

INCORPORATED 1645

THE TOWN OF FARMINGTON



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1 MONTEITH DRIVE  
FARMINGTON, CONNECTICUT 06032-1053

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December 15, 2009

State of Connecticut  
Department of Environmental Protection  
Bureau of Water Management  
79 Elm Street  
Hartford, CT 06106-5127  
Attn: Stormwater Permit Coordinator

RE: **Annual Report on Municipal Storm Sewers for 2009**  
Town of Farmington

Sir or Madame:

Enclosed with this letter, we are transmitting the Annual Report on Municipal Storm Sewers covering our activities performed during the calendar year 2009 as required under subsection 6(i)(2) of the *General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4 General Permit)*. As noted previously, I am currently the primary contact for departmental correspondence and inquires. The stormwater monitoring data and sample locations for 2009 have been obtained based on the alternative sampling plan that the Commissioner approved in February 2007, the results of which can be found in Attachments B and C.

A check for the municipal plan review fee, in the amount of \$187.50, was recently mailed to the Accounts Receivable Department at the CTDEP.

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.

Sincerely,

Russell M. Arnold, Jr., P.E.  
Director/Town Engineer  
Department of Public Works  
Town of Farmington

enclosures

AN EQUAL OPPORTUNITY EMPLOYER





## **2009 ANNUAL REPORT**

**Municipal Separate Storm Sewer System**

**FARMINGTON, CT**

**Prepared by**

**TOWN OF FARMINGTON  
DEPARTMENT OF PUBLIC WORKS  
Engineering Division  
1 Monteith Drive  
Farmington, CT 06032**

**December 2009**

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## **1. PURPOSE AND SCOPE**

This Annual Report is required by subsection 6(i)(2) of the *General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4 General Permit)*. The *MS4 General Permit* was issued by the Department of Environmental Protection (DEP) on January 9, 2004 and it is applicable to storm sewer facilities owned or operated by the Town of Farmington. The permit was extended “as-is” until January 9, 2011. The municipal storm sewer facilities owned by the Town of Farmington were registered by the filing of Part A and Part B of the required registration forms. This report is the vehicle by which the Town of Farmington is required to annually report to the DEP Stormwater Permit Coordinator on the status of compliance with the *MS4 General Permit* and to submit the stormwater monitoring data collected and analyzed during the year.

The stormwater monitoring data can be found in Attachment A, and mapping of the locations where the stormwater discharge samples were collected can be found in Attachment B.

The alternative sampling plan that was filed as Attachment D of the 2006 Annual Report was approved by the Department of Environmental Protection Stormwater Permit Coordinator on February 27, 2007.

The certification required under subsection 7(e) of the *MS4 General Permit* is presented in Section 3 of this report.

## **2. BEST MANAGEMENT PRACTICES**

### **2.1 Public Education**

The Town of Farmington has a newsletter, the *Farmington Town Letter*, which is published and distributed quarterly to all postal customers, i.e., residences and businesses, with mailing addresses within the town. It is also posted on the town website. The articles published in the newsletter during 2009 were notifications and general useful information for the public.

In the April issue, articles were written regarding the upcoming Household Hazardous Waste Collection Day held on April 25<sup>th</sup>. In the October issue, the residents were informed of the establishment of the Green Efforts Committee, and a grant they were slated to receive to publish a newsletter dedicated to public awareness of green efforts in Town.

The Green Efforts Committee consists of residents, students, Town staff, Board of Education, and Town Council members. This Committee has been working through the summer and early fall on several projects. One of its main projects will be the creation of a “Green” Newsletter and Webpage. The town wide newsletter will be dedicated to public awareness of green efforts in town as well as promoting energy efficiency and clean energy sources. The newsletter and website will contain articles on such topics as stormwater, recycling, understanding the value and protection of wetlands, the environment, and natural resources.

As noted in previous reports, the Town has eliminated the use of sand during its winter snow plowing efforts, and went to a salt product used prior and during a snowstorm. Based on our street sweeping records, there has been a large reduction in the volume of sand collected from the previous year, on all Town owned public roadways.

The Town of Farmington Library maintains an inventory of three *After the Storm* videos produced by the EPA. The Town is also working with the Library to create a station where brochures and other stormwater information can be placed for public viewing.

Contact continues to be maintained with other organizations involved with the stormwater program. These include the Department of Environmental Protection (DEP), the Department of Transportation (DOT), the Farmington River Watershed Association (FRWA), the Central Connecticut Regional Planning Agency (CCRPA), the Pequabuck River Watershed Association (PRWA) and the University of Connecticut education program known as the Nonpoint Education for Municipal Officials (NEMO) program.

With the assistance of the Town of Farmington, the Farmington Land Trust had posted an article in their Fall 2009 Newsletter that dealt with Storm Water Runoff Pollution. It detailed 10 things you could do to prevent storm water runoff pollution. The article included such items as the proper use of fertilizers, never dump anything down the storm drains, direct downspouts away from paved surface, consider installing a rain garden, take your car to the car wash, and have your septic tank and system checked regularly.

The Town is also continuing to work with the local planning agency CCRPA to insure implementation of the Pequabuck River Watershed Management Plan. The plan was completed in 2005 and presented before the Farmington Conservation Commission on September 5, 2006 and the Town Council on December 12, 2006. The preparation of a Pequabuck River Watershed Management Plan was a primary recommendation of “The Pequabuck River State of the Watershed Report” in December of 2004. The Town of Farmington is the most downstream town in the Pequabuck River Watershed, which drains parts of the Towns of Harwinton, Plymouth, Burlington, Bristol, Plainville and Farmington.

## 2.2 **Public Participation**

The Town of Farmington has collaborated with other local non-profit organizations in an attempt to involve the public in environmentally friendly projects. While the events were planned to perform certain tasks, one of the key goals was to involve the public to educate them of the surrounding environment and the possible negative effects of their everyday lifestyles. It is the hope of these organizations that the public becomes aware of the environment and works to change their ways and educating other friends and families.

During the spring of 2009, the Annual Farmington Town-Wide Clean-Up Day was conducted. The event was organized by the Farmington Garden Club and sponsored by local businesses. The Town, School Officials, the Farmington Middle School Green Team, and residents of Farmington supported and participated in the event.

The Town of Farmington Conservation Commission sponsored another Household Hazardous Waste Collection Program with the help of The Metropolitan District Commission. As noted above, the public was made aware of these activities through the *Farmington Town Letter*.

On October 3, 2009 the Farmington River Watershed Association had sponsored a Farmington River Clean-Up. It was sponsored by local businesses, and involved the public in cleaning up the banks of the Farmington River.

The Town will be working with the School Superintendent to allow Town Staff to conduct storm water education seminars in conjunction with their science program, targeted to the elementary schools. The program will include simple but yet powerful pictures that help provide examples of how stormwater pollution affects everyone in their daily lives.

### 2.3 **Illicit Discharge Detection & Elimination**

The mapping of municipal storm sewer outfalls within the Town of Farmington is proceeding on schedule. Although it is not required, the present plan is to map all public, institutional and private storm sewers and outfalls and to differentiate the storm sewer outfalls and sewers tributary to them on the basis of ownership. The specific size and area oriented requirements of the *MS4 General Permit* are being addressed as minimum objectives with respect to time. The mapping of outfalls greater than 12 inches owned or maintained by the Town of Farmington has been completed in Urbanized Areas, and storm sewer and storm water outfall mapping will be a continuing mapping maintenance activity. The above described mapping reflects a choice to approach the program requirements as components of a broader town-wide effort to control pollution occurring due to both non-point and point source discharges that directly affect surface water quality and discharges conveyed by storm sewers or other types of storm water conveyance. The program that is being developed relies heavily on the use of the State Building Code to establish and enforce a required local review and approval of new storm sewer connections to municipal, institutional, private and state-owned storm sewers and, in addition, the construction of new privately owned storm sewer outfalls. The adoption of an illicit discharge ordinance is still being considered.

