TOWN OF
PUTNAM
200 SCHOOL STREET
PUTNAM, CONNECTICUT 06260

Town of Putnam 2023 Annual Report Municipal Separate Storm Sewer System (MS4) General Permit

Existing MS4 Permittee
Permit Number GSM 000025

Report Period:
January 1, 2023 – December 31, 2023

Submittal Date to DEEP:

April 10, 2023

860-963-6800 WWW.PUTNAMCT.US

MS4 General Permit
Town of Putnam 2022 Annual Report
Existing MS4 Permittee
Permit Number GSM 000025
January 1, 2022 – December 31, 2022
Primary MS4 Contact: Bruce Fitzback, Land Use Agent, bruce.fitzback@putnamct.us, 860-963-6800 x114

This report documents the Town of Putnam efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 1, 2022 to December 31, 2022.

Part I: Summary of Minimum Control Measure Activities

1. Public Education and Outreach (Section 6 (a)(1) / page 19)

1.1 BMP Summary

BMP	Activities in current reporting period	Sources Used (if applicable)	Method of Distribution	Audience (and number of people reached)	Measurable Goal	Department / Person Responsible	Additional details
1-1 Implement public education and outreach	Printed materials and Links made available at Town Municipal Complex and Library	River Smart CT, Neponset Stormwater, NEMO Library	Maintain 20 copies available	Info available to 900 people per week	Update Fact Sheet available to the general public	Land Use Agent	Continuing efforts
1-2 Address education/ outreach for pollutants of concern	Include specifics about phosphorus and topics from NEMO Library	CT DOT, Clean Water Campaign UCONN CLEAR NEMO	Maintain 20 copies available	Info available to 900 people per week	Incorporate Additional pollution reduction practices in documentation	Land Use Agent	Continuing efforts

1-3 Public Outreach efforts	Educational material added to Town Website	UCONN Eastern CT Stormwater Collaborative	Town Website	12± visits to Plannng – Land Use page	Educate Public on common stormwater topics	Land Use Agent	https://www.putnamct.us/departments/planning-and-land-use/stormwater Visits Planning - Land Use per month

1.2 Describe any Public Education and Outreach activities planned for the next year, if applicable.

-- Publish advertisement on Stormwater quality as a biannually topic in a local newspaper, which could increase awareness of BMP in future years.
--Plans to coordinate with the school's science educators to integrate stormwater education as a special component of curriculum.
--Stormwater educational material can be found on the Town Website and will be update website regularly.

1.3 Details of activities implemented to educate the community on stormwater

Program Element/Activity	Audience (and number of people reached)	Topic(s) covered	Pollutant of Concern addressed (if applicable)	Responsible dept. or partner org.
Educational stormwater printouts displayed and available at Town Municipal Complex and Library informational board	Visitors to Town , including community members (900+ people reached) weekly	Impact of pollutants to stormwater	Phosphorus, Bacteria, Nitrogen, Lawn care produces, Construction Run Off, Mercury …	Land Use Agent
Installation of stormwater educational sign at the parking area Rain Gerden New Municipal Complex	Visitors to Municipal Complex including Office visits, library, community rooms (900+ people reached) per week	Treatment of stormwater collected from impervious surfaces	Sediment, other pollutants	Land Use Agent
Created the Stormwater pages on the Town Website	General public, Town Leaders, Commissions, Boards Members	All topics found at the UCONN CLEAR website	Sediment, other pollutants	Land Use Agent

2. Public Involvement/Participation (Section 6(a)(2) / page 21)

2.1 BMP Summary

BMP	**Status** (Complete, Ongoing, In Progress, or Not started)	**Activities in current reporting period**	**Measurable Goal**	**Department / Person Responsible**	**Date completed or projected completion date** (include the start date for anything that is 'in progress')	**Location Posted**	**Additional details**
2-1 Continue availability of the Final Stormwater Management Plan to the Public.	Ongoing	Place an advertisement in a local newspaper.	Compliance with Section 4(d)(2) and Section 6(a)(2)(A) of the General Permit	Land Use Agent	Jan. 2023	Town Website/ https://resources.finalsite.net/images/v1643724658/putnamctus/cvte1vltyssjcnuid9za/Stormwater_Managemenet_Plan.pdf	
2-2 Comply with public notice requirements for Annual Reports	Complete	This Annual Report was publicly noticed and posted to the website as per current DEEP requirements.	Compliance with Section 4(d)(2) and Section 6(a)(2)(A) of the General Permit	Land Use Agent	Feb, 15, 2022	Town Website	

2.2 Describe any Public Involvement/Participation activities planned for the next year, if applicable.

Consider the establishment of a Stormwater Committee within the wetland's agency,
Public forum & discussion with Planning and Zoning Commissions and Board of Selectmen on the financing of stormwater requirements. On going

3. Illicit Discharge Detection and Elimination (Section 6(*a*)(3) and Appendix B / page 22)

3.1 BMP Summary

BMP	**Status** (Complete, Ongoing, In Progress, or Not started)	**Activities in current reporting period**	**Measurable Goal**	**Department / Person Responsible**	**Date completed or projected completion date** (include the start date for anything that is 'in progress')	**Additional details**
3-1 Develop written IDDE program (Due 7/1/19)	Complete	Final Report prepared dated June 29, 2018	Develop written plan of IDDE program	Town Administrator / Town Engineer	June 29, 2018	Note our Stormwater Management Plan BMP "Training" is tracked under this BMP. IDDE program includes training.
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas (Due 7/1/20)	Complete	None, completed prior to reporting period Contracted CDM Smith to review	Ordinance effective date	Town Administrator / Town Engineer	November 20, 2013	Consultant draft review includes recommendation for timeline for illicit discharge elimination
3-3 Implement citizen reporting program (Ongoing)	Complete	Catchment Plans finalized	Develop and update list and maps	Town Administrator / Town Engineer	March 2018	
3-4 Establish legal authority to prohibit illicit discharges (Due 7/1/19)	Ongoing	Contact information updated for Highway Superintendent	Maintain website	Highway Superintendent / Town Engineer	Updated July 2018	
3-5 Develop record keeping system for IDDE tracking (Due 7/1/17)	Ongoing	Updated contact information	Tracking System finalized	Town Administrator / Town Engineer	Completed 2017, future review and updating planned	
3-6 Address IDDE in areas with pollutants of concern	Ongoing	Stormwater Sampling and the identification of IDDE Dry weather complete Wet weather underway	Identification of illicit discharges	Land Use Agent	Ongoing	CDM Smith contracted for Stormwater sampling. Working with WPCA on CCTV survey of IDDE

3-7 IDDE Program posted on Town Website	Complete	Website posting	Public awareness	Land Use Agent	Dec. 2021	https://resources.finalsite.net/images/v1643724659/putnamctus/maxee7yadprvlgawlyhe/IDDEProgramMaster2018-5-29.pdf

3.2 Describe any IDDE activities planned for the next year, if applicable.

Maintain master IDDE tracking spreadsheet and ensure all employees involved in IDDE program understand the logging process
Plan for continued and/or additional detection program work
CDM Smith contracted to continue stormwater sampling and mapping
Plan to work with the Northeast District Department of Health to implement reporting standards of septic failures to the municipalities.

3.3 Provide a record of all citizen reports of suspected illicit discharges and other illicit discharges occurring during the reporting period and SSOs occurring July 2017 through end of reporting period using the following table. Illicit discharges are any unpermitted discharge to waters of the state that do not consist entirely of stormwater or uncontaminated groundwater except those discharges identified in Section 3(a)(2) of the MS4 general permit when such non-stormwater discharges are not significant contributors of pollution to a discharge from an identified MS4.

Location (Lat long/ street crossing /address and receiving water)	**Date and duration of occurrence**	**Discharge to MS4 or surface water**	**Estimated volume discharged**	**Known or suspected cause / Responsible party**	**Corrective measures planned and completed** (include dates)	**Sampling data** (if applicable)
N/A	No Date	N/A		The Town of Putnam had no Reported discharges in 2023		
83 Park Rd	1/3/2022 120 Min.	No	50-100 gal	Force Sewer Main Break	Repaired	No
180 Recreation Park Rd	3/11/2021 70 min.	No	0-50 gal	Blockage - other	Cleared	No
68 Florence St	8/12/2021 62 min.	No	1-50 gal	Blockage - Grease	Cleared	No
37 Flagg St	10/31/2021 60 min.	No	1-50 gal	Blockage – Roots	Cleared	No
126 Quinebaug Ave	5/26/2020 40 min.	No	501-1000 gal	Blockage – Grease	Cleared	No
70 Livery St	10/23/2020	MS4	1-50 gal	Blockage – Grease	Cleared	No

209 Recreation Park Rd	10/24/2019 90 min.	No	51-500 gal	Blockage – Roots	Cleared	No
Int. King & Chapman St	10/24/2019 60 min.	No	51-500 gal	Blockage – Grease	Cleared	No
147 Kennedy Dr	10/24/2019 75 min.	No	1-50 gal	Blockage – Grease	Cleared	No
5-23 Grove St	6/29/2018 8:30Am 7/172021	Catch Basin	1-50 gal	Workers found 6" Clay pipe discharging into a Catch Basin. Owner notified	Die test conducted. No completion doc. found Follow up needed	No
202 Pomfret St	10/24/2018 83 min.	No	1-50 gal	Blockage – other	Cleared	No

189 Walnut St	2/7/17 60m	No	0-50 gals	Roots	Cleared - Repaired		No	
Pomfret/ Sabin St	7/8/17 30 min.	No	0-50 gals	Blockage - other	Cleared		No	
93 Sabin Street	11/23/17 40 min.	No	0-50 gals	Roots	Cleared - Repaired		No	
71 Laurel St	12/22/17 45 min.	No	1-50 gals	Blockage	Cleared		No	

3.4 Provide a summary of actions taken to address septic failures using the table below.

Method used to track illicit discharge reports	Location and nature of structure with failing septic systems	Actions taken to respond to and address the failures	Impacted waterbody or watershed, if known	Dept. / Person responsible
None identified this period (most higher density areas in Town are served by municipal sewers).		The NDDH does not report to the Town on septic failures. NDDH does not keep septic failure records, only application for constructions & repairs.		

3.5 Briefly describe the method and effectiveness of said method used to track illicit discharge reports.

The tracking of IDDE is done using the Excel document Entitled Catchments and Outfalls Table (attached below) and corresponding e-files by street address.
Initial formatting and use ongoing.

3.6 IDDE reporting metrics

Metrics	
Estimated or actual number of MS4 outfalls	171
Estimated or actual number of interconnections	33
Outfall mapping complete	100%
Interconnection mapping complete	100%
System-wide mapping complete (detailed MS4 infrastructure) corrections needed	98%
Outfall assessment and priority ranking	100%
Dry weather screening of all High and Low priority outfalls complete	100%
Catchment investigations complete	20
Estimated percentage of MS4 catchment area investigated	0.1%

3.7 Briefly describe the IDDE training for employees involved in carrying out IDDE tasks including what type of training is provided and how often it is given (minimum once per year).

- The IDDE tasks are being completed by professionally trained personnel from CSM Smith. Municipal personal training includes instruction on how to recognize and report a potential illicit discharge as part of other maintenance efforts.
- Staff training is done once per year

4. Construction Site Runoff Control (Section 6(a)(4) / page 25)

4.1 BMP Summary

BMP	**Status** (Complete, Ongoing, In Progress, or Not started)	**Activities in current reporting period**	**Measurable Goal**	**Department / Person Responsible**	**Date completed or projected completion date** (include the start date for anything that is 'in progress')	**Additional details**
4-1 Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 general permit (Due 7/1/20)	Ongoing	Review existing	Maintain Log of retention/detention and stormwater basins	Town Planner	July 1, 2019	During CY2020, the Town hired a consultant to review local regulations – in CY2021 memo prepared and initial steps expected in CY2024.
4-2 Develop/Implement plan for interdepartmental coordination in site plan review and approval (Ongoing)	Complete	Coordination and updating to reflect new personnel	Department meetings	Town Planner	July 1, 2017	During CY2023 the Land Use Dept. started using Permit link software with the Building Dept. All agencies see site comments.
4-3 Review site plans for stormwater quality concerns (Ongoing)	Complete	Review subdivision plans as part of Planning Applications; review Building Permits as part of Building Department. Conduct site visits on active construction.	Review of site plans and completed inspections	Town Planner	July 1, 2017 / ongoing to maintain	Zoning is First step for applications prior to building permit application.
4-4 Conduct site inspections (Ongoing)	Ongoing					
4-5 Implement procedure to allow public comment on site development (Ongoing)	Complete	The Planning and Zoning commission's holds public hearings on every application.	Procedure in place	Land Use Agent Building Department	July 1, 2017	As applicable revisions to other types of site development outside of Planning & Zoning Commission reviews.

4-6 Implement procedure to notify developers about DEEP construction stormwater permit (Ongoing)	Complete	As part of subdivision or site plan review; provide comments on other permitting applicability (DEEP)	Procedure in place	Town Planner	July 1, 2017	As applicable revisions to other types of site development outside of Planning Commission reviews.

4.2 Describe any Construction Site Runoff Control activities planned for the next year, if applicable.

- Continue site visits related to private development and gravel excavation on various parcels within Town. Significant ongoing or upcoming planned projects include: (1) Town of Putnam project on Sabin Street (~20 acres disturbance); (2) Strategic Realty gravel excavation and subdivision on Town Farm Road / Technology Park Drive (~65 acre disturbance).
- Establish a Stormwater Site Plan Review process in conjunction with Town Departments and Commissions.
- Develop a Stormwater compliance Check list for the Site Plan Review process

5. Post-construction Stormwater Management (Section 6(*a*)(5) / page 27)

5.1 BMP Summary

BMP	**Status** (Complete, Ongoing, In Progress, or Not started)	**Activities in current reporting period**	**Measurable Goal**	**Department / Person Responsible**	**Date completed or projected completion date** (include the start date for anything that is 'in progress')	**Additional details**
5-1 Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning (Due 7/1/22)	In progress	Review existing regulations related to LID (including Quinebaug Technology Park Zoning section)	Contracted CDM Smith to confirm to review Town Code	Town Administrator / coordinate with Zoning	July 1, 2021/ In progress Start 11/2021	CDM Smith completed review. Making corrections – additions to Town regulations
5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects (Due 7/1/22)	Ongoing	Review site plans submitted to Building Department	Number of site plans reviewed for stormwater handling	Town Engineer / Land Use Agent, coordinate with Zoning	July 1, 2019 / ongoing	Weekly site inspections.

5-3 Identify retention and detention ponds in priority areas (Due 7/1/20)	Complete – On going	Finalized list of Retention and detention ponds/basins Need to add info to Town GIS	Ability to record site inspections	Land Use Agent	Completed Nov. 2021	Updates to be added as Stormwater Site Plan review dictates
5-4 Implement long-term maintenance plan for stormwater basins and treatment structures (Ongoing)	Ongoing	No formal Maintenance Plan developed. Maintenance conducted as annual inspections deemed necessary.	Basins being maintained	Land Use Agent	Inspection began Nov. 2021	We currently have 11 Basins in Town
5-5 DCIA mapping (Due 7/1/20)	In progress	Gather background information and previous related efforts.	DCIA calculations complete	Town Administrator	July 1, 2020	Area calculations have been completed for catchments. Estimating impervious cover and connectivity level are not completed.
5-6 Address post-construction issues in areas with pollutants of concern	No issues evident to date	None Weekly Inspection of active construction sites	Site monitoring	Land Use Agent	On going	Coordinates with next Section 6, including BMP 6-5.

5.2 Describe any Post-Construction Stormwater Management activities planned for the next year, if applicable.

5-1 Continue review of legal authority and other updates to current regulations to meet LID and runoff reductions practices as required by this permit.
5-2 Continue enforcement of LID / runoff reductions and water quality treatment on all active sites.
5-3 Continue with field inspections and maintenance of all municipality owned retention and detention basins.
5-4 Continue with inspections for long term maintenance plan for stormwater basins.
5-5 Continue confirmation of interconnections.

5.3 Post-Construction Stormwater Management reporting metrics

For details on this requirement, visit https://nemo.uconn.edu/stormwater-basics/construction-permit/ . Scroll down to the DCIA section.

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA)	Approximated 1,700 acres (to be confirmed)
DCIA disconnected (redevelopment plus retrofits)	1.9 acres total
Retrofit projects completed	0.0 acres
DCIA disconnected	0.14%
Estimated cost of retrofits	Nothing this year
Detention or retention ponds identified	11 total to date

5.4 Briefly describe the method to be used to determine baseline DCIA.

- Expect to confirm use of Option 1 of Appendix 3 "Impervious Cover in CT Municipalities", including within the document *Connecticut Watershed Response Plan for Impervious Cover*

6. Pollution Prevention/Good Housekeeping (Section 6(*a*)(6) / page 31)

6.1 BMP Summary

BMP	**Status** (Complete, Ongoing, In Progress, or Not started)	**Activities in current reporting period**	**Measurable Goal**	**Department / Person Responsible**	**Date completed or projected completion date** (include the start date for anything that is 'in progress')	**Additional details**
6-1 Develop/implement formal employee training program (Ongoing)	Complete / ongoing	Annual training for Highway/DPW personnel	Training dates held	Highway Superintendent	July 1, 2017	
6-2 Implement MS4 property and operations maintenance (Ongoing)	Ongoing	Discussions between Town Departments	Number of management areas addressed	Town Administrator, Recreation/Parks, Highway Superintendent	Expect ongoing effort	Recreation Department employee personnel changes and startup training for field maintenance.
6-3 Implement coordination with interconnected MS4s	In progress	Completed Interconnection survey and identification, see Attachment Task 5 Interconnections		Land Use Agent		The majority of interconnections are to CT-DOT owned roads
6-4 Develop/implement program to control other sources of pollutants to the MS4	Not started			Land Use Agent		
6-5 Evaluate additional measures for discharges to impaired waters*	On going	Dry Stormwater sampling is complete, wet weather sampling near completion. Working on a case-by-case basis	Additional measures considered Tracking the source	Land Use Agent Highway Superintendent	Not specified at this time	This BMP will coordinate with the prioritized dry and wet weather sampling.
6-6 Track projects that disconnect DCIA (Ongoing)	On going	We currently have no DCIA disconnect project underway	Ready to tract	Land Use Agent	Not specified at this time	Ready for DCIA Projects

6-7 Implement infrastructure repair/rehab program (Due 7/1/21)	Not started	DCIA planning and catch basin removal	Amount of DCIA disconnected	Town Administrator, Highway Superintendent, Town Engineer	July 1, 2021	Bridge improvements projects, adjacent catch basins were removed and stormwater measures included sheet flow over grasses areas and swales.
6-8 Develop/implement plan to identify/prioritize retrofit projects (Due 7/1/20)	Not started					Retrofit projects are currently on a as needed/possible to be completed status
6-9 Implement retrofit projects to disconnect 2% of DCIA (Due 7/1/22)	Ongoing	Approval of municipal parking lot redesign will disconnect 1.29 acres. Construction planned for fall of 2024	Improved water quality	Land Use Agent	Efforts continue	
6-10 Develop/implement street sweeping program (Ongoing)	Complete / ongoing	Street sweeping, snow treatment practices	1,036 basins cleaned, miles of curbs swept, amount of de-icing	Town Administrator, Highway Superintendent, Town Engineer	Expect ongoing effort	
6-11 Develop/implement catch basin cleaning program (Ongoing)	Complete / ongoing	Cleaned all catch basins	1,036 basins cleaned, miles of curbs swept, amount of de-icing	Town Administrator, Highway Superintendent, Town Engineer	Expect ongoing effort	
6-12 Develop/implement snow management practices (Due 7/1/18)	Complete / ongoing	Snow treatment practices	1,036 basins cleaned, miles of curbs swept, amount of de-icing	Town Administrator, Highway Superintendent, Town Engineer	Expect ongoing effort	The town is using wood mulch to mix with road salt

6.2 Describe any Pollution Prevention/Good Housekeeping activities planned for the next year, if applicable.

- annual training for all highway department employees
- continued street sweeping, catch basin cleaning and appropriate snow management practices
- for catch basin cleaning, use vacuum trucks for sediment removal in our Special Services District (which is the higher DCIA)

6.3 Pollution Prevention/ Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	Yes, July 2023
Street sweeping	
Curb miles swept	130 miles
Volume (or mass) of material collected	Est. 50 tons
Catch basin cleaning	
Total catch basins in priority areas (value will be less than or equal to total catch basins town or institution-wide)	744
Total catch basins town- (or institution-) wide	1051
Catch basins inspected	1051
Catch basins cleaned	1051
Volume (or mass) of material removed from all catch basins	Est. 150 tons
Volume removed from catch basins to impaired waters (if known)	unknown
Snow management	
Type(s) of deicing material used	salt
Total amount of each deicing material applied	1,600 tons
Type(s) of deicing equipment used	Snow plows
Lane-miles treated (A lane-mile is a mile of roadway in a single driving lane)	130 miles
Snow disposal location	Localized to area plowed
Staff training provided on application methods & equipment	Yes / November 2023)
Municipal turf management program actions (for permittee properties in basins with N/P impairments)	
Reduction in application of fertilizers (since start of permit)	0 lbs or %
Reduction in turf area (since start of permit)	0 acres
Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septic systems)	0.5 Acres
Cost of mitigation actions/retrofits	$0

6.4 Catch basin cleaning program

Provide any updates or modifications to your catch basin cleaning program.
No modifications. Catch basins throughout the town are cleaned at least annually.

6.5 Retrofit program

Briefly describe the Retrofit Program identification and prioritization process, the projects selected for implementation, the rationale for the selection of those projects and the total DCIA to be disconnected upon completion of each project.
Expect to base retrofit program on the downtown area of Putnam, which has significant impervious cover that discharges to the Quinebaug River via catch basin and piping stormwater collection system. The Quinebaug River is an impaired water quality river, and DCIA to be disconnected will be calculated in future years as projects are realized. The Town has completed the design approval and funding stages of a 1.29 Acre municipal parking lot redesign and disconnect by various water quality measures. Construction planned for fall of 2024.

Describe plans for continuing the Retrofit program and how to achieve a goal of 1% DCIA disconnection annually in future years.
Encourage development and maintenance projects to consider pervious surfaces. Coordinating with the site plan review efforts by land use commissions, consider regulations for review of stormwater directed connected impervious areas.

Part II: Impaired waters investigation and monitoring

1. Impaired waters investigation and monitoring program

For details on this requirement, visit https://nemo.uconn.edu/ms4/tasks/monitoring/. Refer to the yellow column of the Monitoring comparison chart and the Impaired waters monitoring flowchart.

1.1 Indicate which stormwater pollutant(s) of concern occur(s) in your municipality or institution. This data is available on the MS4 map viewer: http://s.uconn.edu/ctms4map.

Nitrogen/ Phosphorus ☒ Bacteria ☒ Mercury Other Pollutant of Concern ☐

1.2 Describe program status

Discuss 1) the status of monitoring work completed, 2) a summary of the results and any notable findings, and 3) any changes to the Stormwater Management Plan based on monitoring results.
Per previous reporting period, records show that six outfalls were sampled during wet weather in 2012, and twenty outfalls were sampled and/or screened during dry weather in 2019. In **2020**, the Town contracted with CDM Smith (CDM) to conduct permittee staff training for dry weather outfall and interconnection screening and sampling for dry weather flow based on the outfall inventory and the Catchment Assessment and Priority Ranking Matrix. According to the Matrix, Section 14, 15,41, 42, 48, and Section 55 on the Index Map Putnam MS4 Catchment Plan contain the highest ranked priority areas. The receiving water for 8 outfalls is the Quinebaug River, 7 outfalls is the Little River, 4 outfalls is the Wheaton Brook all of which are designated as an impaired water body. CDM and permittee staff screened outfalls in accordance with the procedures outlined in Putnam's IDDE Program. A sample was collected and analyzed from one outfall observed to have dry weather flow. There was no visual or olfactory evidence of an illicit discharge observed at any of the outfalls and analysis did not indicate that the catchments are considered highly likely to contain illicit discharges from sanitary sources. In **2021**, the Town contracted with CDM Smith to continue dry weather stormwater sampling. The receiving water for 22 outfalls is the Quinebaug River, 4 outfalls is Weaton Brook, 5 outfalls is Little River, 15 Outfalls is Perry Brook, 6 outfalls is Little Dam Tavern Brook. CDM and permittee staff screened outfalls in accordance with the procedures outlined in Putnam's IDDE Program. A sample was collected and analyzed from one outfall observed to have dry weather flow. A sample was collected and analyzed from 7 outfalls observed to have dry weather flow 6 of which are likely from sanitary sources, all require further investigation. 2 other outfalls (42-9,42-10) had flow but were out of reach and need further investigation, up stream structures were sampled. In **2022**, The Town contracted with CDM Smith to develop detailed drainage mapping and perform Illicit Discharge Detection and Elimination (IDDE) investigations of high priority outfalls. From May through December 2022, CDM Smith performed IDDE catchment investigations of 158 outfalls in accordance with the MS4 Permit IDDE Program Protocol. For each IDDE investigation, CDM Smith Mapped drainage networks for outfalls in the target areas and conducted dry weather surveys fo drainage structures upstream of each outfall. Structures were inspected to trace and eventually isolate where the ilicit discharge(S) enter the drainage system. Samples were systematically taken from structures with dry weather flow and tested in the field. Summary, Out of 158 outfalls inspected, 22 systems had dry weather flow that was sampled at the outflall or an upstream structure. In those systems, 25 pipe segments has exceedance of the testing parameters. The outfall and system sampling results are summarized in **TABLE 2.** For those outfalls with dry weather flow, 15 of 22 systems are recommended for additional field sampling, CCTV inspection, and / or dye testing. Cont.

Within the 22 systems, 56 pipes were sampled, and 25 pipes exceeded at least one water quality threshold, with 20 having one parameter with an exceedance and 5 having two parameters with exceedances. **Figure 1 (**attached) shows pipes sampled by number of parameters exceeded. Of 56 sampled pipes, none of the pipes sampled had exceedances for all three field tests.
2023 The Town renewed the CDM Smith contract, with the completion of dry weather sampling on outfalls, Interconnection identification mapping was completed with 53 interconnection and 23 of which required sampling by the Town. CDM Smith preformed screening and sampling of the 23, details may be found as an attachment hereto entitled "Task 5 Interconnections."

No changes to the Stormwater Management Plan based on results to date.

2. Screening data for outfalls to impaired waterbodies (Section 6(i)(1) / page 41)

2.1 Screening data

Complete the table below to report data for any wet weather sampling completed for MS4 outfalls that discharge directly to a stormwater impaired waterbody during the reporting period. For details on this requirement, visit www.nemo.uconn.edu/ms4/tasks/monitoring.htm. Refer to the yellow column of the Monitoring comparison chart and the Impaired waters monitoring flowchart.

Each Annual Report will add on to the previous year's data showing a cumulative list of sampling data. **You may also attach an excel spreadsheet with the same data rather than copying it into this table**. If you do attach a spreadsheet, please write "See Attachment" below.

Outfall ID	**Latitude / Longitude**	**Sample date**	**Parameter** (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	**Results**	**Name of Laboratory (if used)**	**Follow-up required? ***
See Attachment: **ATTACHMENT A** Summary of field investigations						

Follow-up investigation required (last column) if the following pollutant thresholds are exceeded:

Pollutant of concern	**Pollutant threshold**
Nitrogen	Total N > 2.5 mg/l
Phosphorus	Total P > 0.3 mg/l
Bacteria (fresh waterbody)	• E. coli > 235 col/100ml for swimming areas or 410 col/100ml for all others • Total Coliform > 500 col/100ml
Bacteria (salt waterbody)	• Fecal Coliform > 31 col/100ml for Class SA and > 260 col/100ml for Class SB • Enterococci > 104 col/100ml for swimming areas or 500 col/100 for all others
Other pollutants of concern	Sample turbidity is 5 NTU > in-stream sample
Ammonia	≥ 0.5 mg/L
Chlorine	Detectable levels

3. Follow-up investigations (Section 6(i)(1)(D) / page 43)

Provide the following information for outfalls exceeding the pollutant threshold.

Outfall ID	Status of drainage area investigation	Control measure to address impairment
1-01	Waiting for follow up	
1-02	Waiting for follow up	
3-02	Waiting for follow up	
3-04	Waiting for follow up	
3-07	Waiting for follow up	
15-09	Waiting for follow up	
42-9	Waiting for follow up	
42-10	Waiting for follow up	
42-13	Waiting for follow up	
42-13A	Waiting for follow up	
55-06	Waiting for follow up	
55-10	Waiting for follow up	
IC-125	"	
IC-140	"	

4. Prioritized outfall monitoring (Section 6(i)(1)(D) / page 43)

Once outfall sampling has been completed for at least 50% of outfalls to impaired waters, identify 6 of the highest contributors of any pollutants of concern. Begin monitoring these outfalls on an annual basis by July 1, 2021. **You may also attach an excel spreadsheet with the same data rather than copying it to this table.** If you do attach a spreadsheet, please write "See Attachment" below.

Outfall	Latitude / Longitude	Sample Date	Parameter(s)	Results	Name of Laboratory (if used)
[Future results will determine prioritization]					

Part III: Additional IDDE Program Data

1. Assessment and Priority Ranking of Catchments data (Appendix B (A)(7)(c) / page 5)

Provide a list of all catchments with ranking results (DEEP basins may be used instead of manual catchment delineations).

1. Catchment ID (DEEP Basin ID)	2. Category	3. Rank
See attachment: Catchment Assessment & Priority Ranking Matrix		

2. Outfall and Interconnection Screening and Sampling data (Appendix B (A)(7)(d) / page 7)

2.1 Dry weather screening and sampling data from outfalls and interconnections

For details on this requirement, visit https://nemo.uconn.edu/ms4/tasks/monitoring/ Refer to the blue column of the Monitoring comparison chart and the IDDE baseline monitoring flowchart.

Provide sample data for outfalls where flow is observed. Only include Pollutant of concern data for outfalls that discharge into stormwater impaired waterbodies. **You may also attach an excel spreadsheet with the same data rather than copying it to this table.** If you do attach a spreadsheet, please write "See Attachment" below.

Outfall / Interconnection ID	Latitude / Longitude	Screening / sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or enterococcus	Surfactants	Water Temp	Pollutant of concern	If required, follow-up actions taken
See Attachment Below: Outfalls and Catchments Table											
See attachment "Task 5 interco.."											

2.2 Wet weather sample and inspection data

For details on this requirement, visit https://nemo.uconn.edu/ms4/tasks/monitoring/ Refer to the green column of the Monitoring comparison chart and the IDDE catchment investigation flowchart.

Provide sample data for outfalls and key junction manholes of any catchment area with at least one System Vulnerability Factor. You may also attach an excel spreadsheet with the same data rather than copying it to this table. If you do attach a spreadsheet, please write "See Attachment" below.

Outfall / Interconnection ID	Latitude / Longitude	Sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or Enterococcus	Surfactants	Water Temp	Pollutant of concern
See Attachment: Outfalls and Catchments Table										

3. Catchment Investigation data (Appendix B (A)(7)(e) / page 9)

For details on this requirement, visit www.nemo.uconn.edu/ms4/tasks/monitoring.htm. Refer to the green column of the Monitoring comparison chart and the IDDE catchment investigation flowchart.

3.1 System Vulnerability Factor Summary

For those catchments being investigated for illicit discharges (i.e. categorized as high priority, low priority, or problem) document the presence or absence of System Vulnerability Factors (SVF). If present, report which SVF's were identified. An example is provided below.

Outfall ID	Receiving Water	System Vulnerability Factors
To Be Determined		

Where SVFs are:

1. History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages.
2. Sewer pump/lift stations, siphons, or known sanitary sewer restrictions where power/equipment failures or blockages could readily result in SSOs.
3. Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints.
4. Common or twin-invert manholes serving storm and sanitary sewer alignments.
5. Common trench construction serving both storm and sanitary sewer alignments.
6. Crossings of storm and sanitary sewer alignments.
7. Sanitary sewer alignments known or suspected to have been constructed with an underdrain system;
8. Sanitary sewer infrastructure defects such as leaking service laterals, cracked, broken, or offset sanitary infrastructure, directly piped connections between storm drain and sanitary sewer infrastructure, or other vulnerability factors identified through Inflow/Infiltration Analyses, Sanitary Sewer Evaluation Surveys, or other infrastructure investigations.
9. Areas formerly served by combined sewer systems.
10. Any sanitary sewer and storm drain infrastructure greater than 40 years old in medium and densely developed areas.
11. Widespread code-required septic system upgrades required at property transfers (indicative of inadequate soils, water table separation, or other physical constraints of the area rather that poor owner maintenance).
12. History of multiple local health department or sanitarian actions addressing widespread septic system failures (indicative of inadequate soils, water table separation, or other physical constraints of the area rather that poor owner maintenance).

3.2 Key junction manhole dry weather screening and sampling data

You may also attach an excel spreadsheet with the same data rather than copying it to this table. If you do attach a spreadsheet, please write "See Attachment" below.

Key Junction Manhole ID	Latitude / Longitude	Screening / Sample date	Visual/ olfactory evidence of illicit discharge	Ammonia	Chlorine	Surfactants
See Attachment Outfalls and Catchments Table						

3.3 Wet weather investigation outfall sampling data

You may also attach an excel spreadsheet with the same data rather than copying it to this table. If you do attach a spreadsheet, please write "See Attachment" below.

Outfall ID	Latitude / Longitude	Sample date	Ammonia	Chlorine	Surfactants
Planned for 2024					

3.4 Data for each illicit discharge source confirmed through the catchment investigation procedure

Discharge location	Source location	Discharge description	Method of discovery	Date of discovery	Date of elimination	Mitigation or enforcement action	Estimated volume of flow removed
2023-None identified/ not yet applicable							

Part IV: Certification

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with Section 22a-6 of the Connecticut General Statutes, pursuant to Section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute."

Chief Elected Official or Principal Executive Officer

Print name:
Norman Seney, Mayor

Signature / Date:

Email: Barney.Seney@putnamct.us

Document Prepared by

Print name:
Bruce Fitzback, Land Use Agent

Signature / Date: 4-9-2024

Email: Bruce.Fitzback@putnamct.us

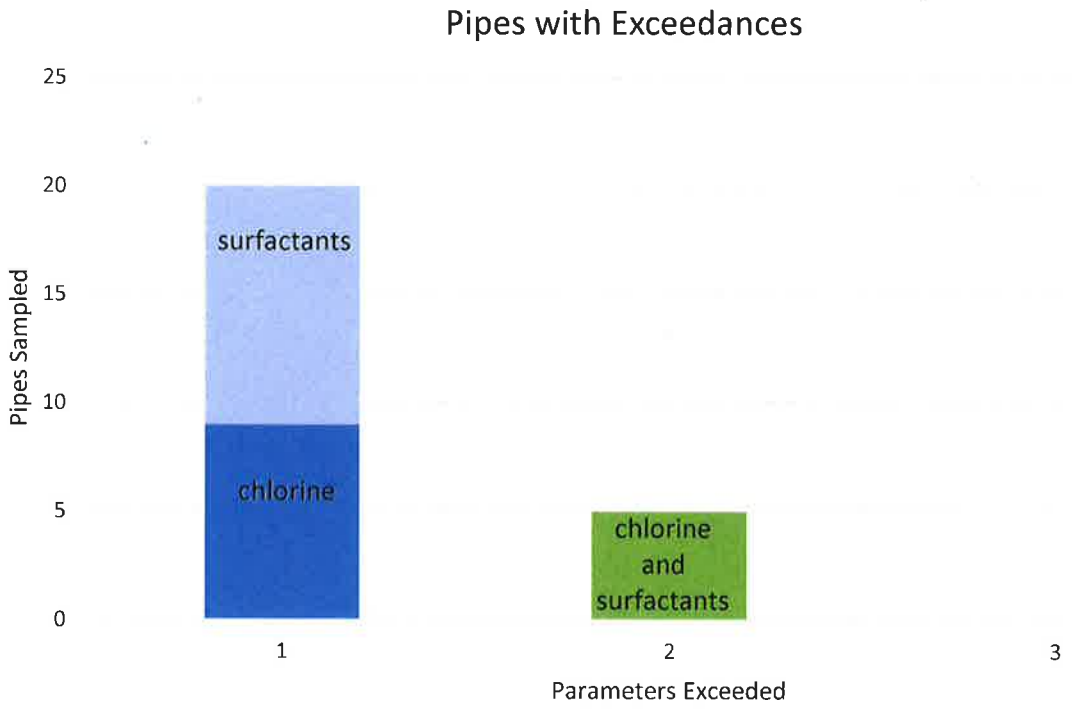


Figure 1 Sampled Pipes with Exceedances

Attachment A provides a detailed figure with inspection data for each outfall investigation.

Table 2 Sampled Outfall Summary

Outfall ID	IDDE Concern(s)	Comments	Recommendations
3-2	Chlorine	Outfall dry. Sampled at CB-3-2-4, but no flow seen at next upstream CB-3-2-6. Only low-level chlorine detected.	No further follow-up
8-1	Unable to sample	Outfall dry. Trickling flow seen at CB-8-1 but unable to open. No other structures in system.	Revisit
17-8	No exceedances		No further follow-up
19-4	No exceedances		No further follow-up
22-1	Chlorine	Downstream CB-22-1-1 completely submerged, and significant standing water in catch basins. Only low-level chlorine detected.	Clean CB-22-1-to remove sediment
29-7	Chlorine, Surfactants	Sampled at MH-29-7-4, but next upstream CB-29-7-7 had stagnant water with no flow.	CCTV along Massoitte Circle
29-11	No exceedances		No further follow-up
42-5	Chlorine	Soap suds observed in CB-42-5-2 at top of system.	Dye test properties adjacent to CB-42-5-2.
53-1	No exceedances		No further follow-up
55-6	Surfactants	Outfall sampled. Unable to open upstream catch basins. System begins in hospital parking lot at CB-55-6-6, which had stagnant water but no flow.	Coordinate with hospital to sample private MS4 interconnection and revisit
55-10	Chlorine	Outfall sampled. Upstream catch basin CB-55-10-1 at top of system had stagnant water but no flow.	Revisit
57-4	Chlorine	Outfall and upstream structures sampled. Soap suds observed.	CCTV along Heritage Road
58-1	Surfactants	Outfall (no exceedance) and upstream structures sampled.	Dye test adjacent to catch basins CB-58-1-2 and CB-58-1-3.
58-2	Surfactants, Chlorine	Outfall and upstream structures sampled. Structures at the top of the system had flow with no exceedances while structures closer to the outfall had elevated values.	CCTV along Heritage Road
58-3	Surfactants	Intermittent flow from yard drain at CB-58-3-3.	Dye test property at CB-58-3-3
71-1	Chlorine, Surfactants	Outfall dry. Upstream catch basins CB-71-5-5 and 71-5-7 were sampled, but adjacent structures were all dry.	CCTV along Heritage Road
80-1	Unable to sample	Outfall dry. Trickling flow seen at CB-80-1-2 but unable to open. All other structures dry.	Revisit
84-1	No exceedances		No further follow-up
90-1	Surfactants	Significant sediment build-up observed in this system, both north of outfall (no flow) and south (sampled).	CCTV and cleaning along Modock Road
90-101	Surfactants	Outfall (no exceedance) and first upstream CB-90-101-1 (surfactants) sampled. Other upstream structures dry.	CCTV along Modock Road
92-3	Chlorine, Surfactants	Flow originates from private MS4 interconnection. Soap suds observed.	Dye test property adjacent to CB-92-3-7.
100-4	No exceedances	Intermittent flow observed through private connection to CB-100-4-10 but unable to sample.	No further follow-up recommended.

Memorandum

To: *Ms. Elaine Sistare, P.E.*
Bruce Fitzback

From: *Cynthia Baumann, P.E.*

Date: *February 16, 2024*

Subject: *Task 5 – Interconnection Identification and Sampling Results*

For Task 5.1, Interconnection Identification, CDM Smith reviewed the Town of Putnam (Town) and Connecticut Department of Transportation (CT DOT) GIS mapping of the storm drainage system in Putnam and provided a summary of the 53 interconnections and identified 23 of the interconnections as requiring sampling by the Town in compliance with the Connecticut Department of Energy and Environmental Protection (CT DEEP) Municipal Separate Storm Sewer System (MS4) Permit in September 2023, see Attachment A.

For Task 5.2, CDM Smith performed screening and sampling of the 23 interconnections where the Town storm drainage discharges to the CT DOT drainage system.

Sampling Results

Dry weather inspections of the 23 Town-owned interconnections were conducted on dry days from December 2023 to January 2024. Three of the interconnection structures were previously inspected during IDDE visits in 2022 and were dry, so these results are included in the total. The following summarizes the results of the dry weather inspections:

- Twelve interconnections were dry and did not exhibit any signs of dry weather flow,
- Four interconnections were unable to be sampled at the interconnection due to structures being paved over, stuck, or missing, but upstream structures were dry,
- One interconnection exhibited signs of dry weather flow but did not have enough water to sample, and
- Six interconnections had dry weather flow and were sampled.

An additional seven State- or privately-owned interconnections were visited for mapping purposes to confirm that the areas were shown correctly in GIS. The six interconnections that had dry weather flow were sampled and sent to the lab for analysis. Of those six interconnections, two had exceedances of water quality parameters. **Table 1** below presents the water quality thresholds for each parameter sampled.

Table 1 – Water Quality Thresholds

Water Quality Thresholds		Source
Chlorine	Detectable	MS4 Permit
Ammonia	≥ 0.5 mg/L	MS4 Permit
Surfactants	≥ 0.25 mg/L	MS4 Permit
E. Coli	> 410 MPN/100mL (assumes all areas are non-designated swimming areas)	MS4 Permit
Conductivity	>1,500 µS for freshwater – *guidance parameter*	CT NEMO

Table 2 on the following page presents a summary of results for the 23 interconnections inspected. If an interconnection manhole could not be located, it is marked in the "Notes" column as Could Not Locate (CNL). When a parameter exceeds the water quality threshold presented in **Table 1**, the cell is highlighted in red. The results will be incorporated into the Town's illicit discharge detection and elimination (IDDE) program.

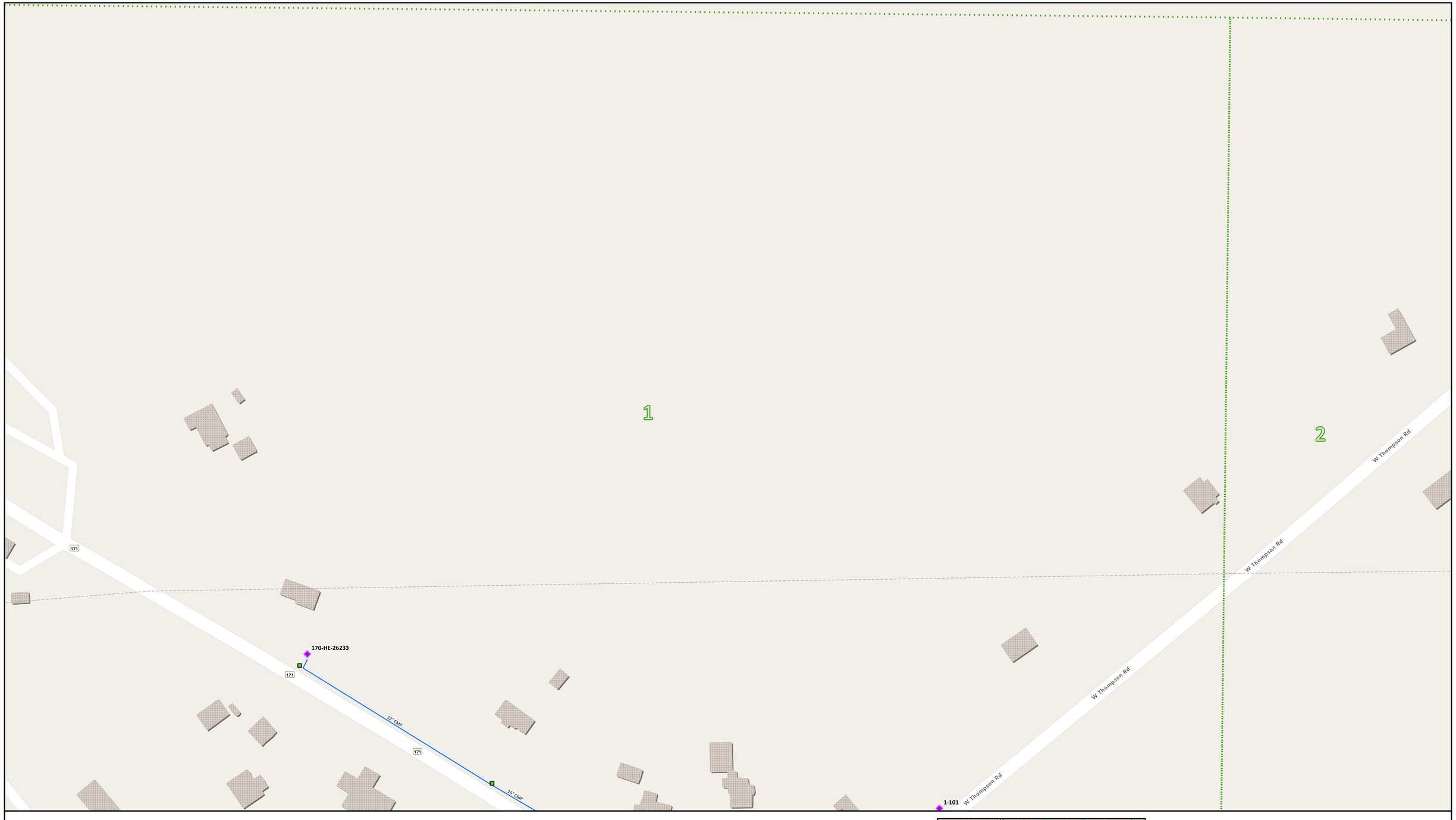
Table 2: Interconnection Dry Weather Inspection Results

Interconnection ID	Date	Flow	Notes	Sampling Results							
				Visual / Olfactory	Temperature °C	pH	Conductivity µS/cm	Chlorine mg/L	Ammonia mg/L	Surfactants mg/L	E. coli MPN/100mL
IC-101	12/20/2023	Yes	Pipe had slow drip, recommend sandbagging								
IC-102	1/2/2024	No*	*CNL manhole, upstream structures dry								
IC-105	1/2/2024	No									
IC-106	1/2/2024	No*	*CNL manhole, upstream structures dry								
IC-107	12/20/2023	Yes		Suds	9.1	6.8	93.3	0	0	0.11	40.4
IC-108	12/20/2023	Yes			8	6.81	64.6	0	0	0.08	22.8
IC-114	12/20/2023	Yes			7.6	7.21	1584	0	0	0.12	4.1
IC-115	12/15/2023	No									
IC-119	8/16/2022	No									
IC-121	12/15/2023	No									
IC-124	1/2/2024	No									
IC-125	1/2/2024	Yes			11.5	6.97	2880	0	0	0.32	<1
IC-126	12/15/2023	No									
IC-131	8/4/2022	No									
IC-132	12/15/2023	No									
IC-136	12/15/2023	Yes			7.3	9.28	77.5	0	0	0.05	72.7
IC-140	12/15/2023	Yes		Pond/swamp odor	7.7	8.15	2810	0.07	0	0.09	2
IC-143	12/15/2023	No									
IC-145	1/2/2024	N/A	This was a sewer manhole with lots of sanitary waste, CNL drain manhole								
IC-147	12/20/2023	N/A	This interconnection does not appear to exist, can remove from mapping.								
IC-148	12/15/2023	No									
IC-152	12/15/2023	No									
IC-153	6/10/2022	No									

Note: CNL = could not locate

Attachment A
Town of Putnam, CT Stormwater Interconnection Summary

Town ID	State ID	Structure Type	Entering From	Existing To	Sampling Required	Field Mapping needed
IC-101		Catch Basin	Municipality	CTDOT	Yes	X
IC-100	170-IC-1369	Catch Basin (Inlet)	Private	CTDOT	No	
IC-102	170-IC-1371	Manhole	Municipality	CTDOT	Yes	
IC-103	170-IC-1722	Catch Basin (Inlet)	Private	CTDOT	No	
IC-104	170-IC-1749	Blind Tie	CTDOT	Private	No	
IC-105	170-IC-2159	Manhole	Municipality	CTDOT	Yes	
IC-106	170-IC-2160	Manhole	Municipality	CTDOT	Yes	X
IC-107	170-IC-2266	Catch Basin (Inlet)	Municipality	CTDOT	Yes	X
IC-108	170-IC-2273	Catch Basin (Inlet)	Municipality	CTDOT	Yes	X
IC-109	170-IC-2285	Catch Basin (Inlet)	Private	CTDOT	No	
IC-110	170-IC-2286	Catch Basin (Inlet)	Private	CTDOT	No	
IC-111	170-IC-2357	Catch Basin (Inlet)	Private	CTDOT	No	
IC-112	170-IC-2432	Manhole	Private	CTDOT	No	
IC-113	170-IC-2643	Catch Basin (Inlet)	CTDOT	Municipality	No	X
IC-114	170-IC-2644	Catch Basin (Inlet)	Municipality	CTDOT	Yes	X
IC-115	170-IC-2645	Catch Basin (Inlet)	Municipality	CTDOT	Yes	X
IC-116	170-IC-2646	Catch Basin (Inlet)	Private	CTDOT	No	
IC-117	170-IC-2649	Catch Basin (Inlet)	CTDOT	Municipality	No	X
IC-118	170-IC-2650	Catch Basin (Inlet)	CTDOT	Municipality	No	X
IC-119	170-IC-2652	Catch Basin (Inlet)	Municipality	CTDOT	Yes	
IC-120	170-IC-2653	Manhole	CTDOT	Municipality	No	
IC-121	170-IC-2654	Blind Tie	Municipality	CTDOT	Yes	
IC-122	170-IC-2655	Manhole	Private	CTDOT	No	
IC-123	170-IC-2722	Manhole	CTDOT	Municipality	No	X
IC-124	170-IC-2723	Manhole	Municipality	CTDOT	Yes	
IC-125	170-IC-2738	Manhole	Municipality	CTDOT	Yes	
IC-126	170-IC-2739	Catch Basin (Inlet)	Municipality	CTDOT	Yes	
IC-127	170-IC-2885	Catch Basin (Inlet)	CTDOT	Private	No	
IC-128	170-IC-2886	Catch Basin (Inlet)	CTDOT	Municipality	No	
IC-129	170-IC-2897	Catch Basin (Inlet)	CTDOT	Municipality	No	
IC-130	170-IC-2898	Catch Basin (Inlet)	CTDOT	Municipality	No	
IC-131	170-IC-2899	Catch Basin (Inlet)	Municipality	CTDOT	Yes	
IC-132	170-IC-2900	Catch Basin (Inlet)	Municipality	CTDOT	Yes	
IC-133	170-IC-2901	Catch Basin (Inlet)	CTDOT	Municipality	No	
IC-134	170-IC-2902	Catch Basin (Inlet)	Private	CTDOT	No	
IC-135	170-IC-2903	Manhole	CTDOT	Municipality	No	X
IC-136	170-IC-2912	Manhole	Municipality	CTDOT	Yes	X
IC-137	170-IC-2913	Manhole	Private	CTDOT	No	
IC-138	170-IC-2914	Catch Basin (Inlet)	Private	CTDOT	No	
IC-139	170-IC-2915	Catch Basin (Inlet)	CTDOT	Private	No	
IC-140	170-IC-2916	Catch Basin (Inlet)	Municipality	CTDOT	Yes	X
IC-141	170-IC-2917	Blind Tie	Private	CTDOT	No	X
IC-142	170-IC-2922	Catch Basin (Inlet)	Private	CTDOT	No	
IC-143	170-IC-2923	Catch Basin (Inlet)	Municipality	CTDOT	Yes	X
IC-144	170-IC-2935	Catch Basin (Inlet)	Private	CTDOT	No	
IC-145	170-IC-2997	Manhole	Municipality	CTDOT	Yes	X
IC-149		Catch basin	Killingly	Putnam	No	
IC-147		Unknown	Municipality	CTDOT	Yes	X
IC-148		Catch Basin	Municipality	CTDOT	Yes	
IC-152			Municipality	CTDOT	Yes	X
IC-153		Manhole	Municipality	CTDOT	Yes	
IC-154	170-IC-1358	Manhole	CTDOT	Municipality	No	X
IC-155		Manhole	CTDOT	Municipality	No	



CDM Smith

N

0 40 80 160 240 Feet

Legend

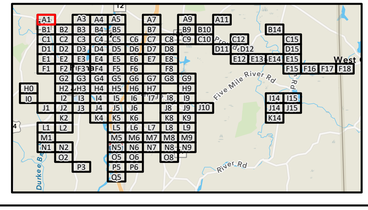
Catch Basin
- State

Outfalls
- State

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

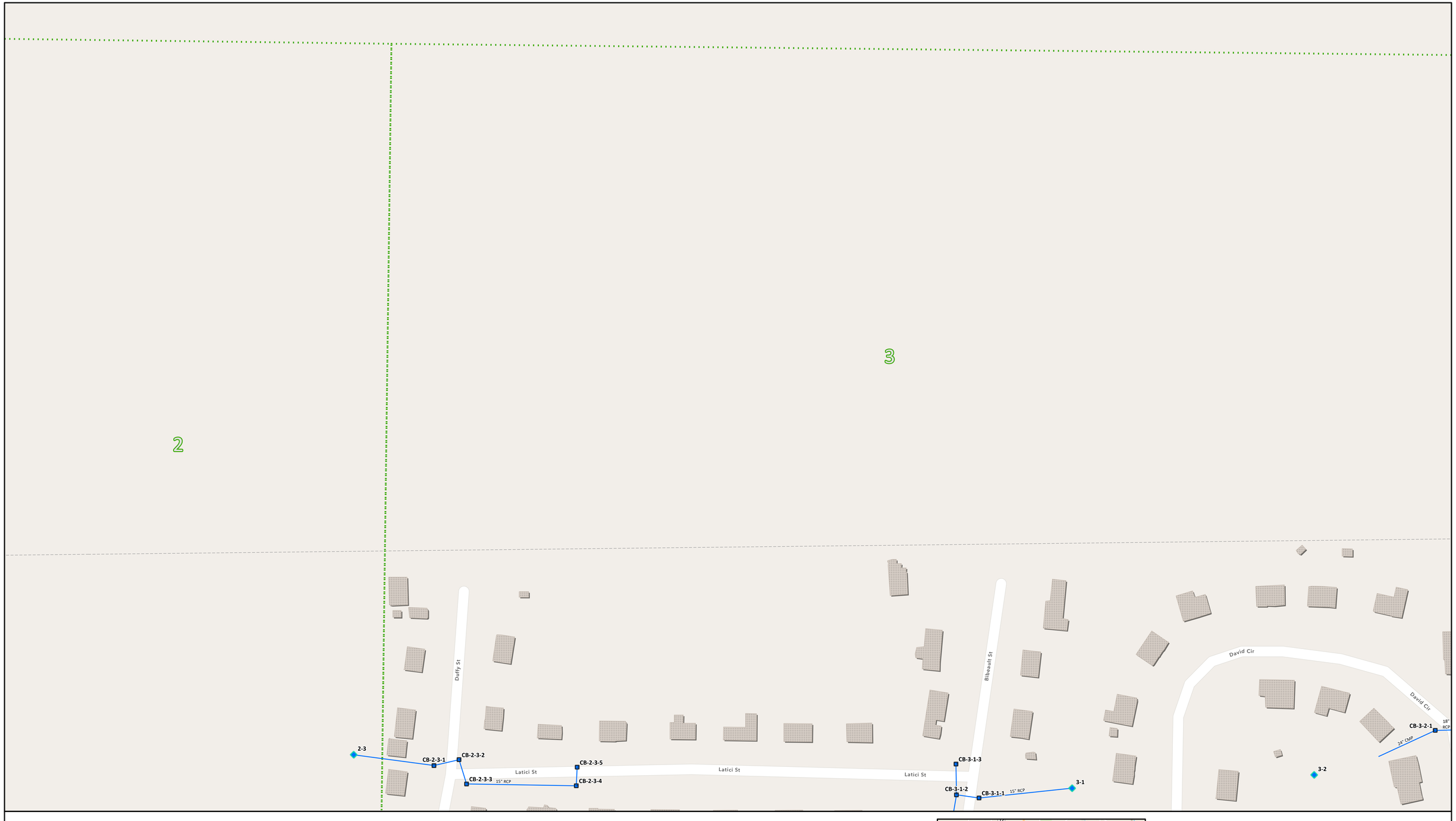
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: A1



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City

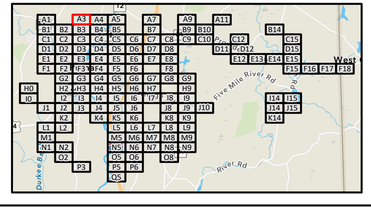
Outfalls
- City

Gravity Main
- City

Index Map Catchment Plan (March 2018)

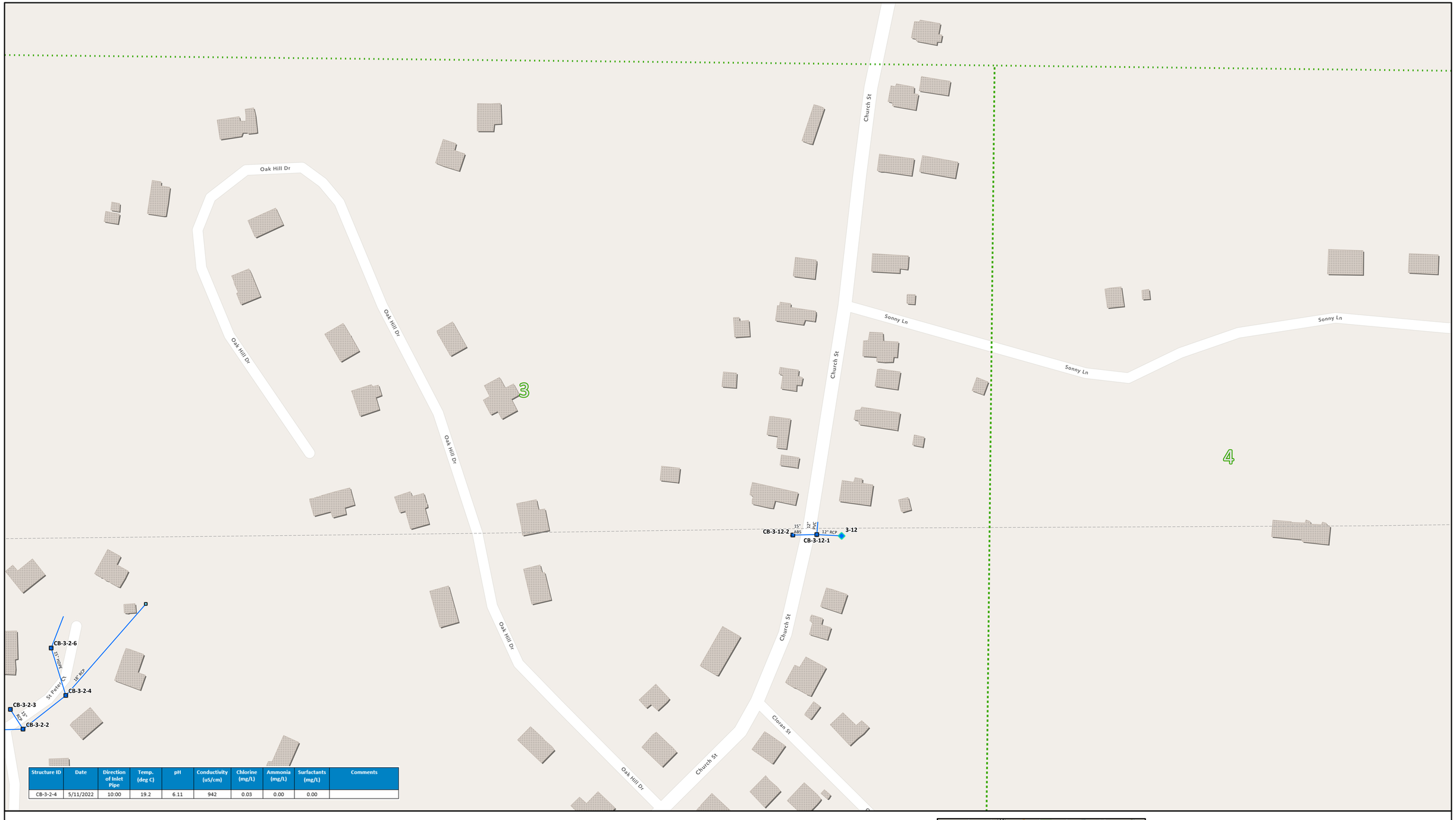
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: A3



Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
CB-3-2-4	5/11/2022	10:00	19.2	6.11	942	0.03	0.00	0.00	

CDM Smith

N

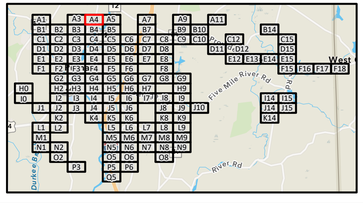
0 40 80 160 240 Feet

Legend

- Network Structures
- Catch Basin
  - City
- Outfalls
  - City
- Gravity Main
  - City
- Index Map Catchment Plan (March 2018)

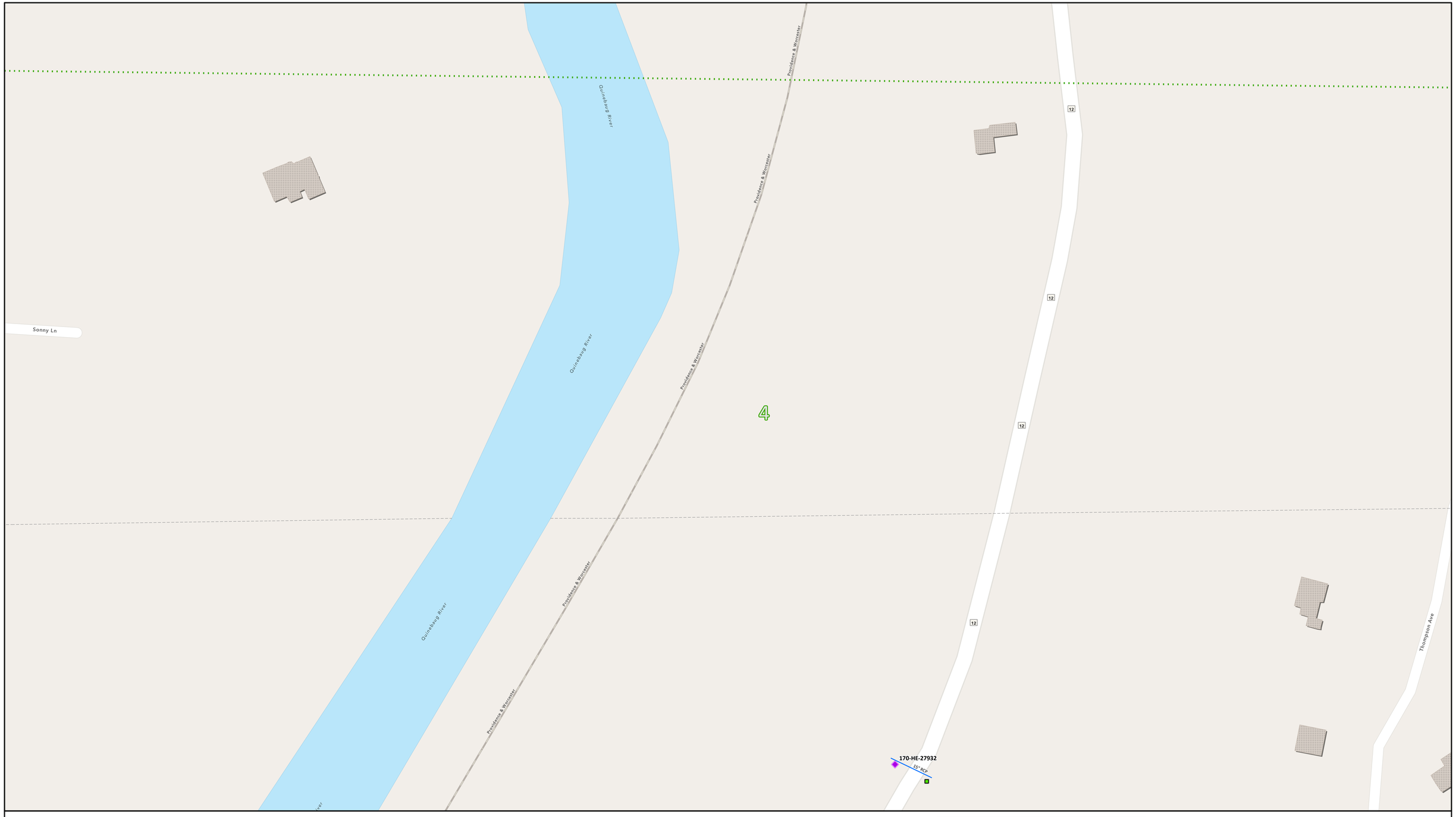
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: A4



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- State

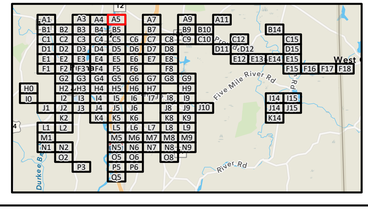
Outfalls
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

