Public Facilities Committee Agenda

City of Newton
In City Council

Wednesday, April 20, 2022

The Public Facilities Committee will hold this meeting as a virtual meeting on Wednesday, April 20, at 7:00 pm. To view this meeting using Zoom use this link: https://us02web.zoom.us/j/85127522606 or call 1-646-558-8656 and use the following Meeting ID: 851 2752 2606

Items Scheduled for Discussion:

Public Hearing

#276-22 **Request for a grant of location in Hancock Street, Graydale Circle and Woodland Road**
NATIONAL GRID petition for a grant of location to install and maintain gas main in Hancock Street, Graydale Circle and Woodland Road, as follows:

- 1055' ± of 6" plastic main in Hancock Street from the 6" coated steel at #7 Hancock Street to the existing 4", cast iron at #93 Hancock Street to replace 755' ± of 3", cast iron and 300' ± of 4", cast iron
- 160' ± of 4" plastic main in Graydale Circle from Hancock Street to the end of main at #11 Graydale Circle to replace 160' ± of bare steel main
- 1125' ± 8" plastic main in Woodland Road from Central Street to the existing 8" plastic main at #110 Woodland Road to replace 5' ± 8" cast iron main, 945' ± of 6" bare steel main and 50' ± of 8" cast iron

#241-22 **Appointment of Christina Abele to the Design Review Committee**
PRESIDENT ALBRIGHT appointing CHRISTINA ABELE, 18 Emmons Street, Newton, as a community member of the Design Review Committee for a 0 to expire upon the completion of the Horace Mann School Project. (60 days 06/03/22)

Referred to Public Facilities and Finance Committees

#111-22 **Request for Stormwater Management and Erosion Control Ordinance**
HER HONOR THE MAYOR requesting Chapter 29 to be amended by adding a new Article VIII and for Chapter 17, Sections 16 and 21 **Fees to be Paid to the Department of Public Works** and **General Fine** of the City of Newton Revised Ordinances to be amended to add defining language, provide for enforcement, establish permit fees and fines for

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The location of this meeting is accessible and reasonable accommodations will be provided to persons with disabilities who require assistance. If you need a reasonable accommodation, please contact the city of Newton's ADA Coordinator, Jini Fairley, at least two business days in advance of the meeting: jfairley@newtonma.gov or (617) 796-1253. The city's TTY/TDD direct line is: 617-796-1089. For the Telecommunications Relay Service (TRS), please dial 711.

violations of the stormwater management and erosion control ordinance established in Article VIII.
Public Facilities Held 7-0 on 01/19/22
Public Facilities Held 8-0 on 03/23/22

#182-22 **Discussion on the Transportation Network Improvement Plan**
DEPARTMENT OF PUBLIC WORKS requesting to provide an update on the Transportation Network Improvement Plan

Chair's Note: *The Committee will be joined by Public Safety & Transportation to discuss item #239-22*

Referred to Public Safety & Transportation and Public Facilities Committees

#239-22 **Approval of a 25% design for the Commonwealth Avenue Carriageway Redesign**
HER HONOR THE MAYOR requesting the approval of a 25% design for the Commonwealth Avenue Carriageway Redesign Project in Auburndale. The Council needs to select one of two alternatives for the Ash street intersection portion of this state-funded project.
Public Safety & Transportation Held 7-0 on 04/06/22
Public Facilities Held 7-0 on 04/06/22

#242-22 **Discussion on the Commonwealth Avenue Carriageway Project**
COUNCILORS GENTILE, KRINTZMAN, AND MARKIEWICZ requesting an update from the Commissioner of Public Works and the Planning Director on the Commonwealth Avenue Carriageway project along with a discussion about the future of the traffic light at Ash Street.
Public Facilities Held 7-0

Respectfully submitted,

Alison M. Leary, Chair

276-22

RECEIVED
Newton City Clerk

2022 MAR 29 PM 4:50

CITY OF NEWTON
MASSACHUSETTS

PETITION for GRANT OF LOCATION

To the Petitioner:

City of Newton Ordinance Section 23-52 requires that each petition for grant of location be submitted to the City Council before it is sent to the Public Works Department for a preliminary review. The comments of the Public Works Commissioner will be part of the record submitted to the City Council. Upon filing with the City Council, the petition will be scheduled for a public hearing before the Public Facilities Committee of City Council. **The petitioner is responsible for insuring that the petition is complete, and all required materials are in order for review.** Attached please find the City Engineer's Standard Requirements for Plans and the Department of Public Works Permit Processing brochure.

Grant of Location Process:

1. Applicant submits completed Petition Form and required materials to the City Council
2. Public Works Department conducts preliminary review and gives written comments to the applicant
3. Engineering Division files Petition Form with comments with the Clerk of the City Council
4. City Council schedules petition for a public hearing before the Public Facilities Committee of the City Council
5. Public Facilities Committee recommendations are forwarded to the City Council for a final decision

Questions may be directed to:

Lou Taverna, City Engineer, 617-796-1020
Cassidy Flynn, Clerk of the Public Facilities Committee 617-796-1213

I. IDENTIFICATION (Please Type or Print Clearly)

Company Name NATIONALGRID

Address 201 Rivermoor Street
West Roxbury, MA 02132

Phone Number 617-894-3896 Fax Number _____

Contact Person Mary Mulroney Title Permit Representative

Signature *Mary Mulroney* Date March 28, 2022
Person filing application

If a telecommunications company, indicate how certified by the Department of Telecommunications and Energy:

II. DESCRIPTION OF PROJECT: to be completed by petitioner

Write here or attach a description of the project including, location, proposed time frame for completion, type of materials to be used, benefit provided to the City, project mitigation plan as applicable, street reconstruction plan including timetable for completion. **As part of the H20INT Program, Nationalgrid recommends:**
As part of the Cast Iron Main Replacement Program Nationalgrid recommends:
the relay of approximately 755 feet of 3- inch, Cast Iron (1904/1910) and approximately 300 feet of 4 - inch, cast iron (1905) with approximately 1055 feet of 6- inch, plastic in Hancock St from the 6-inch coated steel at #7 Hancock St to the existing 4- inch, cast iron at #93 Hancock St,
the relay of approximately 160 feet of 4- inch, bare steel (1935) with approximately 160 feet of 4- inch, plastic in Graydale Cir from Hancock St to end of main at #11 Graydale Cir and,
the relay of approximately 5 feet of 8- inch, cast iron (1928), approximately 945 feet of 6- inch, bare steel (1951) and approximately 50 feet of 8- inch, cast iron (1930) with approximately 1125 feet of 8- inch, plastic in Woodland Rd from Central St to the existing 8- inch, plastic at #110 Woodland Rd.

A. Include or attach a sketch to provide a visual description of the project. If plans are attached, provide:
Title of Plan _____ Date of plan _____

III. PUBLIC WORKS DEPARTMENT REVIEW

Date received by Public Works Department March 29, 2022

Check One:
Minor Project ☐ Major Project ☑ Lateral ☐

(Refer to City Engineer Standard Requirements for Plans for definition of minor and major project)

Plans Submitted:
Certified Plot Plan ☐ Stamped Plans ☑

DATE AND COMMENTS:	RECOMMENDATIONS:
See attached memo dated April 4, 2022	

V. RECOMMENDATION TO PUBLIC FACILITIES COMMITTEE:

Shawna Sullivan Digitally signed by Shawna Sullivan Date: 2022.04.04 16:25:09 -04'00' _____

Commissioner, Public Works Date

276-22

PETITION OF NATIONAL GRID FOR GAS MAIN LOCATIONS

City of Newton / City Council:

The Nationalgrid hereby respectfully requests your consent to the locations of mains as hereinafter described for the transmission and distribution of gas in and under the following public streets, lanes, highways and places of the **City of Newton** and of the pipes, valves, governors, manholes and other structures, fixtures and appurtenances designed or intended to protect or operate said mains and accomplish the objects of said Company; and the digging up and opening the ground to lay or place same:

As part of the Cast Iron Main Replacement Program Nationalgrid recommends:
the relay of approximately 755 feet of 3- inch, Cast Iron (1904/1910) and approximately 300 feet of 4 -inch, cast iron (1905) with approximately 1055 feet of 6- inch, plastic in Hancock St from the 6-inch coated steel at #7 Hancock St to the existing 4- inch, cast iron at #93 Hancock St,
the relay of approximately 160 feet of 4- inch, bare steel (1935) with approximately 160 feet of 4-inch, plastic in Graydale Cir from Hancock St to end of main at #11 Graydale Cir and,
the relay of approximately 5 feet of 8- inch, cast iron (1928), approximately 945 feet of 6- inch, bare steel (1951) and approximately 50 feet of 8- inch, cast iron (1930) with approximately 1125 feet of 8- inch, plastic in Woodland Rd from Central St to the existing 8- inch, plastic at #110 Woodland Rd.

Date: **March 28, 2022**

By: *Mary Mulroney*
Mary Mulroney
Permit Representative

City of Newton / City Council:

IT IS HEREBY ORDERED that the locations of the mains of the Nationalgrid for the transmission and distribution of gas in and under the public streets, lanes, highways and places of the **City of Newton** substantially as described in the petition date **March 28, 2022** attached hereto and hereby made a part hereof, and of the pipes, valves, governors, manholes and other structures, fixtures and appurtenances designed or intended to protect or operate said mains and/or accomplish the objects of said Company, and the digging up and opening the ground to lay or place same, are hereby consented to and approved.

The said Nationalgrid shall comply with all applicable provisions of law and ordinances of the **City of Newton** applicable to the enjoyment of said locations and rights.

Date this _____ day of _____, 20____.

I hereby certify that the foregoing order was duly adopted by the _____ of the City of _____, MA on the _____ day of _____, 20____.

WO # 1395791

By:
Title

All Grants of Location for the City of Newton must answer the following in detail:

A. Are there any leaks on this road? If yes, how many?

Primary cause for the main relay is due to a main break at 41 Hancock St on 2/25/21. As a result of the main break, the main is planned to be replaced to avoid any future main breaks on this segment of main.

B. If not, why is the gas main being extended or replaced?

The short length of new main installation is required for the main relay to be completed as a low pressure to 22 psig relay. Relaying the existing LP main with new 22 psig main not only will decrease the leaks associated with old, leak prone pipe, but the increased operating pressure in the area will also eliminate the risk of water intrusion of the main, which can lead to service outages if severe enough.

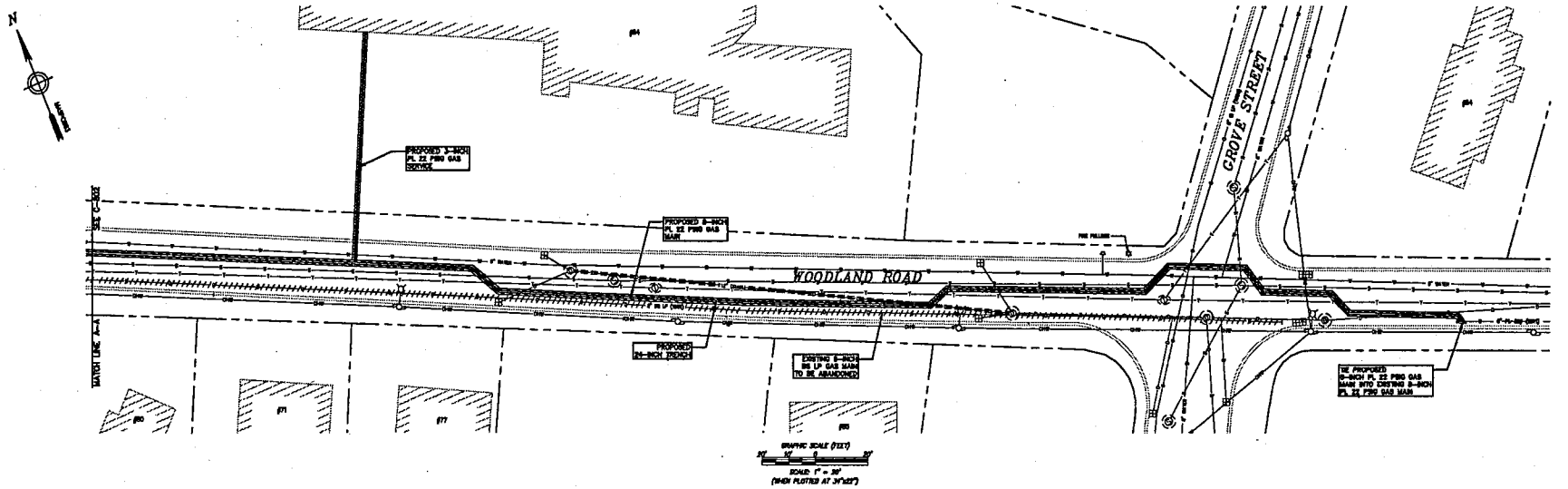
C. Is it in response to upcoming roadwork or new development?

No.

D. Is capacity increasing? If yes, why?

Capacity is technically increasing by virtue of the existing low pressure main being replaced with a 22 psig main. However, the intent of this change in operating pressure in the area is to reduce potential leaks from water intrusion, not to increase the capacity of the main in the area. The increased operating pressure will result in enhanced system reliability.

Requested by the Commissioner: When NationalGrid engineers develop the GOL plans these standard questions be answered in a written format & submitted with the GOL package.



LEGEND

- PROPOSED GAS
- EXISTING ELECTRIC
- EXISTING GAS
- EXISTING WATER
- EXISTING STORM DRAIN
- EXISTING SANITARY SEWER
- EXISTING TELEPHONE
- EXISTING CABLE TV LINE
- EXISTING MBTA
- EDGE OF PAVEMENT
- CURB LINE
- RIGHT OF WAY LINE
- PROPERTY LINE
- BUILDING LINE

NOTE:
THE TOPOGRAPHIC AND ELEVATION DATA SHOWN HEREON WAS OBTAINED FROM PUBLIC SOURCES AND WAS NOT CERTIFIED TO BE CORRECT AND/OR ACCURATE BY THIS ENGINEER. USERS RELY ON SAID DATA AT THEIR OWN RISK. UTILITY DATA IS COMPILED FROM RECORD DATA SOURCES AND IS NOT FIELD VERIFIED.

CALL 811 BEFORE YOU DIG

PROJECT SPECIFICS
SIZE: 8", 3", 4"
LENGTH: 2,340'±
MATERIAL: PLASTIC
PRESSURE: 22#
SCALE: 1" = 20'

CHA
141 Longwater Drive, Suite 104
Norwell, MA 02061-1620
781-982-7700 , www.chacompanies.com

COMMONWEALTH OF MASSACHUSETTS
JEFFREY E. O'DONNELL
CIVIL
No. 47111
REGISTERED PROFESSIONAL ENGINEER
3/15/2022
UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS

NO.	DESCRIPTION	DATE	CHK.	DES.	APP. BY
0	ISSUED FOR GRANT OF LOCATION	03/14/2022	CJL	WLT	JED

BOSTON GAS COMPANY d/b/a nationalgrid
40 SYLVAN ROAD
WALTHAM, MA 02451

ISSUED FOR PERMITTING

NOT FOR CONSTRUCTION

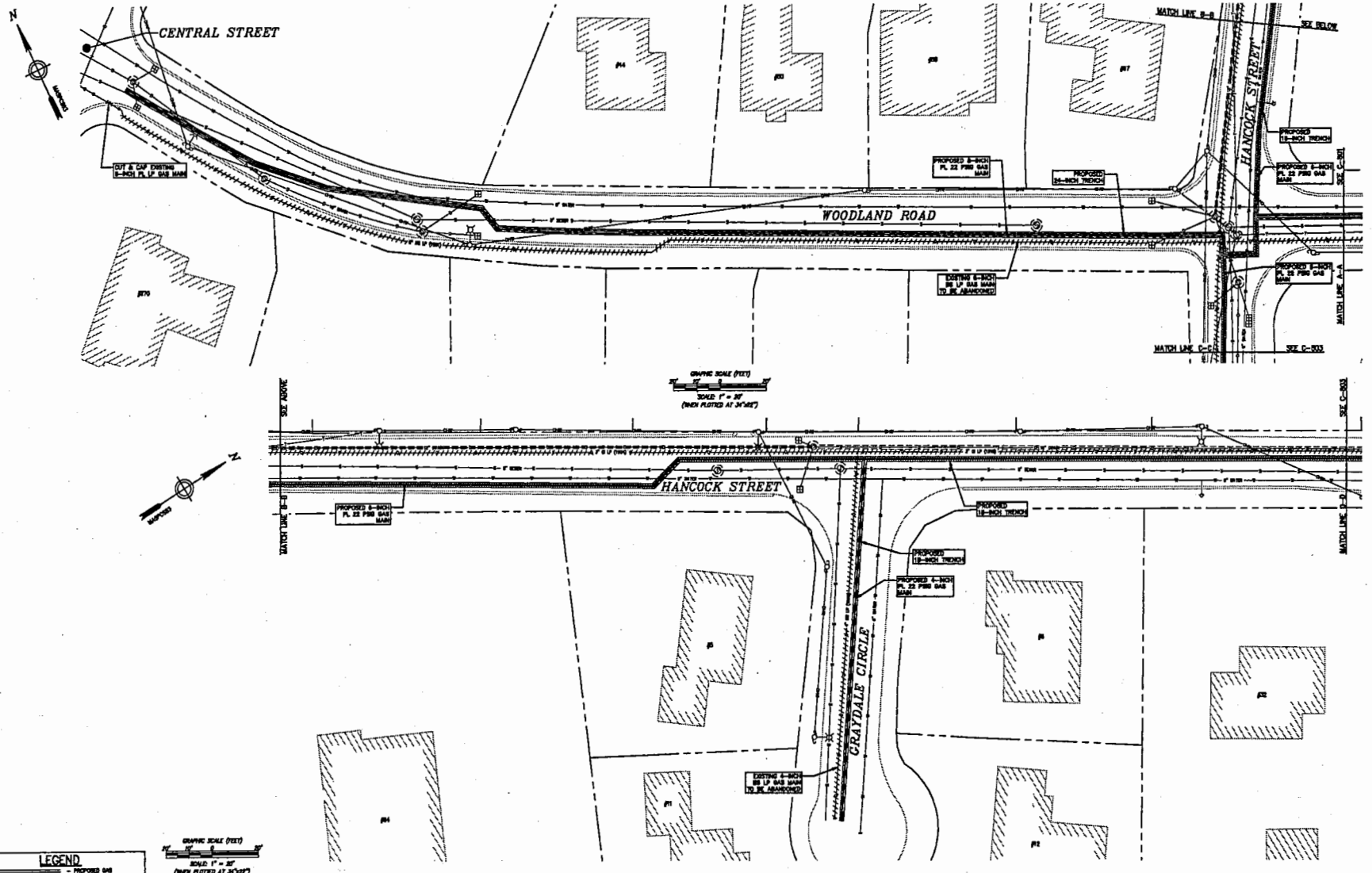
PROPOSED GAS MAIN INSTALLATION
PROJECT DESCRIPTION
7-93 HANCOCK STREET & 32-94 WOODLAND ROAD
NEWTON, MA

GRANT OF LOCATION PERMIT PLAN

DWG SIZE	DESIGNER	ENGINEER	DATE	ASSET I.D.	W.O. NO.:
22"X34"	CLUTHER	J.O'DONNELL	03/14/2022	DISTRIBUTION	1389791

PAGE 1 OF 3

DRAWING NO.	SHEET NO.
DPL-NEW-068057-1250	C-801



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22"X34"	C.LUTHER	J.O'DONNELL	03/14/2022	DISTRIBUTION	1293791

PAGE 2 OF 3

DRAWING NO.	SHEET NO.
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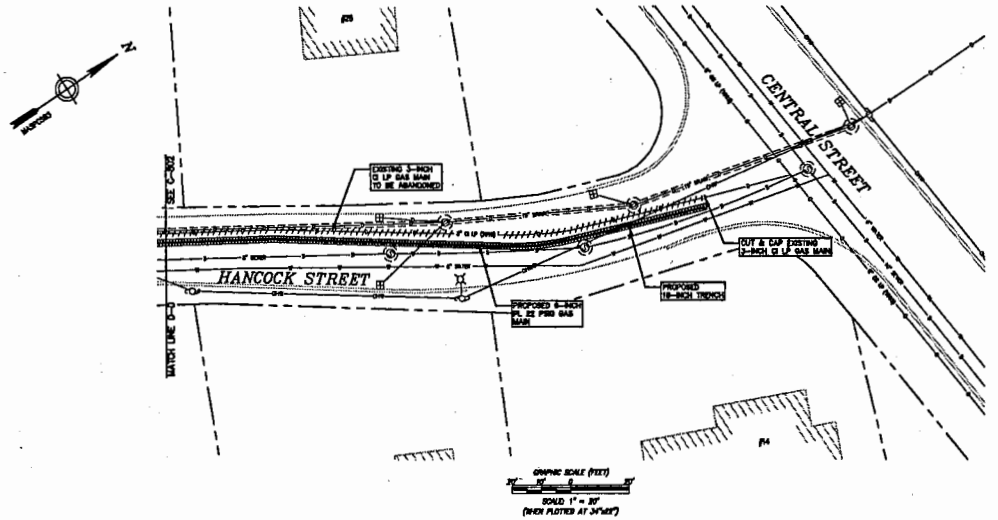

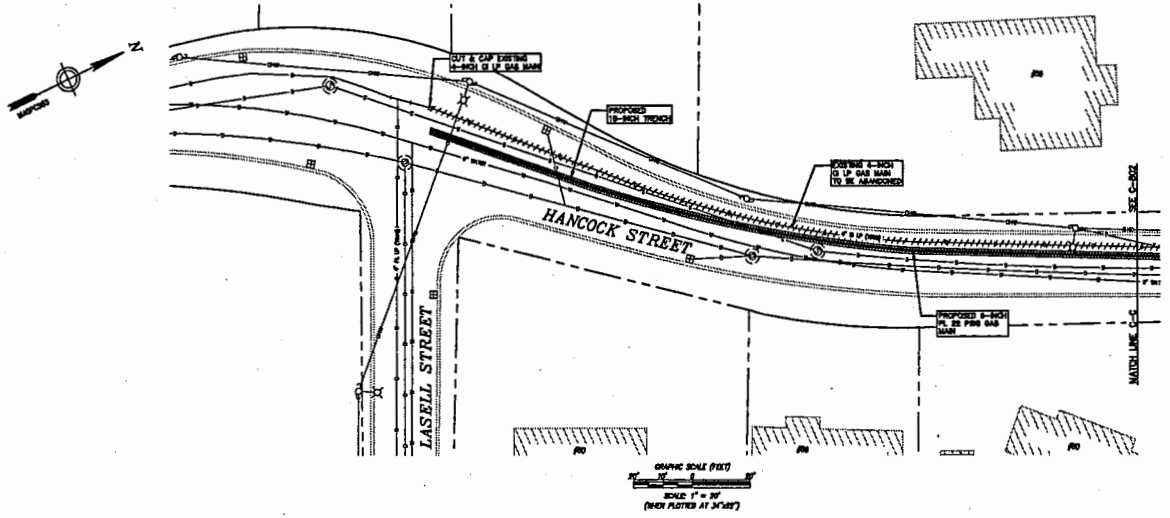

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ISSUED FOR PERMITTING

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PAGE 3 OF 3

DRAWING NO.	SHEET NO.
DPL-NEW-068057-1250	C-803

NOT FOR CONSTRUCTION

CITY OF NEWTON

Department of Public Works

ENGINEERING DIVISION

Memorandum

To: Councilor Alison Leary, Facilities Committee Chair.

From: John Daghlian, Associate City Engineer

Re: Woodland Road, Hancock Street & Graydale Circle

Date: April 4, 2022

CC: Jim Mcgonagle, Commissioner
Shawna Sullivan, Chief of Staff
Lou Taverna, PE City Engineer
Cassidy Flynn, Associate City Clerk

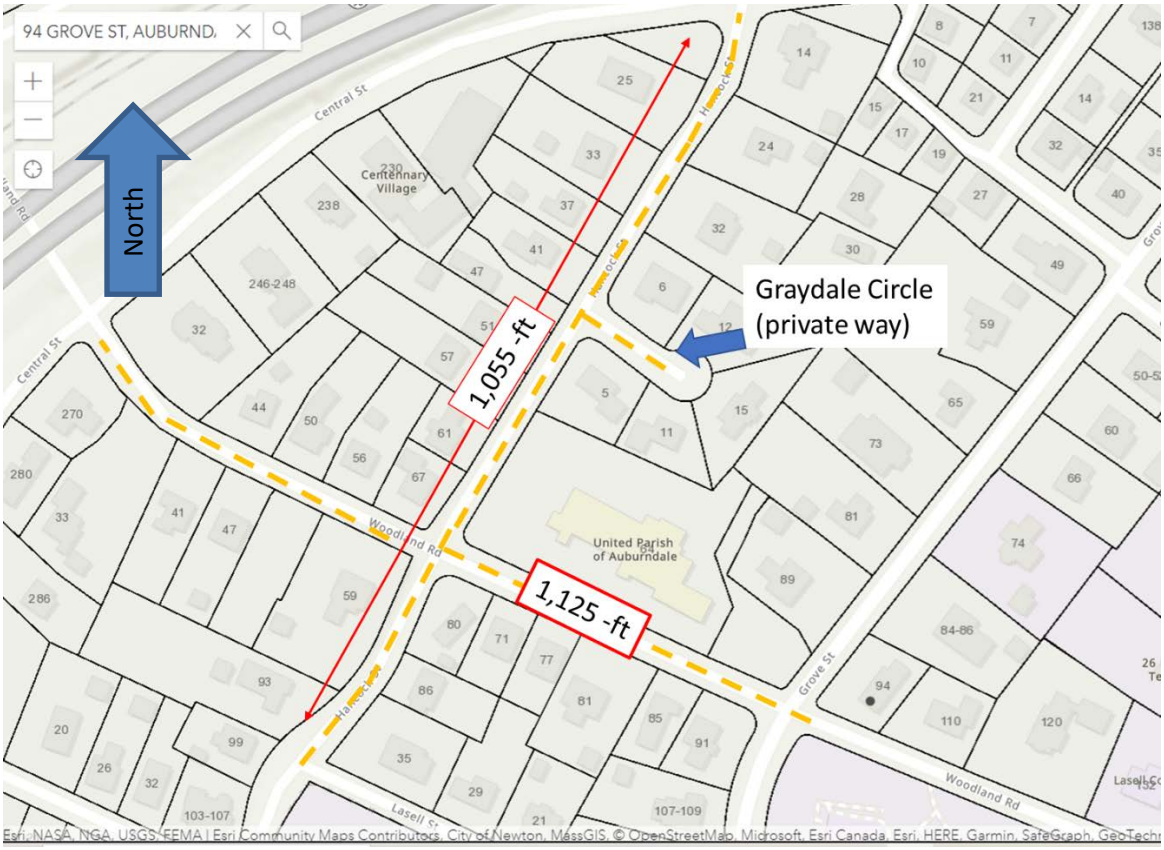
In reference to the above location, the following are my comments for a plan entitled:

Proposed Gas Main Installation
Project Description
7-93 Hancock Street & 32-94 Woodland Road
Prepared by: CHA
Dated: 3-14-2022

Executive Summary:

As part of the Cast Iron Main Replacement Program Nationalgrid is requesting that approximately 755 feet of 3- inch, cast iron pipe circa (1904/1910) and approximately 300 feet of 4 -inch, cast iron pipe (1905) be replaced with approximately 1,055 feet of 6- inch plastic in Hancock St from the 6-inch coated steel at #7 Hancock St to the existing 4- inch, cast iron at #93 Hancock St. (see map below).

In Woodland Road 1,125 feet of new 8-inch plastic will replace the existing bare steel main dating between 1928 to 1951 near the intersection of Central Street to just beyond the intersection of Grove Street near Lasell University campus.



Due to the proximity of the Williams School, I recommend that this construction on Hancock Road & Woodland Road only commence when the school year is over.

The petition also includes replacement of the existing 1935 main in Graydale Circle from Hancock Road to #11 Graydale Circle; Graydale Circle is a private way.

Hancock Road is under a 5 -year moratorium, as such once the new gas main is installed, tested, online and all service connections are completed the road shall be milled and overlayed with Super Pavement the City's standard from curb line to curb line for the entire limits of the construction. Woodland Road was reconstructed in 2011 the restoration shall be limited to milling & overlaying an 8-foot-wide width. As Graydale Circle is a private way the restoration shall be to the satisfaction of the private way owners.

Prior to any construction a Traffic Management Plan will be required for review and approval by the Traffic Division & Police Department. A preconstruction meeting will be required with the DPW, Newton Police & Utilities and the contractor of record prior to commencement. Appropriate construction ahead warning signs, variable message boards and neighborhood notifications shall be executed a minimum of two weeks prior to the start of construction.

Due to the volume of traffic a minimum of two Police Officers will be required during construction.

Conditions & Special Provisions:

1. The contractor of record shall apply for a Street Opening & Trench Permits with the DPW prior to any construction with appropriate Bonds, Certificate of Insurance & Dig Safe clearance. The Utilities Division must be contacted for utility mark outs as the City is not a member of Dig Safe call 617-796-1640. *(This note shall be on the final construction plans).*

2. If any service connections or private utilities are disturbed by the contractor of record during construction, they shall be updated and replaced to the City's current Construction Standards. *(This note shall be on the final construction plans).*

3. All downstream catch basins shall be retrofitted with an approved type of siltation control devices, details of this shall be submitted to the City Engineer for approval. The contractor of record shall maintain these catch basins throughout the construction process and ensure that street and property flooding does not occur during construction. *(This note shall be on the final construction plans).*

4. Pedestrian access around the construction zone shall be accommodated by the contractor for the duration of the construction in accordance with the DPW requirements. *(This note shall be on the final construction plans).*

5. Upon final installation & activation of the gas main an As Built drawing [plan & profile] indicating depth of pipe shall be submitted in digital and hard copy format to the City Engineer. *(This note shall be on the final construction plans).*

The Engineering Division makes no representations and assumes no responsibility for the design(s) in terms of suitability for the particular site conditions or of the functionability or performance of any items constructed in accordance with the design(s). The City of Newton assumes no liabilities for design assumption, error, or omissions by the Engineer of Record.

If you have any questions or concerns, please call me at 617-796-1023.

Final Label Report

SBL	Owner	Number	Street	Unit
43021 0009	VERMETTE NORMAND L & VALERIE A		CENTRAL ST	
43017 0011	TOURTELOTTE JOHN H	5	GRAYDALE CIR	
43017 0015	KOGAN ANN G	6	GRAYDALE CIR	
43017 0012	WINSLOW LINDA D	11	GRAYDALE CIR	
43017 0014	PARSIGIAN KENNETH J	12	GRAYDALE CIR	
43017 0013	BROUGHEL DAVID B & SARAH H	15	GRAYDALE CIR	
43017 0009	MAGUIRE CHAD & KATHRYN	89	GROVE ST	
43017 0009A	UNITED PARISH OF AUBURNDALE	89	GROVE ST	
43016 0020	MORAN RICH & LAURIE	94	GROVE ST	
43017 0020	ALBERT ERIC RICHMOND	14	HANCOCK ST	
43017 0019	LEVY DAVID	24	HANCOCK ST	
43021 0010	VERMETTE NORMAND L & VALERIE A	25	HANCOCK ST	
43017 0016	COWEN JEANINE M	32	HANCOCK ST	
43021 0011	KAYSERMAN LAUREN	33	HANCOCK ST	
43021 0012	BONSHTEIN NOAM & ORLY	37	HANCOCK ST	
43021 0013	MOYNIHAN MICHAEL & ELIZABETH ANNE	41	HANCOCK ST	
43021 0014	BLANKS CAROLYN R & ROBERT	47	HANCOCK ST	
43021 0015	ZAKRZEWSKI SARA C	51	HANCOCK ST	
43021 0016	WHITE SARAH B	57	HANCOCK ST	
43021 0017	HEISS JOHN C & ARLENE T	61	HANCOCK ST	
43017 0010	UNITED PARISH OF AUBURNDALE	64	HANCOCK ST	
43021 0018	WELCH BRYAN M & ERIKA N R	67	HANCOCK ST	
43031 0008	HARRISON CHRISTOPHER K	80	HANCOCK ST	
43031 0007	LACEY MICHAEL J	86	HANCOCK ST	
43023 0006	LEVI ADRIENNE R	93	HANCOCK ST	
43023 0007	FRAKTMAN DANA J & H KATHRYN TRS	99	HANCOCK ST	
43023 0008	KELLEY MAUREEN	103-107	HANCOCK ST	
43031 0006	HOMAN QUENTIN L	35	LASELL ST	
43023 0004	PARKER SIMON B & SONIA M		WOODLAND RD	
43023 0003	PARKER SONIA M & JONATHAN A	47	WOODLAND RD	
43021 0019	GROCHAL ANDREW S	56	WOODLAND RD	
43023 0005	BOYD JAMES M	59	WOODLAND RD	
43031 0009	NG VINCENT W	71	WOODLAND RD	
43031 0010	WARE SHARON A & M ELIZABETH T/C	77	WOODLAND RD	
43031 0011	GIRAGOS PAUL N	81	WOODLAND RD	
43031 0012	YING WANG & NI YAN	85	WOODLAND RD	
43031 0013	WEI KAITZEV	91	WOODLAND RD	
43016 0019	GRINSPOON PETER	110	WOODLAND RD	
43032 0001	LASELL COLLEGE	117	WOODLAND RD	
43016 0018	ROSENBAUM JERROLD F & LIDIA V	120	WOODLAND RD	
43016 0017	LASELL COLLEGE	132	WOODLAND RD	
43016 0016	LASELL COLLEGE	142	WOODLAND RD	
43033 0001	LASELL COLLEGE	145	WOODLAND RD	
43016 0015	LASELL COLLEGE	150	WOODLAND RD	

City of Newton

Ruthanne Fuller
Mayor

DEPARTMENT OF PUBLIC WORKS
OFFICE OF THE COMMISSIONER
1000 Commonwealth Avenue
Newton Centre, MA 02459-1449

To: Public Facilities Committee

From: James McGonagle, Commissioner DPW

Date: April 15, 2022

Subject: Docket #111-22 - Supplemental Information
Stormwater Management and Erosion Control Ordinance

To summarize, this ordinance and the accompanying rules and regulations:

- Provides the regulatory mechanism needed to achieve compliance with the "*Stormwater Management in New Development and Redevelopment*" and *"Construction Site Runoff"* provisions of our NPDES MS4 Permit;
- Establishes a stormwater management permit system;
- Describes in detail our requirements to mitigate the impacts of stormwater runoff generated from new development and redevelopment – in terms of volume reduction and water quality;
- Provides an enforcement mechanism to better protect our MS4 (storm drainage system) and abutters from the unintended consequences of construction projects (e.g., soil erosion, sediment laden stormwater runoff, increased runoff to an abutter);
- Establishes protocols to ensure the longevity and continuous function of stormwater management systems installed.