### 2.4 **Construction Site Runoff**

The Zoning Regulations, in Article IV, Section 11, requires the submission and approval of an erosion and sediment control plan whenever more than one half acre of land will be disturbed. The regulations also reference the *Connecticut Guidelines for Soil Erosion and Sediment Control* as amended. In addition, the regulations establish enforceable performance standards for construction activity that does not require the submission of an erosion and sediment control plan. These regulatory requirements continue to be enforced.

On November 26, 2007, the Town had updated the Farmington Inland Wetland and Watercourse Agency regulations that now requires all landowners to obtain a permit for activities listed in Section 2.1 of this permit, conducted within 150ft of a designated wetland or watercourse.

## **2.5 Post Construction Runoff Control**

A post construction best management strategy has been developed and it is being implemented. It is based on the enforcement of Section 25 of Article IV of the existing Zoning Regulations. It has been determined that these regulations are sufficient and no new ordinances are planned.

Where there is a specific need for the maintenance of construction site runoff controls installed and maintained by an applicant during a post construction period, provisions to ensure the applicant understands the obligation to maintain those controls are being included in the zoning approval. Where post construction maintenance of storm sewer systems by private owners is necessary to ensure continuous effective operation and the avoidance of adverse water pollution impacts, the submission of maintenance programs is being required as a function of the approval process. In many cases, these programs are included in the Homeowners Association Documents. The Town has recently provided an avenue to complete the work and assess the Homeowners, if the work is not completed.

In addition, an inventory of privately owned storm sewers is being developed in conjunction with the mapping of all storm sewers within the town.

## **2.6 Good Housekeeping**

A training program for municipal employees is still in the process of being developed. Training to date has been limited to on-the-job instruction and training by supervisors and consultants. The primary focus of the training continues to be the cross training of existing employees within the divisions that make up the Department of Public Works aimed at ensuring a broader understanding of the roles of each member of the staff assigned specific stormwater management responsibilities and how those activities are integrated to meet the obligations of the stormwater general permit.

The practice of sweeping paved streets as soon as practical after snowmelt has been implemented. There has, however, been a major change in the administration and implementation of the skid control program. The use of a sand and salt mixture has been



suspended in favor of a commercial salt mixture. This operational change in the skid control program has significantly reduced the volume of sand that needs to be collected by street sweeping. The elimination of sand should improve the environmental health of the small and medium sized streams within the Town of Farmington, which have characteristically developed abnormal bottom deposits dominated by the erosion of skid control sand from roadways. The DOT adopted a similar program in 2005 opting to use a liquid mixture in lieu of sand and salt.

The evaluation and cleaning of stormwater structures and the evaluation and prioritization of the need to upgrade and repair stormwater structures have always been routine activities within the Department of Public Works. These activities will be continued and the effectiveness of the effort can be expected to improve as a result of the focus created by the stormwater general permit and the stormwater management training program that is being developed. The elimination of the use of sand for skid control is a manifestation of this focus. No additional staff are being added to materially expand the programs outside of the normal annual budget process.

## 2.7 **Monitoring**

The monitoring of six stormwater outfalls was planned and completed during the summer of 2009. The analytical results are presented on the laboratory examination reports and on the DEP Stormwater Monitoring Report Forms contained in Attachment A. The sample site locations are identified on maps presented in Attachment B. The individual sample analysis results can be correlated with the mapped monitoring site locations by reference to the following table. The sampling data are presented in the same order as the site location identifiers listed below.

<u>Site Location Identifier</u>	<u>Sample Number</u>	<u>Laboratory Number</u>
2009-R-17 (Residential)	R17-7-7-09	AEL09004675
2009-R-18 (Residential)	R18-7-7-09	AEL09004676
2009-R-19 (Residential)	R19-7-7-09	AEL09004677
2009-C-4 (Commercial)	C4-7-7-09	AEL09004672
2009-C-5 (Commercial)	C5-7-7-09	AEL09004673
2009-C-6 (Commercial)	C6-7-7-09	AEL09004674

All six of the 2009 storm water samples were collected during a rainstorm event that commenced during the 13:00 hr, the afternoon of July 7, 2009. The morning consisted of light rain, with no measurable accumulations. The samples were collected from the identified outfalls between 13:30hrs and 15:40hrs, starting about 0.5 hrs after it was judged, based on data transmitted from a local rainfall monitoring station, that sufficient flow would be discharging from the selected

outfalls. The total rainfall produced by the storm was measured at 0.49 inches. The event was a qualifying event since the preceding rainfall event occurred on July 3, 2009.

The Town had decided to resample the Brickyard Road area, in an attempt to locate the possible cause of the elevated levels of E. Coli / Total Coliform. Sample locations C4, C5 and C6 are identical sample locations taken from previous years. Location C6 was previously sampled in 2008 and sample locations C4 & C6 were sampled in 2006. Both sampling periods indicated high levels of levels of E. Coli / Total Coliform. In addition, we decided to add sample R17 in an attempt to determine the extent of the pollution.

Sample R-17 was taken from an outlet pipe on Wildwood Road, that drains a portion of a local residential neighborhood at the most northerly part of the testing area. This drainage system collects a small portion of Wildwood Road and a wetland south of the sample location, and discharges to a wetland located on the north side of Wildwood Road at the intersection of Brickyard Road. The area is devised of properties mainly from an R-20 zone (20,000ft<sup>2</sup>/residential lots). The results from the R-17 sampling location, revealed an elevated total and Escherichia coliform count and phosphorus. The area is serviced by public sewer and water. The sampling performed at this location was an attempt to isolate the area and locate the problem on Brickyard Road.

We then proceeded to sample location C4. This drainage system collects the runoff from Eastview Drive, and discharges it to the rear of #9 Eastview Drive. Other than slightly elevated level of phosphorus and an Escherichia coliform count, the results appeared to be within reason.

Sample C-6 was taken directly from a catch basin on the west side of Brickyard Road 170lf +/- south of Eastview Drive. The sample was taken directly from the flow of a storm drainage line connected to the catch basin. The results indicated an elevated level of Escherichia coliform and phosphorus.

We also performed additional sampling at location C-5. This sample location is the drainage outlet for the storm drainage system on Brickyard Road from Eastview Drive southerly. The test results indicated high levels of total and Escherichia coliform and phosphorus. Sample location C5 was tested in 2006 with similar test results. The Town has contacted the Farmington Valley Health District, whom performs testing at the swimming area. The area was tested a total of three (3) times in the summer of 2009, and all the reports indicate the swimming area is acceptable for recreation use. Since the area south of Eastview Drive is serviced with public sewer and water, the results are unclear as to the source of the problem. The Town has decided to perform a video inspection of the public sanitary sewer system in the Brickyard Road area in an attempt to determine any problems with the sewer main lines.

We had then proceeded to sample locations R-18 and R-19. This is an older neighborhood with a limited storm drainage system. The Town performed testing to determine the effects, if any, from a recently constructed 50-unit densely populated property uphill and west of sample location R-18, identified as Omera Ridge. The total area of the developed property is approximately 13 acres. The neighborhood was designed with homes that are on commonly owned and maintained property, for people 55 years of age and older. The construction of the development included a detention basin that was designed to capture a majority of the runoff from the property, and discharge it the catch basin at sample location R-18. Sample location R-18 drains and discharges to the area of sample location R-19. R-19 was sampled to determine what effects of storm runoff from the properties along Valley View Drive and Cedar Drive had at the outlet of the storm drainage system. The test results determined the sampling at both locations was well within the range of the average pollutant concentrations for the majority of the parameters listed in the 2004 Stormwater Quality Manual for urban stormwater runoff. The test results also indicated the parameters for the runoff from Omera Ridge were below that of Valley View and Cedar Ridge Drive.