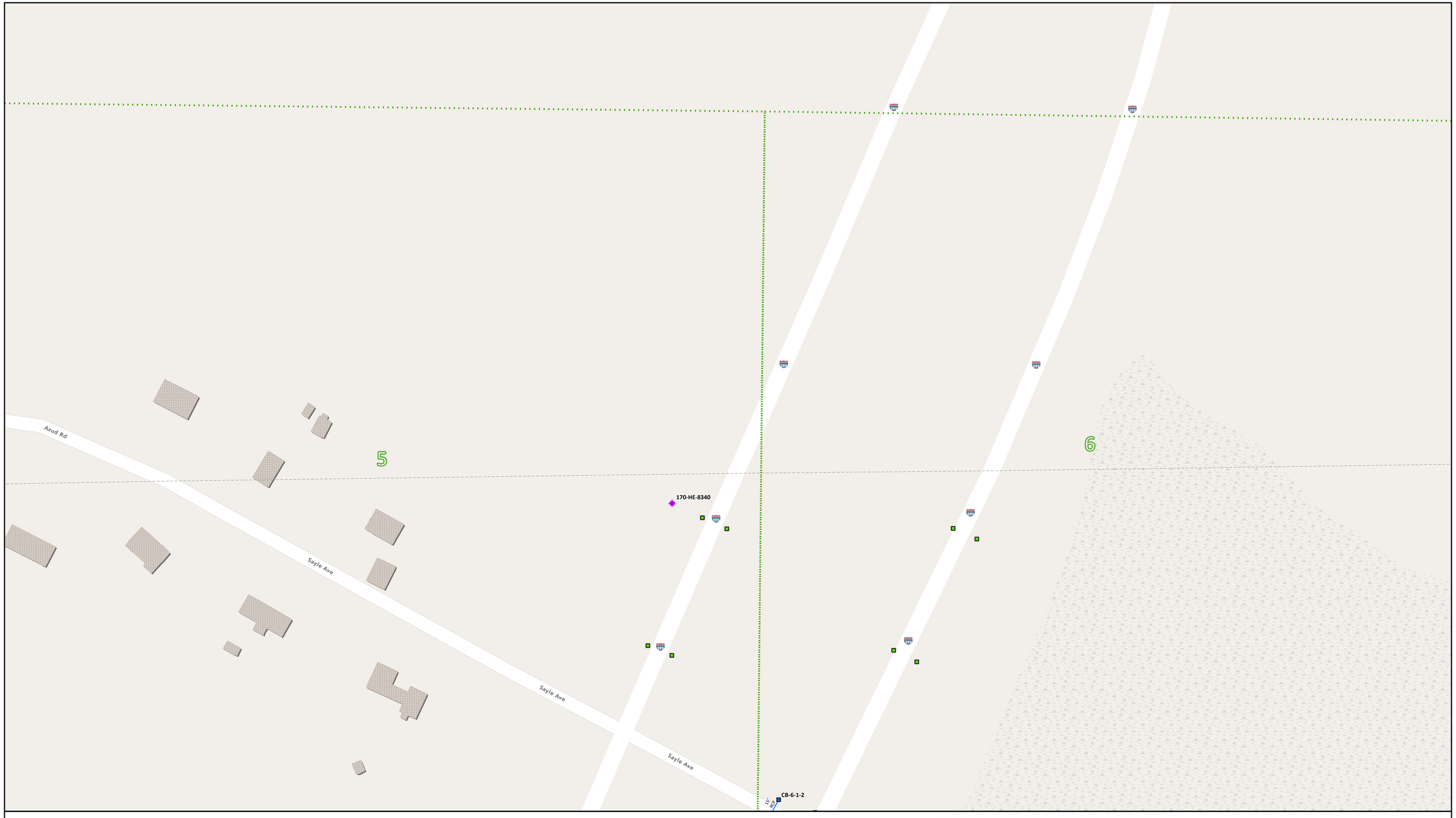
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: A5



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State

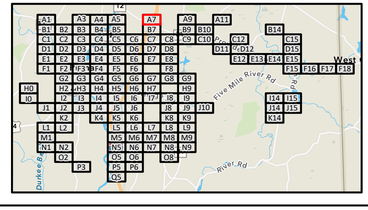
Outfalls
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

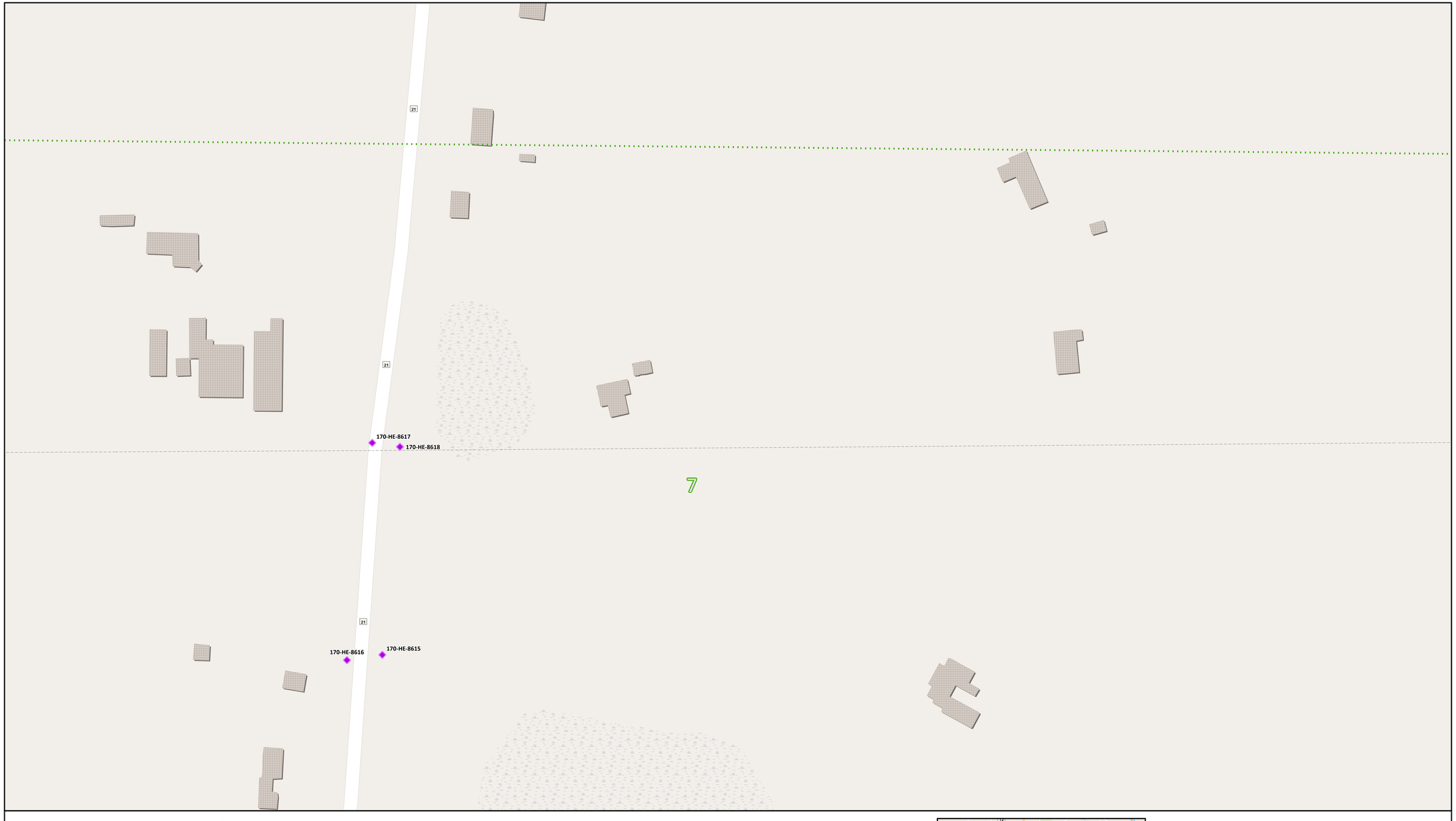
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: A7



CDM Smith

N

0 40 80 160 240 Feet

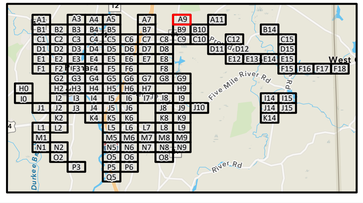
Legend

Outfalls
- State

Index Map Catchment Plan (March 2018)

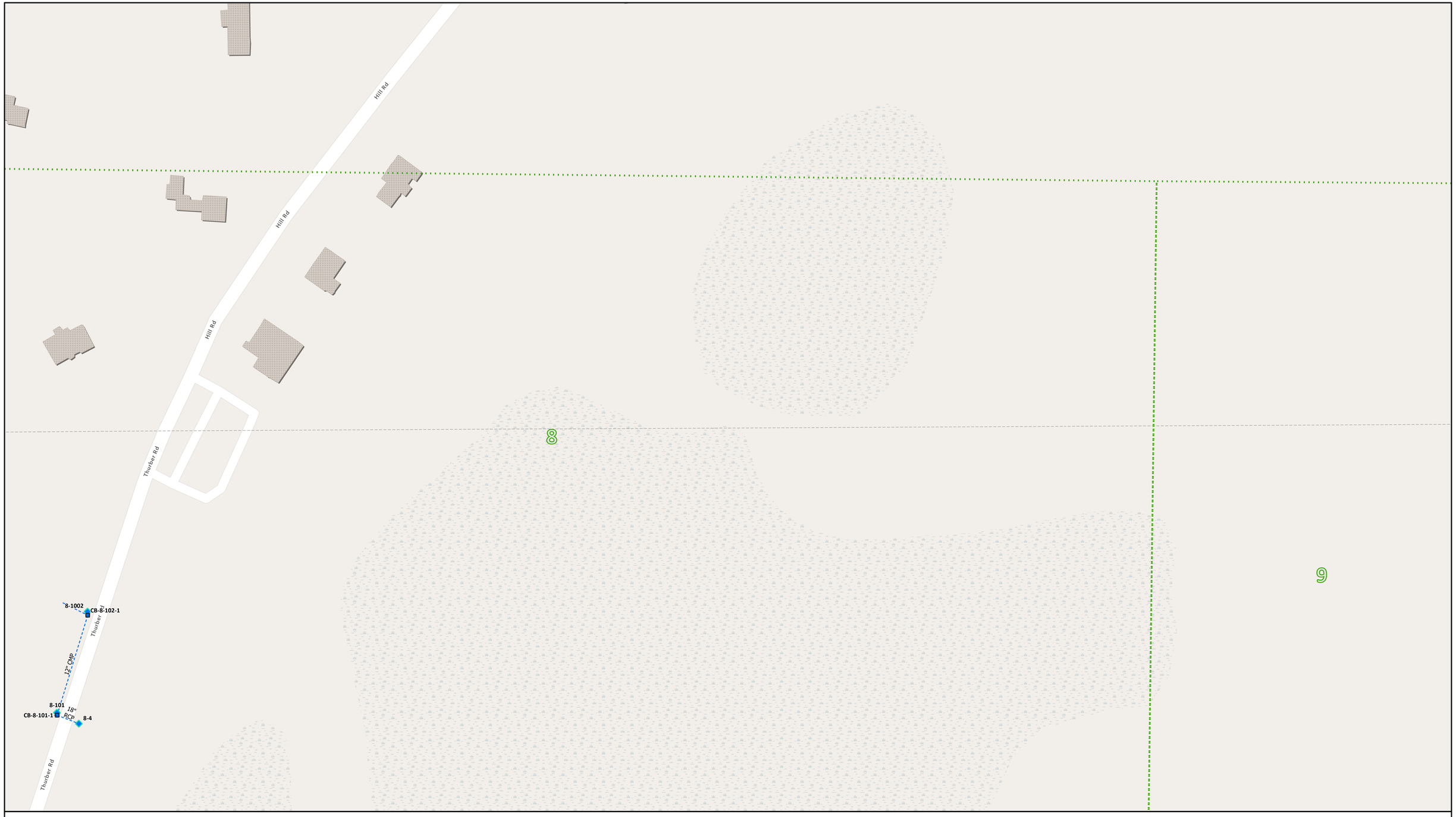
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: A9



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City

Outfalls
- City

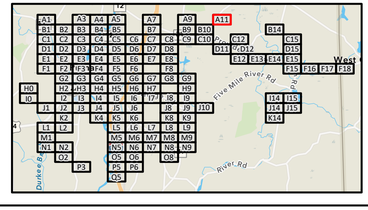
Culvert
- City

Gravity Main
- City

Index Map Catchment Plan (March 2018)

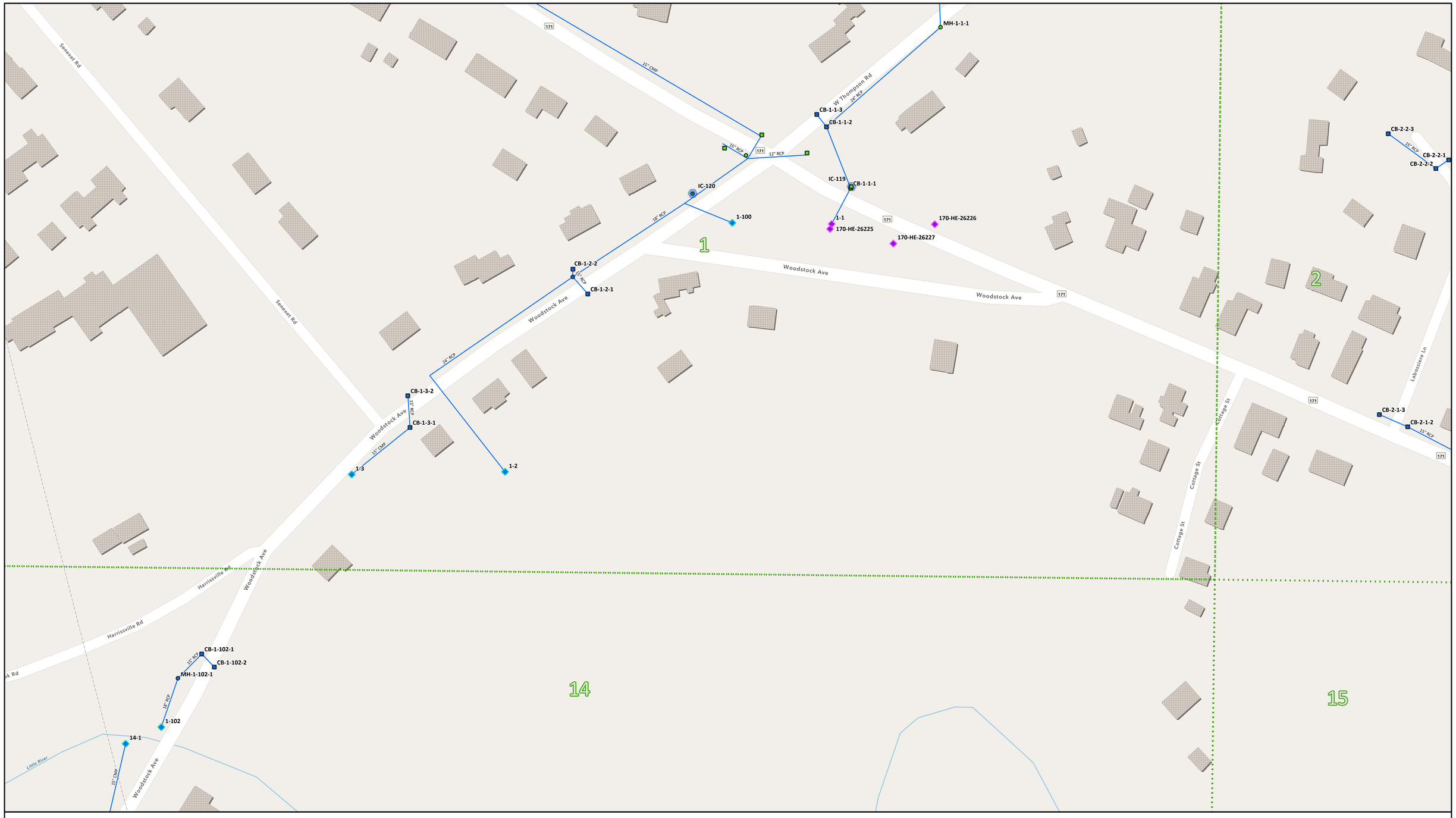
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: A11



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State

Interconnections
- Other

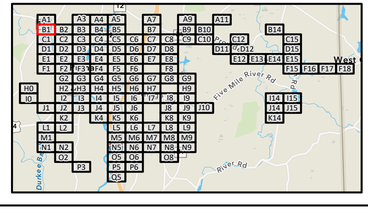
Manholes
- City
- State

Outfalls
- City
- State

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

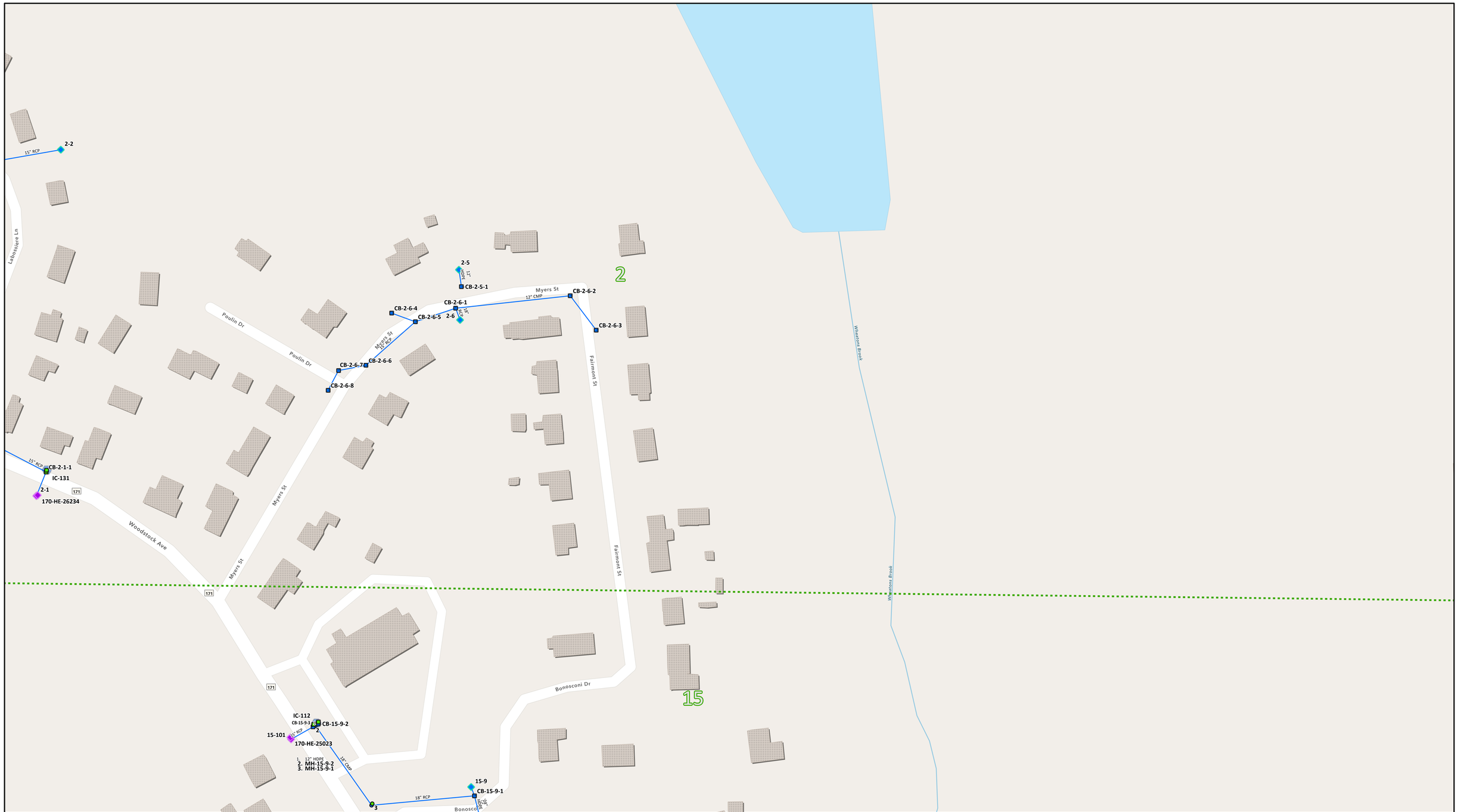
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: B1



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State

Interconnections
- Other

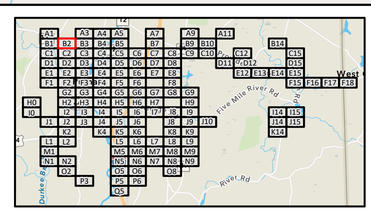
Manholes
- City
- State

Outfalls
- City
- State

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

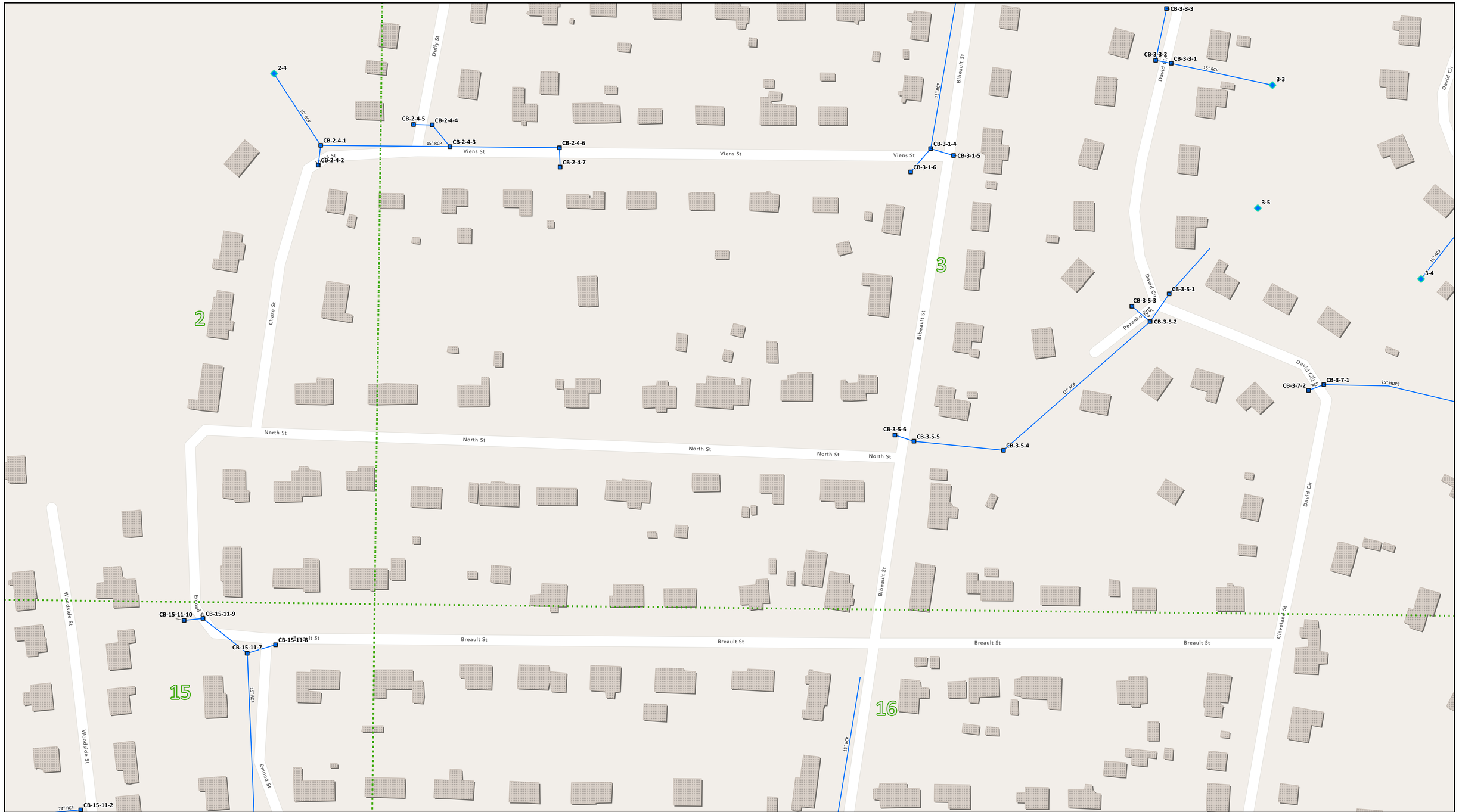
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: B2



CDM Smith

N

0 40 80 160 240 Feet

Legend

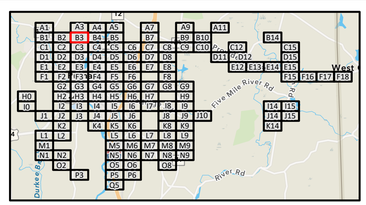
Catch Basin
- City

Outfalls
- City

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: B3



CDM Smith

N

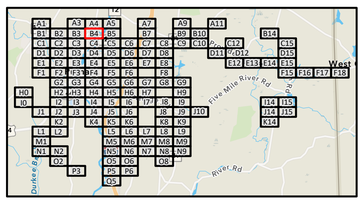
0 40 80 160 240 Feet

Legend

- Network Structures
- Catch Basin
  - City
- Outfalls
  - City
- Gravity Main
  - City
  - Index Map Catchment Plan (March 2018)

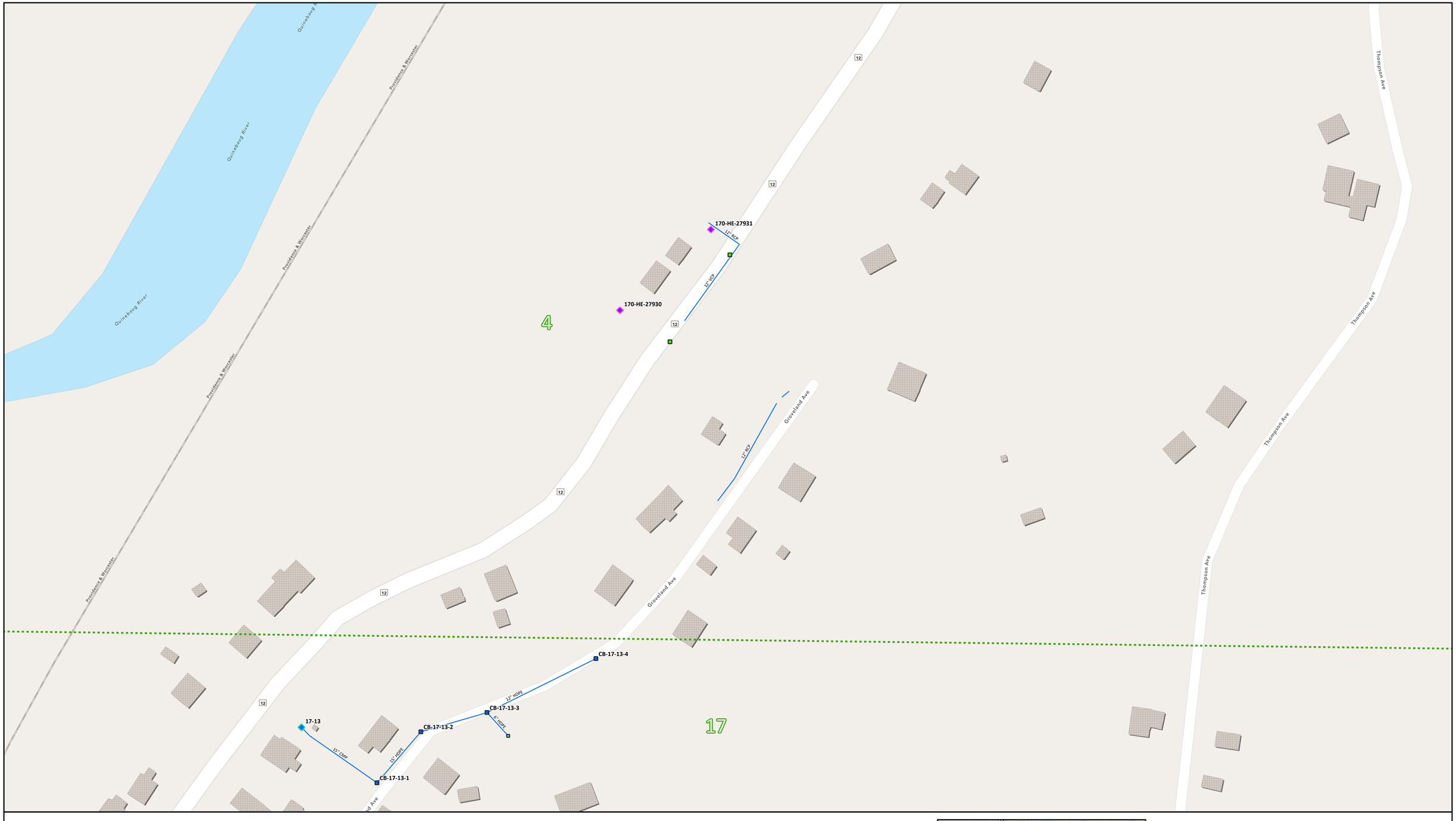
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: B4



CDM Smith

N

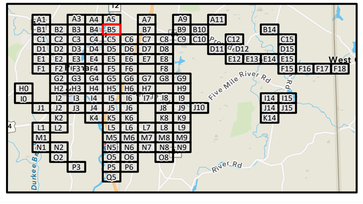
0 40 80 160 240 Feet

Legend

- Network Structures
- Catch Basin
  - City
  - State
- Outfalls
  - City
  - State
- Gravity Main
  - City
- Index Map Catchment Plan (March 2018)

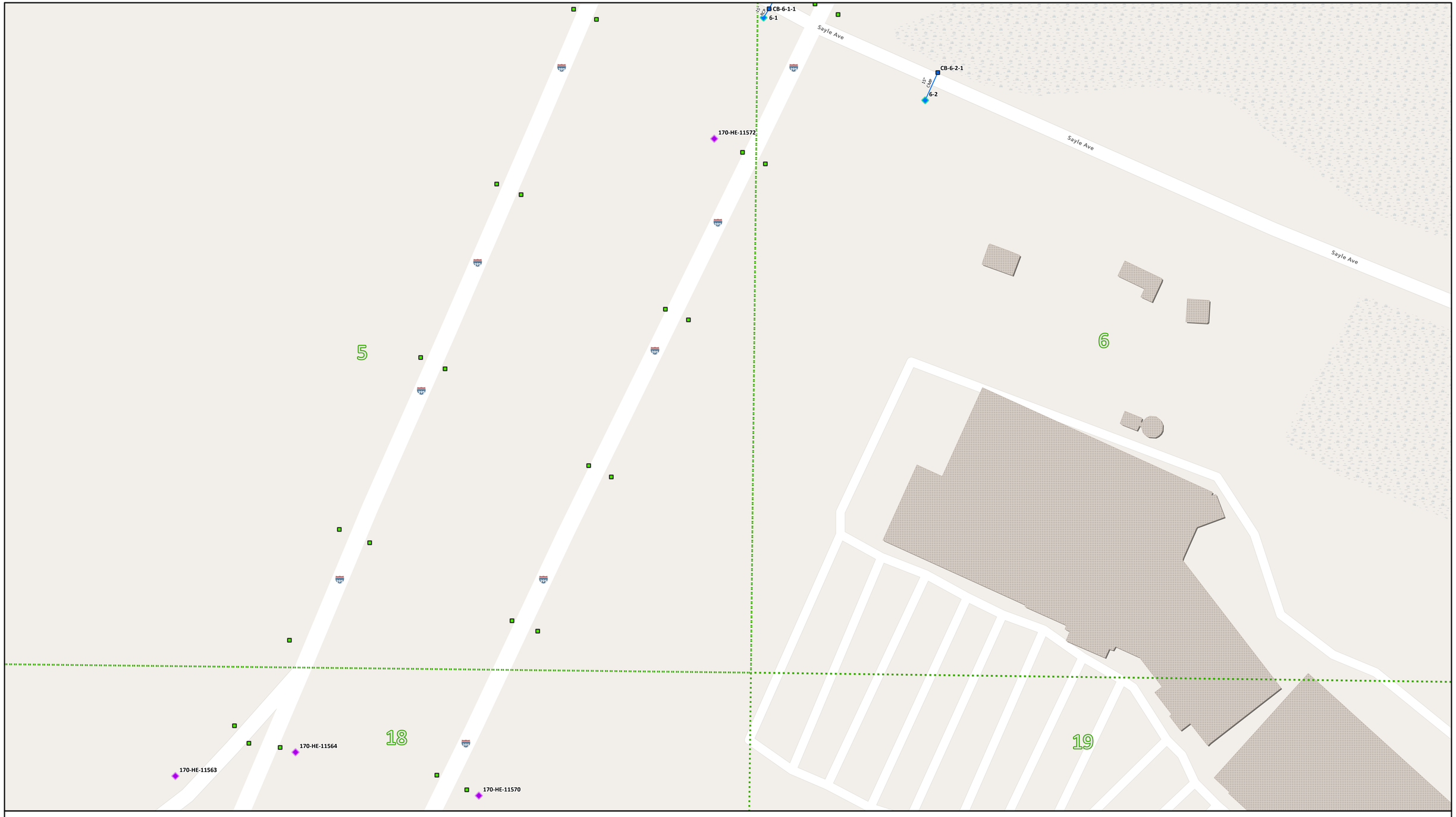
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: B5



CDM Smith

N

0 40 80 160 240 Feet

Legend

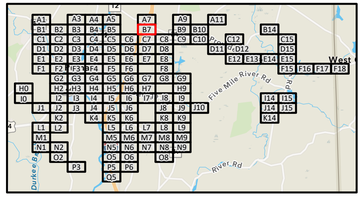
Catch Basin
- City
- State

Outfalls
- City
- State

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

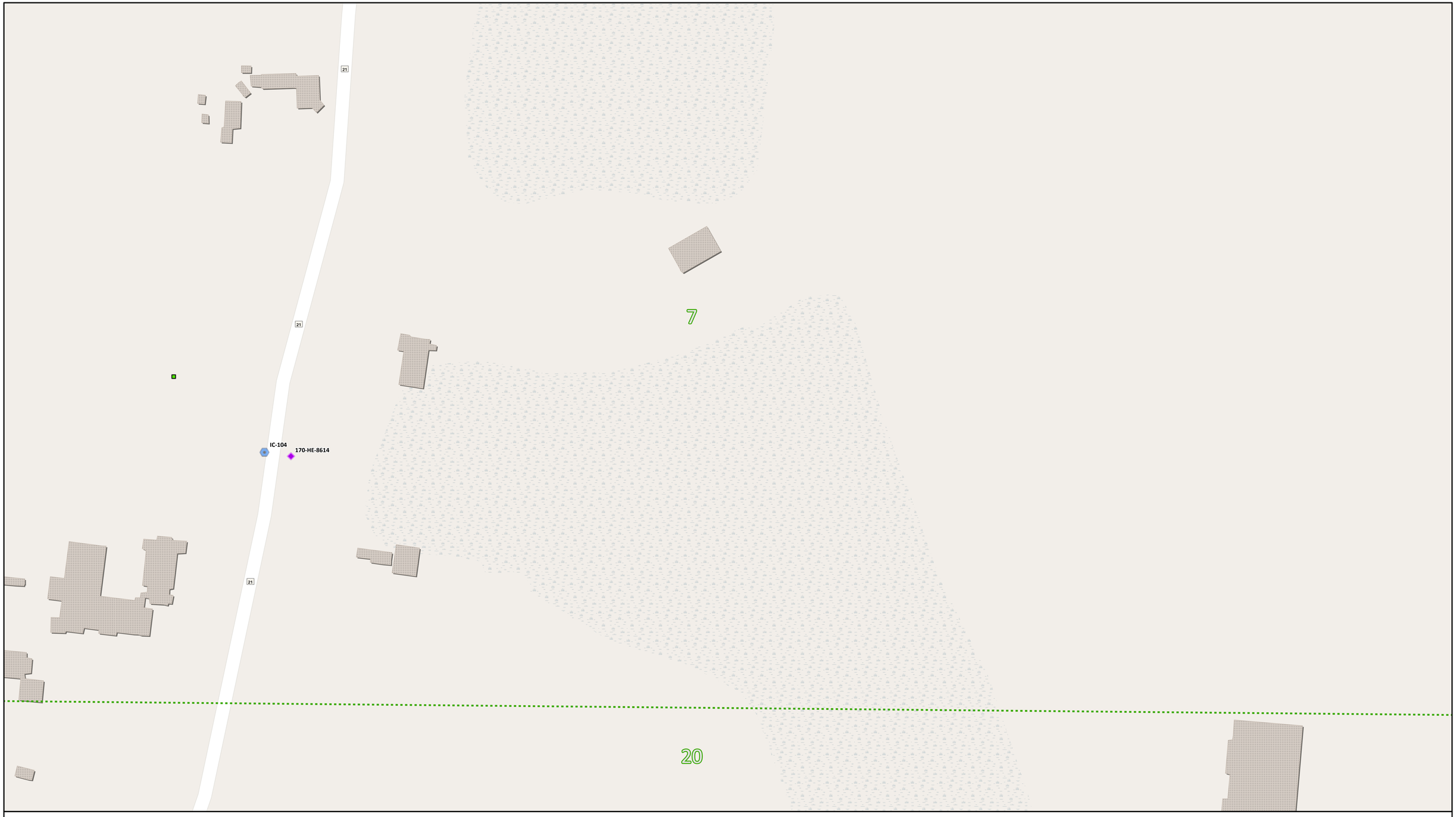
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: B7



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- State

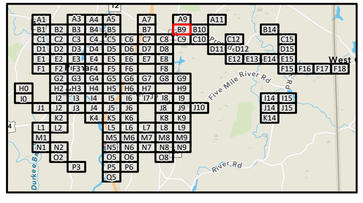
Interconnections
- Other

Outfalls
- State

Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: B9

7

8

20

21

Thurber Rd

CB-8-100-1
18" RCP
8-100
8-3

CB-8-2-1
18" RCP
8-2

CB-8-1-1
Thurber Rd 15" RCP
8-1

CB-21-1-2
CB-21-1-1
15" RCP
21-1

Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
CB-8-1-1	12/6/2022	03:00							Unable to open, not sampled. Pipe is 4" corrugated metal that is most likely from house

CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City

Outfalls
- City

Culvert
- City

Gravity Main
- City

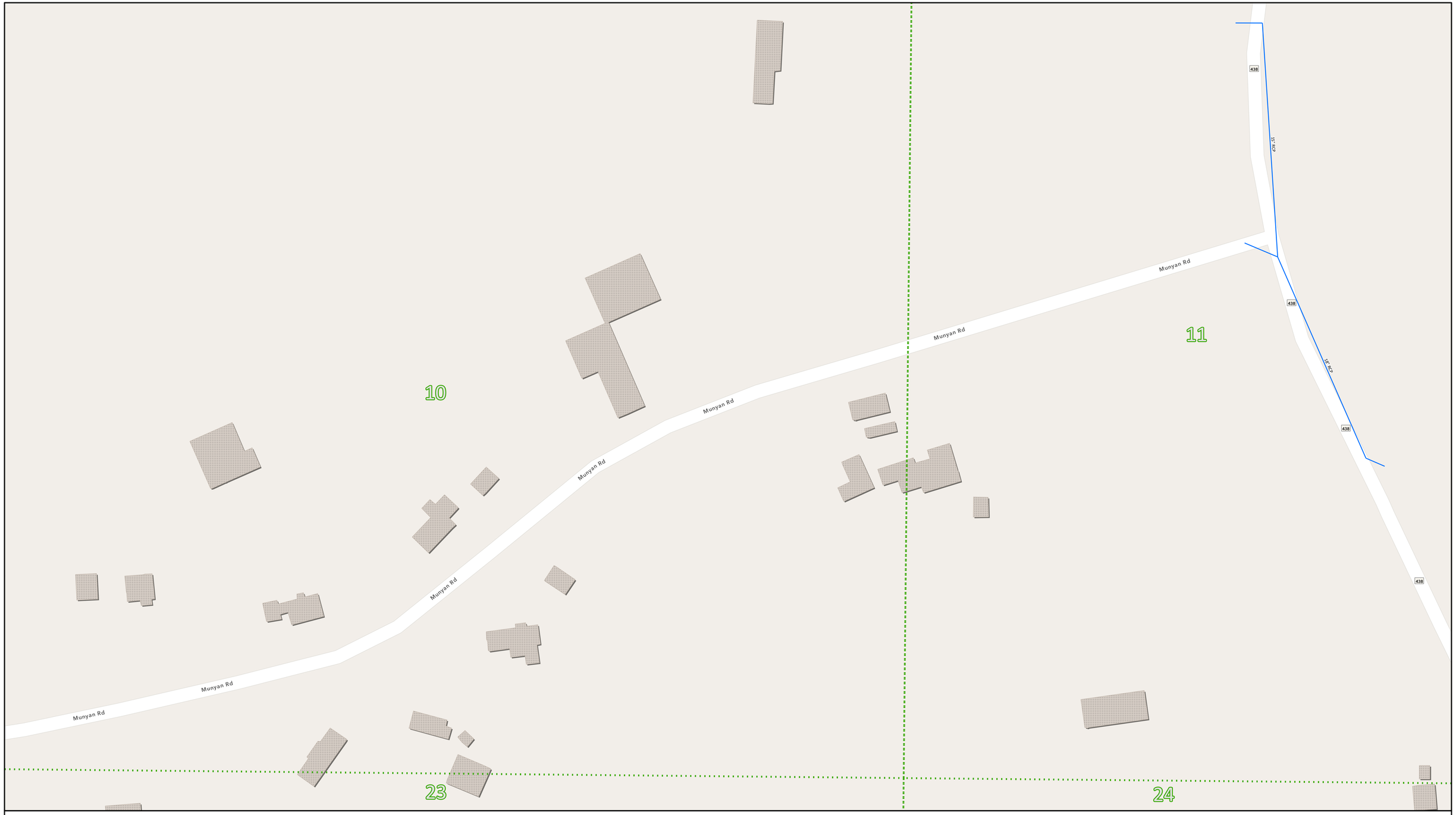
Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay

Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: B10



CDM Smith

N

0 40 80 160 240 Feet

Legend

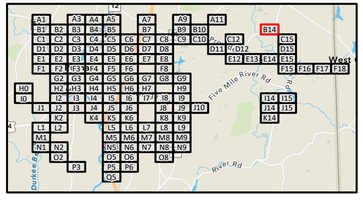
Gravity Main

City

Index Map Catchment Plan (March 2018)

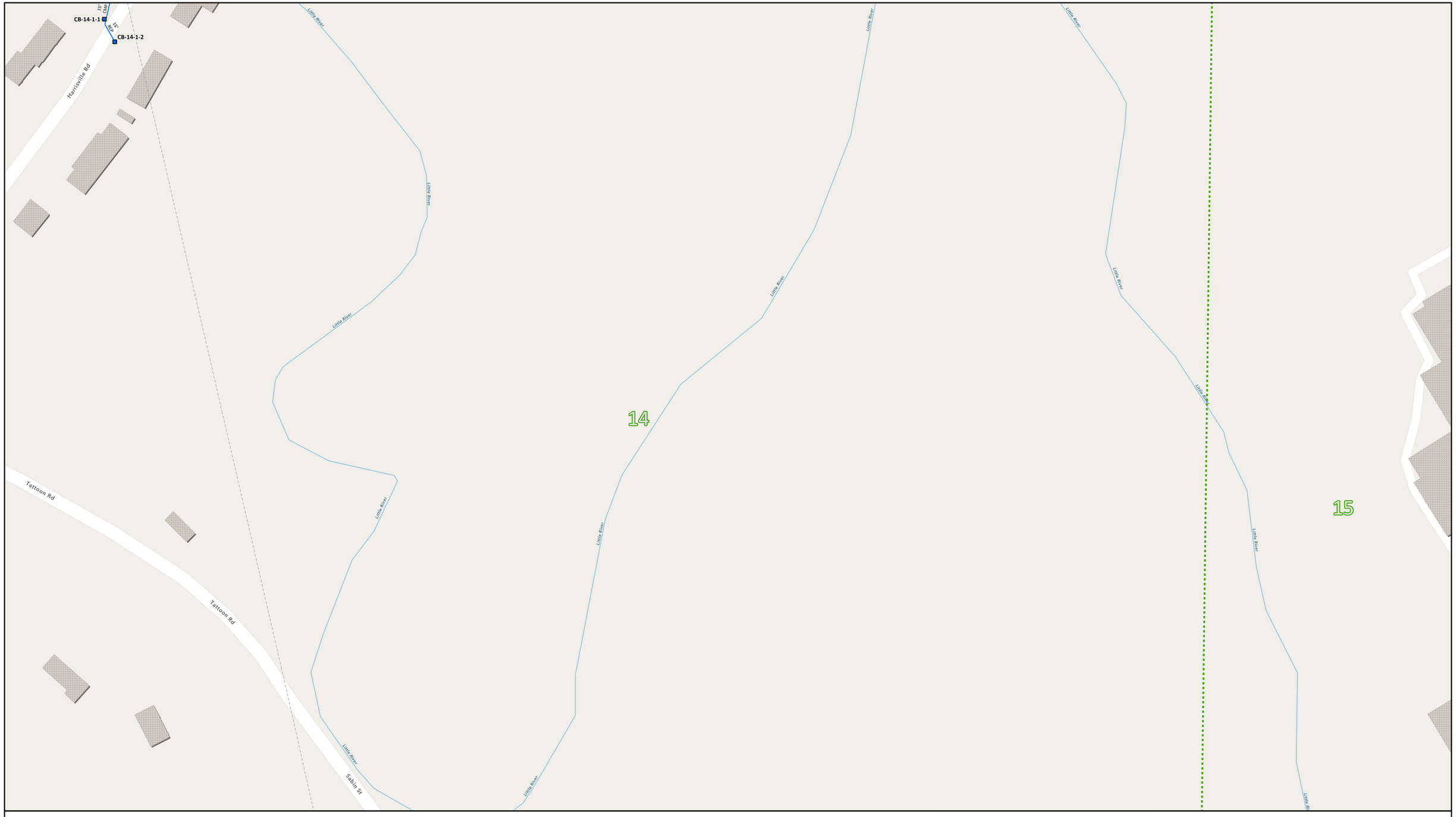
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: B14



CDM Smith

N

0 40 80 160 240 Feet

Legend

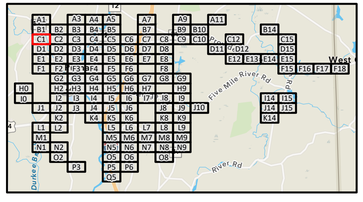
Catch Basin
- City

Gravity Main
- City

Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: C1



CDM Smith

N

0 40 80 160 240 Feet

Legend

- Network Structures
- Catch Basin
  - City
  - State
- Interconnections
  - Other
- Manholes
  - State
- Outfalls
  - City
  - State
- Gravity Main
  - City
  - Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay

Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: C2

CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State

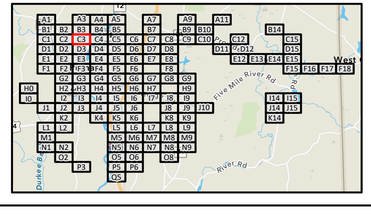
Interconnections
- Other

Manholes
- City

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

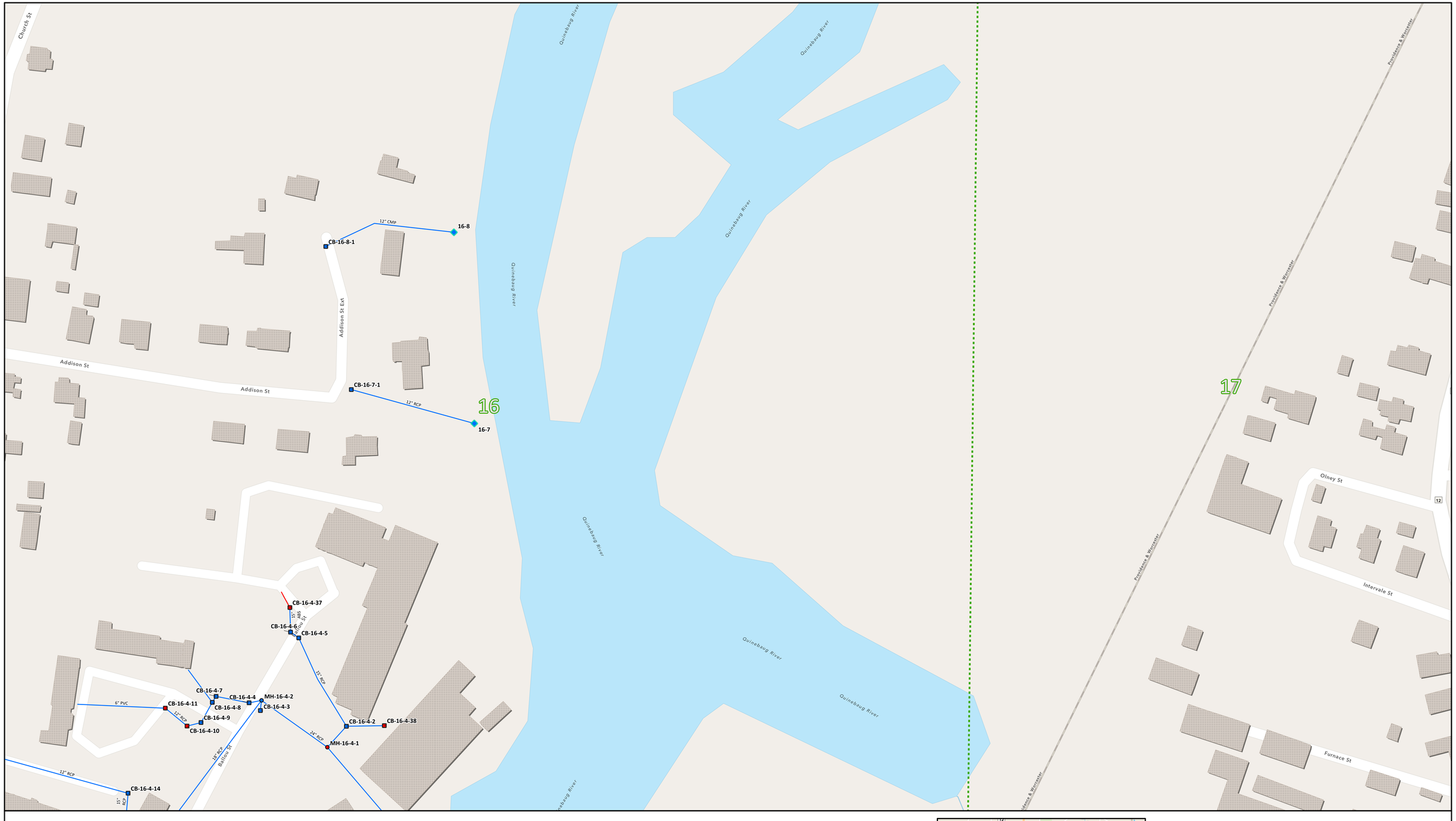
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: C3



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- Private

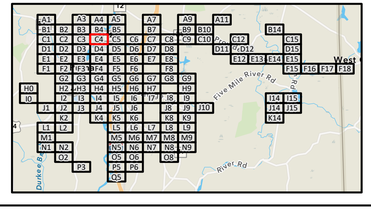
Manholes
- City
- Private

Outfalls
- City

Gravity Main
- City
- Private
- Index Map Catchment Plan (March 2018)

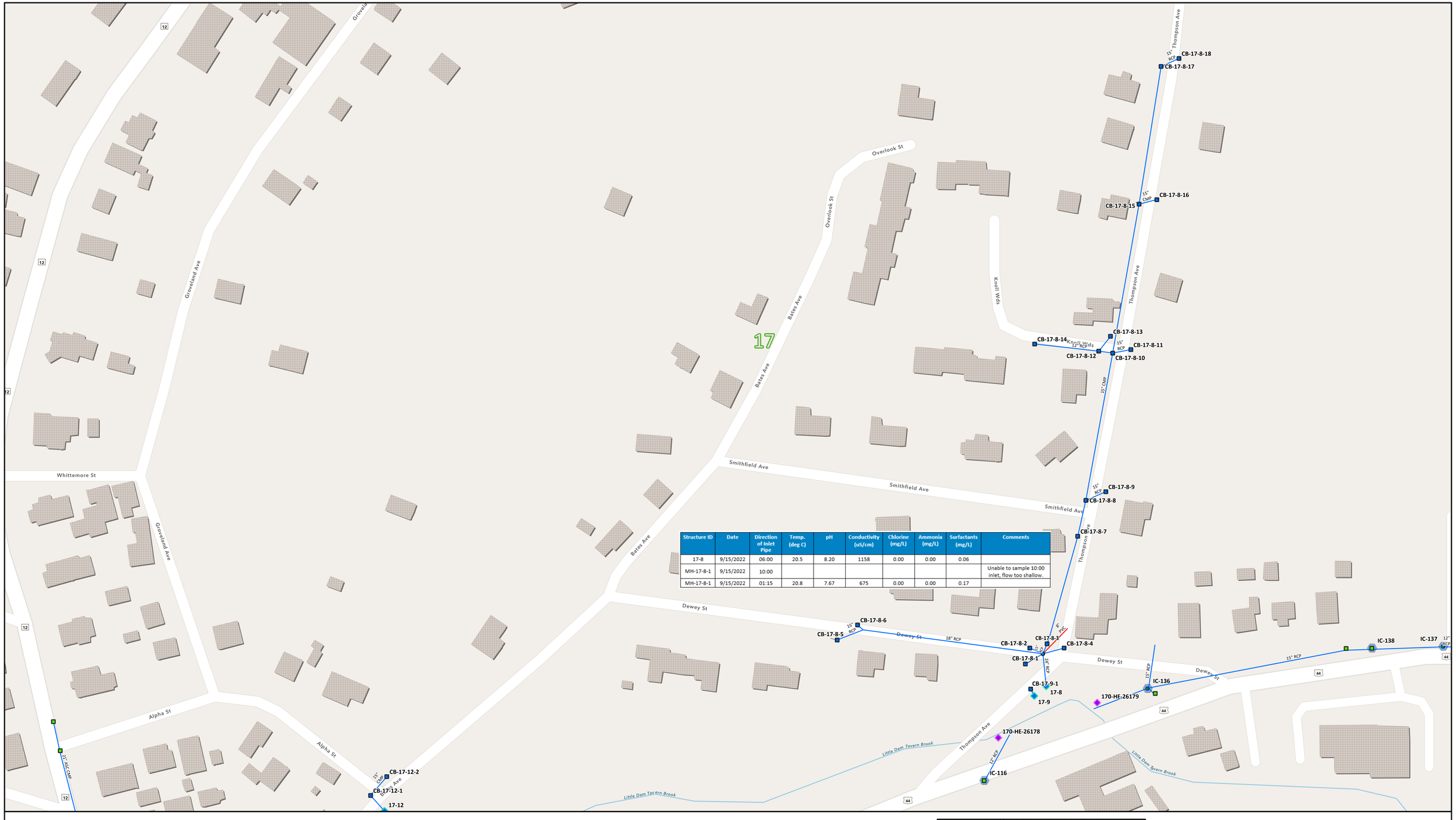
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: C4



Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
17-8	9/15/2022	06:00	20.5	8.20	1158	0.00	0.00	0.06	
MH-17-8-1	9/15/2022	10:00							Unable to sample 10:00 inlet, flow too shallow.
MH-17-8-1	9/15/2022	01:15	20.8	7.67	675	0.00	0.00	0.17	

CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State

Interconnections
- Other

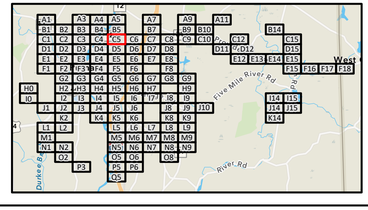
Manholes
- City
- State

Outfalls
- City
- State

Gravity Main
- City
- Private
- Index Map Catchment Plan (March 2018)

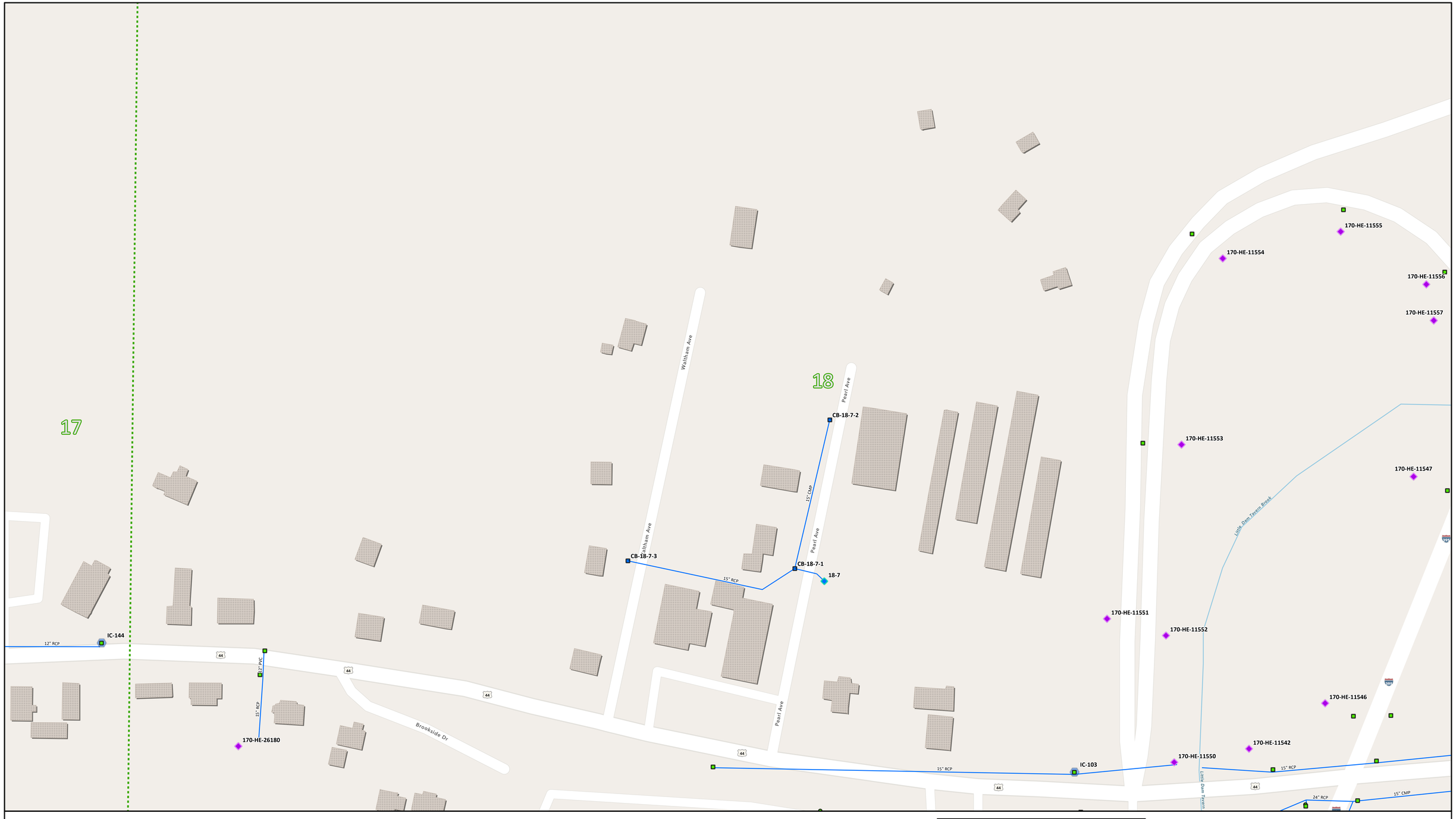
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: C5



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State

Interconnections
- Other

Manholes
- State

Outfalls
- City
- State

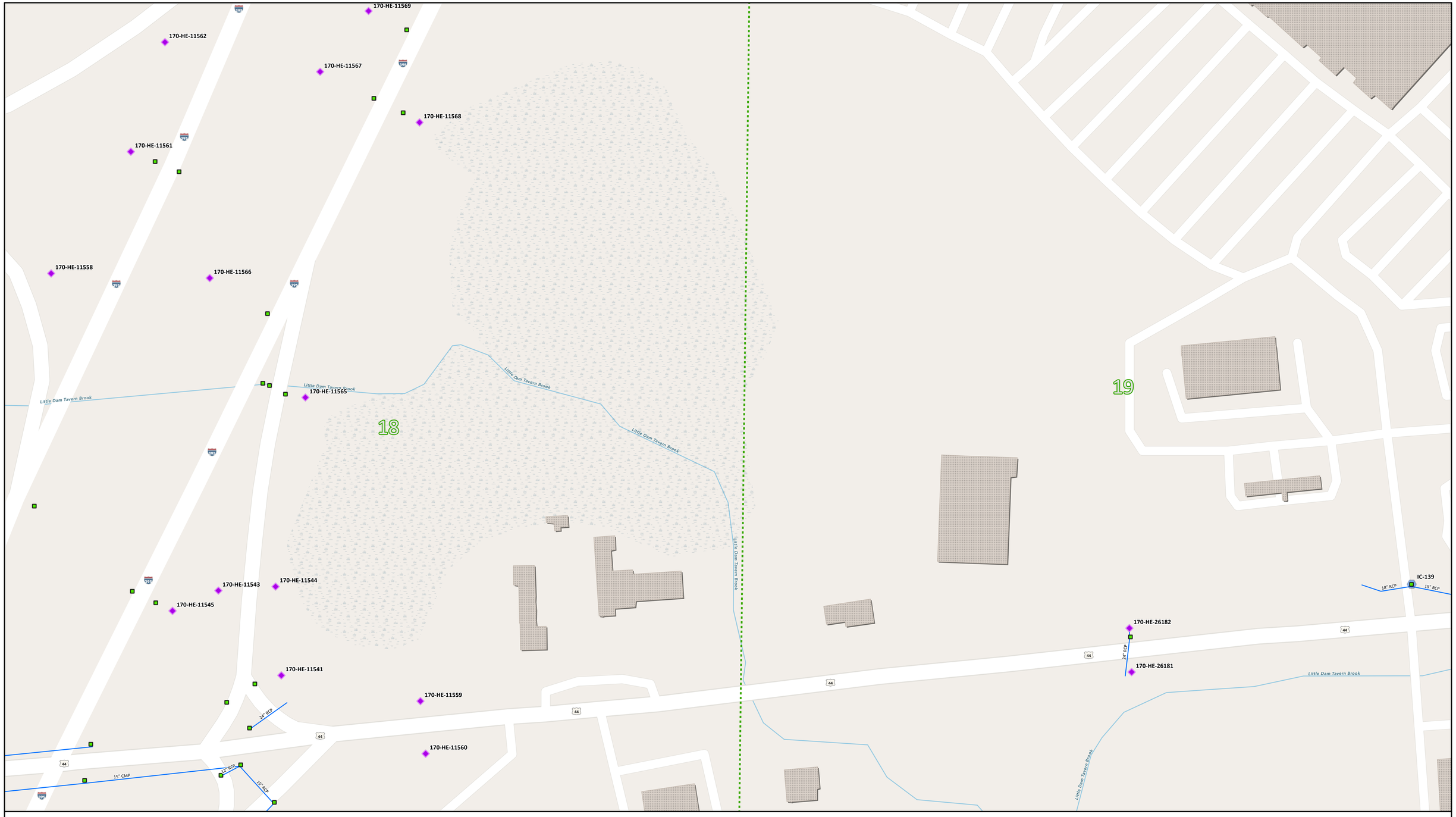
Gravity Main
- City
- Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay

Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: C6



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- State

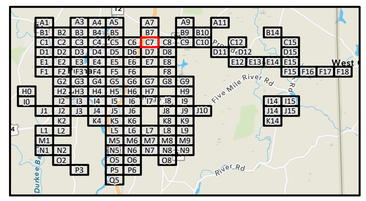
Interconnections
- Other

Outfalls
- State

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

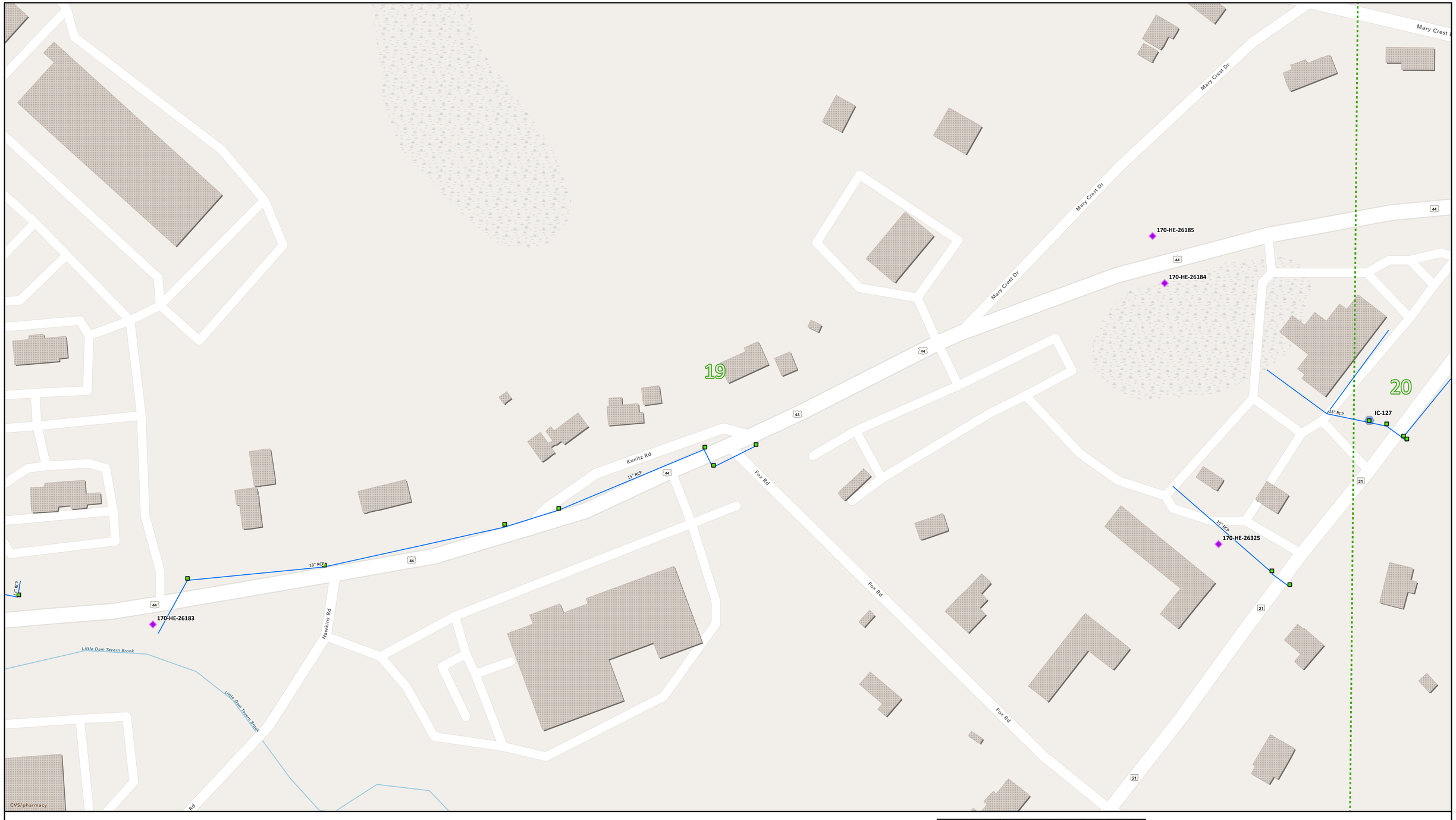
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: C7



