Former Mt. Tom Station Power Plant
200 Northampton Street
Holyoke, Massachusetts

Inflow Design Flood Control System Plan – Special Basin

Mt. Tom Generating Company LLC
Houston, Texas

May 2026

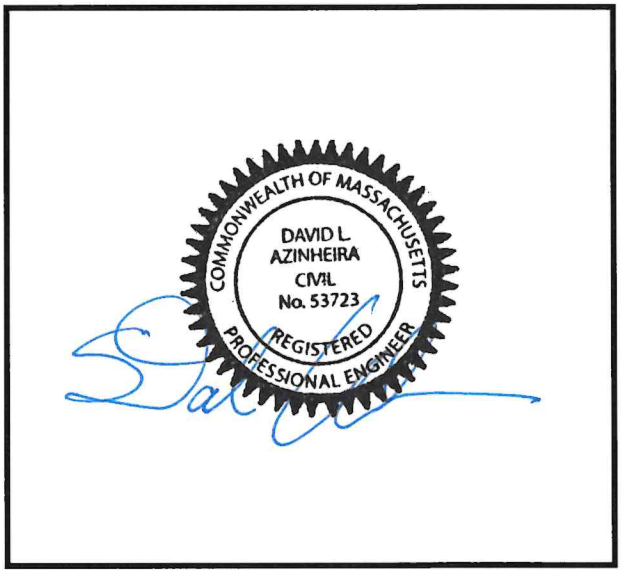
Certification Statement

CCR Unit: Mt. Tom Generating Company LLC; former Mt. Tom Power Plant; Special Basin

I hereby certify that, to the best of my knowledge, information, and belief, the information contained in this CCR Rule Report, including all underlying data, has been prepared in accordance with accepted engineering practices. I further certify that, with respect to the above-referenced CCR Unit, the Inflow Design Flood Control System Plan dated May 7, 2026, has been prepared to meet the applicable requirements and provisions of Title 40 of the Code of Federal Regulations § 257.82 (40 CFR 257.82)

David Azinheira, PE, CFM

Printed Name



May 7, 2026

Date

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SECTION 1 | Introduction

1.1 Background

On behalf of Mt. Tom Generating Company LLC ("MTGC"), a wholly owned indirect subsidiary of ENGIE North America, Inc., Tighe & Bond, Inc. ("Tighe & Bond") has prepared this Inflow Design Flood Control System Plan ("Plan") associated with the Environmental Protection Agency ("EPA") Coal Combustion Residuals ("CCR") Final Rule for Legacy CCR Surface Impoundments ("LSI") and CCR Management Units ("CCRMU"), for the former MTGC facility (the "site"), located at 200 Northampton Street in Holyoke, Massachusetts. A Site Location map and Site Plan are provided as Figures 1 and Figure 2, respectively.

The Basin known as "Special Basin" is shown in Figure 2 and is a legacy CCR surface impoundment as defined by 40 CFR 257.82.

Special Basin is an approximately 190 feet wide by 390 feet long with a maximum depth of approximately 14 feet, and a maximum structural height (compared to the elevation at the downstream toe) of approximately 12.5 feet. The maximum storage of the basin is approximately 12.2 acre-feet. There is currently no inflow to the basin other than direct precipitation over the basin surface area and immediately adjacent edges of the embankment crest, and the basin is generally dry other than immediately following rainfall events until rainwater infiltrates into the basin. There are no valves or diversions that could contribute flow to the basin other than direct precipitation, nor valves or diversions that would remove water from the basin.

1.2 Purpose

The CCR Rules require that an inflow design flood control system plan be prepared for LSIs. The plan must document how the inflow design flood control system has been designed, including appropriate engineering calculations. The purpose of this Plan is to meet the requirements of 40 CFR 257.82.

1.3 Regulations

The requirements of 40 CFR 257.82 "Hydrologic and hydraulic capacity requirements for CCR surface impoundments" are:

(a) The owner or operator of an existing or new CCR surface impoundment, legacy CCR surface impoundment, or any lateral expansion of a CCR surface impoundment must design, construct, operate, and maintain an inflow design flood control system as specified in paragraphs (a)(1) and (2) of this section.

(1) The inflow design flood control system must adequately manage flow into the CCR unit during and following the peak discharge of the inflow design flood specified in paragraph (a)(3) of this section.

(2) The inflow design flood control system must adequately manage flow from the CCR unit to collect and control the peak discharge resulting from the inflow design flood specified in paragraph (a)(3) of this section.

(3) The inflow design flood is:

(i) For a high hazard potential CCR surface impoundment, as determined under § 257.73(a)(2) or § 257.74(a)(2), the probable maximum flood;

(ii) For a significant hazard potential CCR surface impoundment, as determined under § 257.73(a)(2) or § 257.74(a)(2), the 1,000-year flood;

*(iii) For a **low hazard potential** CCR surface impoundment, as determined under § 257.73(a)(2) or § 257.74(a)(2), the **100-year flood**; or*

(iv) For an incised CCR surface impoundment, the 25-year flood.

(b) Discharge from the CCR unit must be handled in accordance with the surface water requirements under § 257.3-3.

(c) Inflow design flood control system plan –

(1) Content of the plan. The owner or operator must prepare initial and periodic inflow design flood control system plans for the CCR unit according to the timeframes specified in paragraphs (c)(3) and (4) of this section. These plans must document how the inflow design flood control system has been designed and constructed to meet the requirements of this section. Each plan must be supported by appropriate engineering calculations. The owner or operator of the CCR unit has completed the inflow design flood control system plan when the plan has been placed in the facility's operating record as required by § 257.105(g)(4).

(2) Amendment of the plan. The owner or operator of the CCR unit may amend the written inflow design flood control system plan at any time provided the revised plan is placed in the facility's operating record as required by § 257.105(g)(4). The owner or operator must amend the written inflow design flood control system plan whenever there is a change in conditions that would substantially affect the written plan in effect.

(3) Timeframes for preparing the initial plan –

(i) Existing CCR surface impoundments. The owner or operator of the CCR unit must prepare the initial inflow design flood control system plan no later than October 17, 2016.

(ii) New CCR surface impoundments and any lateral expansion of a CCR surface impoundment. The owner or operator must prepare the initial inflow design flood control system plan no later than the date of initial receipt of CCR in the CCR unit.

(4) Frequency for revising the plan. The owner or operator must prepare periodic inflow design flood control system plans required by paragraph (c)(1) of this section every five years. The date of completing the initial plan is the basis for establishing the deadline to complete the first periodic plan. The owner or operator may complete any required plan prior to the required deadline provided the owner or operator places the completed plan into the facility's operating record within a reasonable amount of time. In all cases, the deadline for completing a subsequent plan is based on the date of completing the previous plan. For purposes of this paragraph (c)(4), the owner or operator has completed an inflow design flood control system plan when the plan has been placed in the facility's operating record as required by § 257.105(g)(4).

(5) The owner or operator must obtain a certification from a qualified professional engineer or approval from the Participating State Director or approval from EPA where EPA is the permitting authority stating that the initial and periodic inflow design flood control system plans meet the requirements of this section.

The owner or operator of the CCR unit must comply with the recordkeeping requirements specified in § 257.105(g), the notification requirements specified in § 257.106(g), and the internet requirements specified in § 257.107(g).

SECTION 2 | Flood Control System

Special Basin is a low hazard potential CCR surface impoundment, as defined by 40 CFR 257.53. Therefore, in accordance with 40 CFR 257.82(a)(3)(iii), the Inflow Design Flood ("IDF") is the 100-year flood.

2.1 Internal Flood Potential

A rainfall runoff hydrologic analysis for Special Basin was performed using HydroCAD, a modeling software based on USDA-SCS Technical Release No. 20 (TR-20). The only runoff draining toward Special Basin is rainfall directly falling over the basin and the interior of the berm.