### 3. 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.



Russell M. Arnold, Jr., P.E.  
Director/Town Engineer  
Department of Public Works

**ATTACHMENT A**

**Stormwater Monitoring Report Forms**



# General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

## Stormwater Monitoring Report Form

### PERMITTEE INFORMATION

Town:	Town of Farmington
Mailing Address:	1 Monteith Drive, Farmington CT 06032
Contact Person:	Russell M. Jr. Arnold, P.E. Title: DPW Director Phone: 860-675-2305
Permit Registration #	GSM000090

### SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): (2009) R17: Lat 41-45-21.042, Long 72-51-29.282	
Located on the north side of Wildwood Road at the intersection of Brickyard Road	
Please circle the appropriate area description: Industrial, Commercial, or <u>Residential</u>	
Receiving Water (name, basin):	Farmington River 4300-28-1-L1
Time of Start of Discharge:	13:00hrs
Date/Time Collected:	July 7, 2009/13:30hrs
Water Temperature:	65°F
Person Collecting Sample:	Bruce Cyr & Stephen Doyon
Storm Magnitude (inches):	0.49
Storm Duration (hours):	7(approx)
Date of Previous Storm Event:	July 3, 2009

### MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM19 4500H+B	6.7	Averill Environmental Lab #AEL09004675
Rain pH	SM19 4500H+B	5.8	Averill Environmental Lab #AEL09004675
Hardness	SM 2340 B	13.0 mg/L CaO3	Averill Environmental Lab #AEL09004675
Conductivity	SM19 2510B	46 micromhos/cm	Averill Environmental Lab #AEL09004675
Oil & Grease	EPA 1664A	<1.8 mg/L	Averill Environmental Lab #AEL09004675
COD	EPA 410.4	59 mg/L	Averill Environmental Lab #AEL09004675
Turbidity	EPA 180.1	34 NTU	Averill Environmental Lab #AEL09004675
TSS	SM19 2540D	68 mg/L	Averill Environmental Lab #AEL09004675
TP	SM19 4500PE	0.347 mg/L as P	Averill Environmental Lab #AEL09004675
Ammonia	SM19 4500NHD	0.46 mg/L	Averill Environmental Lab #AEL09004675
TKN	SM194500NH3F	3.8 mg/L	Averill Environmental Lab #AEL09004675
NO <sub>3</sub> +NO <sub>2</sub>	EPA 300.0	0.80 mg/L	Averill Environmental Lab #AEL09004675
E. coli	SM 9222 B	52000 MPN/100 mL	Averill Environmental Lab #AEL09004675

### STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.	
Authorized Official:	Russell M. Arnold, Jr., P.E., Director of Public Works/Town Engineer
Signature:	Date: November 2, 2009



**General Permit for the Discharge of Stormwater from Small  
Municipal Separate Storm Sewer Systems**

**Stormwater Monitoring Report Form**

**PERMITTEE INFORMATION**

Town: Town of Farmington

Mailing Address: 1 Monteith Drive, Farmington CT 06032

Contact Person: Russell M. Jr. Arnold, P.E. Title: DPW Director Phone: 860-675-2305

Permit Registration # GSM000090

**SAMPLING INFORMATION**

Discharge Location (Lat/Long or other description): (2009) R18: Lat 41-43-53.385, Long 72-47-10.131  
Located on the west side of Valley View Drive, 900ft north of Middle Road

Please circle the appropriate area description: Industrial, Commercial, or Residential

Receiving Water (name, basin): Trout Brook 4403-04-1-L1

Time of Start of Discharge: 13:00hrs

Date/Time Collected: July 7, 2009/15:40hrs Water Temperature: 65°F

Person Collecting Sample: Bruce Cyr & Stephen Doyon

Storm Magnitude (inches): 0.49 Storm Duration (hours): 7(approx)

Date of Previous Storm Event: July 3, 2009

**MONITORING RESULTS**

Parameter	Method	Results (units)	Laboratory
Sample pH	SM19 4500H+B	7.4	Averill Environmental Lab #AEL09004676
Rain pH	SM19 4500H+B	5.8	Averill Environmental Lab #AEL09004676
Hardness	SM 2340 B	83.0 mg/L CaO3	Averill Environmental Lab #AEL09004676
Conductivity	SM19 2510B	210 micromhos/cm	Averill Environmental Lab #AEL09004676
Oil & Grease	EPA 1664A	<1.8 mg/L	Averill Environmental Lab #AEL09004676
COD	EPA 410.4	21 mg/L	Averill Environmental Lab #AEL09004676
Turbidity	EPA 180.1	3.1 NTU	Averill Environmental Lab #AEL09004676
TSS	SM19 2540D	5.6 mg/L	Averill Environmental Lab #AEL09004676
TP	SM19 4500PE	0.062 mg/L as P	Averill Environmental Lab #AEL09004676
Ammonia	SM19 4500NHD	0.20 mg/L	Averill Environmental Lab #AEL09004676
TKN	SM194500NH3F	1.1 mg/L	Averill Environmental Lab #AEL09004676
NO <sub>3</sub> +NO <sub>2</sub>	EPA 300.0	0.60 mg/L	Averill Environmental Lab #AEL09004676
E. coli	SM 9222 B	420 MPN/100 mL	Averill Environmental Lab #AEL09004676

**STATEMENT OF ACKNOWLEDGMENT**

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Russell M. Arnold, Jr., P.E., Director of Public Works/Town Engineer

Signature: *Russell M. Arnold, Jr.* Date: November 2, 2009



**General Permit for the Discharge of Stormwater from Small  
Municipal Separate Storm Sewer Systems**

**Stormwater Monitoring Report Form**

**PERMITTEE INFORMATION**

Town: Town of Farmington

Mailing Address: 1 Monteith Drive, Farmington CT 06032

Contact Person: Russell M. Jr. Arnold, P.E. Title: DPW Director Phone: 860-675-2305

Permit Registration #GSM000090

**SAMPLING INFORMATION**

Discharge Location (Lat/Long or other description): (2009) R19: Lat 41-43-56.844 Long 72-47-02.285  
Located on the west side of Cedar Ridge Drive, 1300ft north of Middle Road

Please circle the appropriate area description: Industrial, Commercial, or Residential

Receiving Water (name, basin): Trout Brook 4403-00-1-L1

Time of Start of Discharge: 13:00hrs

Date/Time Collected: July 7, 2009/15:30hrs Water Temperature: 65°F

Person Collecting Sample: Bruce Cyr & Stephen Doyon

Storm Magnitude (inches): 0.49 Storm Duration (hours): 7(approx)

Date of Previous Storm Event: July 3, 2009

**MONITORING RESULTS**

Parameter	Method	Results (units)	Laboratory
Sample pH	SM19 4500H+B	7.2	Averill Environmental Lab #AEL09004677
Rain pH	SM19 4500H+B	5.8	Averill Environmental Lab #AEL09004677
Hardness	SM 2340 B	129 mg/L CaO3	Averill Environmental Lab #AEL09004677
Conductivity	SM19 2510B	360 micromhos/cm	Averill Environmental Lab #AEL09004677
Oil & Grease	EPA 1664A	<1.9 mg/L	Averill Environmental Lab #AEL09004677
COD	EPA 410.4	21 mg/L	Averill Environmental Lab #AEL09004677
Turbidity	EPA 180.1	6.8 NTU	Averill Environmental Lab #AEL09004677
TSS	SM19 2540D	7.5 mg/L	Averill Environmental Lab #AEL09004677
TP	SM19 4500PE	0.084 mg/L as P	Averill Environmental Lab #AEL09004677
Ammonia	SM19 4500NHD	0.12 mg/L	Averill Environmental Lab #AEL09004677
TKN	SM194500NH3F	<1.0 mg/L	Averill Environmental Lab #AEL09004677
NO <sub>3</sub> +NO <sub>2</sub>	EPA 300.0	0.94 mg/L	Averill Environmental Lab #AEL09004677
E. coli	SM 9222 B	3100 MPN/100 mL	Averill Environmental Lab #AEL09004677

**STATEMENT OF ACKNOWLEDGMENT**

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Russell M. Arnold, Jr., P.E., Director of Public Works/Town Engineer

Signature:  Date: November 2, 2009



# General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

## Stormwater Monitoring Report Form

### PERMITTEE INFORMATION

Town:	Town of Farmington
Mailing Address:	1 Monteith Drive, Farmington CT 06032
Contact Person:	Russell M. Jr. Arnold, P.E. Title: DPW Director Phone: 860-675-2305
Permit Registration #	GSM000090

### SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): (2009) C4: Lat 41-44-51.849, Long 72-51-28.171	
Located to the rear (south) of #9 Eastview Drive	
Please circle the appropriate area description: Industrial, <u>Commercial</u> , or Residential	
Receiving Water (name, basin): Unnamed Brook, 4300-28-1-L2	
Time of Start of Discharge: 13:00hrs	
Date/Time Collected: July 7, 2009/13:50hrs Water Temperature: 65°F	
Person Collecting Sample: Bruce Cyr & Stephen Doyon	
Storm Magnitude (inches): 0.49 Storm Duration (hours): 7(approx)	
Date of Previous Storm Event: July 3, 2009	

### MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM19 4500H+B	6.6	Averill Environmental Lab #AEL09004672
Rain pH	SM19 4500H+B	5.8	Averill Environmental Lab #AEL09004672
Hardness	SM 2340 B	28.4 mg/L CaO3	Averill Environmental Lab #AEL09004672
Conductivity	SM19 2510B	95 micromhos/cm	Averill Environmental Lab #AEL09004672
Oil & Grease	EPA 1664A	<1.8 mg/L	Averill Environmental Lab #AEL09004672
COD	EPA 410.4	<20 mg/L	Averill Environmental Lab #AEL09004672
Turbidity	EPA 180.1	3.6 NTU	Averill Environmental Lab #AEL09004672
TSS	SM19 2540D	6.0 mg/L	Averill Environmental Lab #AEL09004672
TP	SM19 4500PE	0.083 mg/L as P	Averill Environmental Lab #AEL09004672
Ammonia	SM19 4500NHD	0.26 mg/L	Averill Environmental Lab #AEL09004672
TKN	SM194500NH3F	<1.0 mg/L	Averill Environmental Lab #AEL09004672
NO <sub>3</sub> +NO <sub>2</sub>	EPA 300.0	0.51 mg/L	Averill Environmental Lab #AEL09004672
E. coli	SM 9222 B	1200 MPN/100 mL	Averill Environmental Lab #AEL09004672

### STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.	
Authorized Official:	Russell M. Arnold, Jr., P.E., Director of Public Works/Town Engineer
Signature:	Date: November 2, 2009





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Municipal Separate Storm Sewer Systems**

**Stormwater Monitoring Report Form**

**PERMITTEE INFORMATION**

Town: Town of Farmington

Mailing Address: 1 Monteith Drive, Farmington CT 06032

Contact Person: Russell M. Jr. Arnold, P.E. Title: DPW Director Phone: 860-675-2305

Permit Registration #GSM000090

**SAMPLING INFORMATION**

Discharge Location (Lat/Long or other description): (2009) C5: Lat 41-44-42.574, Long 72-51-15.901  
Located on the west side of Brickyard Road 1800lf North of Rte 4, South of driveway into Lakeshore Dr.

Please circle the appropriate area description: Industrial, Commercial or Residential

Receiving Water (name, basin): Unnamed Pond, 4300-28-1-L2

Time of Start of Discharge: 13:00hrs

Date/Time Collected: July 7, 2009/14:35hrs Water Temperature: 65°F

Person Collecting Sample: Bruce Cyr & Stephen Doyon

Storm Magnitude (inches): 0.49 Storm Duration (hours): 7(approx)

Date of Previous Storm Event: July 3, 2009

**MONITORING RESULTS**

Parameter	Method	Results (units)	Laboratory
Sample pH	SM19 4500H+B	7.3	Averill Environmental Lab #AEL09004673
Rain pH	SM19 4500H+B	5.8	Averill Environmental Lab #AEL09004673
Hardness	SM 2340 B	18.2 mg/L CaO3	Averill Environmental Lab #AEL09004673
Conductivity	SM19 2510B	68 micromhos/cm	Averill Environmental Lab #AEL09004673
Oil & Grease	EPA 1664A	<1.9 mg/L	Averill Environmental Lab #AEL09004673
COD	EPA 410.4	52 mg/L	Averill Environmental Lab #AEL09004673
Turbidity	EPA 180.1	29 NTU	Averill Environmental Lab #AEL09004673
TSS	SM19 2540D	19.0 mg/L	Averill Environmental Lab #AEL09004673
TP	SM19 4500PE	0.219 mg/L as P	Averill Environmental Lab #AEL09004673
Ammonia	SM19 4500NHD	0.53 mg/L	Averill Environmental Lab #AEL09004673
TKN	SM194500NH3F	1.2 mg/L	Averill Environmental Lab #AEL09004673
NO <sub>3</sub> +NO <sub>2</sub>	EPA 300.0	0.61 mg/L	Averill Environmental Lab #AEL09004673
E. coli	SM 9222 B	31000 MPN/100 mL	Averill Environmental Lab #AEL09004673

**STATEMENT OF ACKNOWLEDGMENT**

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Russell M. Arnold, Jr., P.E., Director of Public Works/Town Engineer

Signature: *Russell M. Arnold* Date: November 2, 2009



**General Permit for the Discharge of Stormwater from Small  
Municipal Separate Storm Sewer Systems**

**Stormwater Monitoring Report Form**

**PERMITTEE INFORMATION**

Town: \_\_\_\_\_ Town of Farmington

Mailing Address: 1 Monteith Drive, Farmington CT 06032

Contact Person: Russell M. Jr. Arnold, P.E. Title: DPW Director Phone: 860-675-2305

Permit Registration # GSM000090

**SAMPLING INFORMATION**

Discharge Location (Lat/Long or other description): (2009) C6: Lat 41-44-52.638, Long 72-51-18.621

Sample taken from CB on west side of Brickyard Road 170lf +/- south of Eastview Drive.

Please circle the appropriate area description: Industrial, Commercial, or Residential

Receiving Water (name, basin): Farmington River 4300-28-1-L2

Time of Start of Discharge: 13:00hrs

Date/Time Collected: July 7, 2009/14:10hrs Water Temperature: 65°F

Person Collecting Sample: Bruce Cyr & Stephen Doyon

Storm Magnitude (inches): 0.49 Storm Duration (hours): 7(approx)

Date of Previous Storm Event: July 3, 2009

**MONITORING RESULTS**

Parameter	Method	Results (units)	Laboratory
Sample pH	SM19 4500H+B	7.7	Averill Environmental Lab #AEL09004674
Rain pH	SM19 4500H+B	5.8	Averill Environmental Lab #AEL09004674
Hardness	SM 2340 B	25.1 mg/L CaO3	Averill Environmental Lab #AEL09004674
Conductivity	SM19 2510B	79 micromhos/cm	Averill Environmental Lab #AEL09004674
Oil & Grease	EPA 1664A	<2.0 mg/L	Averill Environmental Lab #AEL09004674
COD	EPA 410.4	56 mg/L	Averill Environmental Lab #AEL09004674
Turbidity	EPA 180.1	29 NTU	Averill Environmental Lab #AEL09004674
TSS	SM19 2540D	22.0 mg/L	Averill Environmental Lab #AEL09004674
TP	SM19 4500PE	0.289 mg/L as P	Averill Environmental Lab #AEL09004674
Ammonia	SM19 4500NHD	0.64 mg/L	Averill Environmental Lab #AEL09004674
TKN	SM194500NH3F	1.4 mg/L	Averill Environmental Lab #AEL09004674
NO <sub>3</sub> +NO <sub>2</sub>	EPA 300.0	0.61 mg/L	Averill Environmental Lab #AEL09004674
E. coli	SM 9222 B	41000 MPN/100 mL	Averill Environmental Lab #AEL09004674