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- State

Interconnections
- Other

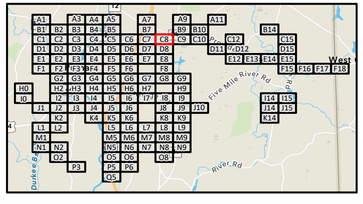
Outfalls
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

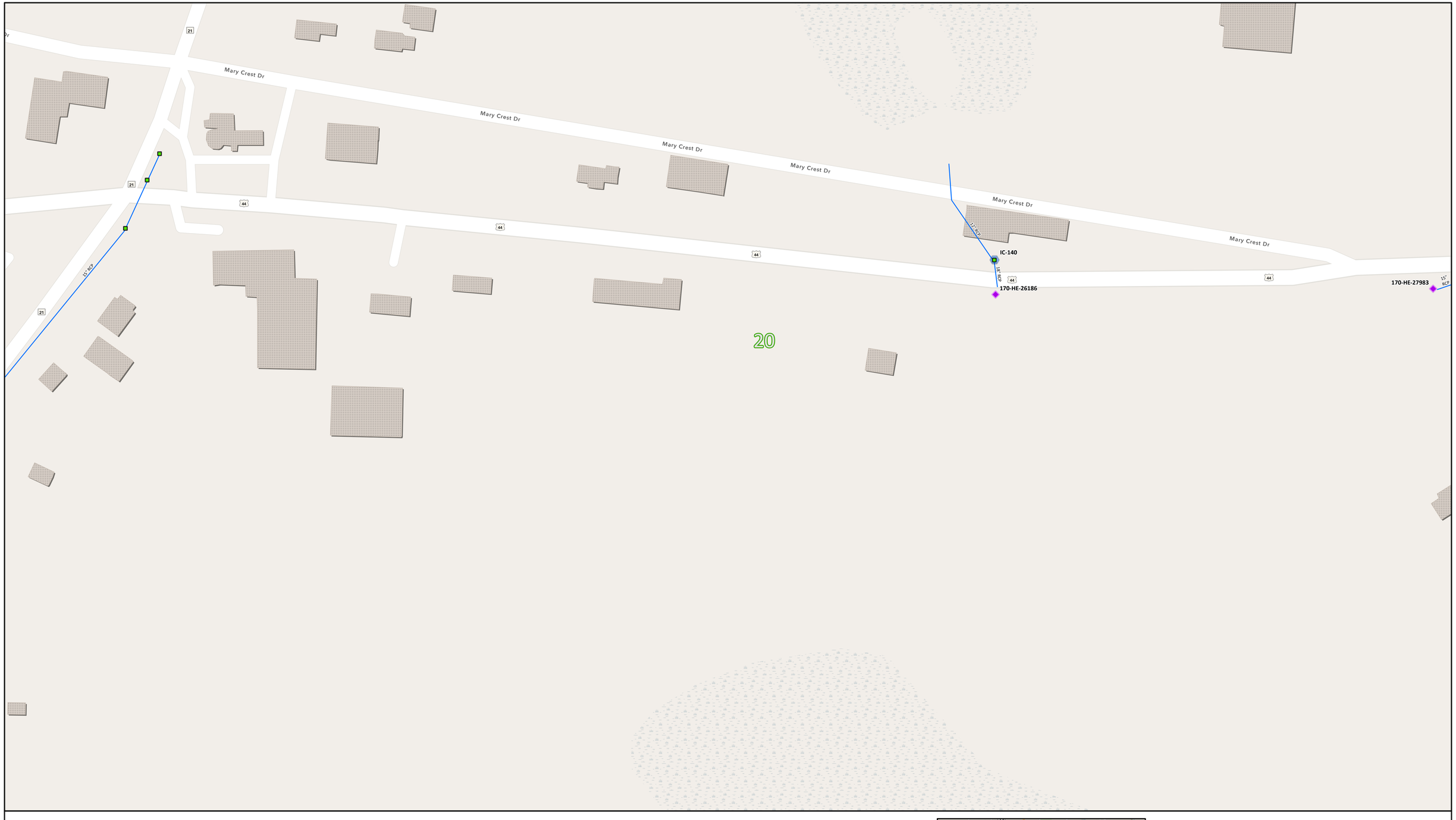
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: C8



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- State

Interconnections
- Other

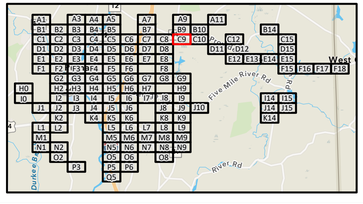
Outfalls
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

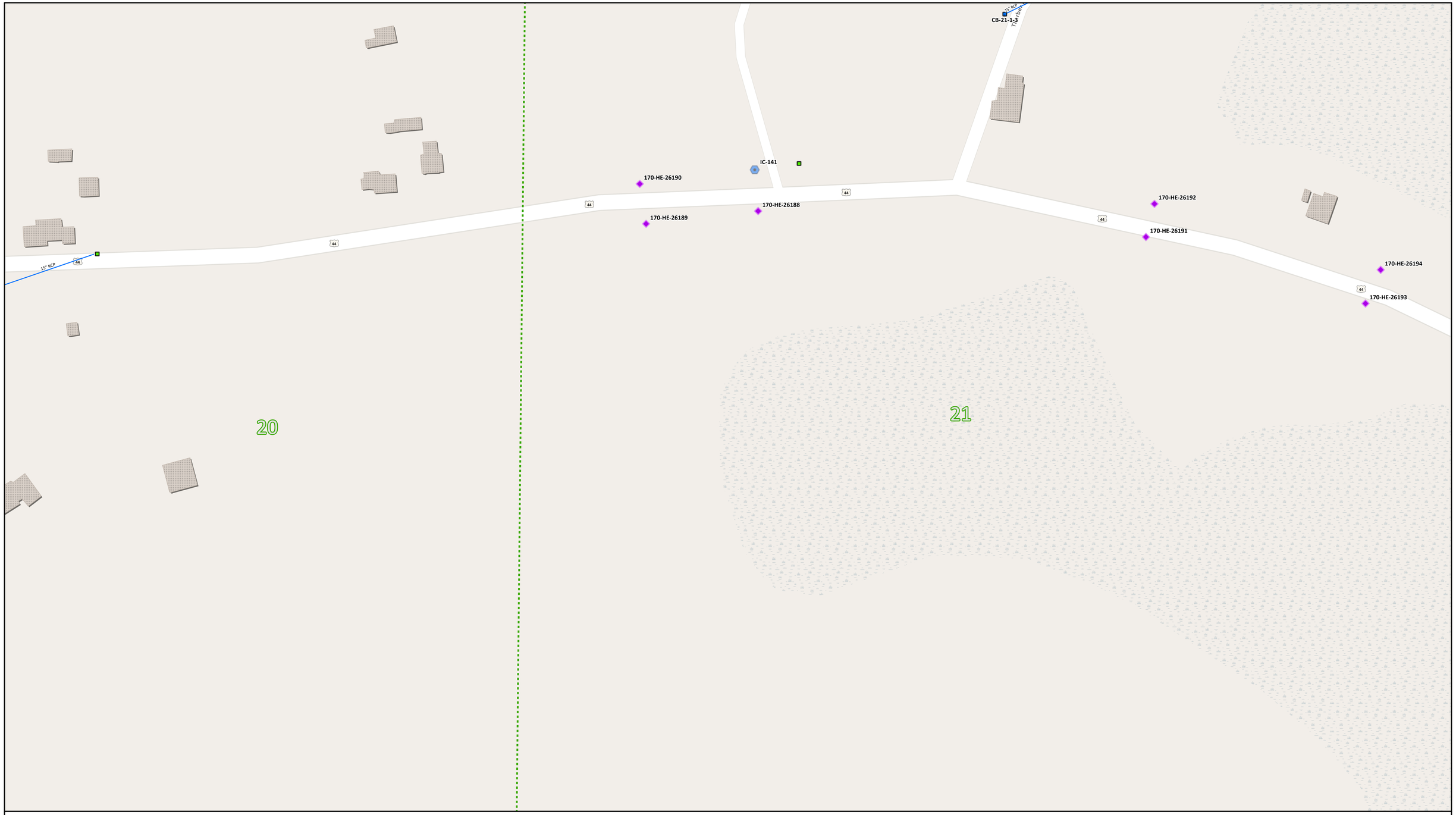
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: C9



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State

Interconnections
- Other

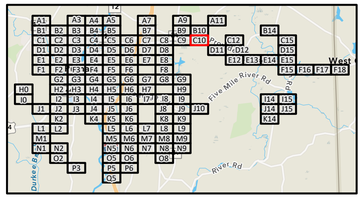
Outfalls
- City
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

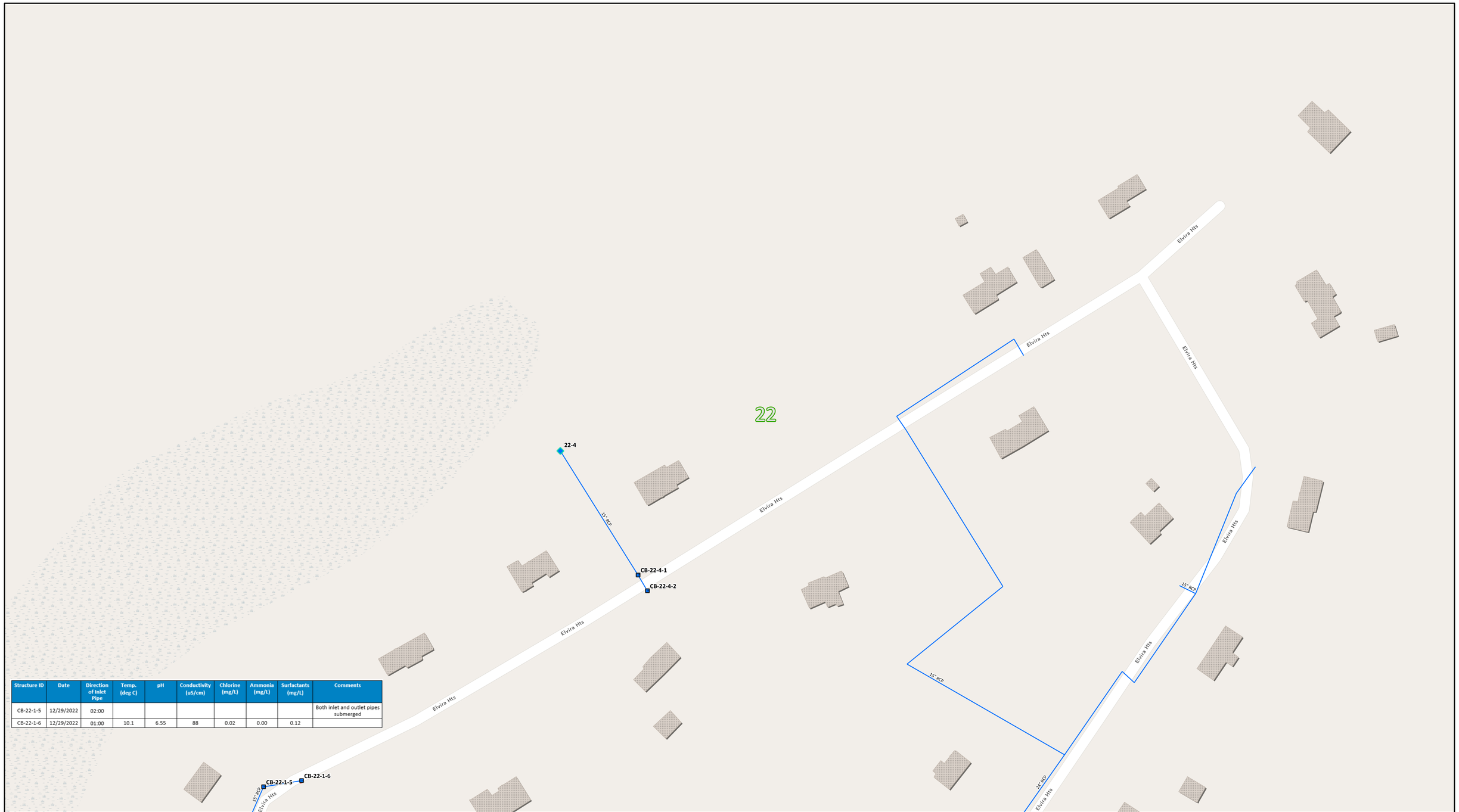
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: C10



Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
CB-22-1-5	12/29/2022	02:00							Both inlet and outlet pipes submerged
CB-22-1-6	12/29/2022	01:00	10.1	6.55	88	0.02	0.00	0.12	

CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City

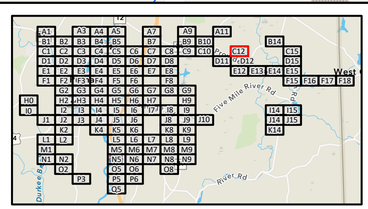
Outfalls
- City

Gravity Main
- City
- Private

Index Map Catchment Plan (March 2018)

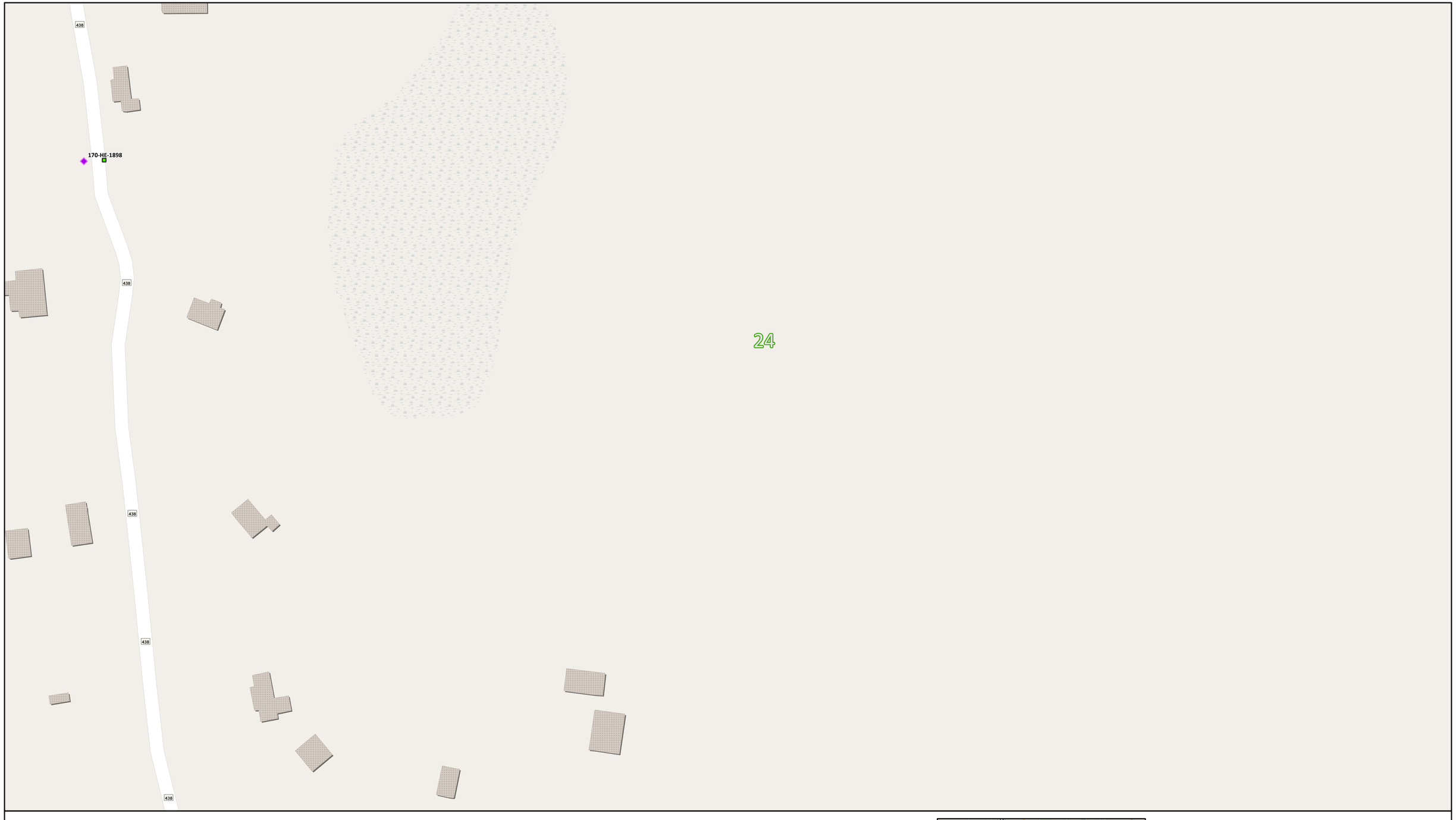
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: C12



CDM Smith

N

0 40 80 160 240 Feet

Legend

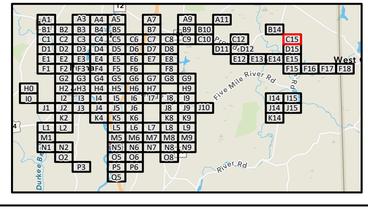
Catch Basin
- State

Outfalls
- State

Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023
Page Name: C15



CDM Smith

N

0 40 80 160 240 Feet

Legend

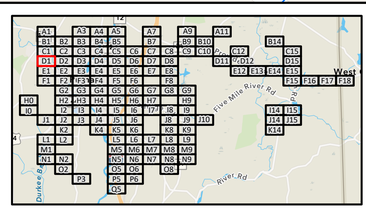
Catch Basin
- City

Outfalls
- City

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

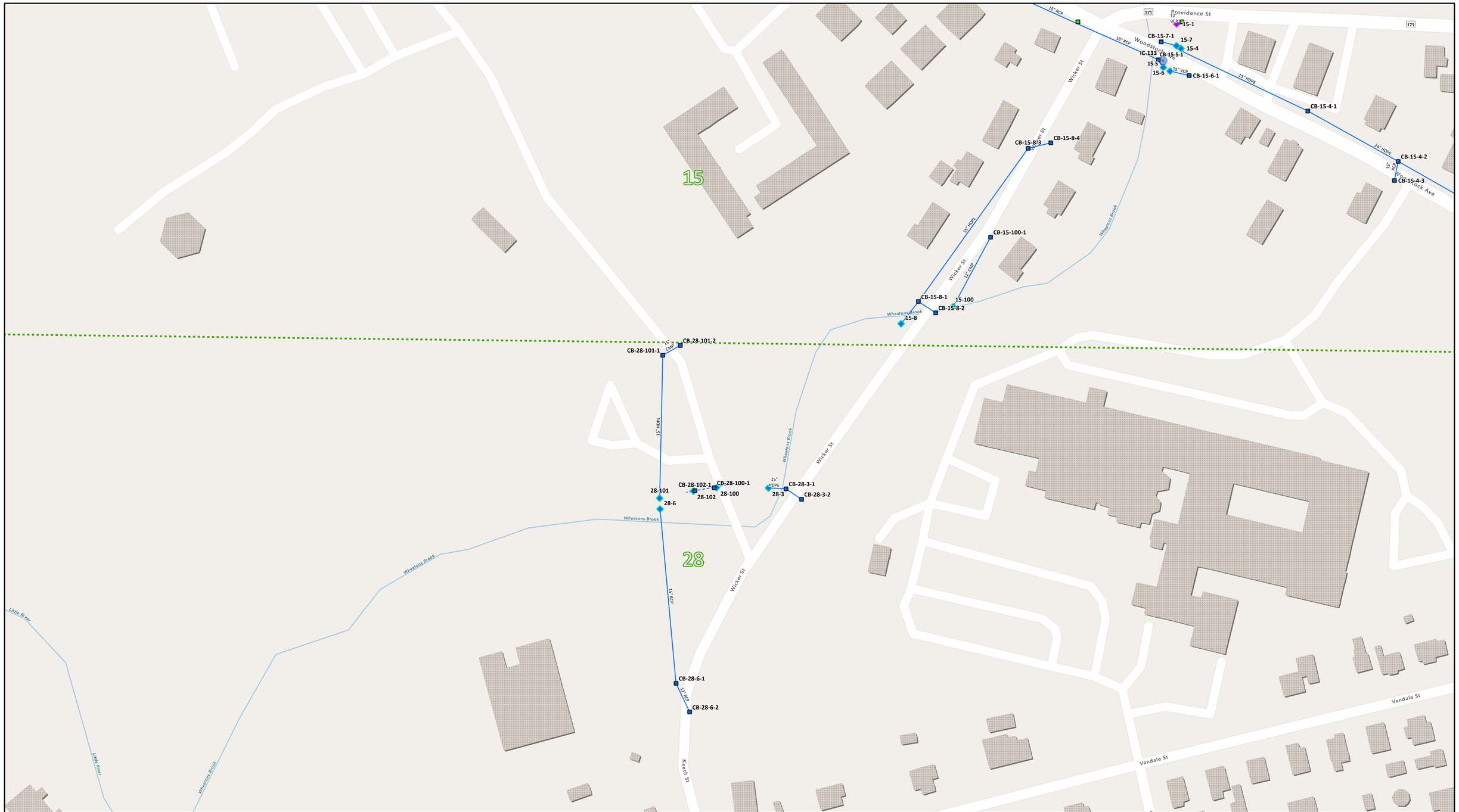
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: D1



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State

Interconnections
- Other

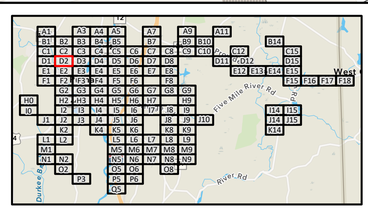
Outfalls
- City
- State

Culvert
- City

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

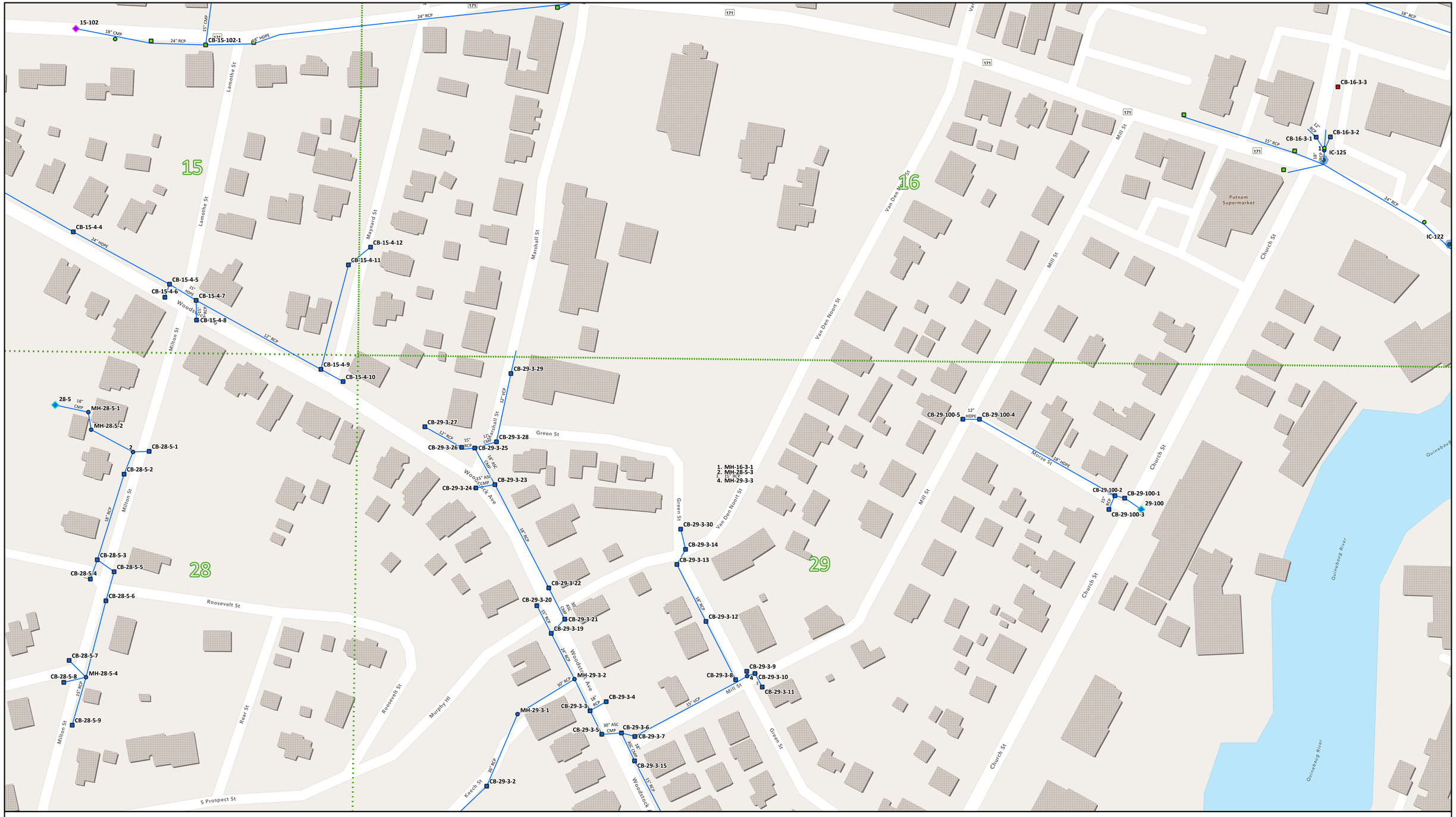
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: D2



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State
- Private

Interconnections
- Other

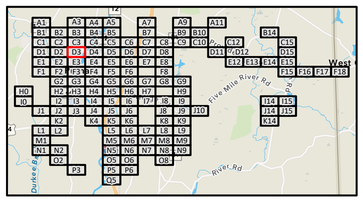
Manholes
- City
- State

Outfalls
- City
- State

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

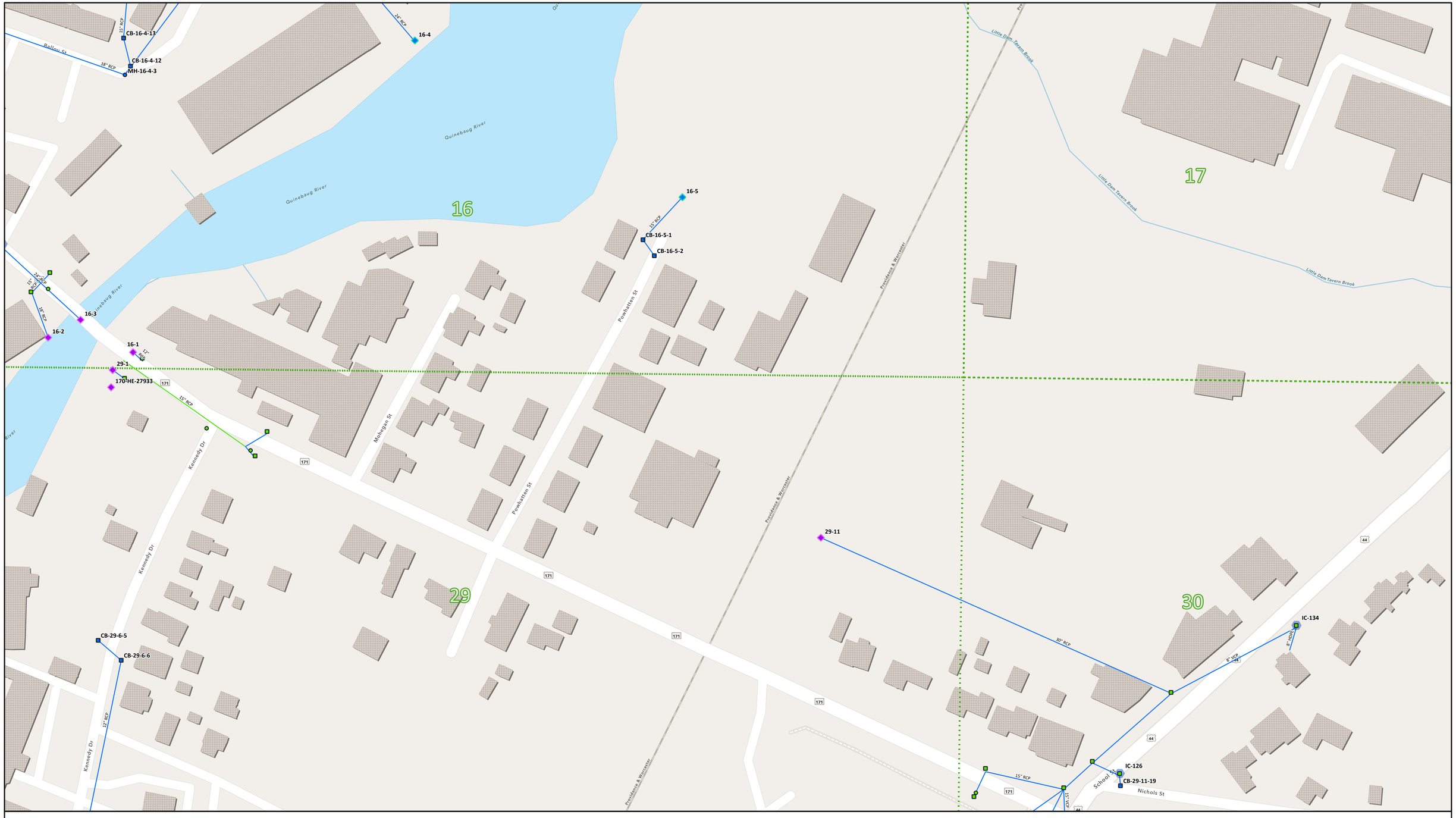
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: D3



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State

Interconnections
- Other

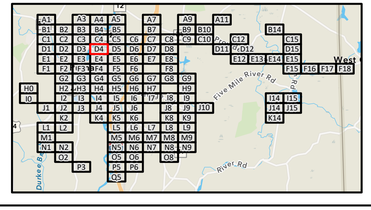
Manholes
- City
- State

Outfalls
- City
- State

Gravity Main
- City
- State
- Index Map Catchment Plan (March 2018)

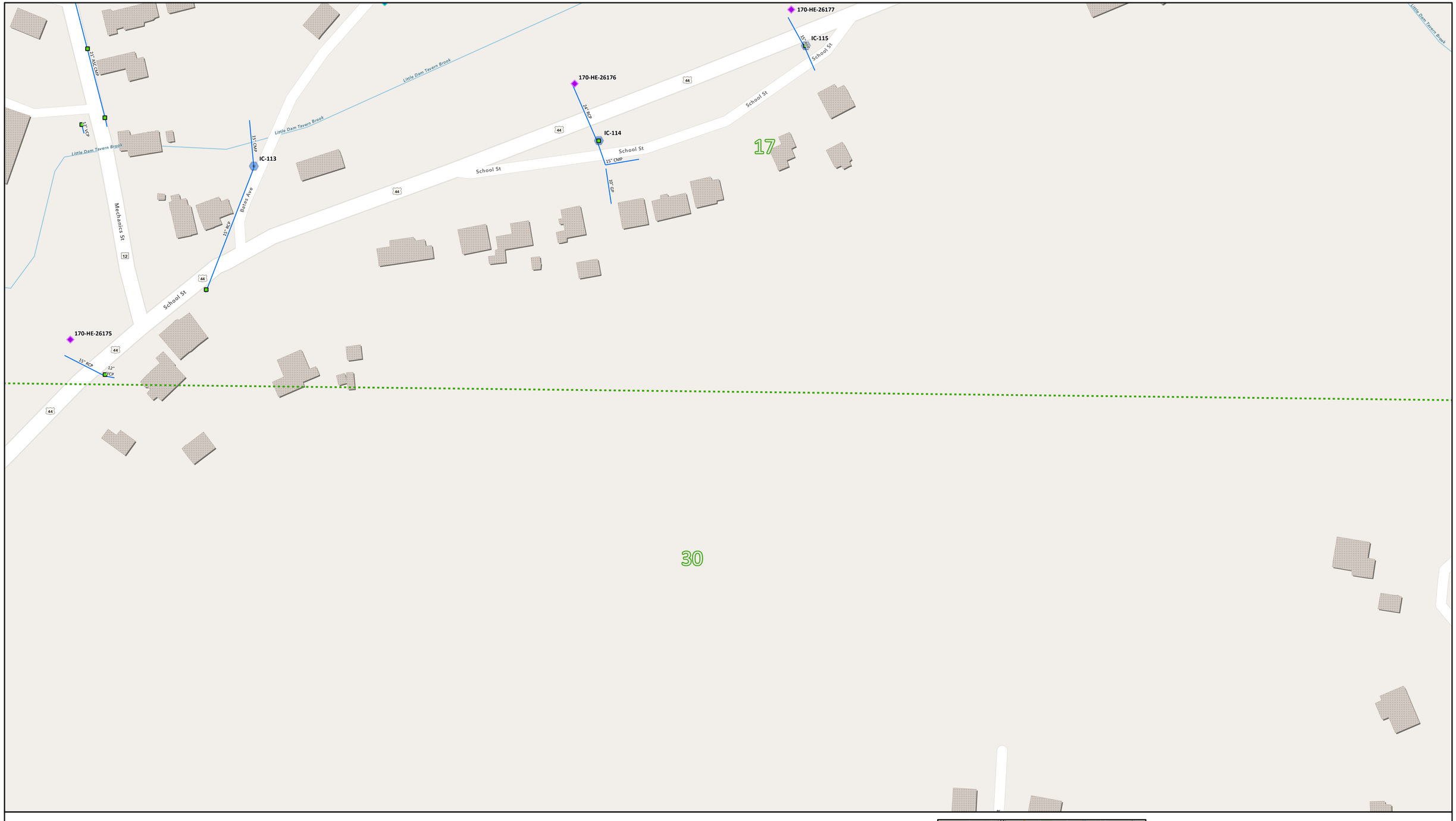
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: D4



0 40 80 160 240 Feet

N

Legend

Catch Basin
- State

Interconnections
- Other

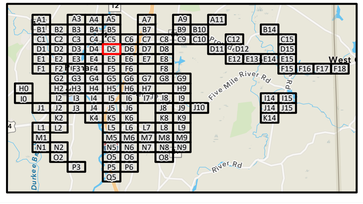
Outfalls
- City
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

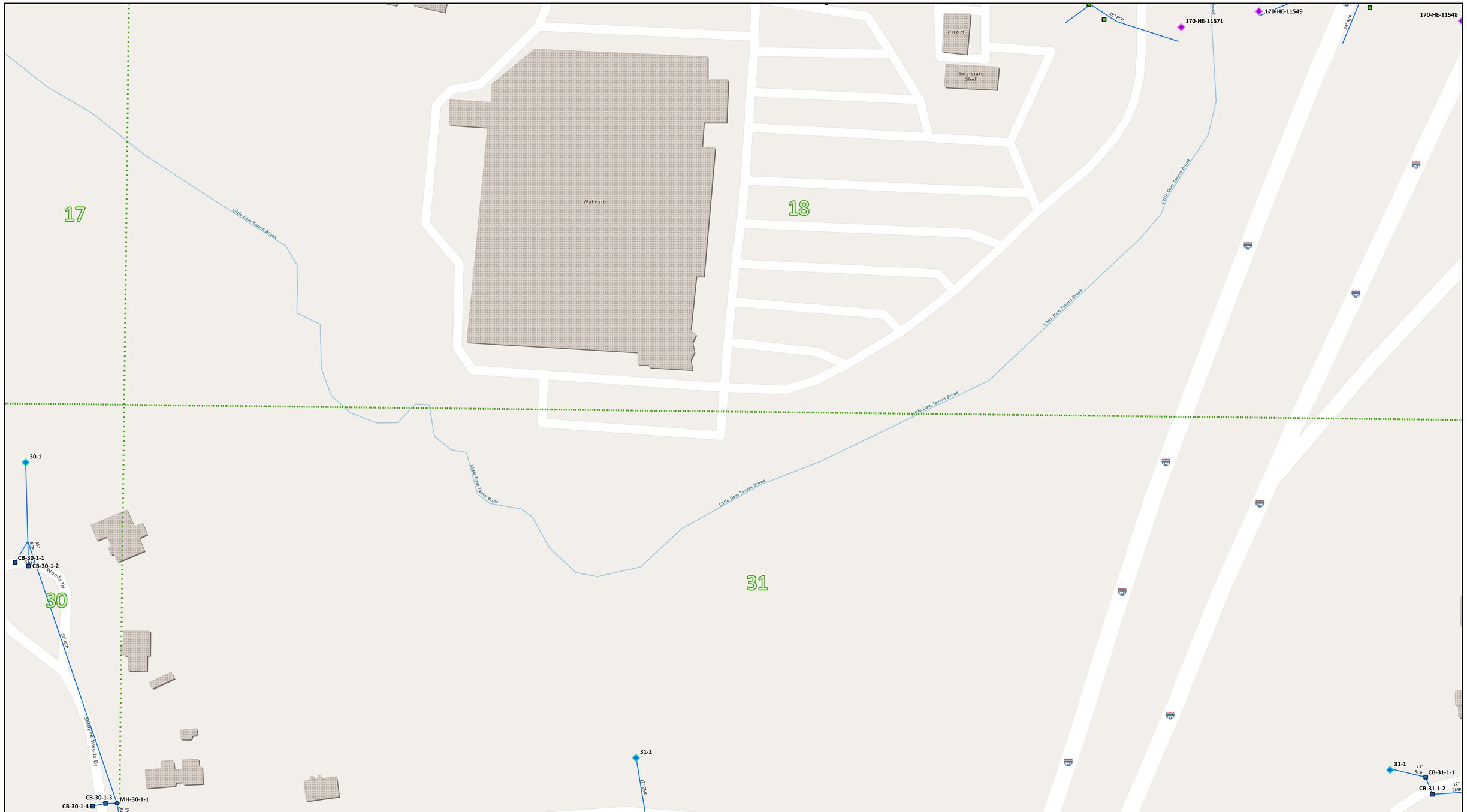
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: D5



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State

Manholes
- City
- State

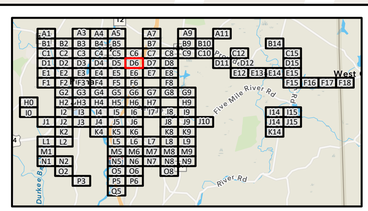
Outfalls
- City
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

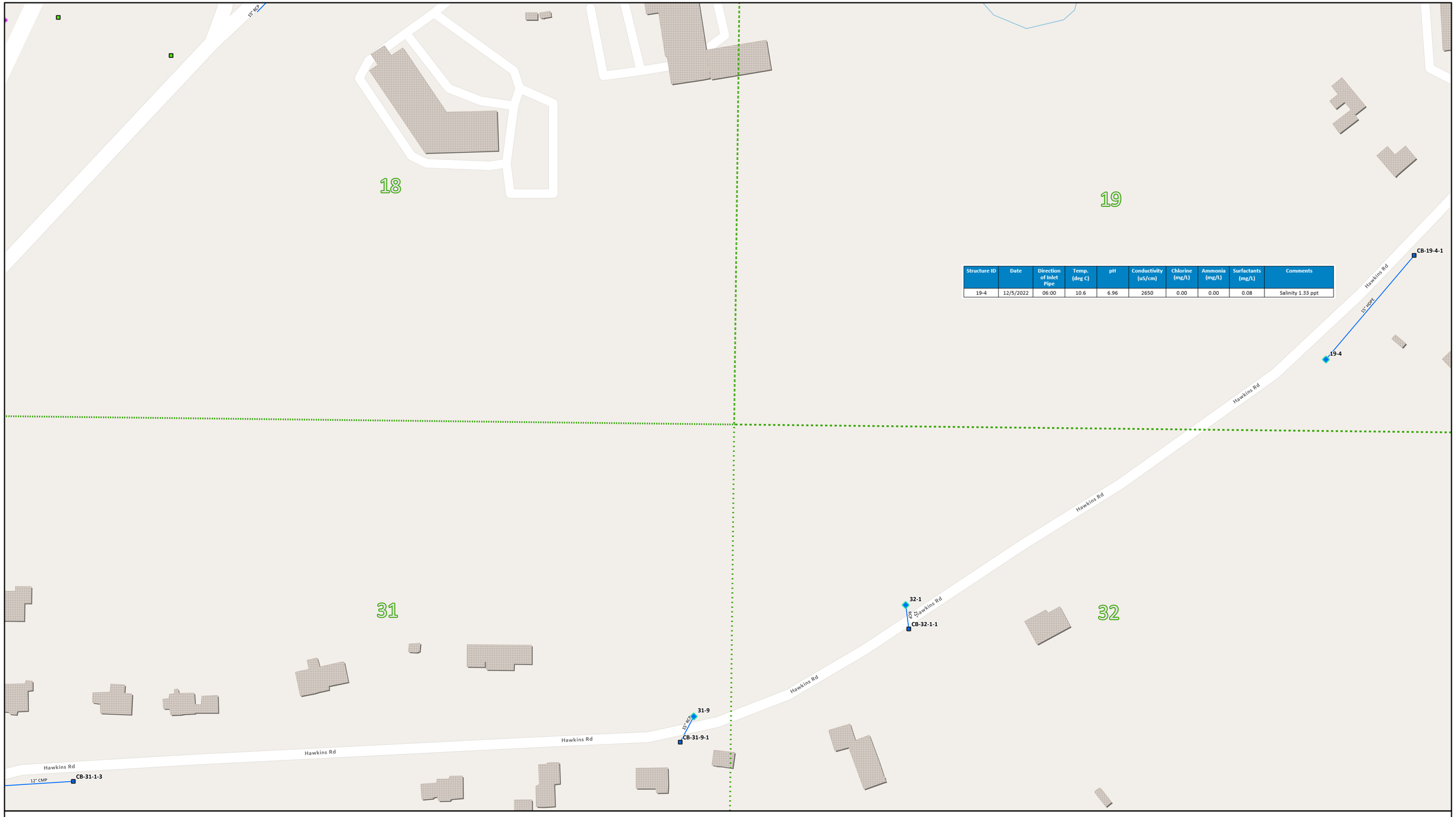
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: D6



Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
19-4	12/5/2022	06:00	10.6	6.96	2650	0.00	0.00	0.08	Salinity 1.33 ppt

CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State

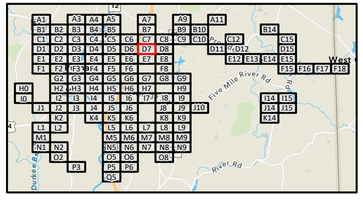
Outfalls
- City
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

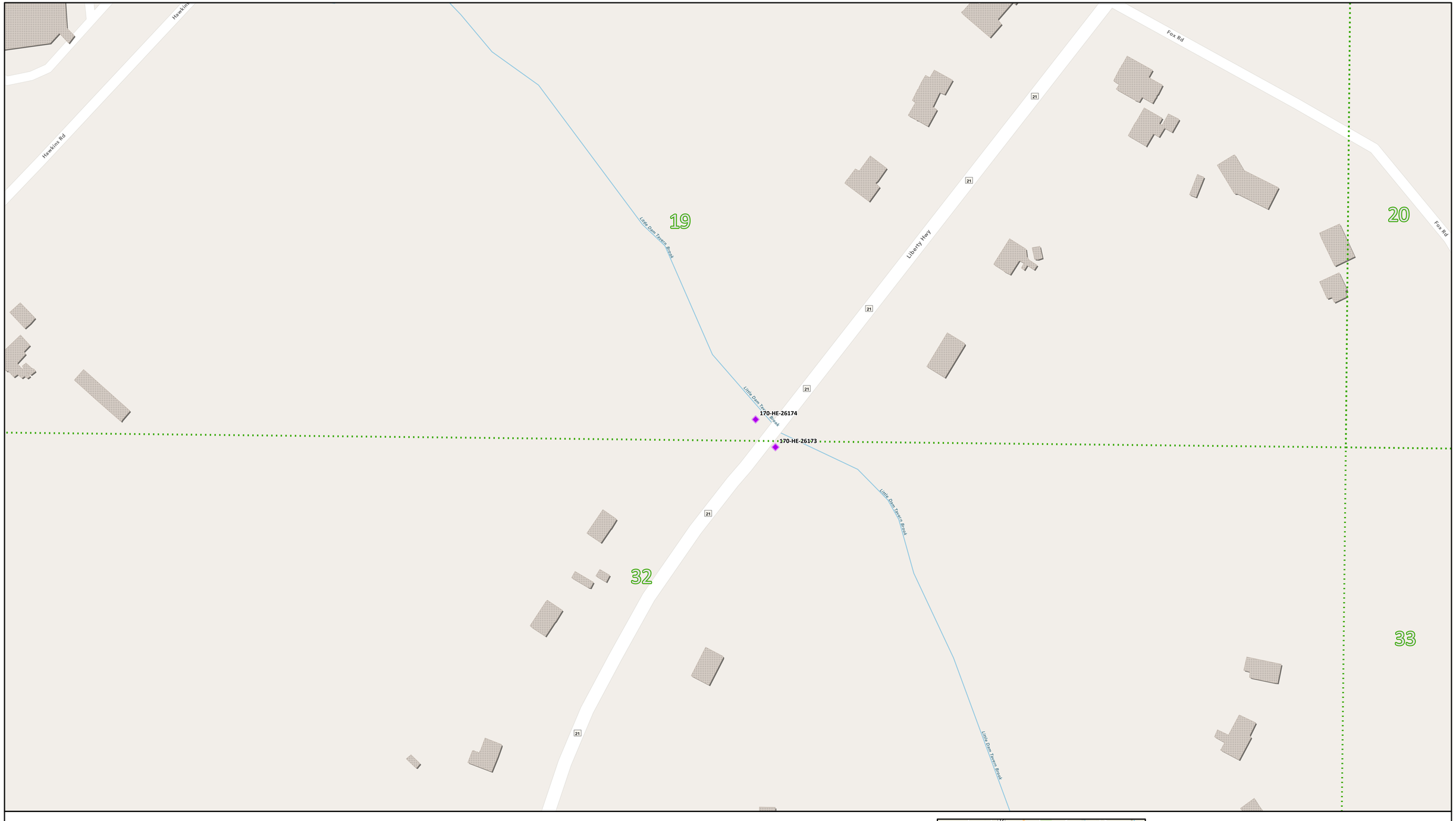
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: D7



CDM Smith

N

0 40 80 160 240 Feet

Legend

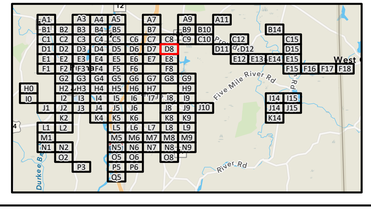
Outfalls

State

Index Map Catchment Plan (March 2018)

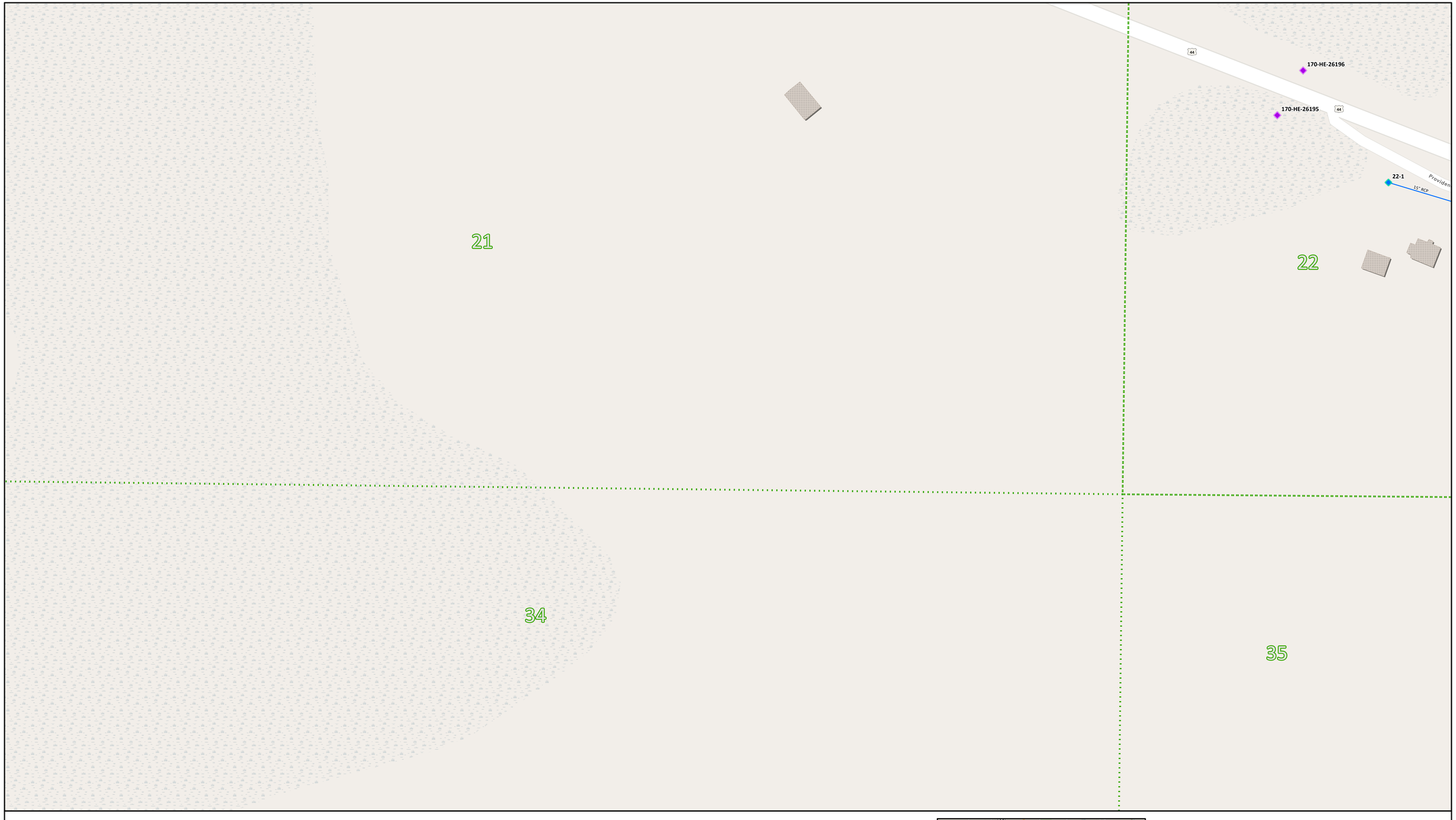
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: D8



CDM Smith

N

0 40 80 160 240 Feet

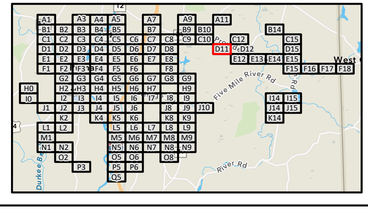
Legend

Outfalls
- City
- State

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

Materials

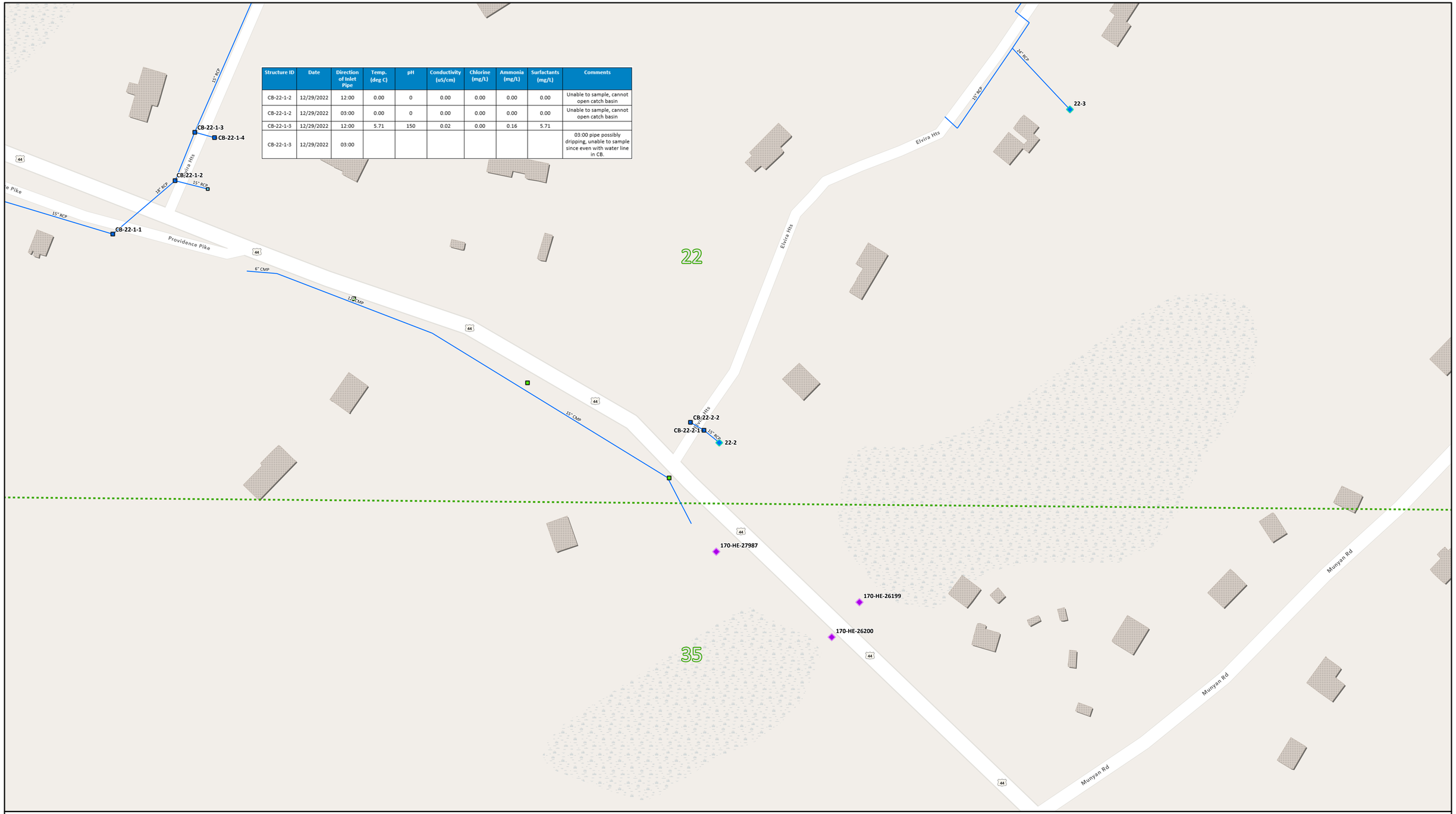
AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: D11

Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
CB-22-1-2	12/29/2022	12:00	0.00	0	0.00	0.00	0.00	0.00	Unable to sample, cannot open catch basin
CB-22-1-2	12/29/2022	03:00	0.00	0	0.00	0.00	0.00	0.00	Unable to sample, cannot open catch basin
CB-22-1-3	12/29/2022	12:00	5.71	150	0.02	0.00	0.16	5.71	
CB-22-1-3	12/29/2022	03:00							03:00 pipe possibly dripping, unable to sample since even with water line in CB.



CDM Smith

N

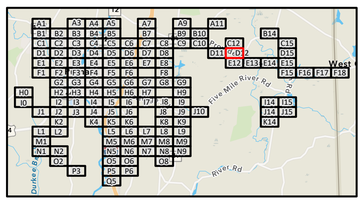
0 40 80 160 240 Feet

Legend

- Network Structures
- Catch Basin
  - City
  - State
- Outfalls
  - City
  - State
- Gravity Main
  - City
- Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: D12

170-HE-4762

170-HE-4760

438

24

37

438

438

CDM Smith

N

0 40 80 160 240 Feet

Legend

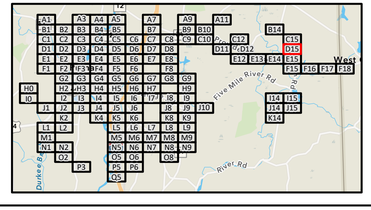
Outfalls

State

Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: D15



CDM Smith

N

0 40 80 160 240 Feet

Legend

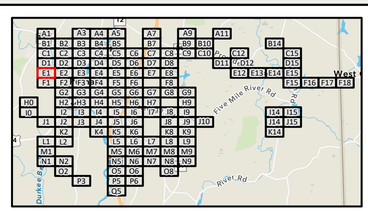
Catch Basin
- City

Gravity Main
- City

Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: E1



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City

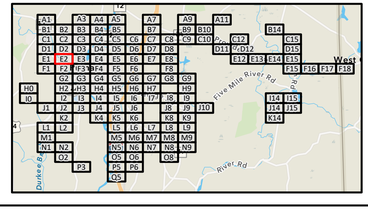
Outfalls
- City

Open Drains

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: E2



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City

Manholes
- City

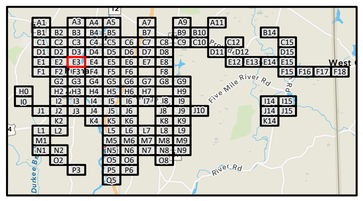
Outfalls
- City

Gravity Main
- City
- State

Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: E3

Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
CB-29-11-1	10/7/2022	05:00	23.3	8.10	553	0.00	0.00	0.03	Flow into interconnection from unknown source in the direction of the shop family hair salon building.
CB-29-11-7	10/7/2022	03:00							Signs of recent flow
CB-29-11-9	10/7/2022	09:00							Signs of recent flow
CB-29-11-11	10/7/2022	12:00							Signs of recent flow
CB-29-11-12	10/7/2022	06:00							Signs of recent flow
MH-29-7-1	6/10/2022	12:00							Main pipe at least 50% submerged with stagnant water
MH-29-7-1	6/10/2022	03:00							Main pipe at least 50% submerged with stagnant water
MH-29-7-4	6/10/2022	12:00	24.6	6.90	452	0.00	0.00	0.03	
MH-29-7-4	6/10/2022	03:00	26.0	7.06	62	0.22	0.00	0.30	
MH-29-7-7	6/10/2022	12:00							Full of stagnant water
MH-29-7-7	6/10/2022	02:00							Full of stagnant water

CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State

Interconnections
- Other

Manholes
- City
- State

Gravity Main
- City
- State

Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay

Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: E4

Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
CB-29-11-15	10/7/2022	06:00							Signs of recent flow
CB-29-11-16	10/7/2022	11:00							Signs of recent flow

Nichols St
Rowe St
Walnut St
Ash St
Farrows St
Leyden St
Laconia Ave
Laconia Ct
Davis St
Thayer St
Hanley St
Newport Ave
Phillips St
30

CB-29-11-13
CB-29-11-14
CB-29-11-15
CB-29-11-16
CB-29-11-17
CB-29-11-18
CB-30-2-1
CB-30-2-2
CB-30-2-3
CB-30-2-4
CB-30-2-5
CB-30-2-6
CB-30-2-7
CB-30-2-8
CB-30-3-3
CB-30-3-4
CB-30-3-5
CB-30-3-6
CB-30-3-7
CB-30-3-8
CB-30-3-9
CB-30-3-10
CB-30-3-11
CB-30-3-12
30-2

15" CMP
15" RCP
15" VCP
24" RCP
18" RCP
36" RCP
Walnut St 15" CMP

CDM Smith

N

0 40 80 160 240 Feet

Legend

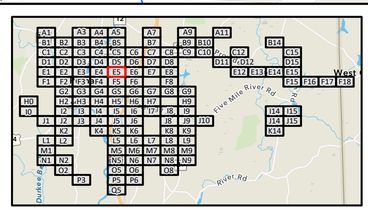
Catch Basin
- City

Outfalls
- City

Gravity Main
- City
- State
- Index Map Catchment Plan (March 2018)

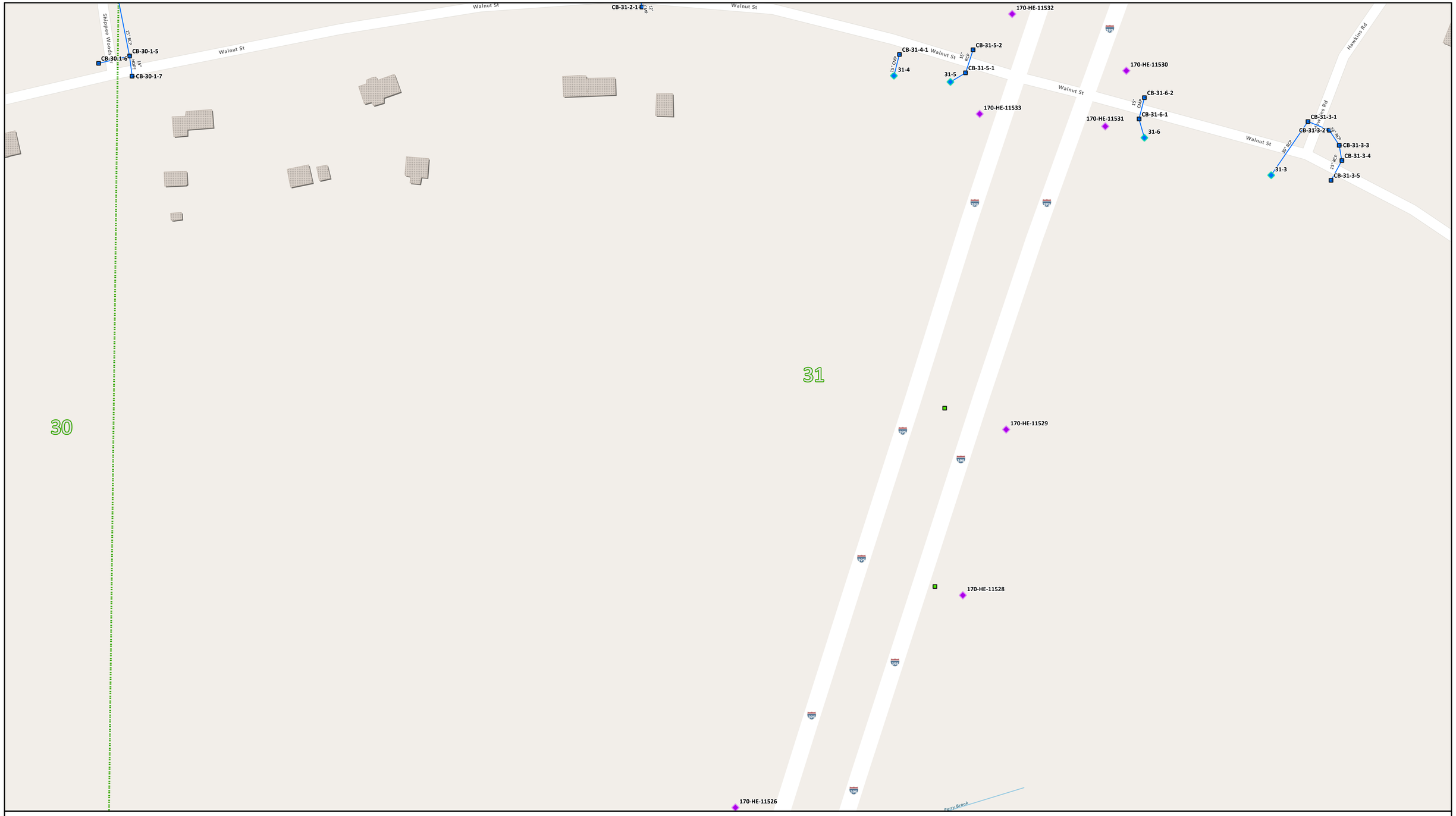
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: E5



