

ADDENDUM NO. 1

DATED

JULY 24, 2020

NATICK, MASSACHUSETTS
BOARD OF SELECTMEN

CONTRACT NO. S-162

3 YEAR SEWER REHABILITATION PROJECT

TO ALL BIDDERS OF RECORD:

This Addendum shall be part of the Contract Documents as provided in the Instructions to Bidders of Contract No. S-162. Acknowledgment of receipt of the Addendum shall be made by inserting its number on Page 00300-1 of the Bid Form. Failure to do so may subject the bidder to disqualification.

All available CCTV inspection reports and SMH inspection reports for the Known work items are available for review from the Engineer. Requests to access the inspection information should be in writing to aford@cesincusa.com. Per Paragraph 9 of the Instructions to Bidders (Section 00100), all such information is furnished only for the information and convenience of Bidders and is not guaranteed.

TABLE OF CONTENTS/APPENDIX

INSERT "Sewer Flow Data" at the end of the Appendix contents list, and **INSERT** the attached section entitled "Sewer Flow Data" (9 pages total) at the end of the Appendix.

TABLE OF CONTENTS/APPENDIX

INSERT "Table 4 - Point Repairs and Replacement Scope of Work" following "Table 3" in the Appendix contents list, and **INSERT** the attached Table 4 (1 page) after Table 3 in the Appendix.

Section 00300 – Bid, page 00300-9

In Item 29, Rehabilitation of Manhole, Known and Unknown Work, **DELETE** "and Unknown"

Section 00300 – Bid, page 00300-12

In Item 42, Remove and Replace Existing Sewer (8-Inch Through 12-Inch; 0-8 Feet Deep) Beyond 10 Linear Feet, **DELETE** the estimated quantity of "200" and **INSERT** "600" in its place.

Section 00300 – Bid, page 00300-15

DELETE Item 56 and **INSERT** the following:

56. For Police Details, the Fixed Lump Sum price of

Seventy-five Thousand Dollars = \$ 75,000.00
(Fixed Lump Sum Price in Words)

Section 00300 – Bid, page 00300-15

INSERT the following after Item 58:

59. For Grinding Protruding Service Connections the unit price of

(Unit Price in Words)
150 EA. x \$ (Unit Price in Figures) = \$

DELETE page 00300-15 and **INSERT** the attached page 00300-15 in its place

01010 Scope of Work

DELETE Section 01010 in its entirety and **INSERT** the attached Section 01010 in its place.

01025 Measurement and Payment, page 01025-21

INSERT the following after paragraph 1.42(B.)(1.):

2. Payment for Police Details on Rte 9 related work shall be paid under Item 56.

01025 Measurement and Payment, page 01025-22

INSERT the following after paragraph 1.43(B.)(1.):

1.44 GRINDING PROTRUDING SERVICE CONNECTIONS (Item 59)

A. Measurement

1. Measurement for grinding protruding service connections shall be per each, based on the actual number of protruding service connections ground down where required for mainline and lateral CIPP liner installations.

B. Payment

1. Payment for grinding protruding service connections shall be at the unit price bid per each under Item No. 59. This price shall be full compensation for locating and grinding down protruding service connections with traditional rotary cutters or lateral reinstatement cutters if necessary, and all

- labor, materials, tools and equipment necessary for a first class installation as specified herein or reasonably implied.
2. Only services protruding 1/2-inch or more into the mainline will qualify for payment under this item.
 3. All costs related to disposal of cleaning debris shall be paid for under Bid Item No. 7.

02774 Cured-in-Place Lateral Rehabilitation, page 02774-3

DELETE paragraph 2.1(B)(2) in its entirety and **INSERT** the following in its place:

2. The minimum length shall be 24 inches (2 feet) to effectively span the distance from the lateral connection at the main or to the desired termination location in the service lateral pipe, up to a maximum distance of 25 feet from the main. Lateral lining will be accomplished without a cleanout whenever possible. In the event a cleanout is required to complete the lining of the lateral, the Contractor shall notify the Engineer and a determination shall be made whether to install a cleanout or reduce the length of lining installed to the maximum possible without use of a cleanout. When required, an overlap method is performed with a pull-in-process installation from a cleanout or access point back to the main. In either case, the lateral liner must provide a watertight seal at the mainline and a structural repair of the lateral over the specified length. The Installer shall verify the lengths in the field before impregnation of the resin.

02763 Sewer Line Cleaning, page 02763-3

DELETE “the designated” from the first line of paragraph 3.4(A.) and **INSERT** “any” in its place.

02763 Sewer Line Cleaning, page 02763-3

INSERT the following new paragraph after paragraph 3.4:

3.5 CHAIN KNOCKING

- A. Excessive tuberculation in cast iron sewer mains shall be removed prior to further rehabilitation work. The Contractor shall provide mechanical cleaning equipment that is specifically designed and constructed for this purpose (chain-knockers). Appropriate spacers/spiders for the size pipe being cleaned shall be used to center the chain knocking equipment within the pipe.
- B. The Engineer shall be present when any chain-knocking work is completed.

APPENDIX – Scope of Work Tables

In the Table entitled “Manhole Rehabilitation Scope of Work (Inflow Removal Related)”,
DELETE the title “Table 3” and **INSERT** the title “Table 2” in its place.

APPENDIX – Sewer Basin Maps for Rehabilitation

DELETE all Basin Maps and **INSERT** the attached set of revised Basin Maps (20 pages total)

APPENDIX – Natick Sewer Record Drawings

INSERT the attached set of Town Sewer Record Drawings following the Sewer Basin Maps (14 pages total)

ITEM
NO.

DESCRIPTION

AMOUNT

56. For Police Details , the Fixed Lump Sum price of

Seventy-five Thousand Dollars = \$ 75,000.00
(Fixed Lump Sum Price in Words)

57. For Traffic Management (Rte. 9 related work), the Lump Sum price of

_____ = \$ _____
(Lump Sum Price in Words)

58. For Sewer Bypass System for Lining of MH Segment 4-7 to 4-6, the Lump Sum price of

_____ = \$ _____
(Lump Sum price in Words)

59. For Grinding Protruding Service Connections the unit price of

$$\frac{\text{(Unit Price in Words)}}{\text{(Unit Price in Words)}} = \$$$

Per each for an estimated quantity of

$$150 \text{ EA.} \times \$ \frac{\quad}{(\text{Unit Price in Figures})} = \$ \quad$$

TOTAL BASE BID PRICE FOR BID COMPARISON = \$

(Bid Price in Words)

An unbalanced or unreasonable lump sum price submitted herein may be grounds for rejection of the Bid.

Specific items of this Contract may be eliminated or reduced in quantity to keep within limits of available funding, at the OWNER'S option.

STATEMENT OF EXPERIENCE: The undersigned as Bidder declares that he has successfully accomplished similar sewer rehabilitation work in the following places:

1. Description of Project _____
(Include type of project, total value of Contract, date of
completion, etc.)

Owner & Contact Person _____
(Names, Addresses and Telephone Nos.)

SECTION 01010

SUMMARY OF THE WORK

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included:

1. The “Known” Work of this Contract will be as shown on the drawings, identified in the appendix and outlined in the specifications and will be authorized by the OWNER based on available funds. Work areas will be located throughout the Town of Natick, Massachusetts on Town property and easements.
2. The “Unknown” Work of this Contract will be as authorized by the OWNER. “Unknown” Work is any work authorized by the OWNER that is not included on the Contract Drawings or in the appendix section of the Contract Documents.
3. The sewer main rehabilitation work (Table 3 in the Appendix) shall include, but not necessarily be limited to providing all labor, materials, equipment and incidentals required to provide the following:
 - a. Relining of gravity sewer mains with a cured-in-place (CIPP) liner.
 - b. Service lateral CIPP lining.
 - c. Service chimney CIPP lining.
 - d. CIPP lining point repairs.
 - e. Test and seal of pipe line joints.
 - f. Testing and sealing of service laterals.
 - g. Pre- and post-rehabilitation cleaning and CCTV inspection of sewer main segments and service laterals to be rehabilitated, whether by CIPP lining, test and sealing, or replacement through excavation.
 - h. All costs shall be included in the various rehabilitation pay items, with the exception of heavy cleaning or chain-knocking, if required.
 - i. Pre-CCTV inspections indicating conditions requiring a change in the scope of work on that segment shall be brought to the attention of the Engineer for determination of appropriate rehabilitation work.
 - j. Root treatment beyond hydraulic and mechanical cleaning efforts described in Section 02763, if necessary, will be considered an extra cost, and must be approved by the OWNER.
 - k. Additional sewer lining cleaning and CCTV inspection where authorized by the OWNER (investigative work).
 1. Pre-rehabilitation mainline cleaning and CCTV inspection completed under paragraph 3.g. above, where the rehabilitation cannot be completed shall be paid for under this item.

- m. Successful Bidder shall provide wastewater by-pass pumping around main line segments to be rehabilitated, if pipe size and flows require such.
 - n. Successful Bidder shall provide wastewater by-pass pumping for all high use services during lining process. All costs for by-passing high use services shall be submitted for approval as an extra cost.
 - o. Successful Bidder shall be required to clean and televise all lines prior to relining, make all required measurements, confirm location of all active services, by-pass pumping of all mains requiring relining and preparing pre and post lining video and written logs.
 - p. Furnishing and utilizing all confined space entry equipment required by State and Federal laws and legal bylaws.
 - q. Successful Bidder shall also prepare pre and post video logs in DVD format capable of viewing on free software.
 - r. Successful Bidder shall conduct one (1) year warrantee internal television inspections as required within these Specifications. Any defects identified shall be repaired at the Successful Bidder's expense. Defects include, but are not limited to, infiltration leaks and sagging liner.
4. The sewer main excavated point repairs and replacement work (Table 4 in the Appendix) shall include, but not necessarily be limited to providing all labor, materials, equipment and incidentals required to provide the following:
- a. Sewer point repairs (up to 10 LF length) at ± 7 known locations, varying in depth between 6 and 9 feet.
 - b. Sewer service chimney repairs at ± 11 known locations, varying in depth between 10 and 23 feet. Most locations may have a double-wye connection at the top of the chimney.
 - c. Sewer replacement (> 10 LF in length) at ± 5 known locations; total estimated length of 103 lf and maximum depth of 8 feet.
 - d. Installation of a new sewer manhole at the intersection of N. Main St and Mechanic St. (Sewer Basin 9). Mechanic St. sewer currently ties in with a T-connection.
 - e. Installation of two new sewer manholes and approximately 470 LF of 8-inch PVC sewer from SMH 11-322 on Westview Ave. to a point 167 ft. downstream of SMH 11-14, and reconnection of ± 6 service connections. Sewer depth is less than 8-ft.
5. The manhole rehabilitation work (Tables 1 and 2 in the Appendix) shall include, but not necessarily be limited to providing all labor, materials, equipment and incidentals required to provide the following where directed.
- a. Pressure wash all interior surfaces of manholes prior to rehabilitation work.
 - b. Rehabilitation of sewer manhole walls, tables and invert through injection grouting to seal active leaks, structural repairs and/or coating of the interior of the manhole.
 - c. Furnishing and Installing new manhole frames and covers.
 - d. Install manhole frame inserts for inflow removal.
 - e. Build/repair manhole bench and invert.
 - f. Repair corbel (both brick and pre-cast).

- g. Reset manhole frame and covers.
- h. Repair non-leaking manhole defects.
- i. Replace and/or repair brick and mortar.
- j. Redirection/bypass of wastewater flow in manhole to downstream manhole to facilitate rehabilitation work, when required.
- k. Furnishing and utilizing all confined space entry equipment required by State and Federal laws and legal bylaws.
- l. Preparation of repair report identifying leaks, estimated quantity of leak, and work and materials utilized in completing rehabilitation work.
- m. Successful Bidder shall conduct one (1) year warrantee inspection of completed rehabilitated manholes for defects. Any defects in the material used in the rehabilitation process identified shall be repaired at the Successful Bidder's expense. Defects include, but not limited to groundwater leaks through manhole walls and delaminating coatings.

B. Known Work Group Included:

- 1. The known work of this Contract is identified on the Contract Drawings and in the tables found in the appendix.
- 2. The appendix outlines the anticipated type of work associated with an asset.
 - a. "Repair non-leaking" means that a repair is anticipated to be made on that particular aspect of the manhole.
 - b. Repair leaking means that chemical injection AND a physical repair is anticipated on that particular aspect of the manhole.

C. Unknown Work Groups

- 1. Owner or Engineer will notify the Successful Bidder with a written authorization to complete a Work Group. Each Work Group could include any combination of sewer main lining, sewer main/service point repairs, sewer main investigative inspection, or manhole rehabilitation.

END OF SECTION

Summary Flow Report

Site:

3-3

57 Oak Street

Natick, MA

Sewer Flow Data
Addendum No. 1
Contract S-162



9.5" Circular Line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
3/26/2018 (Mon)				0.01	0.01	0.01
3/27/2018 (Tue)	0.039	0.415	0.136	0.00	0.00	0.00
3/28/2018 (Wed)	0.033	0.426	0.180	0.01	0.01	0.01
3/29/2018 (Thu)	0.027	0.440	0.167	0.02	0.02	0.01
3/30/2018 (Fri)	0.019	0.390	0.171	0.07	0.05	0.02
3/31/2018 (Sat)	0.021	0.452	0.182	0.00	0.00	0.00
4/1/2018 (Sun)	0.008	0.503	0.156	0.00	0.00	0.00
4/2/2018 (Mon)	0.019	0.431	0.146	0.14	0.14	0.02
4/3/2018 (Tue)	0.017	0.512	0.143	0.47	0.14	0.02
4/4/2018 (Wed)	0.022	0.348	0.133	0.21	0.11	0.02
4/5/2018 (Thu)	0.022	0.353	0.137	0.00	0.00	0.00
4/6/2018 (Fri)	0.019	0.361	0.147	0.29	0.07	0.01
4/7/2018 (Sat)	0.020	0.421	0.167	0.03	0.02	0.01
4/8/2018 (Sun)	0.020	0.384	0.165	0.00	0.00	0.00
4/9/2018 (Mon)	0.008	0.440	0.144	0.00	0.00	0.00
4/10/2018 (Tue)	0.011	0.326	0.123	0.00	0.00	0.00
4/11/2018 (Wed)	0.008	0.369	0.136	0.00	0.00	0.00
4/12/2018 (Thu)	0.011	0.384	0.134	0.07	0.07	0.01
4/13/2018 (Fri)	0.011	0.381	0.133	0.00	0.00	0.00
4/14/2018 (Sat)	0.007	0.504	0.129	0.00	0.00	0.00
4/15/2018 (Sun)	0.013	0.317	0.124	0.13	0.05	0.01
4/16/2018 (Mon)	0.008	0.454	0.180	1.84	0.37	0.07
4/17/2018 (Tue)	0.063	0.427	0.213	0.00	0.00	0.00
4/18/2018 (Wed)	0.048	0.381	0.176	0.00	0.00	0.00
4/19/2018 (Thu)	0.039	0.316	0.150	0.22	0.07	0.01
4/20/2018 (Fri)	0.033	0.402	0.163	0.00	0.00	0.00
4/21/2018 (Sat)	0.031	0.407	0.174	0.00	0.00	0.00
4/22/2018 (Sun)	0.027	0.432	0.164	0.00	0.00	0.00
4/23/2018 (Mon)	0.024	0.782	0.157	0.00	0.00	0.00
4/24/2018 (Tue)	0.022	0.387	0.136	0.00	0.00	0.00
4/25/2018 (Wed)	0.021	0.344	0.127	1.25	0.33	0.09
4/26/2018 (Thu)	0.053	0.411	0.170	0.04	0.02	0.01
4/27/2018 (Fri)	0.031	0.356	0.155	0.34	0.19	0.03
4/28/2018 (Sat)	0.033	0.360	0.162	0.00	0.00	0.00
4/29/2018 (Sun)	0.025	0.344	0.137	0.10	0.04	0.03
4/30/2018 (Mon)	0.022	0.317	0.124	0.12	0.04	0.02

Total for period

5.338

5.36

Min: 0.007

Avg: 0.153

Max: 0.782

Flow measured at SMH 3-3 at inlet to Oak St Pump Station. Oak St PS discharges into SMH 4-13 on Maine Ave., 1200' upstream of SMH 4-7. There are approximately 12 service connections between 4-13 and 4-7, including McDonalds and JoAnn Fabrics

Detailed flow meter data at 15 min. intervals is also available

Summary Flow Report

Site:

3-3

57 Oak Street

Natick, MA



9.5" Circular Line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
5/1/2018 (Tue)	0.020	0.370	0.136	0.00	0.00	0.00
5/2/2018 (Wed)	0.019	0.344	0.130	0.00	0.00	0.00
5/3/2018 (Thu)	0.016	0.414	0.127	0.01	0.01	0.01
5/4/2018 (Fri)	0.015	0.313	0.117	0.02	0.01	0.01
5/5/2018 (Sat)	0.012	0.366	0.130	0.00	0.00	0.00
5/6/2018 (Sun)	0.013	0.353	0.123	0.36	0.23	0.03
5/7/2018 (Mon)	0.012	0.306	0.119	0.00	0.00	0.00
5/8/2018 (Tue)	0.012	0.301	0.107	0.00	0.00	0.00
5/9/2018 (Wed)	0.004	0.413	0.103	0.00	0.00	0.00
5/10/2018 (Thu)	0.003	0.486	0.108	0.00	0.00	0.00
5/11/2018 (Fri)	0.003	0.514	0.110	0.00	0.00	0.00
5/12/2018 (Sat)	0.003	0.592	0.110	0.22	0.07	0.01
5/13/2018 (Sun)	0.004	0.489	0.120	0.00	0.00	0.00
5/14/2018 (Mon)	0.010	0.414	0.121	0.00	0.00	0.00
5/15/2018 (Tue)	0.006	0.310	0.093	0.83	0.60	0.29
5/16/2018 (Wed)	0.008	0.322	0.110	0.01	0.01	0.01
5/17/2018 (Thu)	0.012	0.388	0.107	0.00	0.00	0.00
5/18/2018 (Fri)	0.008	0.367	0.109	0.00	0.00	0.00
5/19/2018 (Sat)	0.008	0.364	0.100	0.19	0.04	0.01
5/20/2018 (Sun)	0.008	0.375	0.107	0.05	0.03	0.01
5/21/2018 (Mon)	0.007	0.389	0.119	0.00	0.00	0.00
5/22/2018 (Tue)	0.007	0.287	0.088	0.03	0.01	0.01
5/23/2018 (Wed)	0.006	0.384	0.119	0.10	0.10	0.02
5/24/2018 (Thu)	0.011	0.391	0.121	0.00	0.00	0.00
5/25/2018 (Fri)	0.005	0.321	0.108	0.00	0.00	0.00
5/26/2018 (Sat)	0.004	0.360	0.094	0.00	0.00	0.00
5/27/2018 (Sun)	0.004	0.265	0.081	0.08	0.03	0.01
5/28/2018 (Mon)	0.006	0.311	0.092	0.01	0.01	0.01
5/29/2018 (Tue)	0.006	0.316	0.111	0.00	0.00	0.00
5/30/2018 (Wed)	0.010	0.361	0.109	0.00	0.00	0.00
5/31/2018 (Thu)	0.005	0.318	0.103	0.00	0.00	0.00
Total for period			3.432	1.91		
Min:			0.003			
Avg:			0.111			
Max:			0.592			

