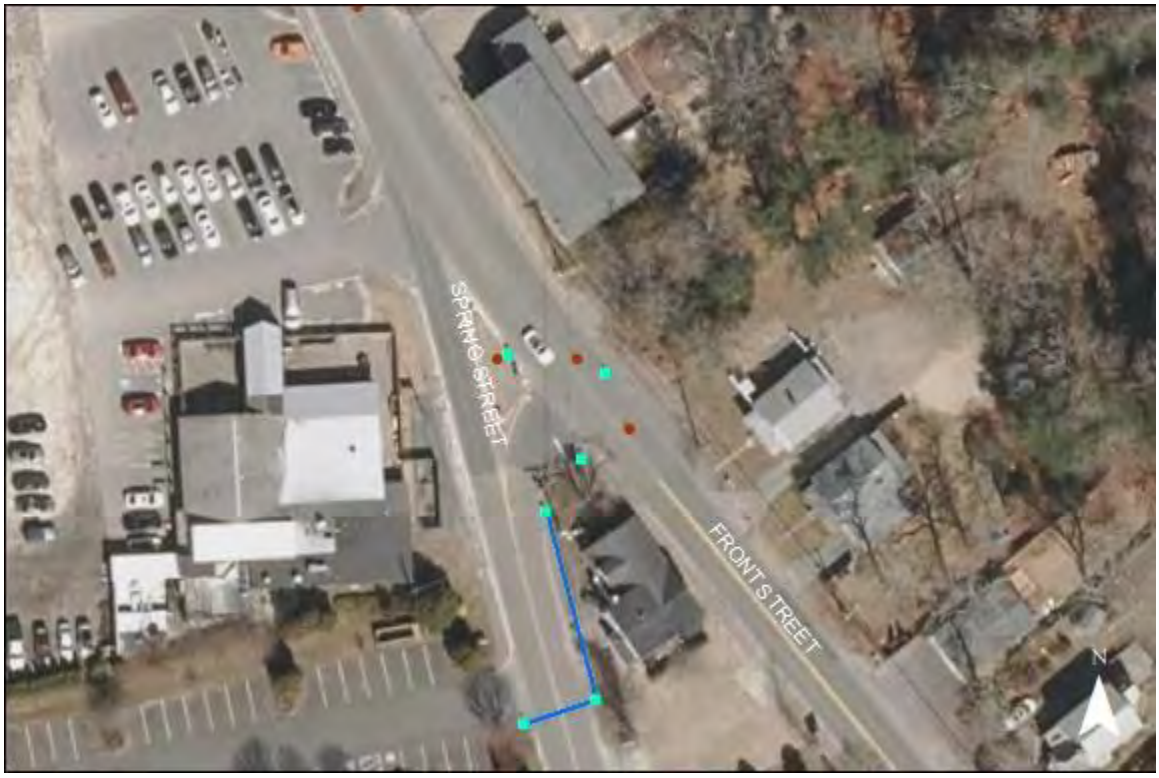
Sippican Elementary School- No issues observed. At point A there is a 12” cement pipe running through the structure. It is damaged. Unsure of what that piper carries. Further attention is strongly recommended.

NSR1103PI- Point Road: At Point A, both the manhole and catchbasin are full of dirt. Further maintenance is recommended.

NSR1098PI, NSR1127PI, NSR1126PI, and NSR1097PI- Point Road: No issues found.