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State

Outfalls
- City
- State

Gravity Main
- City

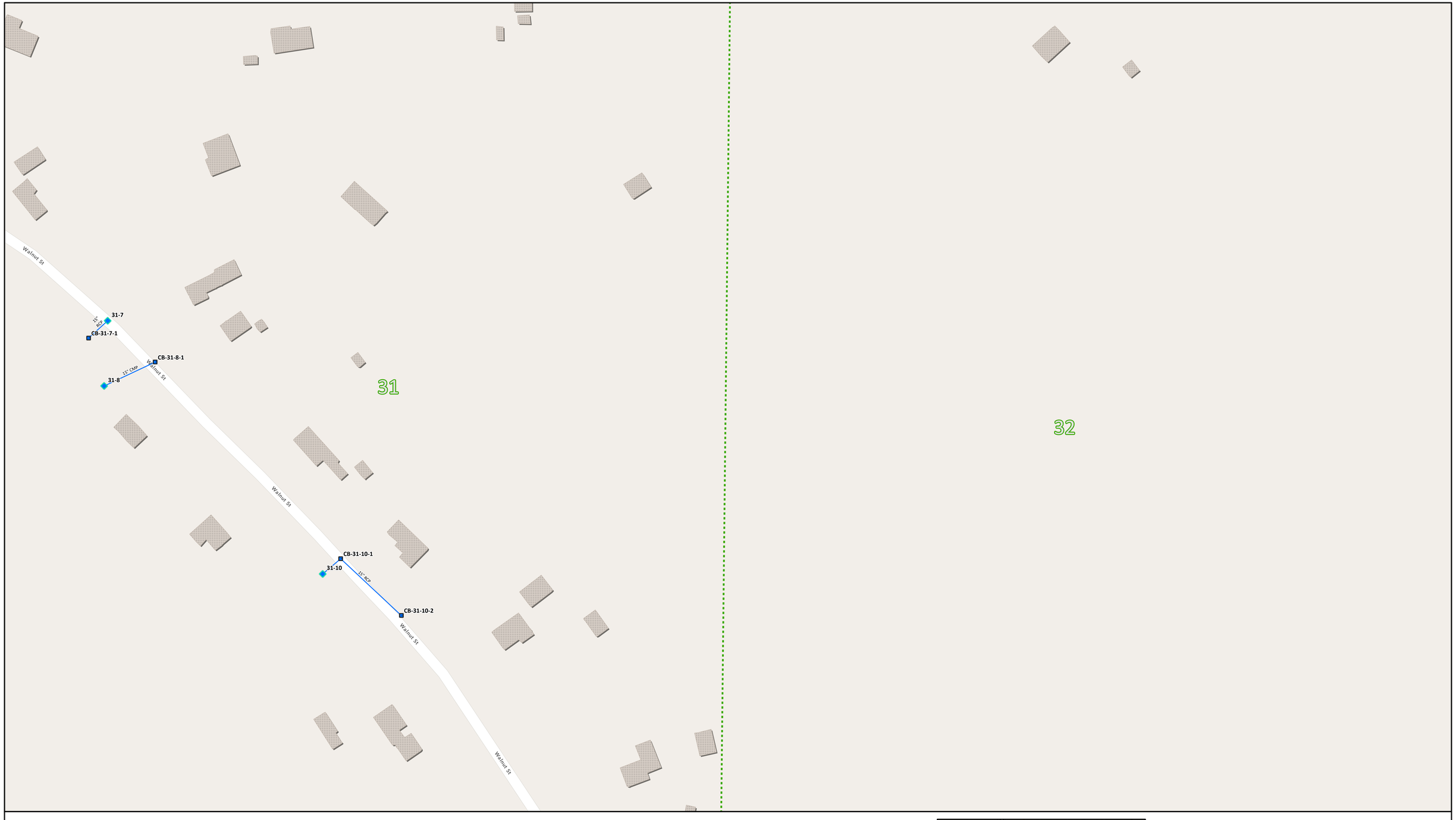
Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay

Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: E6



CDM Smith

N

0 40 80 160 240 Feet

Legend

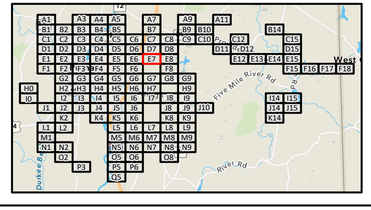
Catch Basin
- City

Outfalls
- City

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

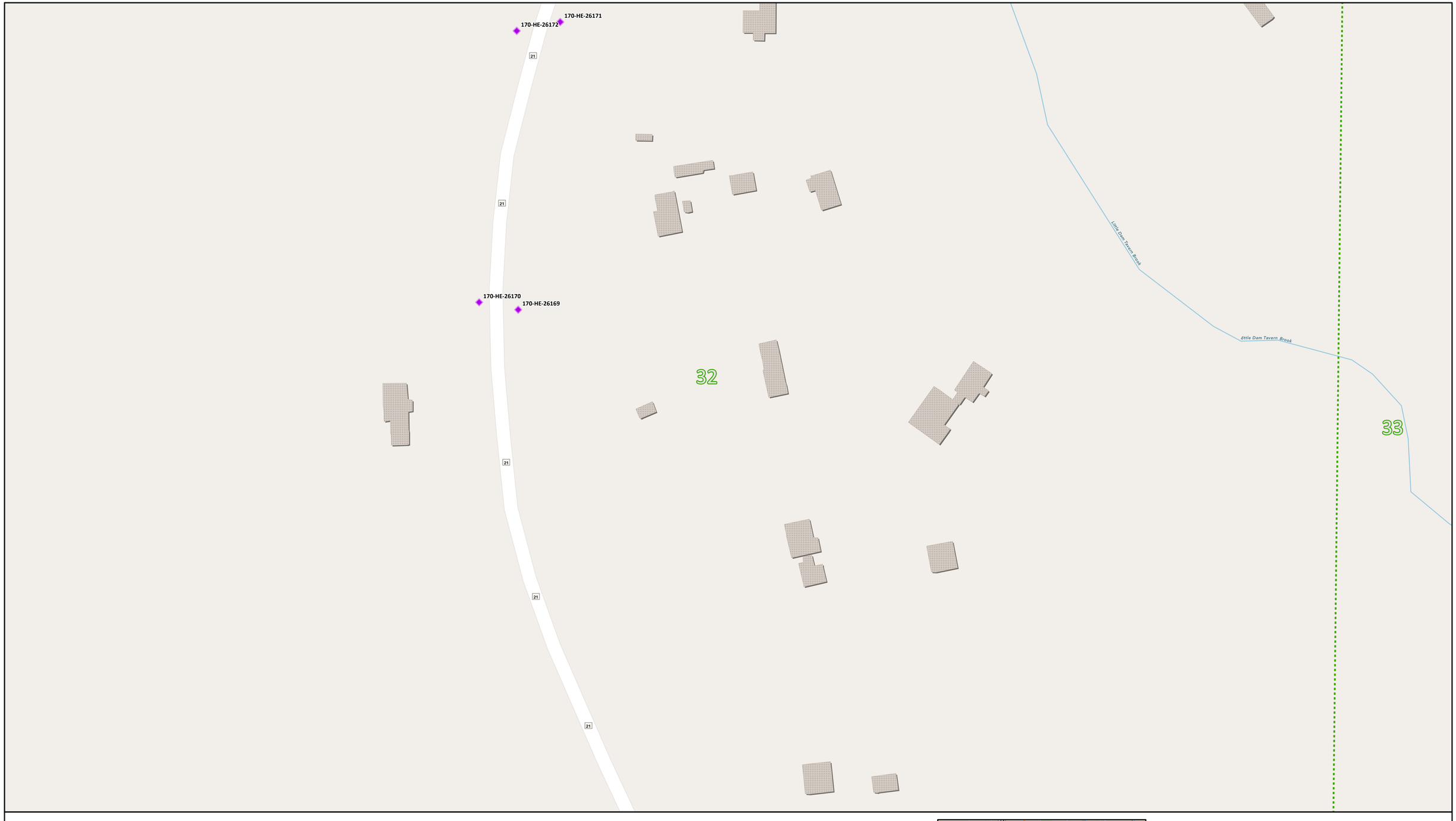
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: E7



CDM Smith

N

0 40 80 160 240 Feet

Legend

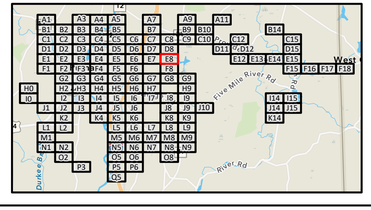
Outfalls

State

Index Map Catchment Plan (March 2018)

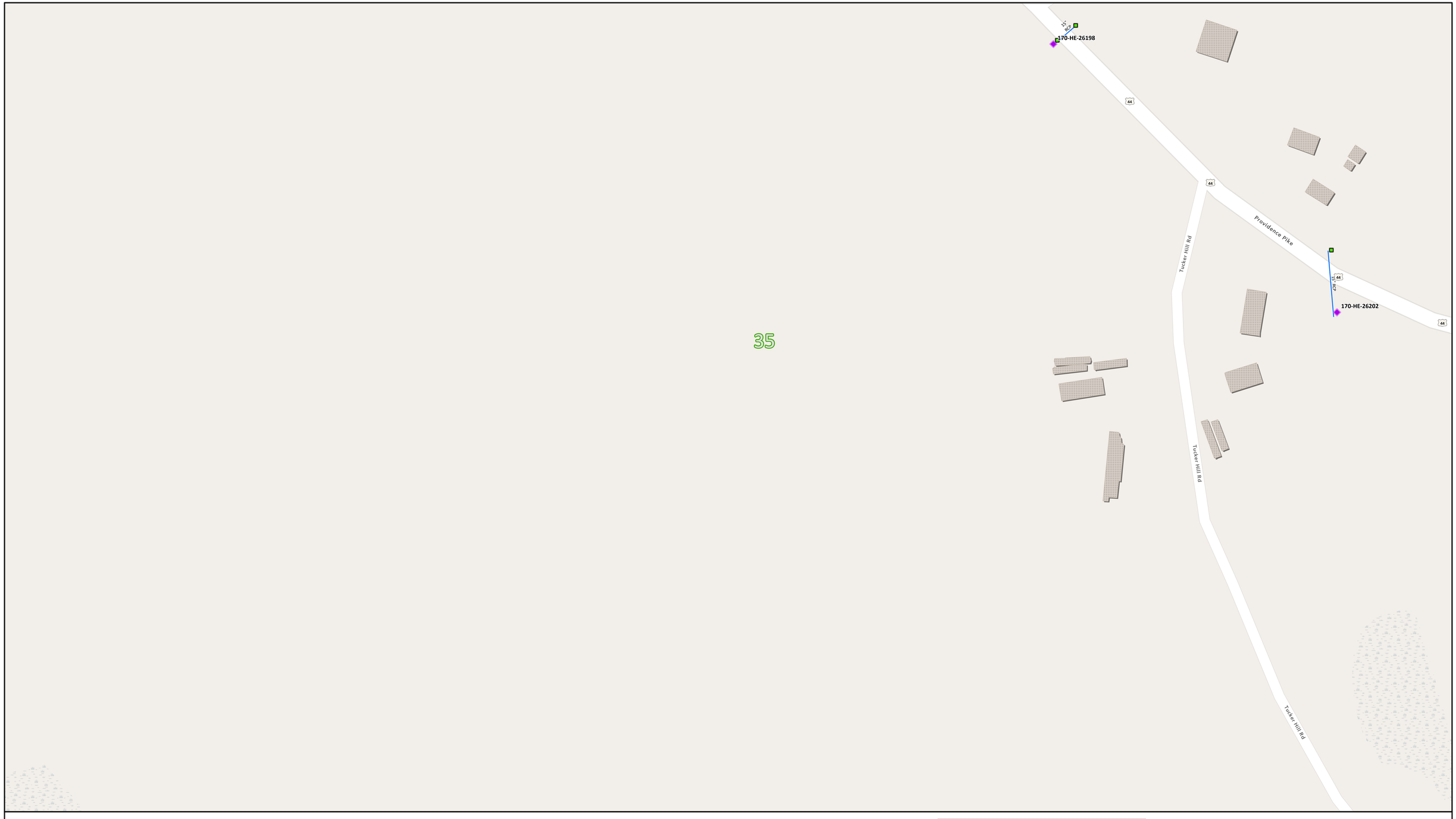
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: E8



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- State

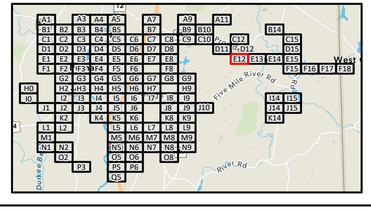
Outfalls
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

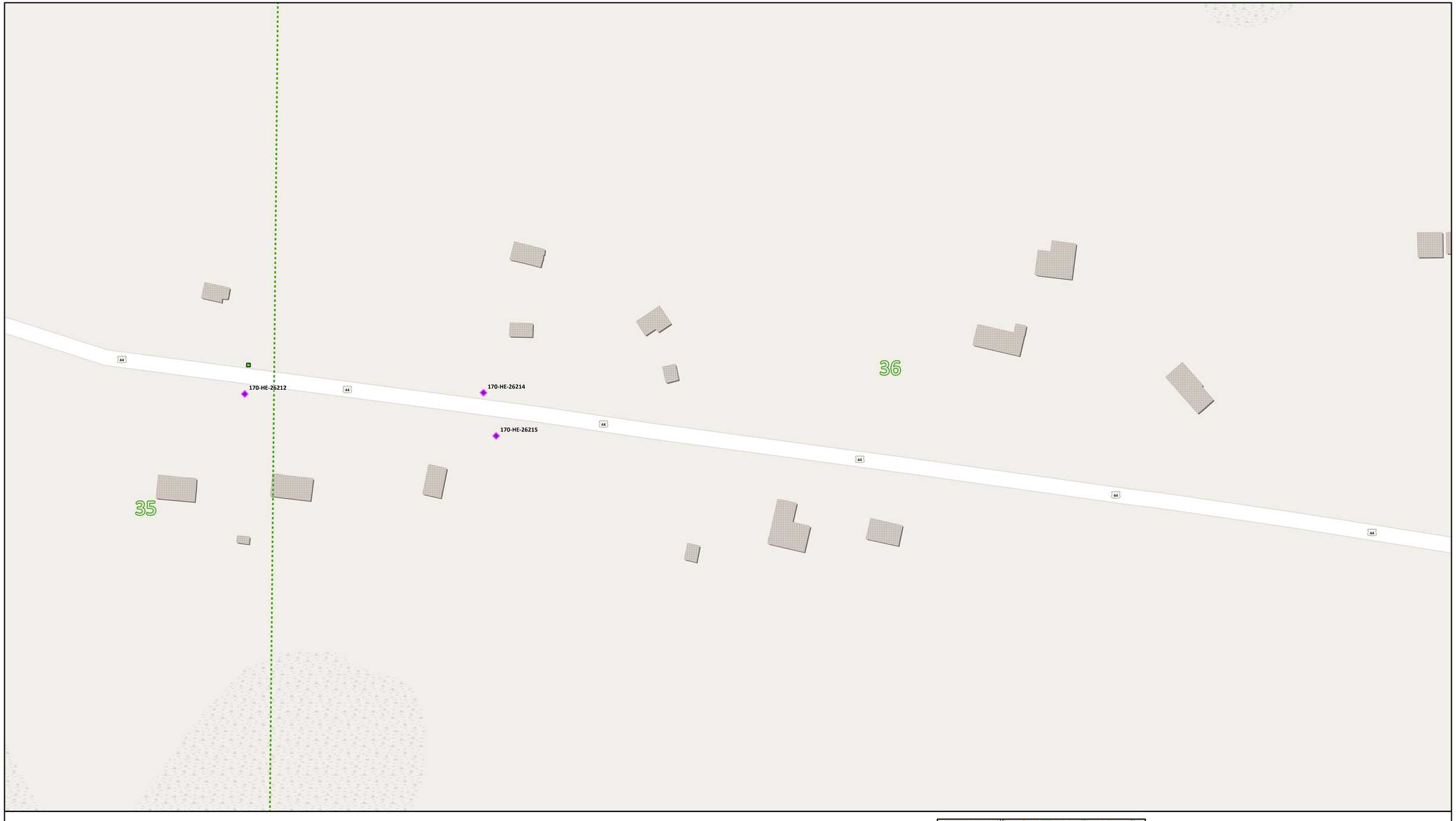
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: E12



CDM Smith

N

0 40 80 160 240 Feet

Legend

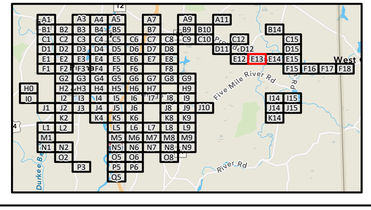
Catch Basin
- State

Outfalls
- State

Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: E13



CDM Smith

N

0 40 80 160 240 Feet

Legend

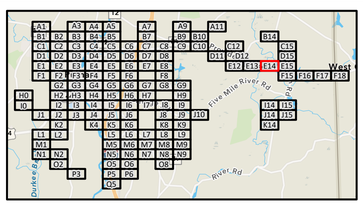
Outfalls

State

Index Map Catchment Plan (March 2018)

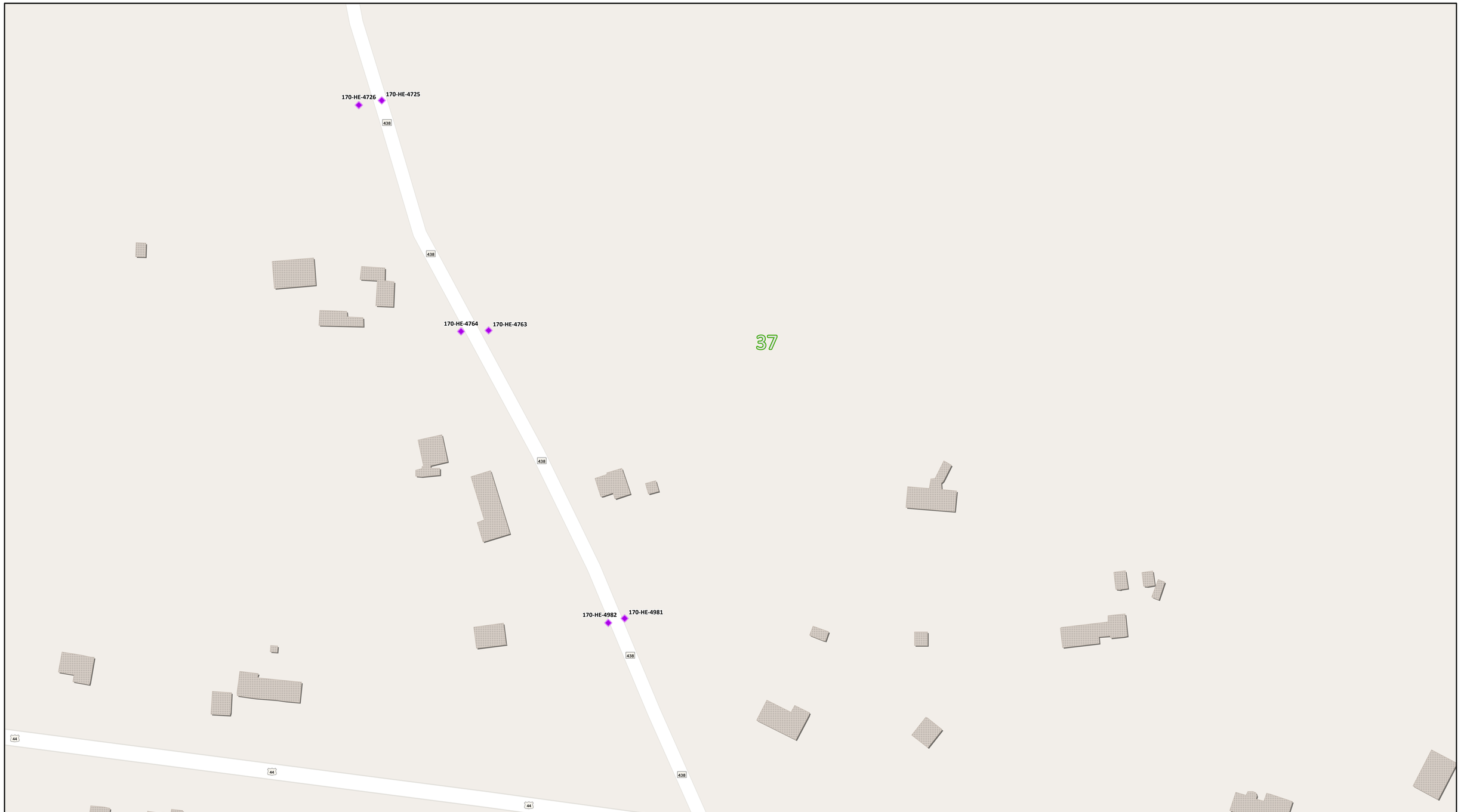
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: E14



CDM Smith

N

0 40 80 160 240 Feet

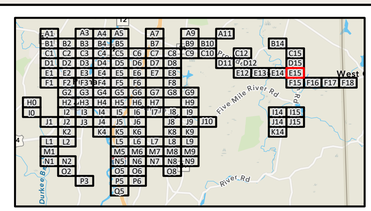
Legend

Outfalls
- State

Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: E15



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City

Manholes
- City

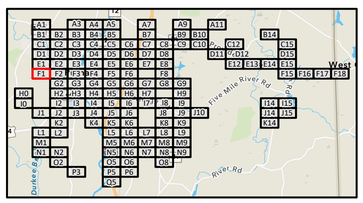
Open Drains

Gravity Main
- City

Index Map Catchment Plan (March 2018)

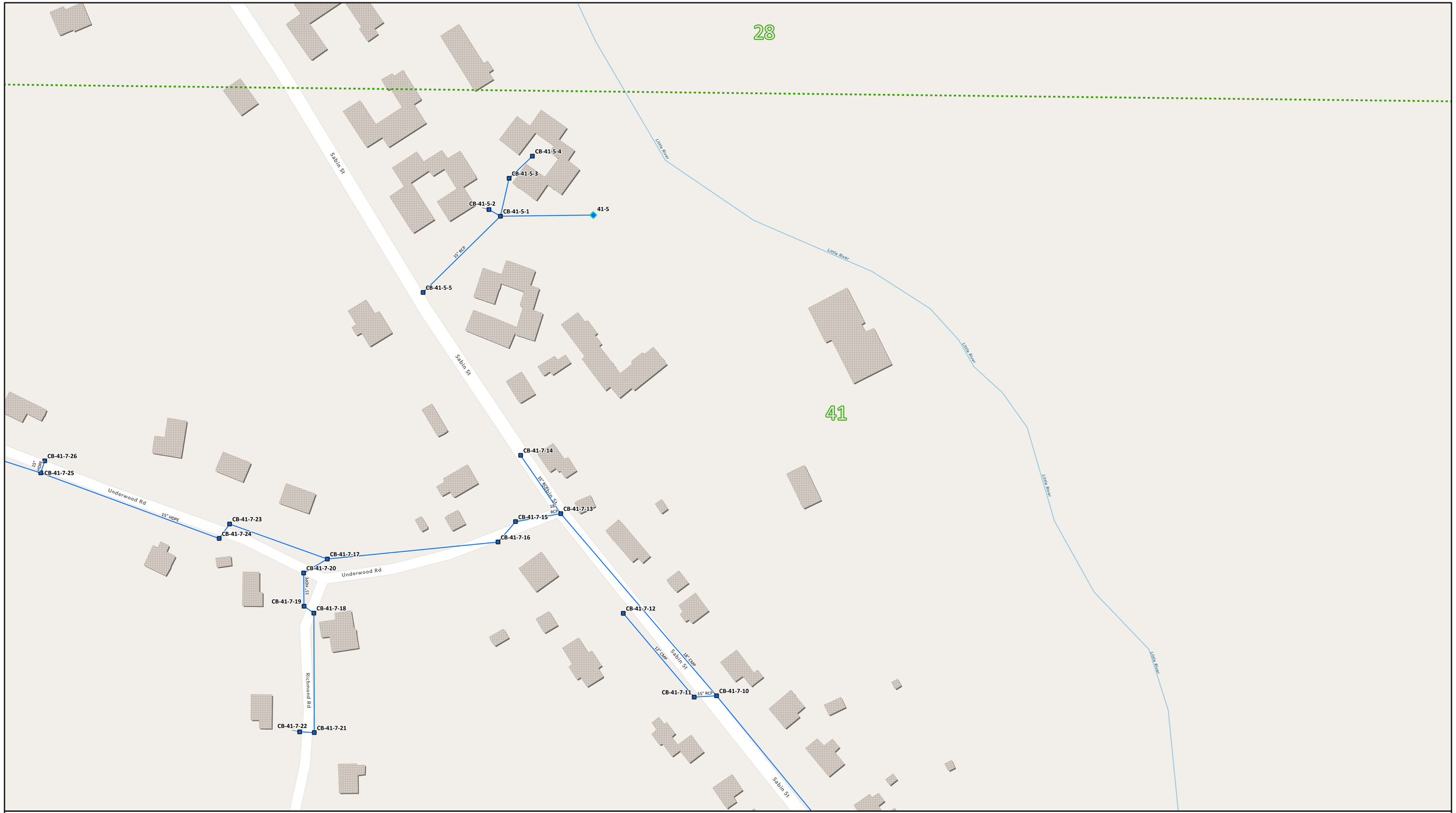
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: F1



CDM Smith

N

0 40 80 160 240 Feet

Legend

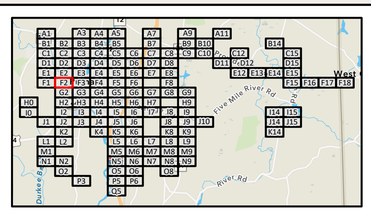
Catch Basin
- City

Outfalls
- City

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

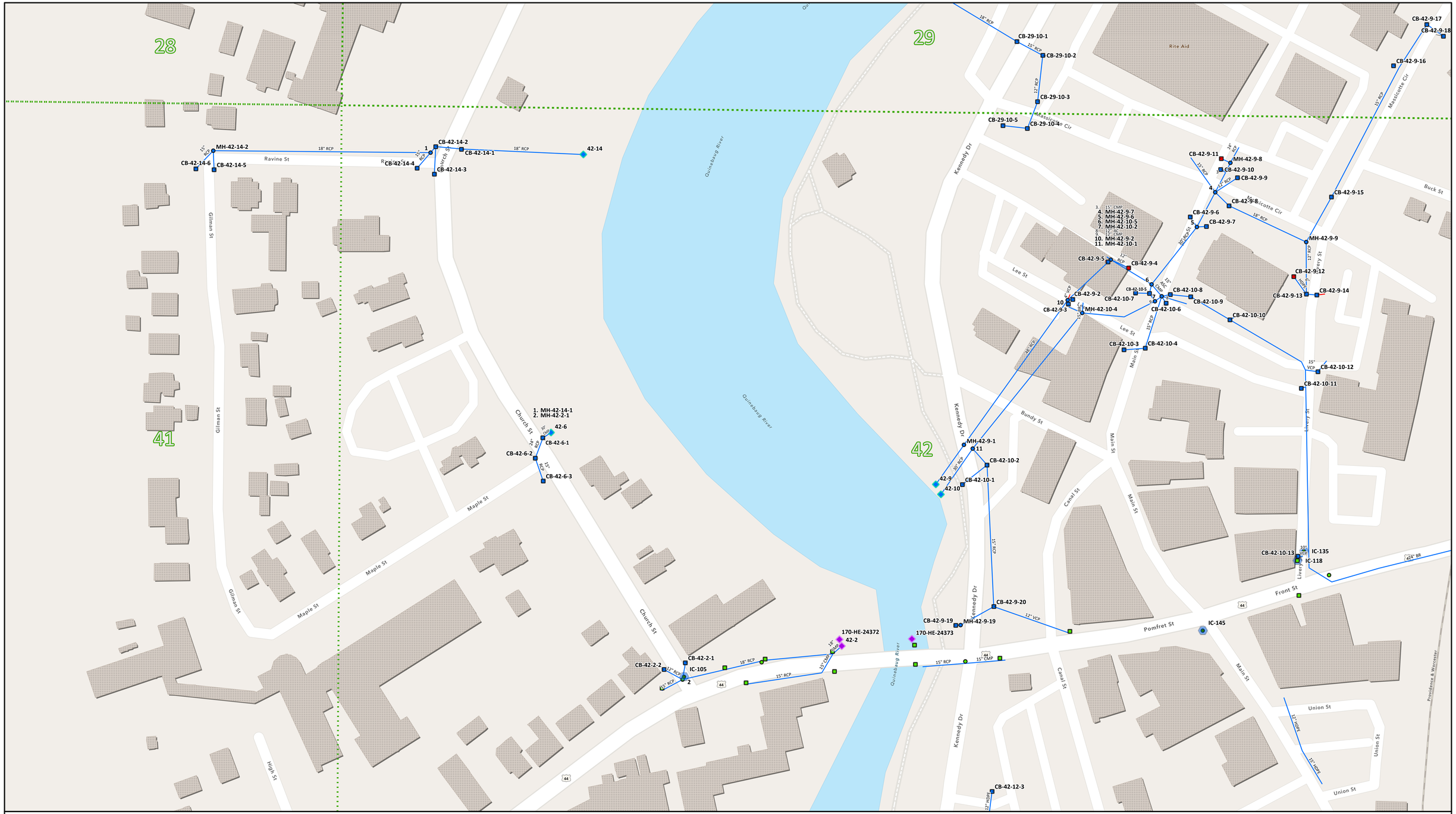
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: F2



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State
- Private

Interconnections
- Other

Manholes
- City
- State

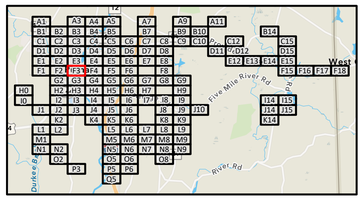
Outfalls
- City
- State

Gravity Main
- City
- Private

Index Map Catchment Plan (March 2018)

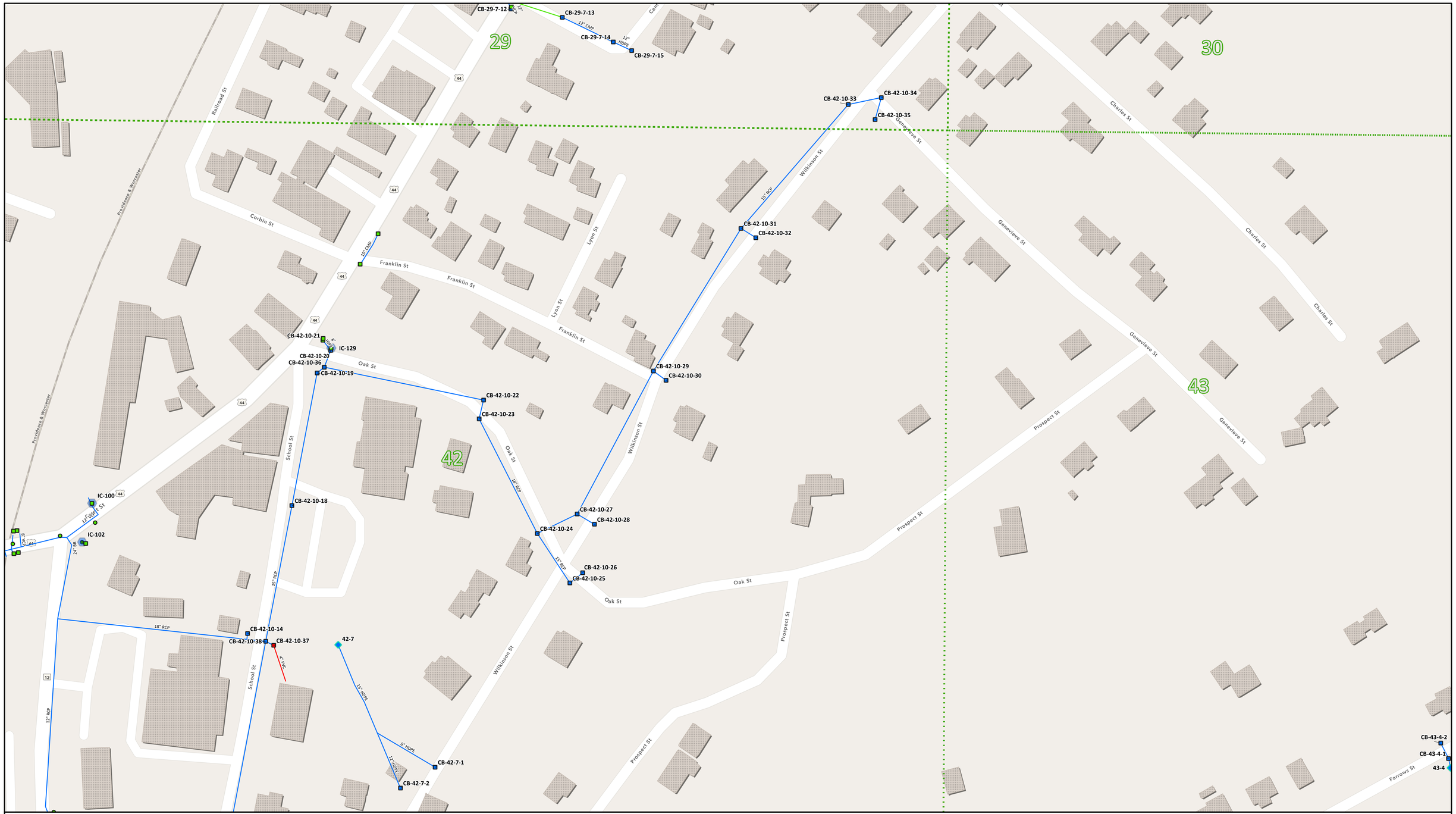
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: F3



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State
- Private

Interconnections
- Other

Manholes
- State

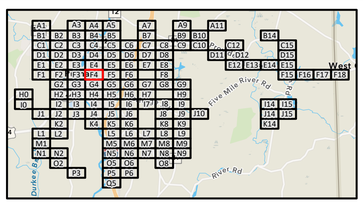
Outfalls
- City

Gravity Main
- City
- State
- Private

Index Map Catchment Plan (March 2018)

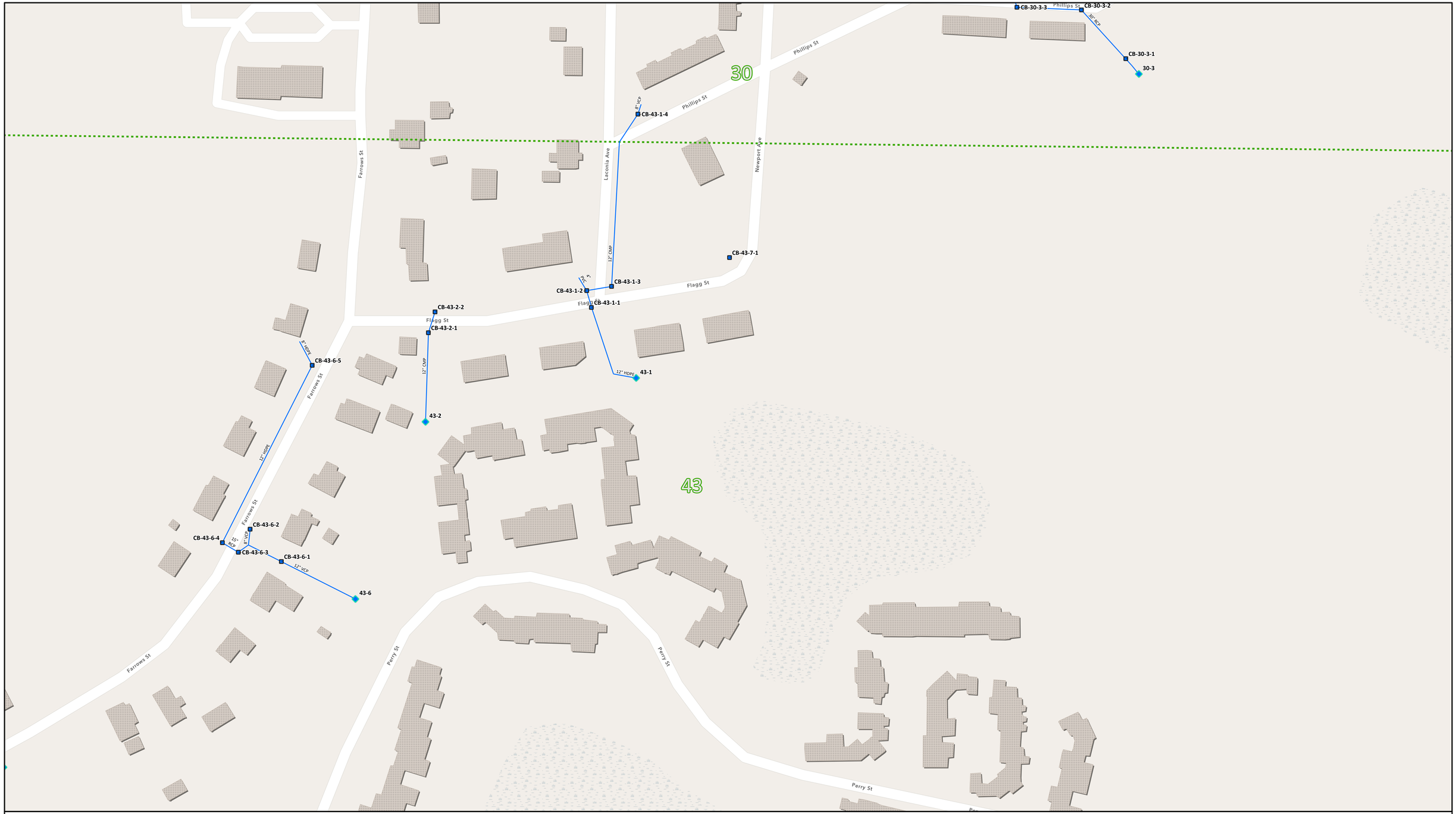
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: F4



CDM Smith

N

0 40 80 160 240 Feet

Legend

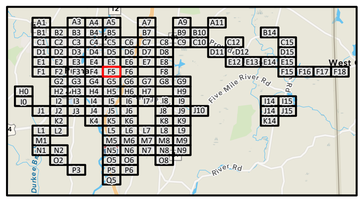
Catch Basin
- City

Outfalls
- City

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

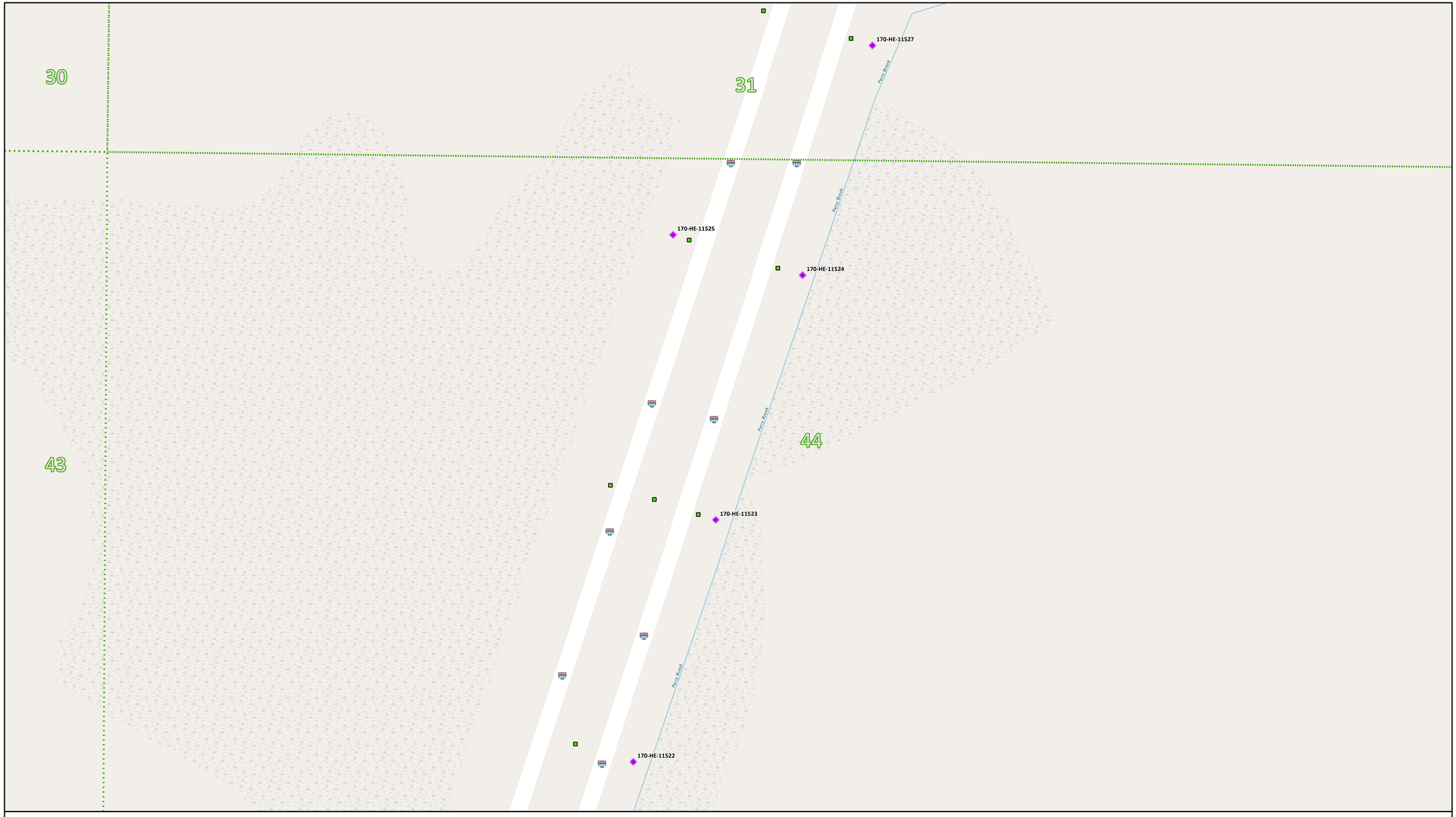
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: F5



CDM Smith

N

0 40 80 160 240 Feet

Legend

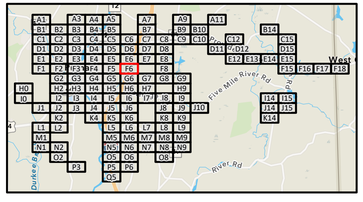
Catch Basin
- State

Outfalls
- State

Index Map Catchment Plan (March 2018)

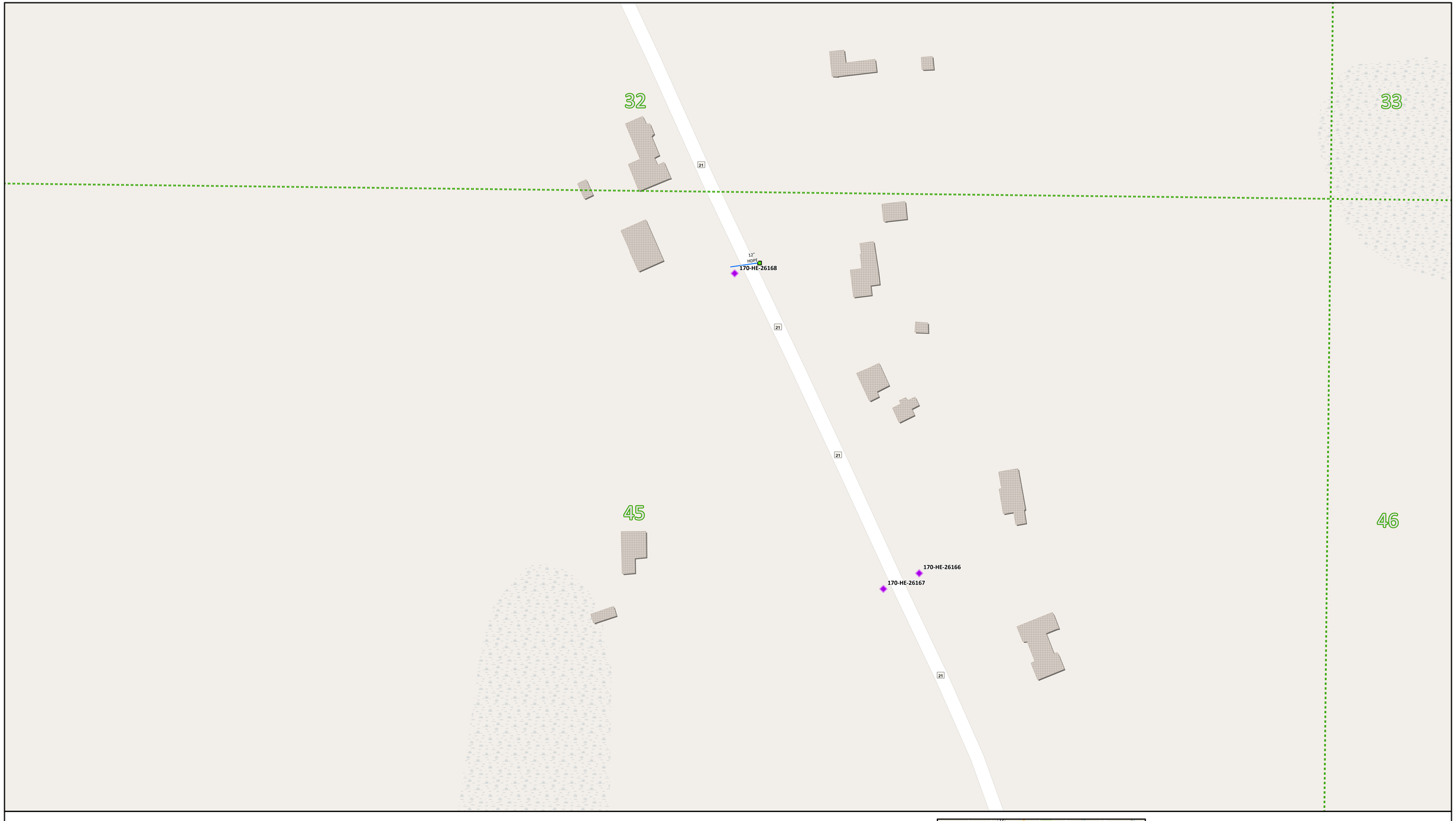
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: F6



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- State

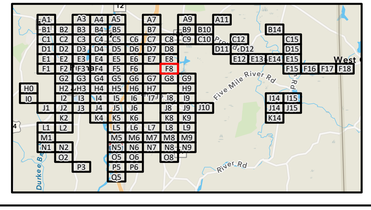
Outfalls
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: F8



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- State

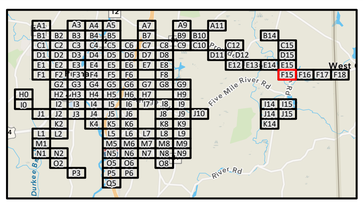
Interconnections
- Other

Outfalls
- State

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

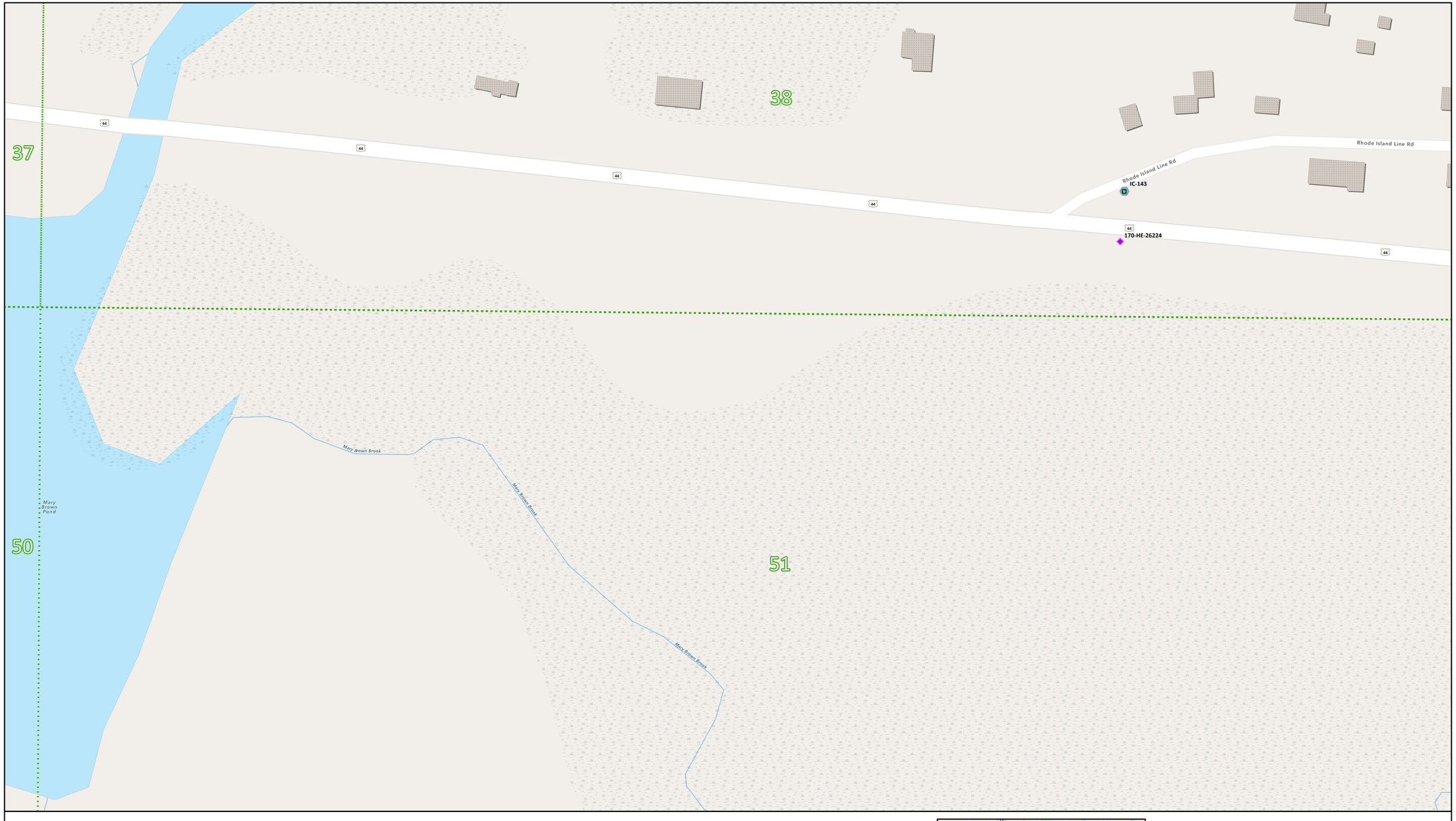
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: F15



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- State

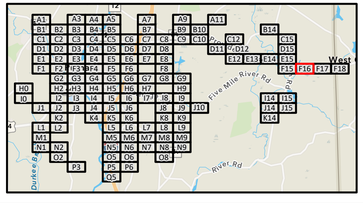
Interconnections
- Other

Outfalls
- State

Index Map Catchment Plan (March 2018)

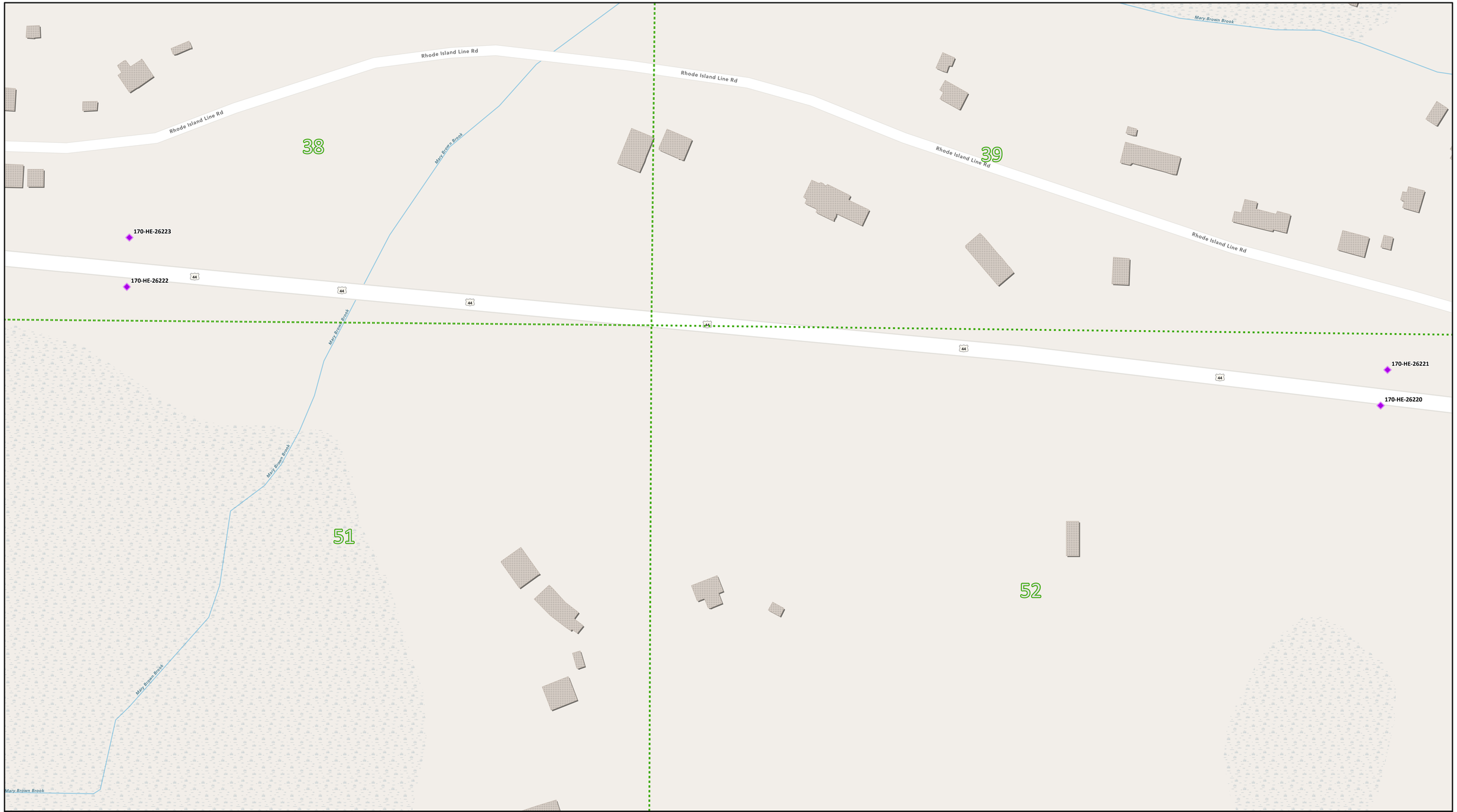
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: F16



CDM Smith

N

0 40 80 160 240 Feet

Legend

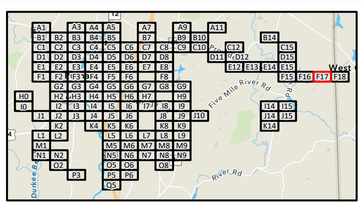
Outfalls

State

Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: F17



CDM Smith

N

0 40 80 160 240 Feet

Legend

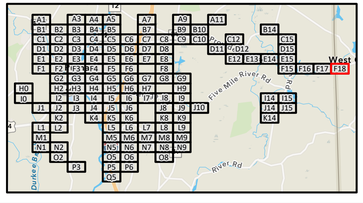
Outfalls

State

Index Map Catchment Plan (March 2018)

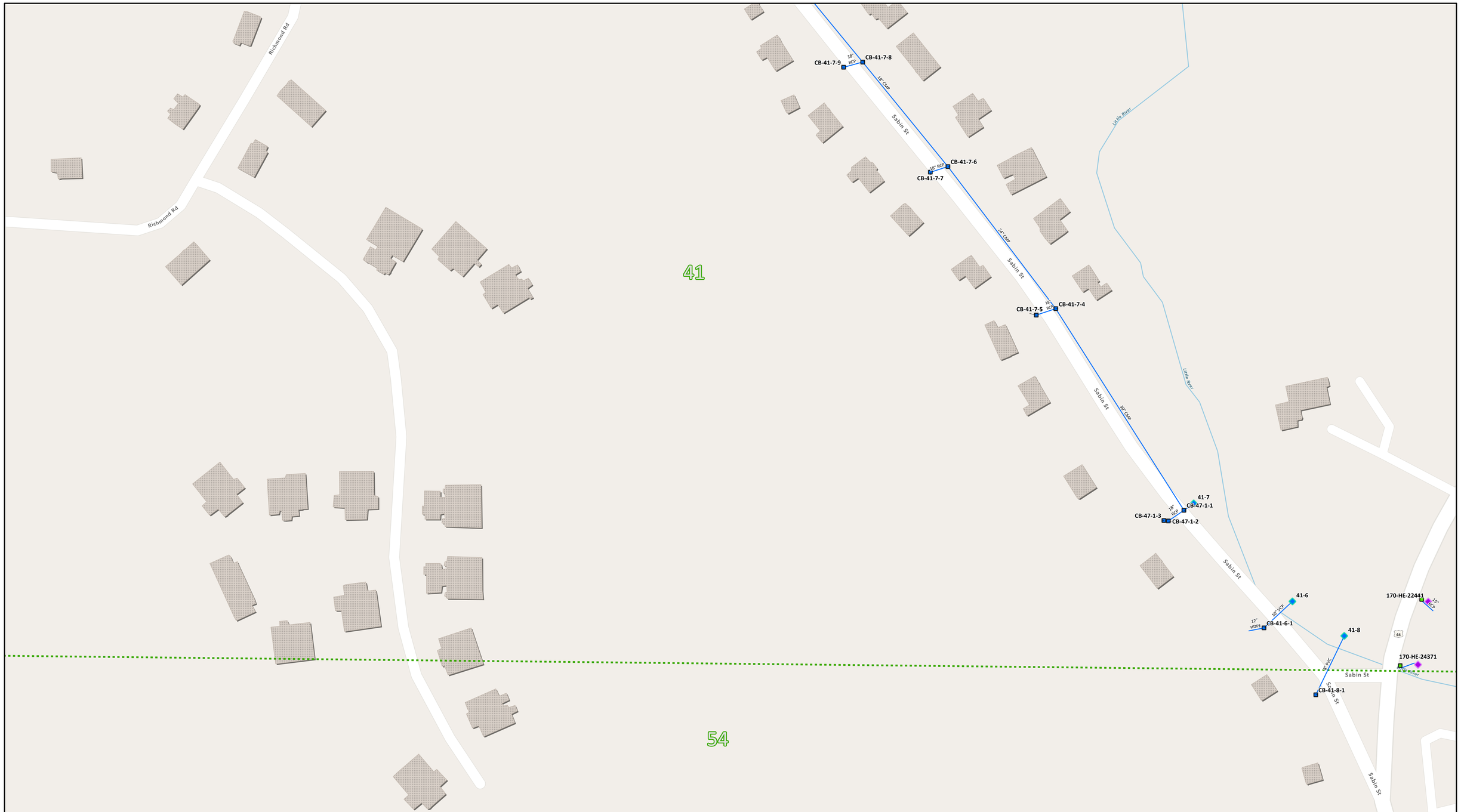
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: F18



CDM Smith

N

0 40 80 160 240 Feet

Legend

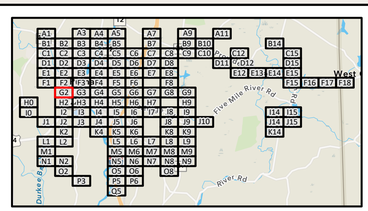
Catch Basin
- City
- State

Outfalls
- City
- State

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: G2

Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
CB-42-5-2	9/21/2022	02:00	20.1	9.27	611	0.07	0.00	0.23	

Legend

- Network Structures
- Catch Basin
  - City
  - State
  - Private
- Interconnections
  - Other
- Manholes
  - City
  - State
- Outfalls
  - City
  - State
- Gravity Main
  - City
  - Private
- Index Map Catchment Plan (March 2018)

0 40 80 160 240 Feet

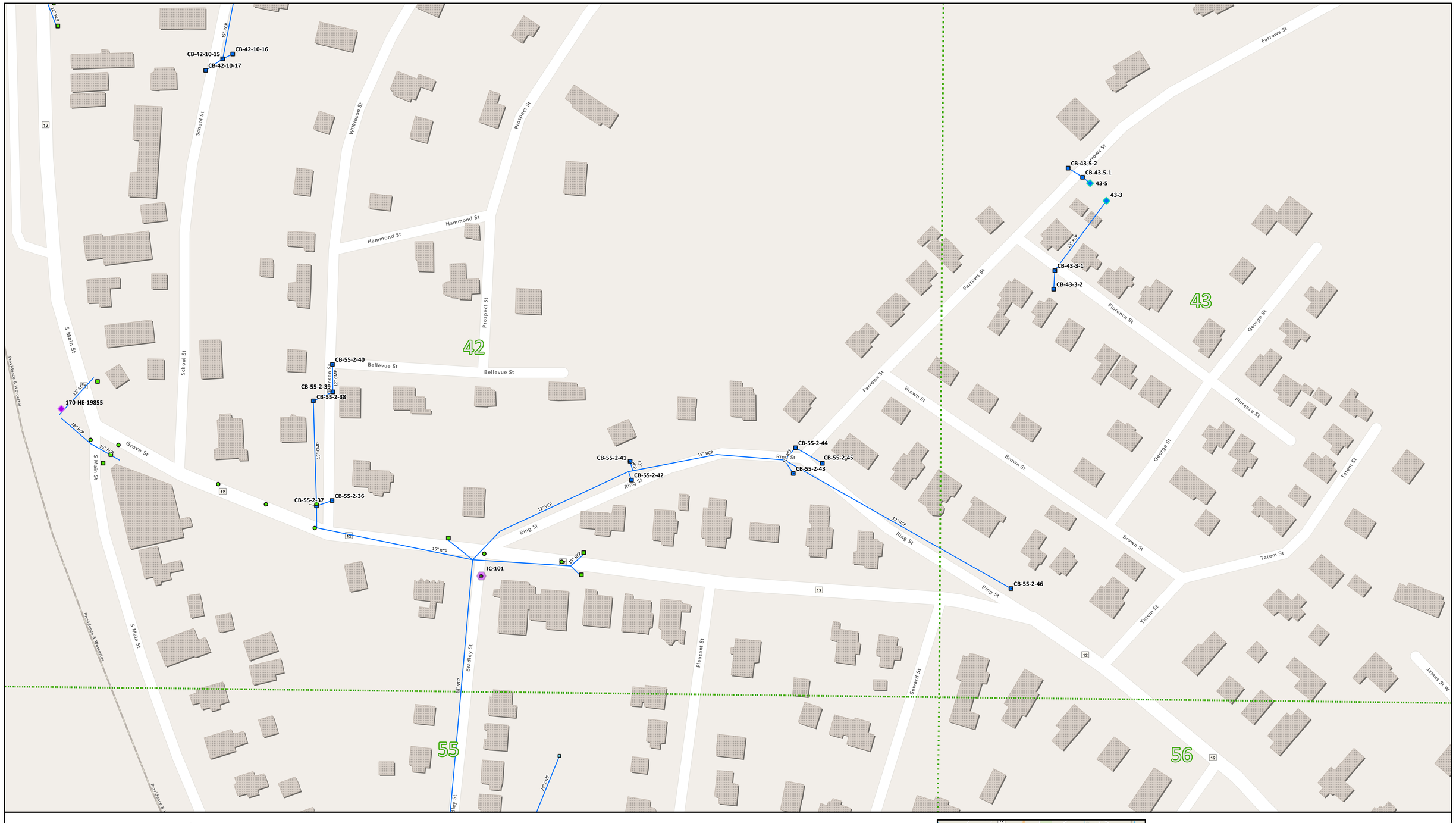
N

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay

Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: G3



CDM Smith

N

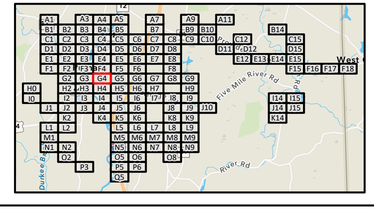
0 40 80 160 240 Feet

Legend

- Network Structures
- Catch Basin
  - City
  - State
- Interconnections
  - State
- Manholes
  - State
- Outfalls
  - City
  - State
- Gravity Main
  - City
  - Index Map Catchment Plan (March 2018)

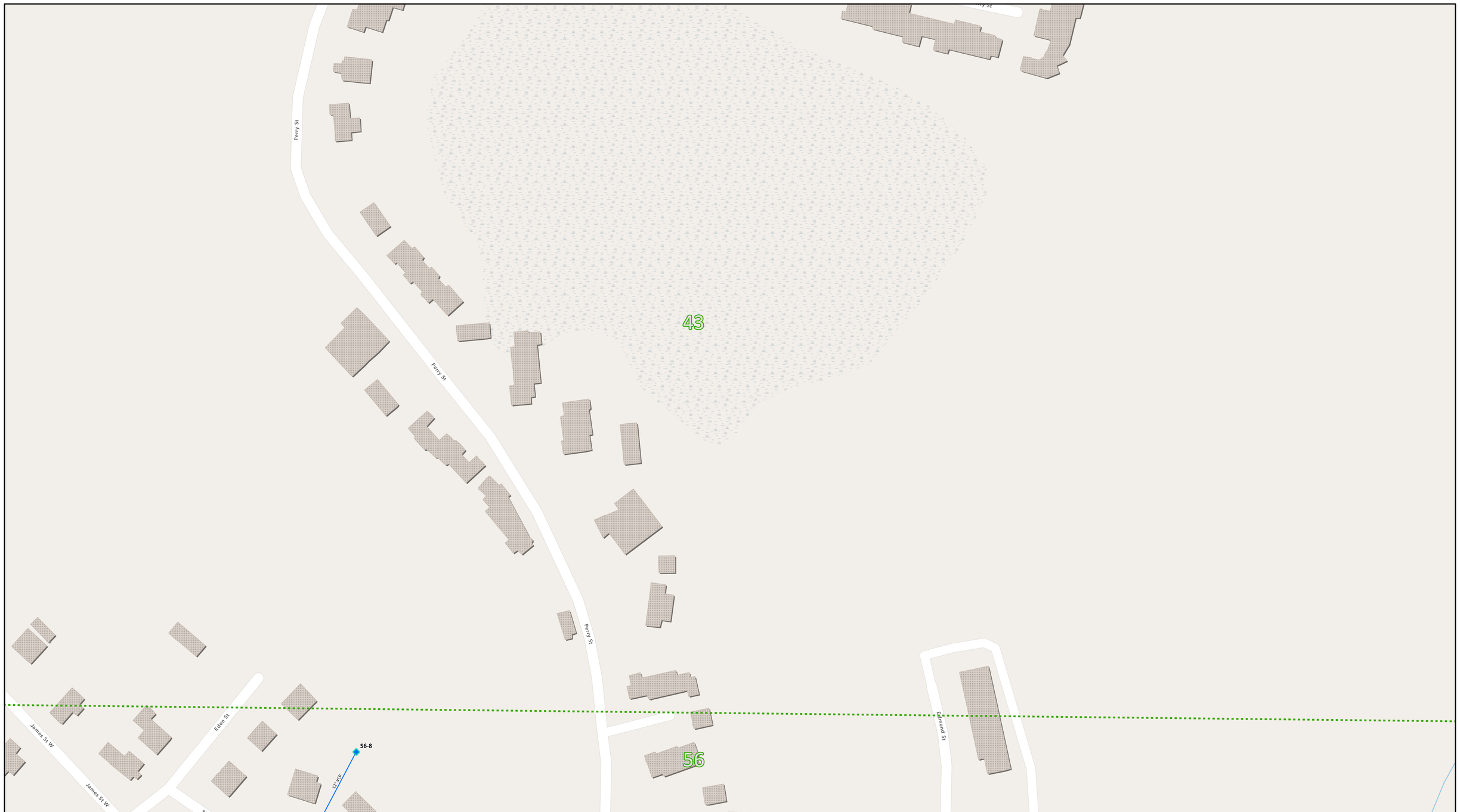
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: G4