Summary Flow Report

Site:

3-3

57 Oak Street

Natick, MA



9.5" Circular Line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
6/1/2018 (Fri)	0.006	0.353	0.102	0.00	0.00	0.00
6/2/2018 (Sat)	0.005	0.324	0.108	0.00	0.00	0.00
6/3/2018 (Sun)	0.004	0.361	0.104	0.00	0.00	0.00
6/4/2018 (Mon)	0.004	0.286	0.082	0.45	0.28	0.05
6/5/2018 (Tue)	0.006	0.300	0.092	0.14	0.12	0.02
6/6/2018 (Wed)	0.004	0.288	0.096	0.00	0.00	0.00
6/7/2018 (Thu)	0.005	0.337	0.098	0.00	0.00	0.00
6/8/2018 (Fri)	0.005	0.264	0.095	0.00	0.00	0.00
6/9/2018 (Sat)	0.004	0.333	0.103	0.00	0.00	0.00
6/10/2018 (Sun)	0.005	0.315	0.095	0.00	0.00	0.00
6/11/2018 (Mon)	0.005	0.303	0.094	0.00	0.00	0.00
6/12/2018 (Tue)	0.004	0.318	0.094	0.00	0.00	0.00
6/13/2018 (Wed)	0.006	0.339	0.088	0.01	0.01	0.01
6/14/2018 (Thu)	0.004	0.336	0.101	0.00	0.00	0.00
6/15/2018 (Fri)	0.005	0.277	0.090	0.01	0.01	0.01
6/16/2018 (Sat)	0.009	0.340	0.098	0.00	0.00	0.00
6/17/2018 (Sun)	0.005	0.343	0.094	0.00	0.00	0.00
6/18/2018 (Mon)	0.005	0.288	0.089	0.12	0.08	0.03
6/19/2018 (Tue)	0.006	0.251	0.093	0.02	0.01	0.01
6/20/2018 (Wed)	0.006	0.305	0.095	0.00	0.00	0.00
6/21/2018 (Thu)	0.010	0.212	0.020	0.00	0.00	0.00
6/22/2018 (Fri)				0.00	0.00	0.00
Total for period			1.930	0.75		
Min:			0.004			
Avg:			0.092			
Max:			0.361			

Summary Flow Report

Manhole 10-1



Site:

10-1

9 Washington Avenue

Natick, MA

22.75" Circular Line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
3/26/2018 (Mon)				0.01	0.01	0.01
3/27/2018 (Tue)	1.778	2.488	0.866	0.00	0.00	0.00
3/28/2018 (Wed)	1.415	2.586	2.020	0.01	0.01	0.01
3/29/2018 (Thu)	1.386	2.684	1.999	0.02	0.02	0.01
3/30/2018 (Fri)	1.438	2.549	2.031	0.07	0.05	0.02
3/31/2018 (Sat)	1.347	2.540	1.966	0.00	0.00	0.00
4/1/2018 (Sun)	1.268	2.696	1.905	0.00	0.00	0.00
4/2/2018 (Mon)	1.188	2.442	1.877	0.14	0.14	0.02
4/3/2018 (Tue)	1.157	2.511	1.830	0.47	0.14	0.02
4/4/2018 (Wed)	1.260	2.462	1.949	0.21	0.11	0.02
4/5/2018 (Thu)	1.288	2.365	1.899	0.00	0.00	0.00
4/6/2018 (Fri)	1.226	2.343	1.872	0.29	0.07	0.01
4/7/2018 (Sat)	1.212	2.672	1.906	0.03	0.02	0.01
4/8/2018 (Sun)	1.154	2.518	1.884	0.00	0.00	0.00
4/9/2018 (Mon)	1.143	2.319	1.772	0.00	0.00	0.00
4/10/2018 (Tue)	1.069	2.282	1.706	0.00	0.00	0.00
4/11/2018 (Wed)	1.028	2.197	1.687	0.00	0.00	0.00
4/12/2018 (Thu)	1.009	2.099	1.652	0.07	0.07	0.01
4/13/2018 (Fri)	1.008	2.133	1.612	0.00	0.00	0.00
4/14/2018 (Sat)	0.921	2.427	1.545	0.00	0.00	0.00
4/15/2018 (Sun)	0.915	2.119	1.505	0.13	0.05	0.01
4/16/2018 (Mon)	0.999	3.691	2.277	1.84	0.37	0.07
4/17/2018 (Tue)	2.279	3.329	2.750	0.00	0.00	0.00
4/18/2018 (Wed)	1.930	3.078	2.457	0.00	0.00	0.00
4/19/2018 (Thu)	1.779	2.833	2.282	0.22	0.07	0.01
4/20/2018 (Fri)	1.659	2.647	2.157	0.00	0.00	0.00
4/21/2018 (Sat)	1.545	2.760	2.054	0.00	0.00	0.00
4/22/2018 (Sun)	1.415	2.520	2.002	0.00	0.00	0.00
4/23/2018 (Mon)	1.294	2.483	1.893	0.00	0.00	0.00
4/24/2018 (Tue)	1.204	2.340	1.813	0.00	0.00	0.00
4/25/2018 (Wed)	1.164	2.685	1.961	1.25	0.33	0.09
4/26/2018 (Thu)	1.674	2.779	2.255	0.04	0.02	0.01
4/27/2018 (Fri)	1.639	2.708	2.196	0.34	0.19	0.03
4/28/2018 (Sat)	1.638	2.781	2.189	0.00	0.00	0.00
4/29/2018 (Sun)	1.554	2.708	2.111	0.10	0.04	0.03
4/30/2018 (Mon)	1.306	2.632	2.027	0.12	0.04	0.02
Total for period			67.907	5.36		
Min:			0.915			
Avg:			1.940			
Max:			3.691			

Summary Flow Report

Site:

10-1

9 Washington Avenue

Natick, MA



22.75" Circular Line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
5/1/2018 (Tue)	1.369	2.543	1.949	0.00	0.00	0.00
5/2/2018 (Wed)	1.297	2.385	1.886	0.00	0.00	0.00
5/3/2018 (Thu)	1.225	2.343	1.815	0.01	0.01	0.01
5/4/2018 (Fri)	1.176	2.347	1.765	0.02	0.01	0.01
5/5/2018 (Sat)	1.097	2.275	1.687	0.00	0.00	0.00
5/6/2018 (Sun)	1.016	2.201	1.671	0.36	0.23	0.03
5/7/2018 (Mon)	1.063	2.185	1.644	0.00	0.00	0.00
5/8/2018 (Tue)	0.986	2.160	1.626	0.00	0.00	0.00
5/9/2018 (Wed)	0.910	2.267	1.595	0.00	0.00	0.00
5/10/2018 (Thu)	0.847	2.203	1.564	0.00	0.00	0.00
5/11/2018 (Fri)	0.780	2.135	1.498	0.00	0.00	0.00
5/12/2018 (Sat)	0.730	2.129	1.454	0.22	0.07	0.01
5/13/2018 (Sun)	0.732	2.225	1.474	0.00	0.00	0.00
5/14/2018 (Mon)	0.712	2.052	1.473	0.00	0.00	0.00
5/15/2018 (Tue)	0.816	2.219	1.489	0.83	0.60	0.29
5/16/2018 (Wed)	0.854	2.112	1.519	0.01	0.01	0.01
5/17/2018 (Thu)	0.855	2.006	1.507	0.00	0.00	0.00
5/18/2018 (Fri)	0.810	1.983	1.452	0.00	0.00	0.00
5/19/2018 (Sat)	0.858	1.981	1.432	0.19	0.04	0.01
5/20/2018 (Sun)	0.835	2.056	1.470	0.05	0.03	0.01
5/21/2018 (Mon)	0.759	1.892	1.413	0.00	0.00	0.00
5/22/2018 (Tue)	0.683	1.932	1.339	0.03	0.01	0.01
5/23/2018 (Wed)	0.718	1.911	1.384	0.10	0.10	0.02
5/24/2018 (Thu)	0.634	1.870	1.367	0.00	0.00	0.00
5/25/2018 (Fri)	0.687	1.858	1.335	0.00	0.00	0.00
5/26/2018 (Sat)	0.682	1.758	1.234	0.00	0.00	0.00
5/27/2018 (Sun)	0.621	1.693	1.170	0.08	0.03	0.01
5/28/2018 (Mon)	0.598	1.838	1.257	0.01	0.01	0.01
5/29/2018 (Tue)	0.619	1.926	1.318	0.00	0.00	0.00
5/30/2018 (Wed)	0.591	1.790	1.283	0.00	0.00	0.00
5/31/2018 (Thu)	0.617	1.754	1.251	0.00	0.00	0.00
Total for period			46.319	1.91		
Min:			0.591			
Avg:			1.494			
Max:			2.543			

Summary Flow Report

Site:

10-1

9 Washington Avenue

Natick, MA



22.75" Circular Line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
6/1/2018 (Fri)	0.576	1.778	1.242	0.00	0.00	0.00
6/2/2018 (Sat)	0.568	2.007	1.202	0.00	0.00	0.00
6/3/2018 (Sun)	0.549	1.847	1.222	0.00	0.00	0.00
6/4/2018 (Mon)	0.549	1.791	1.259	0.45	0.28	0.05
6/5/2018 (Tue)	0.582	1.830	1.255	0.14	0.12	0.02
6/6/2018 (Wed)	0.593	1.815	1.248	0.00	0.00	0.00
6/7/2018 (Thu)	0.533	1.860	1.245	0.00	0.00	0.00
6/8/2018 (Fri)	0.543	1.772	1.213	0.00	0.00	0.00
6/9/2018 (Sat)	0.419	1.812	1.140	0.00	0.00	0.00
6/10/2018 (Sun)	0.473	1.875	1.165	0.00	0.00	0.00
6/11/2018 (Mon)	0.471	1.687	1.162	0.00	0.00	0.00
6/12/2018 (Tue)	0.460	1.781	1.157	0.00	0.00	0.00
6/13/2018 (Wed)	0.455	1.809	1.129	0.01	0.01	0.01
6/14/2018 (Thu)	0.438	1.764	1.126	0.00	0.00	0.00
6/15/2018 (Fri)	0.454	1.650	1.115	0.01	0.01	0.01
6/16/2018 (Sat)	0.398	1.710	1.061	0.00	0.00	0.00
6/17/2018 (Sun)	0.420	1.832	1.083	0.00	0.00	0.00
6/18/2018 (Mon)	0.419	1.772	1.131	0.12	0.08	0.03
6/19/2018 (Tue)	0.378	1.720	1.097	0.02	0.01	0.01
6/20/2018 (Wed)	0.386	1.618	1.094	0.00	0.00	0.00
6/21/2018 (Thu)	0.449	1.637	0.332	0.00	0.00	0.00
6/22/2018 (Fri)				0.00	0.00	0.00
Total for period			23.677	0.75		
Min:			0.378			
Avg:			1.127			
Max:			2.007			

Summary Flow Report

Manhole 18-1



Site:

18-1

7 Elm Street

Natick, MA

17.5" Circular Line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
3/26/2018 (Mon)				0.01	0.01	0.01
3/27/2018 (Tue)				0.00	0.00	0.00
3/28/2018 (Wed)	0.674	1.117	0.637	0.01	0.01	0.01
3/29/2018 (Thu)	0.621	1.253	0.881	0.02	0.02	0.01
3/30/2018 (Fri)	0.637	1.111	0.890	0.07	0.05	0.02
3/31/2018 (Sat)	0.598	1.286	0.874	0.00	0.00	0.00
4/1/2018 (Sun)	0.598	1.238	0.884	0.00	0.00	0.00
4/2/2018 (Mon)	0.584	1.141	0.818	0.14	0.14	0.02
4/3/2018 (Tue)	0.547	1.139	0.810	0.47	0.14	0.02
4/4/2018 (Wed)	0.606	1.160	0.889	0.21	0.11	0.02
4/5/2018 (Thu)	0.601	1.180	0.861	0.00	0.00	0.00
4/6/2018 (Fri)	0.574	1.176	0.841	0.29	0.07	0.01
4/7/2018 (Sat)	0.597	1.163	0.863	0.03	0.02	0.01
4/8/2018 (Sun)	0.551	1.119	0.854	0.00	0.00	0.00
4/9/2018 (Mon)	0.523	1.143	0.795	0.00	0.00	0.00
4/10/2018 (Tue)	0.497	1.103	0.775	0.00	0.00	0.00
4/11/2018 (Wed)	0.512	1.060	0.758	0.00	0.00	0.00
4/12/2018 (Thu)	0.507	1.087	0.760	0.07	0.07	0.01
4/13/2018 (Fri)	0.502	1.031	0.722	0.00	0.00	0.00
4/14/2018 (Sat)	0.466	1.160	0.710	0.00	0.00	0.00
4/15/2018 (Sun)	0.453	1.035	0.694	0.13	0.05	0.01
4/16/2018 (Mon)	0.475	1.807	1.067	1.84	0.37	0.07
4/17/2018 (Tue)	1.076	1.653	1.391	0.00	0.00	0.00
4/18/2018 (Wed)	0.958	1.449	1.198	0.00	0.00	0.00
4/19/2018 (Thu)	0.874	1.386	1.133	0.22	0.07	0.01
4/20/2018 (Fri)	0.805	1.335	1.040	0.00	0.00	0.00
4/21/2018 (Sat)	0.755	1.269	0.987	0.00	0.00	0.00
4/22/2018 (Sun)	0.682	1.228	0.953	0.00	0.00	0.00
4/23/2018 (Mon)	0.639	1.222	0.918	0.00	0.00	0.00
4/24/2018 (Tue)	0.661	1.159	0.888	0.00	0.00	0.00
4/25/2018 (Wed)	0.602	1.446	0.930	1.25	0.33	0.09
4/26/2018 (Thu)	0.870	1.456	1.133	0.04	0.02	0.01
4/27/2018 (Fri)	0.818	1.351	1.088	0.34	0.19	0.03
4/28/2018 (Sat)	0.843	1.369	1.111	0.00	0.00	0.00
4/29/2018 (Sun)	0.791	1.311	1.077	0.10	0.04	0.03
4/30/2018 (Mon)	0.783	1.307	1.010	0.12	0.04	0.02
Total for period			31.243	5.36		
Min:			0.453			
Avg:			0.919			
Max:			1.807			

Summary Flow Report

Site:

18-1

7 Elm Street

Natick, MA



17.5" Circular Line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
5/1/2018 (Tue)	0.710	1.286	0.972	0.00	0.00	0.00
5/2/2018 (Wed)	0.664	1.304	0.932	0.00	0.00	0.00
5/3/2018 (Thu)	0.621	1.269	0.885	0.01	0.01	0.01
5/4/2018 (Fri)	0.568	1.185	0.822	0.02	0.01	0.01
5/5/2018 (Sat)	0.527	1.031	0.786	0.00	0.00	0.00
5/6/2018 (Sun)	0.518	1.035	0.799	0.36	0.23	0.03
5/7/2018 (Mon)	0.518	1.103	0.771	0.00	0.00	0.00
5/8/2018 (Tue)	0.498	1.111	0.741	0.00	0.00	0.00
5/9/2018 (Wed)	0.455	0.955	0.688	0.00	0.00	0.00
5/10/2018 (Thu)	0.437	0.964	0.652	0.00	0.00	0.00
5/11/2018 (Fri)	0.408	0.934	0.623	0.00	0.00	0.00
5/12/2018 (Sat)	0.383	0.942	0.630	0.22	0.07	0.01
5/13/2018 (Sun)	0.363	0.915	0.616	0.00	0.00	0.00
5/14/2018 (Mon)	0.364	0.896	0.601	0.00	0.00	0.00
5/15/2018 (Tue)	0.366	1.091	0.640	0.83	0.60	0.29
5/16/2018 (Wed)	0.418	0.913	0.647	0.01	0.01	0.01
5/17/2018 (Thu)	0.382	0.890	0.646	0.00	0.00	0.00
5/18/2018 (Fri)	0.387	0.942	0.593	0.00	0.00	0.00
5/19/2018 (Sat)	0.352	0.853	0.596	0.19	0.04	0.01
5/20/2018 (Sun)	0.392	0.906	0.629	0.05	0.03	0.01
5/21/2018 (Mon)	0.342	0.861	0.580	0.00	0.00	0.00
5/22/2018 (Tue)	0.352	0.863	0.594	0.03	0.01	0.01
5/23/2018 (Wed)	0.367	0.950	0.605	0.10	0.10	0.02
5/24/2018 (Thu)	0.356	0.937	0.594	0.00	0.00	0.00
5/25/2018 (Fri)	0.344	0.866	0.577	0.00	0.00	0.00
5/26/2018 (Sat)	0.341	0.775	0.556	0.00	0.00	0.00
5/27/2018 (Sun)	0.324	0.772	0.533	0.08	0.03	0.01
5/28/2018 (Mon)	0.288	0.848	0.567	0.01	0.01	0.01
5/29/2018 (Tue)	0.308	0.821	0.545	0.00	0.00	0.00
5/30/2018 (Wed)	0.281	0.809	0.513	0.00	0.00	0.00
5/31/2018 (Thu)	0.271	1.022	0.514	0.00	0.00	0.00
Total for period			20.448	1.91		
Min:			0.271			
Avg:			0.660			
Max:			1.304			

Summary Flow Report

Site:

18-1

7 Elm Street

Natick, MA

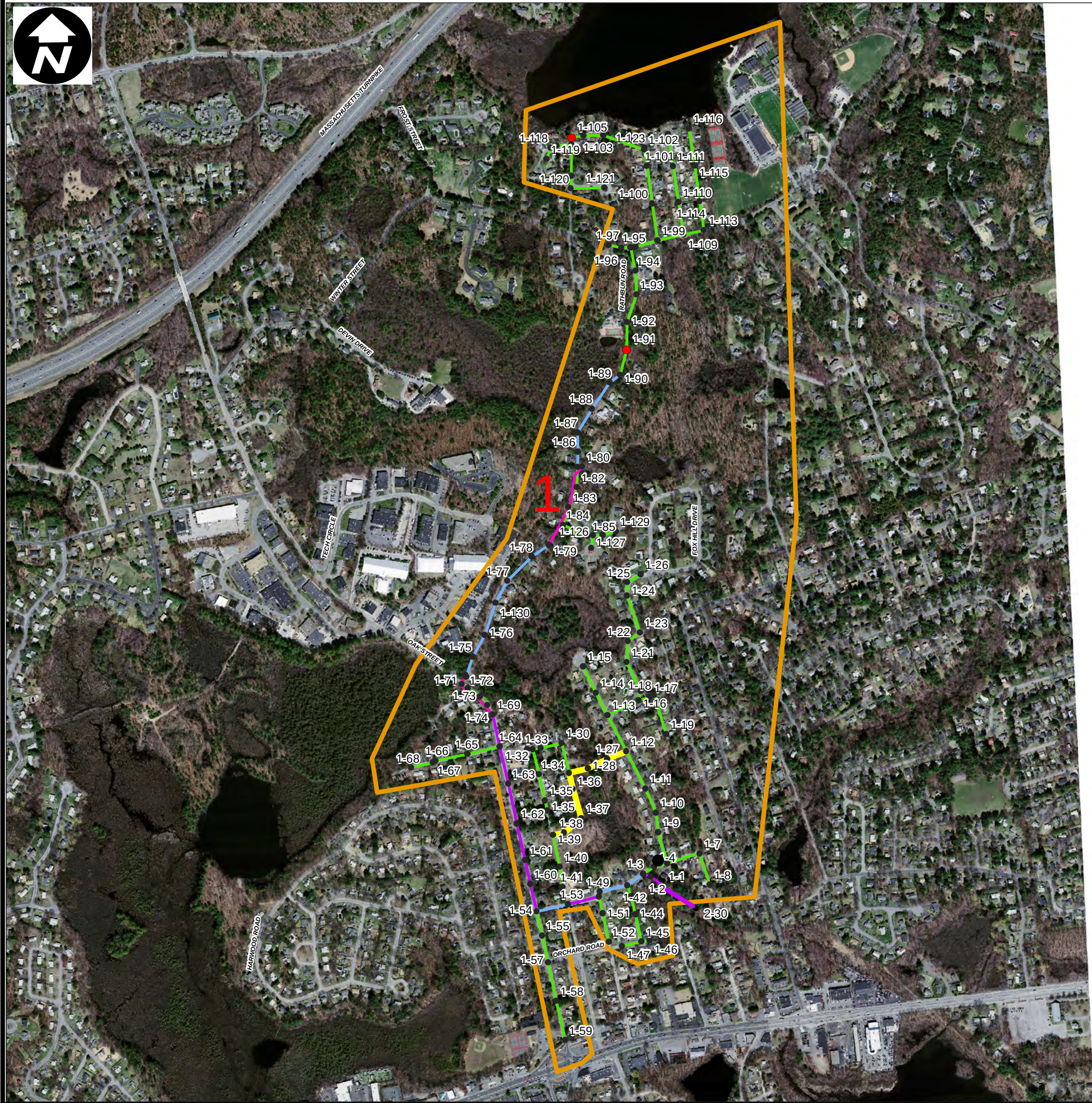


17.5" Circular Line

Date	Minimum Flow (mgd)	Peak Flow (mgd)	Total Daily Flow (mg)	Total Rain (in)	Peak Hourly Rain (in)	Peak Interval Rain (in)
6/1/2018 (Fri)	0.264	0.797	0.515	0.00	0.00	0.00
6/2/2018 (Sat)	0.283	0.880	0.524	0.00	0.00	0.00
6/3/2018 (Sun)	0.273	0.770	0.518	0.00	0.00	0.00
6/4/2018 (Mon)	0.261	0.747	0.509	0.45	0.28	0.05
6/5/2018 (Tue)	0.262	0.777	0.495	0.14	0.12	0.02
6/6/2018 (Wed)	0.251	0.764	0.455	0.00	0.00	0.00
6/7/2018 (Thu)	0.214	0.735	0.440	0.00	0.00	0.00
6/8/2018 (Fri)	0.207	0.737	0.442	0.00	0.00	0.00
6/9/2018 (Sat)	0.234	0.695	0.462	0.00	0.00	0.00
6/10/2018 (Sun)	0.226	0.708	0.464	0.00	0.00	0.00
6/11/2018 (Mon)	0.204	0.710	0.449	0.00	0.00	0.00
6/12/2018 (Tue)	0.206	0.713	0.442	0.00	0.00	0.00
6/13/2018 (Wed)	0.210	0.705	0.444	0.01	0.01	0.01
6/14/2018 (Thu)	0.216	0.710	0.439	0.00	0.00	0.00
6/15/2018 (Fri)	0.204	0.698	0.434	0.01	0.01	0.01
6/16/2018 (Sat)	0.202	0.713	0.433	0.00	0.00	0.00
6/17/2018 (Sun)	0.195	0.690	0.435	0.00	0.00	0.00
6/18/2018 (Mon)	0.209	0.706	0.442	0.12	0.08	0.03
6/19/2018 (Tue)	0.208	0.696	0.428	0.02	0.01	0.01
6/20/2018 (Wed)	0.201	0.704	0.413	0.00	0.00	0.00
6/21/2018 (Thu)	0.182	0.664	0.404	0.00	0.00	0.00
6/22/2018 (Fri)	0.178	0.621	0.143	0.00	0.00	0.00
Total for period			9.732	0.75		
Min:			0.178			
Avg:			0.442			
Max:			0.880			

Table 4
Point Repairs and Replacement Scope of Work

Street	Upstream MH	Downstream MH	Upstream MH Depth	Downstream MH Depth	Section Length (FT)	Mainline Pipe Material	Pipe Diameter (IN)	Proposed Scope of Work:	Approximate Length of Repair (ft)	Location	Natick Record Drawing Reference	Point Repair Bid Item Number	Mainline CIPP	Service Lateral CIPP Liner	Chimney Service CIPP Liner	Point Repair - Remove and Replace (mainline and services)	Chimney Service Point Repair - Remove and Replace	Short Liner at Capped Connections to seal infiltration/ eliminate capped connection	Sewer Replacement >10 LF	Comments
BODEN LN.	14-4	14-155	5'0"	12.3'	215.8	Vitrified Clay Pipe	8		4'	@196' (Service Lateral) (From MH 14-4)	S256	41	Y	Y		Y				Repair collapsed service at 196' (possibly dead); D = 7'
<i>E. Evergreen Rd</i>	7-43	7-42	7.5'	5.2'	281	VCP	8		43'	@85'-128'	S220	42							Y	
HEMLOCK DR.	14-49	14-48	6.3'	5'	305.9	Vitrified Clay Pipe	8		4'	@69' (Service Lateral): (From MH 14-49)	S286	41				Y				Point repair at service @ 68'; D = 6'
HEMLOCK DR.	14-48	14-47	5'	4.6'	297	Vitrified Clay Pipe	8		11'	@286': (From MH-14-48)	S286	42							Y	Replace 286'-297' (@ MH); D = 6'
<i>North Main St</i>	9-17	9-12	9'	9'	288	Vitrified Clay Pipe	10		7',6', 7', 5'	143', 173', 257', 267' (from MH 9-17)	S34	41	Y	Y		4				4 service lateral point repairs; all D = 8'
<i>Porter Rd</i>	12-121	12-120	6'	6.5'	179	VCP	8		9'	@109-118'	S273	41	Y	Y						
<i>Porter Rd</i>	12-124	12-117	7.5'	9'	109	VCP	8		36'	@69-105'	S272	42	Y	Y					Y	
RICHARD RD.	6-22	6-21	6.5'	6.7'	291.2	Vitrified Clay Pipe	8		13'	@89'-102'	S296	42	Y	Y					Y	Replace 89'-102'; D = 8'
<i>W. Central St.</i>	17-17	17-16	8.3'	11.2'	420	CIPP	8		5'	@403' (from MH 17-17)	S8	43		Y			1			Chimney point repair at D = 10.3'
<i>W. Central St.</i>	17-9	17-8	28.7'	27.8'	353	CIPP	30		10-13' vert. each	@10.3, @81', @249.3, @319' (From MH 17-9)	S5	48					4			Chimney point repairs at D = 22.4', 19.3', 23.1' and 22.1'
<i>W. Central St.</i>	17-12	17-9	25.7'	28.7'	366	CIPP	30		13' vert.	@311.8' (From MH 17-12)	S6	50					1			Chimney point repair at D = 23'
<i>W. Central St.</i>	17-8	17-7	27.8'	24.3'	335	CIPP	30		13' vert.	@143.6' (From MH 17-8)	S5	49					1			Chimney point repair at D = 20'
<i>Washington Ave</i>	17-22	17-14	21.2'	21.7'	294	CIPP	26		7' vert.	@145.2' (From MH 17-22)	S50	51				Y	1			Chimney point repair at D = 16'
<i>Washington Ave</i>	10-1	17-22	20'	21.2'	196	CIPP	26		4' vert. each	@66.7', @108.4' (From MH 10-1)	S50	43				Y	2			Two Chimney point repairs both at D = 12'
<i>Washington Ave</i>	10-64	10-7	17.9'	17.9'	334	CIPP	24		12' vert.	@151.6 (From 10-64)	S51	47				Y	1	3		Chimney point repair at D = 20' at connection to main (possibly connect to nearby capped chimney at D = 8')
YORKSHIRE DR.	6-129	6-127	5.2'	8.7'	195	Polyethylene	8		4'	@119'; Replace Pipe @174' (Broken): (From MH 6-127)	S236	41	Y	Y		Y				Point repair at 175'; D = 8'
<i>North Main St</i>	9-17	9-12	8'6"	9'6"	288	VCP	10/8		NA	@67': (From MH 9-17)	S34	38	Y	Y						Install MH At Intersection of Mechanic St and N. Main St
<i>Westview Ave.</i>	11-322	New	±4'	±6'		AC	6"		470'		S34	38 and 42							Y	Install ±470 lf of 8-inch PVC sewer from MH 11-322 to new MH in Union St. ±167' downstream of MH 11-14, including 1 intermediate MH, and reconnection of all existing services
NOTE: All point repairs and sewer replacement/installation work shall be completed prior to any CIPP lining work planned in the same sewer segment.																				



Legend

Sewer Pipes

OTHER

Pipe Size

8"

10"

12"

Force Main

Contract Work

MANHOLES

WORK REQUIRED

PIPES REQUIRING REPAIR

Notes:

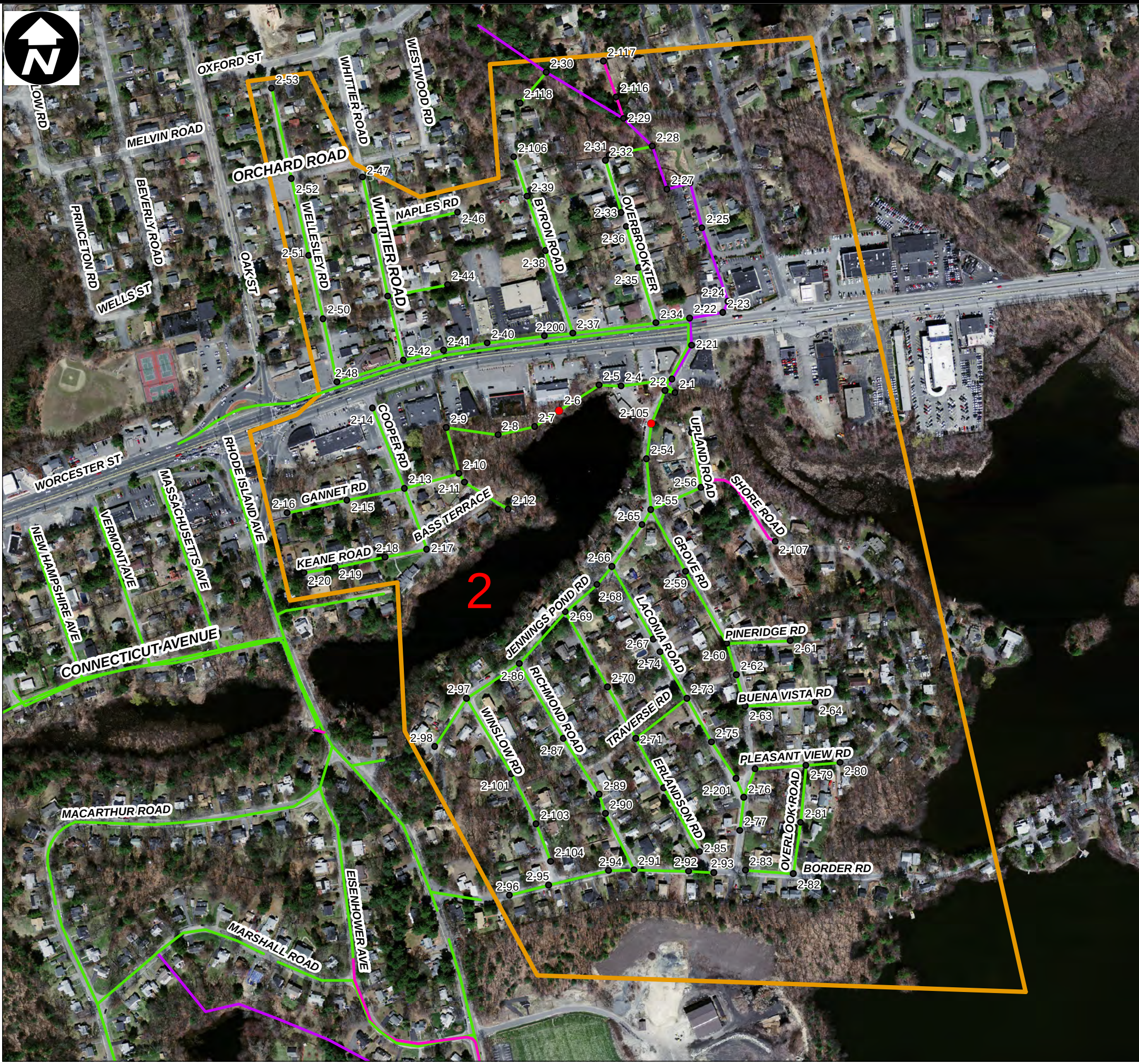
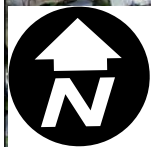
Parcel Source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division

Sewer Manhole Source: Town of Natick GIS Department. Some sewer manholes locations are approximate.

Sewer Lines Source: Town of Natick GIS Department.



DEPARTMENT OF PUBLIC WORKS NATICK, MASSACHUSETTS		3 YEAR SEWER REHABILITATION	
ADDENDUM NO. 1		Haley and Ward, Inc. A division of CES Inc. 63 GREAT ROAD, SUITE 200, MAYNARD, MASSACHUSETTS 01754-2097 PHONE: (978) 648-6025 FAX: (978) 648-6068 www.haleyward.com	
SHEET NO.: 1 of 20	BY	CHECKED	DATE
CONTRACT NO.: S-162	BY	REVISD	DATE
SCALE: 1:9600	BY		
DATE DRAWN: JUNE, 2020			
DRAWN BY: LJC			
FILE NO.: NAT427_BSN_1.MXD			
BASIN 1			



Legend

Sewer Line

OTHER

PIPE SIZE

8"

10"

12"

Force Main

Contract Work

MANHOLES

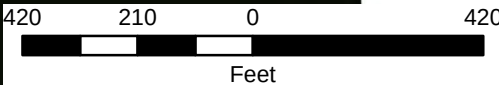
WORK REQUIRED

Notes:

Parcel Source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division

Sewer Manhole Source: Town of Natick GIS Department.
Some sewer manholes locations are approximate.

Sewer Lines Source: Town of Natick GIS Department.



DEPARTMENT OF PUBLIC WORKS
NATICK, MASSACHUSETTS

3 YEAR SEWER REHABILITATION

ADDENDUM NO. 1

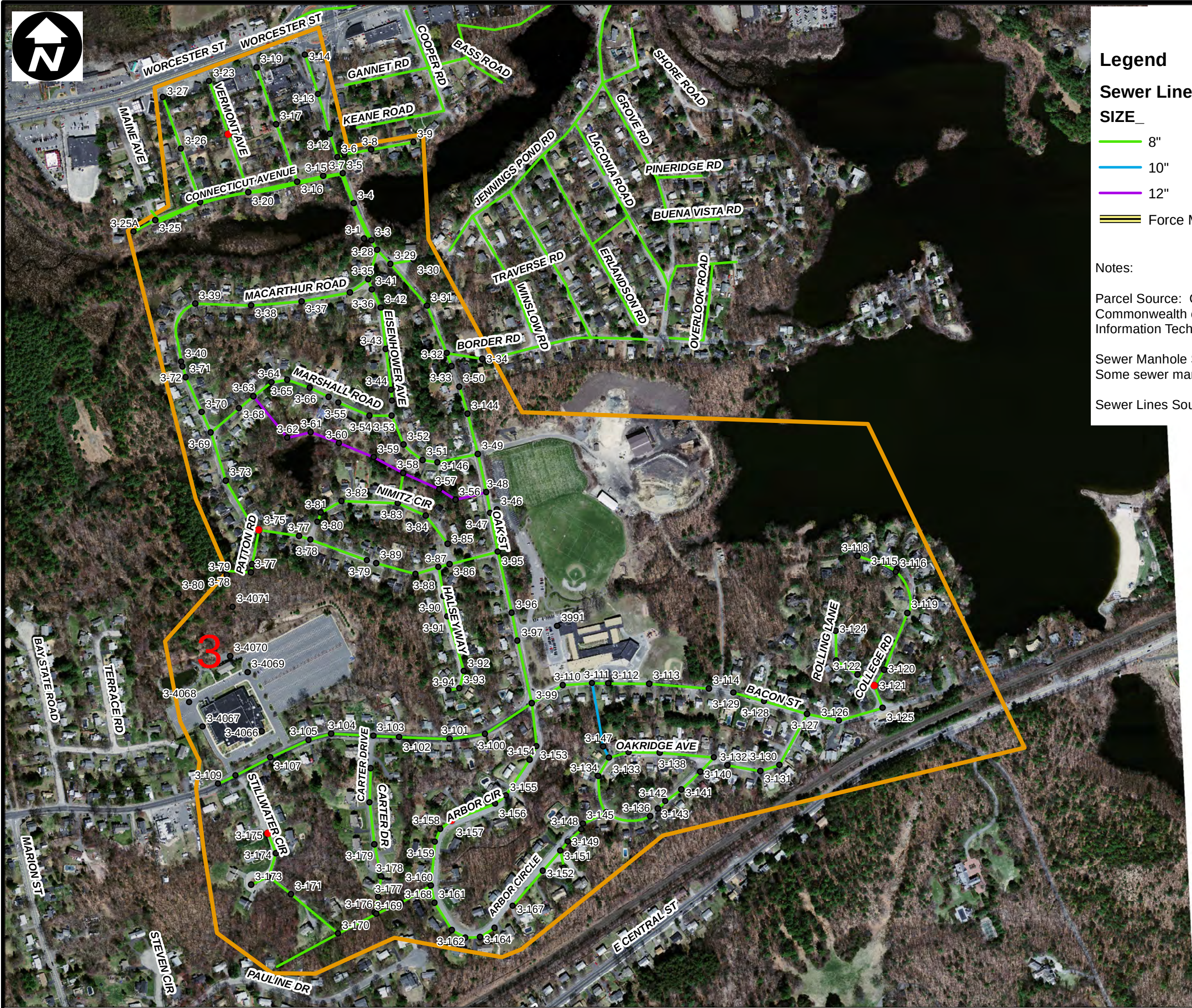
Haley and Ward, Inc.
A division of CES Inc.

63 GREAT ROAD, SUITE 200,
MAYNARD, MASSACHUSETTS 01754-2097
PHONE: (978) 648-6025
FAX: (978) 648-6068
www.haleyward.com

SHEET NO.:	2 of 20	CHECKED	DATE	BY
CONTRACT NO.:	S-162	REVISD	DATE	BY
SCALE:	1"=4,200			
DATE DRAWN:	JUNE, 2020			
DRAWN BY:	LJC			
FILE NO.:	NAT427_BSN_2.MXD			

BASIN

2

 Force Main

- WORK REQUIRED

Sewer Lines Source: Town of Natick GIS Department.