**STATEMENT OF ACKNOWLEDGMENT**

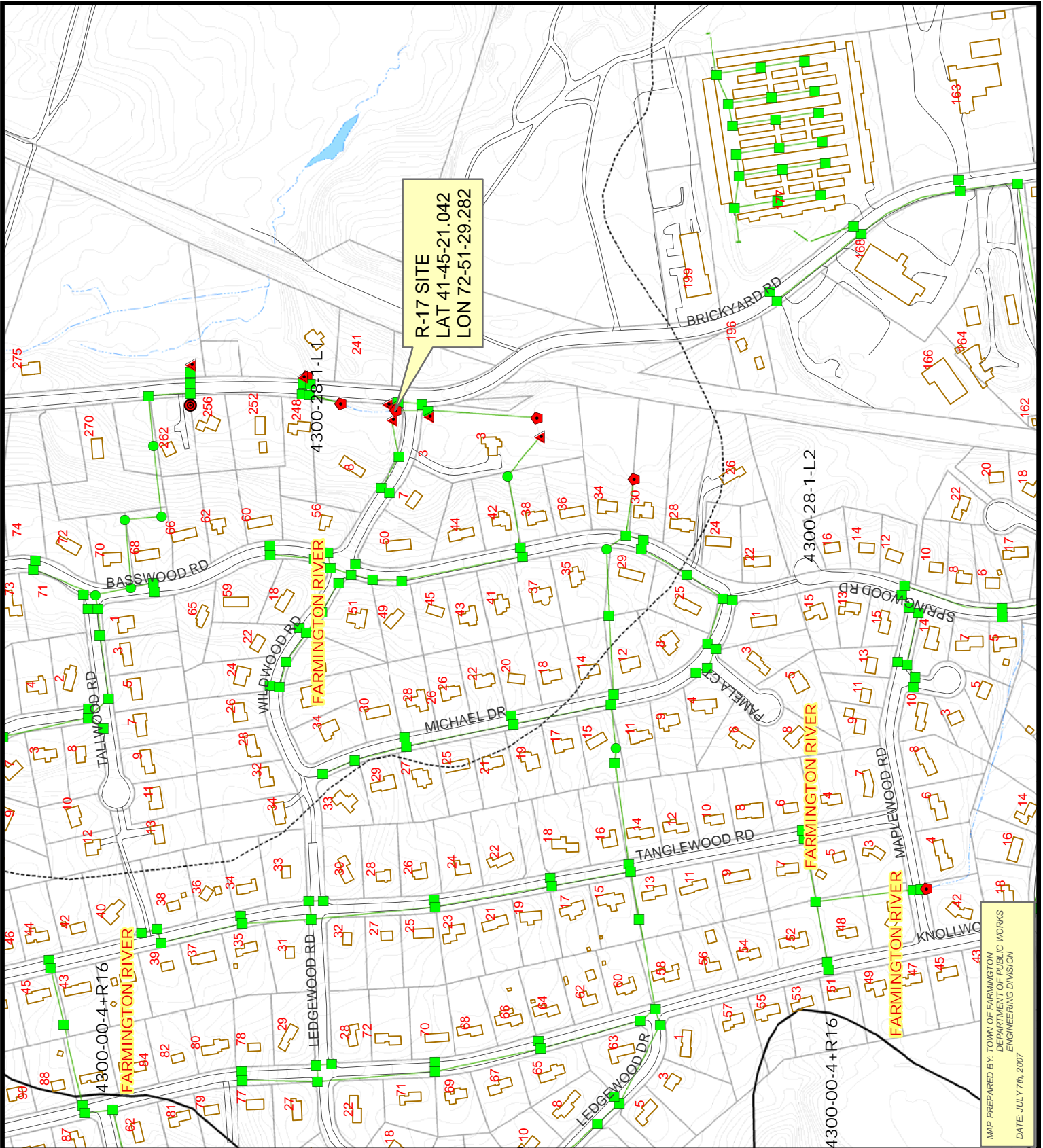
I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.

Authorized Official: Russell M. Arnold, Jr., P.E., Director of Public Works/Town Engineer

Signature: *Russell M. Arnold* Date: November 2, 2009

**ATTACHMENT B**

**Monitoring Site Location Mapping**



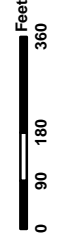
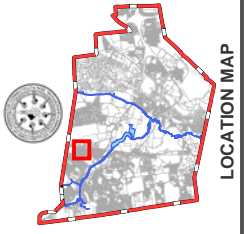
R-17 SITE  
 LAT 41-45-21.042  
 LON 72-51-29.282

MAP PREPARED BY: TOWN OF FARMINGTON  
 DEPARTMENT OF PUBLIC WORKS  
 ENGINEERING DIVISION  
 DATE: JULY 7th, 2007



TOWN OF FARMINGTON  
 DRAINAGE  
 OUT FALL  
 SAMPLING AREA  
 SITE R-17  
 NO. R17-07-07-09

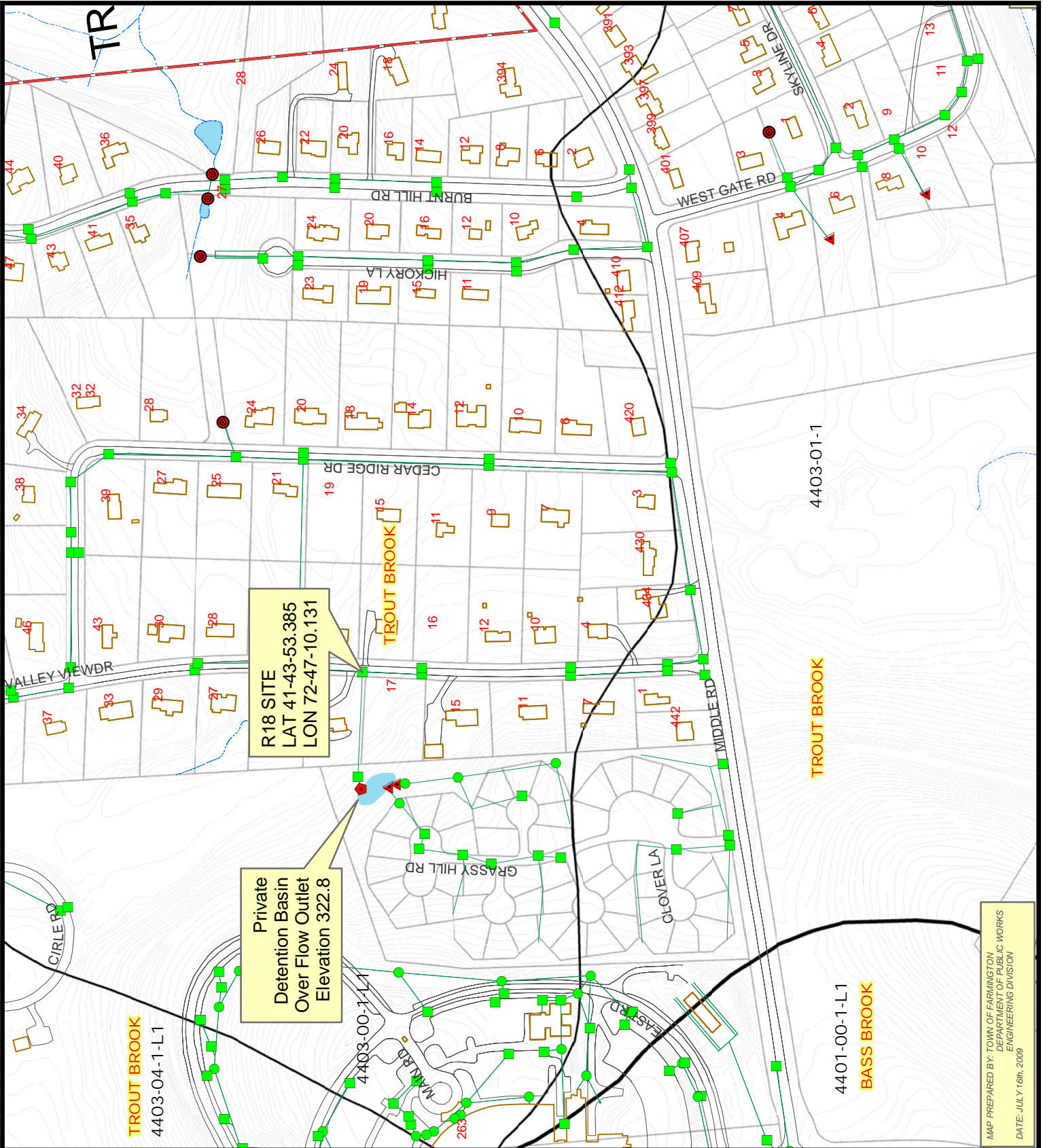
SAMPLE No.  
 R17-07-07-09  
 Sampling site R-17  
 is located on the  
 northwest corner of  
 Wildwood Drive and  
 Brickyard Road