Principal hydrology input values for the modeling program include rainfall depth, the total contributing watershed area, land use, soil properties, and the time of concentration (t_c). The Special Basin watershed has a drainage area of approximately 1.6 acres (68,600 square feet). For the purposes of evaluating the internal flood control the soils are assumed to have standing water during the majority of the storm event, so a runoff curve number of 98 (the maximum runoff curve number possible following the TR-20 methodology) is conservatively assumed. Rainfall is assumed to enter the pond nearly instantaneously so direct rainfall (time of concentration of 0) is assumed.

Water is only able to exit the basins through exfiltration, and an exfiltration rate of $3x10^{-4}$ cm/s (0.425 inches/hour) was determined based on lab permeability tests calculated using ASTM D 2434-68 (1974) Permeability of Granular Soils (Constant Head) presented as an Appendix (Laboratory Geotechnical Analysis) from *Mt. Tom Generating Station Coal Reconversion Hydrogeologic Study Preconversion Report*, prepared by Gibbs & Hill, Inc., dated June 9, 1981. Borings were also performed as part of the *Former Mt. Tom Station Power Plant 200 Northampton St., Holyoke, MA RTN 1-20229, ACO 00002589 Phase II Comprehensive Site Assessment & Phase III Remedial Action Plan*, prepared by Tighe & Bond, dated September 2018 and found groundwater levels were greater than 25 feet below the embankment levels in the vicinity of Special Basin. Groundwater levels were conservatively assumed to be at elevation 100 feet NAVD88, less than 25 feet below the embankment crest.

Special Basin was input into HydroCAD as a pond, with storage volumes estimated usings 2024 USGS LiDAR data for Western Massachusetts with 0.5 meter resolution flown in Spring of 2024[1].

The 24-hour precipitation for the 4%, 2%, 1%, 0.5%, 0.2%, and 0.1% annual exceedance probability storm events (the 25-, 50-, 100-, 500-and 1,000-year storms) were estimated using the National Oceanic and Atmospheric Administration ("NOAA") Atlas 14 precipitation depth estimates. **Table 2-1** provides the precipitation amounts used for the various storms analyzed and the NOAA Atlas 14 Point Precipitation Frequency Estimates are available in **Appendix A**. A 24-hour probable maximum precipitation (PMP) was estimated using the methodology outlined in Hydrometeorological Report No. 51 and represents the "worst case" rainfall anticipated. A 24-hour Soil Conservation Service Type III rainfall distribution was conservatively assumed for all rainfall events.

Table 2-2 provides a summary of computed water level depth, computed water surface elevations, and freeboard to the low point of the embankment. For the IDF, the 1% annual exceedance probability (100-year)

[1] https://www.fisheries.noaa.gov/inport/item/78679

storm, the anticipated water level is 111.2 feet NAVD88, providing 10.8 feet to the low point in the embankment (122 feet NAVD88). **Appendix B** provides a summary of HydroCAD output data for the study.

TABLE 2-1 Precipitation Depths for Hydrologic Modeling

Annual Exceedance Probability	24-Hour Precipitation Depth (inches)
4% (25-year)	6.14
2% (50-year)	7.00
1% (100-year)*	**7.96**
0.2% (500-year)	11.3
0.1% (1000-year)	13.1
PMP	31.3

*The 100-year storm event is the IDF.

TABLE 2-2 Hydrologic Modeling Results

Annual Exceedance Probability	Depth of Water (feet)	Water Surface Elevation (feet, NAVD88)	Freeboard (feet)
4% (25-year)	2.9	110.9	11.1
2% (50-year)	3.1	111.1	10.9
1% (100-year)*	**3.2**	**111.2**	**10.8**
0.2% (500-year)	3.8	111.8	10.2
0.1% (1000-year)	4.0	112.0	10.0
24-hour PMP	6.5	114.5	7.5

*The 100-year storm event is the IDF.

Based on the evaluation, overtopping is not expected during the IDF, and Special Basin meets the requirements of CFR 257.82. Special Basin will not overtop during the 1,000-year storm event or the 24-hour PMP, significantly exceeding the minimum freeboard requirements. Additionally, water is not expected to remain impounded in the Special Basin for long. Given the infiltration rates, the basin is expected to empty from its peak 100-year storm elevation in approximately 4.5 days.

2.2 External Floodwater Potential

Special Basin is surrounded by a perimeter berm that provides external flood water protection. Besides rainfall, one potential external inflow source to Special Basin was identified, the Connecticut River, located immediately east of the basin. The Connecticut River has the potential to only contribute to the Special Basin's flood risk under extremely rare circumstances, but it has been considered for completeness purposes.

The Connecticut River 1% annual exceedance probability (100-year) storm event water elevation data is available from the Federal Emergency Management Agency ("FEMA") Flood Insurance Rate Map ("FIRM") number 25013C0088E effective July 16, 2013, and from the Flood Insurance Study ("FIS") for Hampden County, Massachusetts number 25013CV001C effective June 7, 2013. **Appendix C** shows the portion of the

FIRM (National Flood Hazard Layer FIRMette, exported on December 3, 2025) at the site and a summary of relevant pages from the FIS report.

The effective FEMA mapping was developed using topographic data that predates the published FIRM. Accordingly, site-specific survey data and more recent LiDAR provide a more current representation of existing ground elevations than the generalized floodplain polygons shown on the FIRM.

Special Basin is located approximately halfway between Cross Section BD and BE of the Connecticut River. The Floodway Data Table from the FIS indicates the FEMA 100-year water level is 120.8 feet NAVD88 at cross section BD, and 121.1 feet NAVD88 at cross section BE. The 100-year water surface elevation is estimated to be the approximate average of the two water levels, or 121.0 feet NAVD88. The minimum embankment crest of the Special Basin is 122.0 feet NAVD88, so the Special Basin is anticipated to have 1-foot of freeboard during the 100-year frequency storm event.

Based on these elevations, the Connecticut River is not anticipated to overtop the embankment and should not be an inflow source to Special Basin during the 1% annual exceedance probability event. If river elevations were to exceed the published 100-year level, causing the Special Basin to completely fill with flood water, the resulting ponded water within the basin is anticipated to dissipate through infiltration within approximately 12 days.

2.3 Flood Control System Performance

Based on the evaluations presented in Sections 2.1 and 2.2, the Special Basin is considered hydraulically adequate to manage both internal and external flood conditions without the need for operational controls under the evaluated design conditions.

The long-term performance of the flood control system is dependent on routine maintenance of the basin, including maintaining embankment integrity and preserving infiltration capacity at the basin bottom.

SECTION 3 | Plan Revision and Recordkeeping

In accordance with 40 CFR 257.82, the owner or operator is required to maintain an up-to-date inflow design flood control system plan for the Special Basin LSI. This includes preparing the initial plan on the schedule specified for the applicable unit type and updating it at least every five years thereafter, or more frequently if site conditions change in a manner that could materially affect the plan.

Any revision or newly completed plan must be placed in the facility's operating record as required by 40 CFR 257.105(g)(4), and each version must be supported by appropriate engineering documentation. The regulation also requires that both initial and periodic plans receive certification by a qualified professional engineer (or approval by the appropriate permitting authority) to confirm that the design and documentation meet the performance standards of 40 CFR 257.82.