3

Legend

Sewer Line

Other

Pipe Size

8"

10"

12"

SMH_Join

Contract Work

MANHOLES

WORK REQUIRED

PIPES REQUIRING REPAIR

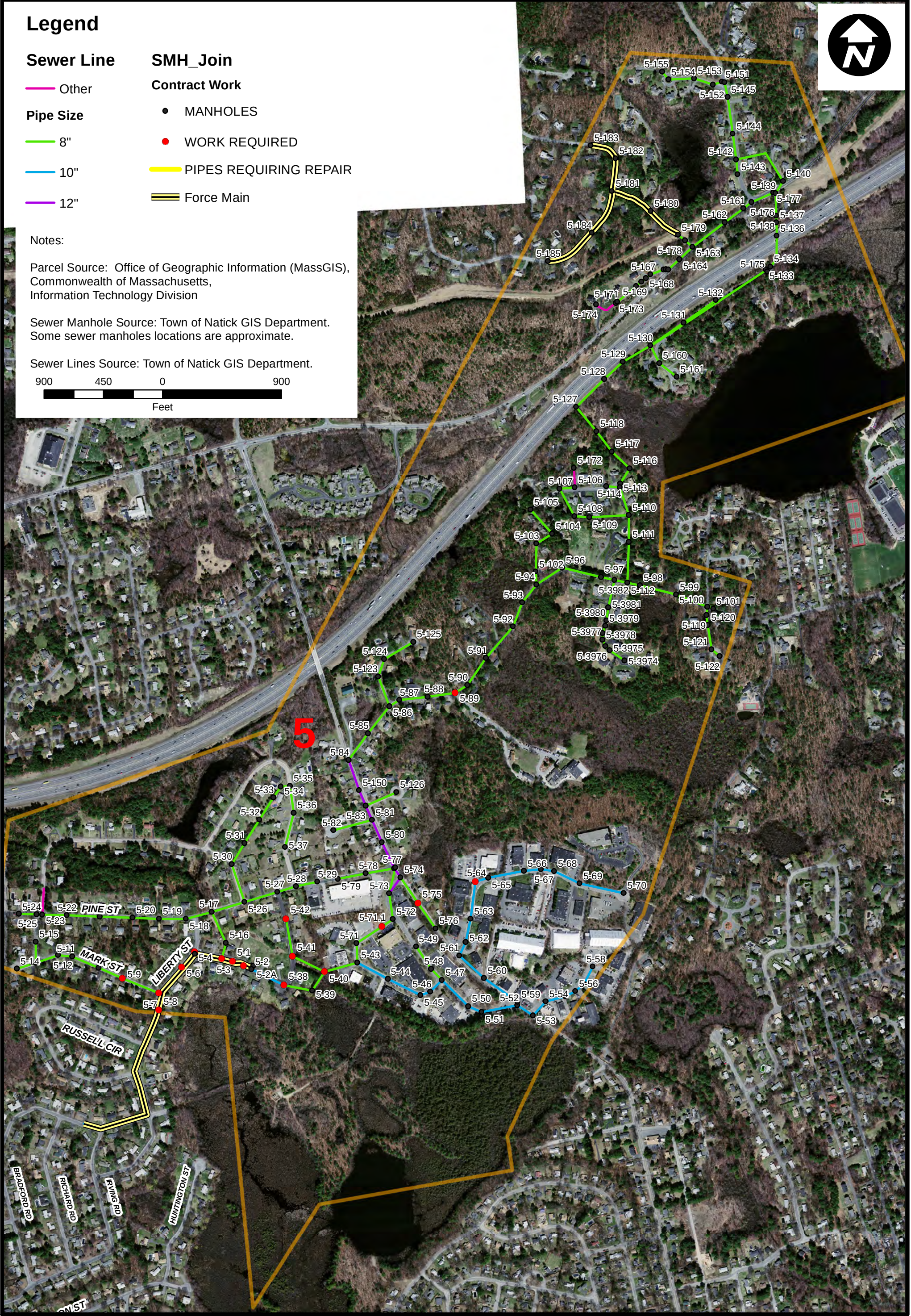
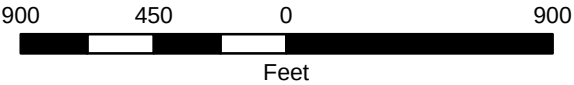
Force Main

Notes:

Parcel Source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division

Sewer Manhole Source: Town of Natick GIS Department. Some sewer manholes locations are approximate.

Sewer Lines Source: Town of Natick GIS Department.



BASIN

5

SHEET NO.:	5 of 20
CONTRACT NO.:	S-162
SCALE:	1:7,800
DATE DRAWN:	JUNE, 2020
DRAWN BY:	LJC
FILE NO.:	NAT427_BSN_5.MXD

CHECKED	DATE	BY
REVISED	DATE	BY

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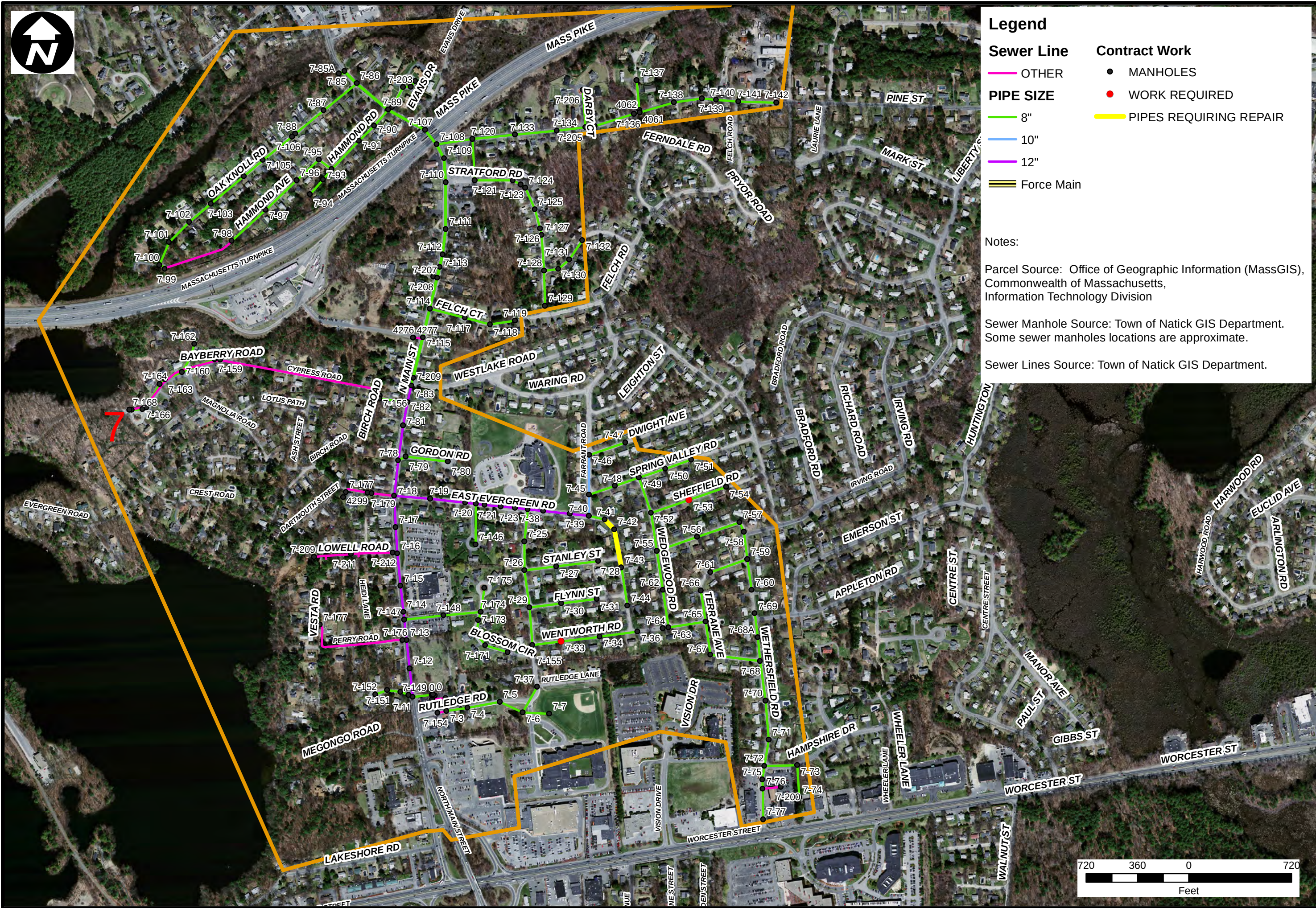
ADDENDUM
NO. 1

DEPARTMENT OF PUBLIC WORKS
NATICK, MASSACHUSETTS

3 YEAR SEWER
REHABILITATION

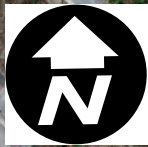


BASIN 6	SHEET NO.: 6 of 20	CHECKED	DATE	BY	Haley and Ward, Inc <i>a division of CES, Inc.</i> 63 GREAT ROAD, SUITE 200, MAYNARD, MASSACHUSETTS 01754-2097 PHONE: (978) 648-6025 FAX: (978) 648-6068 www.haleyward.com	ADDENDUM NO. 1	DEPARTMENT OF PUBLIC WORKS NATICK, MASSACHUSETTS 3 YEAR SEWER REHABILITATION
	CONTRACT NO.: S-162						
	SCALE: 1:5000	REVISED	DATE	BY			
	DATE DRAWN: JUNE, 2020						
	DRAWN BY: LJC						
	FILE NO.: NAT427_BSN_6.MXD						



Sewer Lines Source: Town of Natick GIS Department.

7



Legend

Sewer Pipes

Other

Pipe Size

8"

10"

12"

Force Main

Contract Work

MANHOLES

WORK REQUIRED

Notes:

Parcel Source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division

Sewer Manhole Source: Town of Natick GIS Department.
Some sewer manholes locations are approximate.

Sewer Lines Source: Town of Natick GIS Department.

DEPARTMENT OF PUBLIC WORKS
NATICK, MASSACHUSETTS

3 YEAR SEWER REHABILITATION

ADDENDUM NO. 1

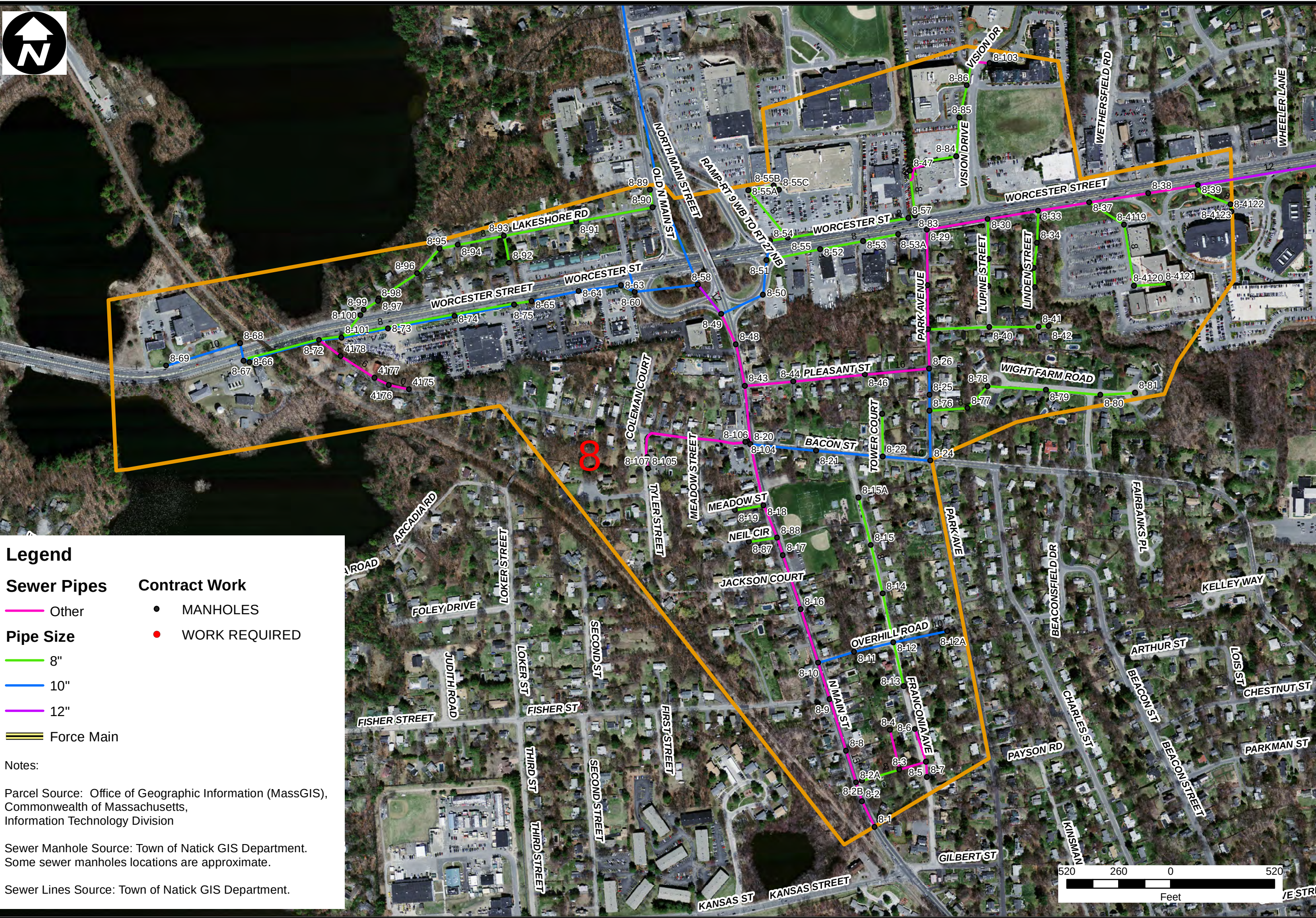
Haley and Ward, Inc.
A division of CES Inc.

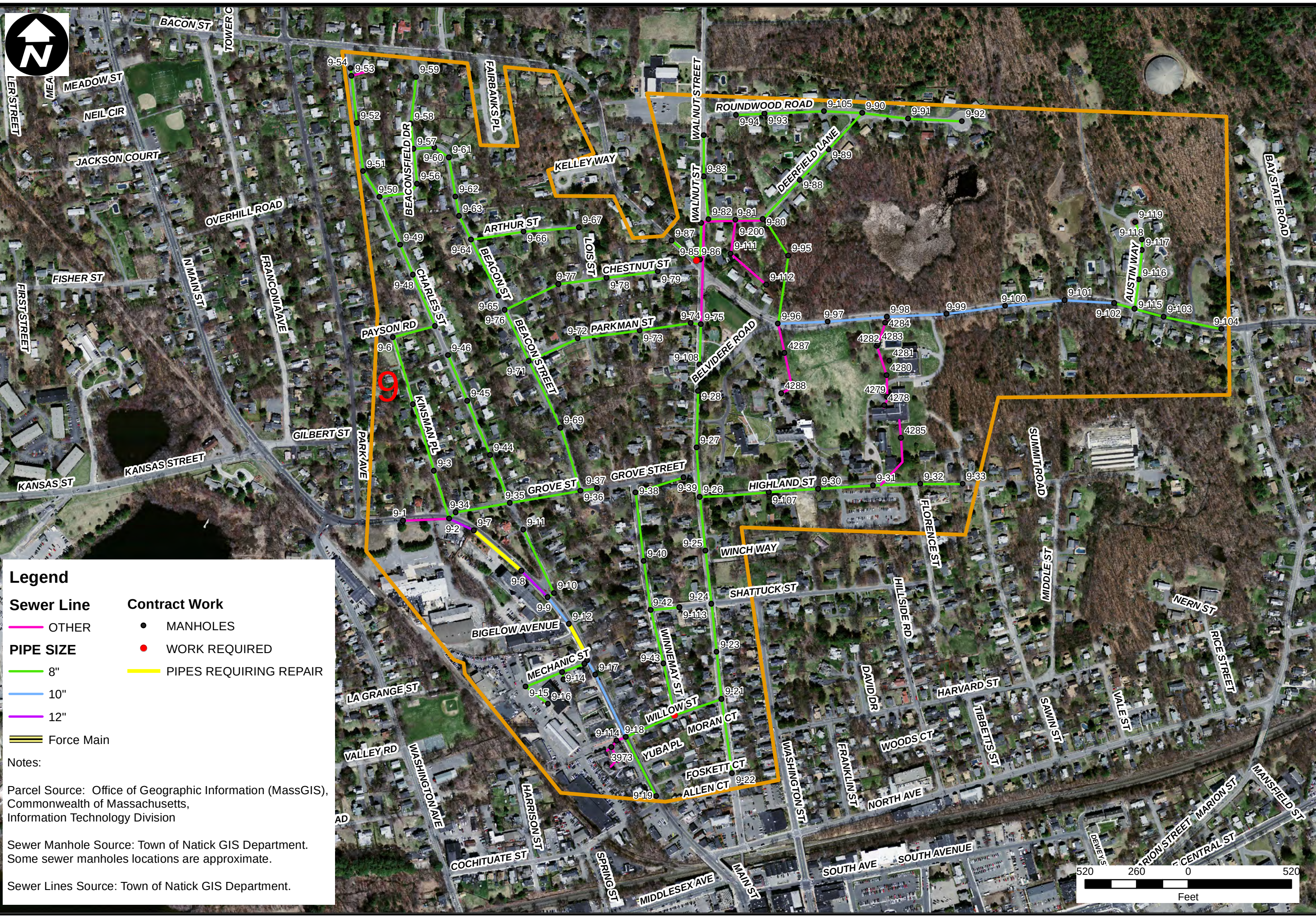
63 GREAT ROAD, SUITE 200,
MAYNARD, MASSACHUSETTS 01754-2097
PHONE: (978) 648-6025
FAX: (978) 648-6068
www.haleyward.com

SHEET NO.:	8 of 20	BY	
CONTRACT NO.:	S-162	DATE	
SCALE:	1"=200'	REVISD	
DATE DRAWN:	JUNE, 2020	BY	
DRAWN BY:	LJC	FILE NO.:	
FILE NO.:	NAT427_BSN_8.MXD		

BASIN

8





3 YEAR SEWER REHABILITATION

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SHEET NO.:	9 of 20	CHECKED	DATE	BY
CONTRACT NO.:	S-162			
SCALE:	1:5,200	REVISED	DATE	BY
DATE DRAWN:	JUNE, 2020			
DRAWN BY:	LJC			
FILE NO.:	NAT427_BSN_9.MXD			

9

Legend

Sewer Line

OTHER

PIPE SIZE

8"

10"

12"