CDM Smith

N

0 40 80 160 240 Feet

Legend

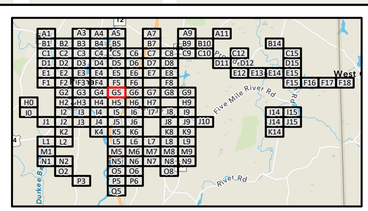
Outfalls
- City

Gravity Main
- City

Index Map Catchment Plan (March 2018)

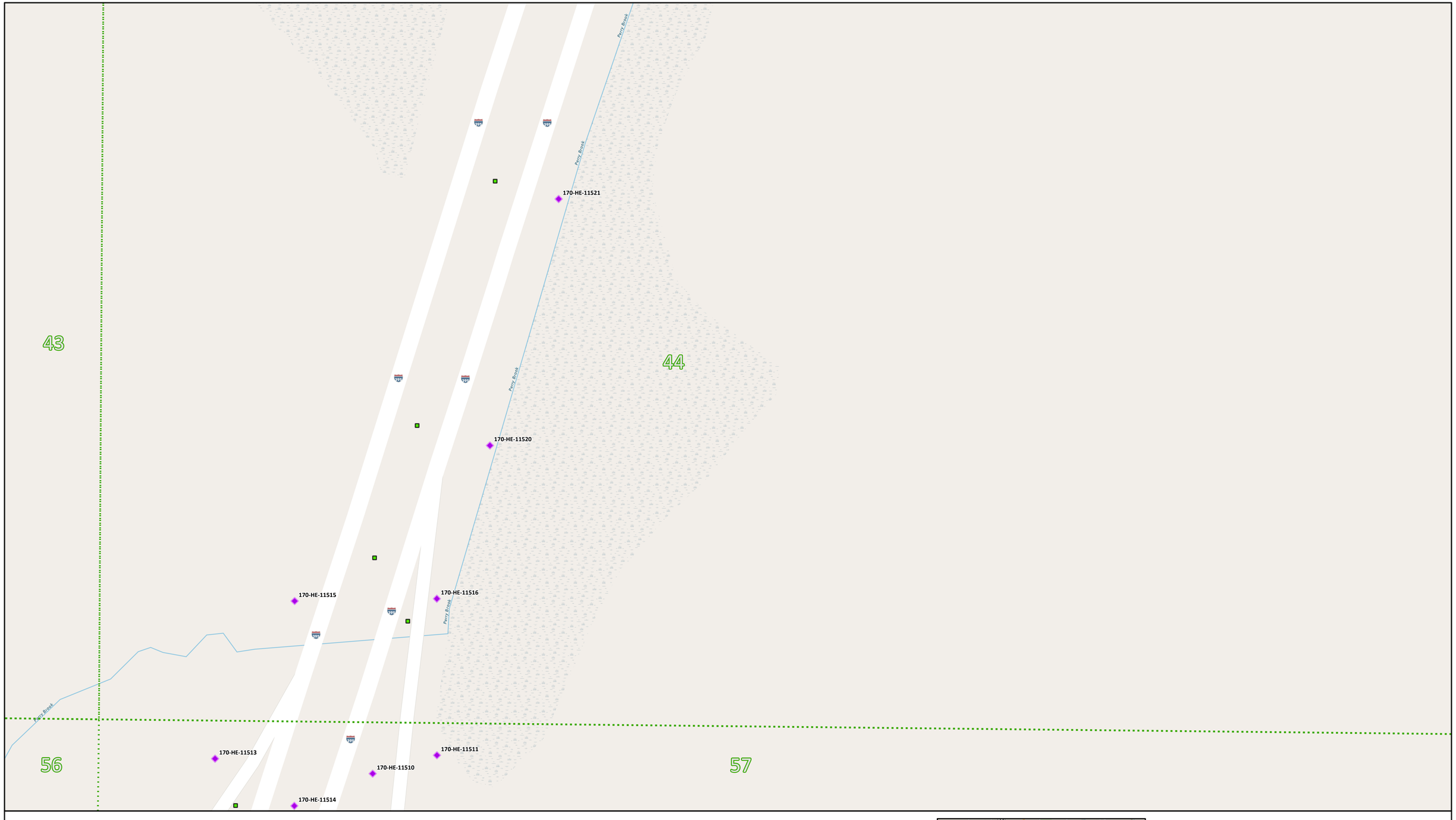
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: G5



CDM Smith

N

0 40 80 160 240 Feet

Legend

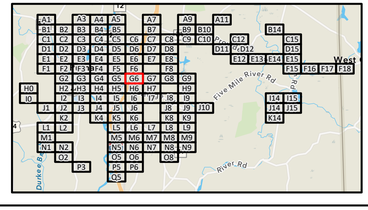
Catch Basin
- State

Outfalls
- State

Index Map Catchment Plan (March 2018)

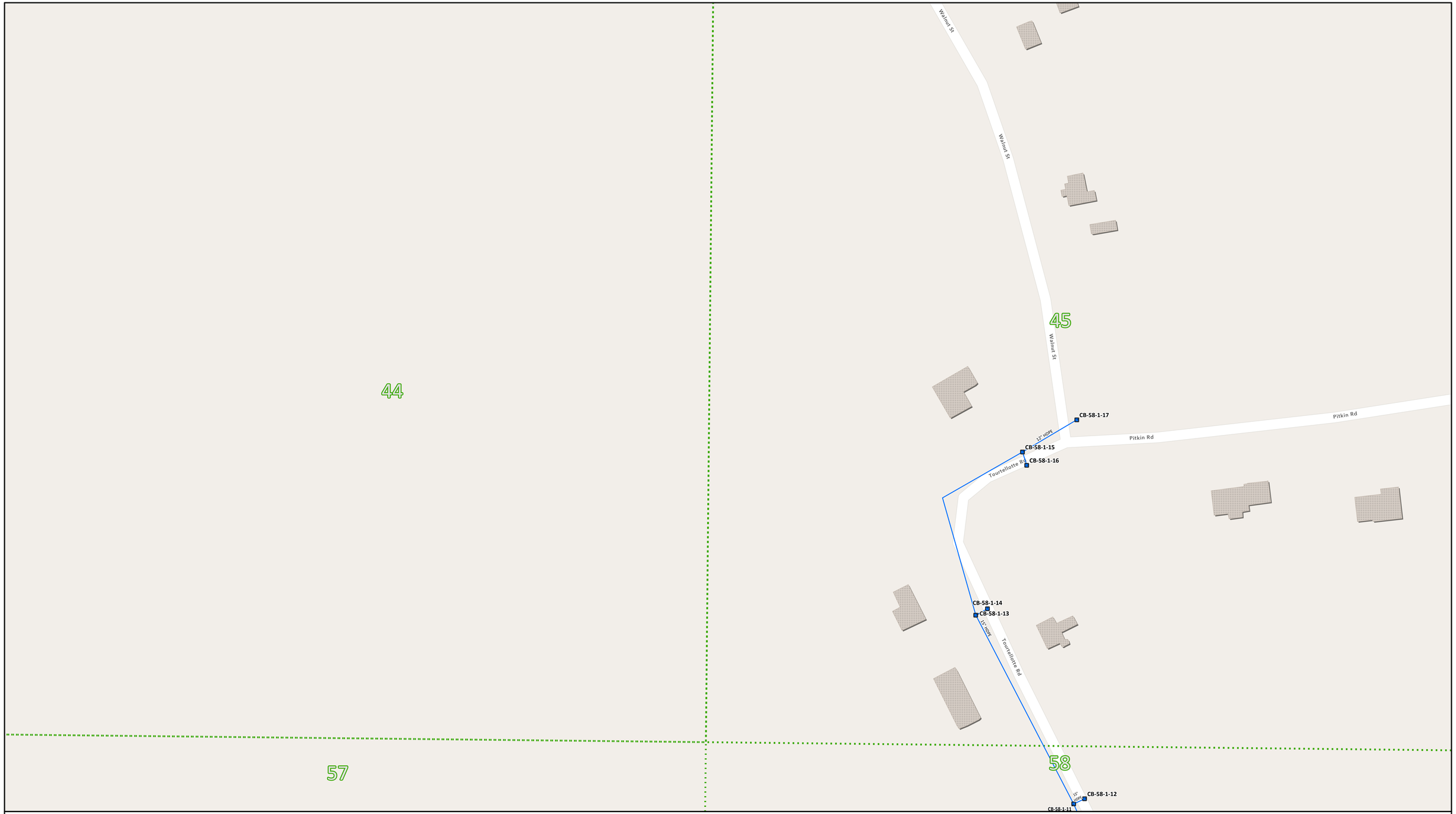
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: G6



CDM Smith

N

0 40 80 160 240 Feet

Legend

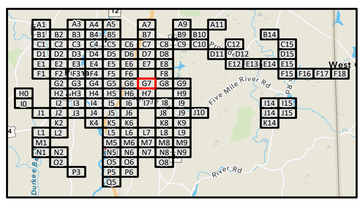
Catch Basin
- City

Gravity Main
- City

Index Map Catchment Plan (March 2018)

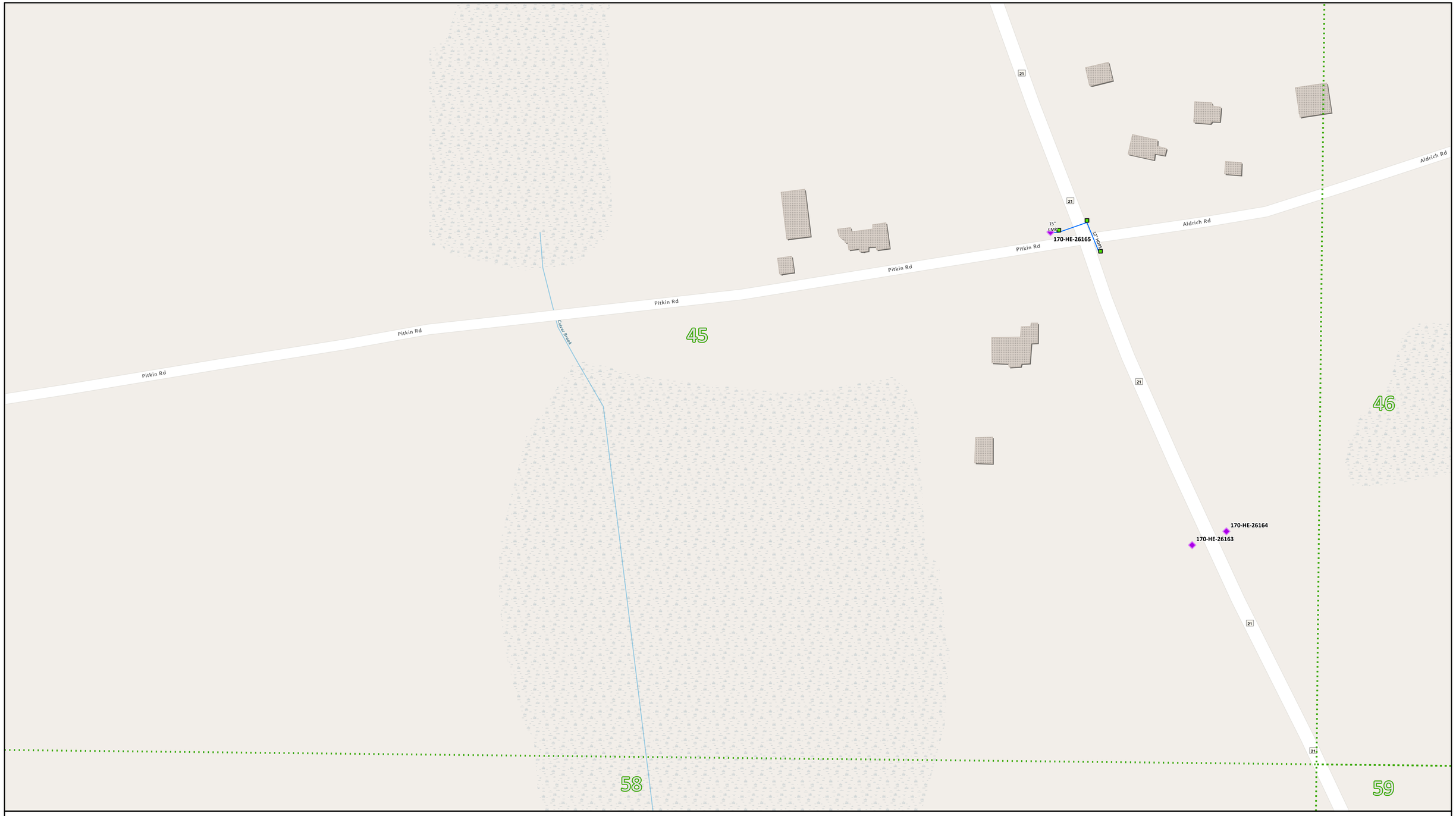
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: G7



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- State

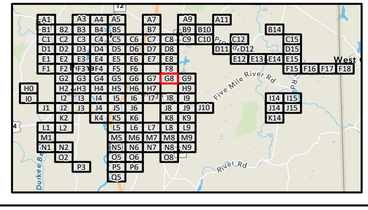
Outfalls
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

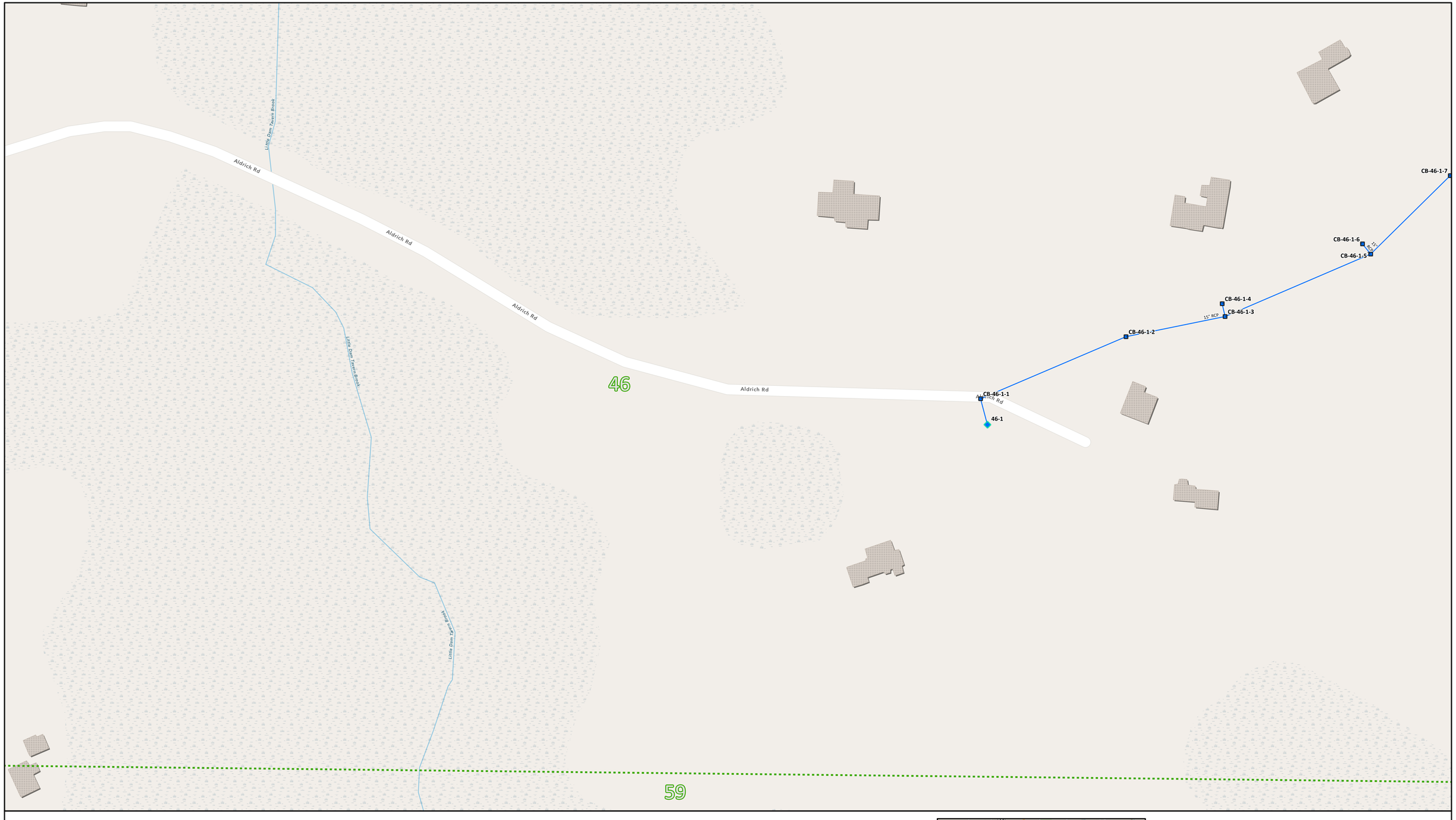
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: G8



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City

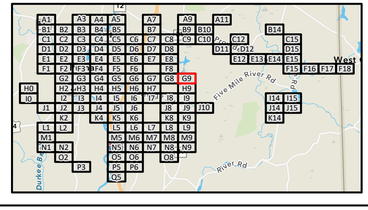
Outfalls
- City

Gravity Main
- City

Index Map Catchment Plan (March 2018)

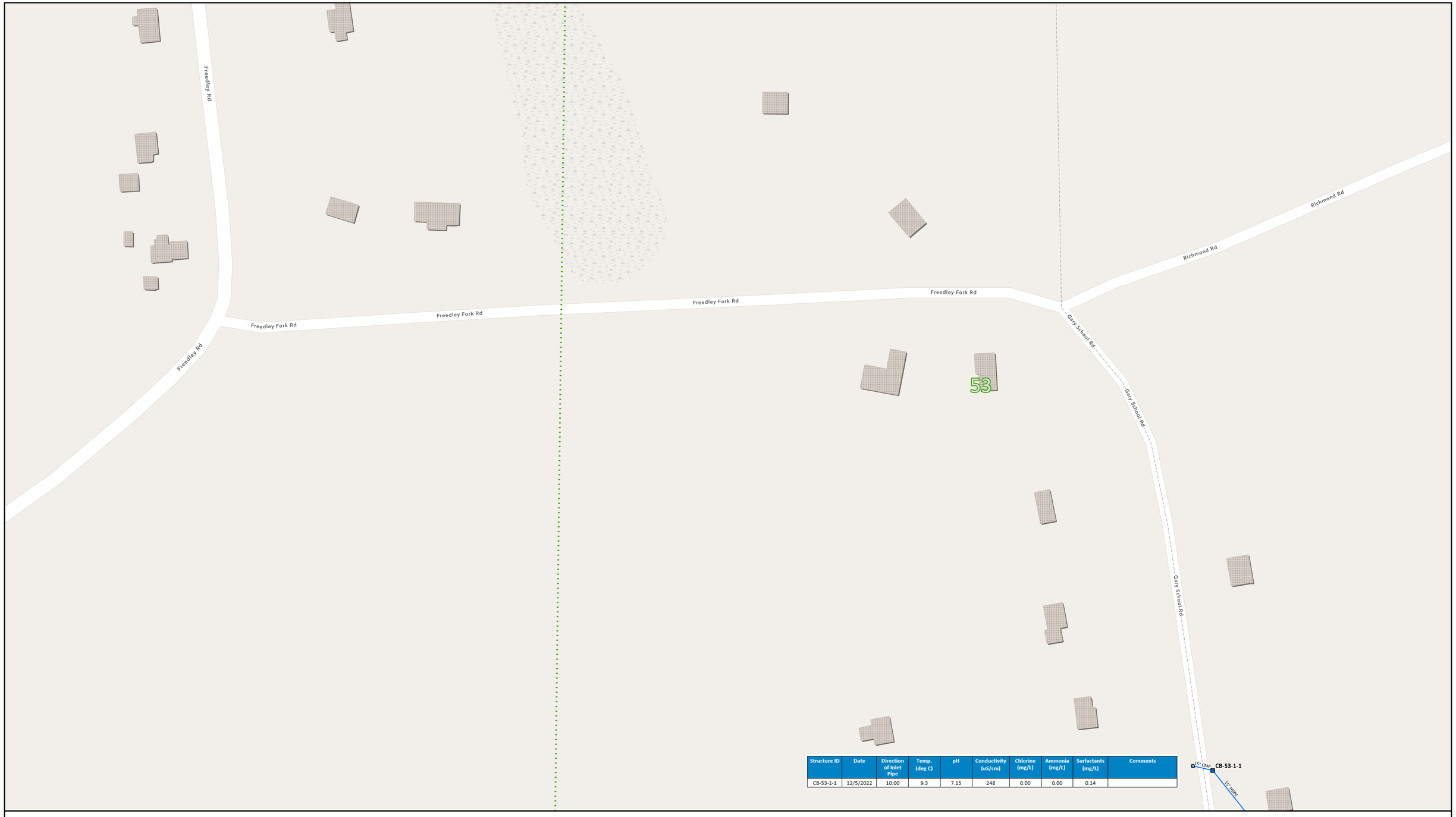
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: G9



Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
CB-53-1-1	12/5/2022	10:00	9.3	7.15	248	0.00	0.00	0.14	

CDM Smith

N

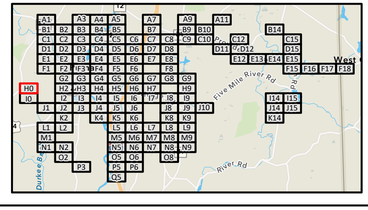
0 40 80 160 240 Feet

Legend

- Network Structures
- Catch Basin
- City
- Gravity Main
- City
- Index Map Catchment Plan (March 2018)

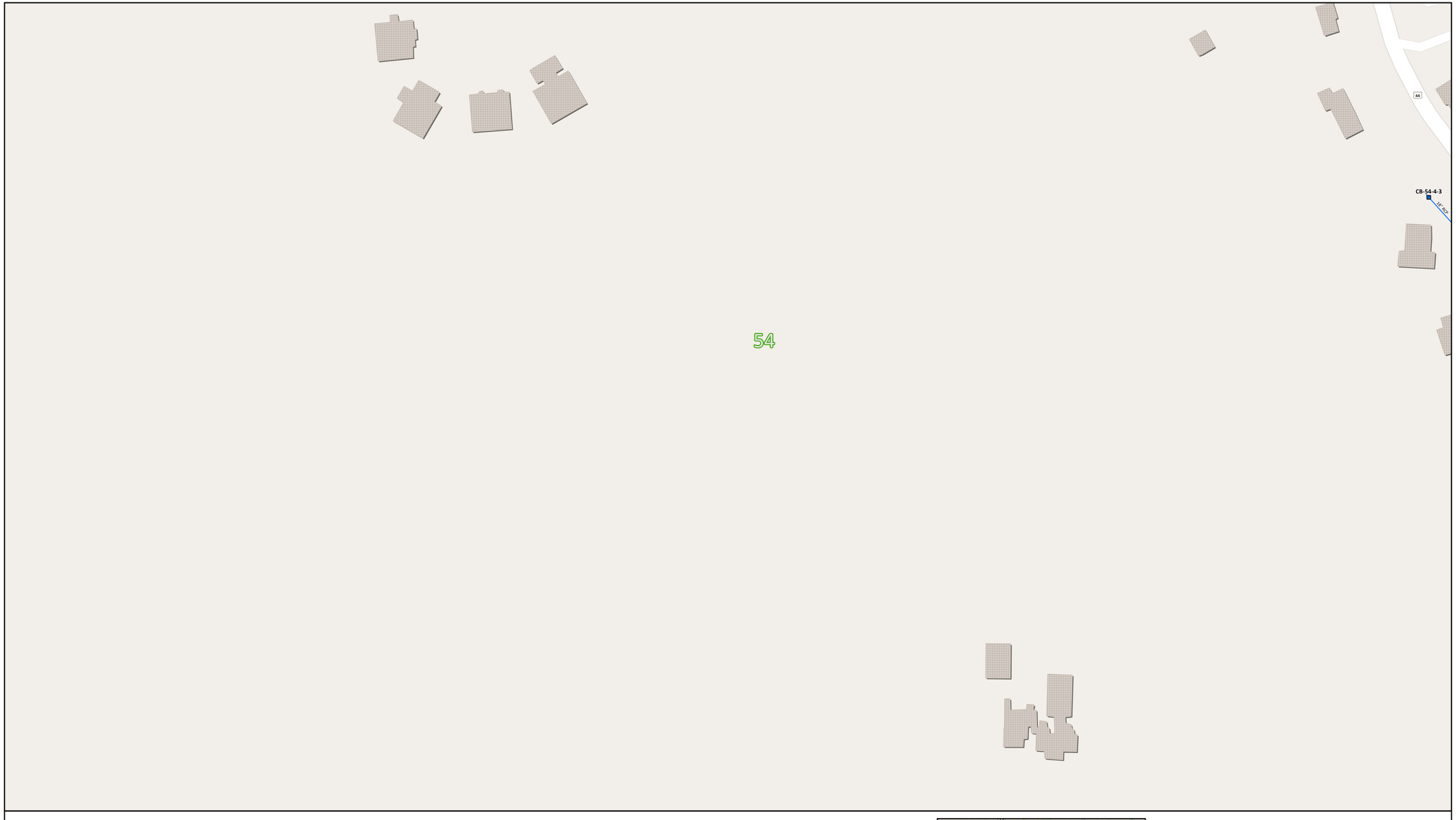
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: H0



CDM Smith

N

0 40 80 160 240 Feet

Legend

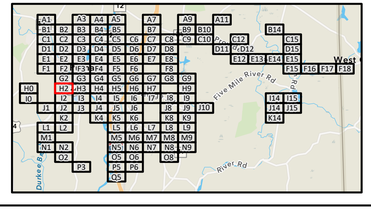
Catch Basin
- City

Gravity Main
- City

Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: H2



Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
55-6	6/16/2022	06:00	21.6	7.25	6	0.00	0.25	0.45	
CB-55-6-1	6/16/2022	12:00							Did not sample due to CB grate
CB-55-6-2	6/16/2022	12:00							Did not sample due to CB grate
CB-55-6-5	6/16/2022	12:00							Buried, did not sample

CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State

Interconnections
- Other

Manholes
- City
- Private

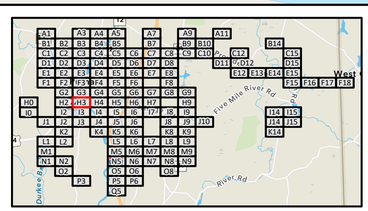
Outfalls
- City
- State
- Private

Gravity Main
- City
- Private

Index Map Catchment Plan (March 2018)

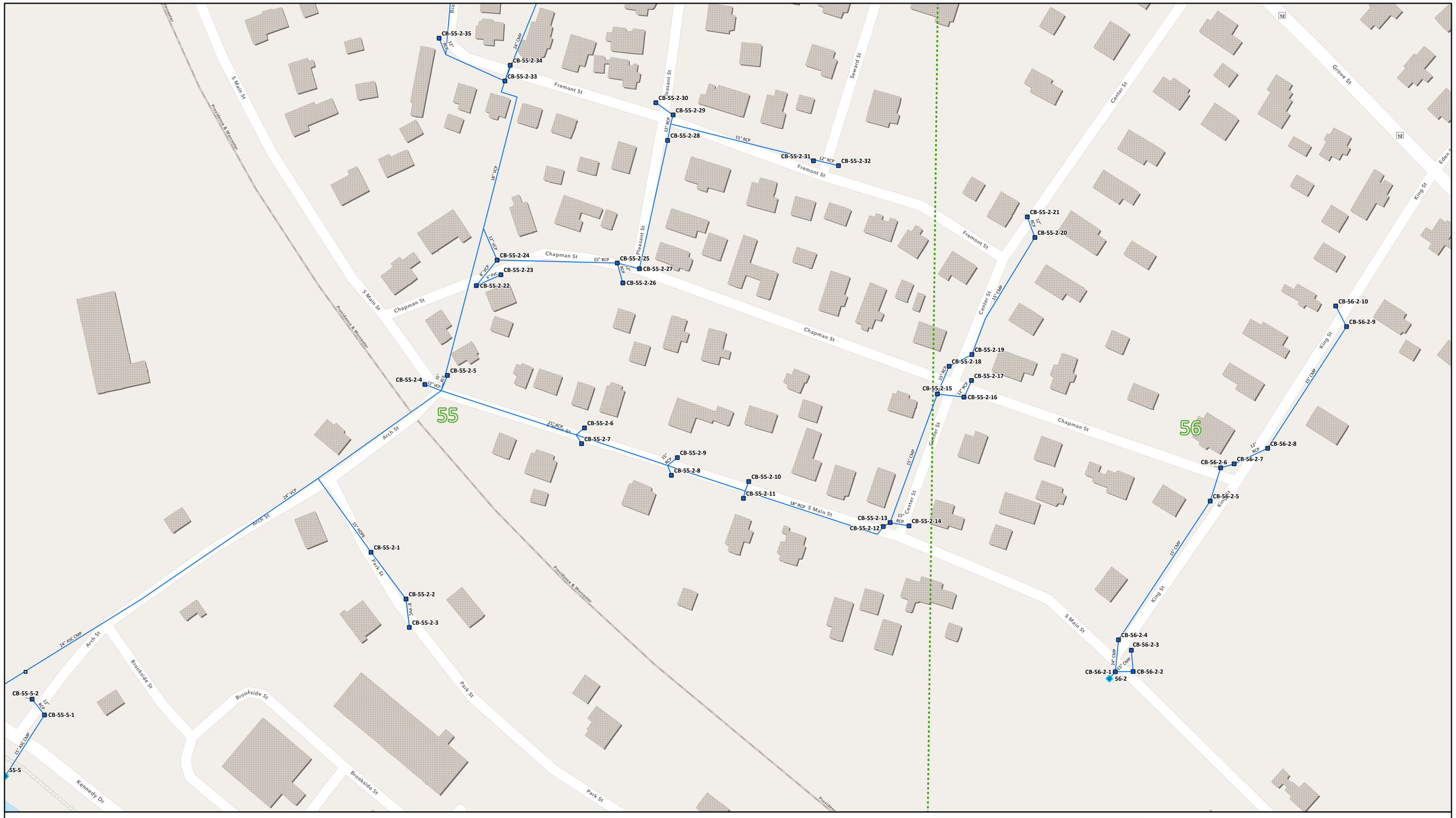
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: H3



CDM Smith

N

0 40 80 160 240 Feet

Legend

Network Structures

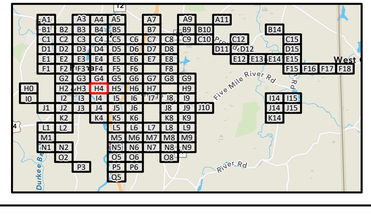
Catch Basin
- City

Outfalls
- City

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

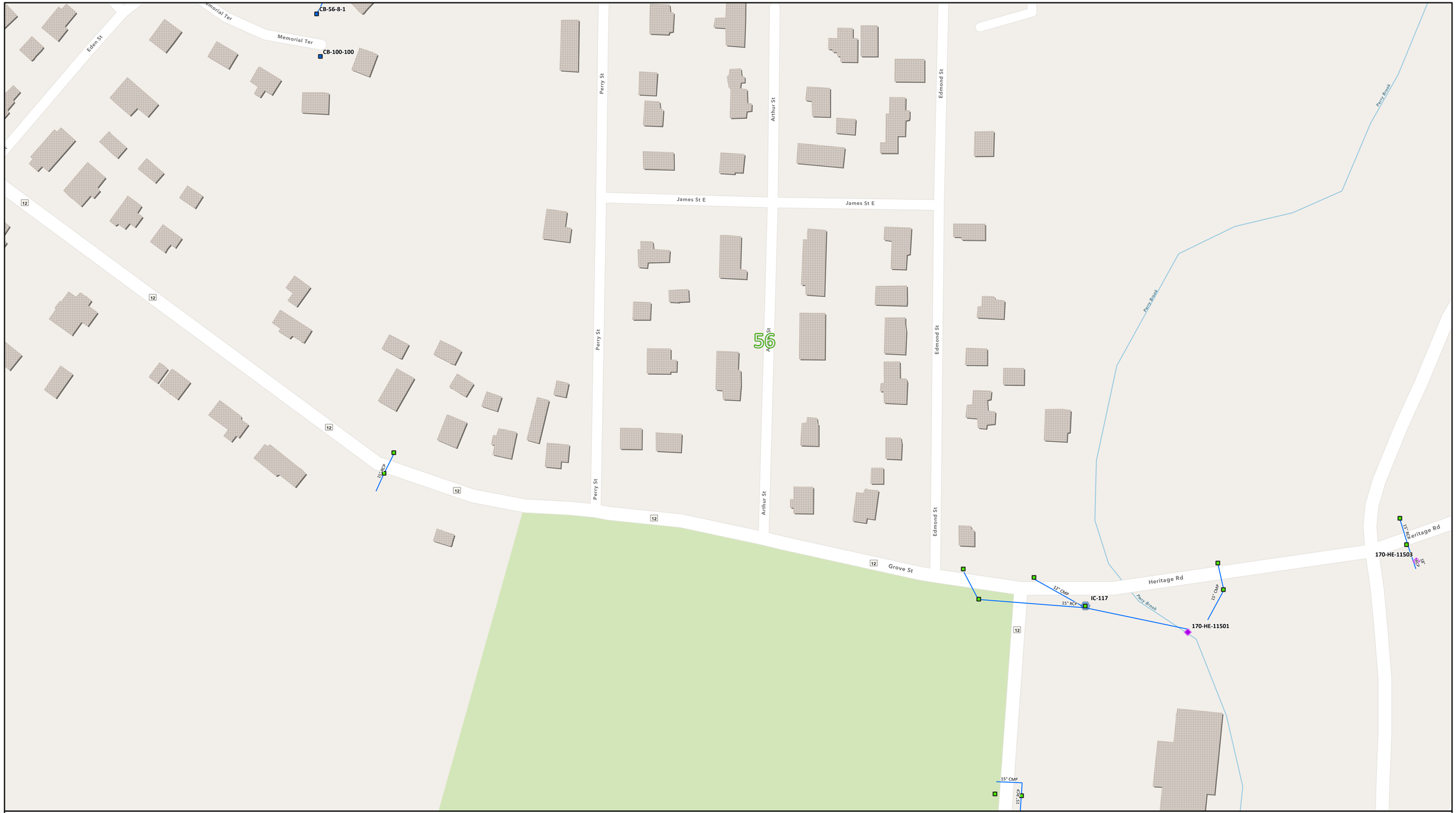
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: H4



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State

Interconnections
- Other

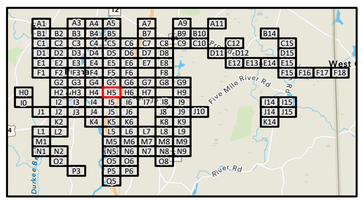
Outfalls
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

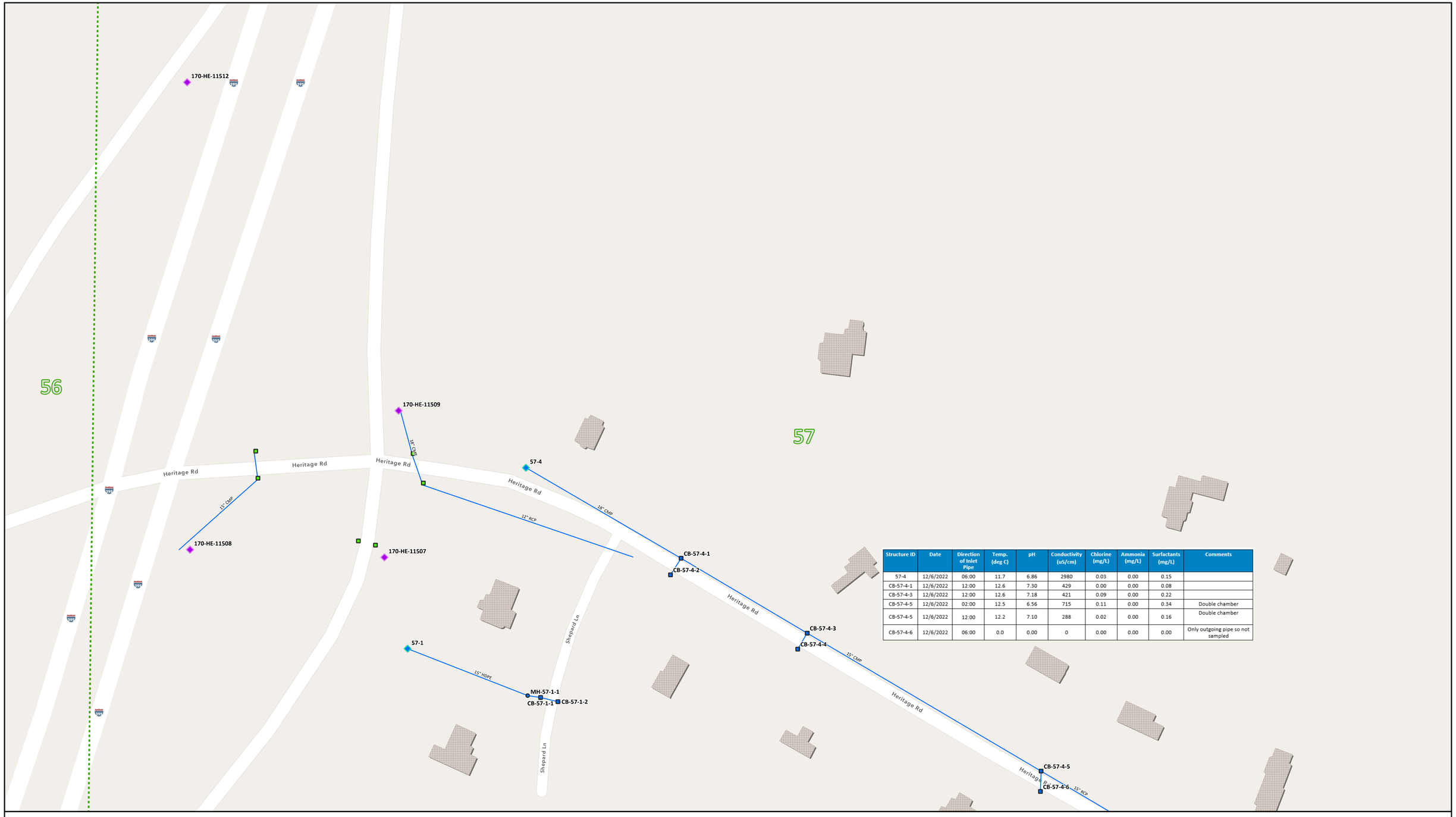
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: H5



Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
57-4	12/6/2022	06:00	11.7	6.86	2980	0.03	0.00	0.15	
CB-57-4-1	12/6/2022	12:00	12.6	7.30	429	0.00	0.00	0.08	
CB-57-4-3	12/6/2022	12:00	12.6	7.18	421	0.09	0.00	0.22	
CB-57-4-5	12/6/2022	02:00	12.5	6.56	715	0.11	0.00	0.34	Double chamber
CB-57-4-5	12/6/2022	12:00	12.2	7.10	288	0.02	0.00	0.16	Double chamber
CB-57-4-6	12/6/2022	06:00	0.0	0.00	0	0.00	0.00	0.00	Only outgoing pipe so not sampled

CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State

Manholes
- City

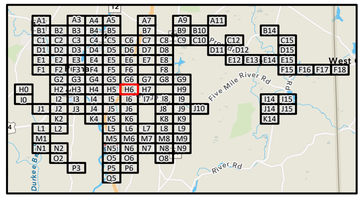
Outfalls
- City
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

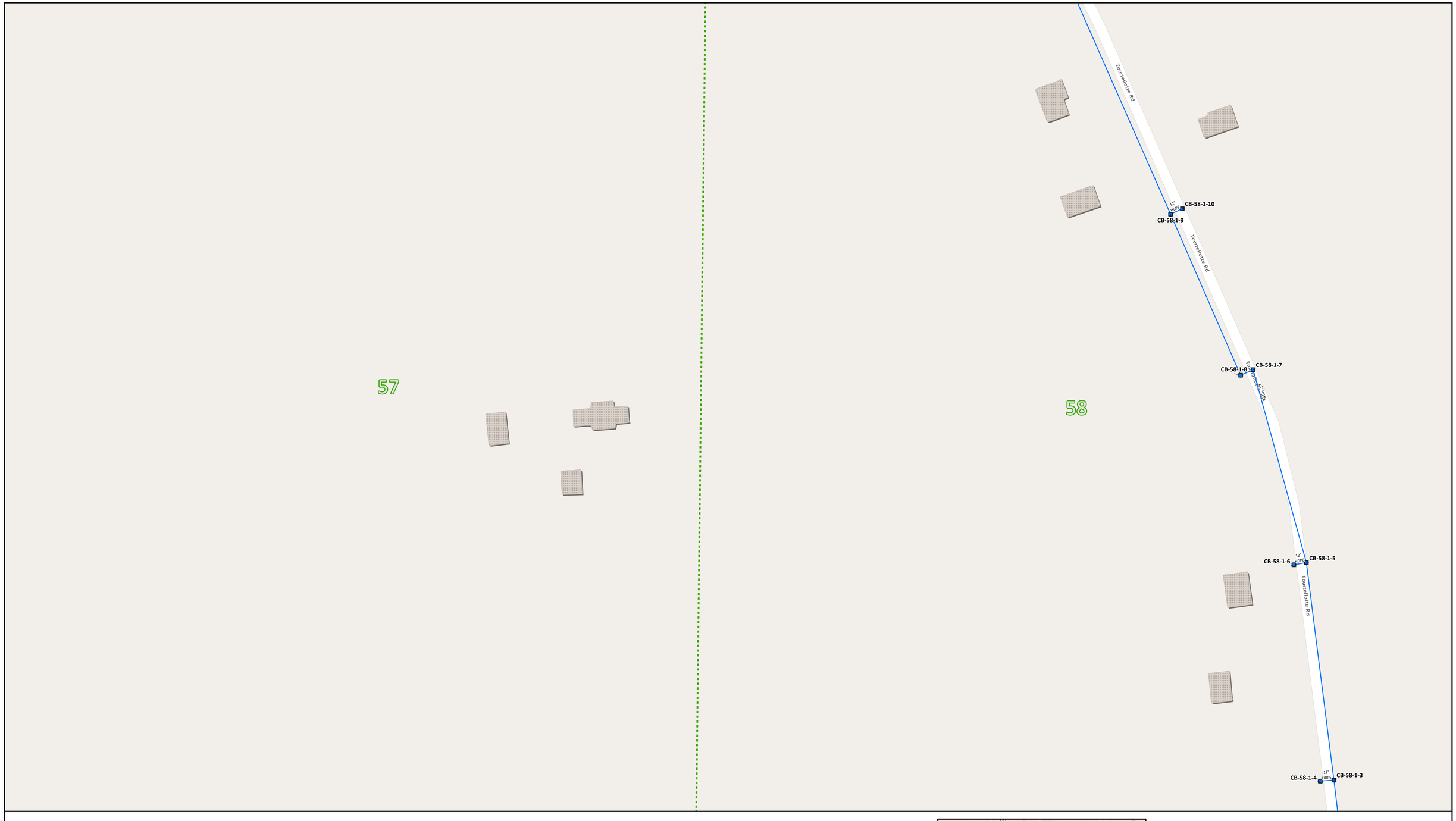
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: H6



CDM Smith

N

0 40 80 160 240 Feet

Legend

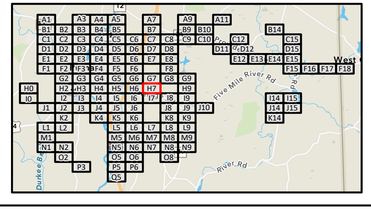
Catch Basin
- City

Gravity Main
- City

Index Map Catchment Plan (March 2018)

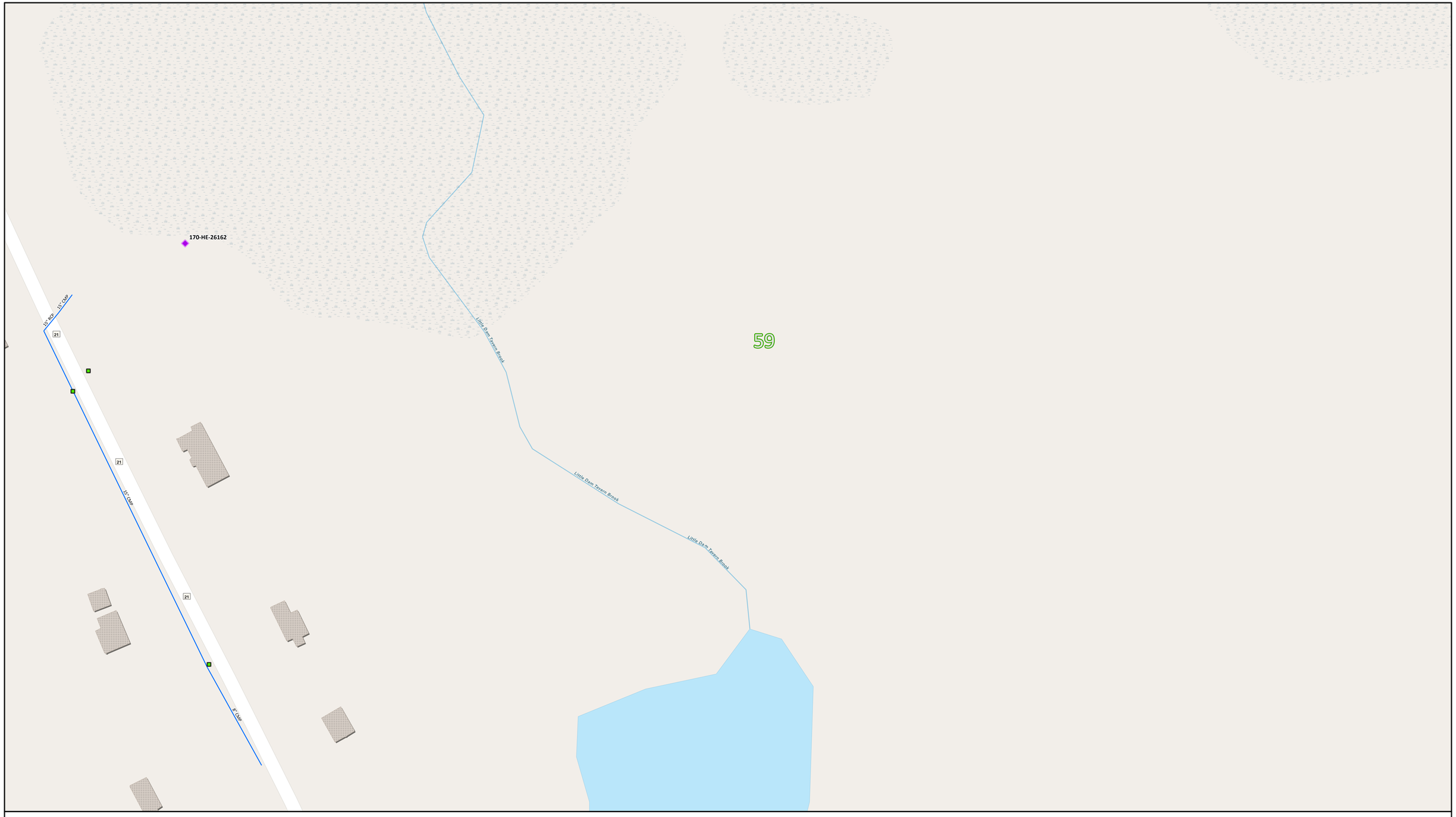
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: H7



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- State

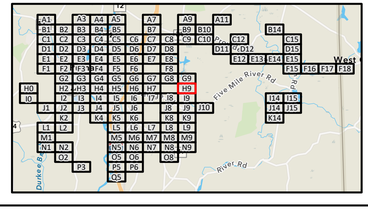
Outfalls
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

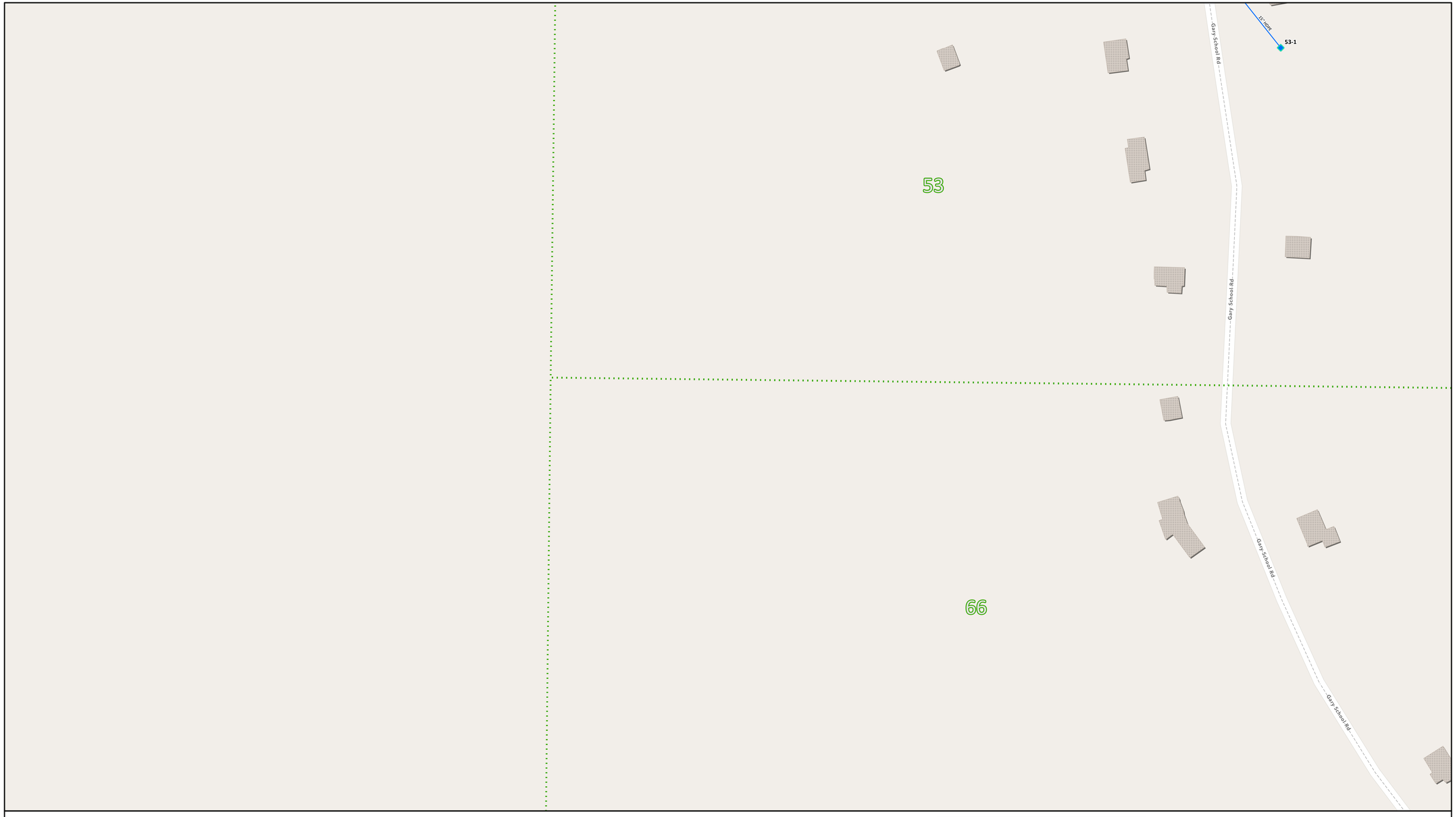
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: H9



CDM Smith

N

0 40 80 160 240 Feet

Legend

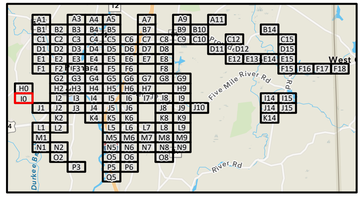
Outfalls
- City

Gravity Main
- City

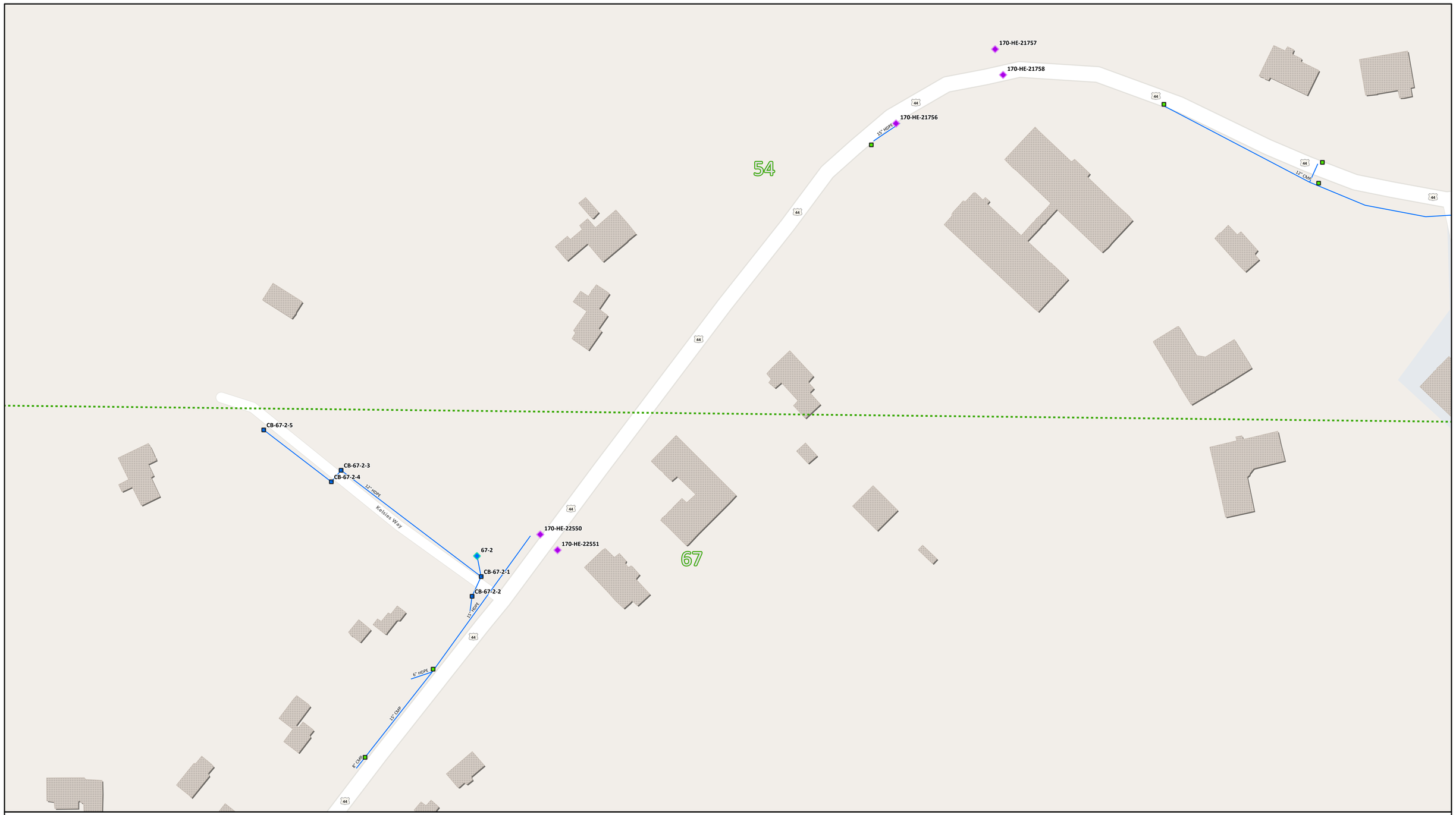
Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023
Page Name: I0



CDM Smith

N

0 40 80 160 240 Feet

Legend

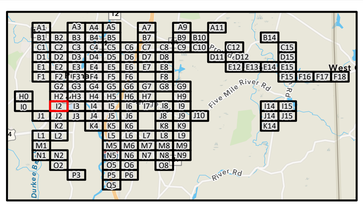
Catch Basin
- City
- State

Outfalls
- City
- State

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

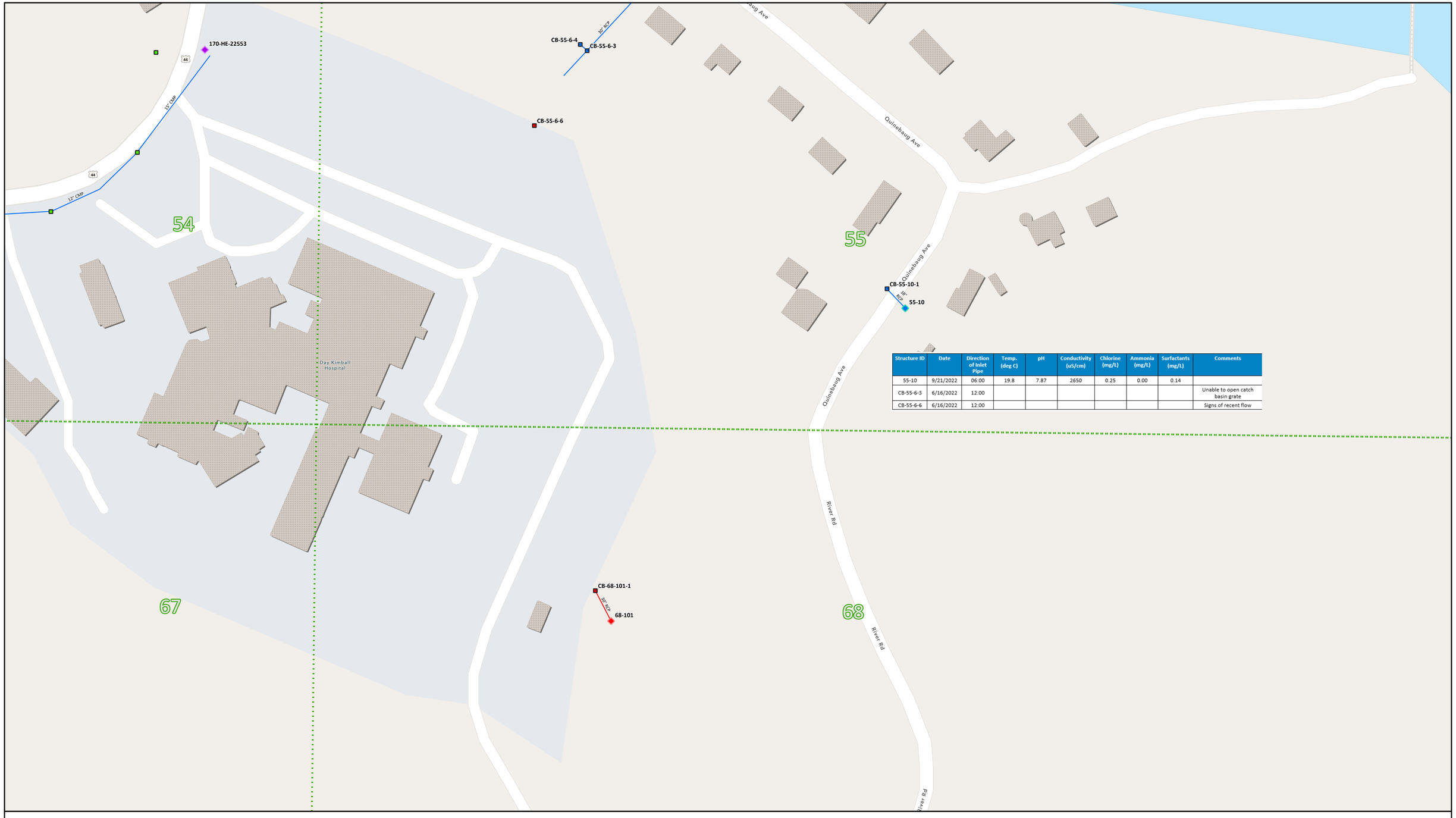
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: I2



Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
55-10	9/21/2022	06:00	19.8	7.87	2650	0.25	0.00	0.14	
CB-55-6-3	6/16/2022	12:00							Unable to open catch basin grate
CB-55-6-6	6/16/2022	12:00							Signs of recent flow

CDM Smith

N

0 40 80 160 240 Feet

Legend

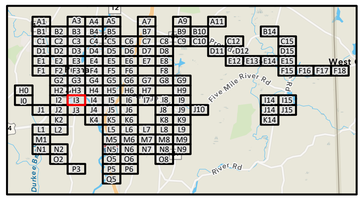
Catch Basin
- City
- State
- Private

Outfalls
- City
- State
- Private

Gravity Main
- City
- Private
- Index Map Catchment Plan (March 2018)

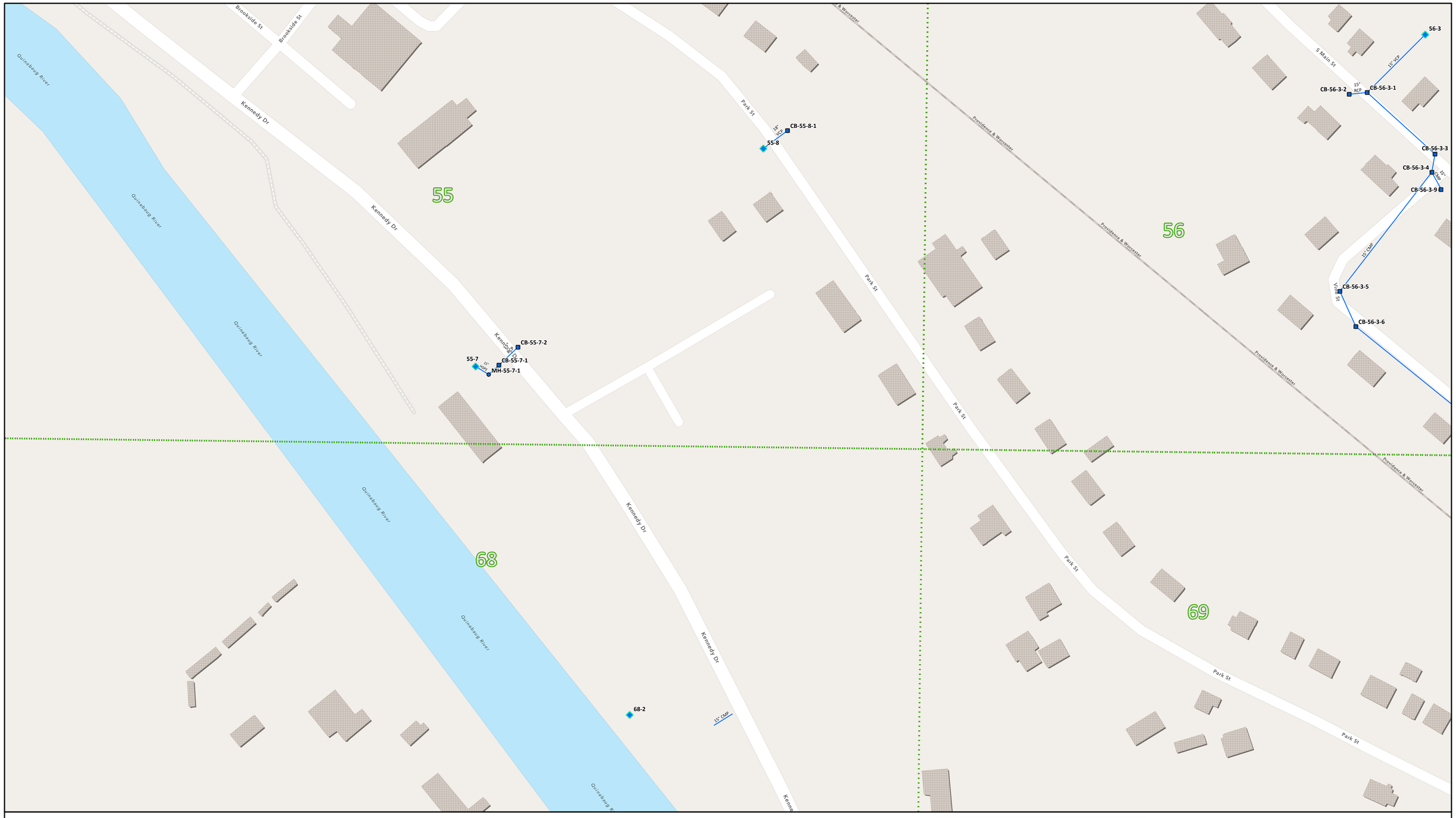
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: I3



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City

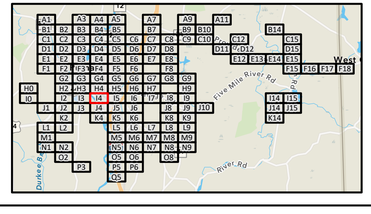
Manholes
- City

Outfalls
- City

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

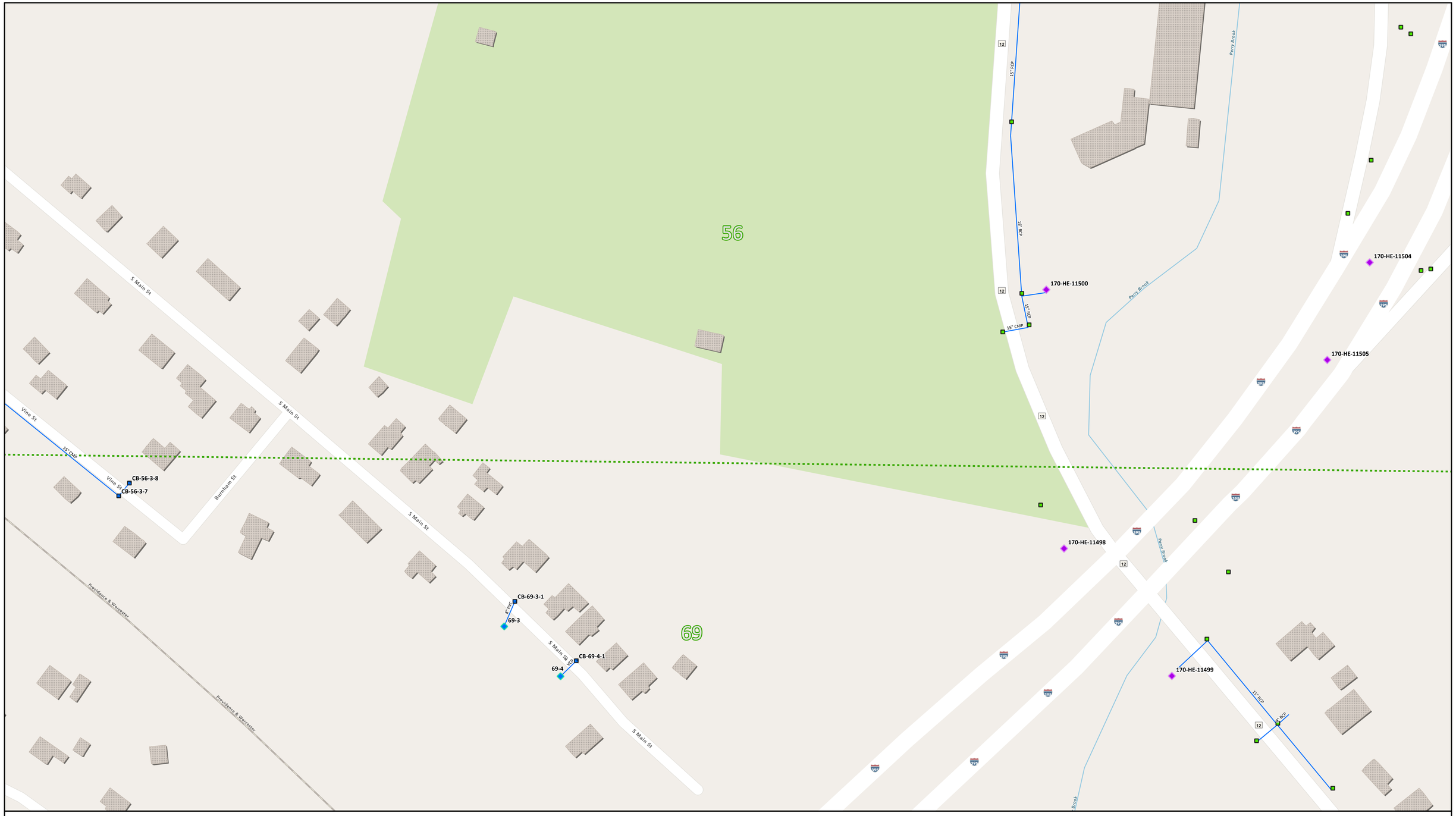
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: I4



CDM Smith

N

0 40 80 160 240 Feet

Legend

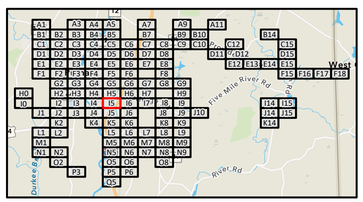
Catch Basin
- City
- State

Outfalls
- City
- State

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

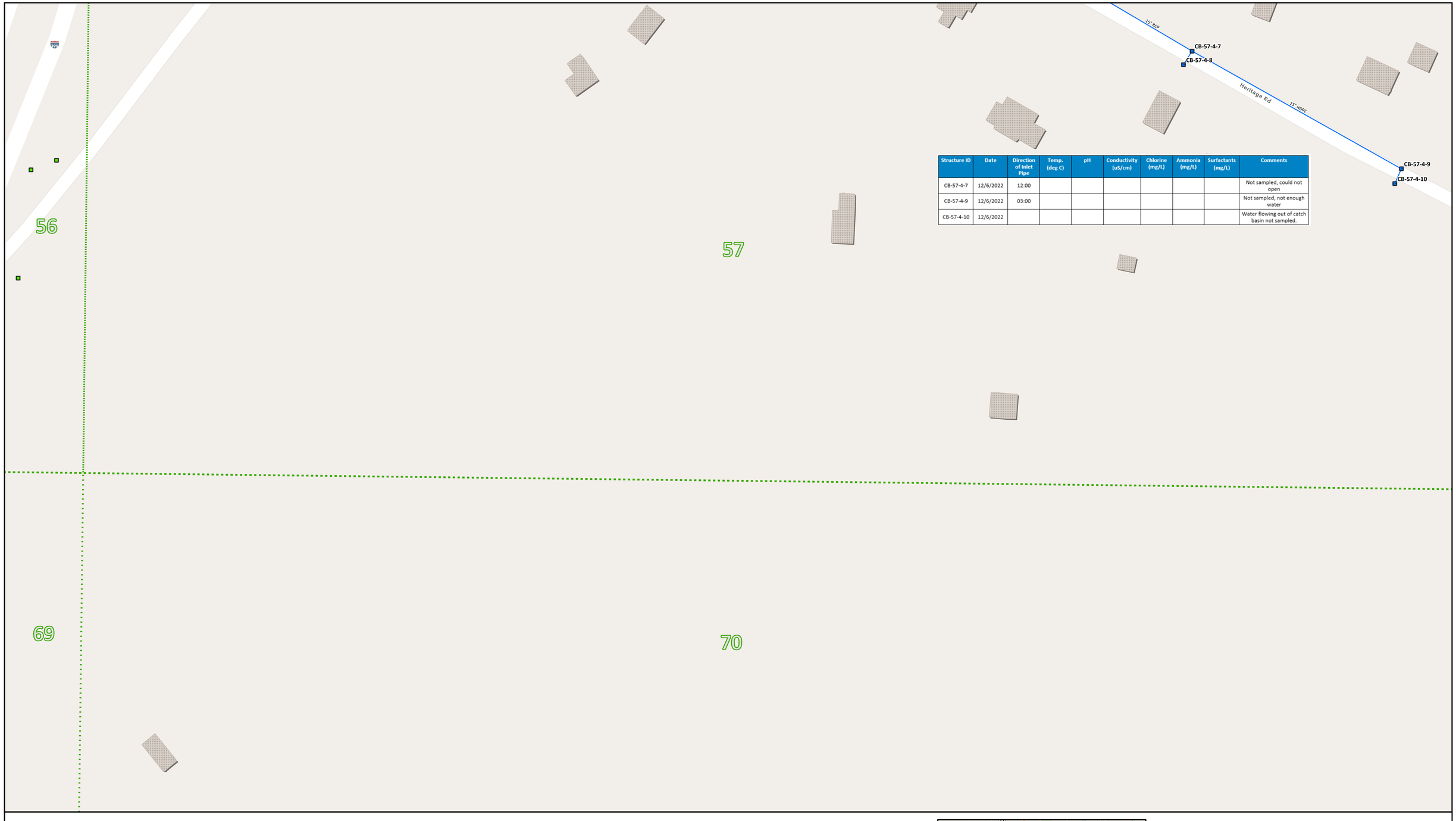
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: I5



Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
CB-57-4-7	12/6/2022	12:00							Not sampled, could not open
CB-57-4-9	12/6/2022	03:00							Not sampled, not enough water
CB-57-4-10	12/6/2022								Water flowing out of catch basin not sampled.