**LEGEND**

- TOWN LINE
- STORM LINE
- DRAINAGE BASINS (DEP Line)
- DRAINAGE BASIN CLASSIFICATION
  - 1 MAJOR
  - 2 REGIONAL
  - 3 SUBREGIONAL
  - 4 LOCAL
  - 5 STREAM REACH
  - 6 LAKE IMPOUNDMENT
  - 7 STREAM DIVERSION
- STRUCTURES
  - FLARED END
  - PIPE END
  - END WALL
  - CATCH BASIN
  - MANHOLE





R18 SITE  
 LAT 41-43-53.385  
 LON 72-47-10.131

Private  
 Detention Basin  
 Over Flow Outlet  
 Elevation 322.8

**TROUT BROOK**  
 4403-04-1-L1

4403-01-1

**TROUT BROOK**

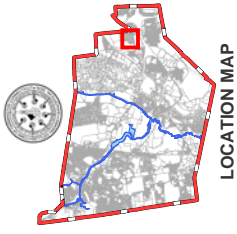
4401-00-1-L1  
**BASS BROOK**

MAP PREPARED BY: TOWN OF FARMINGTON  
 DEPARTMENT OF PUBLIC WORKS  
 ENGINEERING DIVISION  
 DATE: JULY 16th, 2009



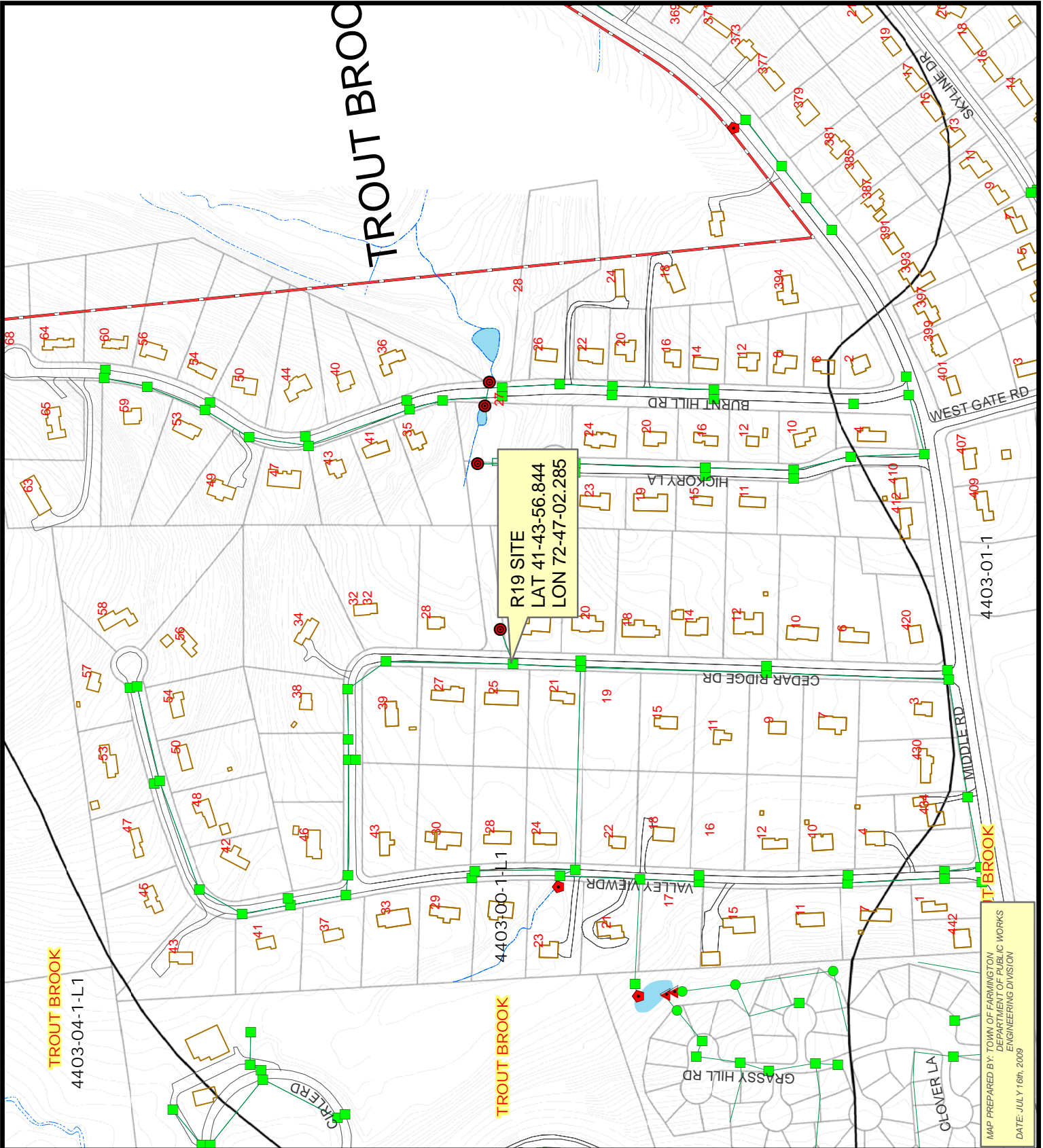
TOWN OF FARMINGTON  
 DRAINAGE  
 OUT FALL  
 SAMPLING AREA  
 SITE R-18  
 NO. R18-07-07-09

SAMPLE NO.  
 R18-07-09  
 Sampling site R-18  
 is a catch basin  
 located on the  
 west side of Valley  
 View Drive, between  
 house# 17 & 19.  
 DATUM REFERENCE: NAD 1927



**LEGEND**

	Storm Structures
	FLARED END
	PIPE END
	END WALL
	CATCH BASIN
	MANHOLE
	TOWN LINE
	stormline
	WATERWAY
	WATERBODY
	DRAINAGE BASINS (DEP Line)
	1 MAJOR
	2 REGIONAL
	3 SUBREGIONAL
	4 LOCAL
	5 STREAM REACH
	6 LAKE IMPOUNDMENT
	7 STREAM DIVERSION



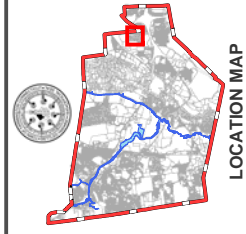
**R19 SITE**  
 LAT 41-43-56.844  
 LON 72-47-02.285

MAP PREPARED BY: TOWN OF FARMINGTON  
 DEPARTMENT OF PUBLIC WORKS  
 ENGINEERING DIVISION  
 DATE: JULY 16th, 2009



TOWN OF FARMINGTON  
 DRAINAGE  
 OUT FALL  
 SAMPLING AREA  
 SITE R-19  
 NO. R19-07-07-09

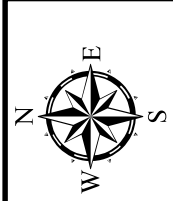
SAMPLE NO.  
 R19-07-07-09  
 Sampling site R-19 is a catch basin located on the west side of Cedar Ridge, opposite house# 25.  
 DATUM REFERENCE: NAD 1927



**LEGEND**

Storm Structures	FLARED END	PIPE END	END WALL	CATCH BASIN	MANHOLE	TOWN LINE	stormline	WATERWAY	WATERBODY
STRUCTURE TYPE	FLARED END	PIPE END	END WALL	CATCH BASIN	MANHOLE	TOWN LINE	stormline	WATERWAY	WATERBODY
DRAINAGE BASINS (DEP Line)	1 MAJOR	2 REGIONAL	3 SUBREGIONAL	4 LOCAL	5 STREAM REACH	6 LAKE IMPOUNDMENT	7 STREAM DIVERSION		
DRAINAGE BASIN CLASSIFICATION	1 MAJOR	2 REGIONAL	3 SUBREGIONAL	4 LOCAL	5 STREAM REACH	6 LAKE IMPOUNDMENT	7 STREAM DIVERSION		