Force Main

Contract Work

MANHOLES

WORK REQUIRED

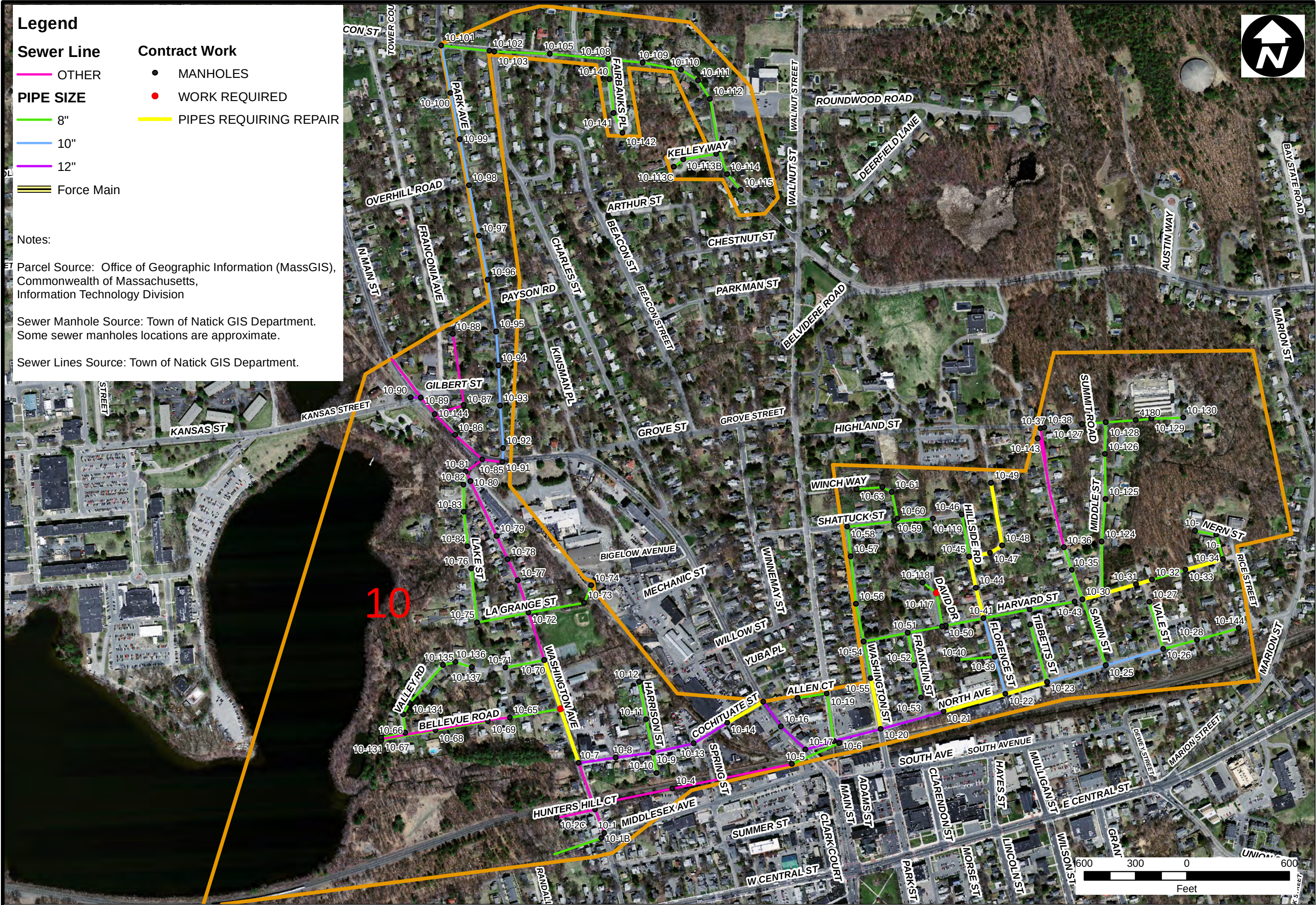
PIPES REQUIRING REPAIR

Notes:

Parcel Source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division

Sewer Manhole Source: Town of Natick GIS Department. Some sewer manholes locations are approximate.

Sewer Lines Source: Town of Natick GIS Department.



DEPARTMENT OF PUBLIC WORKS
NATICK, MASSACHUSETTS

3 YEAR SEWER
REHABILITATION

ADDENDUM
NO. 1

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MAYNARD, MASSACHUSETTS 01754-2097
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CHECKED	DATE	BY	CHECKED	DATE	BY
REVIS	DATE	BY			

SHEET NO.: 10 of 20

CONTRACT NO.: S162

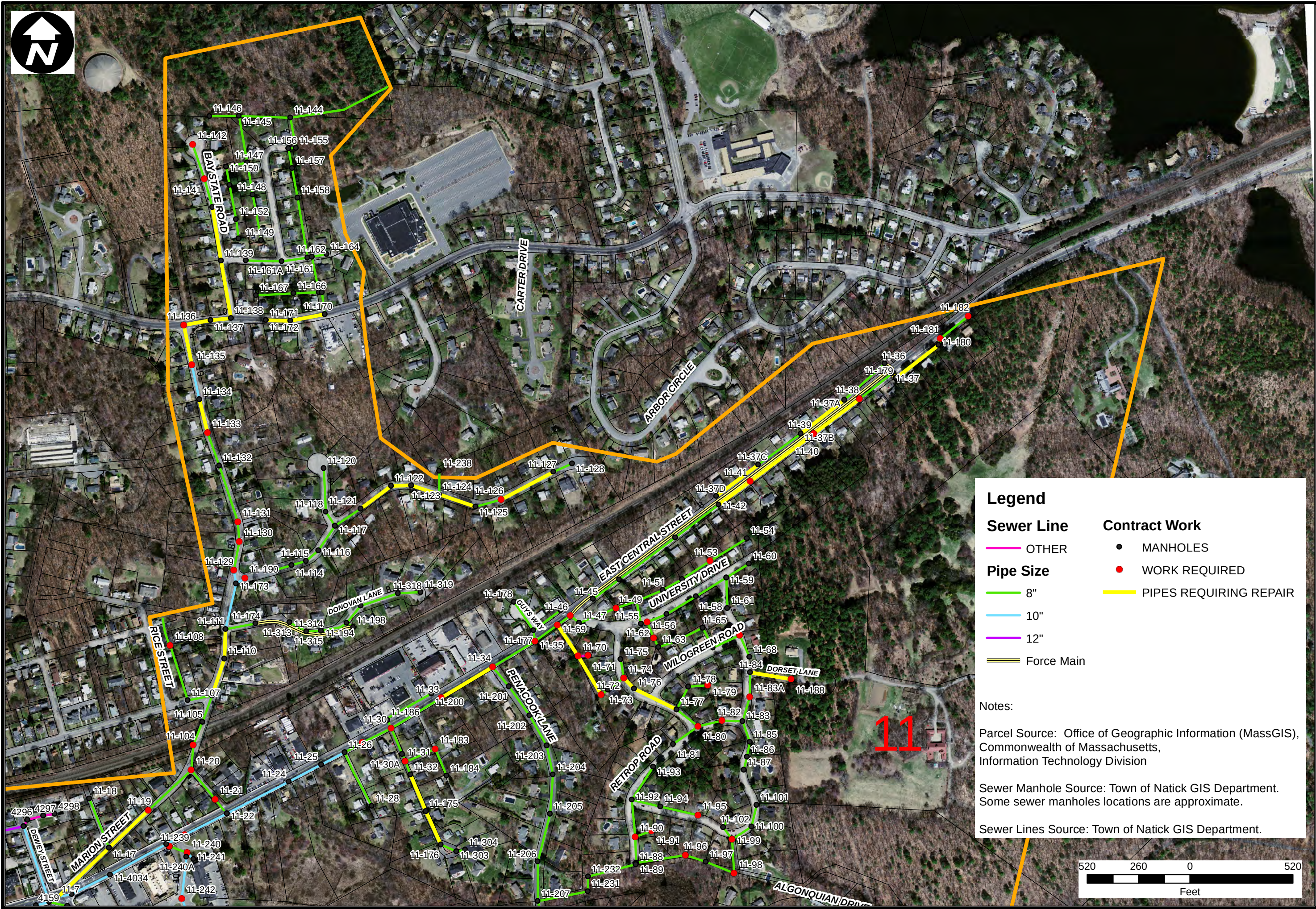
SCALE: 1:6,000

DATE DRAWN: JUNE, 2020

DRAWN BY: LJC

FILE NO.: NAT427_BSN_10.MXD

BASIN
10



Legend

Sewer Line

OTHER

Pipe Size

8"

10"

12"

Force Main

Contract Work

MANHOLES

WORK REQUIRED

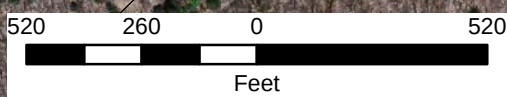
PIPES REQUIRING REPAIR

Notes:

Parcel Source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division

Sewer Manhole Source: Town of Natick GIS Department. Some sewer manholes locations are approximate.

Sewer Lines Source: Town of Natick GIS Department.



DEPARTMENT OF PUBLIC WORKS
NATICK, MASSACHUSETTS

3 YEAR SEWER
REHABILITATION

ADDENDUM
NO. 1

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FAX: (978) 648-6068
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SHEET NO.:	11 of 20	BY	
CONTRACT NO.:	S-162	DATE	
SCALE:	1:5,200	REVIS	
DATE DRAWN:	JUNE, 2020		
DRAWN BY:	LJC		
FILE NO.:	NAT427_BSN_11N.MXD		

BASIN
11N

Legend

Sewer Line

OTHER

Pipe Size

8"

10"

12"

Force Main

Contract Work

MANHOLES

WORK REQUIRED

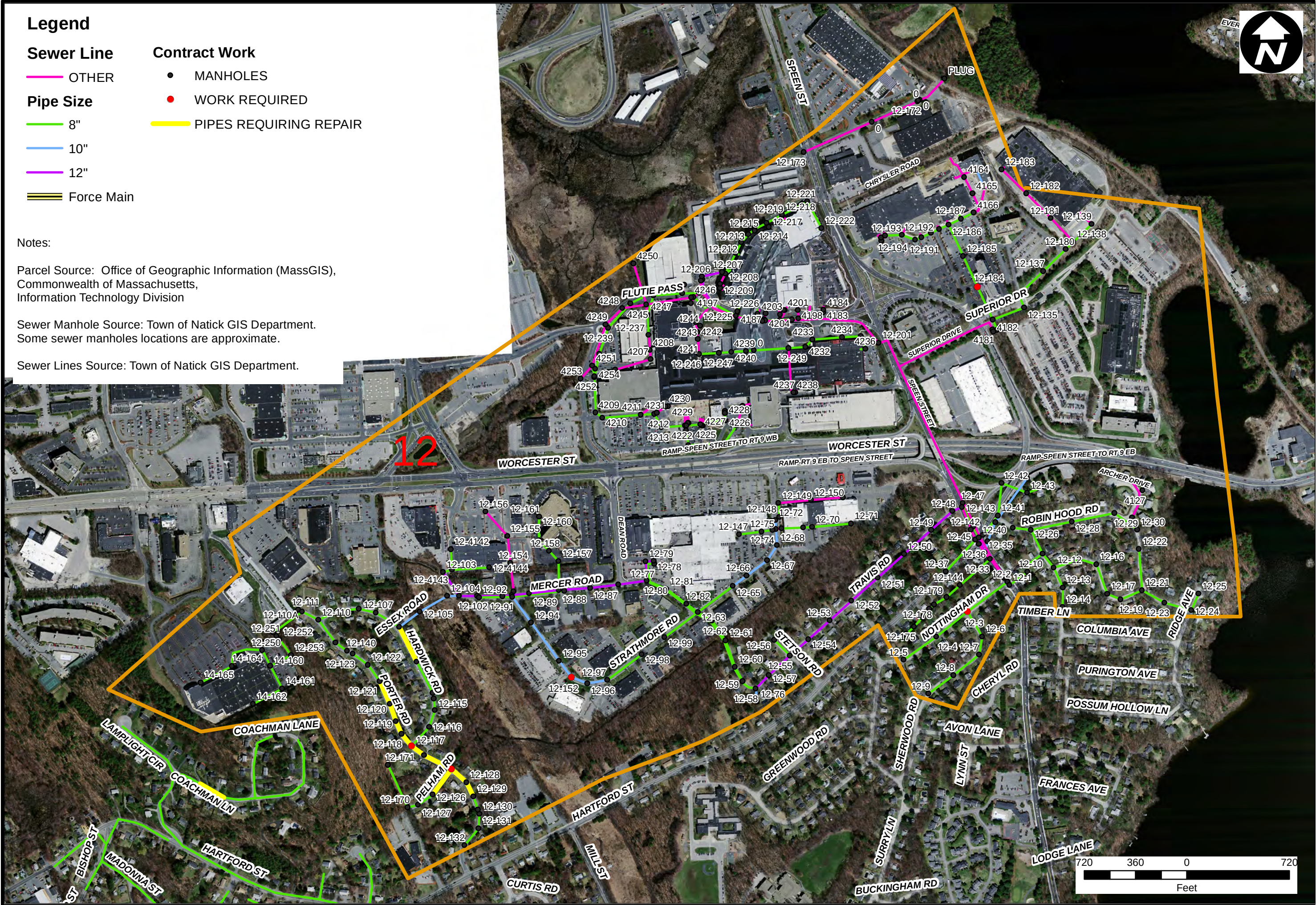
PIPES REQUIRING REPAIR

Notes:

Parcel Source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division

Sewer Manhole Source: Town of Natick GIS Department. Some sewer manholes locations are approximate.

Sewer Lines Source: Town of Natick GIS Department.



DEPARTMENT OF PUBLIC WORKS
NATICK, MASSACHUSETTS

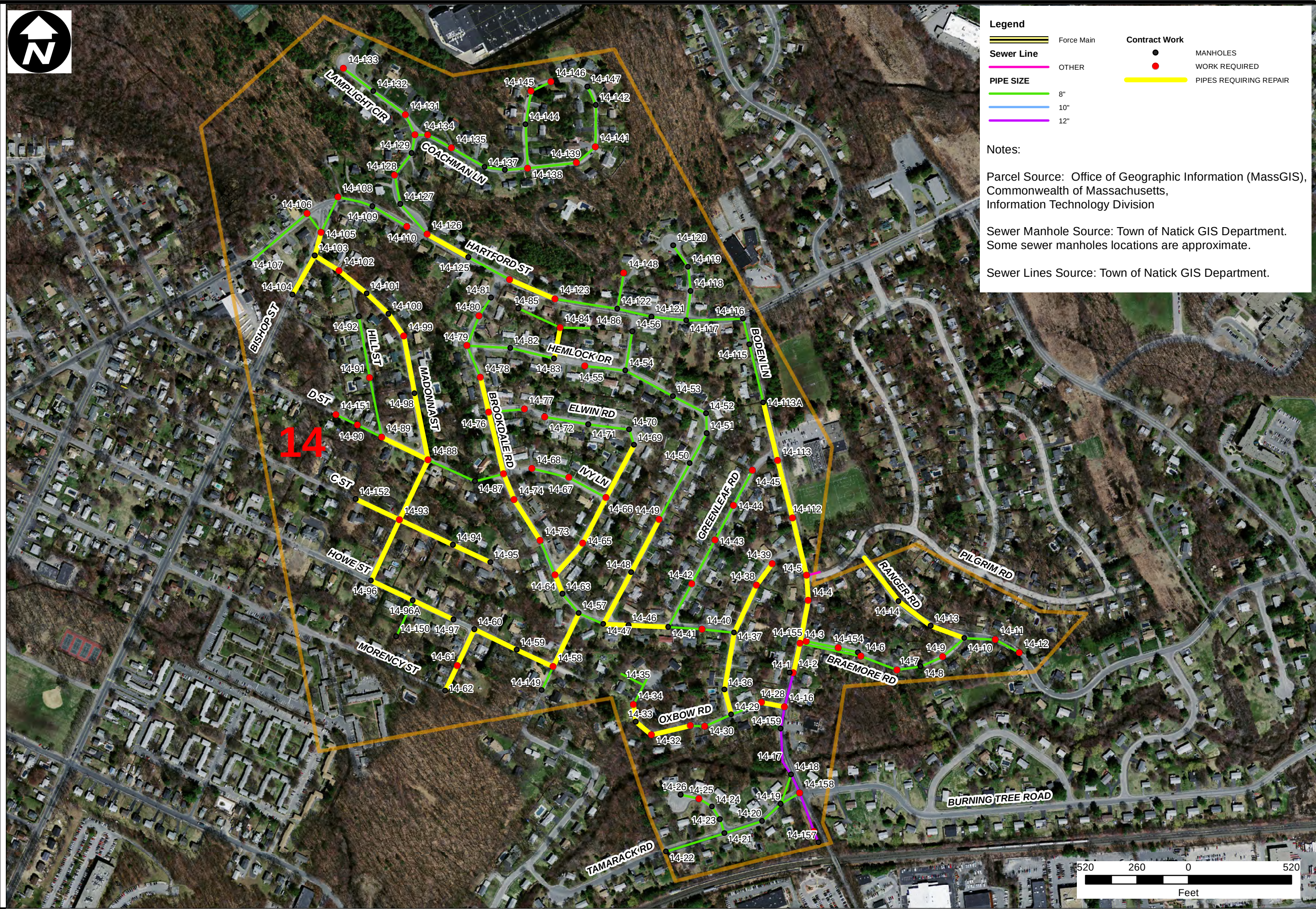
3 YEAR SEWER
REHABILITATION

ADDENDUM
NO. 1

Haley and Ward, Inc.
A division of CES Inc.
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MAYNARD, MASSACHUSETTS 01754-2097
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FAX: (978) 648-6068
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SHEET NO.:	13 of 20	CHECKED	DATE	BY
CONTRACT NO.:	S-162	REVISD	DATE	BY
SCALE:	1:5,200			
DATE DRAWN:	JUNE, 2020			
DRAWN BY:	LJC			
FILE NO.:	NAT427_BSN_12.MXD			

BASIN
12



Legend

Force Main
Sewer Line
PIPE SIZE
8"
10"
12"

Contract Work
MANHOLES
WORK REQUIRED
PIPES REQUIRING REPAIR

Notes:

Parcel Source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division

Sewer Manhole Source: Town of Natick GIS Department.
Some sewer manholes locations are approximate.

Sewer Lines Source: Town of Natick GIS Department.

DEPARTMENT OF PUBLIC WORKS
NATICK, MASSACHUSETTS

3 YEAR SEWER REHABILITATION

ADDENDUM NO. 1

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SHEET NO.:	14 of 20	BY	
CONTRACT NO.:	S-162	DATE	
SCALE:	1:5,200	REVISD	
DATE DRAWN:	JUNE, 2020	BY	
DRAWN BY:	LJC		
FILE NO.:	NAT427_BSN_14.MXD		

BASIN
14



BURNING TREE ROAD

MILL ST

MWRA

W CENTRAL ST

PORT ST

POND ST

PINEHURST AVE

LOOKOUT AVE

SPEEDY ST

CARLSON CIR

FAIRVIEW AVE

HUDSON ST

LAKEVIEW AVE

WINDSOR AVE

SYLVESTER RD

FERN ST

MOORE ST

EASTLEIGH LN

16

Legend

Sewer Line

Other

PIPE SIZE

8"

10"

12"

Force Main

Contract Work

MANHOLES

WORK REQUIRED

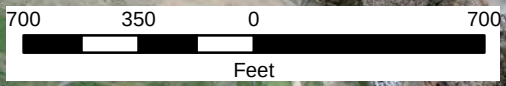
PIPE REQUIRING REPAIR

Notes:

Parcel Source: Office of Geographic Information (MassGIS), Commonwealth of Massachusetts, Information Technology Division

Sewer Manhole Source: Town of Natick GIS Department. Some sewer manholes locations are approximate.