CDM Smith

N

0 40 80 160 240 Feet

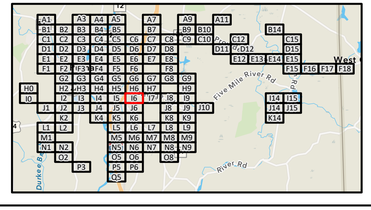
Legend

Catch Basin
- City
- State

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

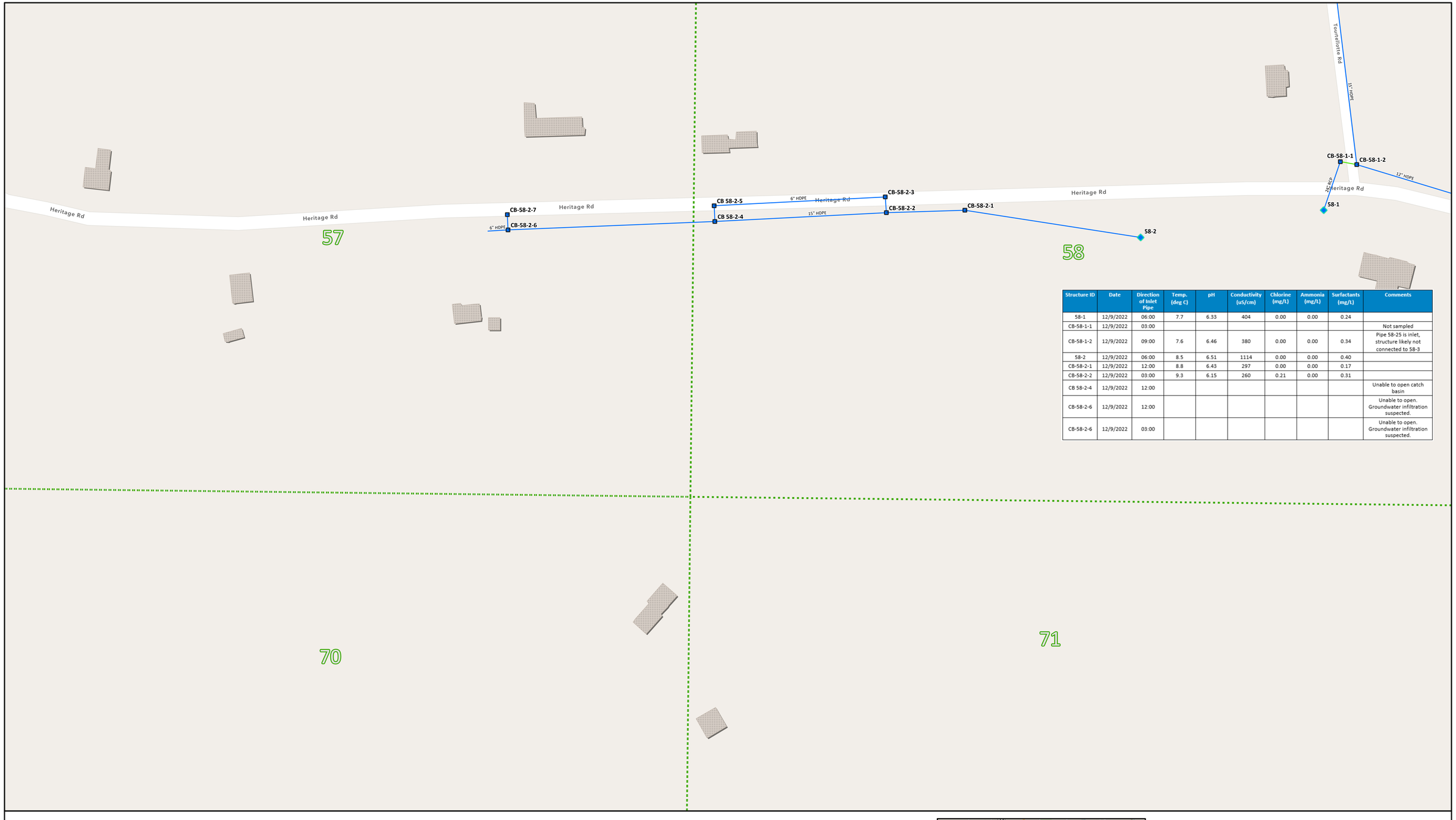
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: I6



Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
58-1	12/9/2022	06:00	7.7	6.33	404	0.00	0.00	0.24	
CB-58-1-1	12/9/2022	03:00							Not sampled
CB-58-1-2	12/9/2022	09:00	7.6	6.46	380	0.00	0.00	0.34	Pipe 58-25 is inlet, structure likely not connected to 58-3
58-2	12/9/2022	06:00	8.5	6.51	1114	0.00	0.00	0.40	
CB-58-2-1	12/9/2022	12:00	8.8	6.43	297	0.00	0.00	0.17	
CB-58-2-2	12/9/2022	03:00	9.3	6.15	260	0.21	0.00	0.31	
CB 58-2-4	12/9/2022	12:00							Unable to open catch basin
CB-58-2-6	12/9/2022	12:00							Unable to open. Groundwater infiltration suspected.
CB-58-2-6	12/9/2022	03:00							Unable to open. Groundwater infiltration suspected.

CDM Smith

N

0 40 80 160 240 Feet

Legend

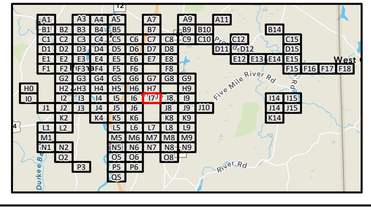
Catch Basin
- City

Outfalls
- City

Gravity Main
- City
- State
- Index Map Catchment Plan (March 2018)

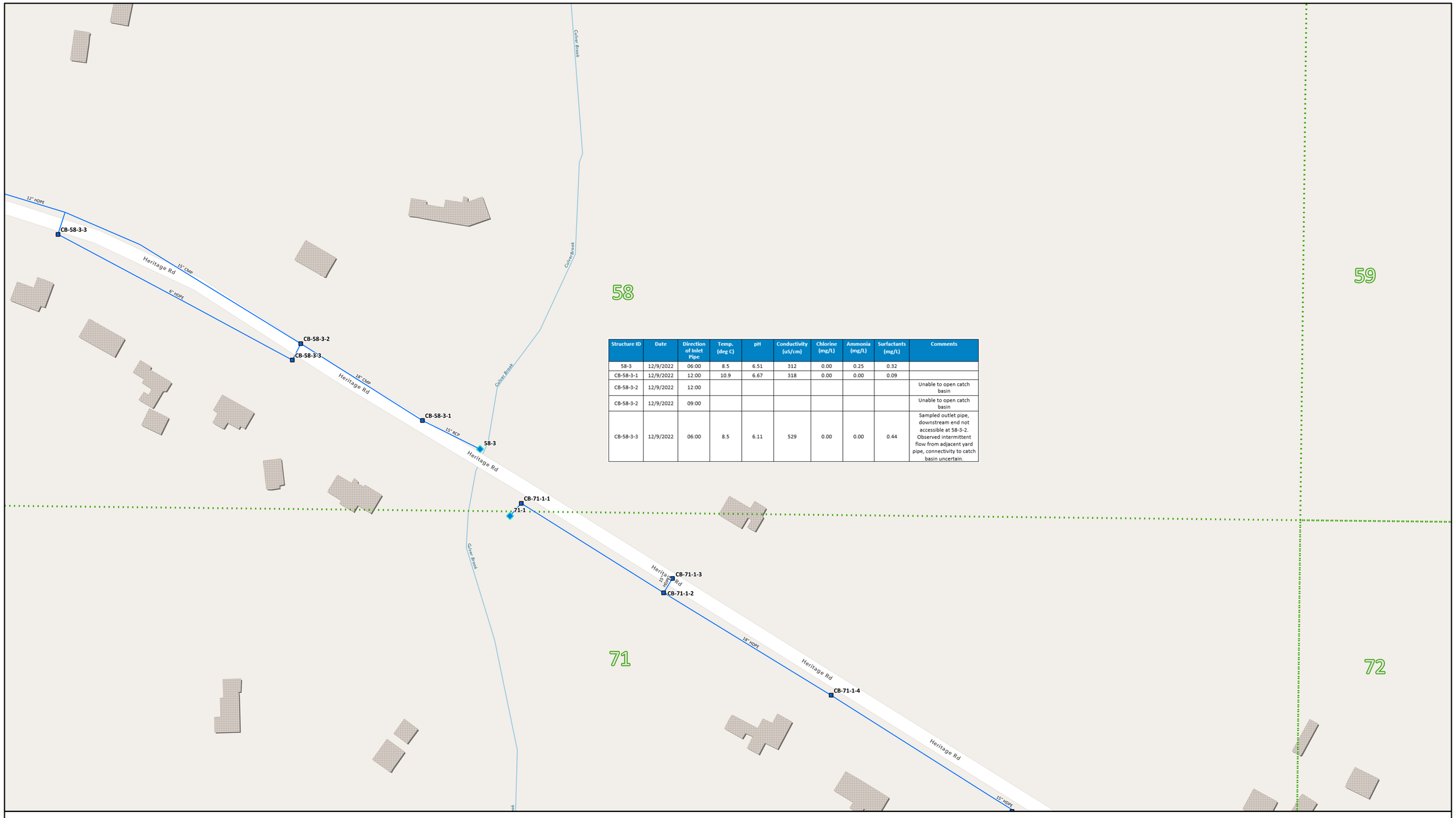
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: I7



Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
58-3	12/9/2022	06:00	8.5	6.51	312	0.00	0.25	0.32	
CB-58-3-1	12/9/2022	12:00	10.9	6.67	318	0.00	0.00	0.09	
CB-58-3-2	12/9/2022	12:00							Unable to open catch basin
CB-58-3-2	12/9/2022	09:00							Unable to open catch basin
CB-58-3-3	12/9/2022	06:00	8.5	6.11	529	0.00	0.00	0.44	Sampled outlet pipe, downstream end not accessible at 58-3-2. Observed intermittent flow from adjacent yard pipe, connectivity to catch basin uncertain.

CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City

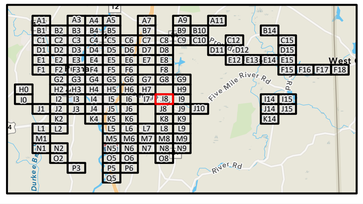
Outfalls
- City

Gravity Main
- City

Index Map Catchment Plan (March 2018)

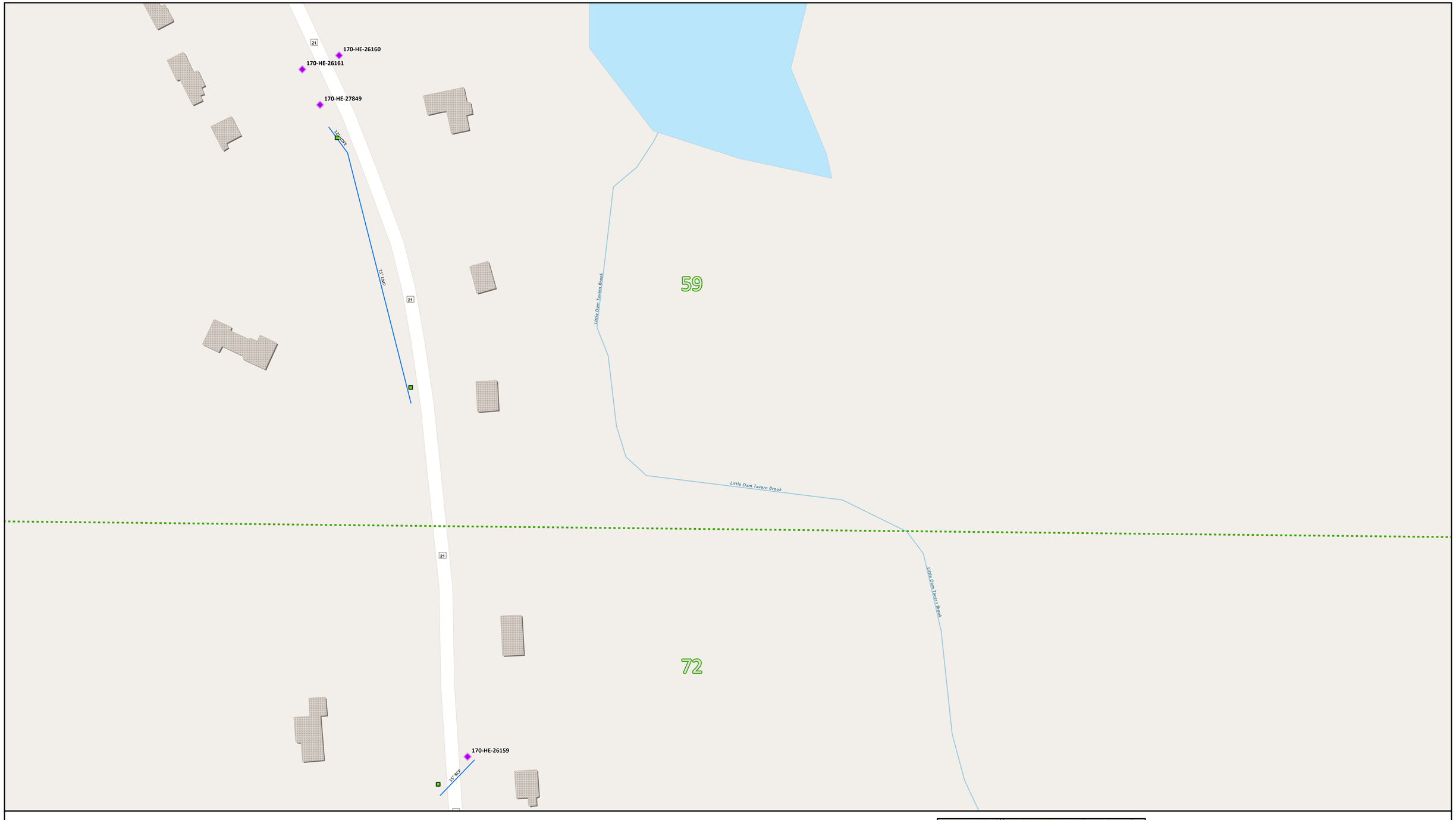
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: I8



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- State

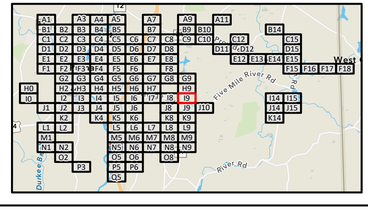
Outfalls
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

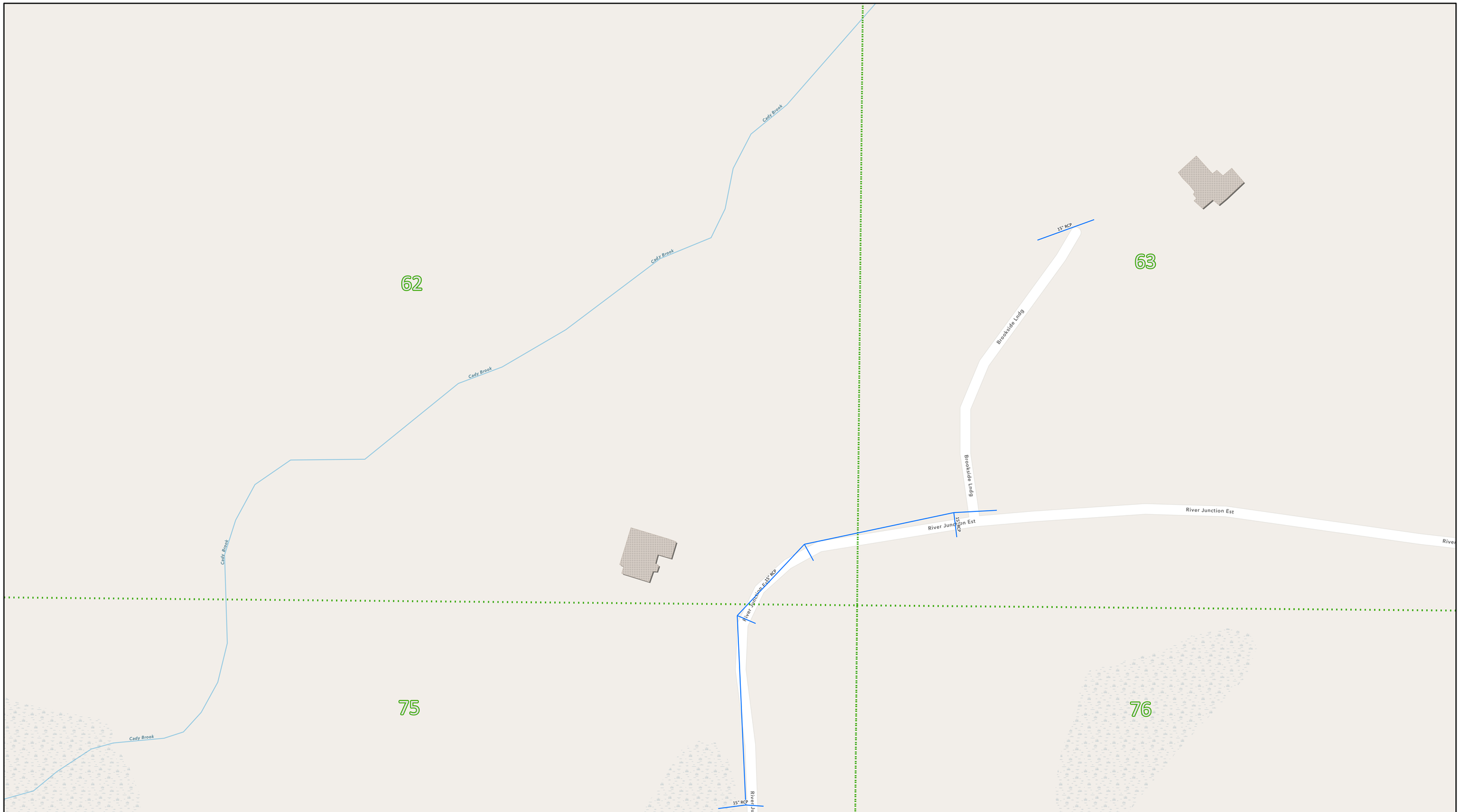
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: I9



CDM Smith

N

0 40 80 160 240 Feet

Legend

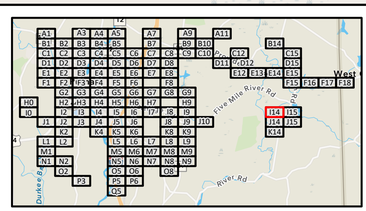
Gravity Main

City

Index Map Catchment Plan (March 2018)

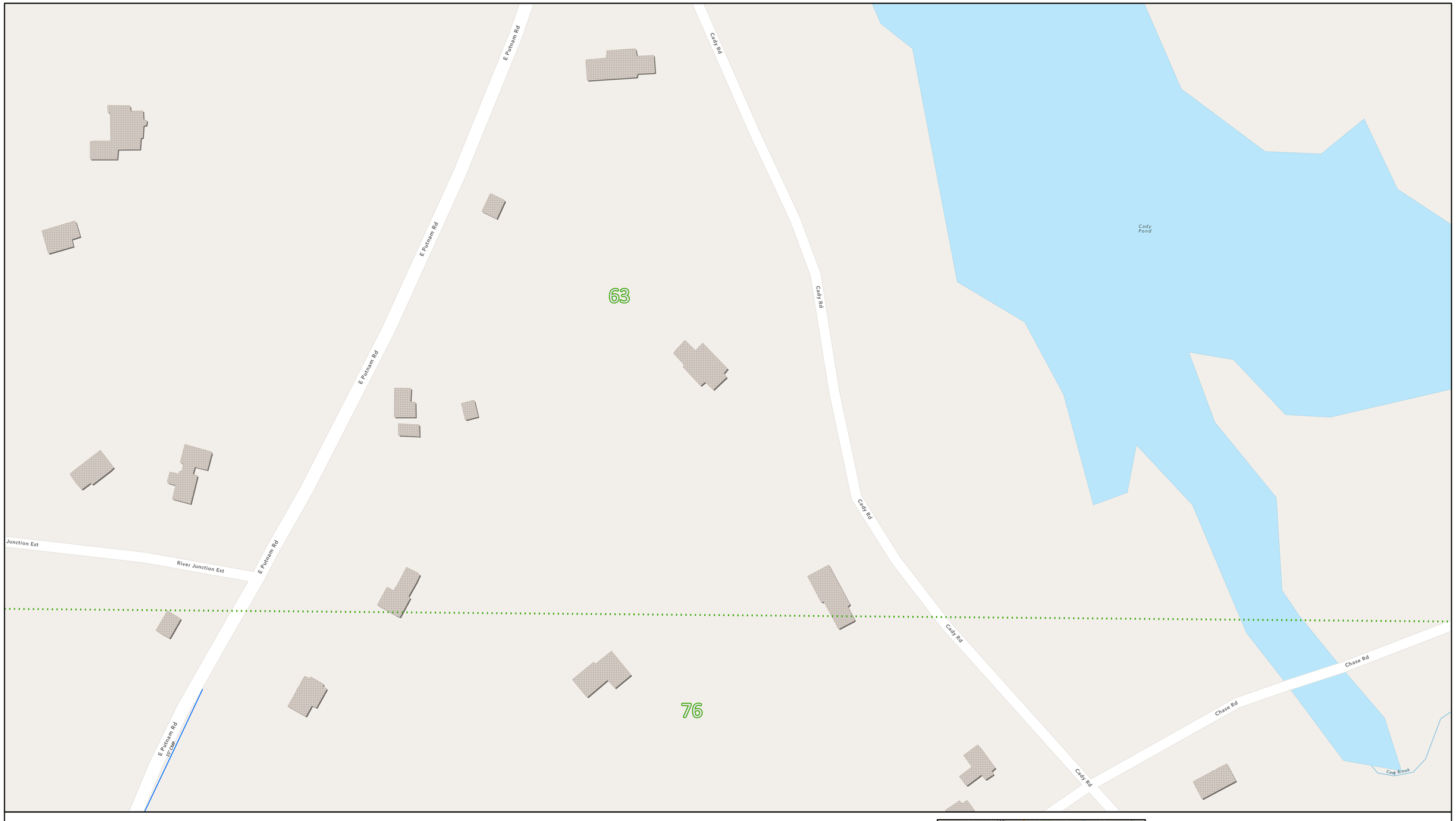
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: I14



CDM Smith

N

0 40 80 160 240 Feet

Legend

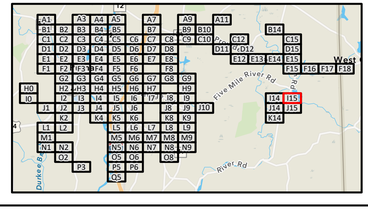
Gravity Main

City

Index Map Catchment Plan (March 2018)

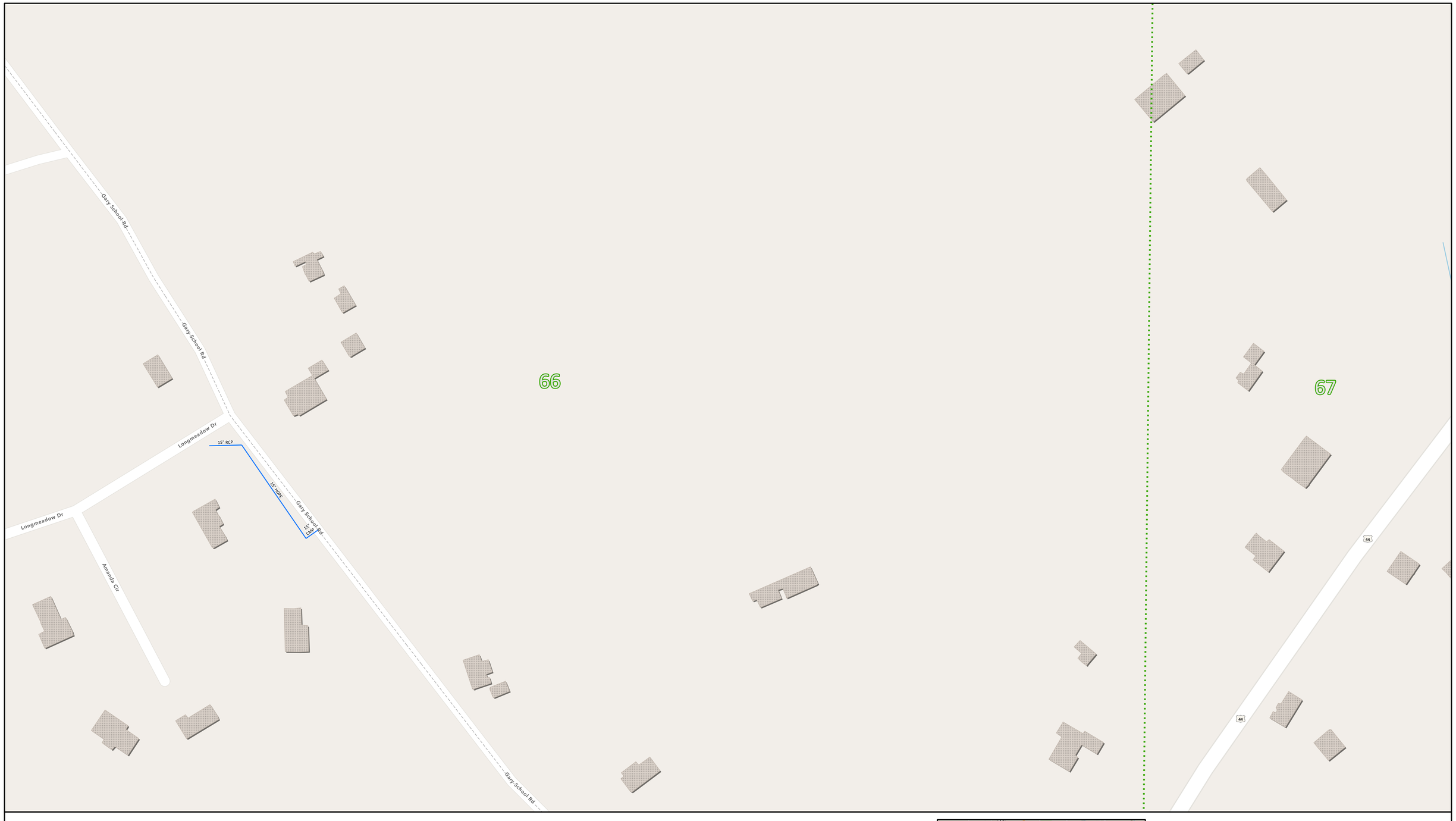
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: I15



CDM Smith

N

0 40 80 160 240 Feet

Legend

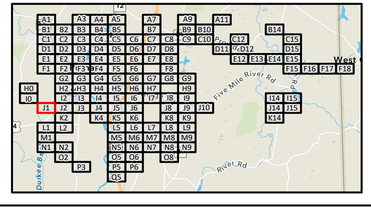
Gravity Main

City

Index Map Catchment Plan (March 2018)

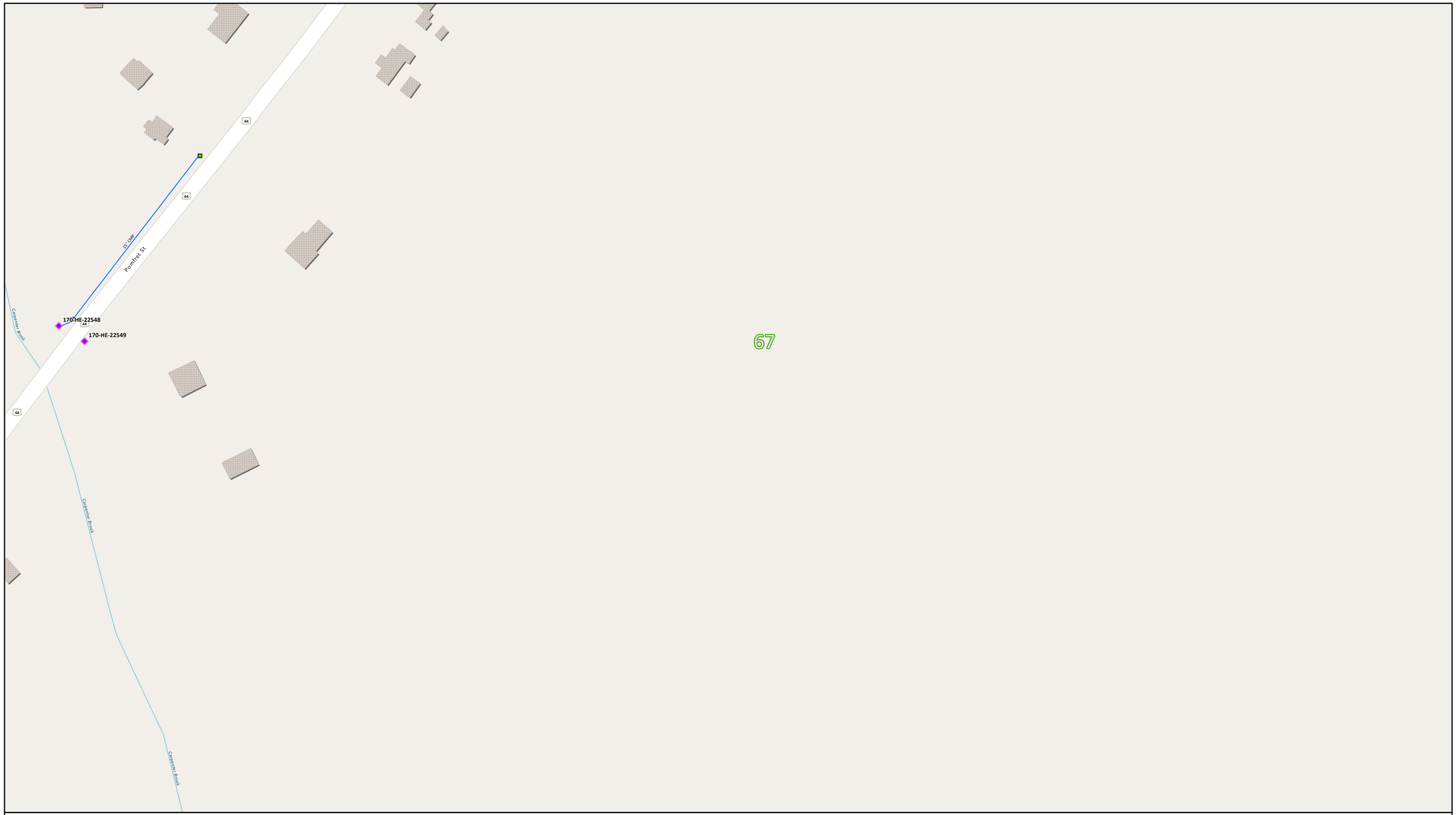
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: J1



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- State

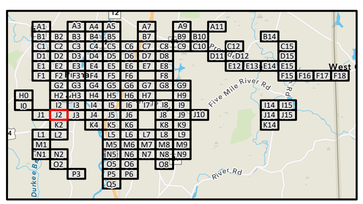
Outfalls
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

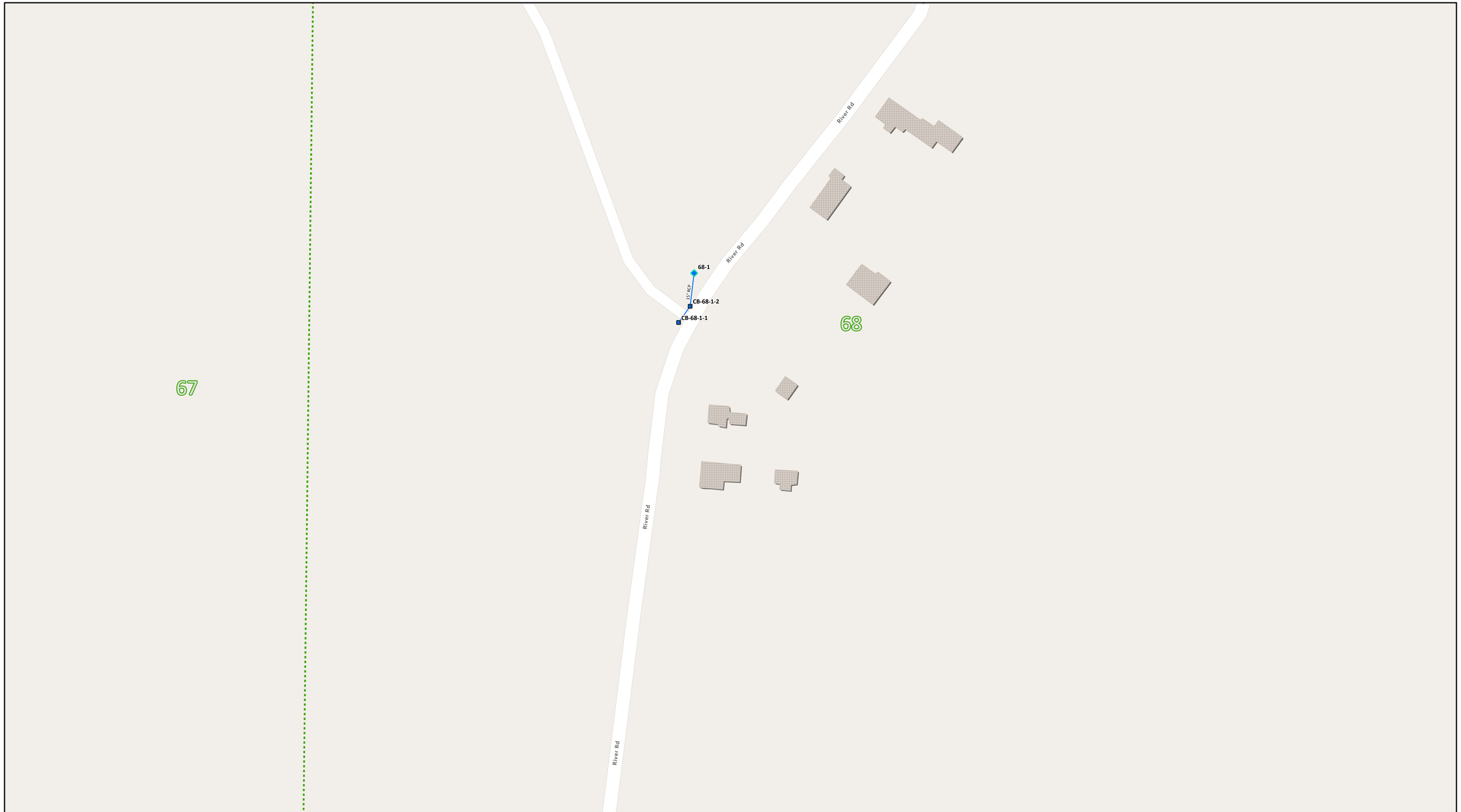
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: J2



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City

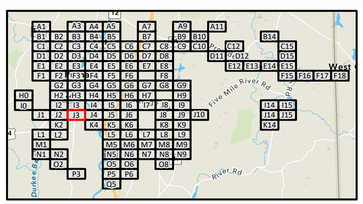
Outfalls
- City

Gravity Main
- City

Index Map Catchment Plan (March 2018)

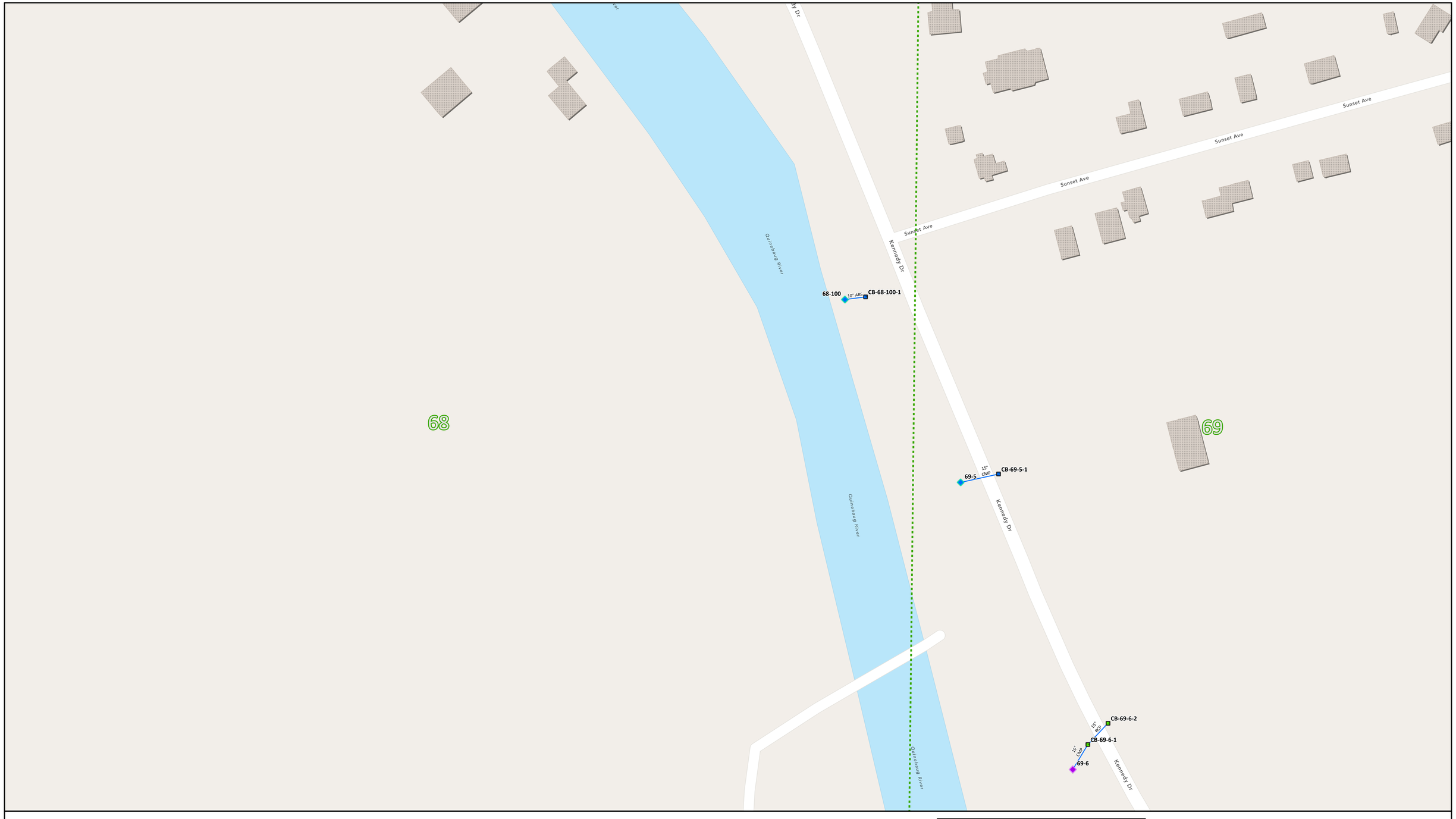
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: J3



CDM Smith

N

0 40 80 160 240 Feet

Legend

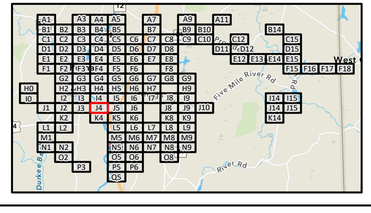
Catch Basin
- City
- State

Outfalls
- City
- State

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

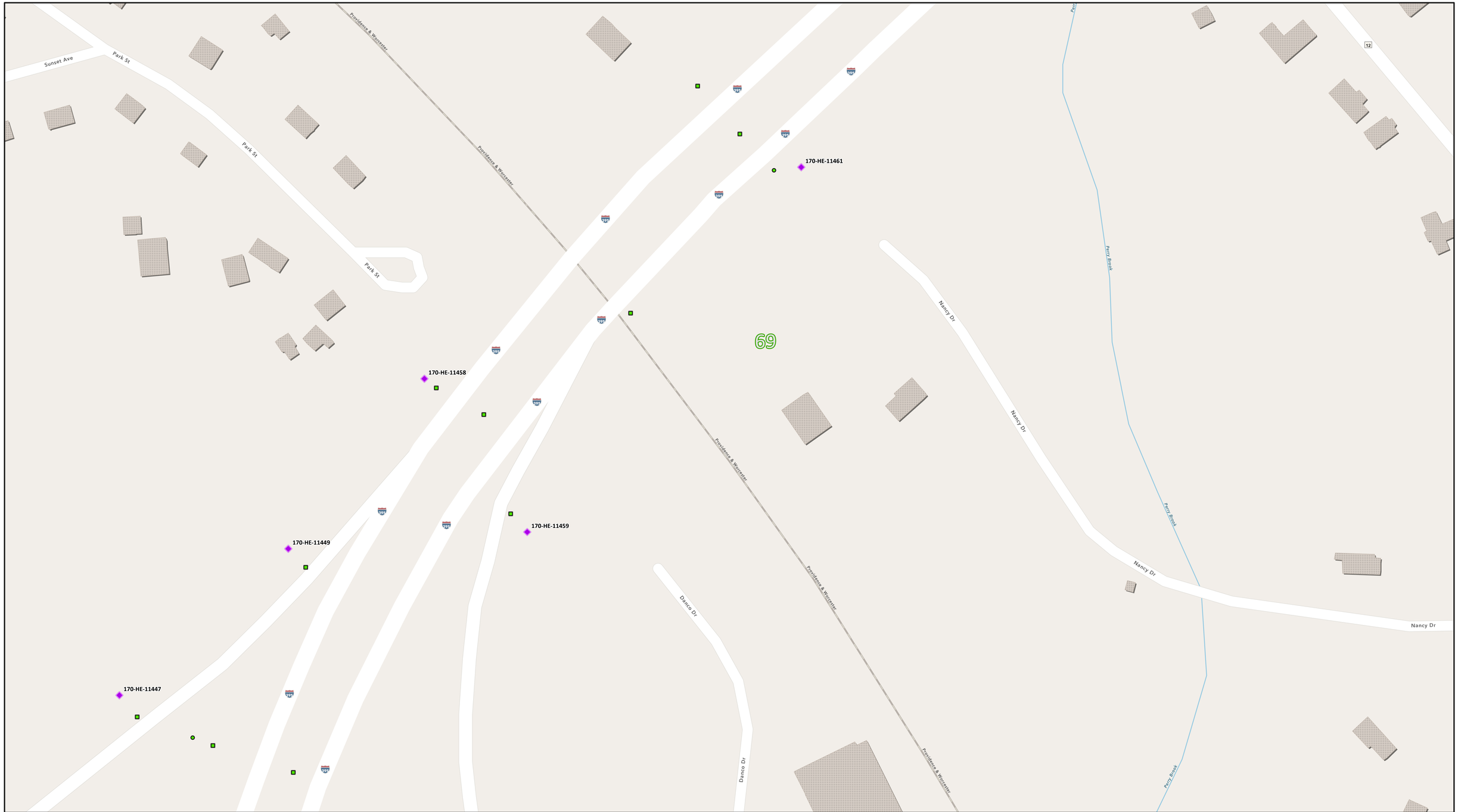
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: J4



CDM Smith

N

0 40 80 160 240 Feet

Legend

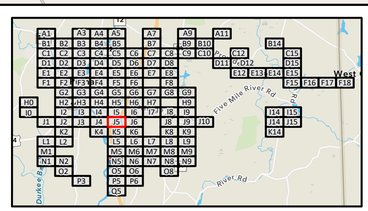
Catch Basin
- State

Manholes
- State

Outfalls
- State
- Index Map Catchment Plan (March 2018)

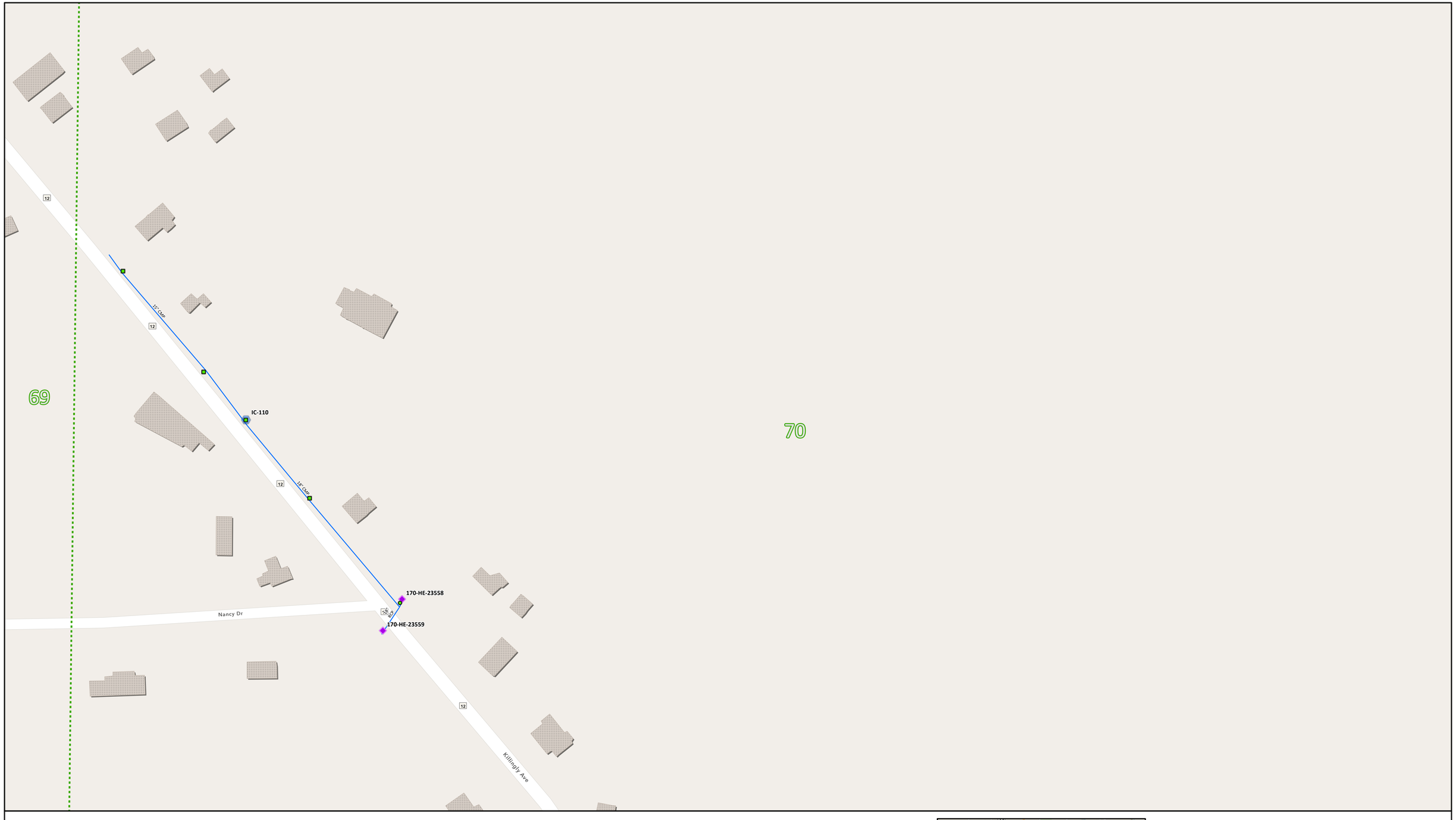
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: J5



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- State

Interconnections
- Other

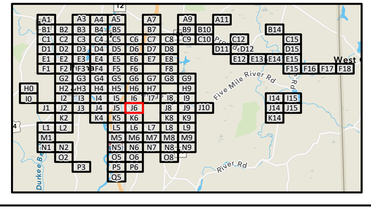
Manholes
- State

Outfalls
- State

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: J6

Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
CB-71-1-5	12/29/2022	12:00	7.9	6.47	2940	0.09	0.00	0.25	
CB-71-1-7	12/29/2022	12:00	8.0	6.49	508	0.12	0.00	0.17	

CDM Smith

N

0 40 80 160 240 Feet

Legend

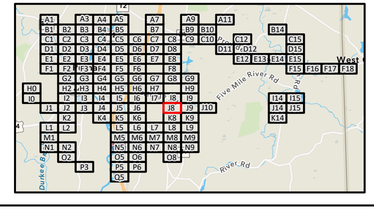
Catch Basin
- City

Gravity Main
- City

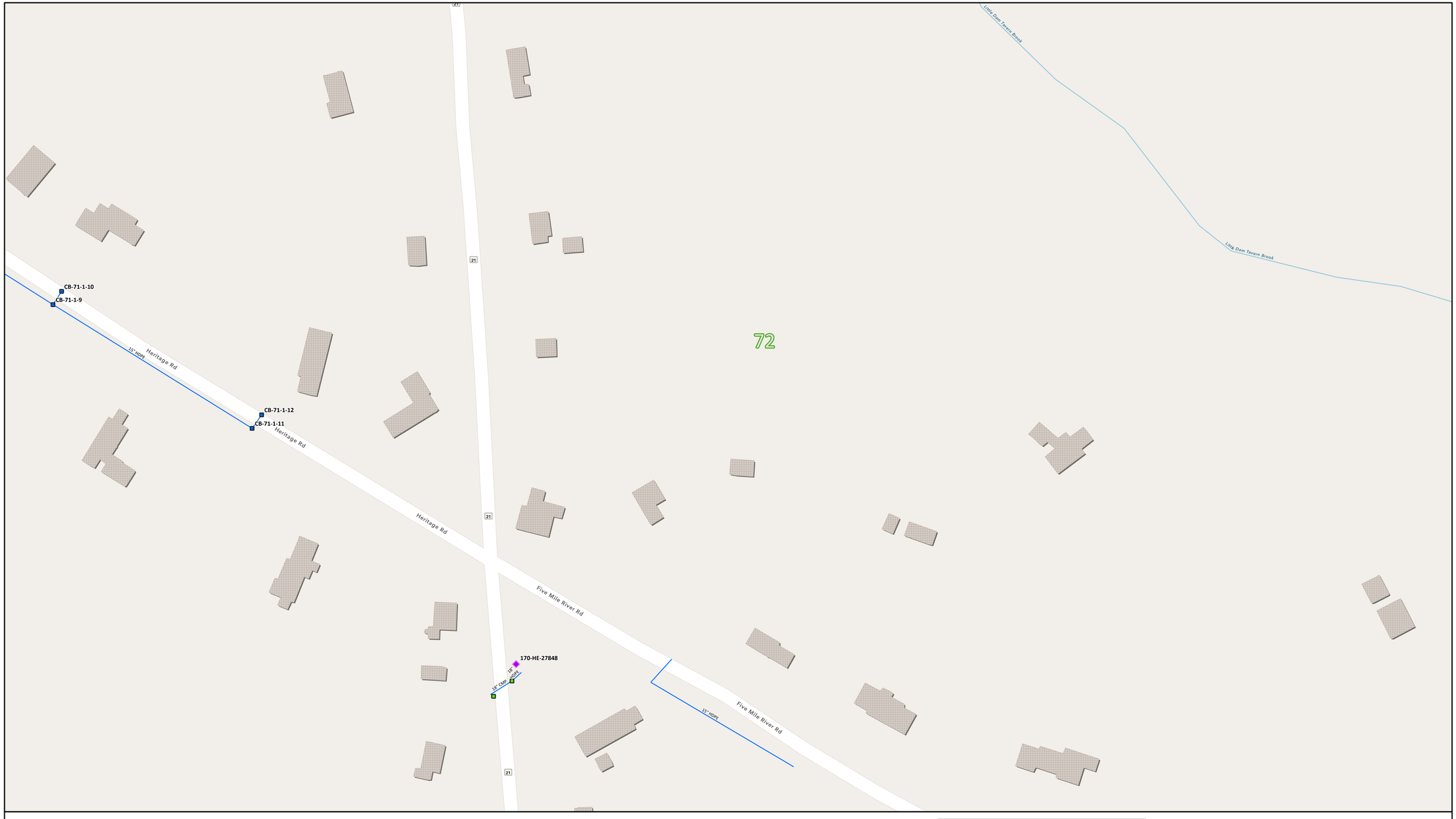
Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023
Page Name: J8



CDM Smith

N

0 40 80 160 240 Feet

Legend

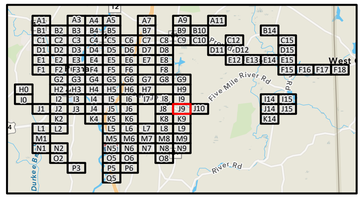
Catch Basin
- City
- State

Outfalls
- State

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

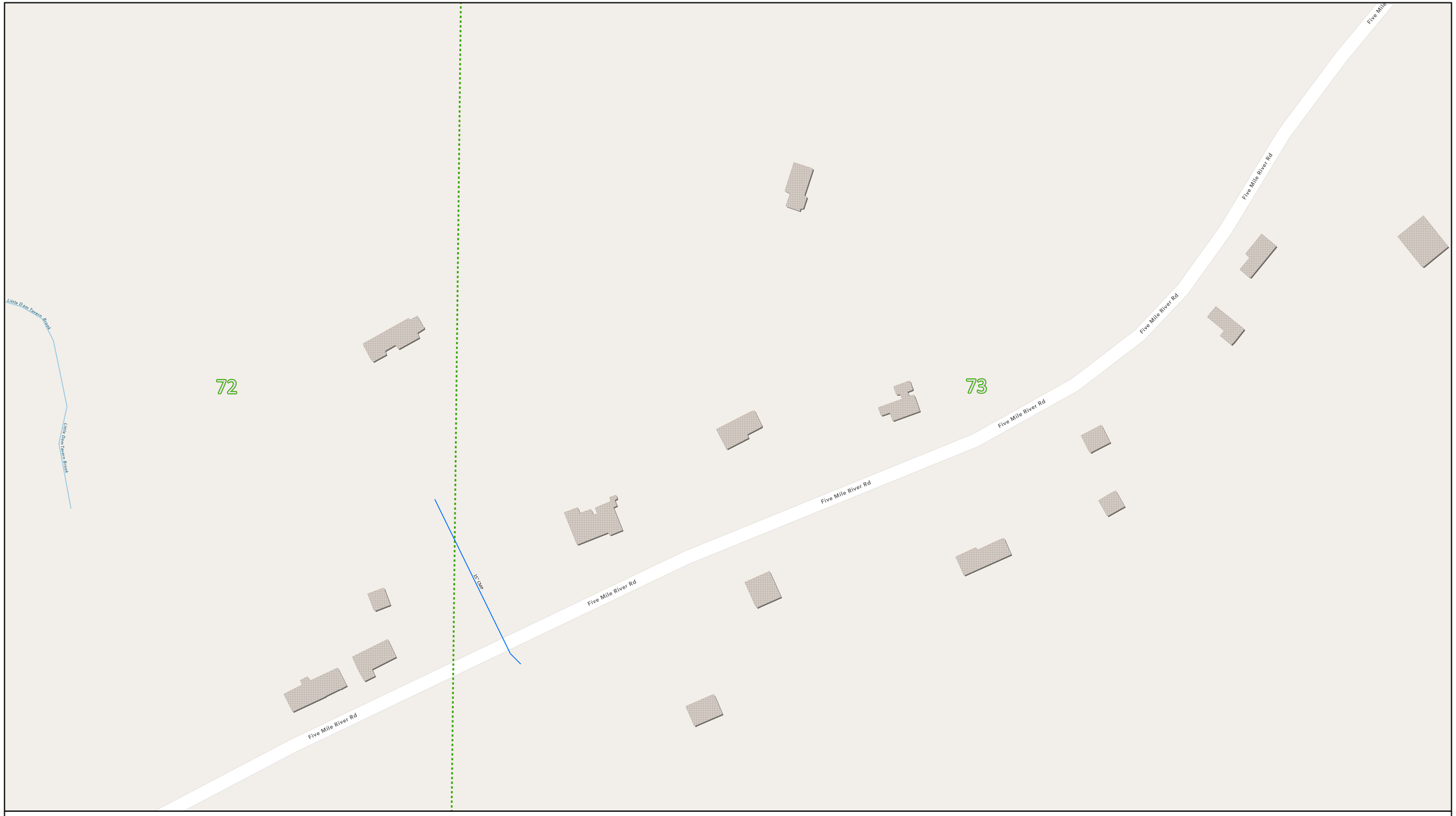
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: J9



CDM Smith

N

0 40 80 160 240 Feet

Legend

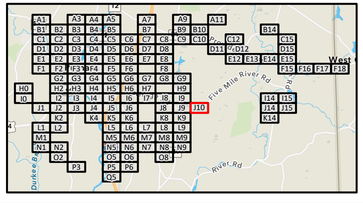
Gravity Main

City

Index Map Catchment Plan (March 2018)

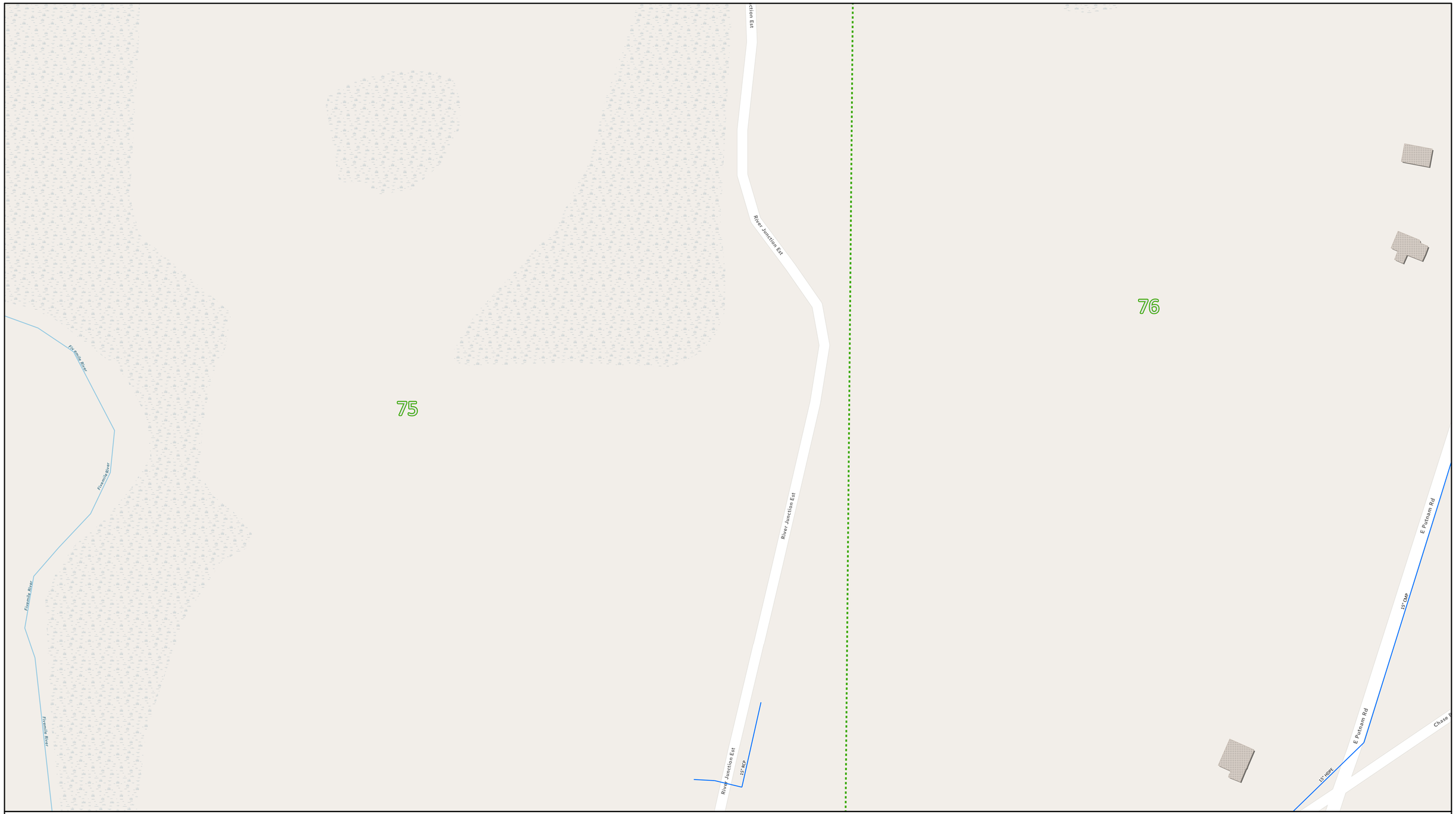
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: J10