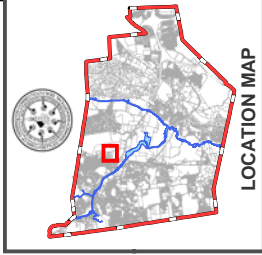




TOWN OF FARMINGTON  
DRAINAGE  
OUT FALL  
SAMPLING AREA  
SITE C-4  
NO. C4-07-07-09

SAMPLE No.  
C4-07-07-09  
Sampling site C-4 is  
located in the rear of 9  
Eastview Drive

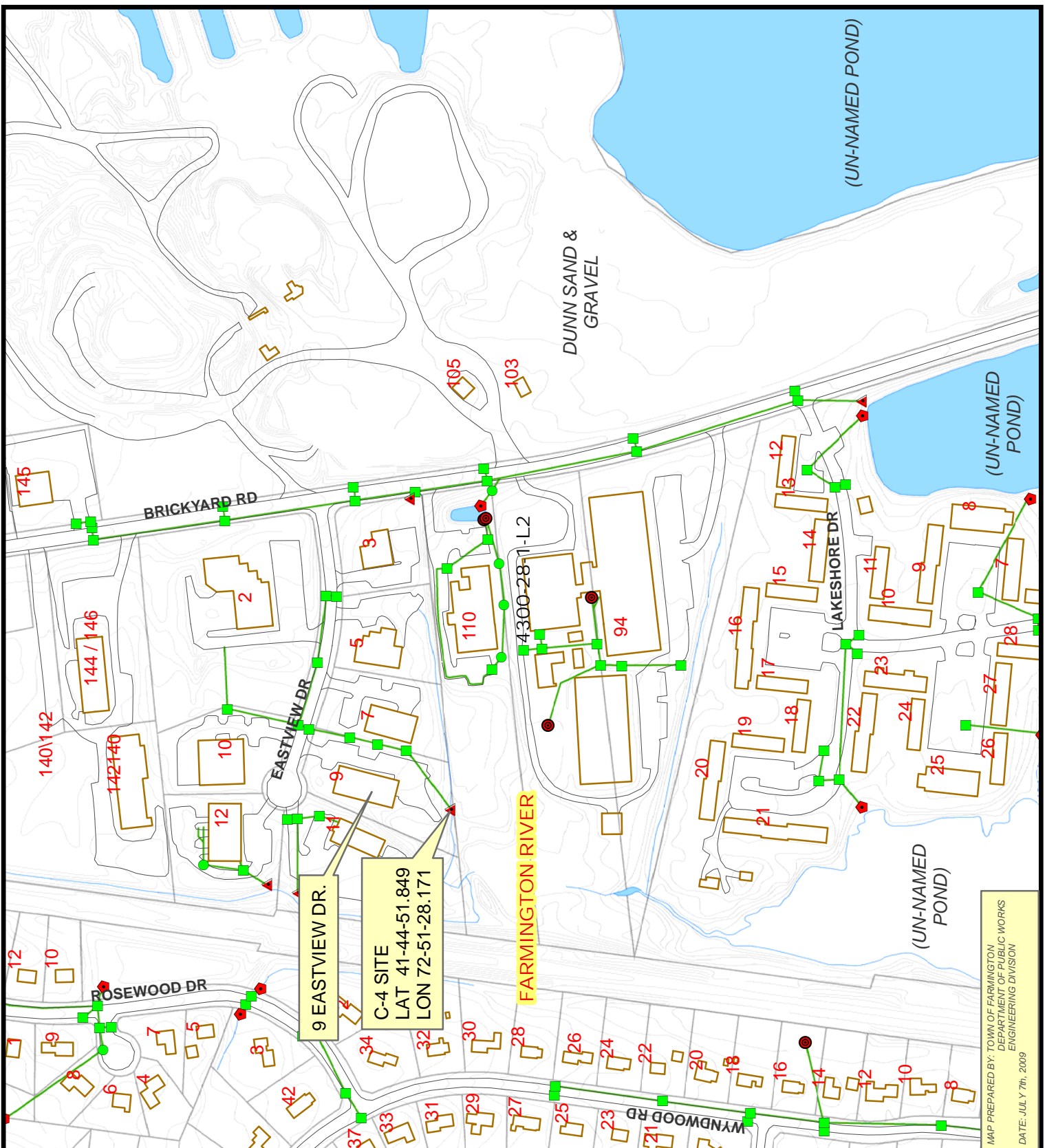
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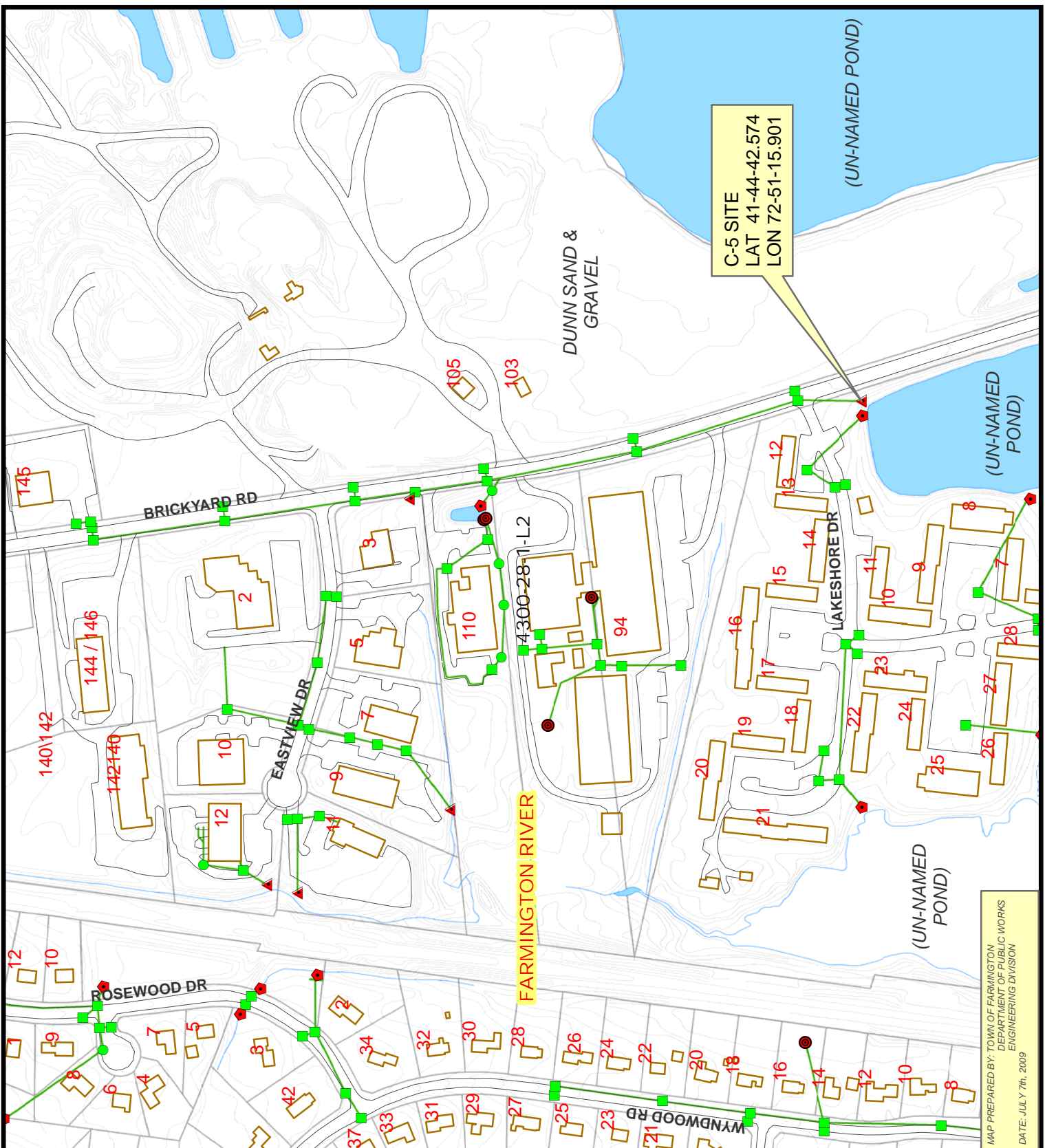
Feet  
0 75 150 300