Our proposed ordinance applies to construction activities on *all* properties, whether by-right, special permit or comprehensive permit, wherever 401 square feet or more of new impervious surfaces are proposed. This threshold for oversight and permitting is significantly more stringent than "*the greater than or equal to 1 acre"* permit threshold required by our MS4 Permit. The lower threshold aligns with our department's current policy and practices, which have been in place for decades and it significantly increases the number of projects with phosphorus reduction control measures.

We have reviewed the Charles River Watershed Association's (CRWA) comments and have incorporated some of the suggested edits. We did not stipulate higher phosphorus load reduction percentages than required for multiple reasons. We need to see how the implementation of these targets proceed before going above the EPA requirement. There are additional initiatives underway that will help municipalities with phosphorus goals, including: credits for leaf litter collection and street sweeping, and the petition to EPA by CRWA and the Conservation Law Foundation to enact Residual Designation Authority (RDA) over large private landowners in the Charles River watershed. If implemented, RDA would incorporate more landowners into the NPDES permitting program – thus allocating a portion of the City's phosphorus reduction goals to them and subsequently reducing our total phosphorus reduction goal.

The key differences between our current stormwater management policy and this ordinance include:

- Permit application and an application fee will be collected.
- Land disturbances greater than 5,000 SF will require a permit.

- The stormwater report that accompanies plans will need to be more robust for Major Stormwater Projects. Documentation on how the project meets the standards in the MA Stormwater Handbook, and supplemental calculations for pollutant load reductions will be required.
- Design standards, plan submission and drainage calculations requirements are outlined in detail to ensure *consistent* permit applications for qualifying projects.
- Preparation of an Operations and Maintenance (O&M) Plan for all proposed stormwater management systems.
- Recording of the O&M Plan at the Registry of Deeds.

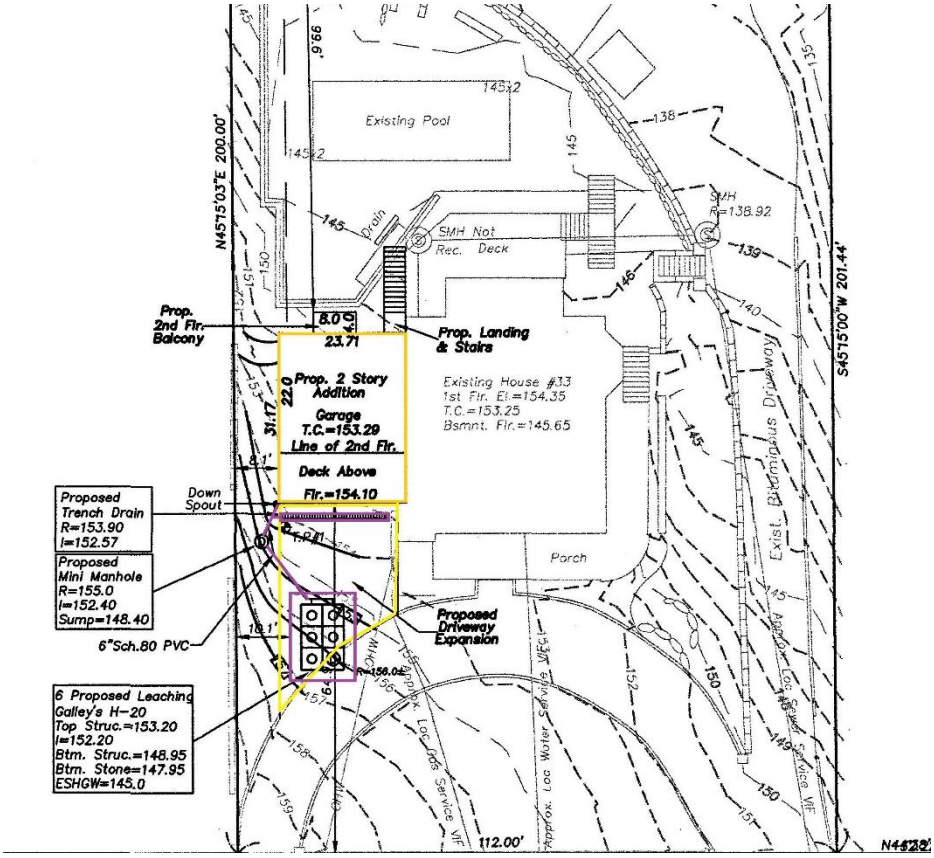
The following examples from recent projects in Newton illustrate the kinds of projects that would fall into the minor and major permit categories. We also present approximate differential costs associated with compliance with the proposed ordinance versus current policies and practices.

Please note in Section 29-148, paragraph (c) (2) (c) states *"The construction of any new retaining wall required due to proposed changes in grade, unless already approved by Special Permit (per Chapter 30 Sec. 5.4.2)."* This will address the stormwater management and drainage aspects of the proposed retaining wall in relation to existing and proposed drainage and grading, and in relation to proposed drainage infrastructure behind and/or in front of the retaining wall. It does not address zoning issues, structural stability, construction techniques, or aesthetics of proposed retaining walls.

Please also note in the proposed Rules and Regulations, Section 5 Design Standards, Paragraph 6, Groundwater Intrusion, the language regarding "lowest foundation footing for habitable space must be 1-foot above…the groundwater table" was clarified to read: "The bottom (underside) of the basement slab must be 1-foot above the seasonal high groundwater elevation as determined by a Soil Evaluator licensed in Massachusetts or by determining the seasonal high groundwater table using Frimpter Method." This section may have implications in areas of the city where the seasonal high groundwater table is high in relation to proposed basement slabs, such as Oak Hill Park, and other areas along the Charles River and other brooks, streams, ponds, and lakes in Newton. Currently, existing homes in Oak Hill Park, for instance, are constructed with a concrete slab on grade, above the groundwater table. Developers are now demolishing these structures, and building homes with full, deep basements. These basement concrete slabs are below the seasonal high groundwater table, requiring the installation of sump pumps or other dewatering means. These additional sump pumps put a strain on the city's existing drainage infrastructure. These proposed rules and regulations will require future construction to have the basement slab a minimum of 1-foot above the seasonal high groundwater table. This may restrict or prohibit the construction of habitable basements for these new homes.

Major Stormwater Permit Example: Two-story addition and driveway expansion resulting in 1,334 SF new impervious area

Stormwater Management includes: a trench drain, 1 mini-manhole and 6 infiltration galleys.



Existing Review Process
• Survey & Existing Conditions Plan
• Soil Test(s)
• Drainage Design & SWM Report
• Proposed Site Plan
• As-built Plan
Survey & Design = $ 7,000 - $9,000
Construction = $ 12,000 - $15,000
Total Estimate = $ 19,000 – $24,000

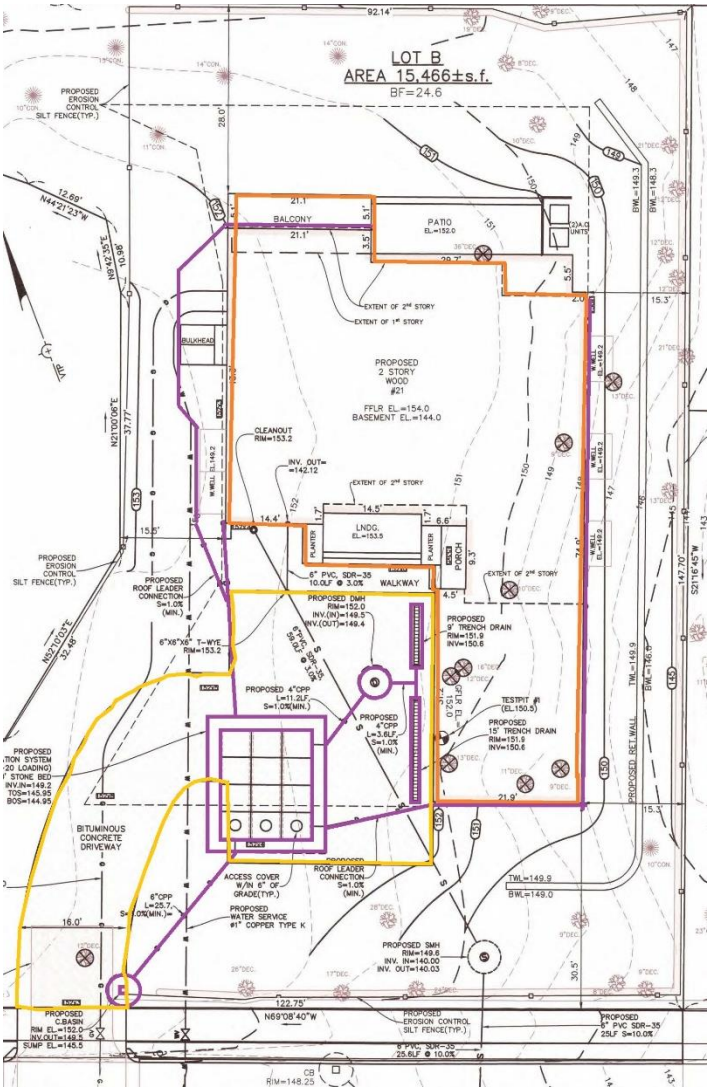
Proposed Permit Process
• Permit Application Fee $300
• Survey & Existing Conditions Plan
• Soil Test(s)
• Drainage & SWM Report Add $1200
• Proposed Site Plan
• As-built plan
• O&M Plan $500 - $800
• Record O&M Plan $200 - $300
Survey & Design = $ 9,200 - $11,600
Construction = $ 12,000 - $15,000
Total Estimated = $ 21,200 - $26,600
Net increase = $ 2,200 - $2,600 or 10 - 12%

This design meets the proposed volume, sediment and phosphorus load reduction requirements, therefore, there are no additional construction costs to achieve compliance under the proposed stormwater ordinance.

Additional time to prepare add-on items will vary by consultant and is estimated to be 2 weeks.

Major Stormwater Permit Example: New single-family house on an unimproved lot. Total Impervious Area = 5,776 SF

Stormwater Management includes: one catch basin, one manhole, trench drains and 12 infiltration galleys.



Existing Review Process
• Survey & Existing Conditions Plan
• Soil Test(s)
• Drainage Design & SWM Report
• Proposed Site Plan
• As-built Plan
Survey & Design = $ 7,000 - $ 9,000
Construction = $ 24,000 - $30,000
Total Estimate = $ 31,000 - $39,000

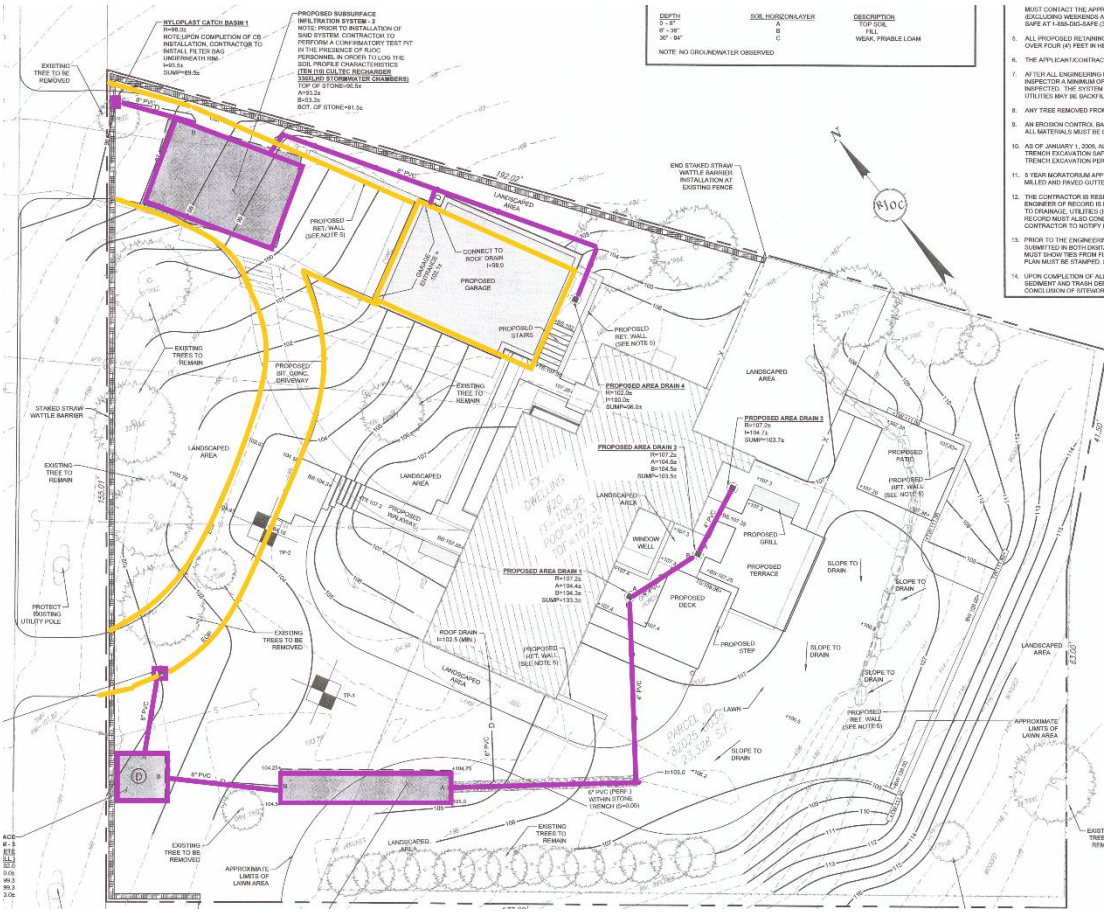
Proposed Permit Process
• Permit Application Fee $300
• Survey & Existing Conditions Plan
• Soil Test(s)
• Drainage Design & SWM Report* Add $1500
• Proposed Site Plan
• As-built plan
• O&M Plan $500 - $800
• Record O&M Plan $200 - $400
Survey & Design = $9,500 - $12,000
Construction = $ 24,000 - $30,000
Total Estimate = $ 33,500 - $42,000
Net increase = $ 2,500 - $3,000 or 8%

This design meets the proposed volume, sediment and phosphorus load reduction requirements, therefore, there are no additional construction costs to achieve compliance with the proposed stormwater ordinance.

Additional time to prepare add-on items will vary by consultant and is estimated to be 2 weeks.

Minor Stormwater Permit Example: 620 SF of new impervious area (new garage, driveway & landscaping)

Stormwater Management included: two catch basins, stormwater infiltration and one concrete dry well.



Existing Review Process
• Survey & Existing Conditions Plan
• Soil Test(s)
• Drainage Design & SWM Report
• Proposed Site Plan
• As-built Plan
Survey & Design = $10,000
Construction = $ 9,000 - $12,000
Total Estimate = $19,000 - $22,000

Proposed Permit Process
• Permit Application Fee $100
• Survey & Existing Conditions Plan
• Soil Test(s)
• Drainage Design & SWM Report
• Proposed Site Plan
• As-built plan
• O&M Plan $500 - $800
• Record O&M Plan $200 - $300
Survey & Design = $10,800 - $11,200
Construction = $ 9,000 - $12,000
Total Estimate = $19,800 - $23,200
Net increase = $ 800 - $ 1,200 (5 – 6%)

This design exceeds the proposed stormwater volume requirements, therefore, there would be no additional construction costs to achieve compliance with the proposed stormwater ordinance.