Sewer Lines Source: Town of Natick GIS Department.



CHECKED	DATE	BY	CHECKED	DATE	BY
SHEET NO.: 15 of 20	CONTRACT NO.: S-162	SCALE: 1:7,000	DATE DRAWN: JUNE, 2020	DRAWN BY: LJC	FILE NO.: NAT427_BSN_16.MXD

Legend

Sewer Line

Contract Work

PIPE SIZE

— 10"

— 12"

 Force Main

Notes:

Parcel Source: Office of Geographic Information (MassGIS)
Commonwealth of Massachusetts,
Information Technology Division

Sewer Manhole Source: Town of Natick GIS Department.
Some sewer manholes locations are approximate.

Sewer Lines Source: Town of Natick GIS Department.

DEPARTMENT OF PUBLIC WORKS
NATICK, MASSACHUSETTS

3 YEAR SEWER REHABILITATION

ADDENDUM

NO. 1

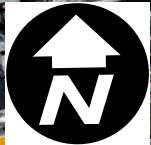
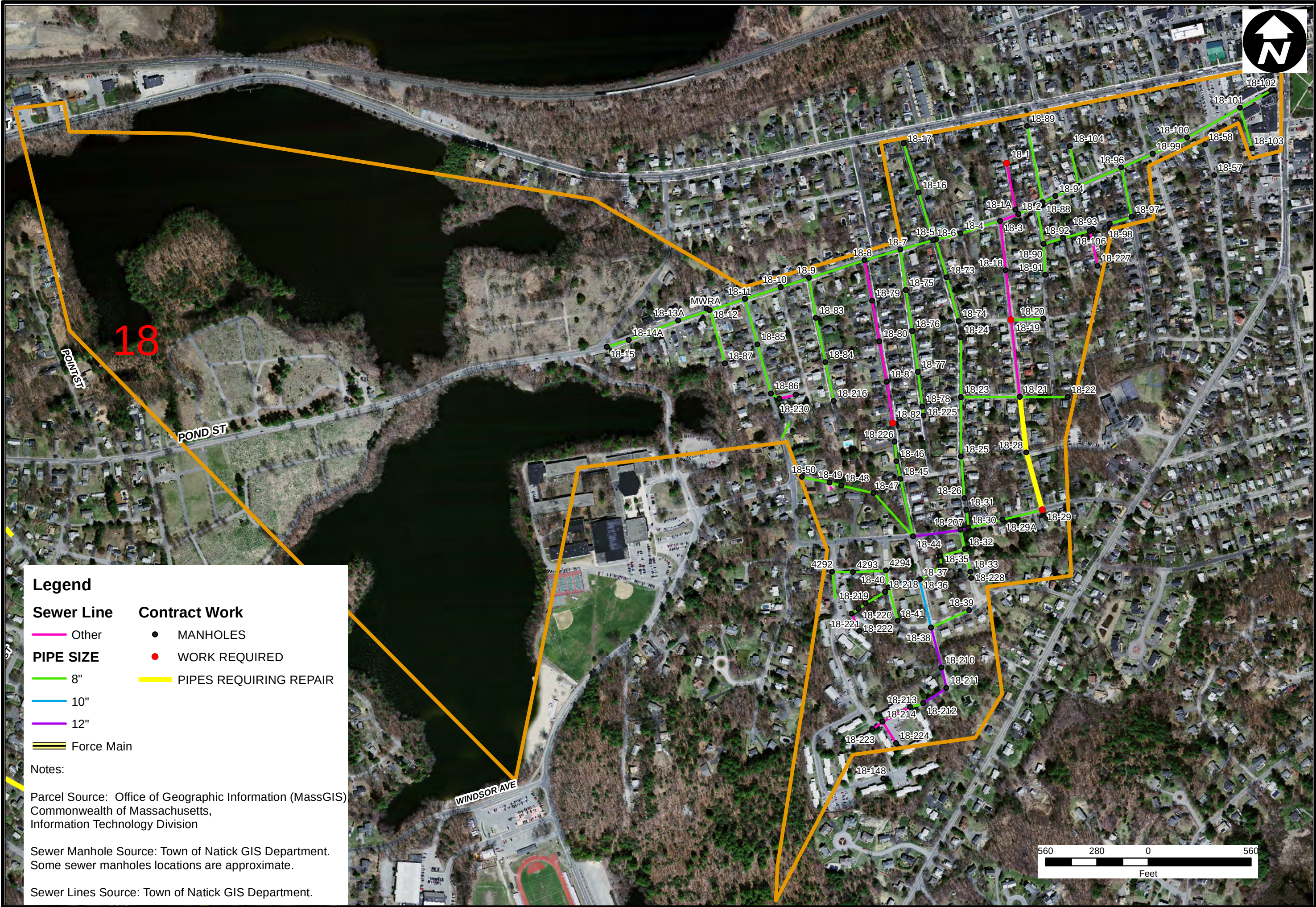
Haley and Ward, Inc.
A division of CES Inc.
63 GREAT ROAD SUITE 200

PHONE: (978) 648-8025
FAX: (978) 648-8088
www.haleyward.com

STREET NO.:	20 W 60	CHECKED	DATE	BY
CONTRACT NO.:	S-162			
SCALE:	1:4,200	REVISED	DATE	BY
DATE DRAWN:	JUNE, 2020			
DRAWN BY:	LJC			
FILE NO.:	NAT427_BSN_17.MXD			

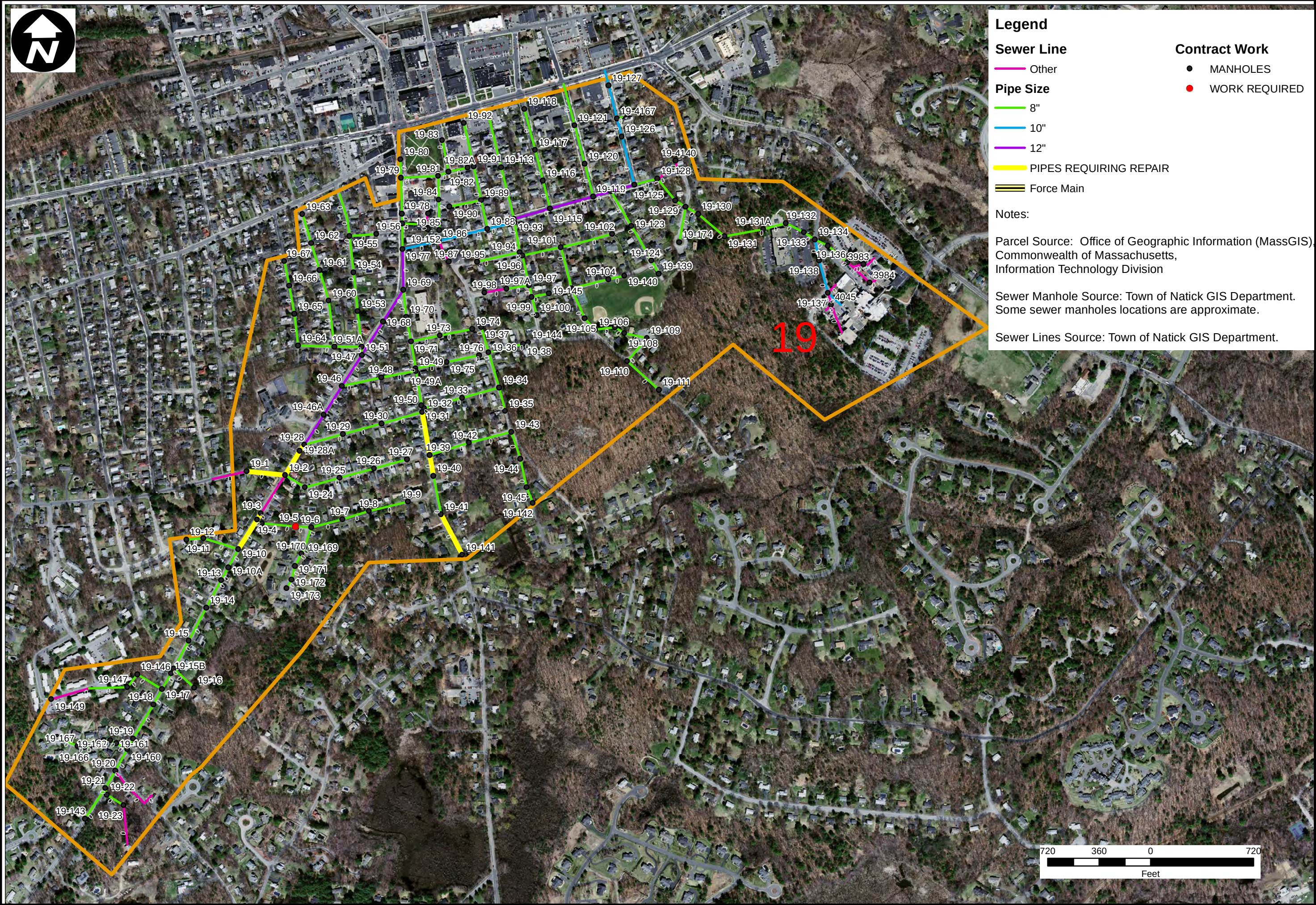
BASIN

17

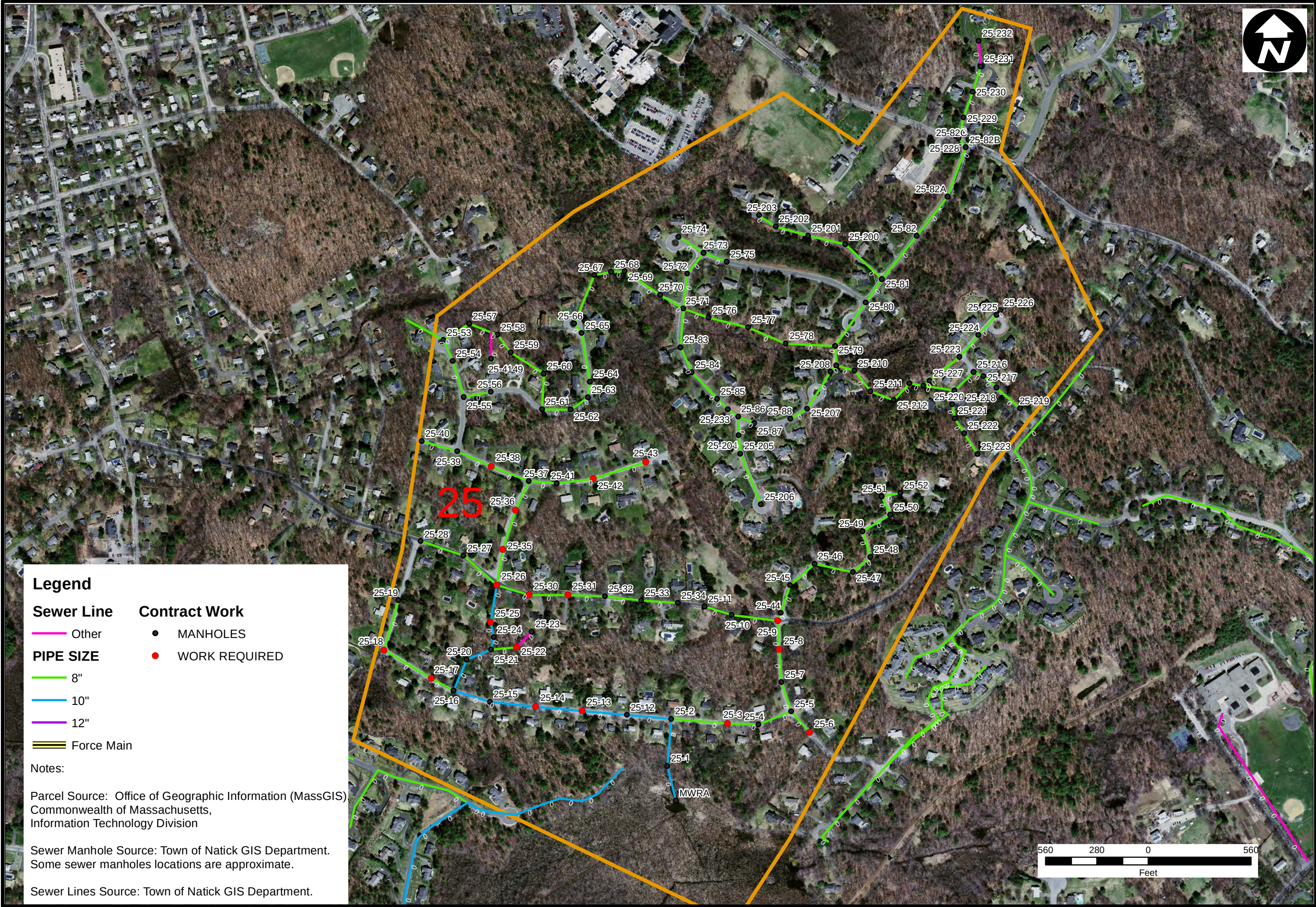


CHECKED	DATE	BY

SHEET NO.:	17 of 20
CONTRACT NO.:	S-162
SCALE:	1:5,600
DATE DRAWN:	JUNE, 2020
DRAWN BY:	LJC
FILE NO.:	NAT427_BSN_18.MXD



SHEET NO.:	18 of 20	CHECKED	DATE	BY
CONTRACT NO.:	S-162	REVISED	DATE	BY
SCALE:	1"=200'			
DATE DRAWN:	JUNE, 2020			
DRAWN BY:	LJC			
FILE NO.:	NAT427_BSN_19.MXD			



Legend

- Sewer Line**

 - Other
 - PIPE SIZE**
 - 8"
 - 10"
 - 12"
 - Force Main
- Contract Work**

 - MANHOLES
 - WORK REQUIRED

Notes:

Parcel Source: Office of Geographic Information (MassGIS)
Commonwealth of Massachusetts,
Information Technology Division

Sewer Manhole Source: Town of Natick GIS Department.
Some sewer manholes locations are approximate.

Sewer Lines Source: Town of Natick GIS Department.

DEPARTMENT OF PUBLIC WORKS
NATICK, MASSACHUSETTS

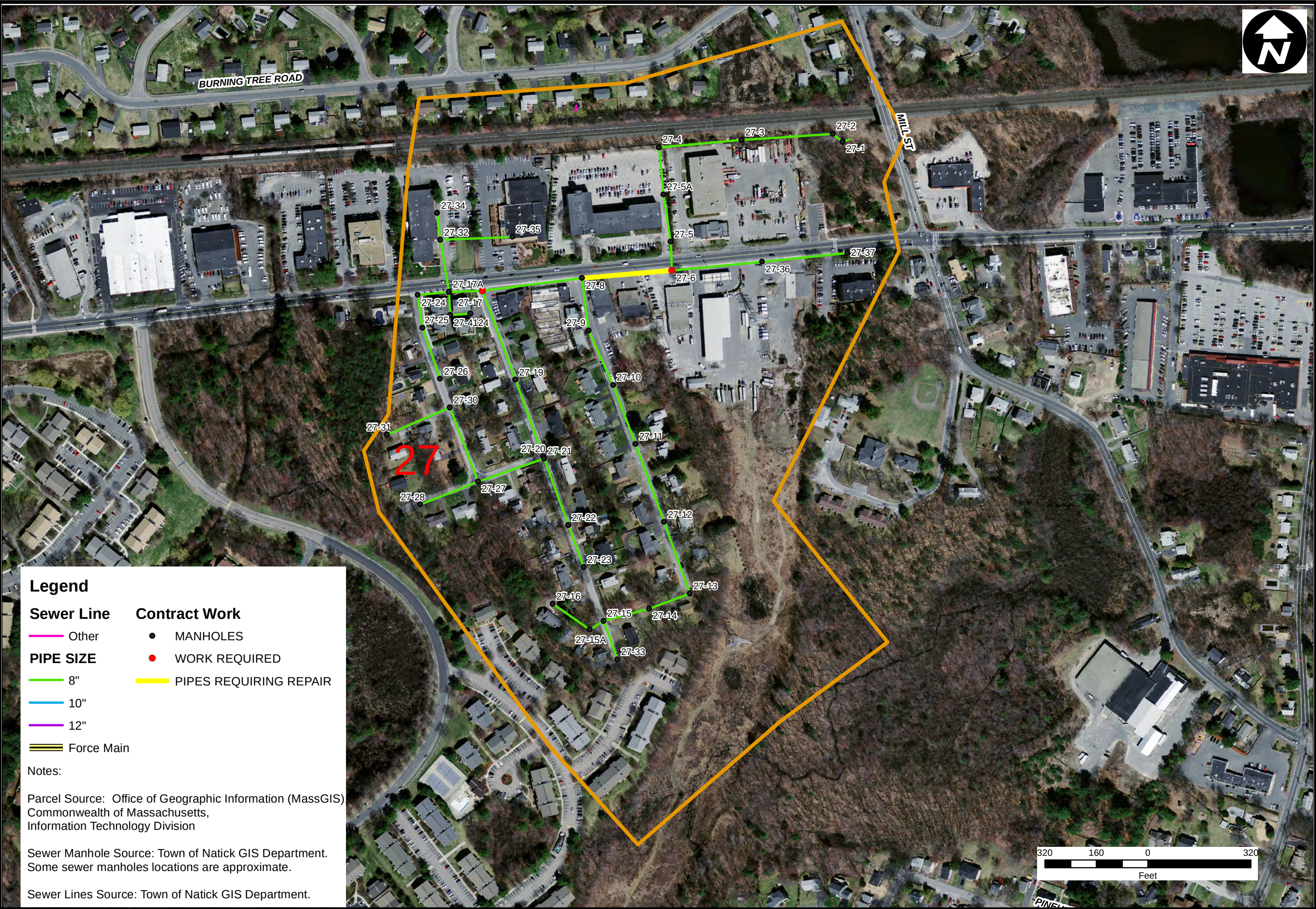
3 YEAR SEWER
REHABILITATION

ADDENDUM
NO. 1

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MAYNARD, MASSACHUSETTS 01754-2097
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SHEET NO.:	19 of 20	CHECKED	DATE	BY
CONTRACT NO.:	S-162	REVISD	DATE	BY
SCALE:	1:5,600			
DATE DRAWN:	JUNE, 2020			
DRAWN BY:	LJC			
FILE NO.:	NAT427_BSN_25.MXD			

BASIN
25



Legend

- Sewer Line**

 - Other
 - PIPE SIZE**
 - 8"
 - 10"
 - 12"
 - Force Main
- Contract Work**

 - MANHOLES
 - WORK REQUIRED
 - PIPES REQUIRING REPAIR

Notes:

Parcel Source: Office of Geographic Information (MassGIS) Commonwealth of Massachusetts, Information Technology Division

Sewer Manhole Source: Town of Natick GIS Department. Some sewer manholes locations are approximate.

Sewer Lines Source: Town of Natick GIS Department.