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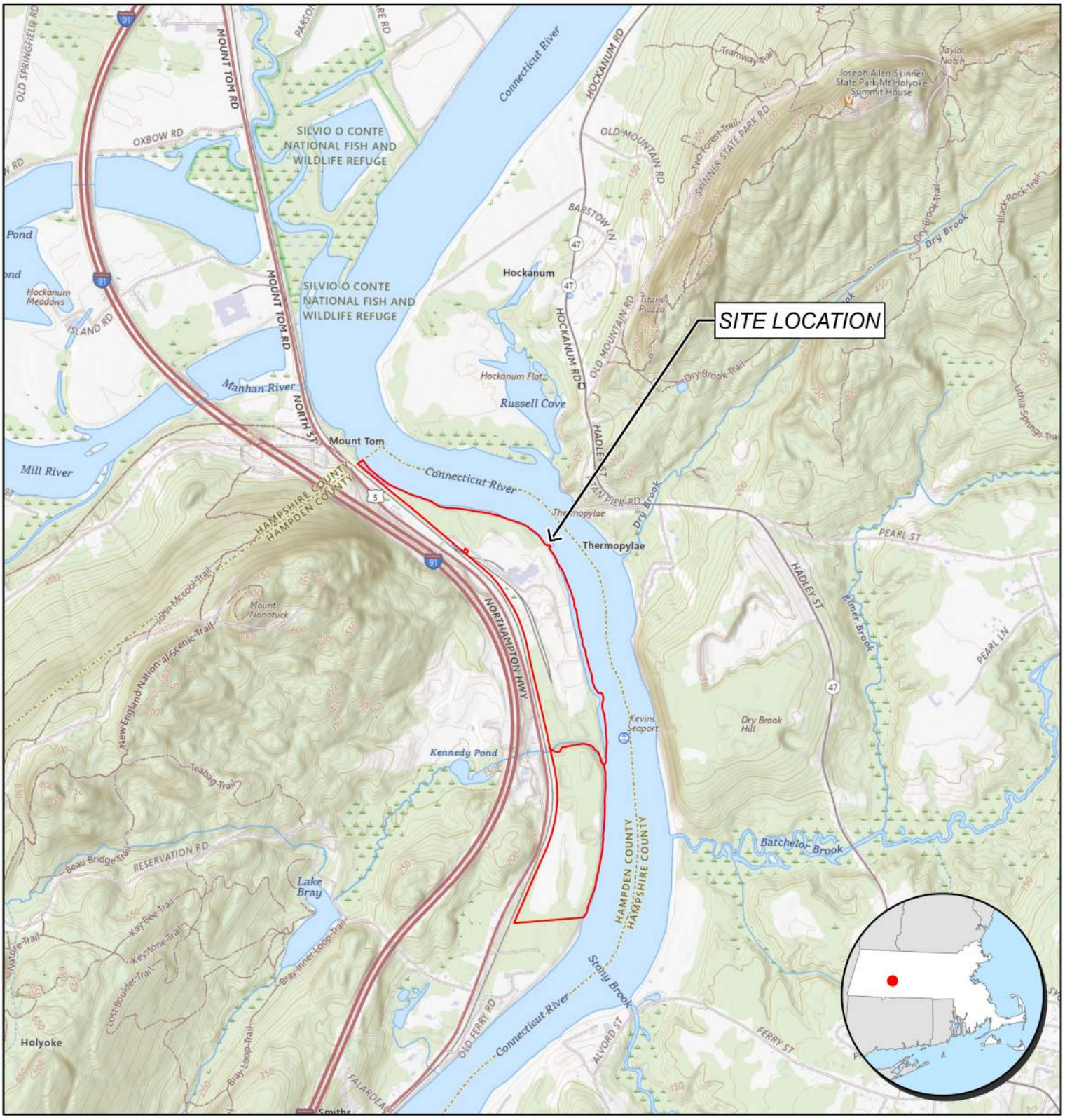
Full Page Figures

Former Mt. Tom Station Power Plant
200 Northampton Street
Holyoke, Massachusetts

FIGURE 1
SITE LOCATION
January 2026



N

1:24,000

0 1,000 2,000

Feet

Based on USGS The National Map Topo Basemap.
Contour Interval Equals 10 Feet.
Circles indicate 500-foot and half-mile radii.

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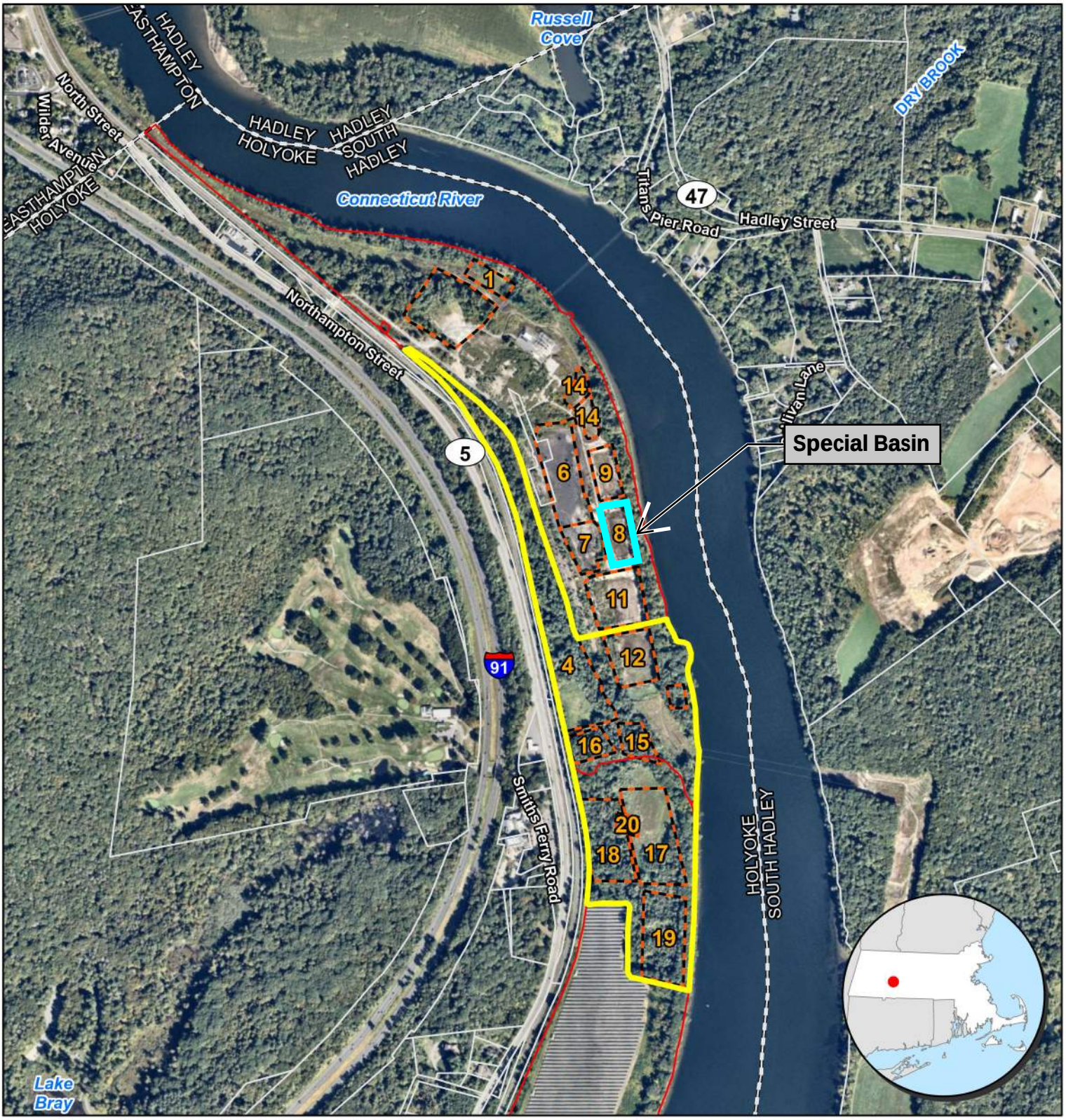
Former Mt. Tom Station Power Plant
200 Northampton Street
Holyoke, Massachusetts

FIGURE 2
SITE PLAN
March 2026



Property Boundary
Parcel Boundary
Vegetated Ash Areas
Municipal Boundary
Solid Waste Management Unit Area (Approximate)

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1:10,800
0 450 900
Feet

Based on latest Nearmap Imagery.