CDM Smith

N

0 40 80 160 240 Feet

Legend

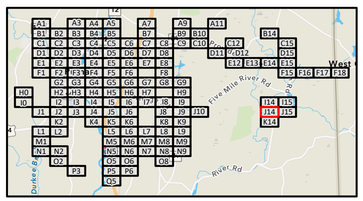
Gravity Main

City

Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: J14



CDM Smith

N

0 40 80 160 240 Feet

Legend

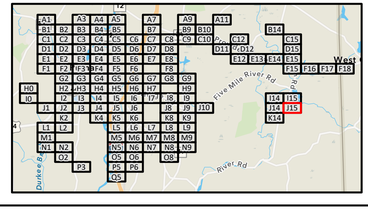
Gravity Main

City

Index Map Catchment Plan (March 2018)

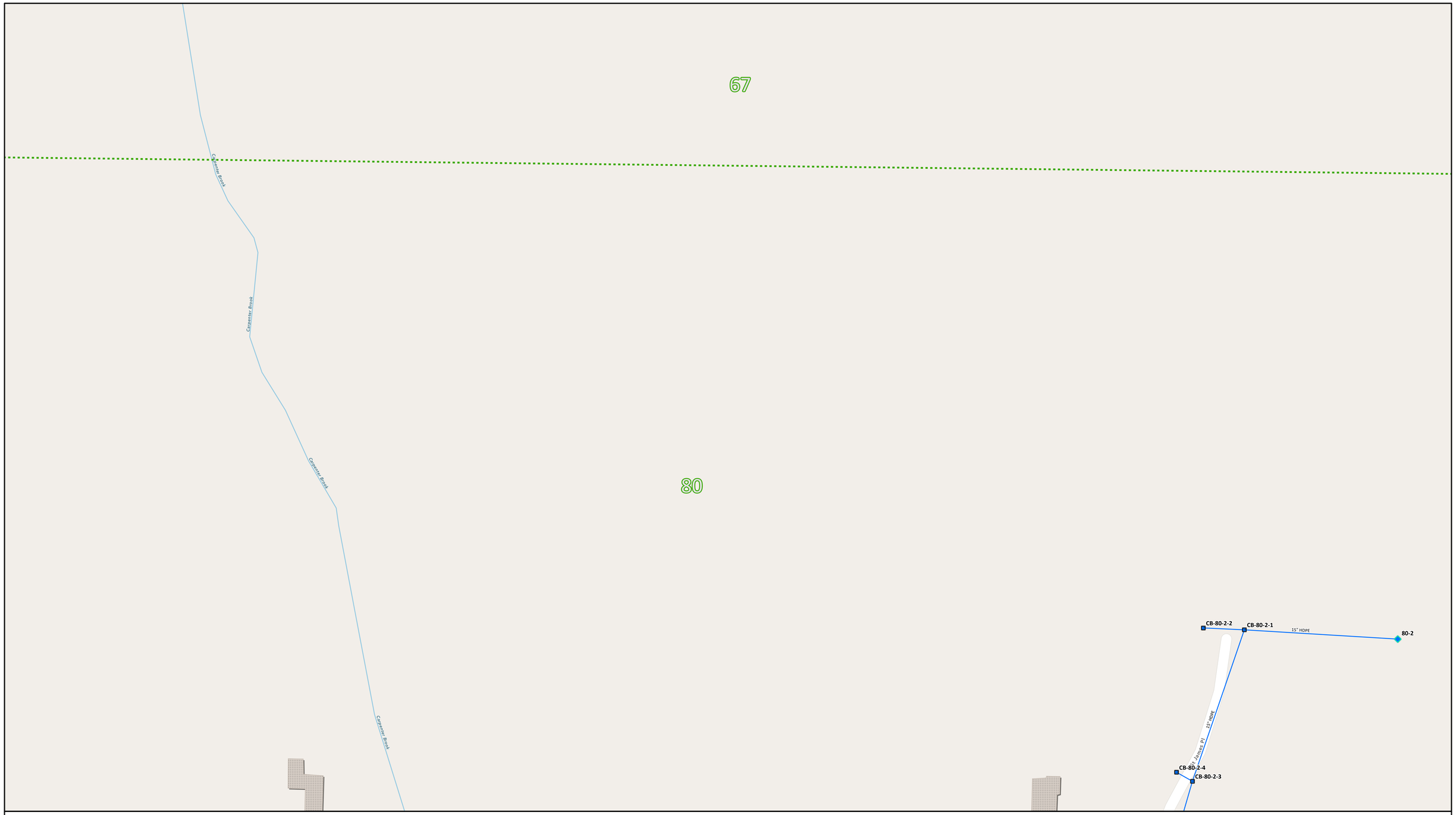
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: J15



CDM Smith

N

0 40 80 160 240 Feet

Legend

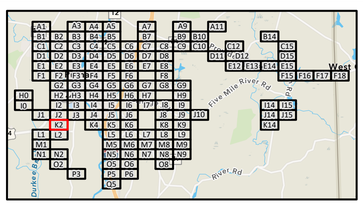
Catch Basin
- City

Outfalls
- City

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

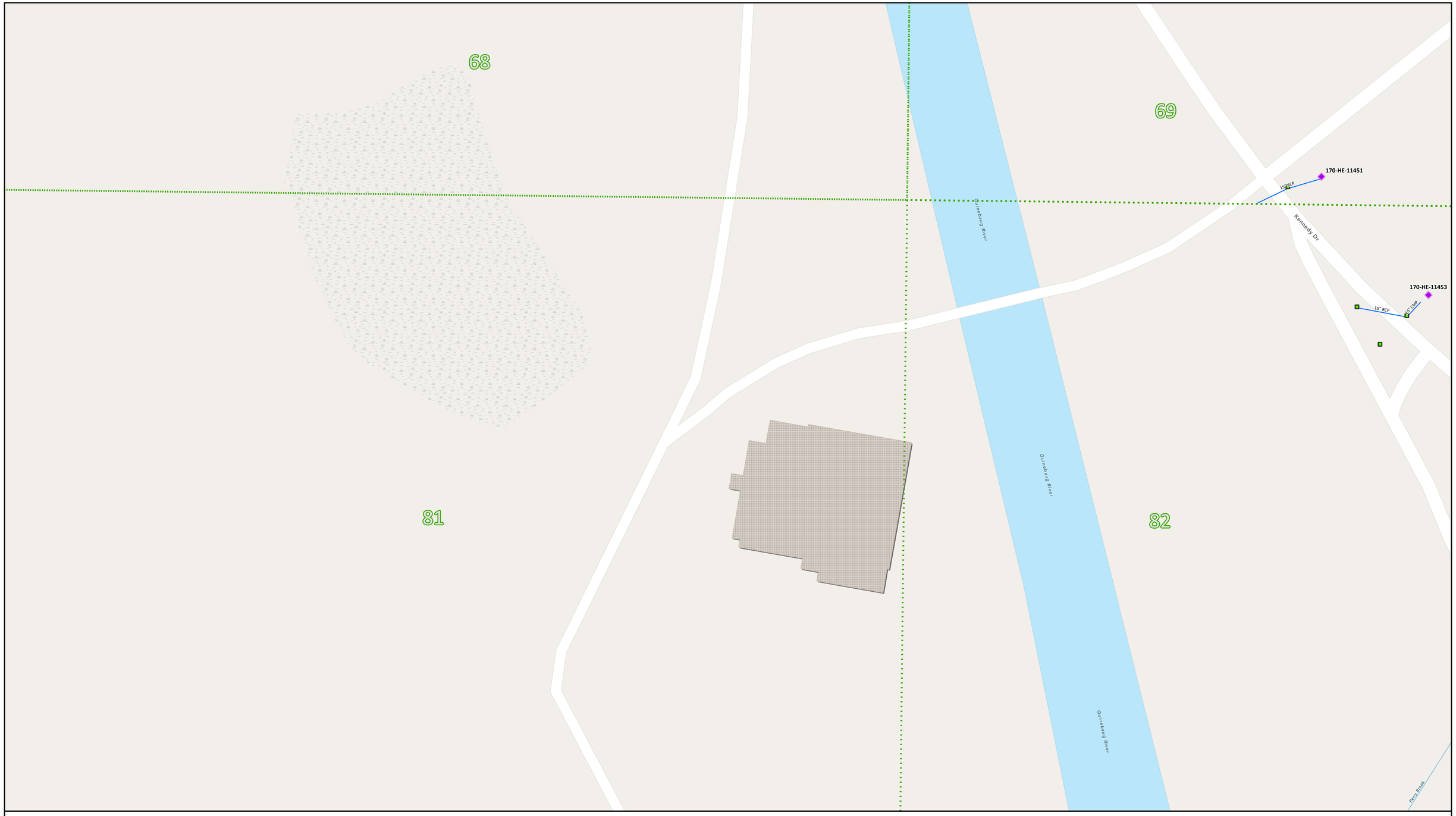
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: K2



CDM Smith

N

0 40 80 160 240 Feet

Legend

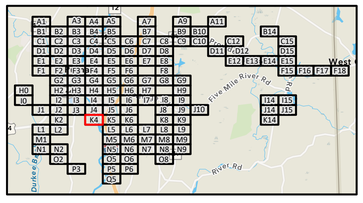
Catch Basin
- State

Outfalls
- State

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

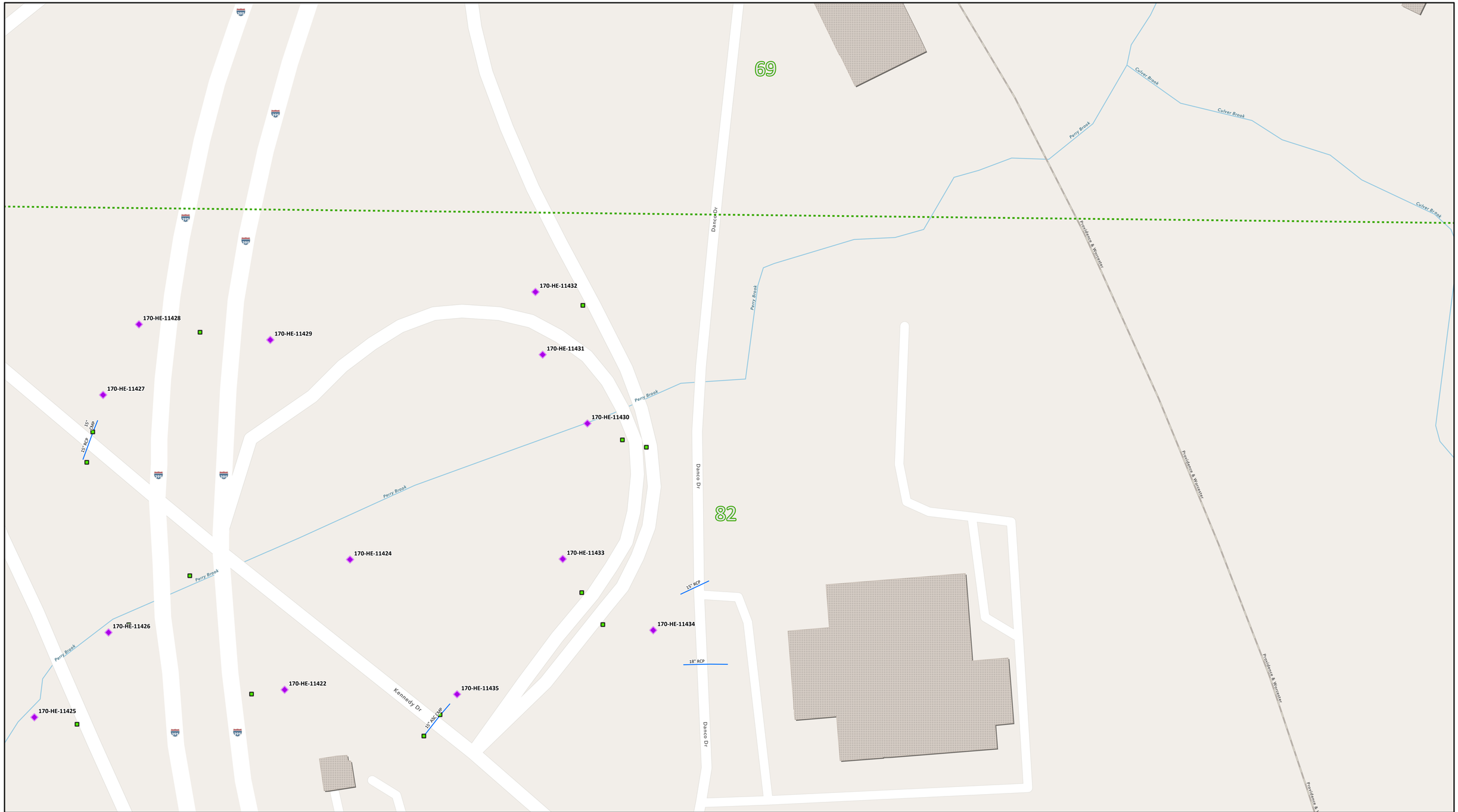
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: K4



CDM Smith

Legend

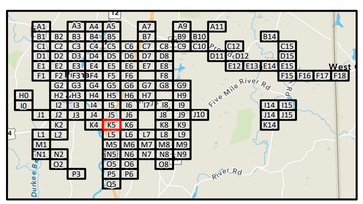
Catch Basin
- State

Outfalls
- State

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

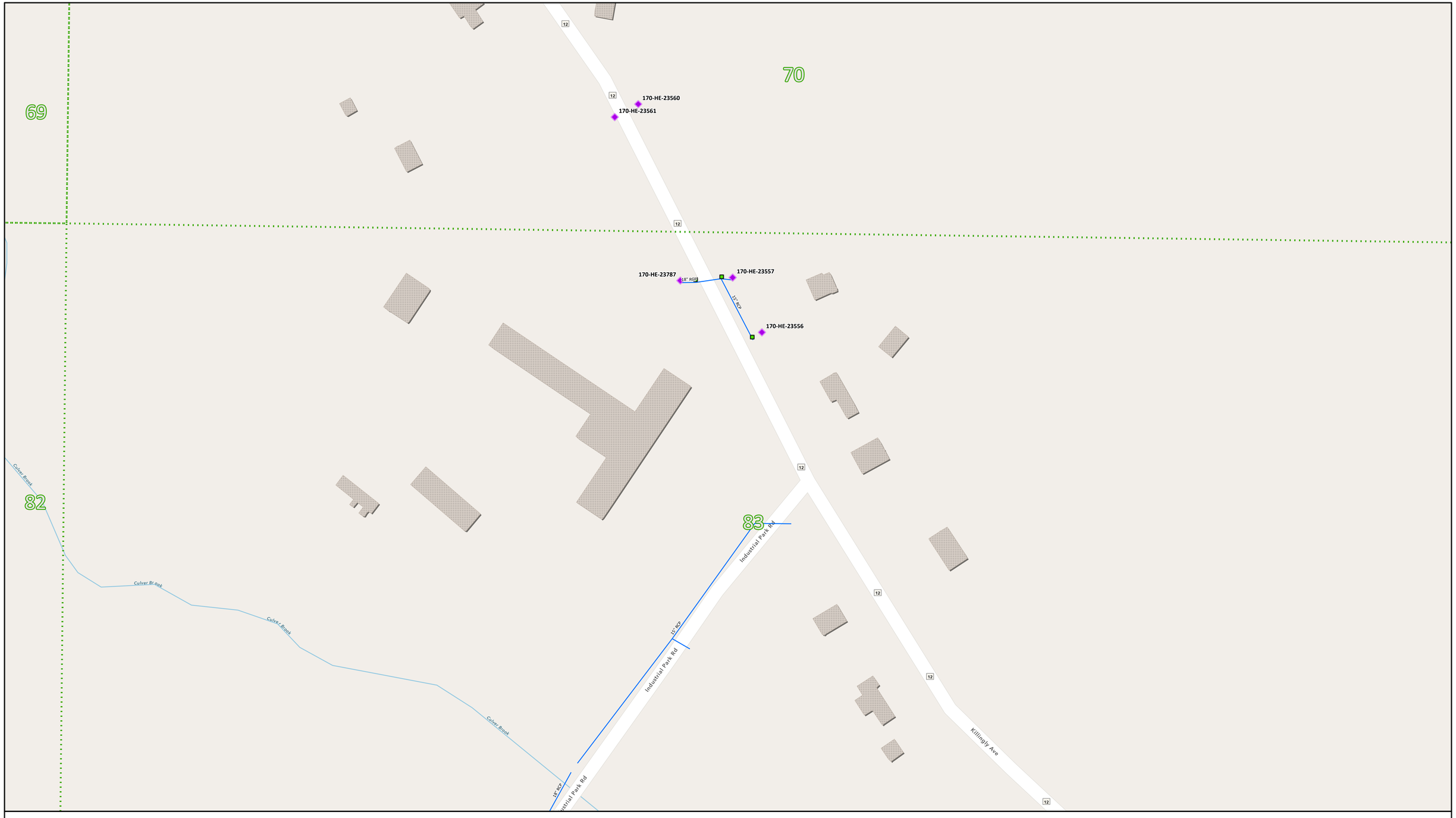
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: K5



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- State

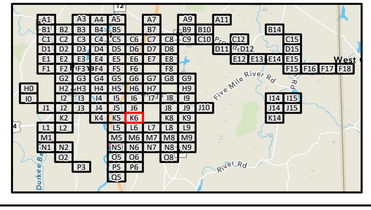
Outfalls
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

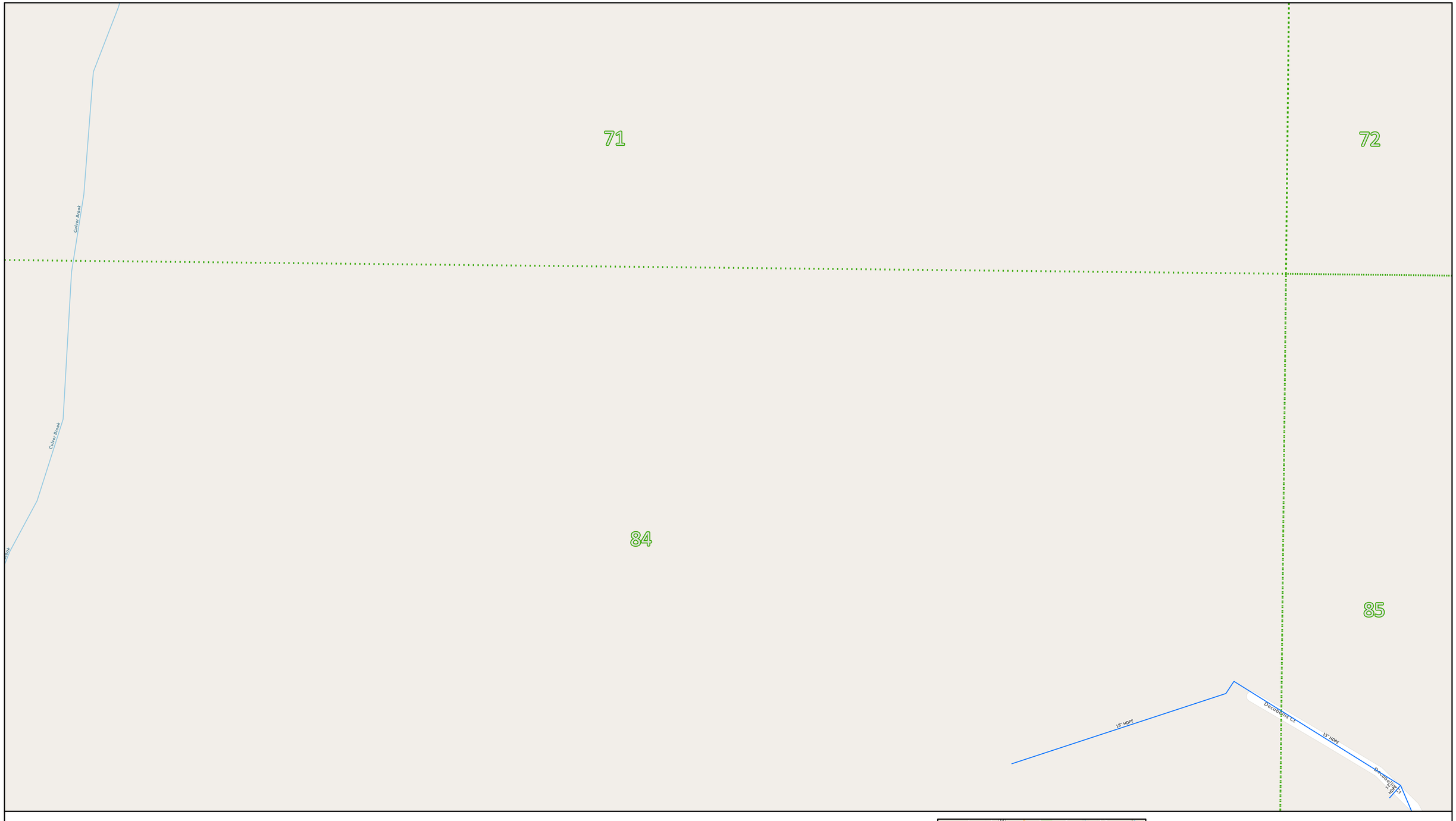
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: K6



CDM Smith

N

0 40 80 160 240 Feet

Legend

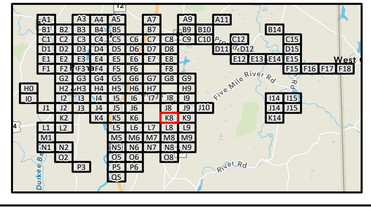
Gravity Main

City

Index Map Catchment Plan (March 2018)

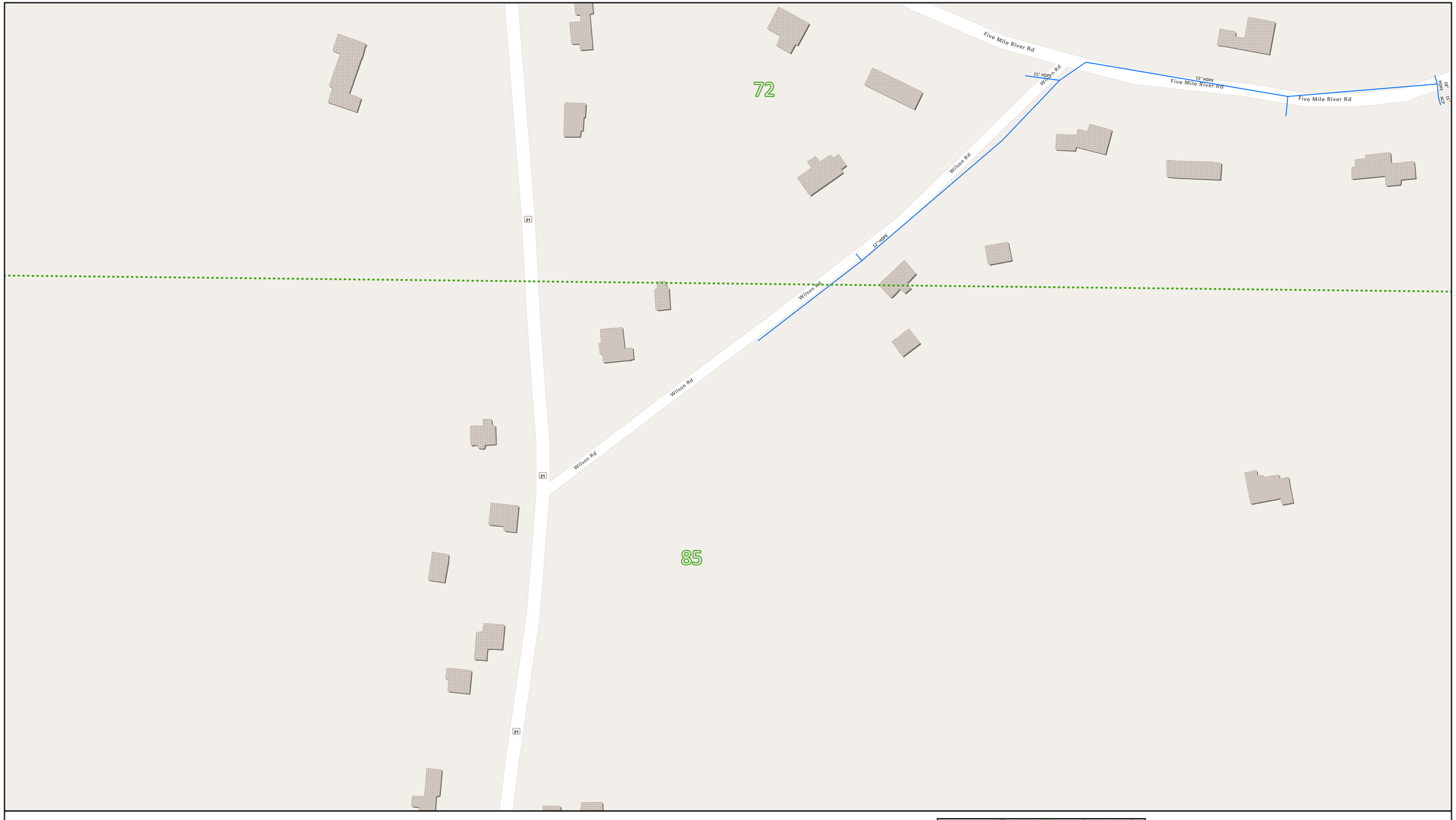
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: K8



CDM Smith

N

0 40 80 160 240 Feet

Legend

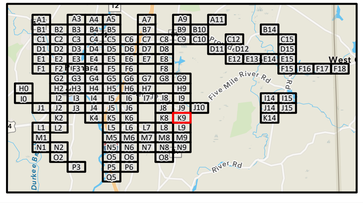
Gravity Main

City

Index Map Catchment Plan (March 2018)

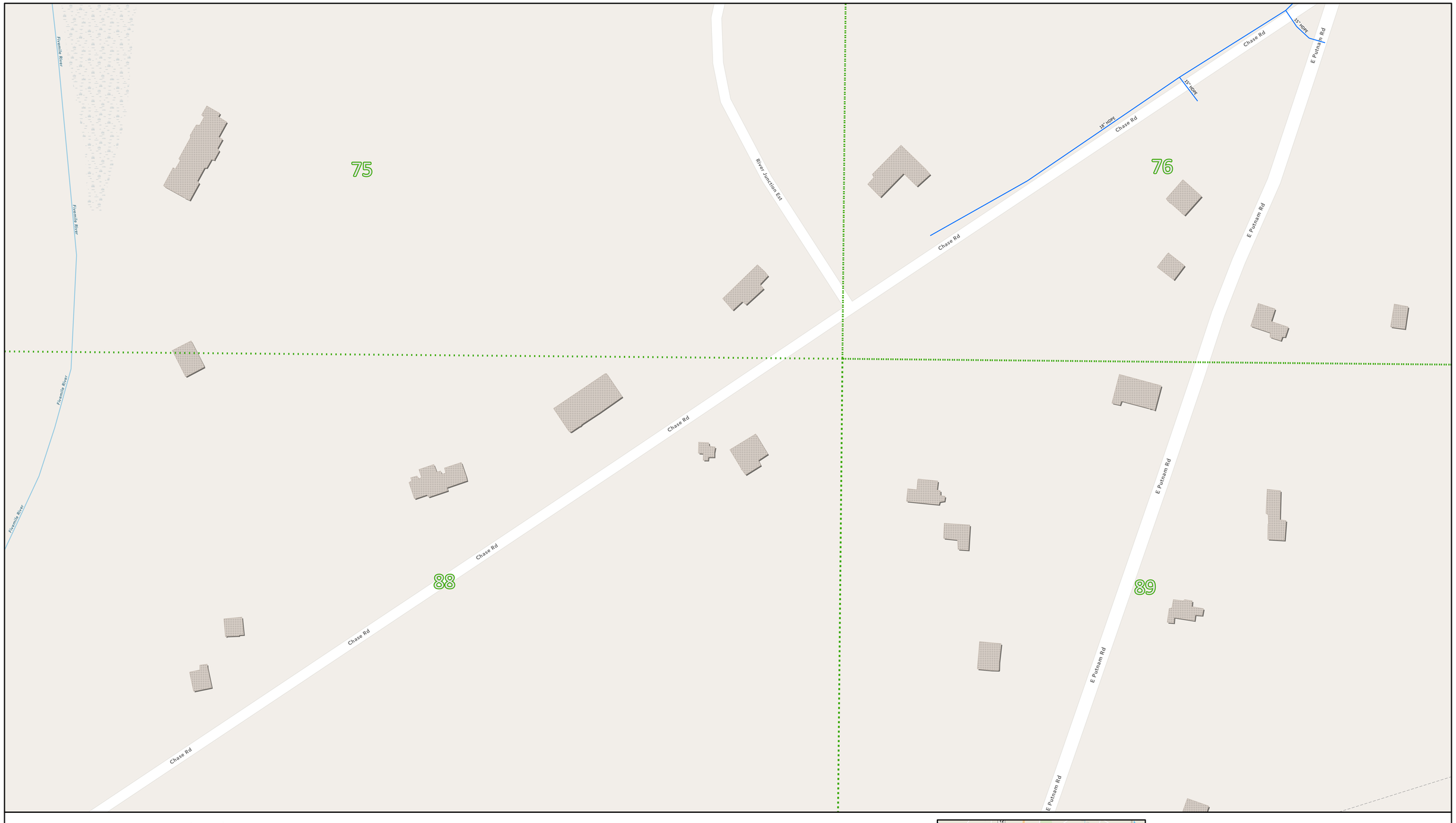
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: K9



CDM Smith

N

0 40 80 160 240 Feet

Legend

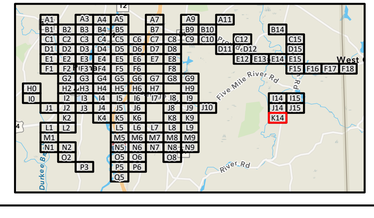
Gravity Main

City

Index Map Catchment Plan (March 2018)

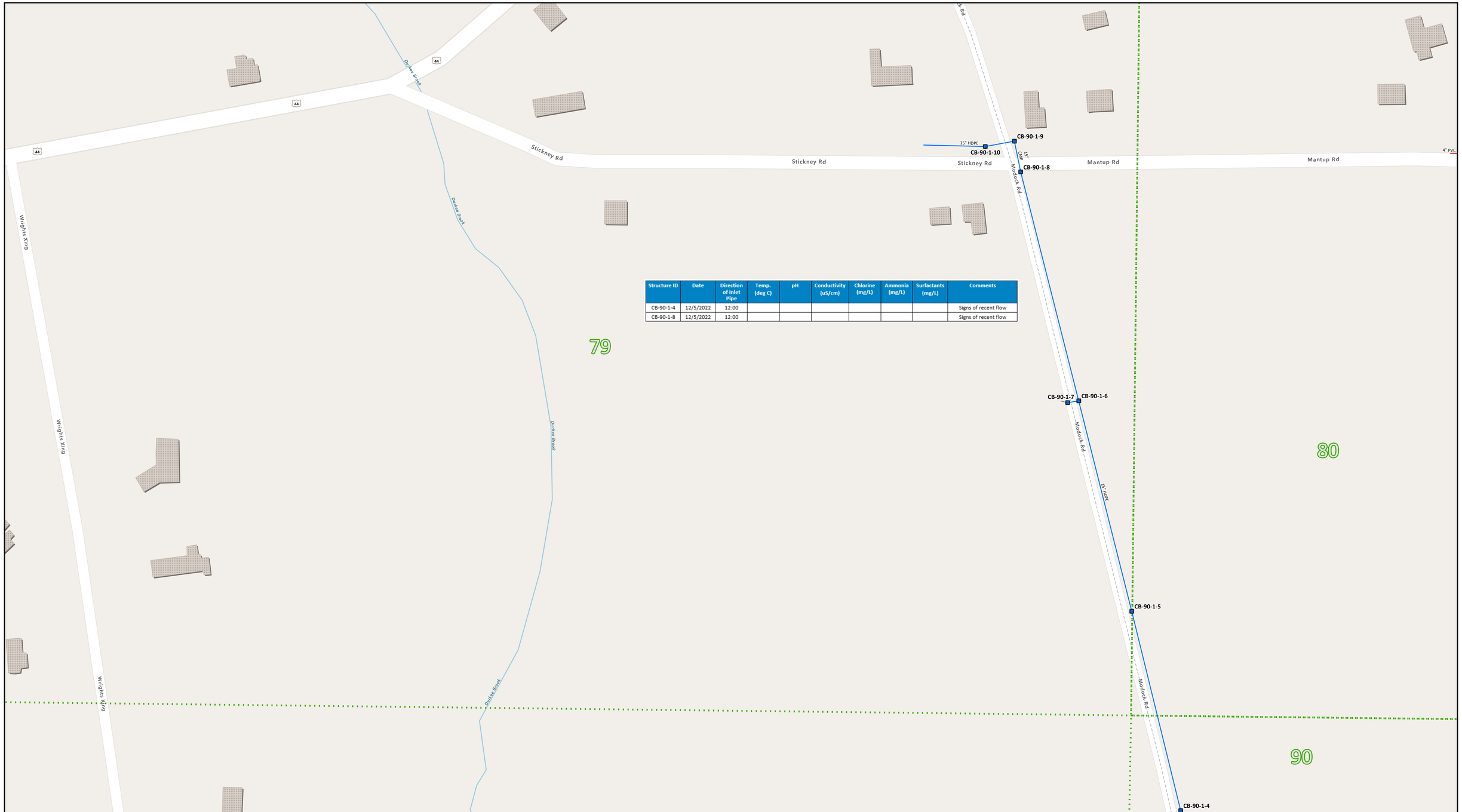
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: K14



Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
CB-90-1-4	12/5/2022	12:00							Signs of recent flow
CB-90-1-8	12/5/2022	12:00							Signs of recent flow

CDM Smith

N

0 40 80 160 240 Feet

Legend

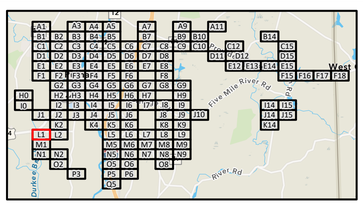
Catch Basin
- City

Gravity Main
- City
- Private

Index Map Catchment Plan (March 2018)

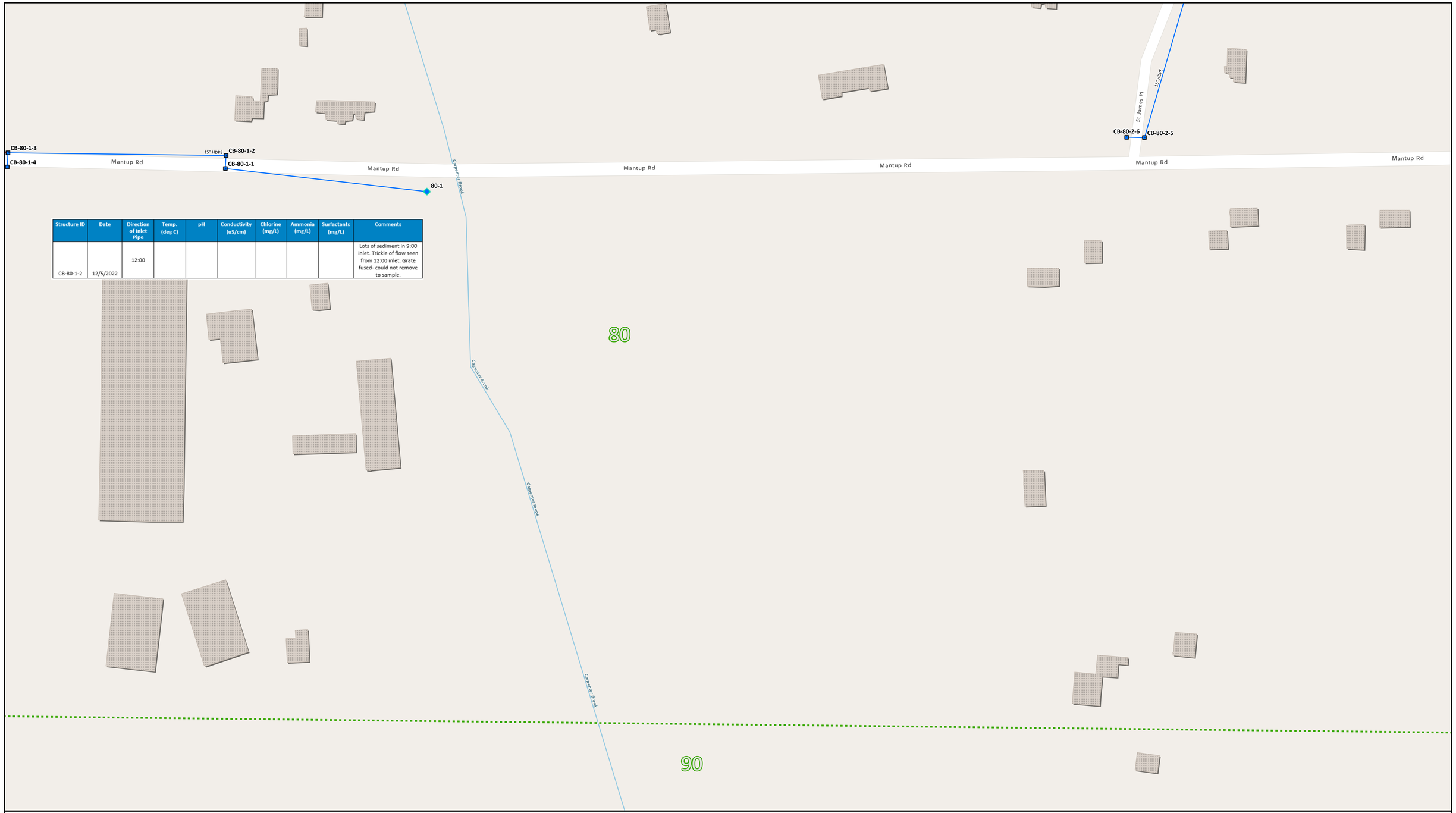
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: L1



Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
CB-80-1-2	12/5/2022	12:00							Lots of sediment in 9:00 inlet. Trickle of flow seen from 12:00 inlet. Grate fused- could not remove to sample.

CDM Smith

N

0 40 80 160 240 Feet

Legend

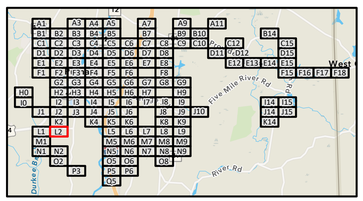
Catch Basin
- City

Outfalls
- City

Gravity Main
- City
- Private
- Index Map Catchment Plan (March 2018)

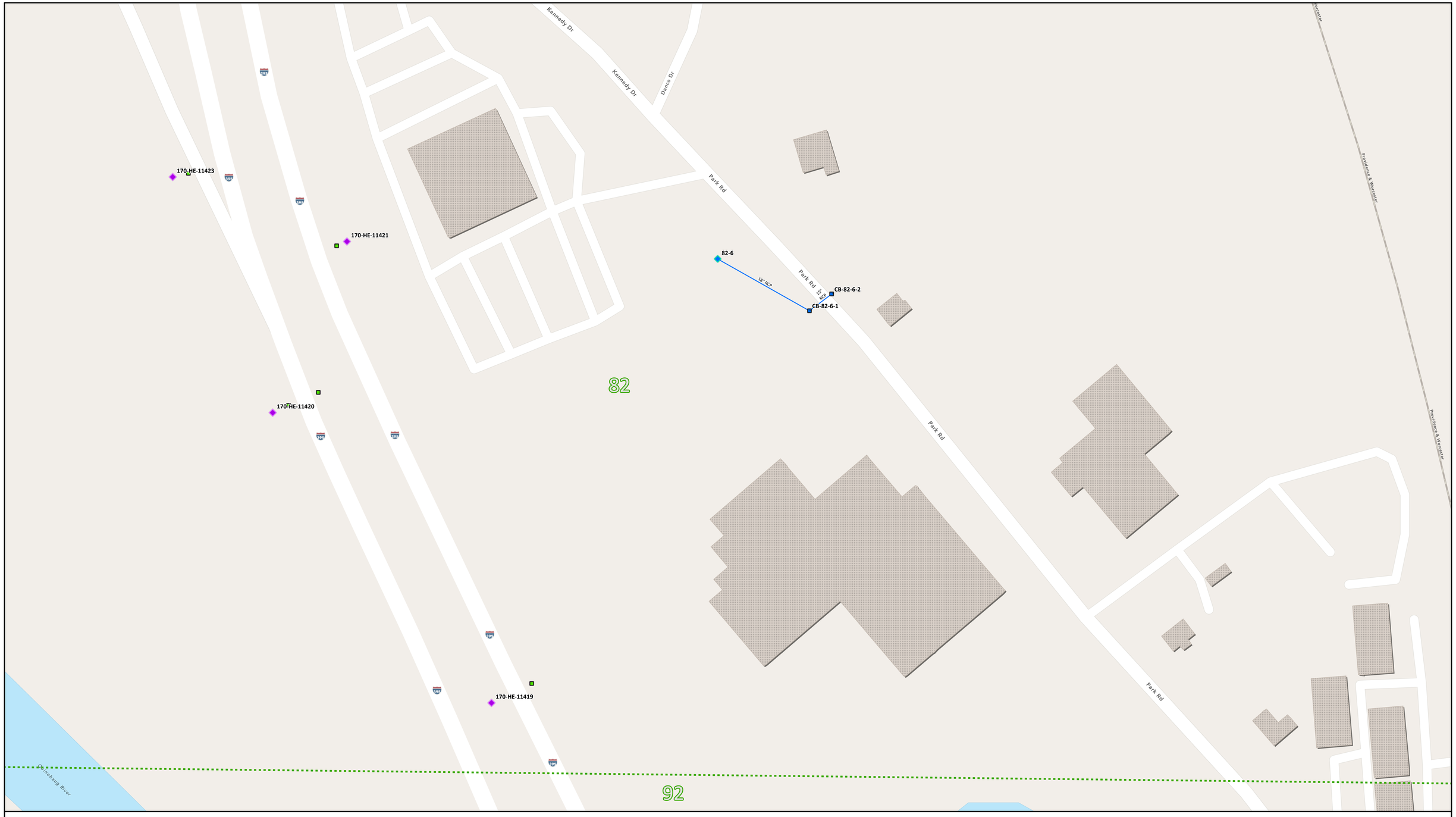
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: L2



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State

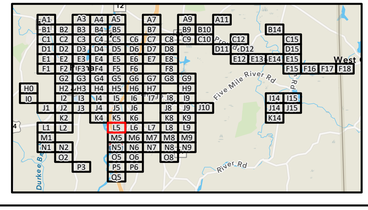
Outfalls
- City
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

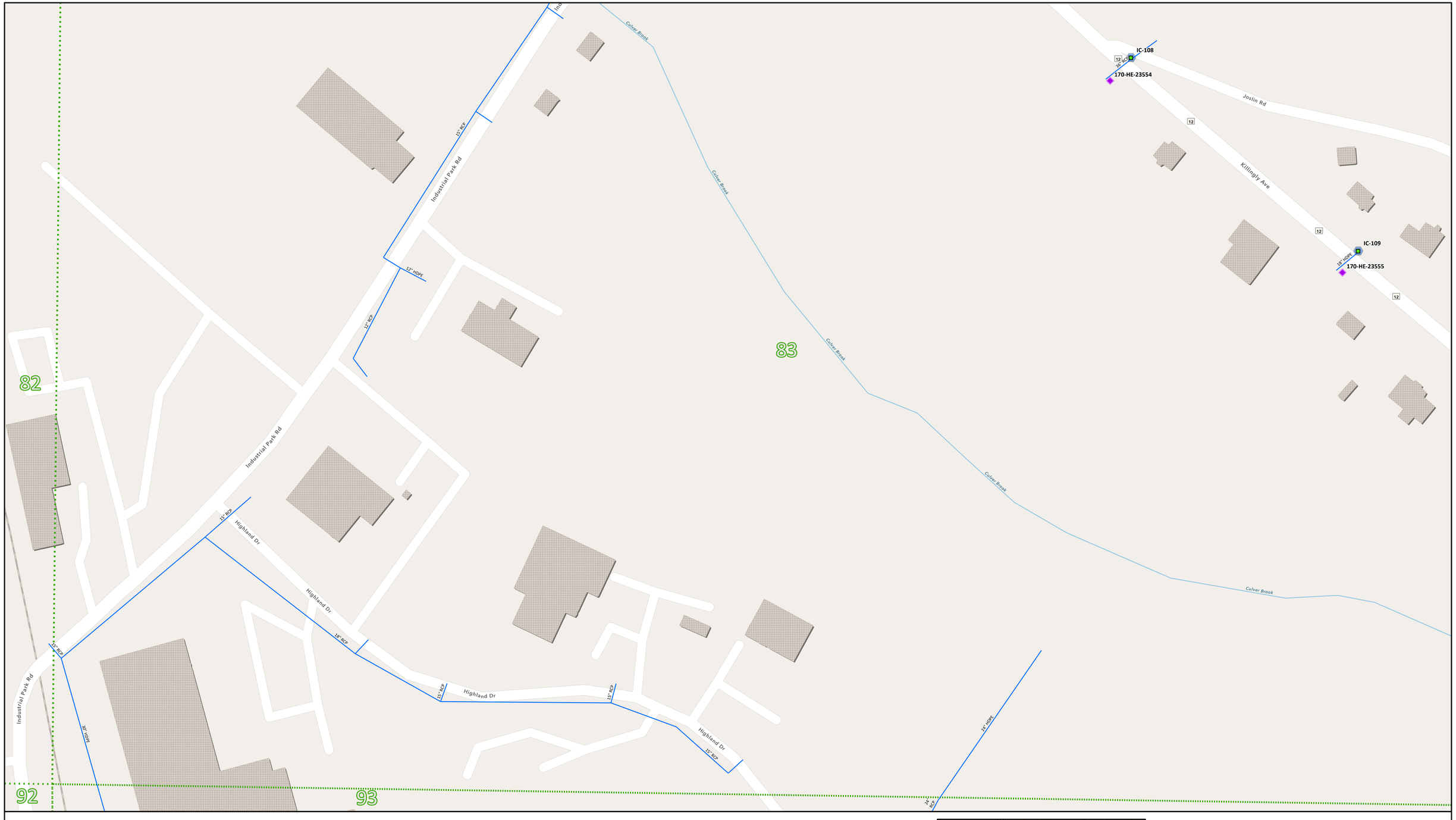
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: L5



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- State

Interconnections
- Other

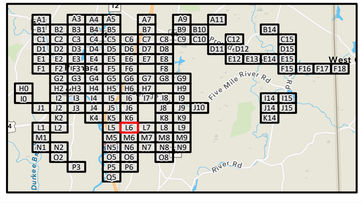
Outfalls
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

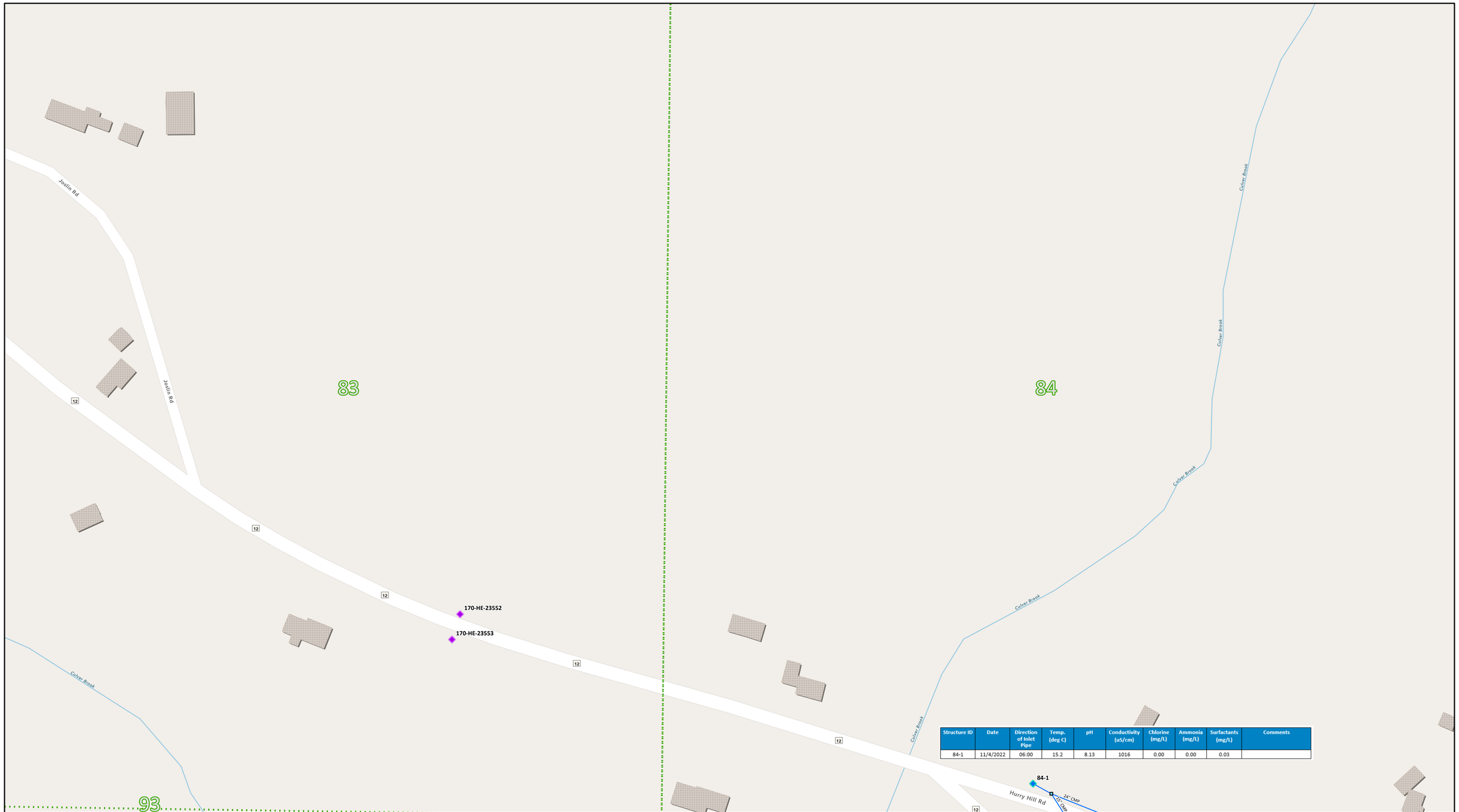
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: L6



Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
84-1	11/4/2022	06:00	15.2	8.13	1016	0.00	0.00	0.03	

CDM Smith

N

0 40 80 160 240 Feet

Legend

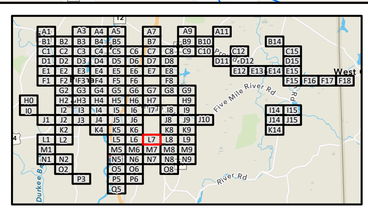
Network Structures

Outfalls
- City
- State

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

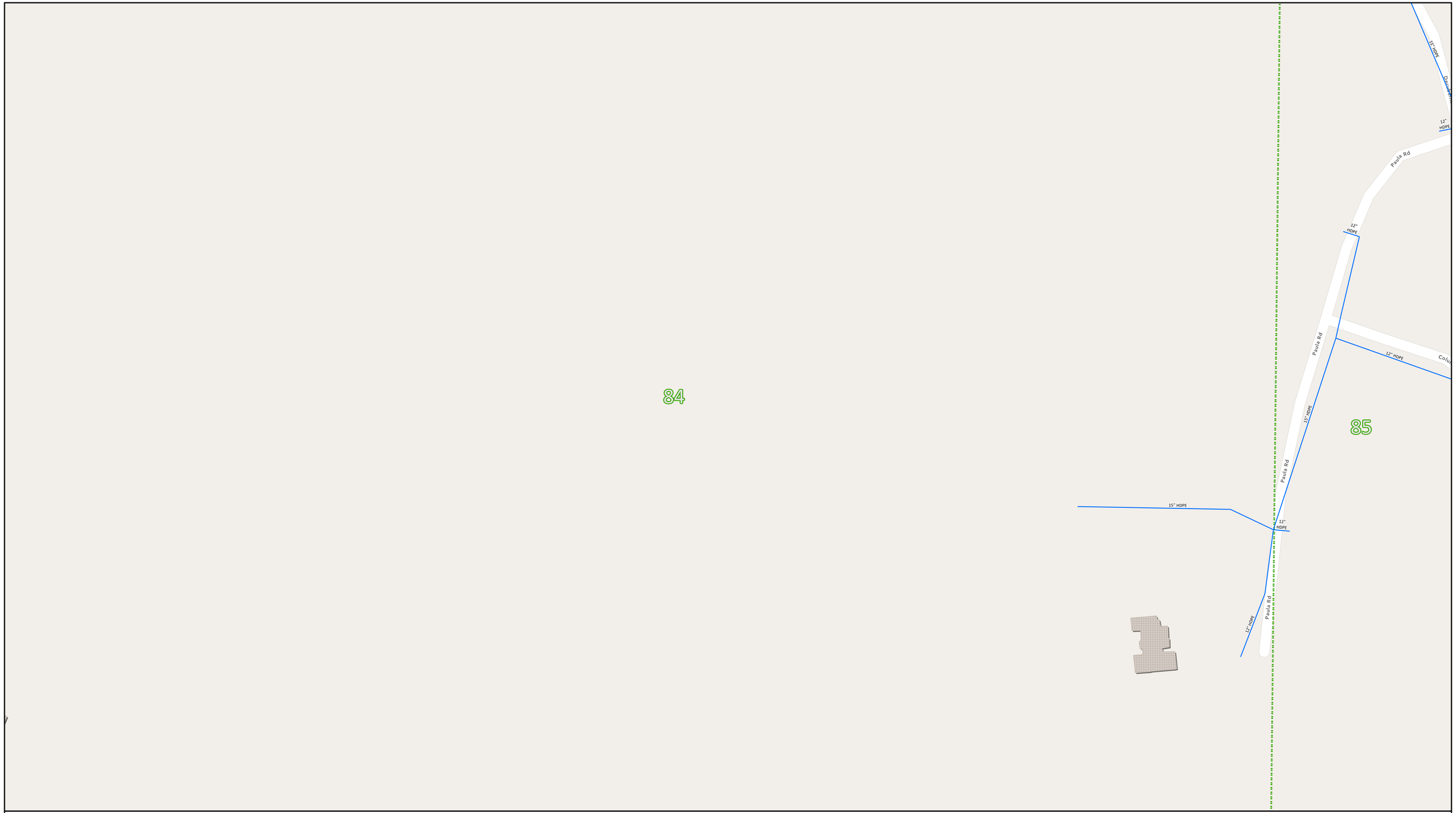
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: L7



CDM Smith

N

0 40 80 160 240 Feet

Legend

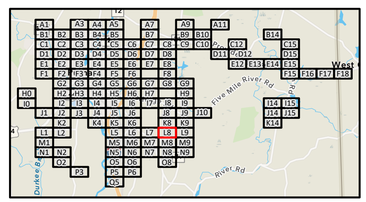
Gravity Main

City

Index Map Catchment Plan (March 2018)

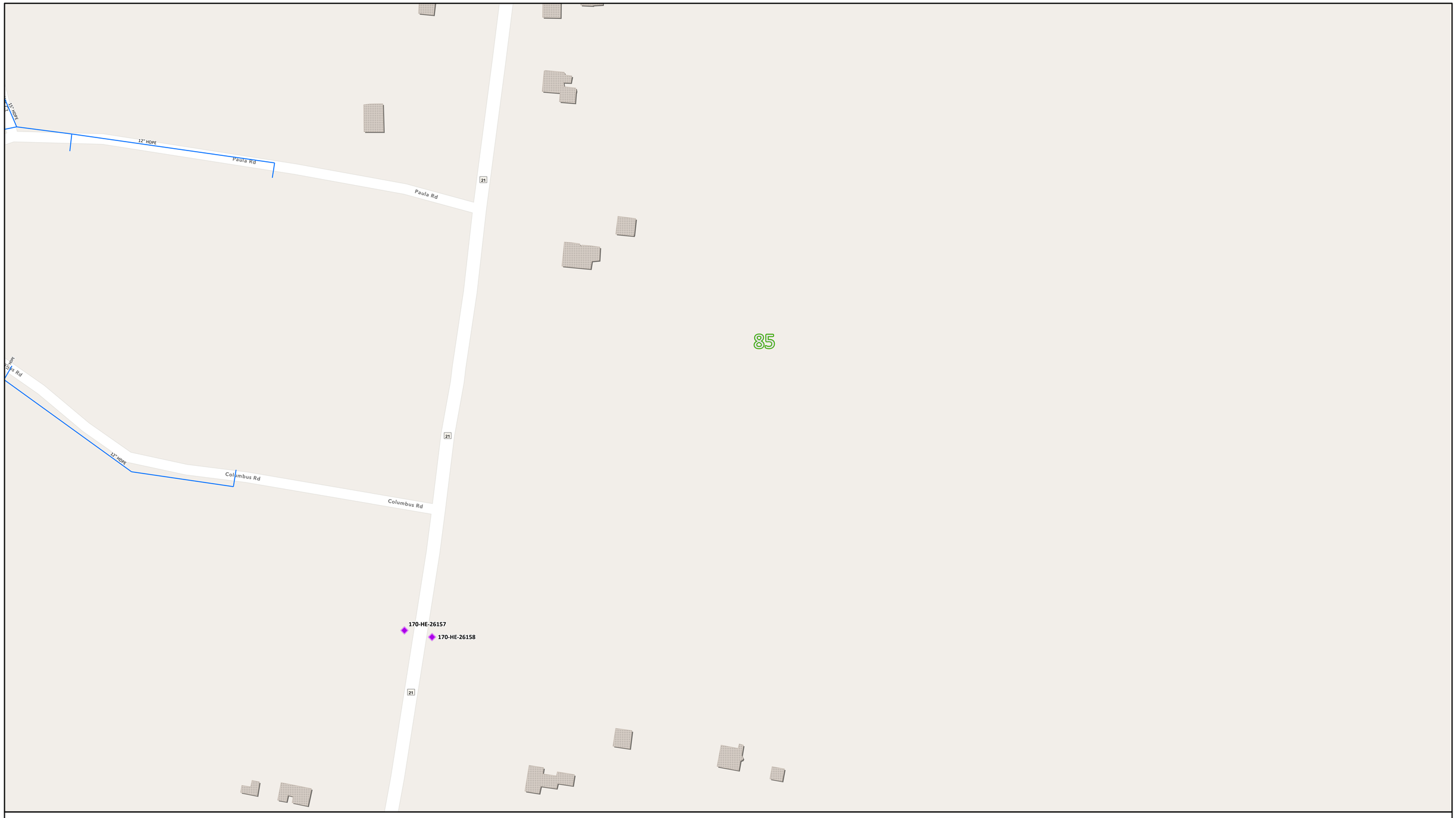
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: L8



CDM Smith

N

0 40 80 160 240 Feet

Legend

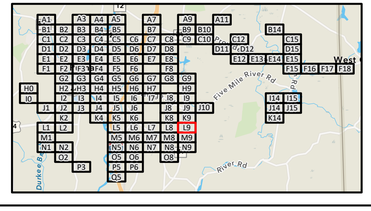
Outfalls
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

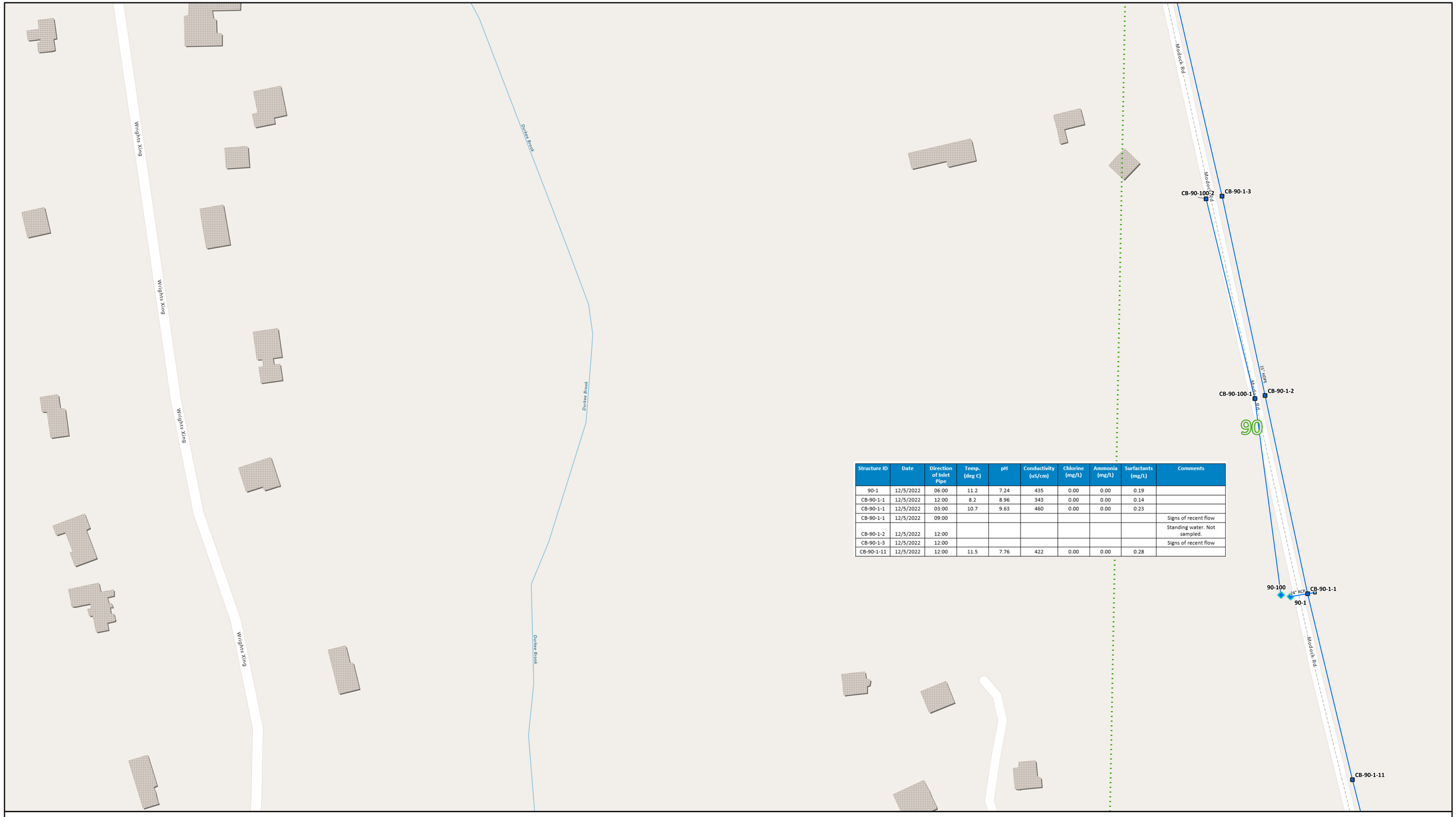
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: L9



Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
90-1	12/5/2022	06:00	11.2	7.24	435	0.00	0.00	0.19	
CB-90-1-1	12/5/2022	12:00	8.2	8.96	343	0.00	0.00	0.14	
CB-90-1-1	12/5/2022	03:00	10.7	9.63	460	0.00	0.00	0.23	
CB-90-1-1	12/5/2022	09:00							Signs of recent flow
CB-90-1-2	12/5/2022	12:00							Standing water. Not sampled.
CB-90-1-3	12/5/2022	12:00							Signs of recent flow
CB-90-1-11	12/5/2022	12:00	11.5	7.76	422	0.00	0.00	0.28	

CDM Smith

N

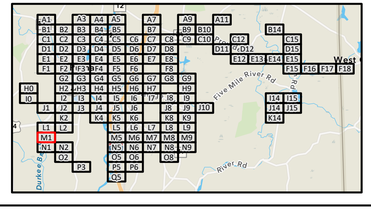
0 40 80 160 240 Feet

Legend

- Network Structures
- Catch Basin
  - City
- Outfalls
  - City
- Gravity Main
  - City
- Index Map Catchment Plan (March 2018)