DEPARTMENT OF PUBLIC WORKS
NATICK, MASSACHUSETTS

3 YEAR SEWER
REHABILITATION

ADDENDUM
NO. 1

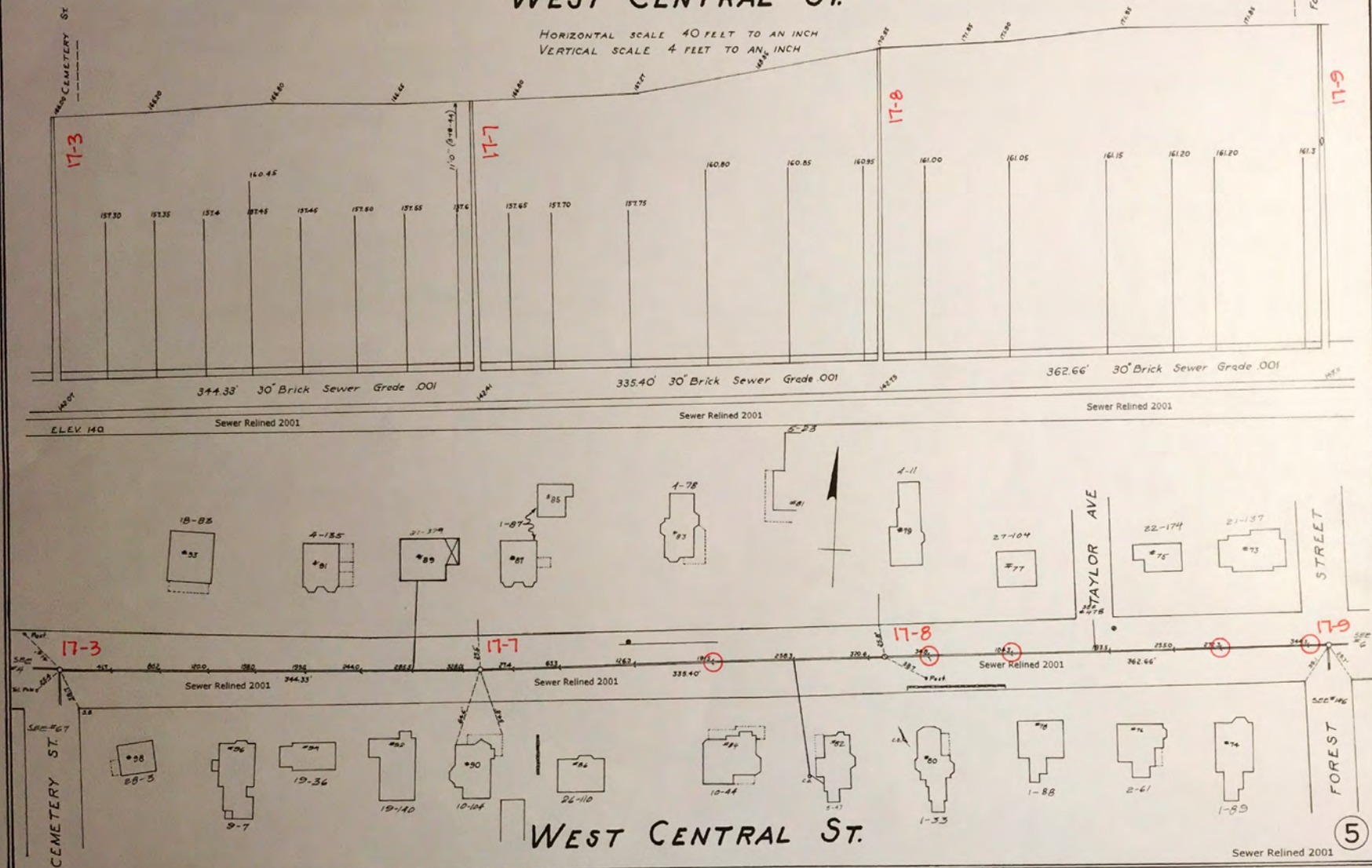
Haley and Ward, Inc.
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MAYNARD, MASSACHUSETTS 01754-2097
PHONE: (978) 648-6025
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SHEET NO.:	20 of 20	BY	
CONTRACT NO.:	S-162	DATE	
SCALE:	1:3,200	REVISED	
DATE DRAWN:	JUNE, 2020		
DRAWN BY:	LJC		
FILE NO.:	NAT427_BSN_27.MXD		

BASIN
27

WEST CENTRAL ST.

HORIZONTAL SCALE 40 FEET TO AN INCH
VERTICAL SCALE 4 FEET TO AN INCH

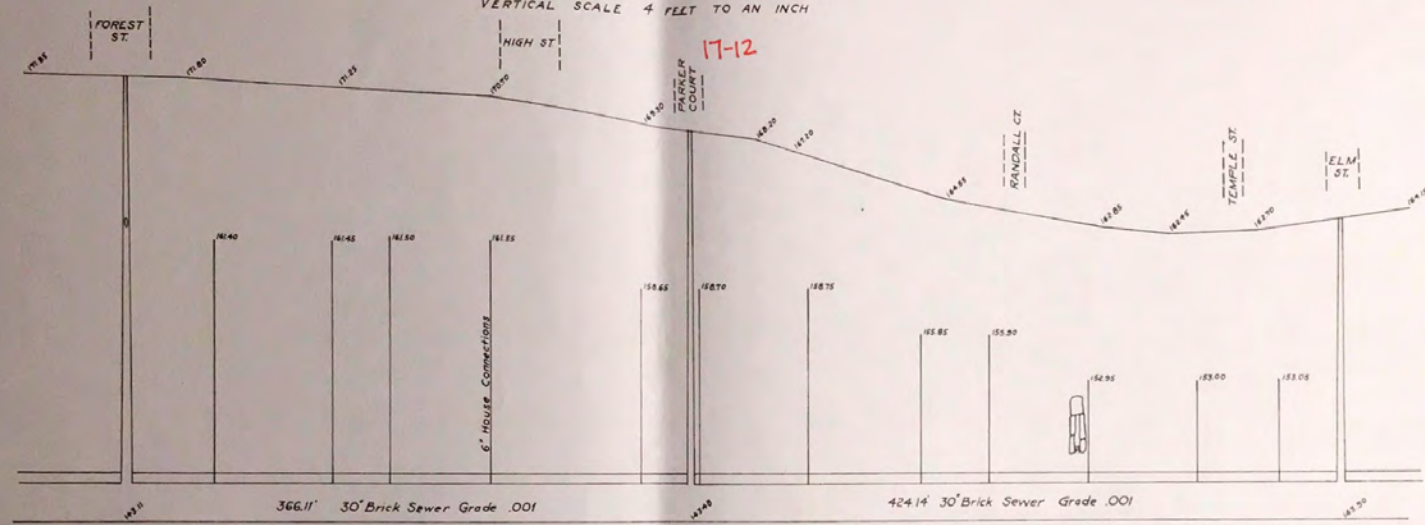


WEST CENTRAL ST.

17-9

HORIZONTAL SCALE 40 FEET TO AN INCH
VERTICAL SCALE 4 FEET TO AN INCH

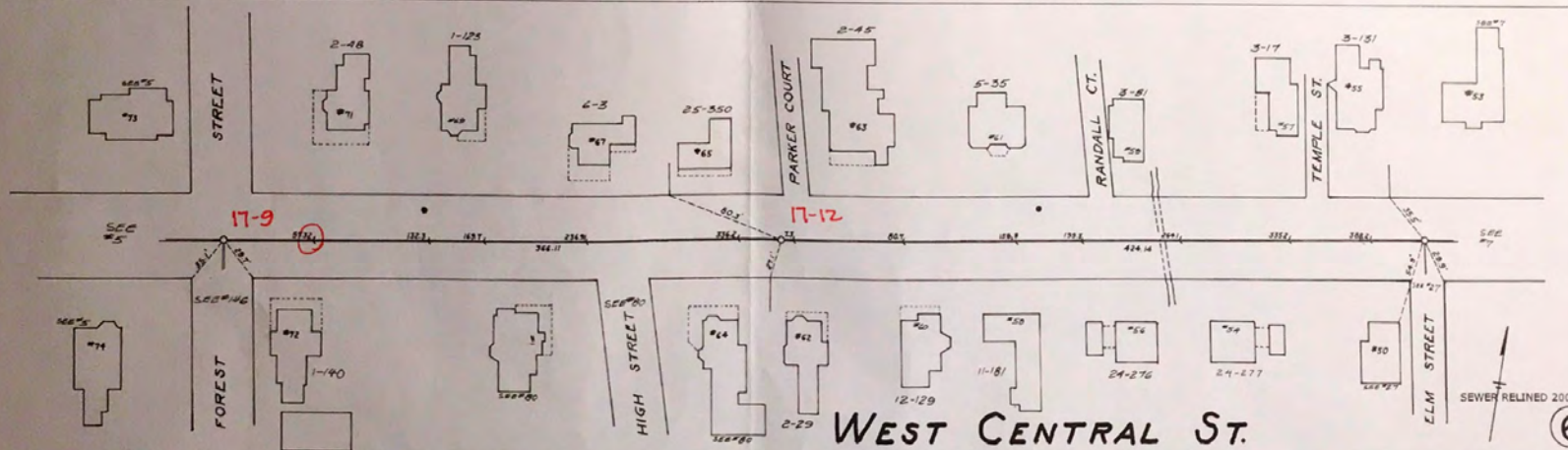
17-12



ELEV 140.0

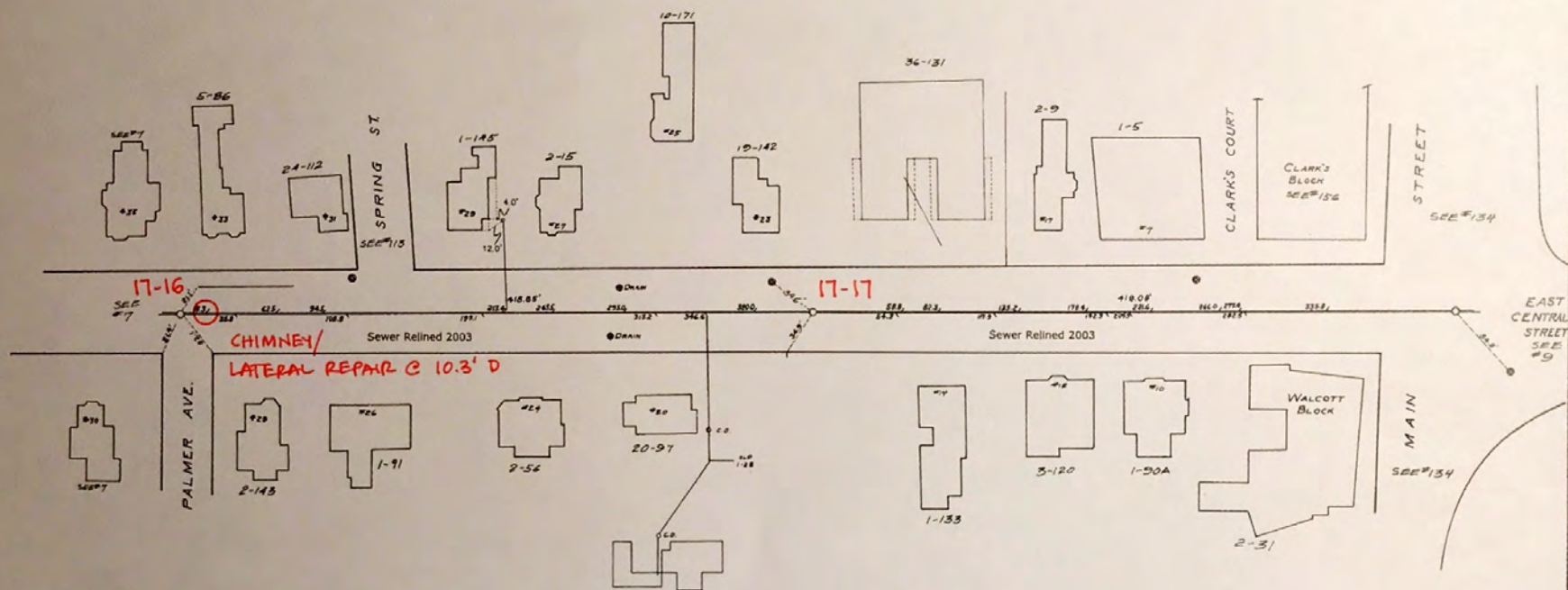
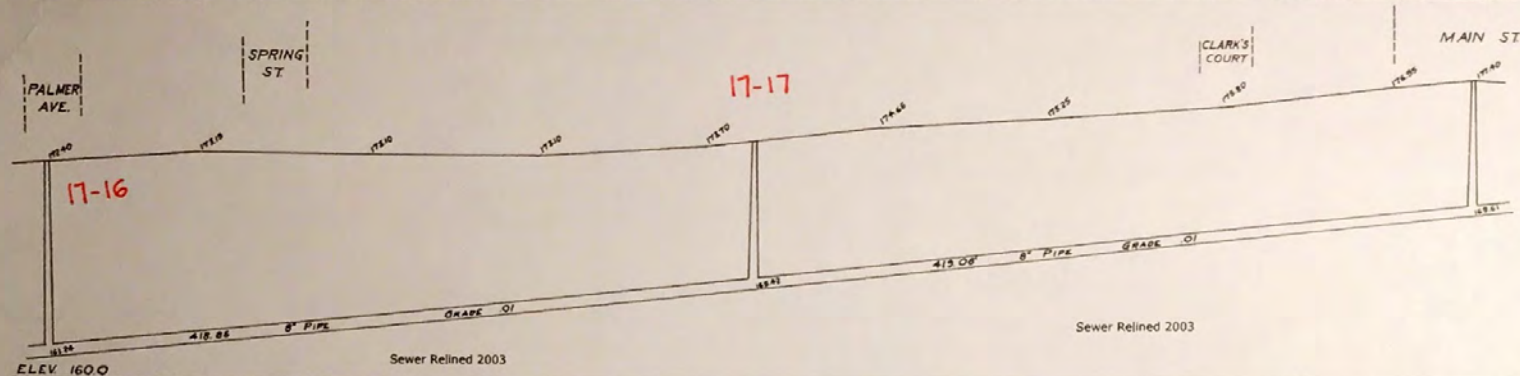
SEWER RELINED 2000

SEWER RELINED 2000



WEST CENTRAL ST.

6



WEST CENTRAL ST.

Sewer Relined 2003

9-17

MECHANICAL ST

9-12

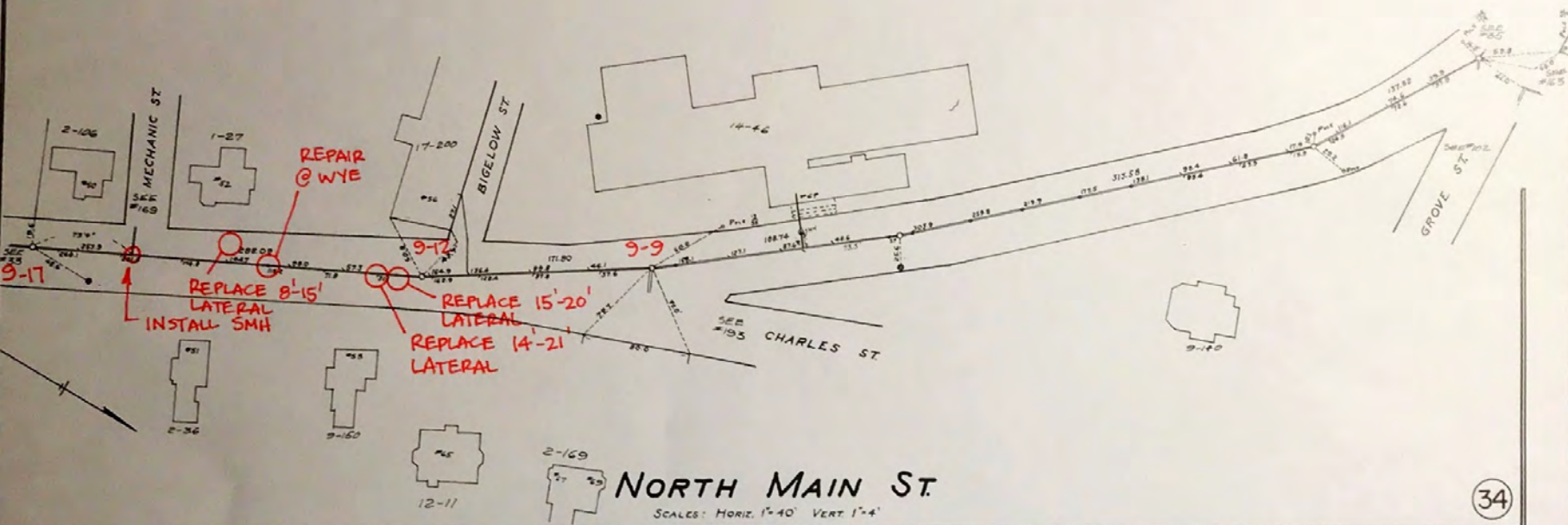
BIGELOW ST

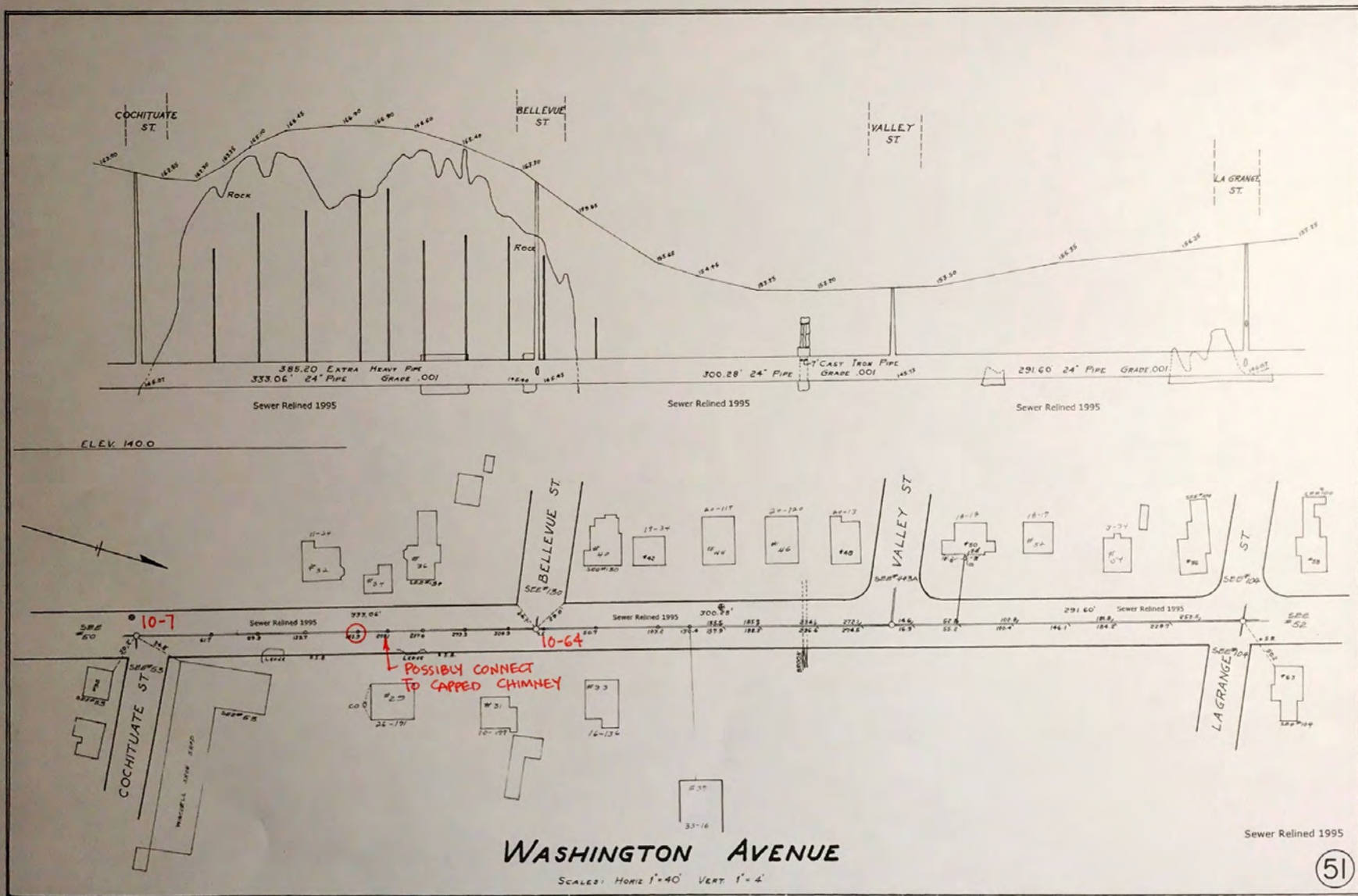
9-9

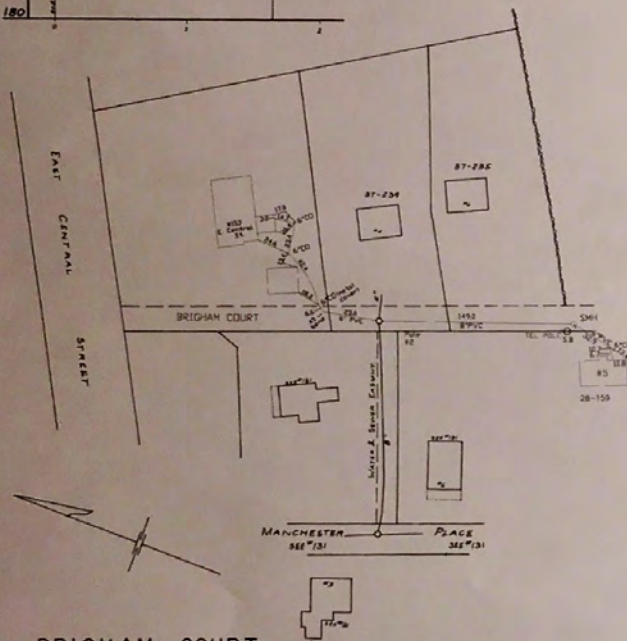
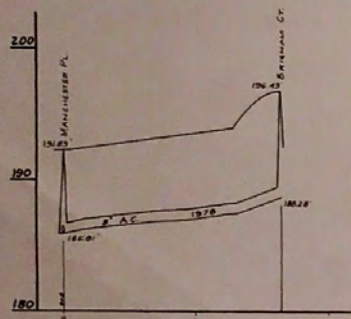
GROVE ST