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Appendix A: Rainfall Data

NOAA Atlas 14, Volume 10, Version 3
Location name: Holyoke, Massachusetts, USA*
Latitude: 42.2777°, Longitude: -72.6025°
Elevation: 122 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.329** (0.253-0.420)	**0.393** (0.302-0.502)	**0.497** (0.381-0.638)	**0.583** (0.444-0.753)	**0.702** (0.519-0.950)	**0.792** (0.574-1.10)	**0.885** (0.623-1.28)	**0.987** (0.662-1.46)	**1.13** (0.733-1.74)	**1.25** (0.789-1.97)
10-min	**0.466** (0.359-0.596)	**0.557** (0.428-0.712)	**0.704** (0.539-0.905)	**0.826** (0.629-1.07)	**0.994** (0.735-1.35)	**1.12** (0.812-1.55)	**1.25** (0.883-1.81)	**1.40** (0.939-2.08)	**1.60** (1.04-2.47)	**1.77** (1.12-2.79)
15-min	**0.549** (0.422-0.701)	**0.655** (0.503-0.837)	**0.828** (0.634-1.06)	**0.972** (0.741-1.26)	**1.17** (0.864-1.58)	**1.32** (0.956-1.83)	**1.48** (1.04-2.12)	**1.64** (1.10-2.44)	**1.88** (1.22-2.91)	**2.08** (1.32-3.28)
30-min	**0.748** (0.576-0.956)	**0.894** (0.687-1.14)	**1.13** (0.868-1.45)	**1.33** (1.01-1.72)	**1.60** (1.18-2.17)	**1.80** (1.31-2.50)	**2.02** (1.42-2.91)	**2.25** (1.51-3.34)	**2.58** (1.67-3.98)	**2.84** (1.80-4.49)
60-min	**0.948** (0.729-1.21)	**1.13** (0.870-1.45)	**1.44** (1.10-1.84)	**1.68** (1.28-2.18)	**2.03** (1.50-2.75)	**2.29** (1.66-3.17)	**2.56** (1.80-3.69)	**2.86** (1.92-4.24)	**3.27** (2.12-5.05)	**3.61** (2.28-5.69)
2-hr	**1.21** (0.937-1.53)	**1.44** (1.12-1.82)	**1.82** (1.40-2.31)	**2.13** (1.64-2.72)	**2.56** (1.91-3.45)	**2.88** (2.11-3.98)	**3.23** (2.30-4.65)	**3.62** (2.44-5.34)	**4.20** (2.73-6.45)	**4.69** (2.98-7.35)
3-hr	**1.38** (1.08-1.73)	**1.65** (1.28-2.08)	**2.09** (1.62-2.64)	**2.45** (1.90-3.12)	**2.95** (2.22-3.97)	**3.33** (2.45-4.59)	**3.73** (2.68-5.38)	**4.21** (2.84-6.19)	**4.93** (3.21-7.54)	**5.54** (3.53-8.66)
6-hr	**1.71** (1.35-2.13)	**2.07** (1.63-2.59)	**2.66** (2.09-3.34)	**3.16** (2.47-3.99)	**3.84** (2.91-5.13)	**4.33** (3.23-5.96)	**4.88** (3.56-7.05)	**5.56** (3.78-8.13)	**6.63** (4.33-10.1)	**7.56** (4.82-11.8)
12-hr	**2.08** (1.66-2.57)	**2.58** (2.05-3.19)	**3.39** (2.69-4.21)	**4.06** (3.20-5.08)	**4.99** (3.83-6.64)	**5.67** (4.27-7.76)	**6.42** (4.73-9.26)	**7.39** (5.03-10.7)	**8.94** (5.85-13.5)	**10.3** (6.59-15.9)
24-hr	**2.45** (1.98-3.00)	**3.08** (2.48-3.78)	**4.11** (3.30-5.06)	**4.97** (3.96-6.16)	**6.14** (4.76-8.12)	**7.00** (5.33-9.54)	**7.96** (5.92-11.5)	**9.21** (6.31-13.3)	**11.3** (7.39-16.9)	**13.1** (8.38-20.1)
2-day	**2.82** (2.29-3.41)	**3.55** (2.88-4.31)	**4.75** (3.84-5.79)	**5.74** (4.62-7.05)	**7.11** (5.56-9.33)	**8.10** (6.22-11.0)	**9.22** (6.92-13.2)	**10.7** (7.36-15.4)	**13.1** (8.66-19.6)	**15.3** (9.86-23.4)
3-day	**3.08** (2.52-3.71)	**3.87** (3.17-4.67)	**5.17** (4.21-6.27)	**6.24** (5.06-7.63)	**7.72** (6.07-10.1)	**8.80** (6.79-11.9)	**10.0** (7.55-14.3)	**11.6** (8.02-16.6)	**14.3** (9.43-21.2)	**16.6** (10.7-25.3)
4-day	**3.31** (2.72-3.97)	**4.14** (3.41-4.99)	**5.52** (4.52-6.66)	**6.66** (5.41-8.10)	**8.22** (6.48-10.7)	**9.36** (7.24-12.6)	**10.6** (8.04-15.1)	**12.3** (8.53-17.6)	**15.1** (10.0-22.5)	**17.6** (11.4-26.7)
7-day	**3.94** (3.27-4.70)	**4.87** (4.04-5.81)	**6.39** (5.27-7.66)	**7.65** (6.27-9.24)	**9.38** (7.45-12.1)	**10.6** (8.28-14.2)	**12.1** (9.13-17.0)	**13.9** (9.66-19.7)	**16.9** (11.2-24.9)	**19.5** (12.7-29.5)
10-day	**4.58** (3.82-5.43)	**5.55** (4.63-6.60)	**7.15** (5.93-8.53)	**8.48** (6.99-10.2)	**10.3** (8.20-13.2)	**11.6** (9.06-15.4)	**13.1** (9.92-18.3)	**15.0** (10.5-21.1)	**18.0** (12.0-26.4)	**20.6** (13.4-31.0)
20-day	**6.58** (5.55-7.73)	**7.62** (6.41-8.96)	**9.31** (7.81-11.0)	**10.7** (8.92-12.7)	**12.6** (10.1-15.9)	**14.1** (11.0-18.2)	**15.6** (11.8-21.2)	**17.4** (12.3-24.3)	**20.2** (13.5-29.4)	**22.4** (14.6-33.5)
30-day	**8.26** (7.01-9.64)	**9.33** (7.91-10.9)	**11.1** (9.35-13.0)	**12.5** (10.5-14.8)	**14.5** (11.7-18.1)	**16.0** (12.5-20.5)	**17.6** (13.2-23.5)	**19.3** (13.6-26.8)	**21.8** (14.6-31.6)	**23.7** (15.5-35.4)
45-day	**10.3** (8.83-12.0)	**11.5** (9.77-13.3)	**13.3** (11.3-15.5)	**14.8** (12.5-17.4)	**16.9** (13.6-20.9)	**18.5** (14.5-23.4)	**20.1** (15.1-26.6)	**21.8** (15.5-30.1)	**24.0** (16.2-34.6)	**25.6** (16.7-38.0)
60-day	**12.0** (10.3-13.9)	**13.2** (11.3-15.3)	**15.2** (12.9-17.6)	**16.8** (14.2-19.6)	**19.0** (15.4-23.2)	**20.7** (16.2-26.0)	**22.4** (16.7-29.2)	**24.0** (17.1-32.9)	**26.0** (17.6-37.4)	**27.5** (18.0-40.7)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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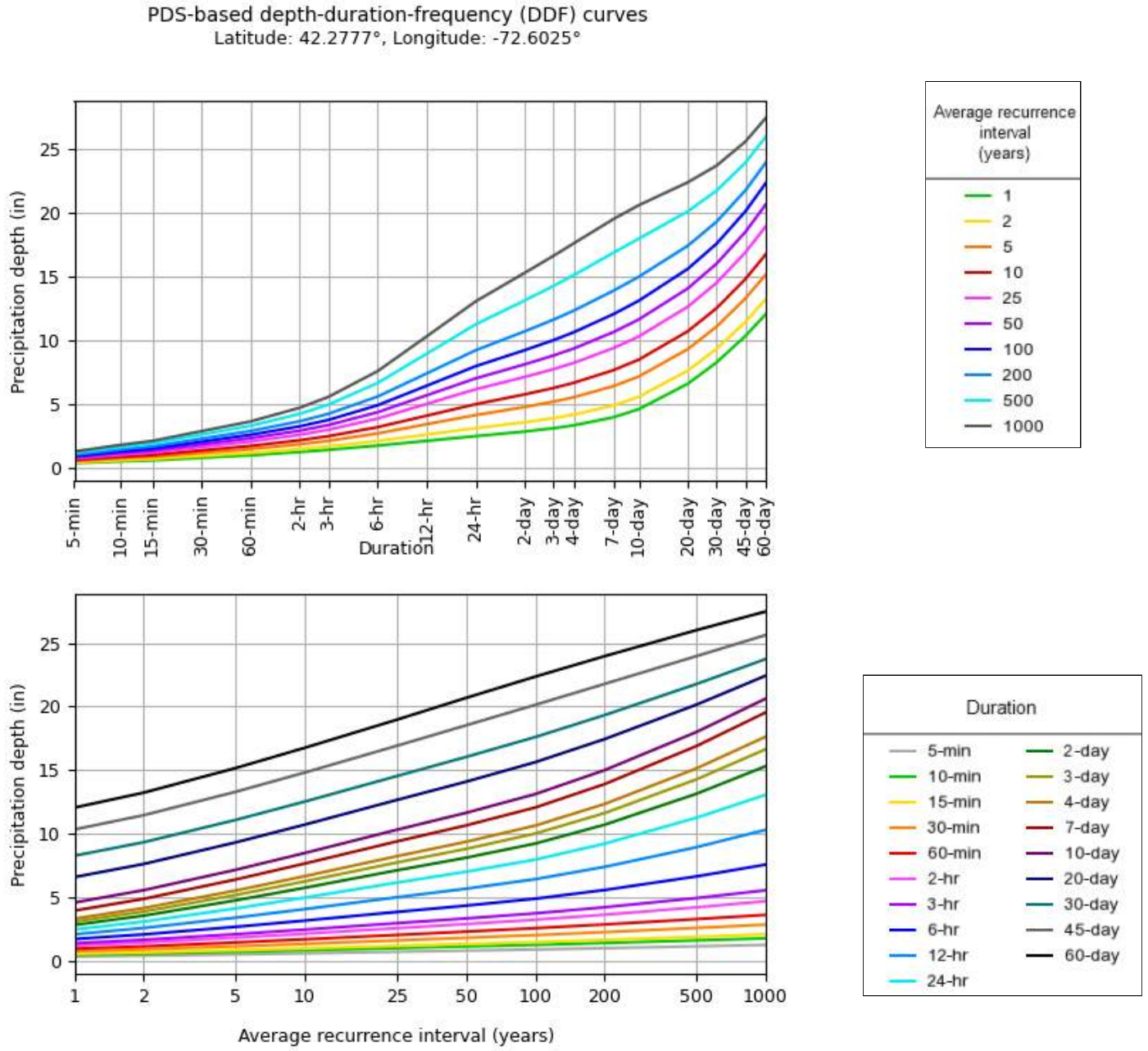
PF graphical



