PUBLIC NOTICE

The Township of Bloomfield is seeking financial assistance from the NJDEP Water Bank Clean Water Program to construct improvements to its distribution system. Accordingly, a Planning Document has been prepared and submitted to the Water Bank Program pursuant to NJAC 7:22-3.11(d) 5, NJAC 7:11-4.11 (d) 5, and NJAC 7:22-10.4 (c). This report provides information needed to evaluate the effects of the proposed improvements on the surrounding environment. The information is intended to assist the NJDEP Bureau of Program Development and Technical Services as they review the Township's application for financial assistance.

The proposed improvements will consist of the construction of an interconnection with North Jersey District Water Supply District (NJDWSC) and a booster station to deliver the water into the Bloomfield distribution system. Approximately 400 linear feet of ductile iron water main will be needed to connect the booster to the distribution system. In addition a second improvement is planned. Approximately 6,000 linear feet of existing cast iron water main will be cleaned and lined and seven hydrants will be replaced.

This Notice is to inform the general public that NJDEP has issued a Decision Statement approving the project funding. Upon written request, the Planning Document and the NJDEP Environmental Decision Statement will be available for public review at the Bloomfield Township Engineer's office at the following address:

Township of Bloomfield
One Municipal Plaza
Room 203
Bloomfield, New Jersey 07003

Mr. Matthew U. Watkins, Township Administrator
Township of Bloomfield

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
401-03D
Division of Water Quality
Municipal Finance and Construction Element
Bureau of Environmental, Engineering and Permitting
P O Box 420
Trenton, NJ 08625-0420
Tel. (609) 633-1170
Fax (609) 633-8165
www.state.nj.us/dep/dwq

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

CATHERINE R. MCCABE
Commissioner

JAN - 3 2020

Township of Bloomfield
Bloomfield, Essex County
Construction of Booster Pump Station
And Water Distribution System Improvements
Project No. 0702001-004

To All Interested Government Agencies and Public Groups:

The Township of Bloomfield (Township) is pursuing financial assistance from the New Jersey Water Bank to construct an interconnection directly with the North Jersey District Water Supply Commission (NJDWSC) water main. The Township receives pre-treated water from the City of Newark's Water Department via three existing interconnections located throughout the Township. Water samples tested in the Bloomfield water system have exceeded the maximum contaminant level over the past few years (2017, 2018 and 2019) for Haloacetic Acids. As a result, the Township has received Notices of Violation from the NJDEP. The new interconnection requires the construction of a new booster pump station on Township-owned property adjacent to the right-of-way containing the NJDWSC 74-inch water main pipe. The construction of approximately 400 linear feet (LF) of 24-inch ductile iron pipe to connect the new booster pump station to the NJDWSC interconnection and the Township water distribution system will also be included with this project. The site is close to the Garrabrant Avenue interconnection with the Newark water system and would be used instead of that interconnection. The project will not result in an increase of water allocation or expansion of service area.

In addition, tuberculation of the existing water mains has reduced their carrying capacity. The proposed project will also clean and cement-line approximately 6,000 LF of existing 12-inch cast iron water mains in Broughton, Chapel, and Spring Streets. Seven fire hydrants will also be replaced. Overall, this project will improve water quality and protect public health.

The Department of Environmental Protection (Department) has reviewed the proposed action for potential environmental impacts in accordance with N.J.A.C. 7:22-10. Based on planning information submitted in support of the proposed action, the Department has determined that it qualifies for a Level 1 environmental review. The rules provide that this level applies to certain categories of actions that are expected to have little or no adverse environmental impact.

Based on the Level 1 environmental review, the Department has made a decision to approve the planning information for the proposed action. This decision is a part of the financial assistance application process but is not a commitment of federal or state funds. An environmental summary of the proposed action, including the basis for determining that this project qualifies for a Level 1 environmental review, is enclosed. Please note, in accordance with N.J.A.C. 7:22-10.4(d)1, the applicant is responsible for advertising this decision document within two weeks of the date of this decision document and for making the planning and decision documentation available for public review.

Project Cost: $2,600,000

Proposed Loan: $2,600,000

Comments supporting or disagreeing with this determination should be addressed to: Karen Cole, Chief, Environmental Review Section, Bureau of Environmental, Engineering and Permitting, Municipal Finance and Construction Element, Mail Code 401-03D, P. O. Box 420, Trenton, New Jersey, 08625-0420.