Additional time to prepare O&M Plan will vary by consultant and is estimated to be 2 weeks.

STORMWATER MANAGEMENT AND EROSION CONTROL ORDINANCE
DRAFT April 2022

Article VI.
STORMWATER MANAGEMENT AND EROSION CONTROL

§29-148 General provisions (*Section 5.3 of Zoning will need to be deleted/updated concurrent with this ordinance adoption*)

(a) Purpose

The purpose of this ordinance is to protect, maintain, and enhance public safety, environmental health, and general public welfare by controlling the volume and rate of stormwater runoff resulting from land disturbing activities (during and after such activities), managing stormwater at its source and directing it into the ground rather than sending it into a system of storm drainpipes and channels.

This ordinance establishes a permit system to ensure that all applicable projects are reviewed and comply with established standards, the city's legal authority to ensure compliance with the provisions of this ordinance through inspection, monitoring and enforcement and a mechanism by which the City can meet the requirements of its National Pollutant Discharge Elimination System (NPDES) general permit.

(b) Definitions. For the purposes of this ordinance the following words and phrases shall have the meanings respectively ascribed to them by this section:

Alter or alteration: Any activity on an area of land that changes the water quality, or the force, quantity, direction, timing, or location of runoff flowing from the area. Such changes include change from distributed runoff to confined, discrete discharge; change in the volume of runoff from the area; change in the peak rate of runoff from the area; and change in the recharge to groundwater on the area. Alter may also be referred to as “alteration of drainage characteristics,” and “conducting land disturbance activities.”

*Best management practice (BMP)**:*** A structural or nonstructural activity, procedure, restraint, or structural improvement that helps to reduce the quantity of or improve the quality of stormwater runoff. A structural stormwater best management practice may include a basin, discharge outlet, swale, rain garden, filter, or other stormwater treatment practice or measure either alone or in combination, including without limitation any overflow pipe, conduit, weir control structure that: (a) is not naturally occurring; (b) is not designed as a wetland replication area; and (c) has been designed, constructed, and installed for the purpose of conveying, collecting, storing, discharging, recharging, or treating stormwater. Nonstructural stormwater best management practices may include source control and pollution prevention measures.

Conveyance: Any structure or device, including, but not limited to, pipes, drains, culverts, curb breaks, paved swales and man-made swales, natural and man-made channels, and ditches, designed or utilized to move or direct stormwater runoff or existing water flow; any impervious

surface/sheet flow utilized to remove rainfall (for example, a parking lot) which drains directly onto a vegetated surface or public road without any curbing or stormwater system to intercept the flow.

Erosion and sedimentation control plan: A document containing a narrative, drawings and details developed by a registered professional civil engineer (PE) or a registered professional land surveyor (PLS), which includes best management practices, or equivalent measures designed to control surface runoff, erosion and sedimentation during pre-construction and construction related land disturbance activities.

Impervious Surface or Area: Any material or structure in, on or above the ground that prevents water from infiltrating through the underlying soil. Impervious surface is defined to include, without limitation: paved surfaces (parking lots, sidewalks, driveways, etc.), roof tops, swimming pools, stone patios/pavers, gravel, and compacted dirt surfaces such as driveways and roads.

Land disturbance: Any activity that causes a change in the position or location of soil, sand, rock, gravel, or similar earth material. Examples include, but are not limited to, demolition, construction (of buildings or retaining walls), site preparation, grading, paving, tree cutting, and earth moving.

Low impact development (LID): A site design strategy for managing stormwater by maintaining or replicating the predevelopment hydrologic functions using design techniques to create a functionally equivalent hydrologic landscape.

Municipal Storm Drain System or Municipal Separate Storm Sewer System (*MS4):* The system of conveyances designed or used for collecting or conveying stormwater, including any road with a stormwater management system, street, gutter, curb, inlet, piped storm drain, pumping facility, retention, or detention basin, natural or man-made or altered drainage channel, reservoir, or other drainage structure(s) that together comprise the storm drainage system owned or operated by the city.

Person Aggrieved: all record owners of the subject property or an owner of property directly abutting the subject property.

Stormwater Management and Erosion Control Permit: A permit issued by the Engineering Division of the Department of Public Works, after review of an application, plans, calculations, and other supporting documents, in accordance with the provisions of this ordinance.

Stormwater Management Certificate of Compliance (SMCC): A document issued by the Engineering Division after all construction activities have been completed which states that all conditions of an issued Stormwater Management and Erosion Control Permit (SMP) have been met and that a project has been completed in compliance with the conditions set forth in a SMP.

Stormwater management plan: A plan submitted as part of an application for a stormwater management and erosion control permit, as required by Section 29-150(A) of this ordinance. A document containing narrative, drawings and details prepared by a registered professional civil engineer (PE), which includes structural and non-structural best management practices to manage and treat stormwater runoff generated from regulated development activity. A stormwater management plan also includes an operation and maintenance plan describing the maintenance requirements for structural best management practices.

Stormwater management system: the collective system for conveying, collecting, storing, discharging, recharging, or treating stormwater on-site, including stormwater best management practices, and any pipes and outlets intended to transport and discharge stormwater to the groundwater, a surface water, or a municipal separate storm sewer system.

(c) Applicability

This ordinance shall apply to all land-disturbing activities over the thresholds below, within the jurisdiction of the city. A stormwater management and erosion control permit shall be required prior to undertaking any alteration or land disturbing activity as follows:

(1) Land disturbance

(a) Projects that will or could disturb over 5,000 square feet (SF) of land.

(2) Minor stormwater management

(a) Any residential development or redevelopment with four or fewer units, provided the land disturbance is less than 0.5-acre (or 21,780 SF) .

(b) Any residential, commercial, industrial, institutional, or municipal alteration, development or redevelopment creating 401 to 1,000 SF of new impervious area.

(c) The construction of any new retaining wall required due to proposed changes in grade, unless already approved by Special Permit (per Chapter 30 Section. 5.4.2).

(d) Trench excavation requiring dewatering.

(3) Major stormwater management

(a) Any alteration, disturbance, development, or redevelopment exceeding the thresholds listed in § 29-148(C)(1) and (2) above.

(d) Exemptions

The commissioner of public works may establish exemptions from the requirements of this ordinance, which exemptions shall be set forth in the city of Newton stormwater management and erosion control rules and regulations.

§29-149 Administration

(a) Administration

The commissioner of public works or his or her designee shall administer, implement, and enforce this ordinance.

(b) Rules and regulations

The commissioner of public works shall adopt, and periodically amend as deemed necessary, rules and regulations relating to the detailed requirements, procedures, and administration of this ordinance.

§29-150 Permit procedures

(a) Permit required

No alteration and/or land disturbing activity that meets the criteria specified in Section 29-148(c) may commence prior to the issuance of a stormwater management and erosion control permit as set forth in this ordinance.

(b) Procedures and Requirements

The commissioner of public works shall set forth the application procedures and requirements - including but not limited to content of applications, stormwater management plan and operations and maintenance plan contents, technical requirements, inspections, and project closeout process in the rules and regulations promulgated under Section §29-149(b) of this ordinance.

(c) Deadline for Action

Failure of the commissioner of public works or his or her designee to take action within sixty (60) days of receipt of a complete stormwater management and erosion control permit shall be deemed approval of said application, unless extension of the sixty (60) days is agreed upon, in writing, by the applicant.

§29-151 Entry, inspections, and close-out

To the extent permitted by law, the commissioner of public works or his or her designee may enter upon privately owned property for the purpose of performing their duties under this ordinance and may make or cause to be made such examinations, surveys, or sampling as the commissioner of public works or his or her designee deems reasonably necessary to determine compliance with the permit

§29-152 Final report and certificate of compliance

Upon completion of the work done pursuant to a permit issued for a minor or major stormwater land disturbing activity, the permittee shall request a final inspection and submit the following: (Note: Land disturbance only permits do not require a certificate of compliance)

(1) Certified as-built construction plans from a Massachusetts Registered Professional Engineer (P.E.) and/or Registered Professional Land Surveyor (P.L.S) depicting all final grade changes, water, sewer, and stormwater utilities and any BMPs installed.

(2.) A note on the As-built plan from the Engineer of Record indicating that the stormwater management system(s) have been constructed in accordance with, and meet the requirements of, the Stormwater Management Permit. Any discrepancies between the approved plan and the as-built plan shall be noted.

(3.) Proof of recording the Operations and Maintenance Plan at the South Middlesex County Registry of Deeds.

The city engineer will issue a stormwater management certificate of compliance upon receipt of these items and upon determination that all work of the permit has been satisfactorily completed and is in conformance with this ordinance. The commissioner of inspectional services shall not issue a certificate of occupancy for any property subject to this Section 29 prior to receipt of such certificate of compliance.

§29-153 Enforcement

The commissioner of public works shall have authority to enforce this ordinance and the associated rules and regulations; issue orders, violation notices, and enforcement orders as necessary; and may pursue all available civil and criminal remedies for such violations.

(a) Violation notices and enforcement orders

(1) The commissioner of public works may issue a written order to enforce the provisions of the stormwater management and erosion control ordinance or the rules and regulations, which may include demands to:

(a) Cease and desist from further alterations or land disturbance activity until there is compliance with the stormwater management and erosion control ordinance and/or the stormwater management and erosion control permit.

(b) Maintain, install, or perform additional erosion and sedimentation control measures.

(c) Remediate erosion and sedimentation resulting directly or indirectly from land-disturbing activity.

(d) Remediate adverse impacts resulting directly or indirectly from malfunction of the

stormwater management system.

(e) Eliminate discharges, directly or indirectly, into a watercourse or into the waters of the Commonwealth.

(2) If the commissioner of public works determines that abatement or remediation of adverse impacts is required, the order shall set forth a deadline by which such abatement or remediation must be completed.

(3) If a person violates the provisions of this ordinance, regulations, permit, notice, or order issued thereunder, the commissioner of public works may seek injunctive relief in a court of competent jurisdiction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

(b) Penalties

Pursuant to Section 17-21 of the City Ordinances, any person who violates any provision of the Stormwater Management and Erosion Control Ordinance, or order or permit issued thereunder, may be ordered to correct the violation and/or shall be punished by a fine of not more than $300.00 per violation, excluding the cost of damages. Each day or part thereof that such violation occurs or continues shall constitute a separate violation.

(C) Non-Criminal Disposition

As an alternative to criminal prosecution, the commissioner of public works may elect to utilize the non-criminal disposition procedure set forth in M.G.L. c. 40, § 21D.

(D) Appeals

Judicial review. Any person aggrieved by the grant or denial of a permit may seek relief therefrom by a civil action in any court of competent jurisdiction as provided by the laws of the Commonwealth of Massachusetts.

§29-154 Severability

Any finding of the invalidity of any section, provision, paragraph, sentence, or clause of this ordinance shall not invalidate any other section, provision, sentence, or clause thereof, nor shall it invalidate any permit or determination that has been previously issued under this ordinance.

CITY OF NEWTON
Stormwater Management and Erosion Control Rules & Regulations
Draft 04/04/22 Adopted _____

SECTION 1: AUTHORITY

A. These Rules and Regulations have been adopted by the Commissioner of the Department of Public Works in accordance with Chapter 29 of the Revised Ordinances of the City of Newton, Massachusetts, and will be administered by the City Engineer through the Engineering Division.

B. Nothing in these Rules and Regulations is intended to replace or be in derogation of the requirements of the City of Newton's Floodplain/Watershed Ordinance (Ch. 22, Article II Sec. 22), the City of Newton's Zoning Ordinance (Ch. 30), or any other ordinance adopted by the City of the Newton. Any project or activity subject to the provisions of the above-cited Ordinances or related Rules and Regulations must comply with the specifications of each.

C. These Rules and Regulations may be periodically amended by the Commissioner of the Department of Public Works in accordance with the procedures outlined in Ch. 29-149 of Newton's Stormwater Management and Erosion Control Ordinance, hereinafter referenced as the Stormwater Management Ordinance.

D. Waivers. The Commissioner of Public Works, as delegated to the City Engineer may waive strict compliance with any of the requirements of the City of Newton Stormwater Management and Erosion Control Rules and Regulations (hereinafter referenced as the Stormwater Management Rules and Regulations), if it finds that strict application of some of the requirements is unnecessary or impracticable because of the size or character of the development project or because of the natural conditions at the site. Waivers may only be granted for projects disturbing less than 1 acre of land. Any applicant requesting a waiver must submit a written request for such a waiver. Such a request shall be accompanied by an explanation and documentation supporting the waiver request.

SECTION 2: PURPOSE

A. The City's stormwater management system is strained by increased volumes of runoff from more frequent and higher intensity storms. Compounding the issue is a trend of increasing impervious areas and elevated grades around new structures limiting natural infiltration. Further, stormwater runoff from impervious surfaces is the greatest source of pollution to Newton's ponds, lake, and waterways. Development proposals provide an inconsistent level of detail, making review and analysis challenging.

B. The purpose of these regulations is to clarify administration of Newton's Stormwater Management Ordinance, in order to achieve its objectives to:

1. Limit land clearing and alteration of natural topography prior to (re)development.
2. Prevent soil erosion and sedimentation resulting from construction.
3. Promote filtration, infiltration, and the recharge of groundwater, and limit additional stormwater flow into the City's drainage system.
4. Minimize flooding.
5. Improve water quality.
6. Prevent alteration or destruction of aquatic resources and wildlife habitat.
7. Prevent clogging and pollution entering municipal catch basins and storm drainage systems.
8. Establish a mechanism by which the City can meet the requirements of its National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer (Drainage) System (MS4) permit.

SECTION 3: DEFINITIONS

A. All definitions are provided in Appendix A of these Rules and Regulations.

B. These definitions apply to the Stormwater Management Ordinance and these Rules and Regulations.

C. Terms not defined in the Stormwater Management Ordinance or Appendix A of these Rules and Regulations shall be construed according to their customary and usual meaning unless the context indicates a special or technical meaning.

SECTION 4: APPLICABILITY

These Rules and Regulations apply to all projects or activities subject to Ch. 29-148(c) the Applicability Section of the Stormwater Management Ordinance. All projects or activities referenced in Ch. 29-148 and not falling under an exception listed in Ch 29-148(d) shall require a Stormwater Management Permit in accordance with the Stormwater Management Ordinance.

Projects and/or activities within the jurisdiction of the Stormwater Management Ordinance must obtain a Stormwater Management Permit (SMP) from the City Engineer in accordance with the permit procedures and requirements defined in Sections 5 through 9 of these Rules and Regulations.

No work on a project within the jurisdiction of the City's Stormwater Management Ordinance may commence without a SMP or waiver from the City Engineer. Work commenced without an approved permit or waiver can result in an enforcement action and/or fines.

A. Exemptions. Notwithstanding Section 4.B, no SMP shall be required by the City Engineer for:

1) Normal maintenance and improvement of land for the primary purpose of agriculture, horticulture, floriculture, or viticulture, or the use, expansion, or reconstruction of existing structures for the primary purpose of agriculture, horticulture, floriculture, or viticulture, to the extent protected under the Zoning Act, M.G.L Chapter 40A, Section 3.

2) Normal maintenance of existing landscaping, gardens, or lawn areas.

3) Milling, excavating and replacement, including widening less than a single lane, adding shoulders, and correcting substandard intersections of existing pavement.

4) Overlaying of existing pavement, with no increase in impervious area.

5) Construction of a fence that does not alter the existing terrain or drainage patterns.

6) Drain connections declared necessary by the Commissioner of Public Works to remove groundwater and stormwater inflow from the sanitary sewer.

7) Emergency activities necessary for the protection of the health and safety of the public, provided that: (a) the work is to be performed by or has been ordered by an agency of the Commonwealth of Massachusetts or a political subdivision thereof, (b) advance notice, oral or written, has been given to the Commissioner of Public Works prior to commencement of work or within 24 hours after commencement, (c) the Commissioner certifies the work as an emergency activity, and (d) the work is performed only for the time and place certified by the Commissioner of Public Works for the limited purposes necessary to abate the emergency.

8) Maintenance, repair or replacement of an existing and lawfully located structure or facility used in the service of the public to provide electric, gas, water, sewer, drainage, telephone, telegraph or other telecommunication services, provided that applicable permits are obtained.

9) Maintenance, repair or replacement of existing stormwater infrastructure or stormwater Best Management Practices (BMPs) provided that: (a) there is no alteration of the existing terrain or drainage patterns; (b) there is no increase in the size or capacity of over 25%; (c) there is no change in the drainage area contributing to the system; and (d) best practical measures are utilized to avoid any negative impacts on stormwater quality or runoff rate or volume.

10) Normal maintenance of City-owned public land, rights-of-way, public utilities, and appurtenances, including roadway reconstruction.

11) Any work or projects for which all necessary approvals and permits, including building permits, have been issued before the effective date of the City of Newton's Stormwater Management Ordinance.