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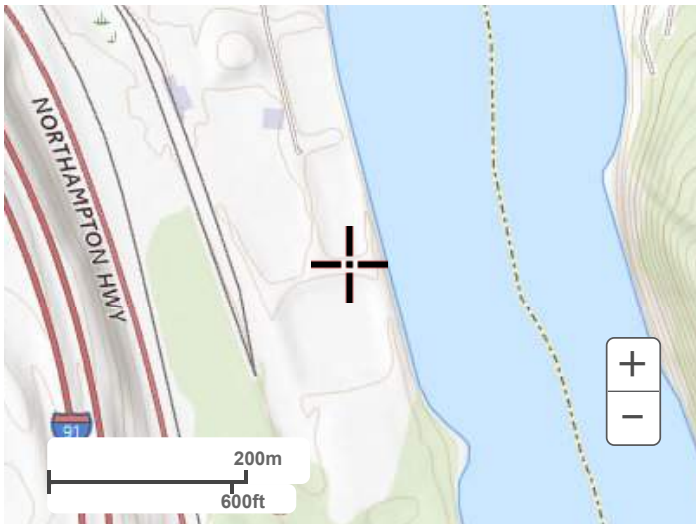
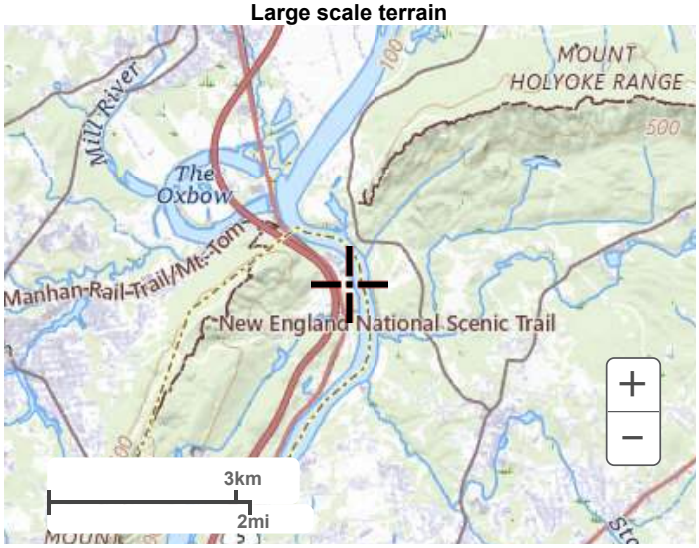
Maps & aerials

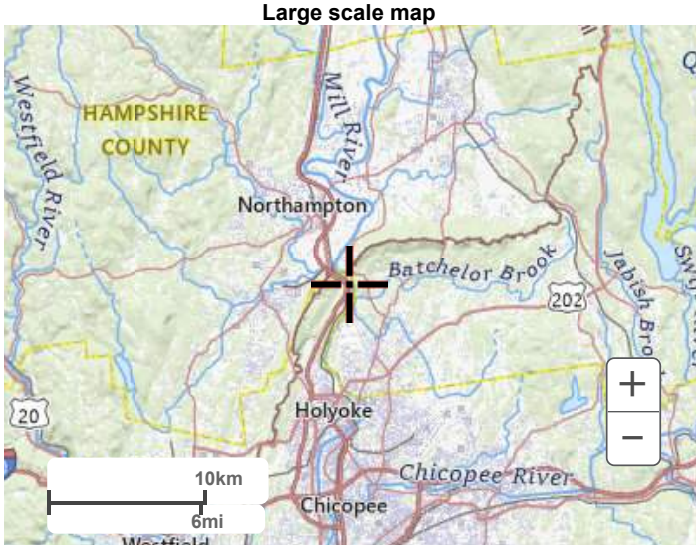
Small scale terrain



Large scale terrain



Large scale map



Large scale aerial

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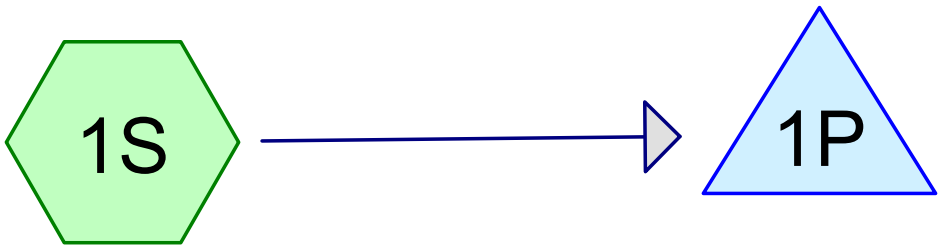
US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Appendix B: Hydrologic Model Output