Sincerely,

Eugene J. Chebra, P.E.
Assistant Director
Municipal Finance & Construction Element
Division of Water Quality

Enclosure

Environmental Summary
Township of Bloomfield
Bloomfield, Essex County
Construction of Booster Pump Station
And Water Distribution System Improvements
Project No. 0702001-004

I. Proposed Action

The Township of Bloomfield (Township) is located in Essex County and encompasses approximately 5.3 square miles (Figure 1). It is bordered by Nutley Township, the City of Newark and Belleville Township to the east, the City of East Orange to the south, City of Clifton to the north, and Glen Ridge Borough and Montclair Township to the west. The Township has a population of approximately 47,315.

The Township owns and maintains its own potable water system infrastructure, which includes approximately 110 miles of distribution piping throughout the Township, ranging in size from 6 inches to 16 inches in diameter, that services approximately 10,500 residential and commercial customers. The Township receives pre-treated water from the City of Newark's Water Department via three existing interconnections located throughout the Township. Newark receives a portion of its water from the Pequannock Supply System and another portion from the Wanaque Supply System, which is operated by the North Jersey District Water Supply Commission (NJDWSC).

The three interconnections are located at Garrabrant Avenue, Center Street and Grove Street and are used daily. The majority of the water is supplied by the Garrabrant Avenue interconnection. Water samples tested in the Bloomfield water system have exceeded the maximum contaminant level over the past few years (2017, 2018 and 2019) for Haloacetic Acids. This has resulted in Township receiving Notices of Violation from the NJDEP.

The Township plans to construct an interconnection directly with the NJDWSC water main. The interconnection requires the construction of a new booster pump station on Township-owned property adjacent to the right-of-way containing the 74-inch NJDWSC water main pipe (Figures 2 and 3). The site is close to the Garrabrant Avenue interconnection with the Newark water system and would be used instead of that interconnection. The new NJDWSC interconnection and booster pump station would eventually be used to provide potable water to the entire Township. The proposed project will include approximately 400 linear feet (LF) of 24-inch ductile iron pipe (DIP) to connect the new booster pump station to the NJDWSC interconnection and the Township water distribution system. The booster pump station will be 58 feet long by 37 feet wide by 29 feet high and designed with two, three million gallon per day (mgd) pumps and one, six mgd pump. The pump station will also be designed to accommodate an additional six mgd pump. An emergency generator and electrical room will be constructed inside the pump station. Miscellaneous site work will be included as part of the project such as fencing, paving, restoration and utilities. The project will not result in an increase of water allocation or expansion of service area.

Tuberculation of the existing water mains has reduced their carrying capacity. The proposed project will clean and cement-line approximately 6,000 LF of existing 12-inch cast iron water

mains in Broughton, Chapel and Spring Streets. (Figure 4). Seven fire hydrants will also be replaced.

Construction of the booster pump station will disturb approximately 3,195 square feet (SF) of pavement and approximately 137 SF of lawn area. Approximately 768 SF of pavement and approximately 1,418 SF of lawn area will be disturbed as part of the cleaning and lining project.

The State of New Jersey has an ongoing State Implementation Plan (SIP) development process for air quality, which provides measures for the prevention of violation of the Ambient Air Quality Standards. Current control measures focus on transportation strategies and industrial stationary sources. The NJDEP routinely collects, compiles, analyzes and summarizes Ambient Air Quality Monitoring Data from a number of air quality monitoring locations throughout the State of New Jersey.

To avoid adverse air quality impacts during short-term construction activities, compliance with the regulatory requirements of New Jersey's Air Rules continue to remain in effect. Activities must still meet the State's Air Pollution Control requirement, such as obtaining permits when necessary, adherence to idling limitations, implementation of all reasonable measures to mitigate dust and fugitive emissions from demolition and construction and complying with all state and federal rules for demolition of structures which may contain asbestos.

Whenever dewatering occurs in excess of 100,000 gallons per day, a temporary dewatering permit is required, and the quantity of water diverted must be reported to the Division of Water Supply and Geoscience's Bureau of Water Allocation and Well Permitting. Dewatering effects can result in temporary and localized depressions of groundwater, which have the potential to affect the stability of structures located adjacent to construction. Stability of structures will be monitored. If problems arise, then corrective measures will be implemented immediately, and groundwater will return to normal levels following construction. Dewatering can sometimes contain silt, which can adversely affect environmentally sensitive areas such as surface waters and wetlands. Control devices, such as settling basins for silt control, will be required to be in use during construction to remove sediment from dewatering operations prior to discharge.