12) Activities that are temporary in nature, have negligible impacts, and are necessary for planning and design purposes (e.g., installation of monitoring wells, exploratory borings, sediment sampling, surveying and percolation tests).

B. A **Land Disturbance** Stormwater Management Permit is required for the following activity, as stated in Ch. 29-148(c).

1. Projects that will or could disturb over 5,000 square feet (SF) of land (i.e., the limit of work line encompasses over 5,000 SF of land).

C. A **Minor** Stormwater Management Permit is required for any one or more of the following activities, as stated in Ch.29-148(c):

1. Any residential development or redevelopment up to 4 units, provided the land disturbance is less than 0.5-acre.

2. Any residential, commercial, industrial, institutional, or municipal alteration, development or redevelopment creating 401 to 1,000 SF of new impervious area.

3. The construction of a new retaining wall, unless already approved by Special Permit (per Zoning Sec. 5.4.2).

4. Trench excavation that requires dewatering.

D. A **Major** Stormwater Management Permit is required for any alteration, disturbance, development, or redevelopment exceeding the thresholds listed above for Land Disturbance or Minor Stormwater, as stated in Ch. 29-148(c).

SECTION 5: DESIGN STANDARDS

A. All SMP applications must clearly illustrate compliance with the following standards.

1. Calculate and depict prominently on the plans: the existing and proposed impervious surface areas. This information shall be included as a table with other zoning information.

2. Grading. Topographic contours shall be shown at 1-foot intervals on plans. Changes in grading of the land must demonstrate to the City Engineer's satisfaction that there will be no net increase in stormwater runoff to abutting properties or the City's stormwater drainage system. Changes to landforms (i.e., ledge removal, blasting) shall be avoided and where necessary conducted to minimize land disturbance and avoid negative impacts to adjacent properties.

3. Retaining walls. In order to prevent potential flooding caused by the construction of a retaining wall, any proposed retaining wall shall be designed and constructed so as not to block or exacerbate any existing stormwater or groundwater flow patterns to or from abutting properties, as well as to or from the city's right of way.

4. Tree removal. Preserving healthy trees is encouraged due to the many benefits trees provide. Existing condition plans shall identify and note the sizes of all trees eight (8) inches dbh and larger on the subject property. Trees 8 inches dbh and larger that are proposed for cutting shall be clearly identified as such on a plan sheet. A clearly illustrated replacement planting plan shall be provided on a proposed condition plan sheet. Protected trees shall be replaced with an appropriate quantity of trees equaling the caliper inches lost due to development, in accordance with the City's Tree Preservation Ordinance[1], unless the project is exempt from compliance with the Tree Ordinance. If unable to meet this replacement policy the applicant may contribute to the City's tree fund.

5. Groundwater Intrusion: The bottom (underside) of the basement slab must be 1-foot above the seasonal high groundwater elevation as determined by a Soil Evaluator licensed in Massachusetts or determine the seasonal high groundwater table using Frimpter Method[2].

6. Erosion and Sedimentation Control. Sediment that washes off construction sites and into the City's catch basins, ponds, lake, and wetlands has considerable cost and ecological implications for the City. Runoff, erosion, and sediment control are important at every phase of the construction process. Implementing and maintaining the right control practice saves money, time and the environment. The application will be evaluated on the following criteria.

    a) Minimize disturbance of natural vegetation wherever possible. This is the best and most economical control measure.

    b) Control stormwater runoff and minimize soil erosion potential during construction. Divert flows around exposed soils, material stockpiles and slow down stormwater flows.

    c) Control soil movement and retain sediment within the 'limits of work' during and after construction. These measures may include but are not limited to perimeter controls such as straw wattles and silt fence, stabilized construction entrances/exits, sediment basins, catch basin silt sacks, proper dewatering practices (as needed).

    d) Stabilize disturbed soils, particularly unvegetated slopes, during any lapse in construction and immediately post-construction.

    e) Include a note (on the plans) for the contractor to regularly inspect and maintain the erosion and sediment controls measures. See additional note requirement in Section 6.B.

    f) Construction phasing or sequencing is encouraged for larger projects (e.g., ≥ 2 acres).

B. Minor Stormwater Management Permits. In addition to Section 5.A above, all projects subject to a Minor Stormwater Management Permit shall be designed to the following standards.

1. Stormwater management systems for new development and redevelopment sites shall be designed to retain the volume of runoff equivalent to, or greater than, two (2) inches multiplied by the *net increase* in impervious surface area on the site, except for projects that propose to tear

[1] Newton's Tree Preservation Ordinance

[2] Frimpter Method: https://www.usgs.gov/centers/new-england-water/science/updating-a-method-estimate-probable-high-groundwater-levels?qt-science_center_objects=0#qt-science_center_objects

down, dismantle, or remove a primary structure from its existing location such that a majority of the structural elements are replaced, in which case retaining two inches of runoff for the total of all impervious surfaces is required (not the net).

2. There must be a minimum two-foot separation between the bottom of any stormwater management system and seasonal high groundwater.

3. Stormwater infiltration systems shall be design with the following setbacks:

   a) A minimum of 10 feet from any building.
   b) A minimum of 50 feet from any slope greater than 15%. A variance may be allowed if an impermeable barrier is installed.

4. Proposals must analyze, propose, and implement Low Impact Development (LID) Best Management Practices (BMPs), unless proven in writing to the satisfaction of the City Engineer to be infeasible. See Appendix B for LID BMPs. If infeasible, Applicants shall demonstrate reasons why LID BMPs are infeasible and demonstrate compliance with design standards through generally accepted methods.

5. Soils tests must be conducted by a Soil Evaluator licensed in Massachusetts and must be performed within 25 feet of the location of every proposed infiltration BMPs and LID technique, to clearly identify soil descriptions, depth to estimated seasonal high groundwater, depth to bedrock, and soil texture. Any soil test conducted between the months of June and February must also be accompanied by a determination of the seasonal high groundwater table using Frimpter Method[3].

6. Drainage Design: Drainage calculations shall be performed for existing site conditions (pre-development) and proposed site conditions (post-development) based on proposed site plans. Storms of 2, 10, 25, and 100-year frequency events shall be analyzed to demonstrate no net increase in stormwater runoff volume or peak flow for any storm event. The rainfall amounts used shall be based on the 1998 Cornell University Study, NOAA Atlas 14 Volume 10 Point Precipitation Frequency Estimates for Newton.

   Note: the 100-year design storm is based on 8.78 inches of precipitation in 24 hours. For purposes of choosing a Runoff Curve Number, all pervious lands on the Site shall be assumed prior to development to be in "good" hydrologic condition regardless of conditions existing at the time of computation. All drainage calculations shall be stamped by a Registered Professional Civil Engineer.

7. Infiltration systems shall be designed to drain fully within 72 hours.

8. Plan submission requirements are detailed in Section 6 – Application Requirements and Procedures.

C. Major Stormwater Management Permits. **In addition to Section 5.A. and 5.B., above**, all projects subject to a Major Stormwater Management Permit shall be designed to meet the following additional standards.

1. All projects triggering the thresholds for a Major Stormwater Permit must meet the minimum pollutant removal requirements and on-site stormwater volume retention requirements identified

[3] Frimpter Method: https://www.usgs.gov/centers/new-england-water/science/updating-a-method-estimate-probable-high-groundwater-levels?qt-science_center_objects=0#qt-science_center_objects

in C.3 and C.4 below; if due to site conditions this is technically infeasible, then the Applicant may request a waiver (waivers are only applicable for projects less than 1 acre).

2. Projects shall comply with the Stormwater Standards of the most recent version of Massachusetts Stormwater Management Handbook (Handbook)[4], and the City of Newton General Construction Detail Book and Streets Design Guide. Where an inconsistency exists between the Handbook and these Regulations, the stricter shall apply.

3. Stormwater management systems on **new development** sites shall be designed to:

   a) Retain the volume of runoff equivalent to, or greater than, two (2) inches multiplied by the total post-construction impervious surface area on the site; and

   b) Remove 90% of the average annual load of Total Suspended Solids generated from the total post-construction impervious area on the site; and

   c) Calculate the existing and proposed average annual Total Phosphorus (TP) load based on the land use(s) and demonstrate 60% reduction of the TP load generated from the total post-construction impervious surface area on the site: and

   d) Whenever feasible exceed the above minimum phosphorus removal[5] requirement. Infiltration BMPs, bioretention areas, constructed stormwater wetlands, and filter systems are recommended ways to reduce phosphorus in stormwater discharges.

4. Stormwater management systems on **redevelopment** sites shall be designed to improve existing conditions by:

   a) Retain the volume of runoff equivalent to, or greater than, two (2) inches multiplied by the total post-construction impervious surface area on the site; and

   b) Remove 80% of the average annual load of Total Suspended Solids generated from the total post-construction impervious area on the site; and

   c) Calculate the existing and proposed average annual Total Phosphorus load based on the land use(s) and demonstrate 50% reduction of the average annual TP load generated from the total post-construction impervious surface area on the site: and

   d) Whenever feasible exceed the minimum total phosphorus removal[2] requirement. Infiltration BMPs, bioretention areas, constructed stormwater wetlands, and filter systems are recommended ways to reduce phosphorus in stormwater discharges.

5. To support compliance with the City's MS4 Permit, all new stormwater management BMPs located on commercial and industrial property shall incorporate shutdown and containment in the

[4] Massachusetts Stormwater Handbook, as most recently updated.
http://www.mass.gov/eea/agencies/massdep/water/regulations/massachusetts-stormwater-handbook.html

[5] The required removal percentages are not required for each storm, it is the average removal over a year that is required. Pollutant removal shall be calculated consistent with EPA Region 1's Opti-Tool found here; https://www.epa.gov/tmdl/opti-tool-epa-region-1s-stormwater-management-optimization-tool, Or use the performance curves in the MS4 Permit, Appendix F, Attachment 3, found here: https://www3.epa.gov/region1/npdes/stormwater/ma/2016fpd/appendix-f-attach-3-2016-ma-sms4-gp-mod.pdf.

design to isolate the drainage system in the event of an emergency spill or other unexpected event.

6. To support the City's efforts to remove illicit sewer connections and discharges to our drainage system, the applicant shall confirm no illicit connections / discharges are present for projects where the sewer and storm drain infrastructure remain on site.

SECTION 6: APPLICATION REQUIREMENTS AND PROCEDURES FOR STORMWATER MANAGEMENT PERMITS

A. All Stormwater Management Permits (SMP) Applications

1. One (1) completed Stormwater Management Permit Application Form with the following:

   a) Name, contact information, and original signatures of owner(s), Applicant(s), and, if applicable, representative.

   b) Address of property and parcel ID.

   c) Project description.

   d) Site plan reference(s).

   e) Signature of Applicant, property owner (if different), and representative, if applicable.

   f) Payment of the Application fee.

2. Supporting engineering plans for a SMP shall include the materials as specified in this section.

B. Land Disturbance Permit Submission Requirements

1. In addition to the signed, completed application, the Applicant shall provide a brief narrative explaining the purpose of the proposed land disturbance.

2. A Site Plan denoting property lines, existing buildings, existing and proposed trees (clearly noting any trees to be cut), existing and proposed edge of lawn and ground cover materials and existing and proposed topographic contours. This plan shall be stamped and signed by a Professional Civil Engineer (PE) licensed in the Commonwealth of Massachusetts and/or Professional Land Surveyor (PLS).

3. Methods to minimize the potential for soil erosion and control soil / sediment from leaving the property shall be depicted on the Site Plan.

C. Minor Permit Submission Requirements

1. In addition to the signed, completed permit application, the Applicant shall provide: one (1) set of full-size plans, stapled, and rolled; plus, an electronic copy (pdf) provided on a flash drive. Additional copies may be requested by the City Engineer.

2. A Stormwater Management Site Plan that may be prepared by drafting or hand sketching. depending on project size and complexity, at the discretion of the City Engineer, to include:

   a) General Information:

(1) Sheet size: Sheets shall have a maximum dimension of 24” x 36” and formatted for landscape layout. Large plans should be rolled rather than folded. If more than one sheet is needed to describe the proposed work, a key sheet is required showing a general composite of all work proposed.

(2) Scale: Not more than 1” = 40' (the Engineering Division routinely accepts plans at 1” =20' or 1” =40'). If project sites are large, an overall site plan at 1” = 100' is acceptable, but detailed plans must be at or less than 1” = 40'. Include graphical scales on all plans. Coordinate system shall be 1983 North American Datum, Massachusetts State Plane, feet, and North American Vertical Datum (NAVD) of 1988.

(3) Title Block: A title block shall be included on all plans, located at the lower right-hand corner, oriented to be read from the bottom when bound at the left margin. Include:

(a) Plan title.
(b) Original date plus additional space to reference the title and dates of all plan revisions.
(c) Name and address of record owner and engineer and/or surveyor.
(d) Address of property, Assessor Map and Parcel ID.

(4) Legend: Include legend identifying line types and symbols used in plan set

(5) Locus Map.

b) An Existing Conditions Plan containing the following:

(1) Property lines.

(2) The existing zoning, and land use at the site and abutting properties.

(3) The location(s) of existing easements.

(4) The location of existing utilities.

(5) Existing contours at 1-foot minimum vertical increments.

(6) Existing landscaping and vegetation including all existing trees within 25 feet of the work area that are over 8 inches in diameter breast height (dbh) and major vegetative cover types, including wooded areas defined by tree line drip line, shrub communities, limits of lawn, and edge of tree canopy.

(7) Locations of existing structures, pipes, swales, and detention ponds.

(8) Locations of bodies of water, including wetlands.

(9) A delineation of FEMA Special Flood Hazard areas and calculation of FEMA flood elevation, if applicable. Floodplain elevation data shall be based on 1988 NAVD (North American Vertical Datum) and reference the appropriate National Flood Insurance Rate Map and/or Flood Study.

(10) Location of existing septic systems, monitoring and private wells, if present.

(11) The location(s) of soil tests and description of soil from test pits performed at the location of proposed stormwater management facilities, including but not limited to soil description, depth to seasonal high groundwater table (SHGWT), depth to bedrock, and

percolation rates. Soils and the SHGWT elevation shall be based on site test pits logged by a Soil Evaluator licensed in Massachusetts.

(12) The existing vegetation (e.g., lawn area, mature trees, etc.) and ground surfaces with runoff coefficients for each.

(13) Stamp and signature of a Professional Civil Engineer (PE) licensed in the Commonwealth of Massachusetts and/or Professional Land Surveyor (PLS).

c) A Proposed Conditions Plan containing the following:

(1) Property lines, building envelope restrictions and/or easement areas, including areas affected by conservation restrictions, if applicable.

(2) Proposed improvements including location of buildings or other structures, utilities, easements, etc., if applicable, and impervious surfaces. For single family homes plans shall show, at a minimum, house footprint, decks, garages, sheds, roof drainage and stormwater drainage structures, as applicable) and all areas of existing and proposed impervious areas: including tennis courts, patios, and driveways, etc.

(3) **Proposed total impervious surface areas in square feet,** shown as a table with comparison to existing impervious surface area conditions.

(4) FEMA Flood Hazard areas and Newton Floodplain Ordinance areas, if applicable.

(5) Limit of work.

(6) Proposed grading for work area. Proposed contours at 1-foot vertical increments.

(7) Locations for storage of materials, equipment, soil, snow, and other potential pollutants.

(8) A note on the plan indicating the Contractor shall sequence construction activities to avoid stockpiling materials and soil compaction where proposed stormwater BMPs will be located.

(9) Location(s) and description of existing stormwater conveyances, impoundments, wetlands, drinking water resource areas, or other critical environmental resource areas on or adjacent to the site or into which stormwater flows.

(10) Proposed drainage facilities (plan view and details) including drawings of all components of the proposed stormwater management system including:

1. Locations, cross sections, and profiles of all brooks, streams, drainage swales and their method of stabilization.

2. All measures for the detention, retention, or infiltration of water.

3. All measures for the protection of water quality.

4. For engineered systems designed to provide drainage or stormwater management including, but not limited to, culverts, drainage outfalls, catch basins and pervious pavement ‘systems’; provide an appropriate plan detail with notes on drawings specifying materials to be used, and construction specifications.

5. Notes indicating the required inspections for the site and the stormwater drainage facilities during construction.

(11) Proposed landscaping, vegetation, and ground surfaces. When trees 8-inches dbh and larger are proposed for cutting, a clearly illustrated planting plan shall be provided. The replacement planting plan shall comply with the City's Tree Preservation Ordinance (see footnote 1). If it is not feasible to plant the required number of trees, an applicant may propose a combination of trees and shrubs for approval.

(12) Locations where stormwater discharges to surface water (include all roads, drains and other structures that could carry stormwater to a wetland or other water body, on or offsite).

(13) A general construction note stating the Engineering Division Inspector shall be notified 48 hours prior to any site work in accordance with project permits.