01_Special_Basin SA-01_Special_Basin

Subcat Reach Pond Link

Routing Diagram for MtTomHydrology
Prepared by Tighe & Bond, Printed 3/5/2026

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	100-Year	Type III 24-hr		Default	24.00	1	7.96	2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.574	98	(1S)
1.574	**98**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
1.574	Other	1S
1.574		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	1.574	1.574		1S
0.000	**0.000**	**0.000**	**0.000**	**1.574**	**1.574**	**TOTAL AREA**	

Time span=0.00-48.00 hrs, dt=0.01 hrs, 4801 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Sim-Route method - Pond routing by Sim-Route method

Subcatchment 1S: 01_Special_Basin Runoff Area=1.574 ac 100.00% Impervious Runoff Depth=7.72"
Tc=0.0 min CN=98 Runoff=15.00 cfs 1.013 af

Pond 1P: SA-01_Special_Basin Peak Elev=111.23' Storage=0.750 af Inflow=15.00 cfs 1.013 af
Discarded=0.30 cfs 0.765 af Primary=0.00 cfs 0.000 af Outflow=0.30 cfs 0.765 af

Total Runoff Area = 1.574 ac Runoff Volume = 1.013 af Average Runoff Depth = 7.72"
0.00% Pervious = 0.000 ac 100.00% Impervious = 1.574 ac

Summary for Subcatchment 1S: 01_Special_Basin

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

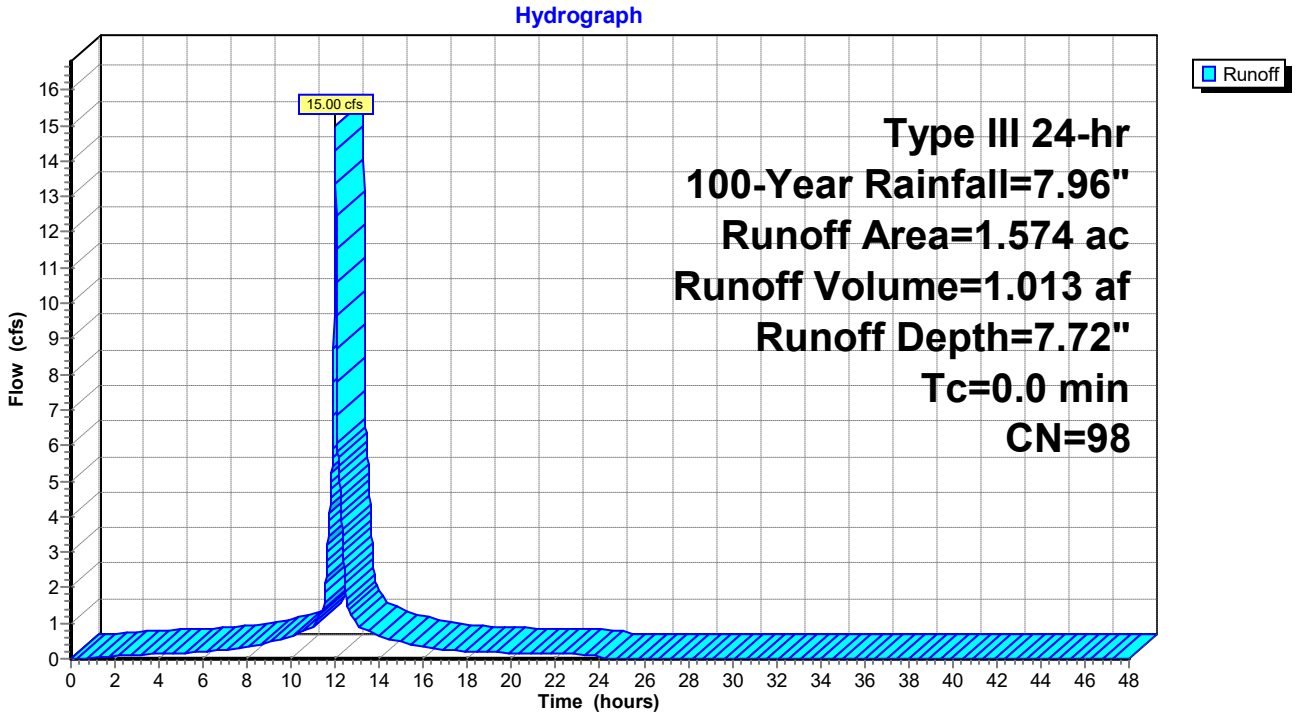
Runoff = 15.00 cfs @ 12.00 hrs, Volume= 1.013 af, Depth= 7.72"
Routed to Pond 1P : SA-01_Special_Basin

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Type III 24-hr 100-Year Rainfall=7.96"

	Area (ac)	CN	Description
*	1.574	98	
	1.574		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.0					**Direct Entry, Direct**

Subcatchment 1S: 01_Special_Basin



Summary for Pond 1P: SA-01_Special_Basin

Inflow Area = 1.574 ac,100.00% Impervious, Inflow Depth = 7.72" for 100-Year event
Inflow = 15.00 cfs @ 12.00 hrs, Volume= 1.013 af
Outflow = 0.30 cfs @ 16.51 hrs, Volume= 0.765 af, Atten= 98%, Lag= 270.3 min
Discarded = 0.30 cfs @ 16.51 hrs, Volume= 0.765 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Sim-Route method, Time Span= 0.00-48.00 hrs, dt= 0.01 hrs
Peak Elev= 111.23' @ 16.51 hrs Surf.Area= 0.618 ac Storage= 0.750 af

Plug-Flow detention time= 955.1 min calculated for 0.765 af (76% of inflow)
Center-of-Mass det. time= 868.1 min (1,603.8 - 735.7)

Volume	Invert	Avail.Storage	Storage Description
#1	108.00'	13.472 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