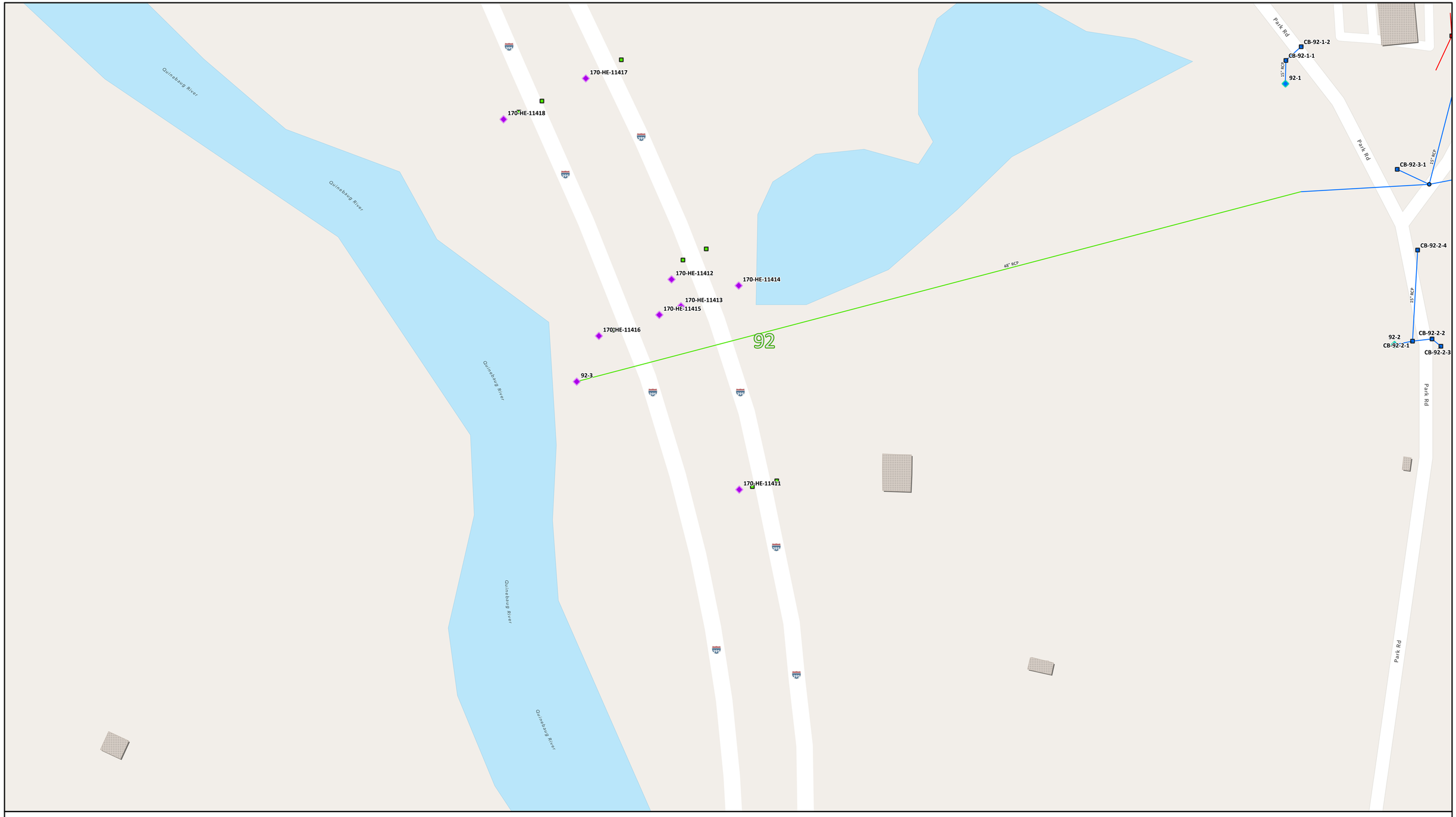
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: M1



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State
- Private

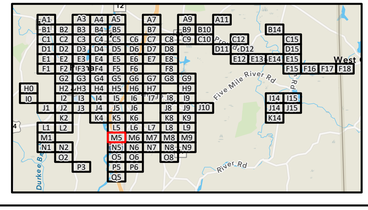
Manholes
- City

Outfalls
- City
- State

Gravity Main
- City
- State
- Private
- Index Map Catchment Plan (March 2018)

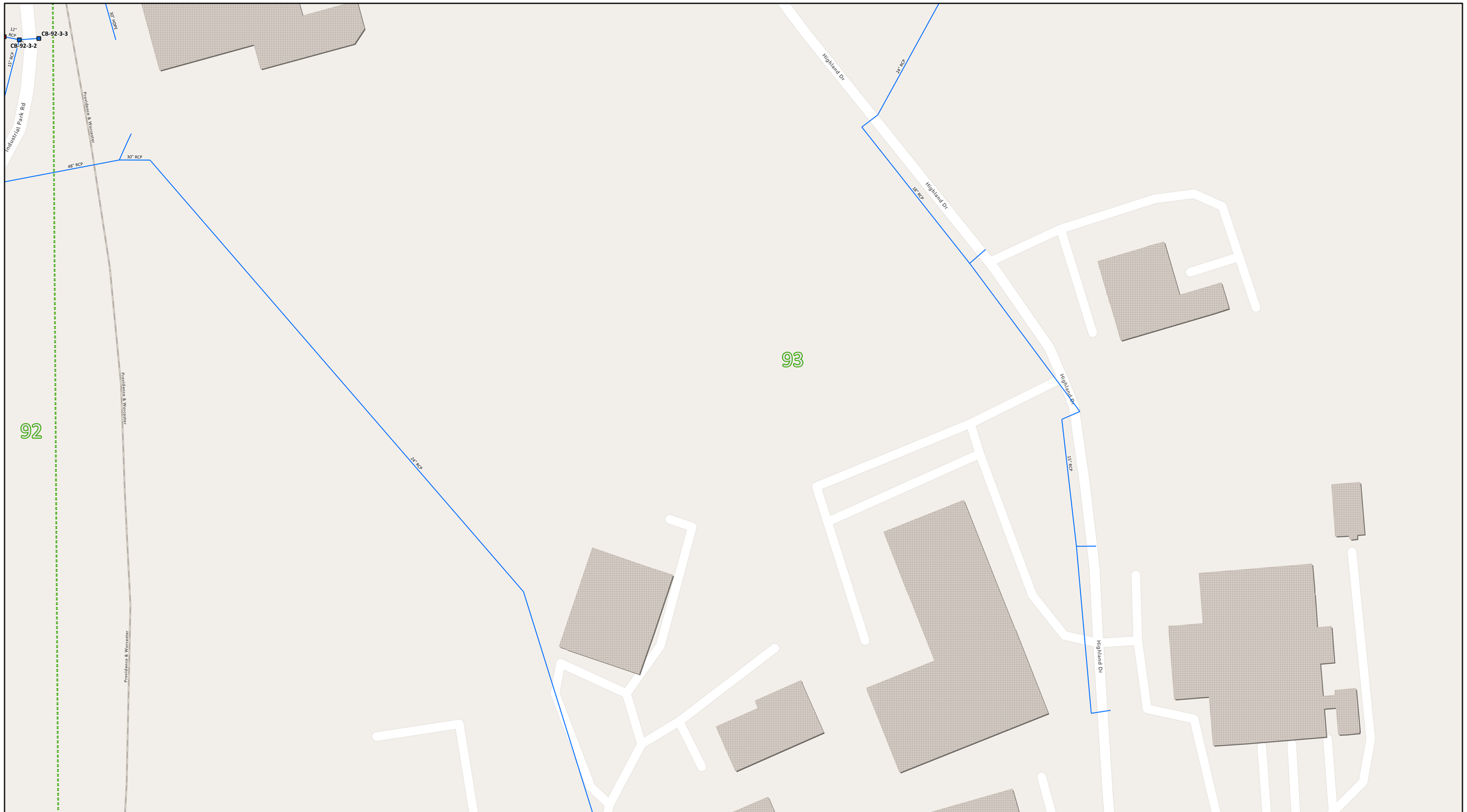
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: M5



CDM Smith

N

0 40 80 160 240 Feet

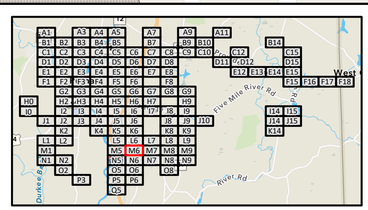
Legend

Catch Basin
- City
- Private

Gravity Main
- City
- Index Map Catchment Plan (March 2018)

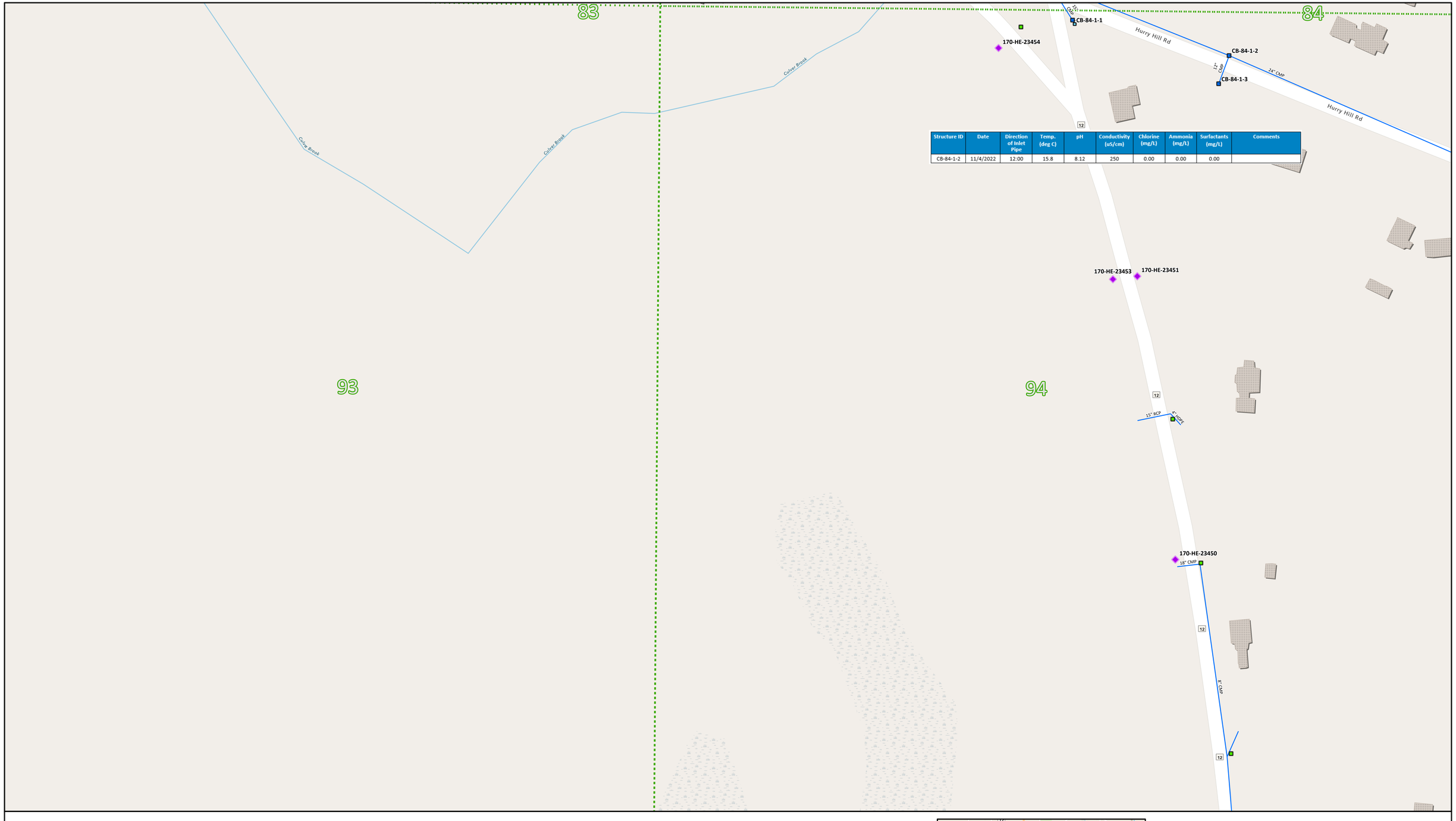
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: M6



Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
CB-84-1-2	11/4/2022	12:00	15.8	8.12	250	0.00	0.00	0.00	

CDM Smith

N

0 40 80 160 240 Feet

Legend

Network Structures

Catch Basin
- City
- State

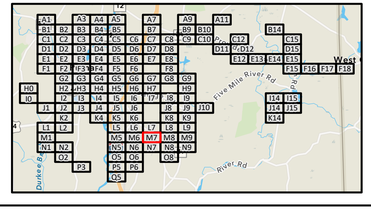
Outfalls
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: M7

Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
CB-84-1-4	11/4/2022	02:00	17.6	7.56	180	0.00	0.00	0.05	
CB-84-1-5	11/4/2022	12:00	16.8	8.46	202	0.00	0.00	0.06	
CB-84-1-6	11/4/2022	12:00	16.7	8.54	156	0.00	0.00	0.05	
CB-84-1-8	11/4/2022	02:00	17.5	8.09	155	0.00	0.00	0.07	
CB-84-1-9	11/4/2022	12:00							Standing water in pipe. Could not sample.
CB-84-1-9	11/4/2022	03:00							Standing water in pipe. Could not sample.
CB-84-1-11	11/4/2022	12:00	18.1	7.85	158	0.00	0.00	0.05	
CB-84-1-13	11/4/2022	09:00	17.5	7.59	114	0.00	0.00	0.06	
CB-84-1-16	11/4/2022	06:00							Signs of recent flow
CB-84-1-17	11/4/2022	12:00							Signs of recent flow
CB-84-1-18	11/4/2022	12:00							Signs of recent flow

84

85

95

94

CB-84-1-4
24" CMP
18" RCP
CB-84-1-5
Hurry Hill Rd
18" CMP
CB-84-1-6
12" CMP
CB-84-1-7
CB-84-1-8
Hurry Hill Rd
12" CMP
CB-84-1-9
CB-84-1-10
18" CMP
CB-84-1-11
Hurry Hill Rd
12" CMP
CB-84-1-12
Hurry Hill Rd
12" CMP
3" HDPE
CB-84-1-13
CB-84-1-14
Hurry Hill Rd
12" CMP
CB-84-1-15
CB-84-1-16
Hurry Hill Rd
15" CMP
CB-84-1-17
CB-94-4-3
Pierce Rd
15" CMP
CB-94-4-2
Pierce Rd
18" CMP
CB-94-4-1
94-4
24" CMP
Pierce Rd
15" HDPE
CB-94-3-4
Pierce Rd
CB-94-3-5
Bradley Rd
Bradley Rd
CB-84-1-18
Hurry Hill Rd

CDM Smith

N

0 40 80 160 240 Feet

Legend

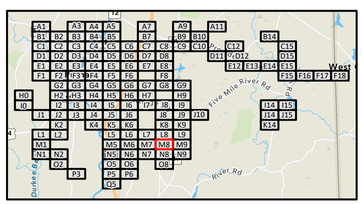
Catch Basin
- City

Outfalls
- City

Gravity Main
- City
- Private
- Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: M8



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State

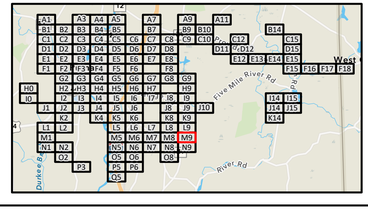
Interconnections
- Other

Gravity Main
- City

Index Map Catchment Plan (March 2018)

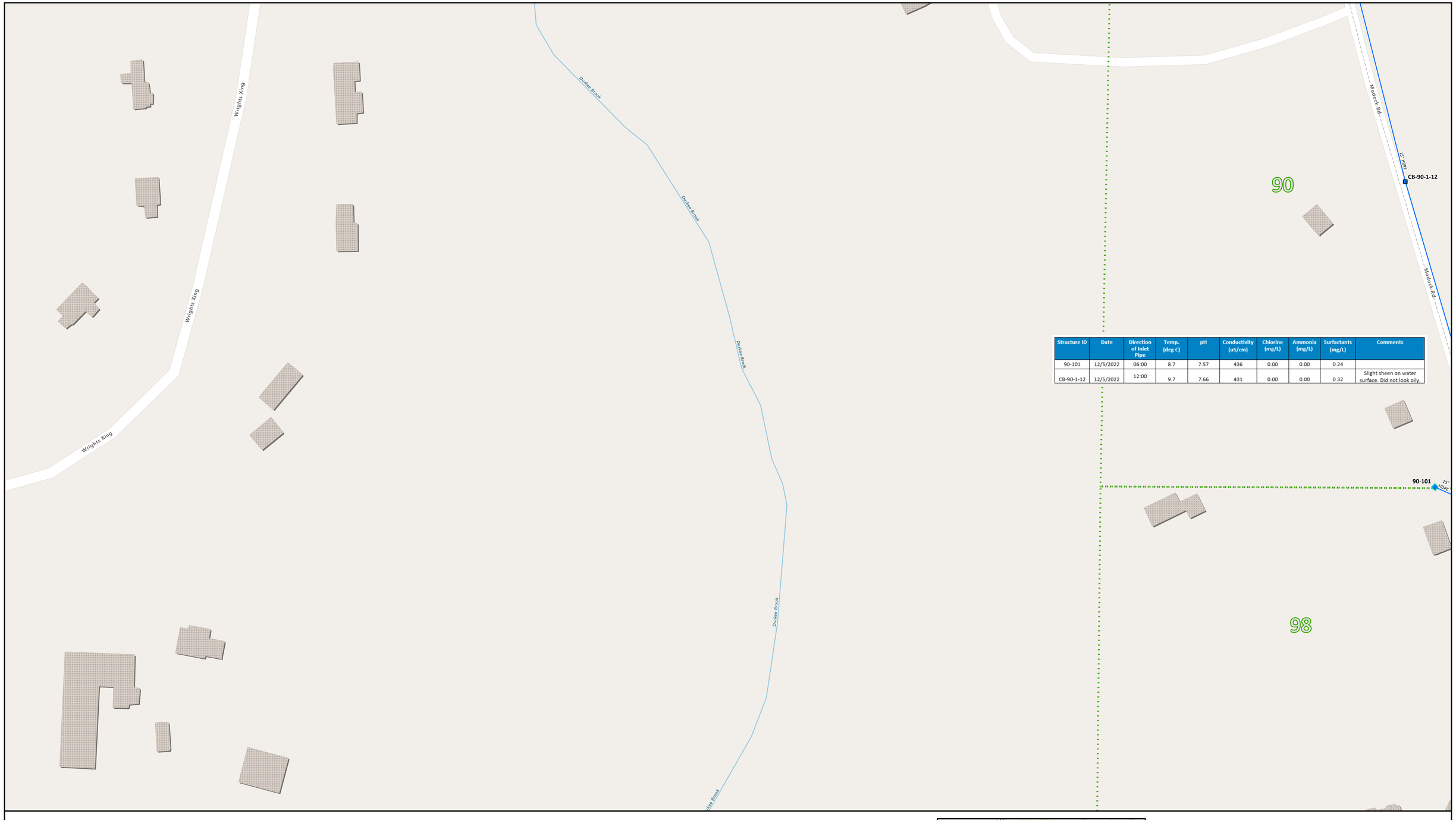
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: M9



Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
90-101	12/5/2022	06:00	8.7	7.57	436	0.00	0.00	0.24	
CB-90-1-12	12/5/2022	12:00	9.7	7.66	431	0.00	0.00	0.32	Slight sheen on water surface. Did not look oily.

CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City

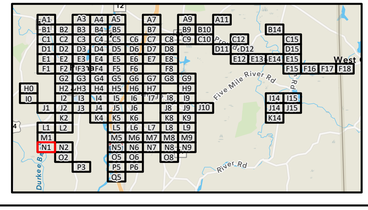
Outfalls
- City

Gravity Main
- City

Index Map Catchment Plan (March 2018)

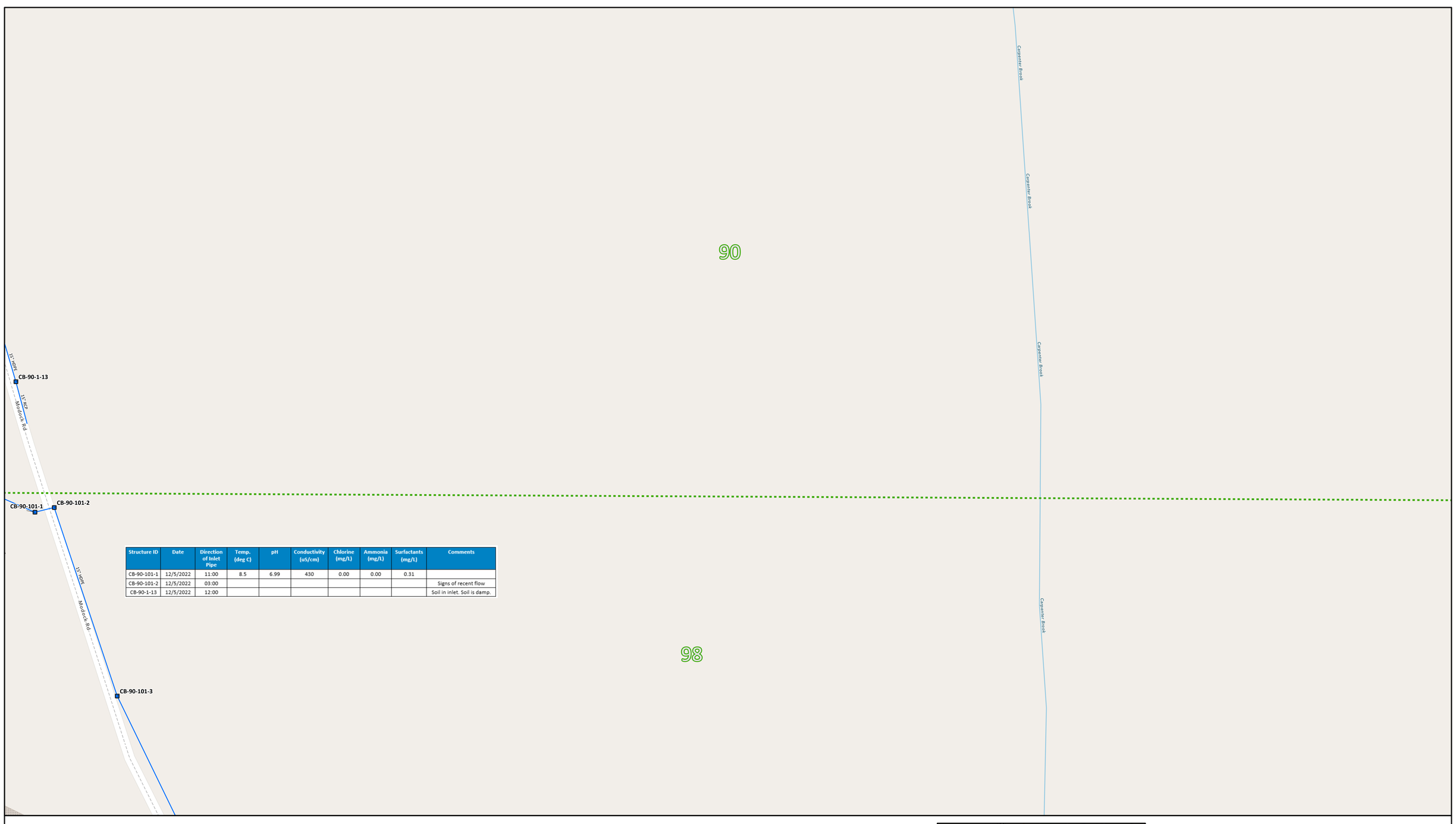
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: N1



Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
CB-90-101-1	12/5/2022	11:00	8.5	6.99	430	0.00	0.00	0.31	
CB-90-101-2	12/5/2022	03:00							Signs of recent flow
CB-90-1-13	12/5/2022	12:00							Soil in inlet. Soil is damp.

CDM Smith

N

0 40 80 160 240 Feet

Legend

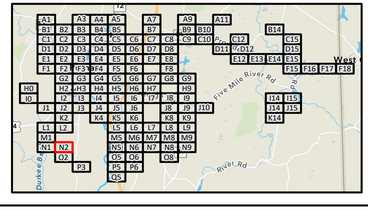
Catch Basin
- City

Gravity Main
- City

Index Map Catchment Plan (March 2018)

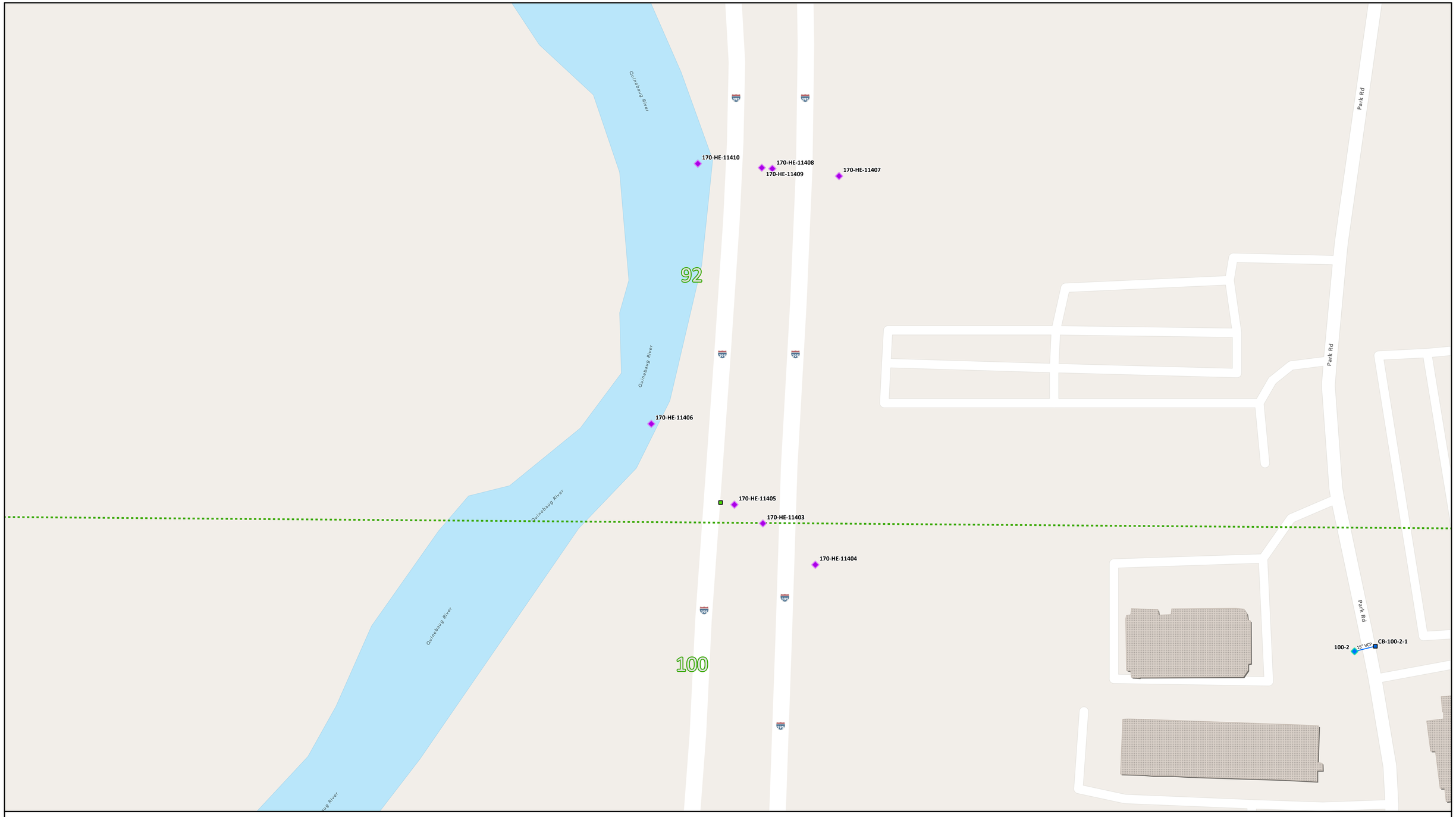
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: N2



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State

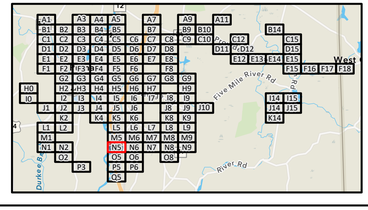
Outfalls
- City
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: N5

Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
CB-92-3-4	10/11/2022	12:00	17.6	8.54	101	0.00	0.00	0.27	
CB-92-3-6	10/11/2022	12:00	17.6	8.25	41	0.00	0.00	0.38	
CB-92-3-7	10/11/2022	09:00	16.3	7.55	40	0.10	0.00	0.84	9:00 upstream catch basin was inspected and flow was observed. Upstream structure is within private property.

CB-92-3-4
Ridge Rd
CB-92-3-5
CB-92-3-6
15" RCP
24" RCP
92
93
100
101
Providence & Worcester
Highland Dr
CB-93-1-2
CB-93-1-1
93-1
15" HDPE
18" RCP
CB-93-1-4
CB-93-1-5
CB-93-1-6
CB-93-1-7
CB-93-1-3
8" PVC
CB-92-3-7
CB-92-3-8
CB-92-3-9
CB-92-3-10
CB-92-3-11
101-1
CB-101-1-1
CB-101-1-2
CB-101-1-3
12" HDPE

CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- Private

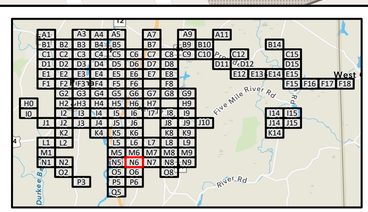
Outfalls
- City

Gravity Main
- City
- Private

Index Map Catchment Plan (March 2018)

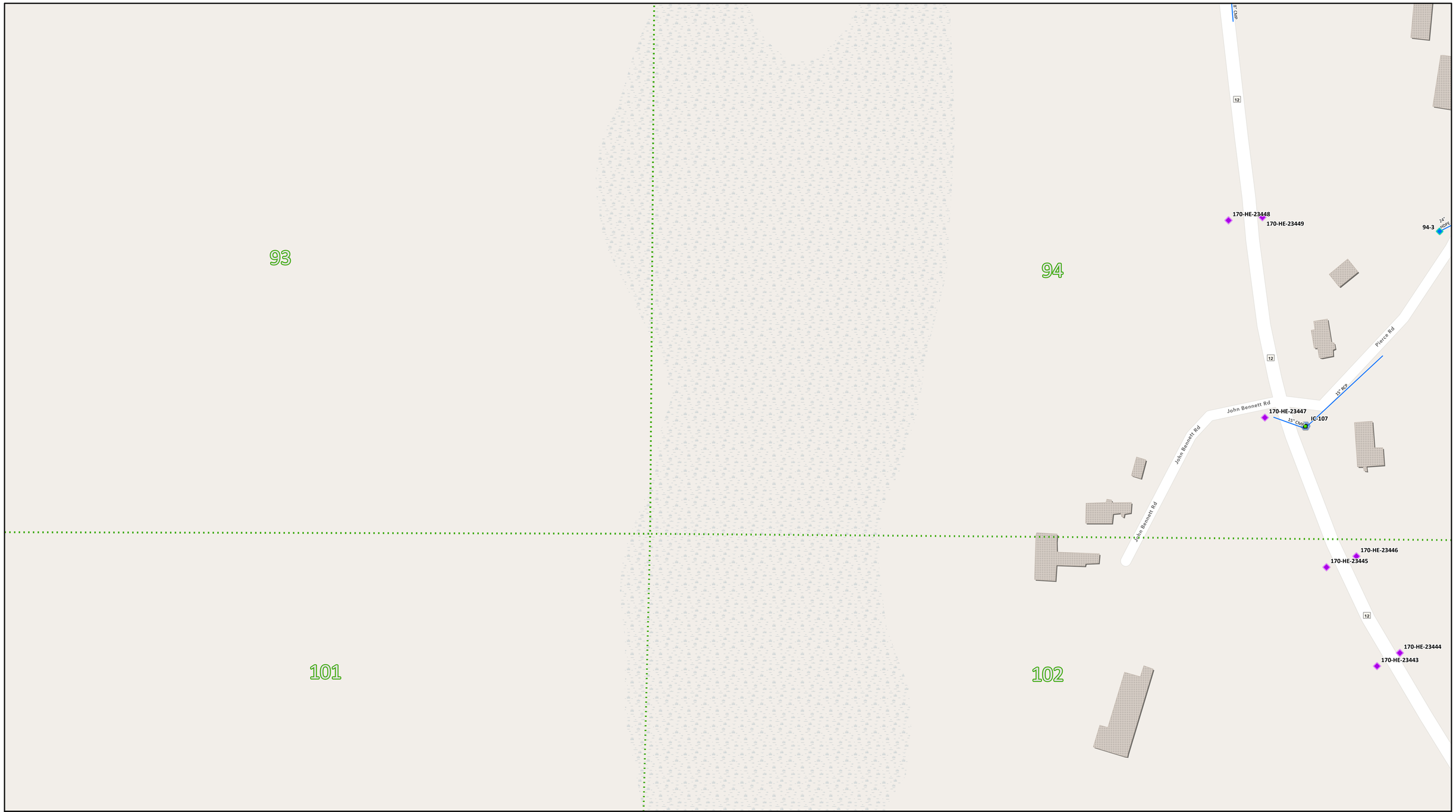
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: N6



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- State

Interconnections
- Other

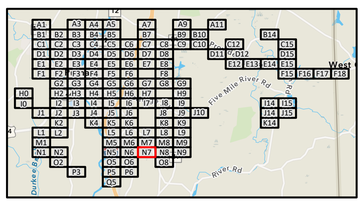
Outfalls
- City
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: N7

CB-94-3-3

24" HDPE

24" RCP

Pierce Rd

CB-94-3-2

CB-94-3-1

24" HDPE

94

95

102

103

12

CDM Smith

N

0 40 80 160 240 Feet

Legend

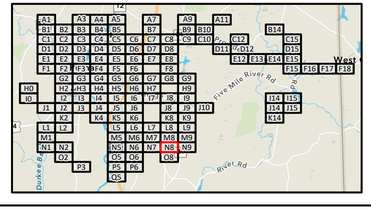
Catch Basin
- City

Gravity Main
- City
- Private

Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: N8

Aspinock Rd

Aspinock Rd

Aspinock Rd

15" CMP

21

21

21

95

103

170-HE-26368

170-HE-26156

Aspinock Rd

Aspinock Rd

Putnam Rd

Putnam Rd

CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- State

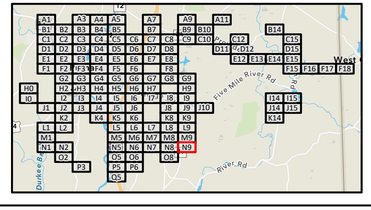
Outfalls
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

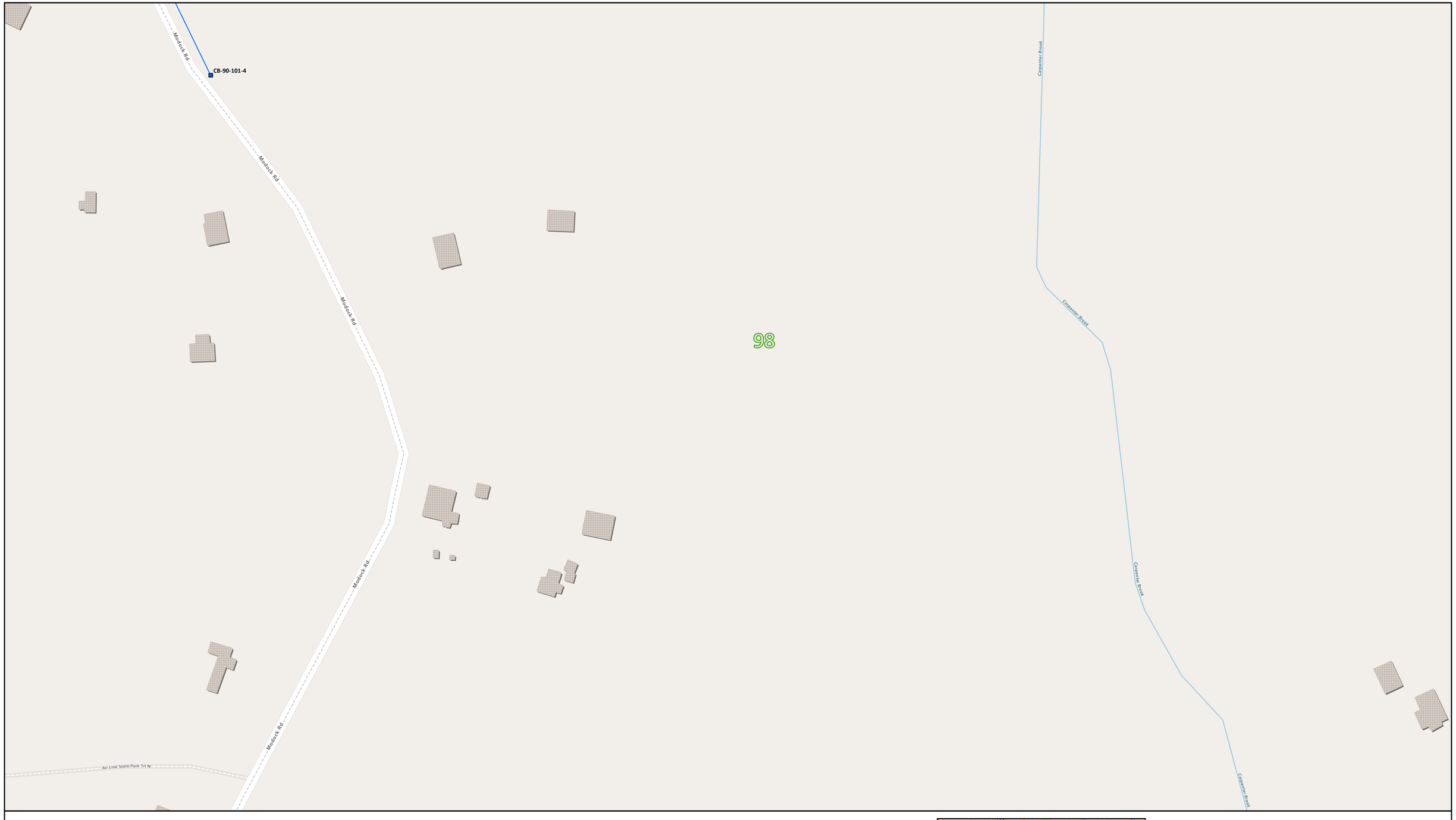
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: N9



CDM Smith

N

0 40 80 160 240 Feet

Legend

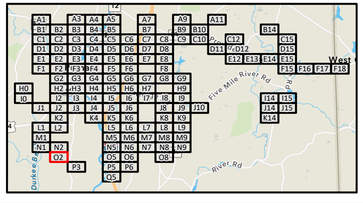
Catch Basin
- City

Gravity Main
- City

Index Map Catchment Plan (March 2018)

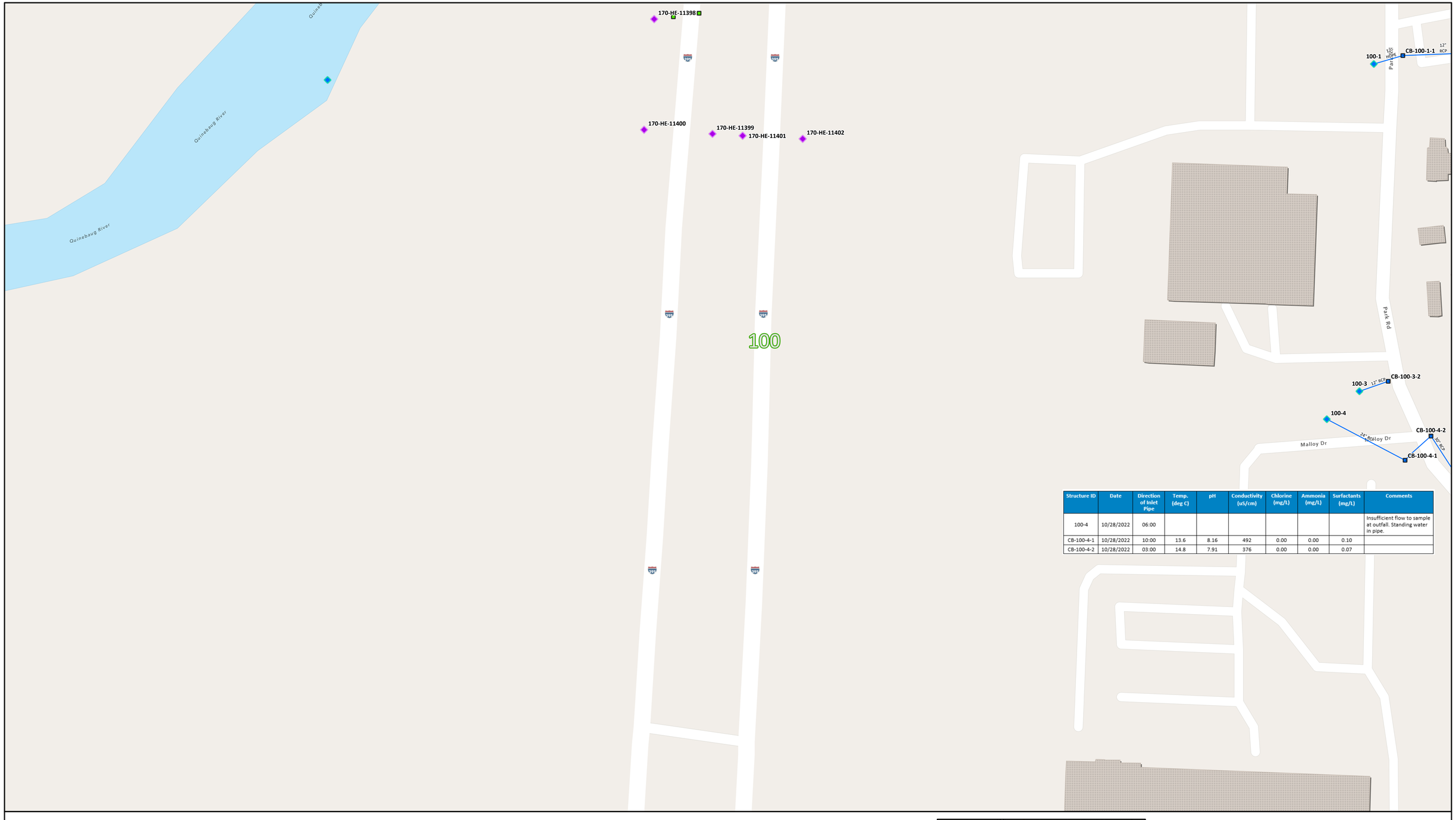
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: O2



Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
100-4	10/28/2022	06:00							Insufficient flow to sample at outfall. Standing water in pipe.
CB-100-4-1	10/28/2022	10:00	13.6	8.16	492	0.00	0.00	0.10	
CB-100-4-2	10/28/2022	03:00	14.8	7.91	376	0.00	0.00	0.07	

CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- State

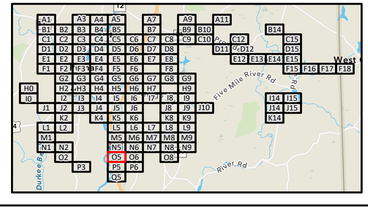
Outfalls
- City
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

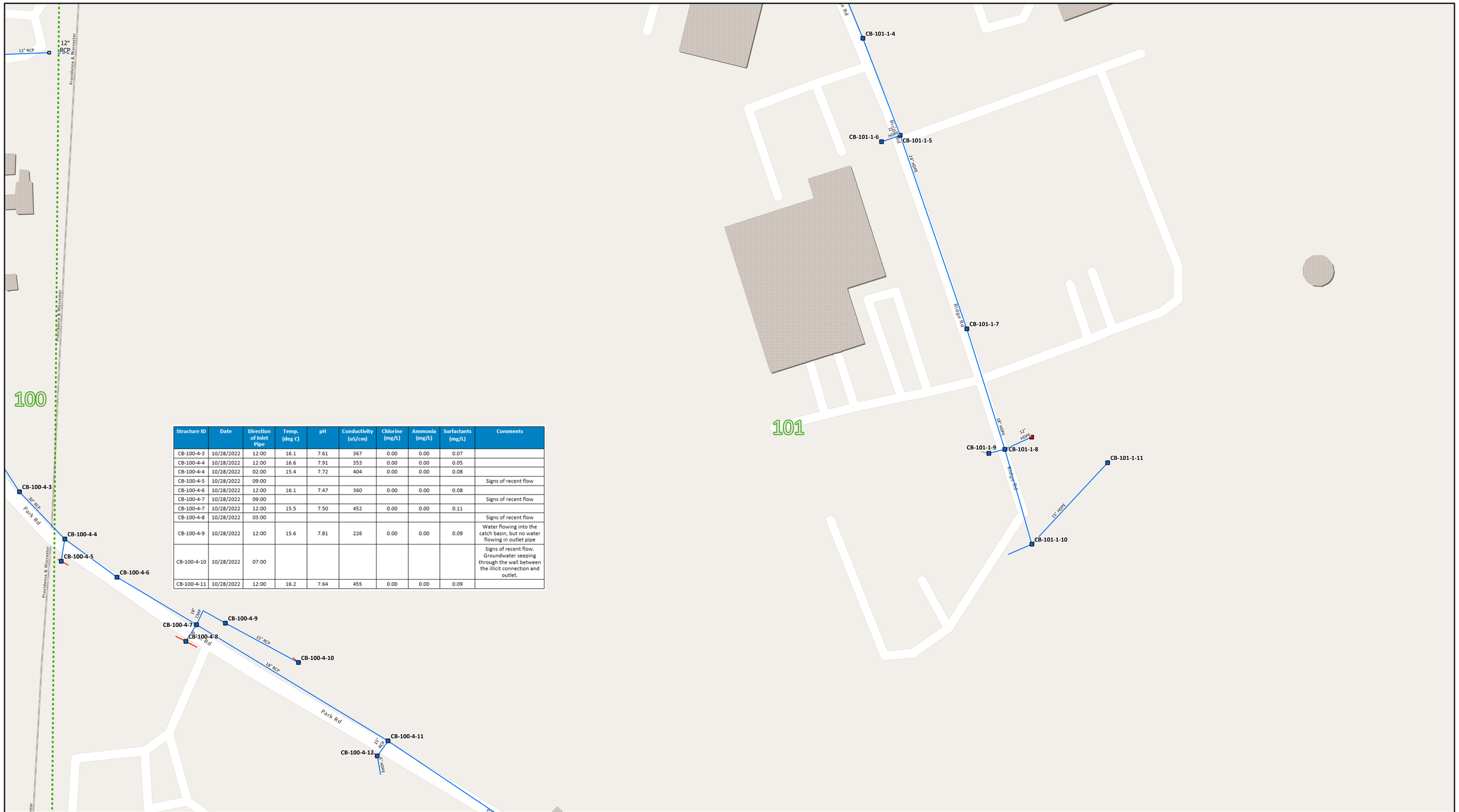
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: O5



Structure ID	Date	Direction of Inlet Pipe	Temp. (deg C)	pH	Conductivity (uS/cm)	Chlorine (mg/L)	Ammonia (mg/L)	Surfactants (mg/L)	Comments
CB-100-4-3	10/28/2022	12:00	16.1	7.61	367	0.00	0.00	0.07	
CB-100-4-4	10/28/2022	12:00	16.6	7.91	353	0.00	0.00	0.05	
CB-100-4-4	10/28/2022	02:00	15.4	7.72	404	0.00	0.00	0.08	
CB-100-4-5	10/28/2022	09:00							Signs of recent flow
CB-100-4-6	10/28/2022	12:00	16.1	7.47	360	0.00	0.00	0.08	
CB-100-4-7	10/28/2022	09:00							Signs of recent flow
CB-100-4-7	10/28/2022	12:00	15.5	7.50	452	0.00	0.00	0.11	
CB-100-4-8	10/28/2022	03:00							Signs of recent flow
CB-100-4-9	10/28/2022	12:00	15.6	7.81	226	0.00	0.00	0.09	Water flowing into the catch basin, but no water flowing in outlet pipe
CB-100-4-10	10/28/2022	07:00							Signs of recent flow. Groundwater seeping through the wall between the illicit connection and outlet.
CB-100-4-11	10/28/2022	12:00	16.2	7.64	455	0.00	0.00	0.09	

CDM Smith

N

0 40 80 160 240 Feet

Legend

Network Structures

Catch Basin
- City
- Private

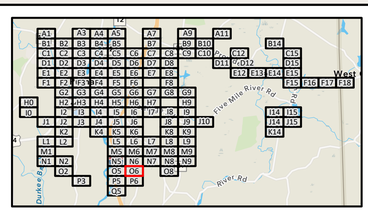
Culvert
- City

Gravity Main
- City
- Private

Index Map Catchment Plan (March 2018)

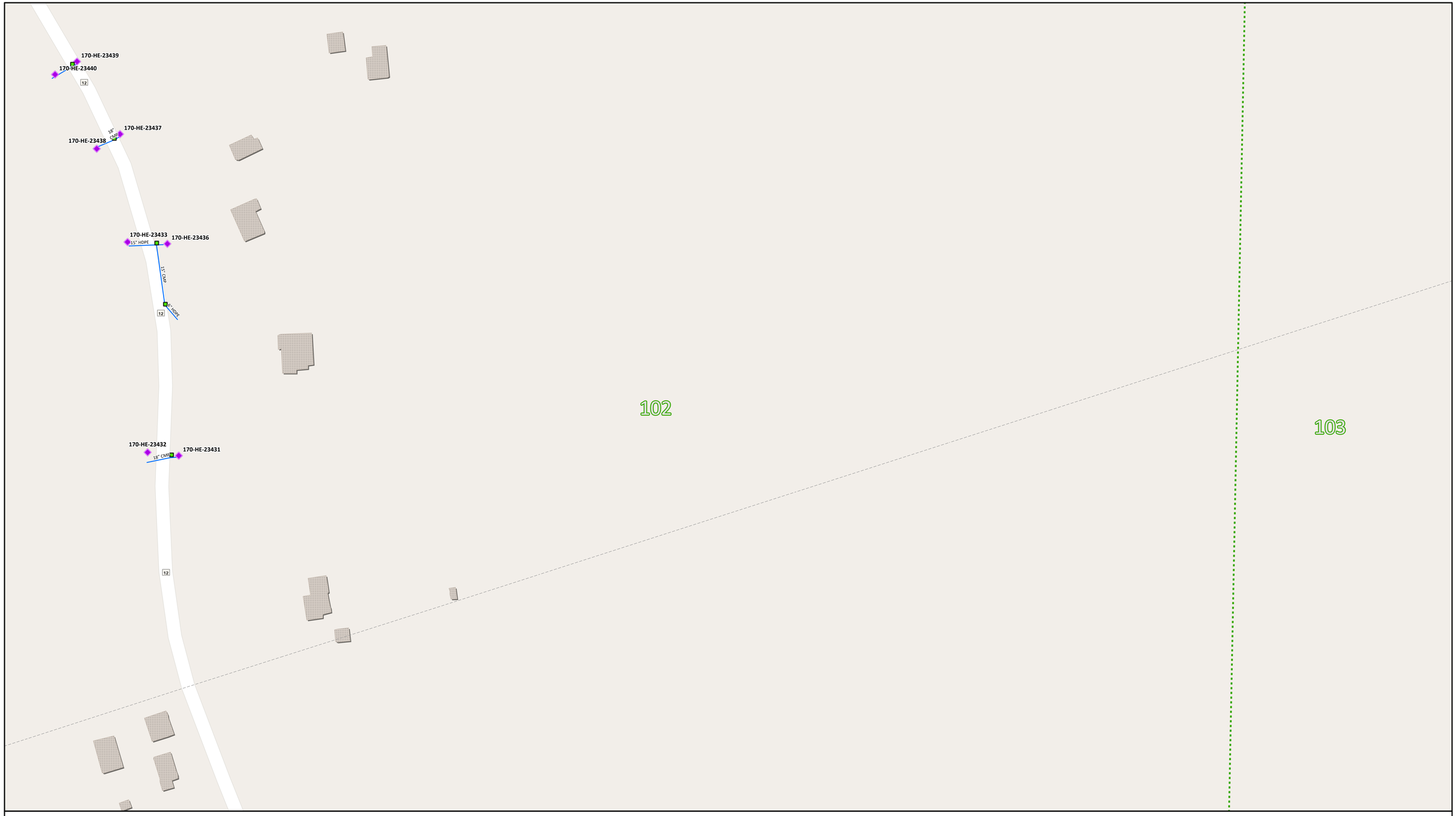
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: O6



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- State

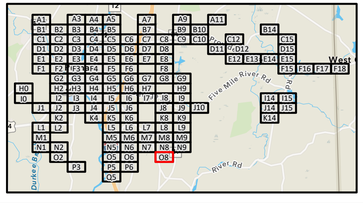
Outfalls
- State

Gravity Main
- City

Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: O8



CDM Smith

N

0 40 80 160 240 Feet

Legend

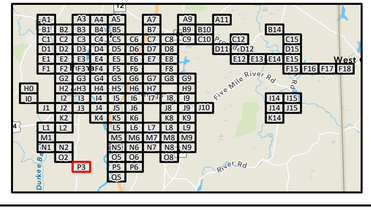
Gravity Main

City

Index Map Catchment Plan (March 2018)

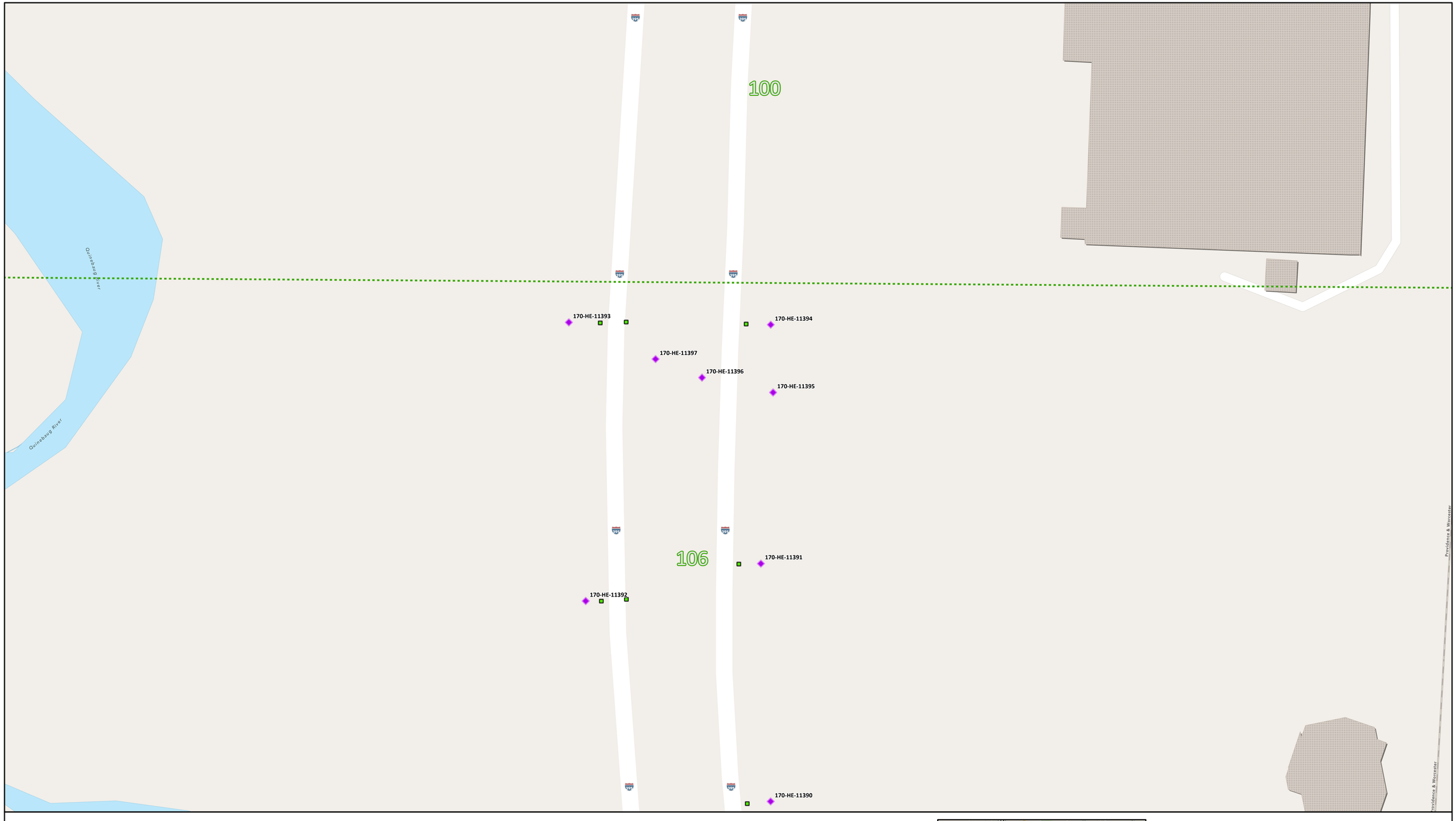
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: P3



CDM Smith

N

0 40 80 160 240 Feet

Legend

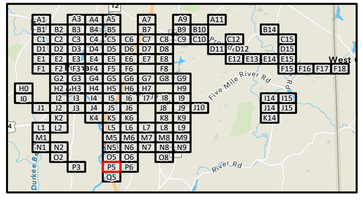
Catch Basin
- State

Outfalls
- State

Index Map Catchment Plan (March 2018)

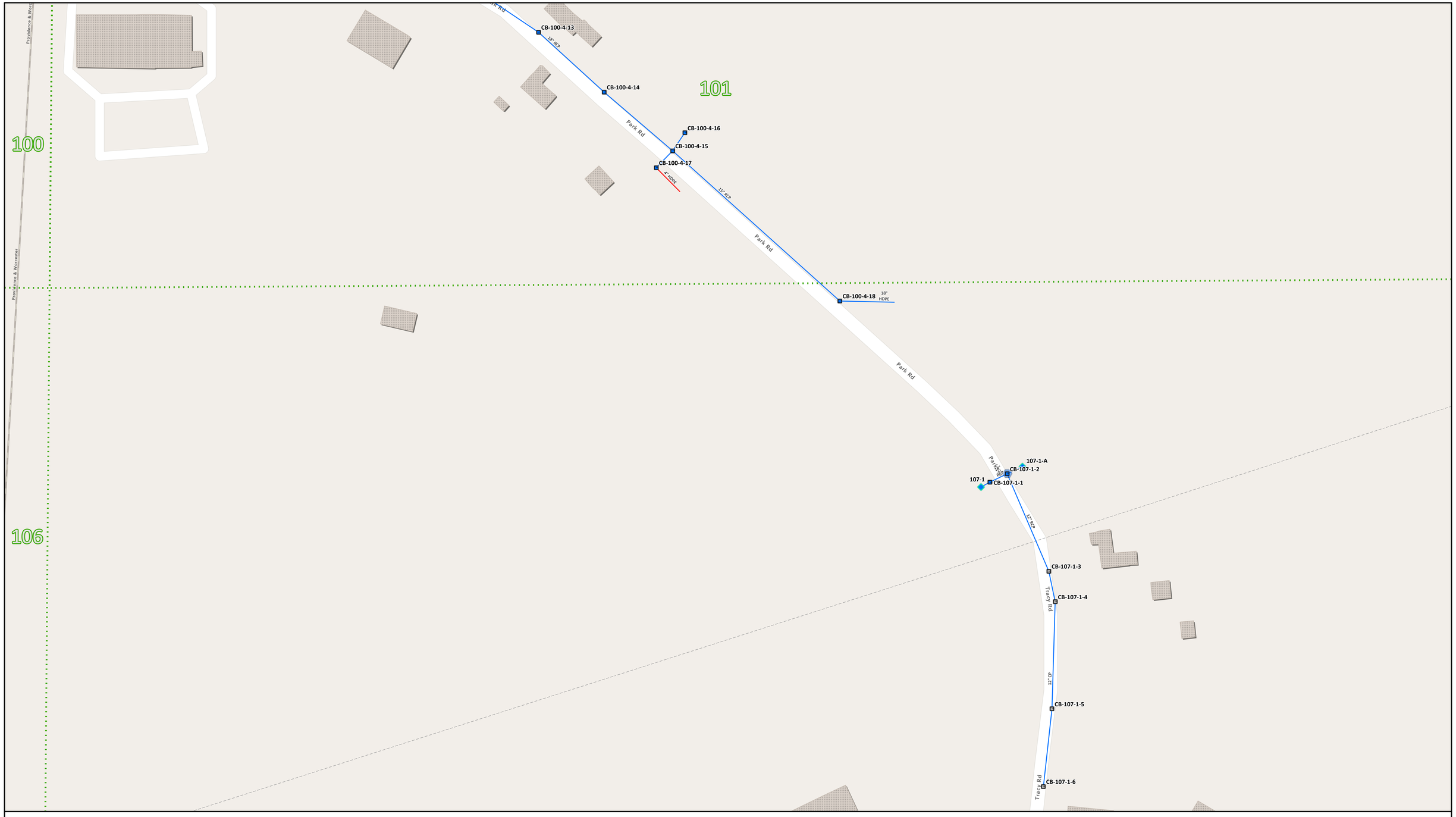
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: P5



CDM Smith

N

0 40 80 160 240 Feet

Legend

Catch Basin
- City
- Other

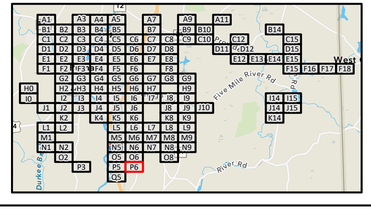
Interconnections
- Other

Outfalls
- City

Gravity Main
- City
- Private
- Index Map Catchment Plan (March 2018)

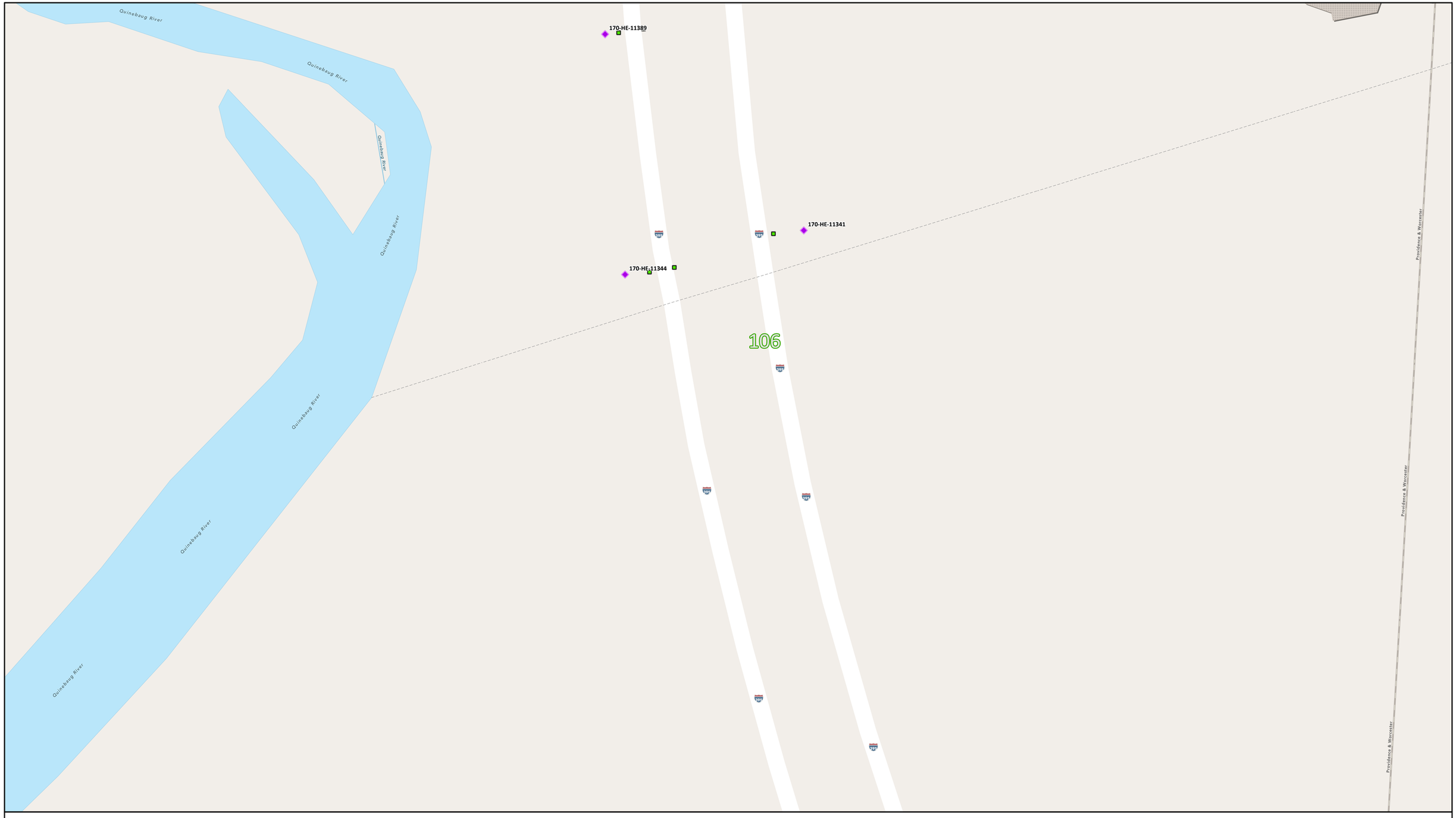
Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: P6



CDM Smith

N

0 40 80 160 240 Feet

Legend

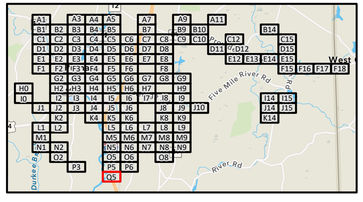
Catch Basin
- State

Outfalls
- State

Index Map Catchment Plan (March 2018)

Materials

AC - Asbestos Cement
AC CMP - Asphalt Coated Corrugated Metal Pipe
BR - Brick
CMP - Corrugated Metal Pipe
DIP - Ductile Iron
HDPE - High Density Polyethylene
RCP - Reinforced Concrete
VCP - Vitrified Clay



Illicit Discharge Detection and Elimination Investigation
Town of Putnam MS4 Program
February 2023

Page Name: Q5