(14) Stamp and signature of a Professional Civil Engineer (PE) licensed in the Commonwealth of Massachusetts to certify that the Stormwater Management Plan is in accordance with the criteria established in the Stormwater Regulations; a stamp and signature of a Professional Land Surveyor (PLS) is acceptable if no drainage facilities are proposed and they have the experience and capability to prepare the required Site Plan and to provide the required existing and proposed grading and erosion control provisions.

4. The Erosion and Sediment Control Plan shall demonstrate that erosion will be minimized, and sediment contained. The plan shall include, at a minimum, the following:

c) Estimates of the total area expected to be disturbed by excavation, grading, or other construction activities, including dedicated off-site borrow and fill areas.

d) Location and design of all proposed soil erosion and sediment control measures.

e) Pollution control measures to be implemented during construction to mitigate pollutants from entering the public right of way and storm drains. Consider construction and waste materials expected to be stored on-site, describe source control and storage methods to minimize exposure of the materials to stormwater.

f) Location of anti-tracking area at each construction entrance or other means to minimize off-site tracking of soil and sediment onto paved surfaces.

g) Means to protect all existing drainage infrastructure (i.e., catch basins) and proposed drainage infrastructure from clogging during construction. For projects anticipated to encounter or manage groundwater, show proposed dewatering operations, including proposed locations of discharge and related details.

h) Location of proposed construction stockpiling areas with appropriate erosion and sediment control measures.

i) The intended sequence and timing of activities that disturb soils at the site and the general sequence during the construction process in which the erosion and sediment control measures will be implemented. Or include this note on the plan: "The contractor shall sequence construction activities to minimize the potential for soil, stone or sediment to migrate off-site; divert flows around bare soils, to the maximum extent practicable; stabilize unvegetated areas as soon as practical and prevent pollutants from entering the City's storm drainage system."

j) Measures to control wastes, including discarded building materials, concrete truck wash-out, chemicals, litter, and sanitary wastes during construction and prevent the discharge of these and any solid material to Newton's MS4 or waters of the United States, unless authorized by a permit issued under Section 404 of the Clean Water Act.

k) Where a site is located in whole or in part within the floodplain, a Floodplain Contingency Plan shall be included with the Erosion and Sediment Control Plan. This Plan shall describe the steps necessary to stabilize the site during construction in the event of a possible flood. A possible flood shall be defined as period when a flood watch is declared for the Charles River by the National Weather Service.

5. A Stormwater Management Report shall be prepared in conformance with the Design Standards contained in Section 5 and contain the following elements:

a) The existing site hydrology.

a) A drainage area map showing pre- and post-construction watershed boundaries, drainage area and stormwater time of concentration (Tc) flow paths, including drainage system flows.

b) Hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in this Regulation. Such calculations shall include:

(i) Description of the design storm frequency, intensity, and duration.

(ii) Time of concentration.

(iii) Soil Runoff Curve Number (CN) based on land use and soil hydrologic group.

(iv) Peak runoff rates and total runoff volumes for each watershed area.

(v) Infiltration rates, where applicable.

(vi) Culvert capacities, where applicable.

(vii) Flow velocities.

(viii) Data on the rate and volume of runoff for the specified design storms.

(ix) Documentation of sources for all computation methods and field test results.

c) If a project requires a Stormwater Pollution Prevention Plan (SWPPP) per the NPDES General Permit for Storm Water Discharges from Construction Activities (applicable to construction sites that disturb one or more acres of land), then the Applicant is required to submit a complete copy of the SWPPP (including the signed Notice of Intent and approval letter) as part of its Application for a SMP.

6. Post Construction Operation and Maintenance Plan (O&M)

a) The Post-Construction O&M Plan shall be designed to ensure compliance with the SMP, the Stormwater Management Ordinance and these Rules and Regulations and that the Massachusetts Surface Water Quality Standards, 314, CMR 4.00 are met in all seasons and throughout the life of the system. The O&M Plan shall be a stand-alone document and shall remain on file with the Engineering Division and shall be an ongoing requirement.

b) The Post-Construction O&M Plan shall include, at a minimum:

i. The name(s) of the owner(s) for all components of the system and emergency contact information.

ii. The signature(s) of the owner(s).

iii. The names and addresses of the person(s) currently responsible for O&M.

iv. An Inspection and Maintenance Schedule for all stormwater management facilities including routine and non-routine maintenance tasks to be performed.

v. A reduced size plan or map clearly showing the location of the systems and facilities including easements, catch basins, manholes/access lids, main, and stormwater devices.

vi. If applicable, a list of easements necessary for the construction and O&M of the stormwater system, with the purpose and location of each. Easements shall be recorded with the South Middlesex County Registry of Deeds prior to issuance of a Stormwater Management Certificate of Compliance by the Engineering Division.

vii. O&M inspection schedule and log form.

viii. Provisions for the, City Engineer or his/her designee to enter the property at reasonable times and in a reasonable manner for the purpose of inspection.

D. Major Permit Submission Requirements

In addition to all the requirements for a Minor Stormwater Permit, provide:

1. A Project Narrative that includes a description of the proposed project and a description of how and where stormwater will be controlled and erosion and sedimentation controls implemented, and an explanation of how the proposed project:

   a) Meets the Design Standards enumerated in Section 5C.

   b) Meets the Stormwater Standards outlined in the Massachusetts Stormwater Handbook[6];

   c) Attempt to reproduce natural hydrologic conditions with respect to groundwater and surface water.[7]

   d) Include square footage summaries indicating square footage of work area as well as existing, proposed, and net changes in impervious surface areas.

SECTION 7: ADMINISTRATION

A. Administration of Rules and Regulations**.** The City Engineer through its Engineering Division shall administer, implement, and enforce these Rules and Regulations.

B. Stormwater Management Permit Application Approval Process.

[6] Massachusetts Stormwater Handbook, as most recently updated. http://www.mass.gov/eea/agencies/massdep/water/regulations/massachusetts-stormwater-handbook.html

[7] Guidance on these practices is provided in Appendix C of these Regulations and the MA Stormwater Management Handbook.

Actions by the City Engineer / Engineering Division:

1. Determination of Completeness: The City Engineer shall review the Stormwater Management Permit Application for completeness with the requirements and standards of Sections 5 through 8 within fifteen (15) business days of receipt.

2. Incomplete Applications: If the City Engineer determines the Application is incomplete, including, but not limited to, insufficient information to describe the site, the work, or the effect that work has on water quality and runoff volume, the Engineering Division may reject the application, require the submission of additional information, or deny the Permit.

3. Complete Applications. Each Application for a Stormwater Management Permit Application that is determined to be a complete Application shall be reviewed by the City Engineer. The Application shall be acted upon within fifteen (15) business days of the date that the Engineering Division determines that the Application is complete unless such Application has been withdrawn from consideration. The Engineering Division may:

   a) Approve the Permit Application upon finding that the proposed project will meet the objectives of the Stormwater Management Ordinance and the Design Standards.

   b) Approve the Permit Application with conditions, modifications and/or restrictions that are required to ensure that the project will protect water resources and meets the objectives of the Stormwater Management Ordinance and the Design Standards.

   c) Deny the Permit Application due to non-compliance with Design Standards (in Section 5) or insufficient information to make a determination.

C. Plan Changes.

The Applicant must notify the City Engineer, in writing, of any proposed change to or alteration of the site plans and details authorized in any Stormwater Management Permit before any change or alteration is made. Proposed changes are only considered approved by the Engineering Division if the changes are *noted in writing by the Engineering Division and/or revised plans / documents are stamped approved by the Engineering Division*. If the Engineering Division determines that a proposed change or alteration is significant, based on the Design Standards in Section 5 of these Rules and Regulations and accepted construction practices, it may require an amended Application be filed.

D. Expiration of Permits and Permit Extensions.

1. Should a land-disturbing project or activity associated with an approved plan in accordance with this City Ordinance not begin within one (1) year following permit issuance, the permit shall lapse and should the Applicant wish to continue with the previously approved plan, the Applicant must re-apply for a new permit.

2. If the project associated with an approved Stormwater Management Permit granted under the Ordinance has not been completed within three (3) years of permit issuance, a new permit or a permit extension will be required by the Engineering Division. The Engineering Division may require revisions to the project to comply with current regulations and standards as a condition of the permit extension.

3. Applicants may request permit extensions in one (1) year increments.

E. Project Completion. A Stormwater Management Certificate of Compliance (SMCC) is required for completion of all Minor and Major Stormwater Management Permits. Upon request by the permittee and following review and approval that all work of the permit has been satisfactorily completed in

conformance with the Stormwater Management Ordinance and Permit, the Engineering Division will issue a Stormwater Management Certificate of Compliance. (See Section 10 for details.)

SECTION 8: PRE-CONSTRUCTION NOTICE and CONSTRUCTION INSPECTIONS

A. Pre-Construction Meetings and Site Inspections.

1. Pre-Construction Meeting: Once a permit has been approved, the Engineering Division may require a pre-construction meeting prior to starting any clearing, excavation, construction, or land-disturbing activity by the Applicant. The Applicant's technical representative, the general contractor, or any other person with authority to make changes to the project, shall meet with the Engineering Division or its representative to review construction sequencing and the permitted plans and their implementation.

2. Notice of Construction Commencement: The Applicant must notify the Engineering Division City Engineer two (2) business days prior to the commencement of any construction or land disturbance activities. In addition, the Applicant must notify the assigned Engineering Division inspector two business (2) days prior to construction of any stormwater management structural Best Management Practices (BMPs).

3. Initial Site Inspection: An inspection may be made of erosion and sedimentation controls prior to any land-disturbance to assess overall effectiveness and functioning to protect resources

B. Construction-Period Inspections**.**

1. Upon issuance of any Stormwater Management Permit, and until issuance of a SMCC, representatives from the Engineering Division and their designees shall be granted the right to enter the property at reasonable times and in a reasonable manner for the purpose of inspection.

2. The Engineering Division may, at a minimum, inspect the project site at the following stages:

   a) Prior to any vegetation clearing and upon installation of all soil erosion and sediment control measures. Periodic inspections will be made thereafter to ensure the durability and function of these measures.

   b) Stormwater Management System Excavation Inspection: The Engineer of Record shall inspect the excavation of the stormwater management system(s) to ensure adequate separation of the stormwater system from ground water. This is required for Major Stormwater Permits and highly encouraged for Minor Stormwater Permits.

   c) Stormwater Management System Inspection: An inspection will be made prior to backfilling of any underground drainage or stormwater conveyance structures and management.

   d) The City Engineer may require the submission of periodic inspections and reporting by the Applicant as dictated by site conditions. Inspections must be completed by qualified persons approved by the Engineering Division.

C. Post-Construction Inspection. The Engineering Division shall inspect the site and all stormwater infrastructure / BMPs to confirm its "as-built" features and full compliance with all approved plans and permit conditions, including final site stabilization.

SECTION 8: STANDARD CONDITIONS

A. A copy of the approved and signed plans and permits shall always be kept on the construction site.

B. Notes indicating the required inspections must appear on the final approved Site Plan(s).

C. Post-Construction Annual Reporting on O&M of Stormwater Management System for Major Stormwater Permits only. Annual stormwater management systems inspection reports shall be submitted to the Engineering Division by January 15th of the following year. Inspection reports *including photographs or videos* (as appropriate) for stormwater management systems shall include:

1. The date of inspection.
2. Name of inspector.
3. The condition of each BMP including components such as:
    a) Pretreatment devices.
    b) Vegetation or filter media.
    c) Spillways, valves, or other control structures.
    d) Embankments and slopes.
    e) Inlet and outlet channels and structures.
    f) Underground drainage.
    g) Sediment and debris accumulation in storage and forebay areas (including catch basins).
    h) Any nonstructural practices.
    i) Any other item that could affect the proper function of the stormwater management system.
4. Description of the need for maintenance.
5. Observations of any physical changes to system in comparison with the approved as-built plan.

SECTION 9: STORMWATER MANAGEMENT CERTIFICATE OF COMPLIANCE (SMCC)

A. Upon completion of the work done under any minor or major stormwater management activity, the permittee shall request a final inspection and submit the following: Note: Land disturbance only permits do not require a certificate of compliance.

The permittee shall submit:

1. A written request for a Stormwater Management Certificate of Compliance from the Engineering Division.
2. As-built plans detailing all aspects of the construction project including the stormwater management systems, structures, and devices, as installed. As-built plans shall be stamped by a Registered Professional Engineer.
3. A letter from the Engineer of Record indicating that the constructed facility(s) have been constructed in accordance with, and meet the requirements of, the Stormwater Management

Permit, including compliance with performance standards for Best Management Practices (BMPs) as noted in manufacturer's literature and/or EPA's performance curves in the NPDES Small MS4 Permit.

4. Proof of recording the Operations and Maintenance Plan at the South Middlesex Registry of Deeds.

B. After receipt of a written request for a Stormwater Management Certificate of Compliance, as-built plans, and a letter from the Engineer of Record, the Engineering Division shall inspect the stormwater management system to confirm its "as-built" features, determine if the site has been stabilized and determine whether to issue a Stormwater Management Certificate of Compliance.

1. The Engineering Division shall issue a Stormwater Management Certificate of Compliance upon finding that the permit and all its conditions have been complied with.

2. The Engineering Division shall not issue a Stormwater Management Certificate of Compliance upon physical evidence of operational failure, even though it was built as called for the Engineering Plans. In such a case, the Engineering Division shall have the right to require corrections or improvements to the "as-built" system before issuing a Stormwater Management Certificate of Compliance.

SECTION 10: SECURITY

A. As part of any Minor or Major Stormwater Management Permit issued, in addition to any security required by another municipal or state board, agency or official, the Engineering Division may require that the performance and observance of the conditions imposed hereunder be secured wholly or in part by a proper bond or deposit of money or negotiable securities or the undertaking of financial responsibility sufficient in the opinion of the Engineering Division, to be released in whole or in part upon issuance of a SMCC for work performed pursuant to the Permit.

SECTION 12: SEVERABILITY

The invalidity of any section, provision, paragraph, sentence, or clause of these Rules and Regulations shall not invalidate any other section, provision, paragraph, sentence, or clause thereof, nor shall it invalidate any permit or determination that previously has been issued.

END OF NEWTON'S STORMWATER MANAGEMENT ORDINANCE RULES AND REGULATIONS

APPENDICES FOLLOW

APPENDIX A: DEFINITIONS

For the purposes of these rules and regulations, which supplement the ordinance, the following words and phrases shall have the meanings respectively ascribed to them by this section:

Abutter: Any property owner whose land directly abuts the land upon which work is being proposed.

Applicant*:* Any "person", as defined in the ordinance, who has filed an application for a Stormwater Management and Erosion Control Permit.

Engineer of Record*:* The registered professional civil engineer (P.E.) who seals/stamps drawings, reports, or documents for a project on behalf of the owner/developer. The seal/stamp shall acknowledge that the professional engineer prepared, coordinated, or had subordinates prepare under the direct supervision of the professional engineer, drawings, reports, or documents for a project, all in accordance with the standards of the civil engineering profession.

Estimated seasonal high groundwater**:** The shallowest depth to free groundwater that stands in an unlined borehole or test pit.

Erosion and sediment control*:* The prevention or reduction of the movement of soil particles or rock fragments.

Existing lawn*:* Grass area which has been maintained and mowed in the previous two years.

Fill*:* The placement or deposit of any material that raises, either temporarily or permanently, the elevation of any area subject to the Ordinance, and rules and regulations.

Flooding*:* A local and temporary inundation or a rise in the surface of a body of water, such that it covers land not usually under water.

General construction detail book: The latest version of general construction details promulgated by the City of Newton's Department of Public Works, which is available from the Engineering Division.

Groundwater*:* All water beneath any land surface including water in the soil and bedrock beneath water bodies.

Hooded catch basin*:* A catch basin that is fitted with an inverted elbow over its outlet pipe or similar structure that is designed to retain oils and other floatables (solids or liquids) within the catch basin sump and prevent them from flowing into the drainage system.

***New development**:* Any construction or disturbance of land that is currently in a natural vegetated state. New development also includes any disturbance beyond existing impervious and disturbed areas that is contiguous to redevelopment projects.

Pervious material: Soil Types that are listed as Class I, II and III soils as defined in 310 CMR 15.243 and 15.244 based upon the general soil classification used by the U.S. Department of Agriculture and depicted in the Soil Textural Triangle.

Point source: Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, or container from which pollutants are or may be discharged.

***Redevelopment**:* Any construction, land alteration, demolition or improvement of impervious surfaces that does not meet the definition of new development. The following activity is excluded from this definition: Maintenance and improvement of existing roadways, including widening less than a single lane, adding shoulders, and correcting substandard intersections and drainage, repaving, and adding sidewalks and curbing.

Resource area: Any area protected under including without limitation: the Massachusetts Wetlands Protection Act, Massachusetts Rivers Act, or City of Newton General Wetlands Protection Ordinance.