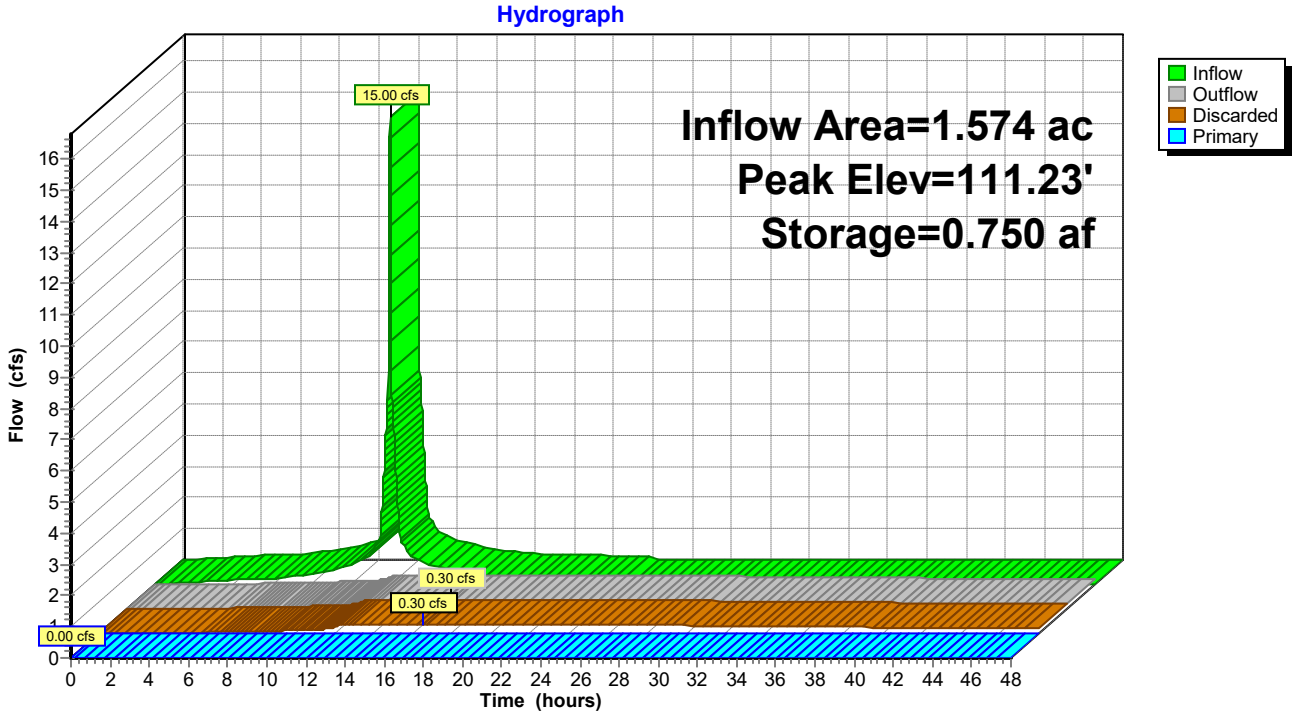
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
108.00	0.014	0.000	0.000
109.00	0.064	0.039	0.039
110.00	0.251	0.157	0.196
111.00	0.576	0.413	0.610
112.00	0.753	0.664	1.274
113.00	0.835	0.794	2.068
114.00	0.894	0.864	2.933
115.00	0.953	0.923	3.856
116.00	1.015	0.984	4.840
117.00	1.082	1.048	5.889
118.00	1.152	1.117	7.006
119.00	1.222	1.187	8.193
120.00	1.297	1.259	9.452
121.00	1.382	1.339	10.792
122.00	1.511	1.446	12.238
122.80	1.573	1.234	13.472

Device	Routing	Invert	Outlet Devices
#1	Primary	122.00'	**700.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#2	Primary	122.50'	**400.0' long x 5.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 4.00 4.50 5.00 5.50 Coef. (English) 2.34 2.50 2.70 2.68 2.68 2.66 2.65 2.65 2.65 2.65 2.67 2.66 2.68 2.70 2.74 2.79 2.88
#3	Discarded	108.00'	**0.425 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 100.00'

Discarded OutFlow Max=0.30 cfs @ 16.51 hrs HW=111.23' (Free Discharge)
└**3=Exfiltration** (Controls 0.30 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=108.00' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)
└**2=Broad-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 1P: SA-01_Special_Basin



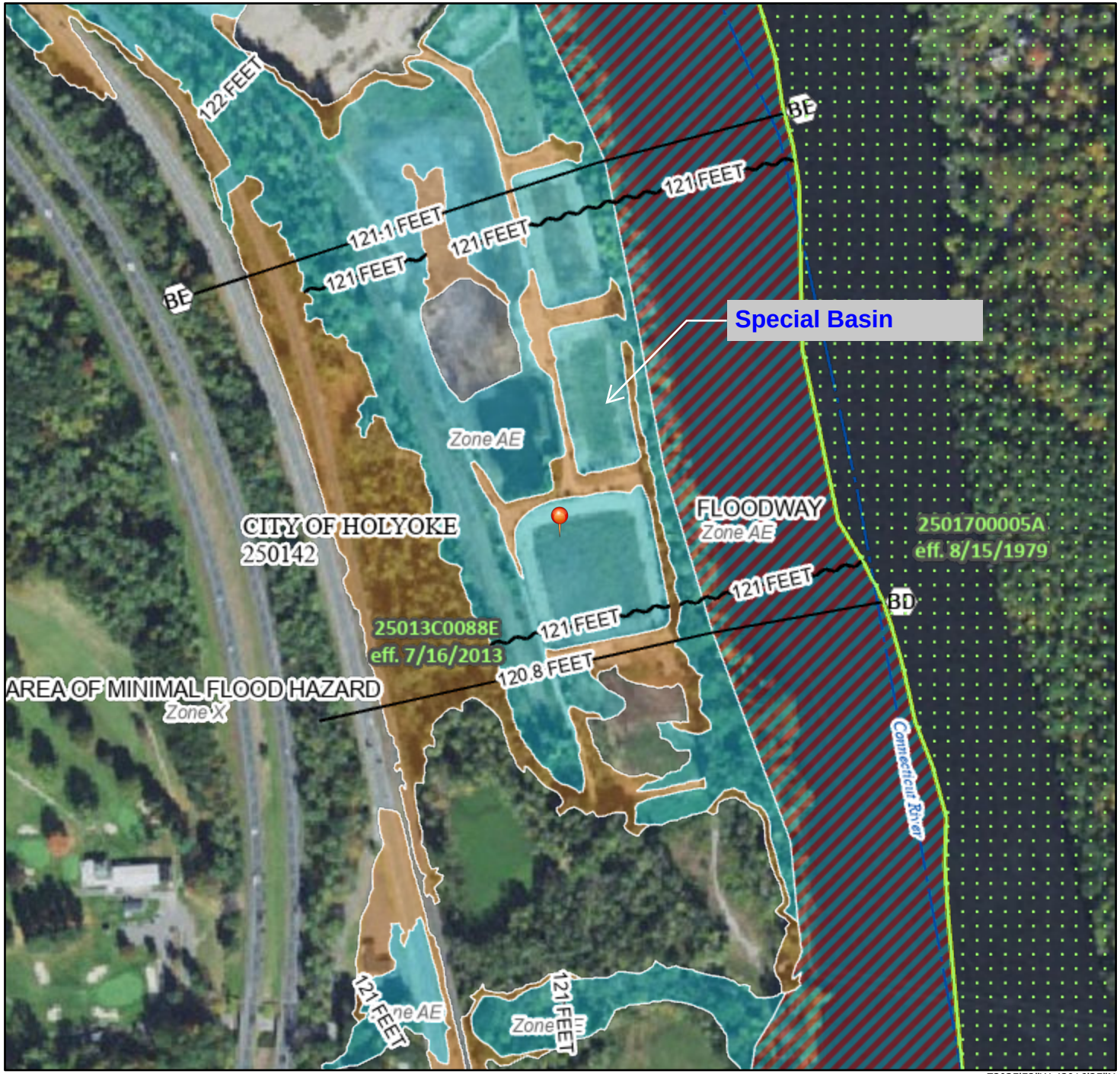
Tighe & Bond

Appendix C: FEMA Data for Connecticut River

National Flood Hazard Layer FIRMette

FEMA

72°36'29"W 42°16'52"N



72°35'52"W 42°16'25"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

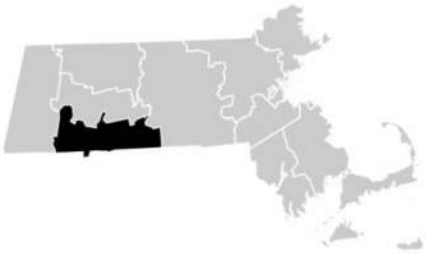
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 12/3/2025 at 6:55 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 1 OF 5



HAMPDEN COUNTY, MASSACHUSETTS

(ALL JURISDICTIONS)