**LEGEND**

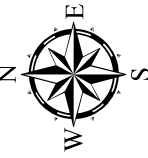
- TOWN LINE
- STORM LINE
- DRAINAGE BASINS (DEP Line)
- DRAINAGE BASIN CLASSIFICATION
  - 1 MAJOR
  - 2 REGIONAL
  - 3 SUBREGIONAL
  - 4 LOCAL
  - 5 STREAM REACH
  - 6 LAKE IMPOUNDMENT
  - 7 STREAM DIVERSION
- STRUCTURES
  - FLARED END
  - PIPE END
  - END WALL
  - CATCH BASIN
  - MANHOLE



MAP PREPARED BY: TOWN OF FARMINGTON  
DEPARTMENT OF PUBLIC WORKS  
ENGINEERING DIVISION  
DATE: JULY 7th, 2009

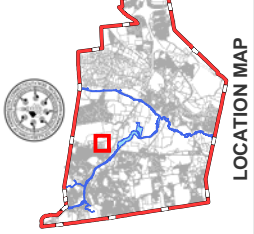


C-5 SITE  
 LAT 41-44-42.574  
 LON 72-51-15.901



TOWN OF FARMINGTON  
 DRAINAGE  
 OUT FALL  
 SAMPLING AREA  
 SITE C-5  
 No. C5-07-07-09

SAMPLE No.  
 C5-07-07-09  
 Sampling site C-5 is located on the west side of Brickyard Rd. 1800 feet north of the intersection with Farmington Ave.  
 DATUM REFERENCE: NAD 1927

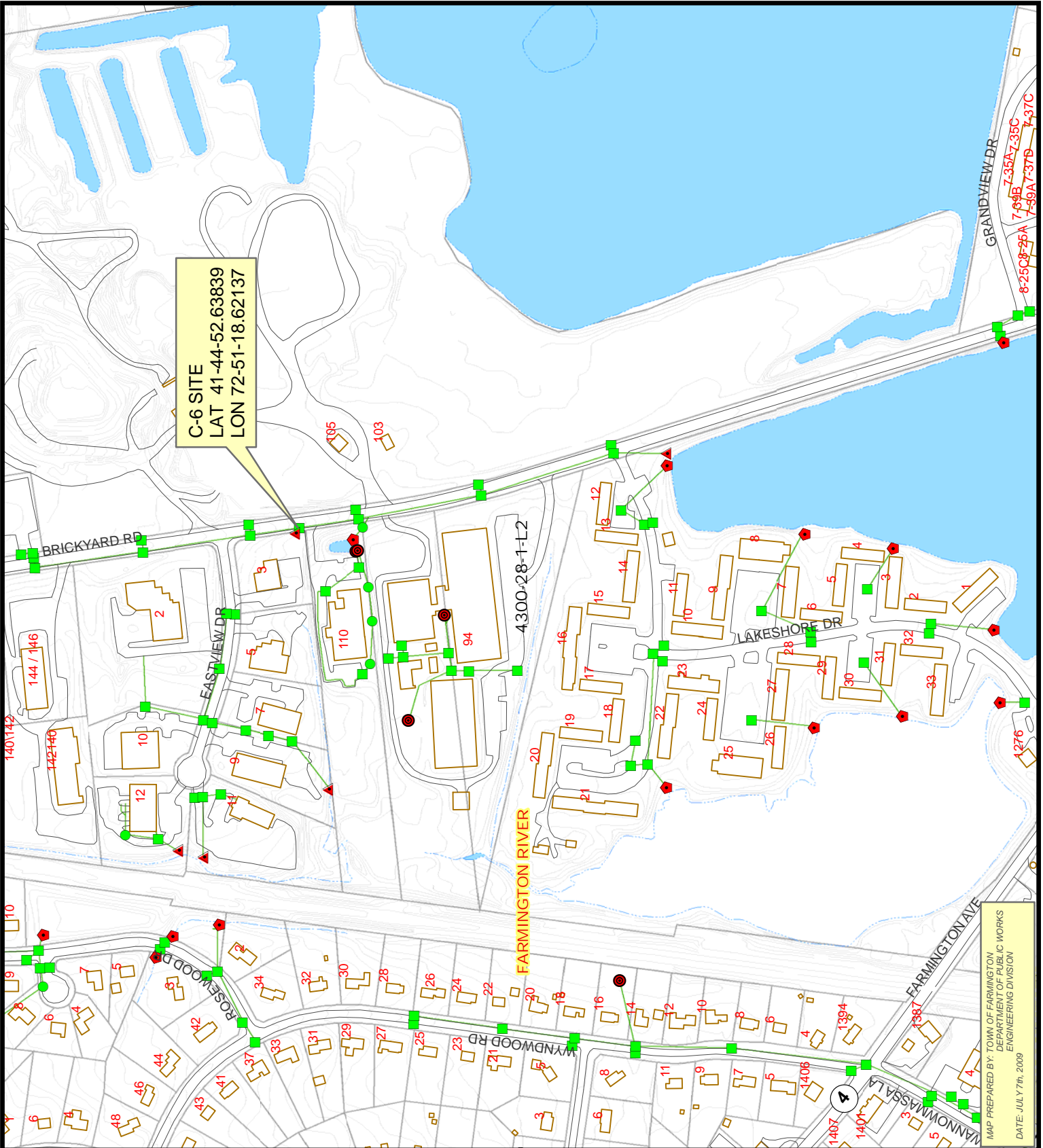


**LEGEND**

- TOWN LINE
- STORM LINE
- DRAINAGE BASINS (DEP Line)
- DRAINAGE BASIN CLASSIFICATION
  - 1 MAJOR
  - 2 REGIONAL
  - 3 SUBREGIONAL
  - 4 LOCAL
  - 5 STREAM REACH
  - 6 LAKE IMPOUNDMENT
  - 7 STREAM DIVERSION
- STRUCTURE TYPE
  - FLARED END
  - PIPE END
  - END WALL
  - CATCH BASIN
  - MANHOLE

MAP PREPARED BY: TOWN OF FARMINGTON  
 DEPARTMENT OF PUBLIC WORKS  
 ENGINEERING DIVISION  
 DATE: JULY 7th, 2009





**C-6 SITE**  
 LAT 41-44-52.63839  
 LON 72-51-18.62137

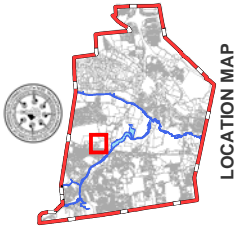
MAP PREPARED BY: TOWN OF FARMINGTON  
 DEPARTMENT OF PUBLIC WORKS  
 ENGINEERING DIVISION  
 DATE: JULY 7th, 2009



TOWN OF FARMINGTON  
 DRAINAGE  
 OUT FALL  
 SAMPLING AREA  
 SITE C-6  
 NO. C6-07-07-09

**SAMPLE No.**  
 C6-07-07-09  
 Sampling site C-6 was taken from the 2nd CB south of Eastview Drive on the west side of Brickyard Road

DATUM REFERENCE: NAD 1927



**LEGEND**

- TOWN LINE
- STORM LINE
- DRAINAGE BASINS (DEP Line)
- DRAINAGE BASIN CLASSIFICATION
  - 1 MAJOR
  - 2 REGIONAL
  - 3 SUBREGIONAL
  - 4 LOCAL
  - 5 STREAM REACH
  - 6 LAKE IMPOUNDMENT
  - 7 STREAM DIVERSION
- STRUCTURES
  - FLARED END
  - PIPE END
  - END WALL
  - CATCH BASIN
  - MANHOLE