***Sedimentation**:* A process of depositing material that has been suspended and transported in water.

***Slope**:* The incline of a ground surface expressed as a ratio of horizontal distance to vertical distance (*e.g.,* a 4h:1v slope). It can also be expressed as a percentage of the vertical rise divided by the horizontal distance (*e.g.,* a twenty-five (25) percent slope).

***Total phosphorus** (TP):* Phosphorus is a nutrient commonly contaminating stormwater, derived from the natural decay of plant material and human activities. Total phosphorus is a measure of all forms of phosphorus, dissolved and suspended particulate found in a sample.

***Total suspended solids** (TSS)*: Total Suspended Solids. Material, including but not limited to trash, debris, and sand suspended in stormwater runoff.

APPENDIX B: LOW IMPACT DEVELOPMENT PRACTICES

Low Impact Development (LID) strategies use careful site design and decentralized stormwater management to reduce the environmental footprint of new growth and redevelopment. This approach improves water quality, minimizes the need for expensive pipe and pond stormwater systems, and creates more attractive developments. The following are LID strategies and various benefits of implementation.

1. Bioretention cells, commonly known as rain gardens, are small-scale, landscaped depressions containing plants and a soil mixture that absorbs and filters runoff.

   Management Objectives:
   - Provide quality treatment.
   - Remove suspended solids, metals, nutrients.
   - Increase groundwater recharge through infiltration.
   - Reduce peak discharge rates and total runoff volume.

2. Permeable and porous pavements allow water to soak through the paved surface into the ground beneath. Permeable pavement encompasses a variety of mediums including porous concrete and asphalt, plastic grid systems and interlocking paving bricks.

   Management Objectives:
   - Reduce stormwater runoff volume from paved surfaces.
   - Reduce peak discharge through infiltration.
   - Reduce pollutant transport through direct infiltration.
   - Improve site landscaping benefits (grass pavers).

3. Grass swales are broad, open channels sown with erosion resistant and flood tolerant grasses.

   Management Objectives:
   - Provide water quality treatment; remove suspended solids; heavy metals, trash.
   - Reduce peak discharge rate and total runoff volume.
   - Infiltrate water into the ground.
   - Provide a location for snow storage.

4. Infiltration Trenches and Dry Wells These are standard stormwater management structures that store water in the void space between crushed stone or gravel; the water slowly percolates downward into the subsoil.

   Management Objectives:
   - Remove suspended solids, heavy metals trash, oil, and grease.
   - Reduce peak discharge rate and total runoff volume.
   - Provide modest infiltration and recharge.
   - Provide snow storage areas.

5. Grass Filter Strips are low-angle vegetated slopes designed to treat sheet flow runoff from adjacent impervious areas.

   Management Objectives:
   - Remove suspended solids, heavy metals, trash, oil, and grease.

Reduce peak discharge rate and total runoff volume.
Provide modest infiltration and recharge.
Provide snow storage areas.

6. Roadway and Parking Lot Design:

   Management Objectives:
   Remove suspended solids, heavy metals trash, oil, and grease.
   Reduce peak discharge rate and total runoff volume.
   Provide modest infiltration and recharge.
   Provide snow storage areas.

7. Cisterns and rain barrels harvest and store rainwater collected from roofs [Note: not to be used as part of measures to meet minimum recharge volumes]:

   Management Objectives:
   Storing and diverting runoff.
   Reduce flooding and erosion caused by stormwater runoff.
   They contain no salts or sediment which provides "soft" chemical-free water for garden or lawn irrigation, reducing water bills and conserving municipal water supplies.

8. Other LID Implementations:

   Shared Driveways
   Green Roofs
   Blue Roofs
   Tree box filters
   Eliminating curbs and gutters or minimizing in new construction.
   Soil Amendments.
   Creating long flow paths over landscaped areas.
   Creating terraces and check dams.
   Pervious pavers.
   Infiltration, Filtration
   - Rain gardens.
   - Disconnected downspouts (not on hills).
   - Filter Mitts.

9. Low Impact Landscaping:

   Native, drought tolerant species.
   Turf area conversion (shrubs, etc.).
   Encouraging longer grass length.
   Planting wildflower meadows rather than turf along medians.

Conservation Development

Like LID, Conservation Development tries to mitigate the effects of urbanization, but it places additional emphasis on protecting aquatic habitat and other natural resources. Conservation Development subdivisions are characterized by compact clustered lots surrounding a common open space.

Conservation Development's goal is to disturb as little land area as possible while simultaneously allowing for the maximum number of residences permitted under zoning laws.

Prior to new construction, conservation developers evaluate natural topography, natural drainage patterns, soils, and vegetation. They deploy stormwater Best Management Practices to help prevent flooding and protect natural hydrology. By maintaining natural hydrological processes, Conservation Development creates conditions that slow, absorb, and filter stormwater runoff onsite.

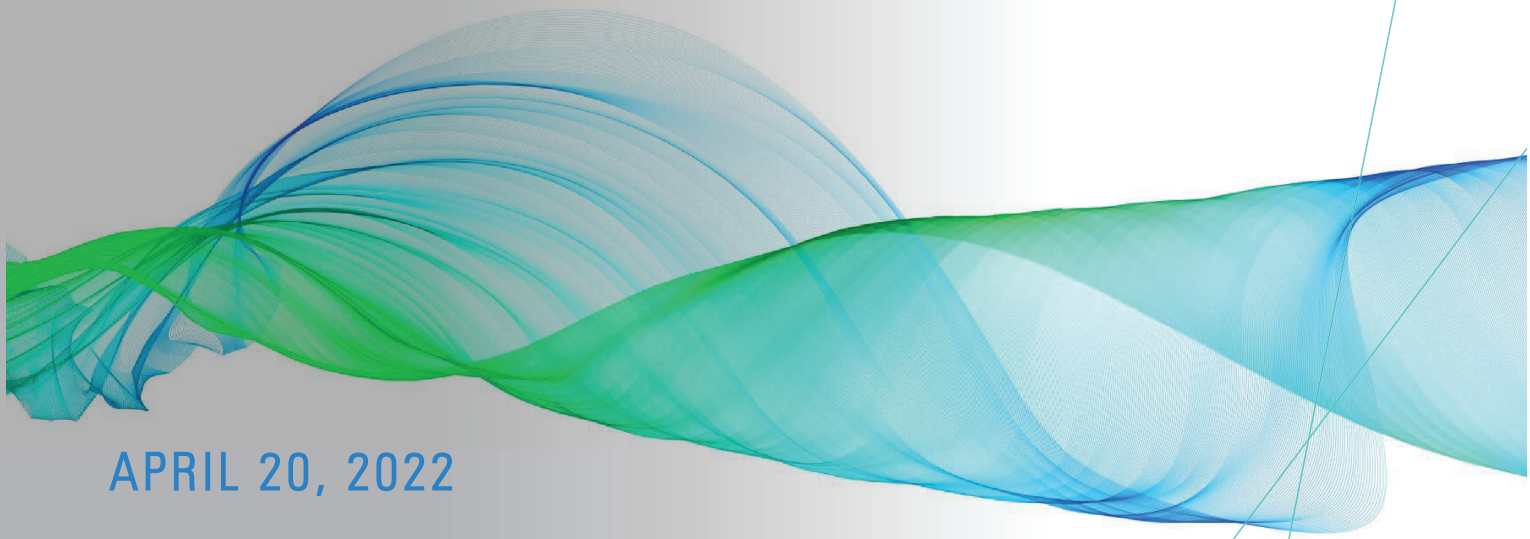
Because future development threatens valuable natural features, Conservation Development provides specific provisions for long-term and permanent resource protection. Conservation easements, transfer of development rights, and other "in perpetuity" mechanisms ensure that protective measures are more than just temporary.

Effective Site Design

The goals of Effective (or Better) Site Design are to reduce impervious cover, preserve natural lands, and capture stormwater onsite. To meet these goals, designers employ a variety of methods. To reduce impervious cover, they narrow streets and sidewalks, minimize cul-de-sacs, tighten parking spaces, and reduce the size of driveways and housing lots.

To reduce stormwater runoff, designers preserve natural lands, using them as buffer zones along streams, wetlands, and steep slopes. They employ landscaping techniques that flatten slopes and preserve native vegetation and clusters of trees. They create bio-retention areas - open channels, filter strips and vegetated swales - to increase stormwater infiltration, helping to protect streams, lakes, and wetlands.

STORMWATER ORDINANCE PRESENTATION



APRIL 20, 2022

ORDINANCE PURPOSE

Comply	Comply with Newton's MS4 Permit
Establish	Establish Stormwater Management Rules and Regulations
Support	Support phosphorus load reduction target
Protect	Protect, maintain and enhance public safety, and environmental health, by reducing the volume of stormwater runoff
Codify	Codify existing stormwater management policy requirements
Ensure	Ensure that new development and redevelopment control and treat runoff before it leaves private property

OBJECTIVES

1

Minimize the discharge of pollutants in stormwater runoff from new and redeveloped sites through infiltration, retention and/or treatment using Best Management Practices per the MS4 Permit.

2

Minimize or eliminate soil erosion & maintain sediment on site so that it is not transported via stormwater runoff into our drainage system, streams or the Charles River.

3

Reduce / mitigate the volume of stormwater runoff associated with new impervious surfaces (i.e., buildings, parking lots, driveways, etc.)

4

Implement Low Impact Development strategies.

PROJECTS REQUIRING STORMWATER MANAGEMENT

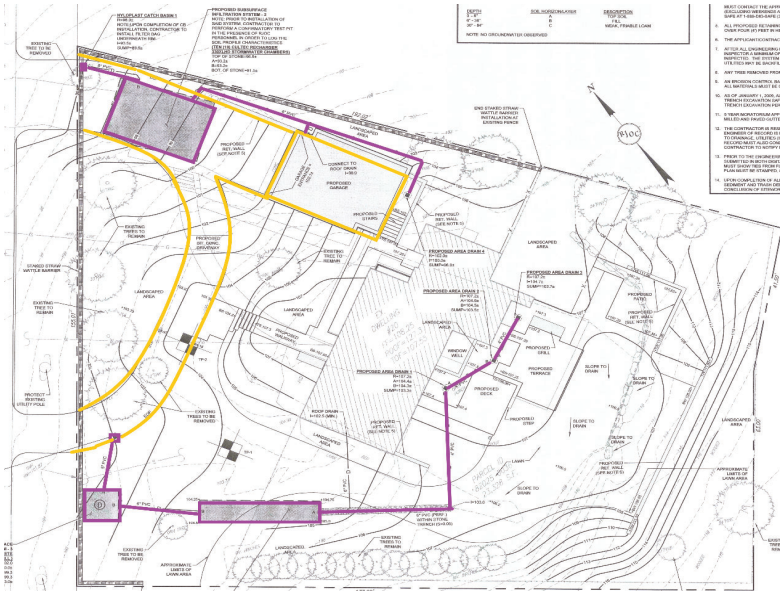
- Land Disturbance Only
  - Provide a Site Plan showing existing and proposed topography, trees to be cut / planted, all land features
  - show proposed erosion control measures
- Minor Stormwater Project
  - Existing and proposed site plans
  - Erosion & Sediment Control Plan
  - Stormwater Management Report
    - Document existing & proposed impervious surfaces
    - Calculations to demonstrate - 2" stormwater runoff from net increase is managed on-site
  - Incorporate Low Impact Development, unless proven infeasible
  - Develop an Operations & Maintenance Plan and record it at the Registry of Deeds

PROJECTS REQUIRING STORMWATER MANAGEMENT (CONTINUED)

- **Major Stormwater Project**
  - Existing and proposed site plans
  - Erosion & Sediment Control Plan
  - Stormwater Management Report
    - Document existing & proposed impervious surfaces
    - Retain / infiltrate 2" stormwater runoff from **all impervious areas**
    - Remove Phosphorus: 50 to 60%
    - Capture sediment (TSS): 80 to 90%
    - Demonstrate compliance with the MA Stormwater Handbook
  - Incorporate Low Impact Development, unless proven infeasible
  - Attempt to reproduce natural hydrologic conditions
  - Develop and Record at the Registry an Operations & Maintenance Plan

Minor Stormwater Permit Example

New garage, reconfigure driveway & landscaping: 620 SF of new impervious area proposed.
Stormwater Management includes: two catch basins, two area drains and stormwater infiltration.



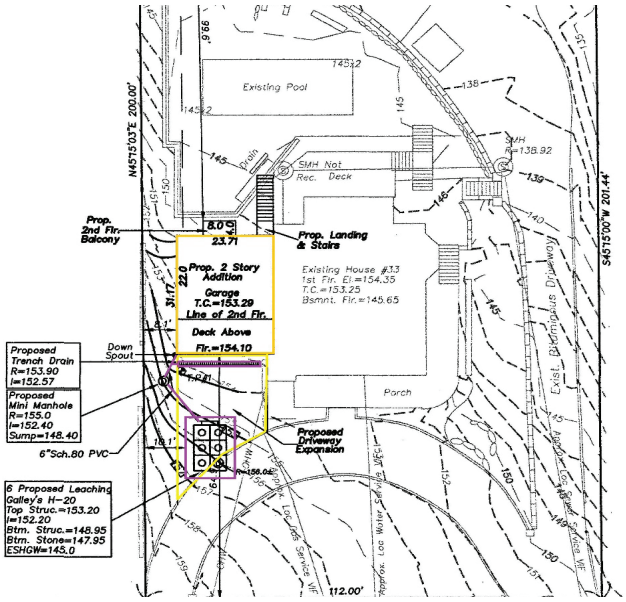
Existing Review Process
• Survey & Existing Conditions Plan
• Soil Test(s)
• Drainage Design & SWM Report
• Proposed Site Plan
• As-built Plan
Survey & Design = $10,000
Construction = $ 9,000 - $12,000
Total Estimate = $19,000 - $22,000

Proposed Permit Process
• Permit Application Fee $100
• Survey & Existing Conditions Plan
• Soil Test(s)
• Drainage Design & SWM Report
• Proposed Site Plan
• As-built plan
• O&M Plan $500 - $800
• Record O&M Plan $200 - $300
Survey & Design = $10,800 - $11,200
Construction = $ 9,000 - $12,000
Total Estimate = $19,800 - $23,200
Net increase = $ 800 - $ 1,200 (5 – 6%)

Major Stormwater Permit Example

Two-story addition and driveway expansion resulting in 1,334 SF new impervious area

Stormwater Management includes: a trench drain, 1 mini-manhole and 6 infiltration galleys.



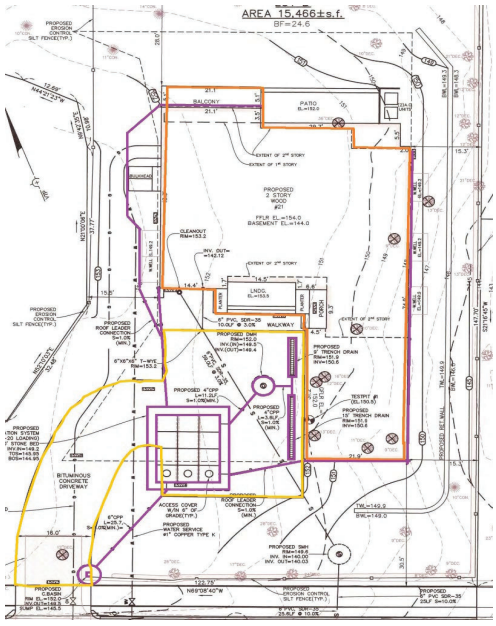
Existing Review Process
• Survey & Existing Conditions Plan
• Soil Test(s)
• Drainage Design & SWM Report
• Proposed Site Plan
• As-built Plan
Survey & Design = $ 7,000 - $9,000
Construction = $ 12,000 - $15,000
Total Estimate = $ 19,000 – $24,000

Proposed Permit Process
• Permit Application Fee $300
• Survey & Existing Conditions Plan
• Soil Test(s)
• Drainage & SWM Report Add $1200
• Proposed Site Plan
• As-built plan
• O&M Plan $500 - $800
• Record O&M Plan $200 - $300
Survey & Design = $ 9,200 - $11,600
Construction = $ 12,000 - $15,000
Total Estimated = $ 21,200 - $26,600
Net increase = $ 2,200 - $2,600 or 10 - 12%

Major Stormwater Permit Example

New single-family house on an unimproved lot. Total Impervious Area = 5,776 SF

Stormwater Management includes: one catch basin, one manhole, trench drains and 12 infiltration galleys.