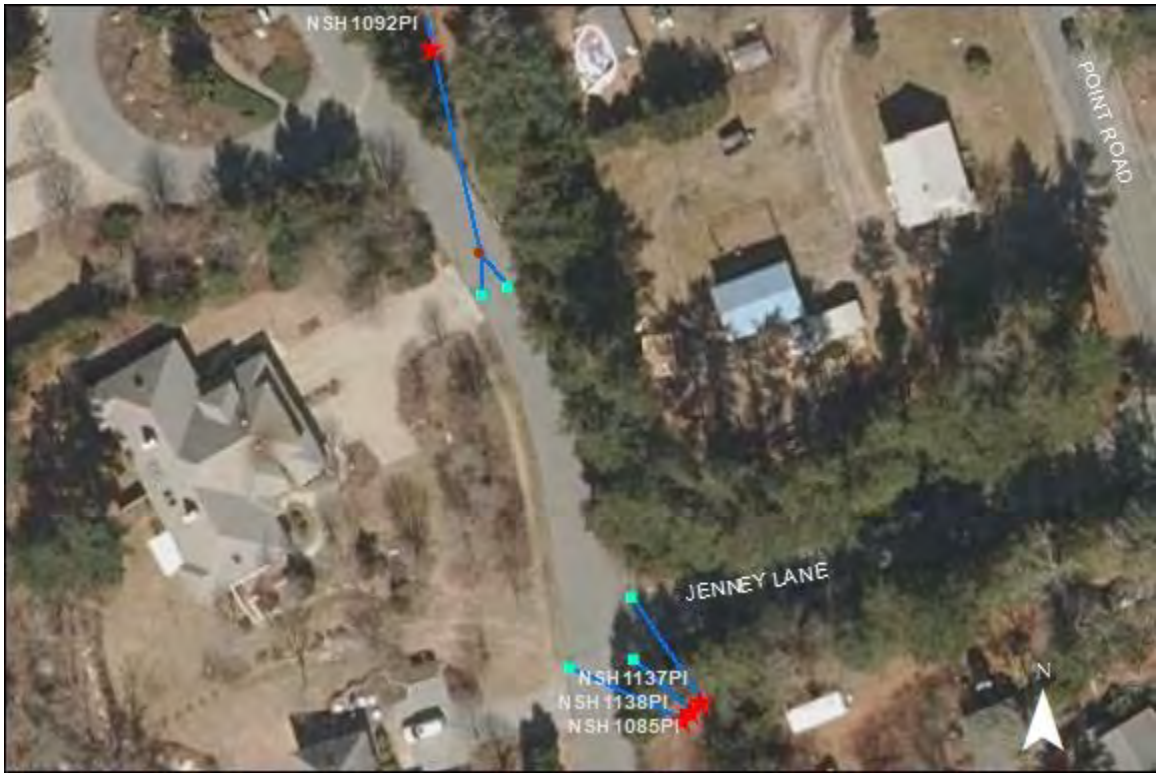


Spring Street: No issues found. Spring Street drains into a state road as shown at the yellow circle above. The catchbasin shown at point A is sinking. Further maintenance is suggested.



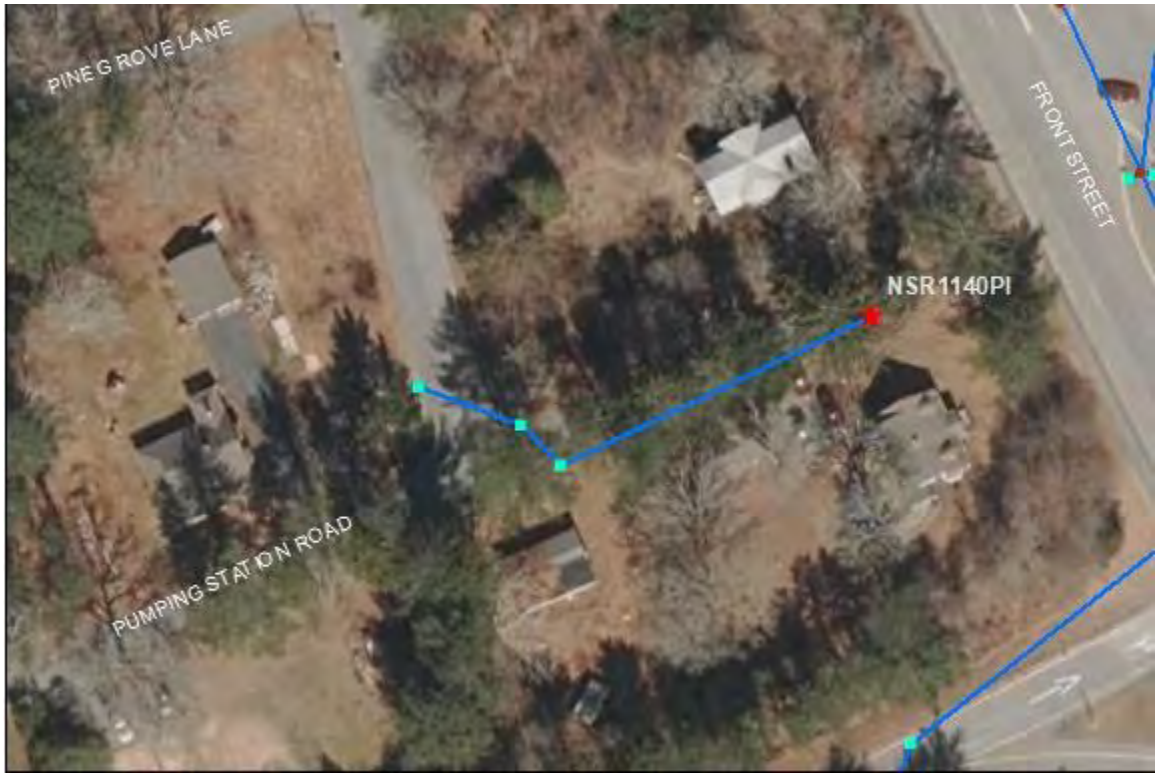
Spring Street: No issues found. Front Street North of Route 6 needs a police detail to be completed.

NSH1133PI, NSH1132PI, NSH1136PI, and NSH1135PI- Olde Meadow Road and Olde Sheepfield Road: No issues found.



NSH1092PI, NSH1137PI, NSH1138PI, and NSH1085PI- Jenny Lane: No issues found.

NSH1143PI- Delano Road: No significant issues found. At point A the road floods during rain events. There is a small 4” HDPE pipe located above ground to help relieve this issue. However, it does not extend far enough to drain the water retention in front of house #529. Further remediation is recommended.



NSR1140PI- Pumping Station Road: No issues found.