INSTALL SMH

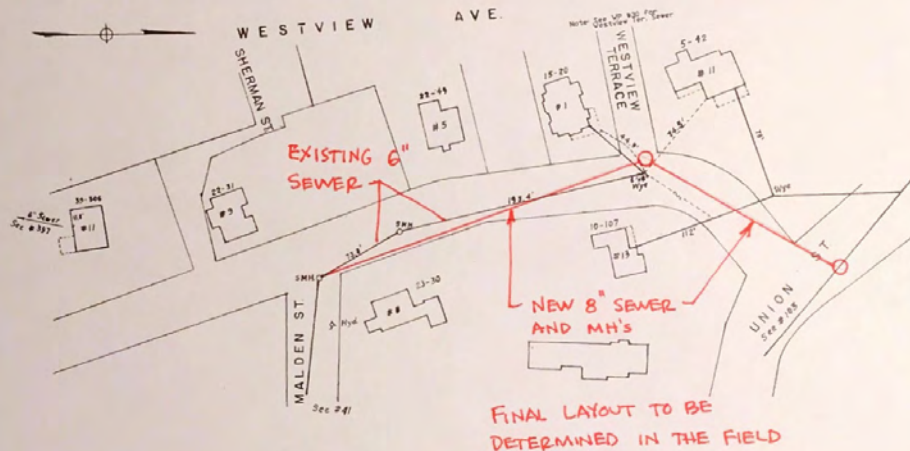
DATE ELEV 150.00'



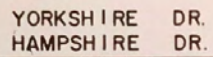
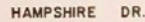


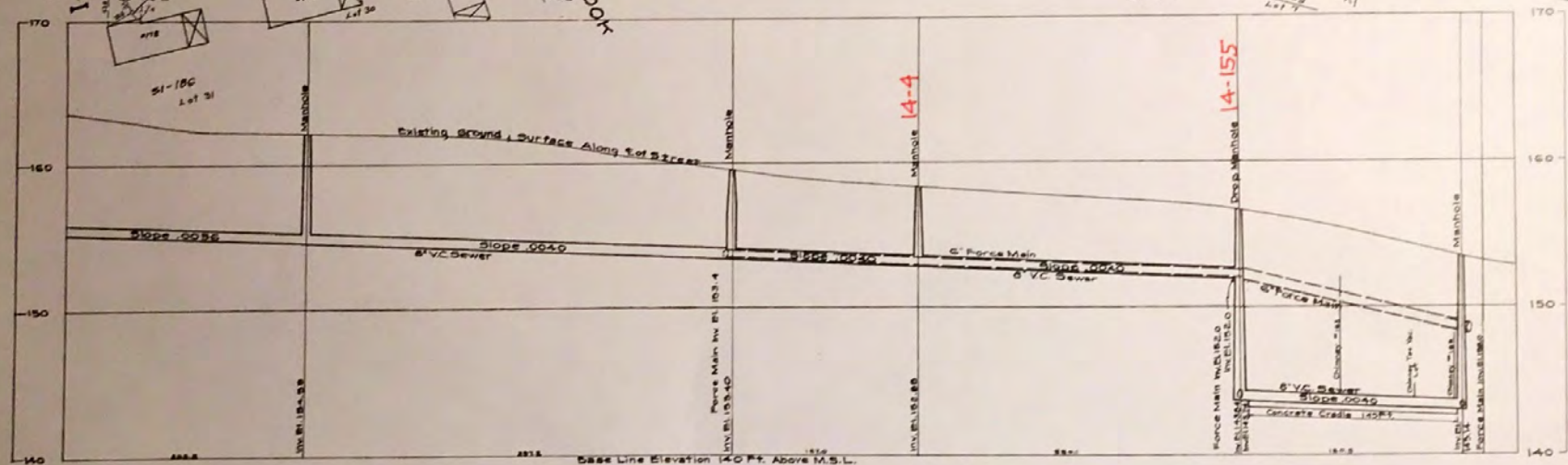
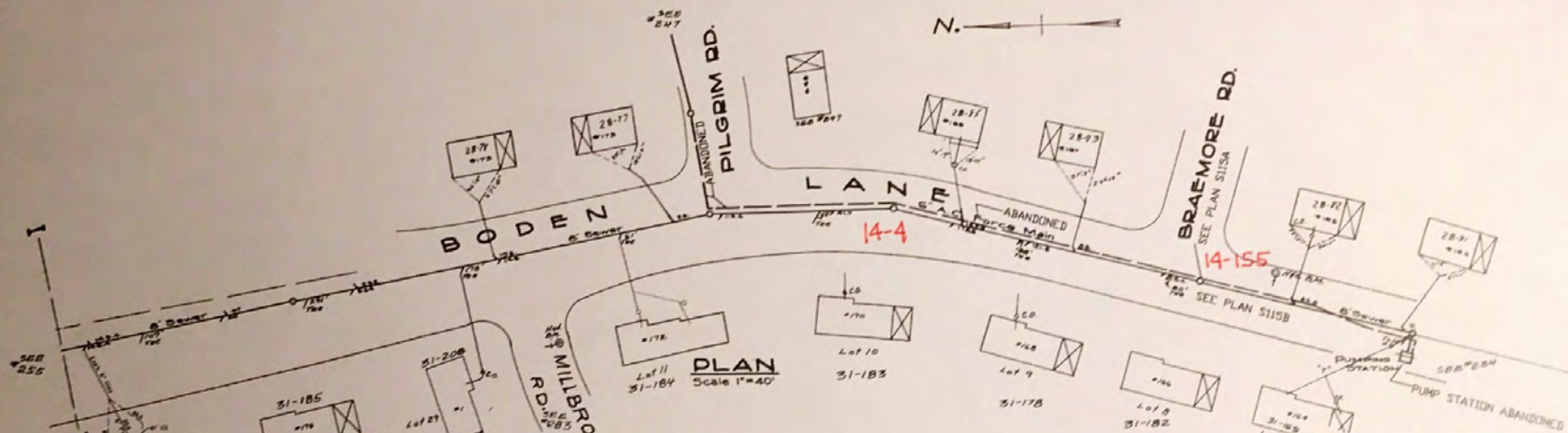


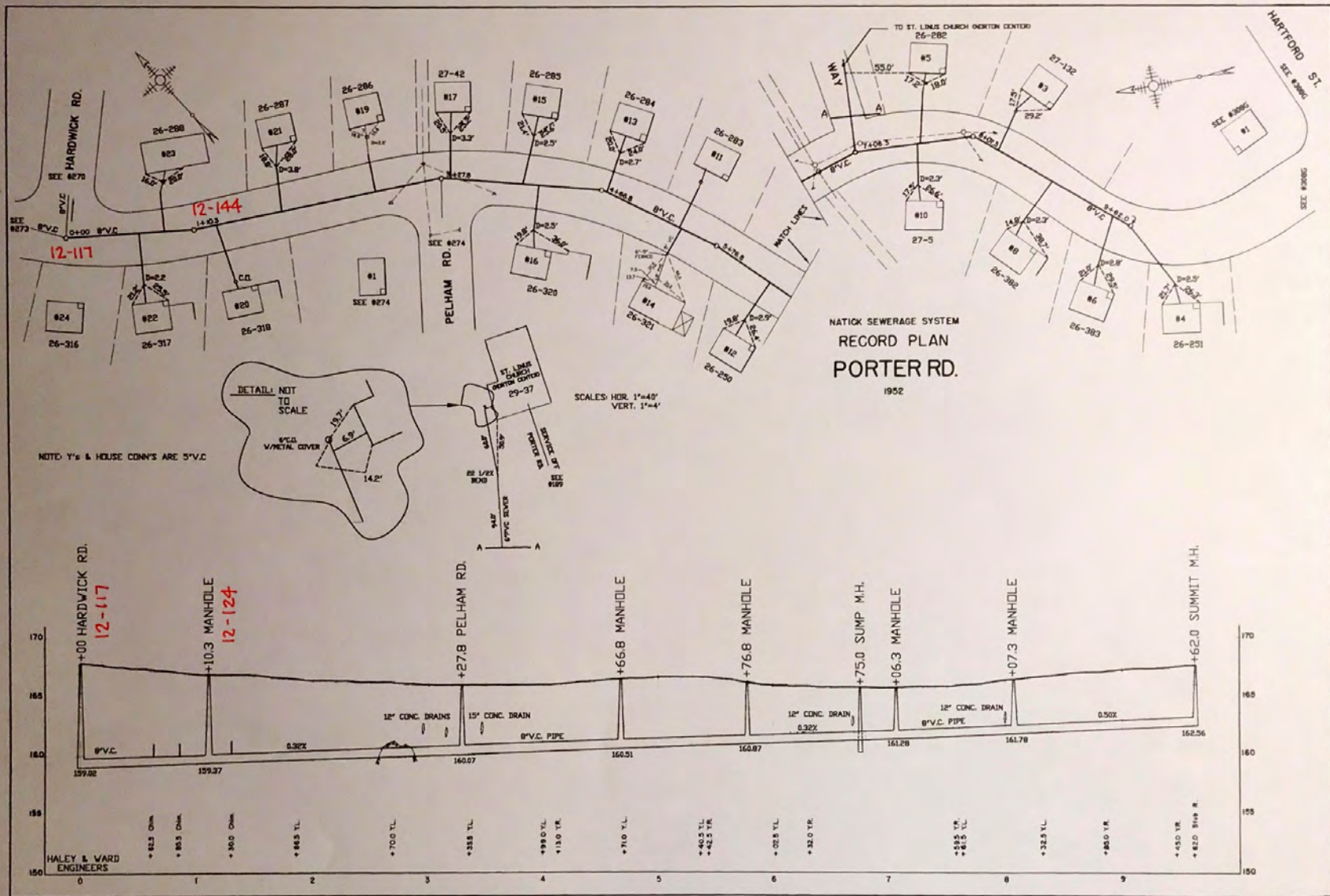
BRIGHAM COURT

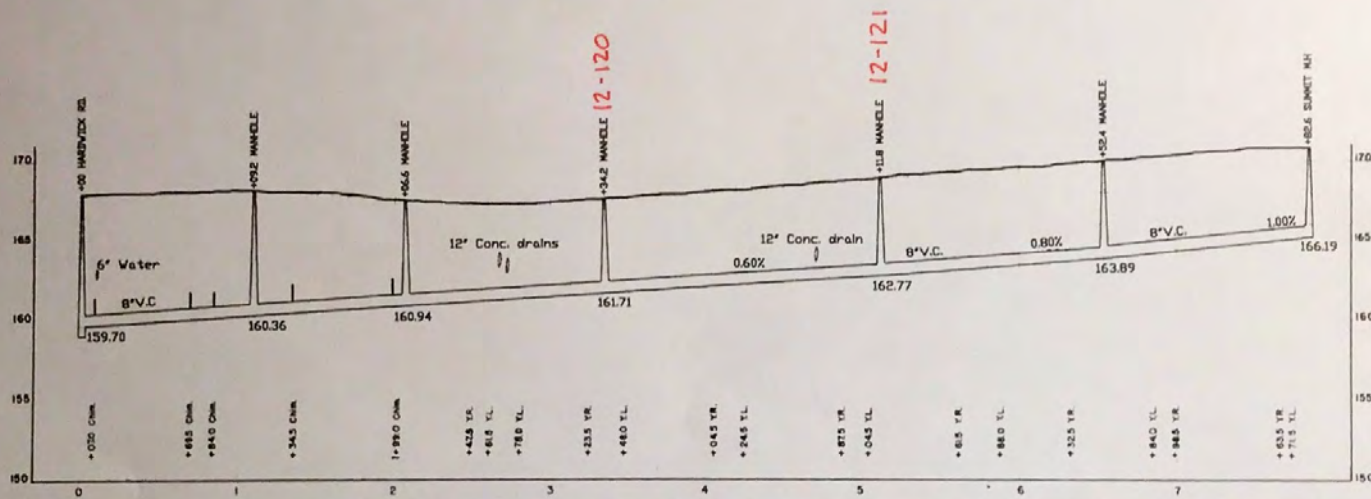
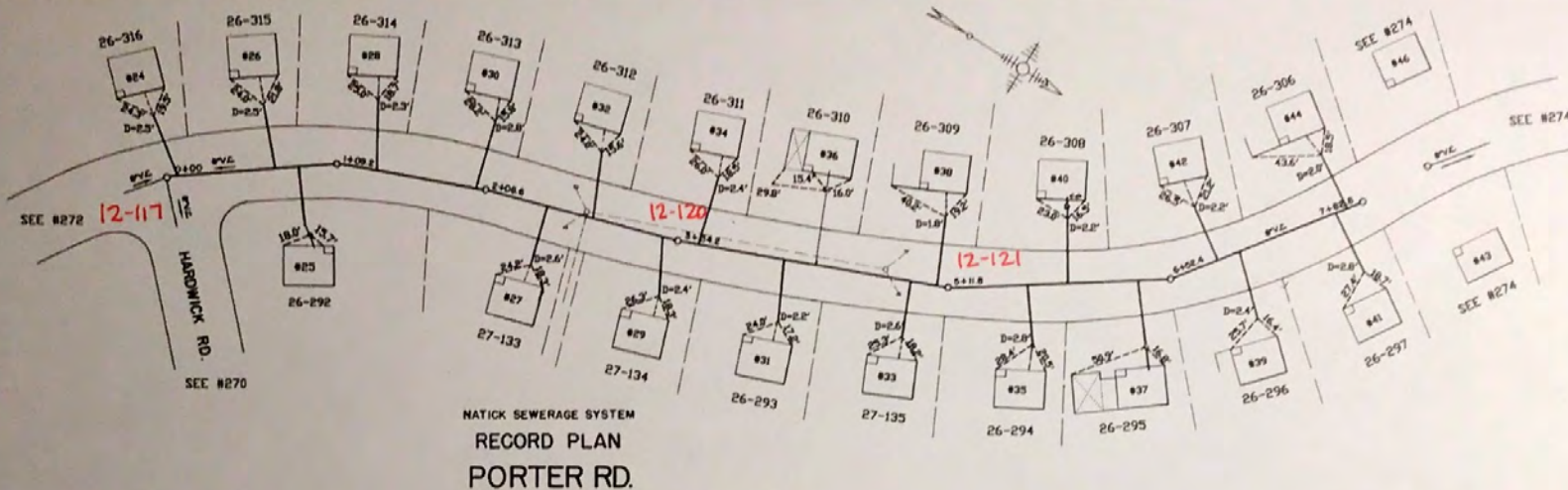


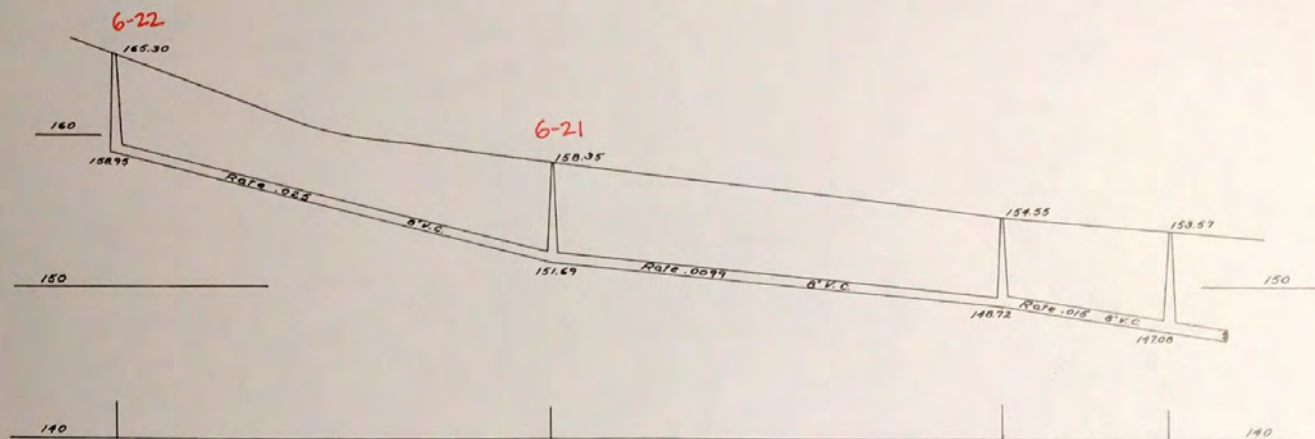
WESTVIEW AVE.











RICHARD RD.

Scales:
Hor. 1 in. = 40 ft.
Vert. 1 in. = 4 ft.