Existing Review Process
• Survey & Existing Conditions Plan
• Soil Test(s)
• Drainage Design & SWM Report
• Proposed Site Plan
• As-built Plan
Survey & Design = $ 7,000 - $ 9,000
Construction = $ 24,000 - $30,000
Total Estimate = $ 31,000 - $39,000

Proposed Permit Process
• Permit Application Fee $300
• Survey & Existing Conditions Plan
• Soil Test(s)
• Drainage Design & SWM Report* Add $1500
• Proposed Site Plan
• As-built plan
• O&M Plan $500 - $800
• Record O&M Plan $200 - $400
Survey & Design = $9,500 - $12,000
Construction = $ 24,000 - $30,000
Total Estimate = $ 33,500 - $42,000
Net increase = $ 2,500 - $3,000 or 8%

PERMITTING BENEFITS

- Track projects for compliance, MS4 Annual reports & workflow using NewGov Permit Software
- Formalize standards for plan reviews, construction period inspections and project close-out requirements
- Establish a fee for review of stormwater projects
    - Land Disturbance Permit Fee = $50
    - Minor Stormwater Permit Fee = $100
    - Major Stormwater Permit Fee = $300 (1-4 family property); $1,000 for all others
- Establish enforcement procedures

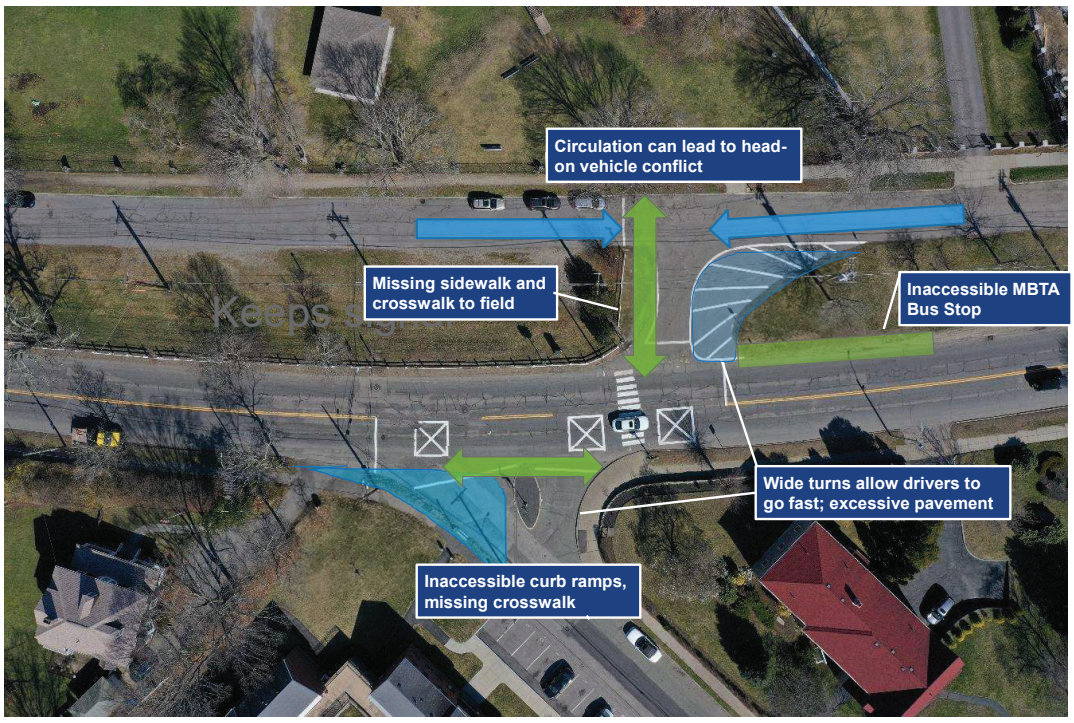
QUESTIONS AND ANSWERS

Newton Carriageway / Commonwealth Avenue (Route 30) Reconstruction Project

Nicole Freedman
Director of Transportation Planning
City of Newton

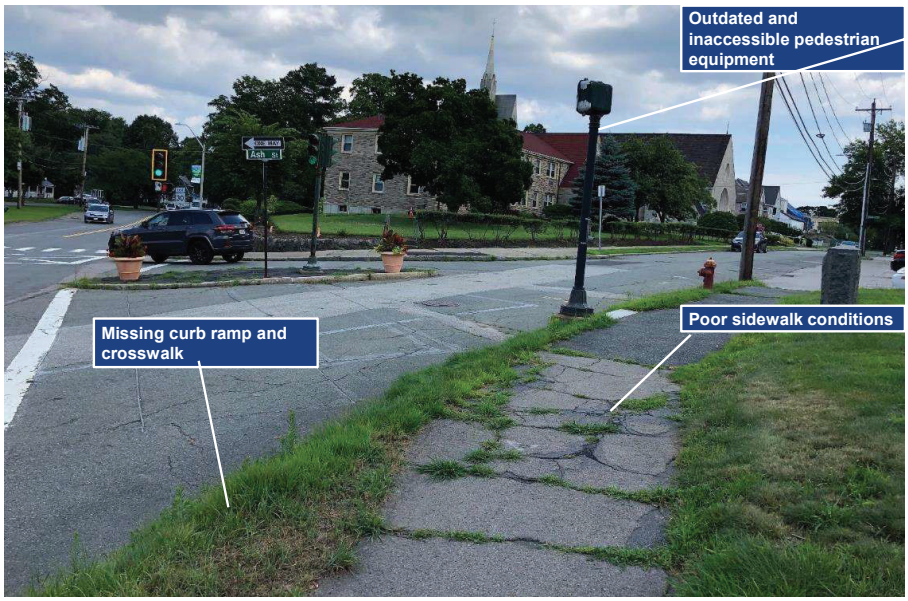
April 20, 2022

Existing Issues: Ash Street



Existing Issues: Ash Street

- *Complete Streets Accommodations:* Lack of bicycle facilities and lack of accessible pedestrian accommodations

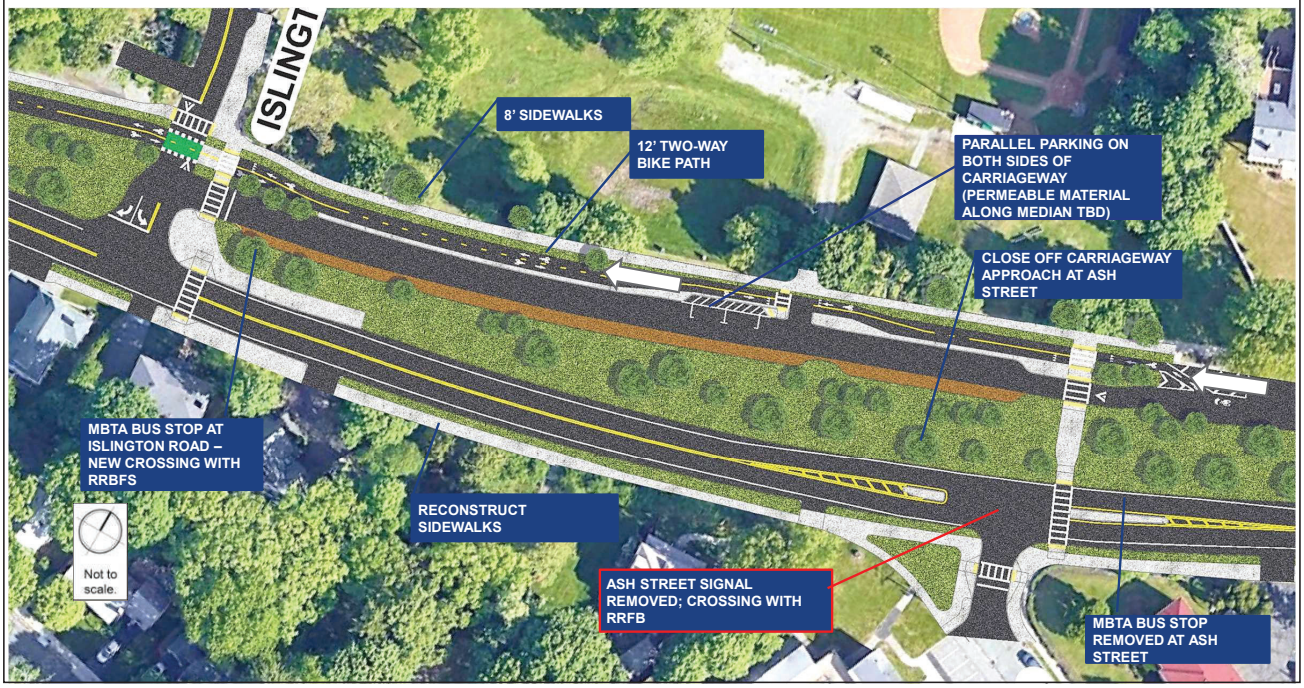


Ash Street Signal

We cannot reconstruct any part of Ash Street and keep the signal

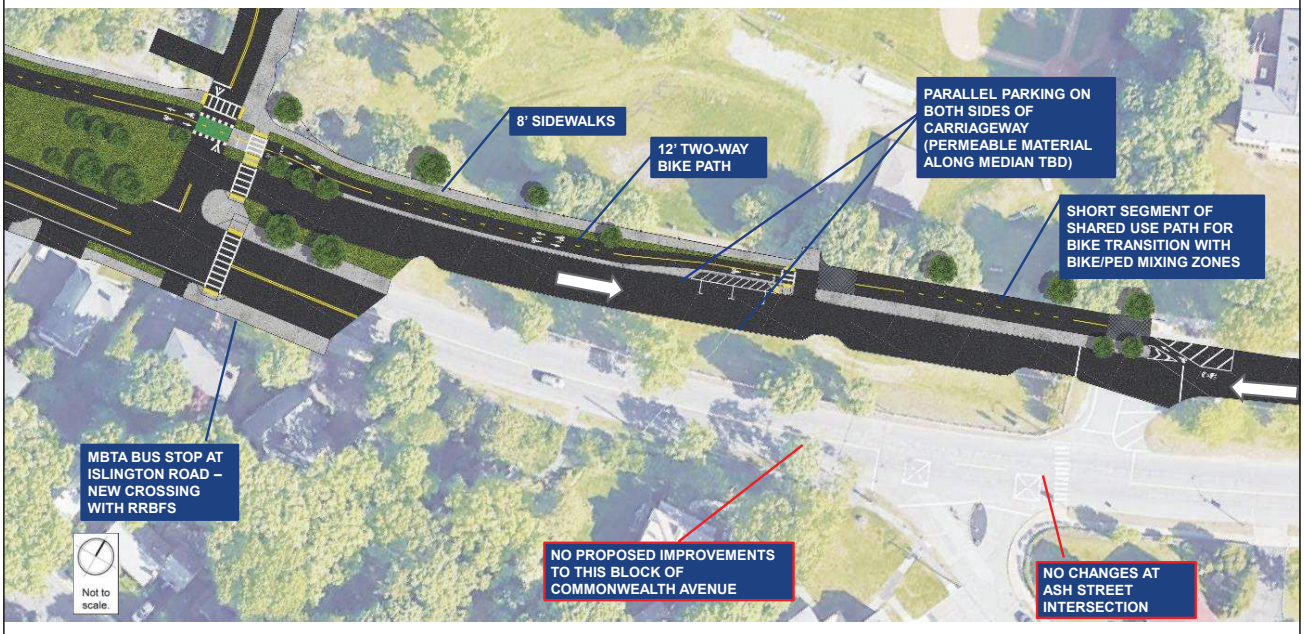
Islington Road to Ash Street – Preferred Design (with Ash)

No change since 4/6/22 public hearing. Removes signal. Upgrades Ash.



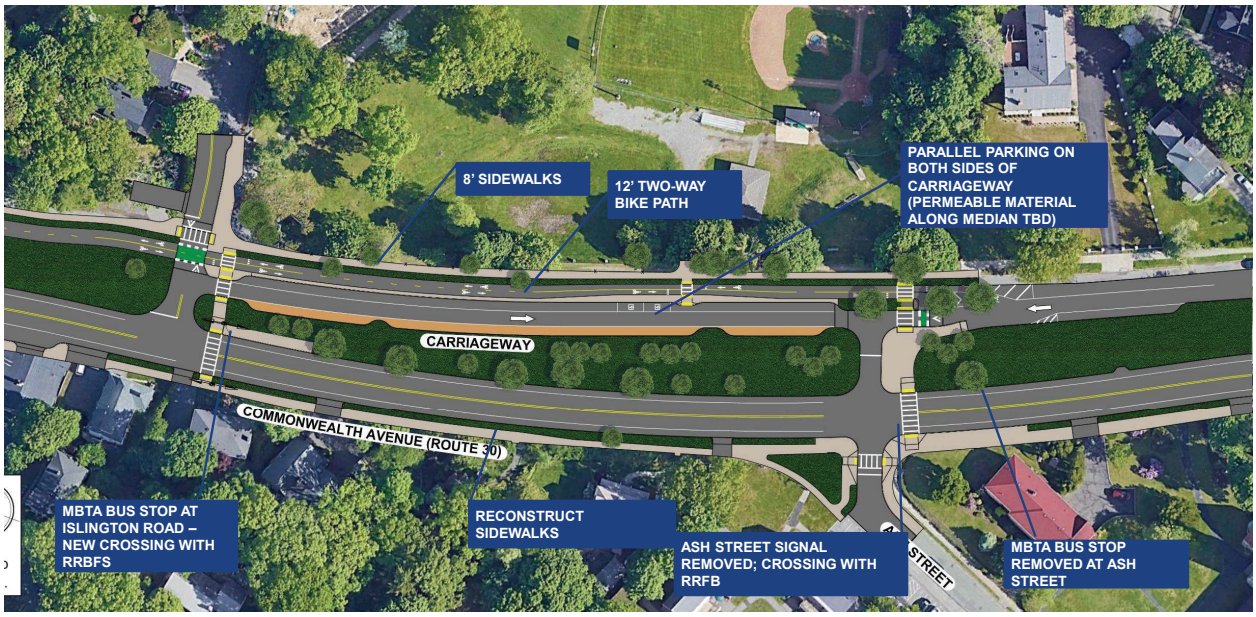
Islington Road to Ash Street – Alt Design (w/out Ash).

No change since 4/6/22 public hearing. Keeps signal. No Ash upgrades.



Islington Road to Ash Street – "Option 3" (with Ash)

New since 4/6. Removes signal. Upgrades Ash. "Signal-ready"



Preferred Design (With Ash), from 4/6
Upgrades Ash
Removes signal
Closes intersection

Alt Design (Without Ash), from 4/6
No Ash upgrades
Keeps signal

"Option 3"(With Ash), NEW since 4/6
Upgrades Ash
Removes signal
Keep intersection – "signal-ready"

Islington Road Average Delay at AM Peak Hour

Intersection/ Movement	No Build Conditions (Signal)	Preferred Design (Upgrade Ash. No Signal)	Alternative (Keep signal. No Ash Upgrades)	"Option 3" – (Upgrade Ash. No Signal but Signal-ready
	Average Delay (Seconds)			
Commonwealth Avenue/ Islington Road				
Islington SB left	66	153	50	75
Islington SB right		18		
Commonwealth Avenue/ Ash Street				
Ash NB left/right	36	72	36	126
Carriageway SB left/right	34	-	34	113

Islington Road Average Delay at PM Peak Hour

Intersection/ Movement	No Build Conditions (Signal)	Preferred Design (Upgrade Ash. No Signal)	Alternative (Keep signal. No Ash Upgrades)	"Option 3" – (Upgrade Ash. No Signal but Signal-ready
	Average Delay (Seconds)			
Commonwealth Avenue/ Islington Road				
Islington SB left	42	64	35	46
Islington SB right		18		
Commonwealth Avenue/ Ash Street				
Ash NB left/right	48	45	48	66
Carriageway SB left/right	45	-	45	48

Question: Why can't we upgrade Ash St and add a signal? Can the City install the signal later?

The project is funded by MassDOT. MassDOT law does not allow installation of a signal that does not meet traffic warrants.

If we reconstruct Ash, per MassDOT rules, we will need MassDOT approval for future installation of a signal.

If the City reconstructs Ash separate from this project, the City would not recommend the installation of a traffic signal at at Ash Street because it does not meet signal warrants.

Question: Can the City allow eastbound travel on the Carriageway from Islington to Melrose?

We reviewed this option. The Melrose signal currently operates with significant delay. The addition of vehicles from Islington and Ash with rerouting will increase delay from ~60 seconds to ~120 seconds at Melrose southbound.

Question: Can the City install a roundabout at Islington?

We are continuing to review this option and will present more at our meeting.

Question: Can we add more traffic calming to Commonwealth Avenue

We are looking into what additional traffic calming will be possible.

Question: Did the pandemic influence the traffic data?

Traffic data was taken twice. The first collection occurred before Covid (February 25-27), nearly 2 weeks before the State of Emergency was declared, and before school was closed in Newton.

A second set of data was taken in June 2021. We worked closely with Parks & Rec to ensure that traffic count data was collected during a time that Lyons Field was being heavily used.

Question: Can we add more parking spaces for the dog park

We are looking at adding up to 5 parking spaces near Woodbine on Comm Ave for combined use of the existing park and any future dog park, plus the businesses/ residences on Woodbine. To make a final determination, we are doing a parking study.

Anticipated Project Timeline