COMMUNITY NAME	NUMBER	COMMUNITY NAME	NUMBER
AGAWAM, TOWN OF	250133	MONSON, TOWN OF	250145
BLANDFORD, TOWN OF	250134	MONTGOMERY, TOWN OF	250146
BRIMFIELD, TOWN OF	250135	PALMER, TOWN OF	250147
CHESTER, TOWN OF	250136	RUSSELL, TOWN OF	250148
CHICOPEE, CITY OF	250137	SOUTHWICK, TOWN OF	250149
EAST LONGMEADOW, TOWN OF	250138	SPRINGFIELD, CITY OF	250150
GRANVILLE, TOWN OF	250139	TOLLAND, TOWN OF	250151
HAMPDEN, TOWN OF	250140	WALES, TOWN OF	250152
HOLLAND, TOWN OF	250141	WEST SPRINGFIELD, TOWN OF	250155
HOLYOKE, CITY OF	250142	WESTFIELD, CITY OF	250153
LONGMEADOW, TOWN OF	250143	WILBRAHAM, TOWN OF	250154
LUDLOW, TOWN OF	250144		

REVISED:

June 7, 2023

FLOOD INSURANCE STUDY NUMBER
25013CV001C
Version Number 2.6.3.6

FEMA

Table 9: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)					
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	1% + Annual Chance	0.2% Annual Chance
Austin Brook	At confluence with Walker Brook	1.4	180	*	350	470	*	860
Bradley Brook	At mouth	10.8	2,800	*	5,100	6,400	*	10,200
Broad Brook	At confluence with Chicopee River	14.3	410	*	700	860	*	1,370
Broad Brook (Lower)	At Holyoke-Southampton corporate limits	3.3	170	*	250	300	*	400
Broad Brook (Lower)	Upstream of Keys Road	2.3	130	*	190	220	*	300
Broad Brook (Upper)	Upstream of Cherry Street Extension	1.0	70	*	100	115	*	150
Chicopee Brook	At confluence with Quaboag River	23.7	1,370	*	3,000	4,120	*	8,420
Chicopee Brook	At Ellis Mill No.1	15.1	450	*	980	1,430	*	3,200
Chicopee River	At mouth	721.0	11,000	*	23,800	32,500	*	63,000
Chicopee River	At USGS gage no. 01177000	688.0	10,800	*	23,400	32,000	*	62,100
Chicopee River	At USGS gage at Indian Orchard	688.0	10,795	*	23,400	32,000	*	62,000
Chicopee River	At Springfield- Wilbraham corporate limits	684.9	10,760	*	23,320	31,890	*	61,890
Chicopee River	At Collins Company Dam	678.0	10,680	*	23,140	31,650	*	61,420
Chicopee River	At Red Bridge Dam	659.2	10,460	*	22,260	30,990	*	60,140
Connecticut River	At confluence of Westfield River	9575.0	137,000	*	179,000	197,000	*	241,000
Connecticut River	At confluence of Chicopee River	9046.0	135,000	*	175,000	193,000	*	235,000
Connecticut River	At Holyoke’s upstream corporate limits	8275.0	132,000	*	170,000	187,000	*	226,000
Foskett Mill Stream	At confluence with the Quaboag River	10.1	614	*	1,030	1,255	*	1,944

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE[1]	WIDTH[2] (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
BC	107,050	1,104	33,033	6.0	120.5	120.5	120.6	0.1
BD	109,100	776	28,207	7.0	120.8	120.8	120.8	0.0
BE	110,360	940	31,606	6.0	121.1	121.1	121.2	0.1
BF	113,010	807	24,858	8.0	121.8	121.8	121.8	0.0

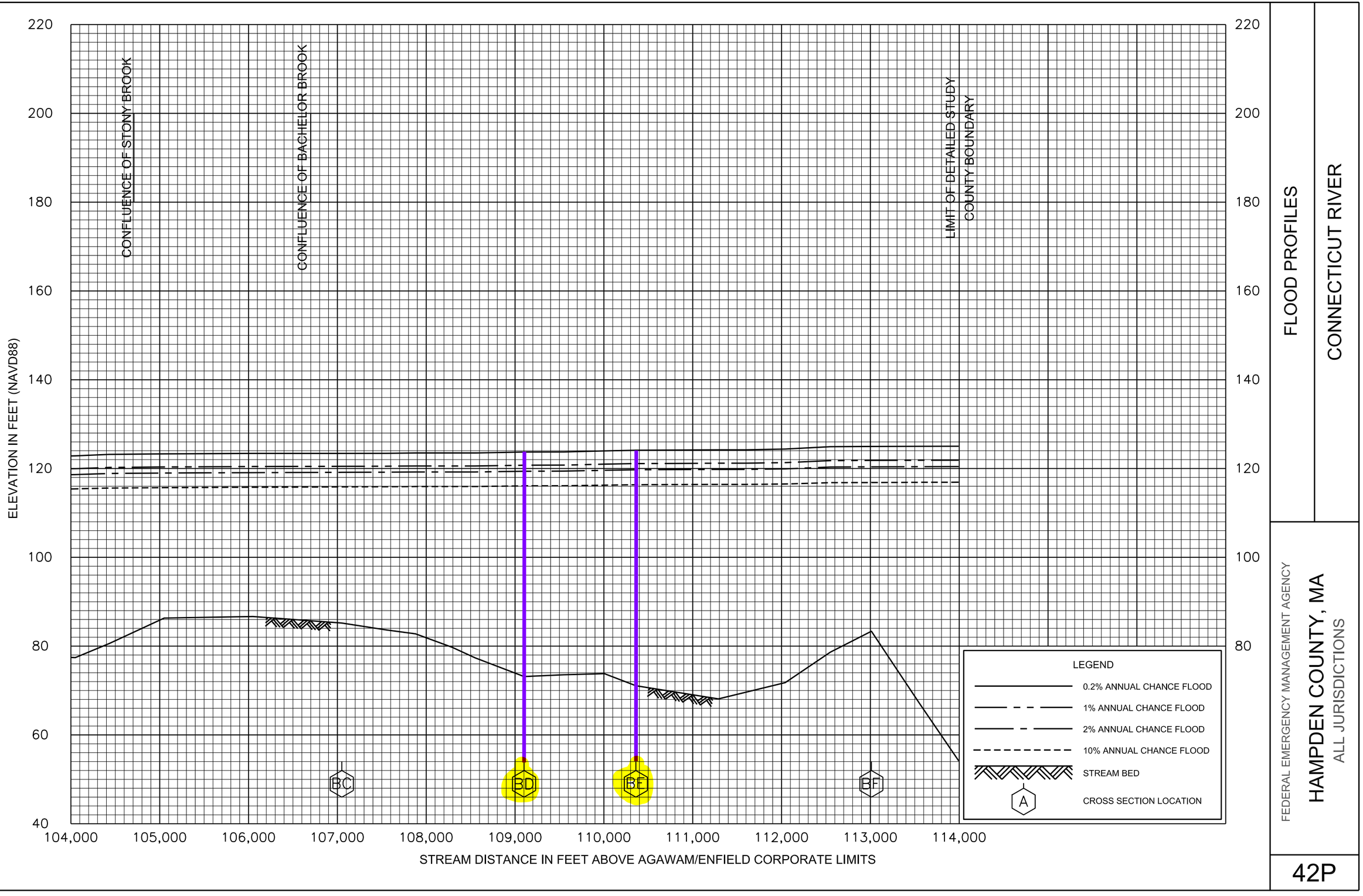
[1]Stream distance in feet above Agawam/Enfield corporate limit
[2]Width extends beyond county boundary

TABLE 23

FEDERAL EMERGENCY MANAGEMENT AGENCY
HAMPDEN COUNTY, MA
(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: CONNECTICUT RIVER



FLOOD PROFILES

CONNECTICUT RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

HAMPDEN COUNTY, MA

ALL JURISDICTIONS

42P

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