A New Jersey Pollution Discharge Elimination System (NJPDES) Discharge to Surface Water (DSW) permit will be needed for any wastewater resulting from construction dewatering that may be discharged to surface water, regardless of the amount of water. Provided that the discharge is not contaminated, the appropriate discharge permit will be the Category B7-Short-term De Minimis Discharge General Permit (see http://www.state.nj.us/dep/dwq/pdf/b7-rfa-checklist.pdf). This determination will be made by running a pollutant scan, described in the application checklist, where the data can be collected up to a year in advance of the discharge. If, however, the analytical results demonstrate levels greater than the Attachment 1 standards as specified in the Category B7-Short-term De Minimis Discharge General Permit (see http://www.state.nj.us/dep/dwq/pdf/b7-deminimis-final-permit-5-20-15.pdf), the appropriate NJPDES DSW permit will be either the B4B-General Groundwater Petroleum Product Clean-Up Permit or the BGR – General Groundwater Remediation Clean-up Permit (see http://www.state.nj.us/dep/dwq/pdf/sw-gp-chklst.pdf). Either of these permits can generally be processed in fewer than 30 days, although a Treatment Works Approval may be needed for any type of wastewater treatment. Contact information is listed on the checklists found at the websites identified above.

This project was reviewed for its potential to affect historic properties with respect to federal and state regulations. The watermain cleaning and lining project component crosses the alignment of the Morris Canal Historic District at Passaic Avenue. The Morris Canal is a historic property listed on the New Jersey and National Registers of Historic Places. In order to gain access to the water main, small diameter borings must be made above existing valves. Project information reviewed by the Department indicates that the borings will be made outside the boundaries of the Morris Canal Historic District. If, however, project plans change and it is determined that the borings must be made within the historic district boundaries, an Application for Project Authorization must be submitted to the New Jersey Historic Preservation Office by the Township, in accordance with the New Jersey Register of Historic Places Act. With respect to Section 106 of the federal National Historic Preservation Act and NJAC 7:22-10, the watermain component will not have an effect on the Morris Canal because the borings will be made directly over the existing pipe. The booster station will be built generally within the footprint of the existing building on the site, and a buried tank on the property was removed. Based on the previous disturbances at this location, the Department concludes that this project component will have no effect on historic properties.

The 2018 median annual household income (MAHI) for the Township water service area is estimated to be approximately $72,867 based on the 2010 U.S. Census data, which was updated to the present using the Consumer Price Index. The current annual water user charge is approximately $636 for residents. As a result of the proposed project, the annual water user charge is expected to increase to approximately $708. The proposed annual water user charge will be approximately 0.97 percent of the MAHI, which is below the 1.75% threshold and not considered to be excessive.

II. Alternatives Considered

A. No Action

Under this alternative, the new interconnection and booster pump station would not be constructed, and water mains would not be cleaned and lined. Additionally, the fire hydrants would not be replaced, causing safety and health hazards and potential brakes in service. This could lead to contamination of the local water bodies and threaten water quality and public health. For these reasons, this alternative was not selected.

B. Construction of New Water Treatment Facility

Under this alternative a new water treatment facility would be constructed. This alternative would be very costly and there would not be enough available space to construct this facility. For these reasons, this alternative was not selected.

C. Construction of Booster Pump Station And Water Distribution System Improvements (Selected Plan)

This alternative will involve construction of the new interconnection and booster pump station and cleaning and lining of the water mains and replacement of the fire hydrants, as

identified above. This alternative is the selected alternative for this project since it protects public health and safety and improves water quality.

III. Eligibility for Level 1 Environmental Review

A. In accordance with N.J.A.C. 7:22-10.4(a), the proposed project conforms to a category of actions eligible for a Level 1 environmental review because it proposes rehabilitation repair or replacement of existing environmental infrastructure facilities and/or construction of ancillary facilities, or minor improvements to environmental infrastructure facilities, which do not create a new discharge, reduce the level of treatment, result in an increase in quantity of flow of an existing discharge, involve an increase in water allocation, or involve the construction of a new water tower.

B. Available information regarding the proposed project leads to the conclusion that none of the criteria for disqualifying an eligible category for a Level 1 environmental review are present:

1) the project is not expected to have a permanent adverse or a significant temporary adverse effect on the human environment;

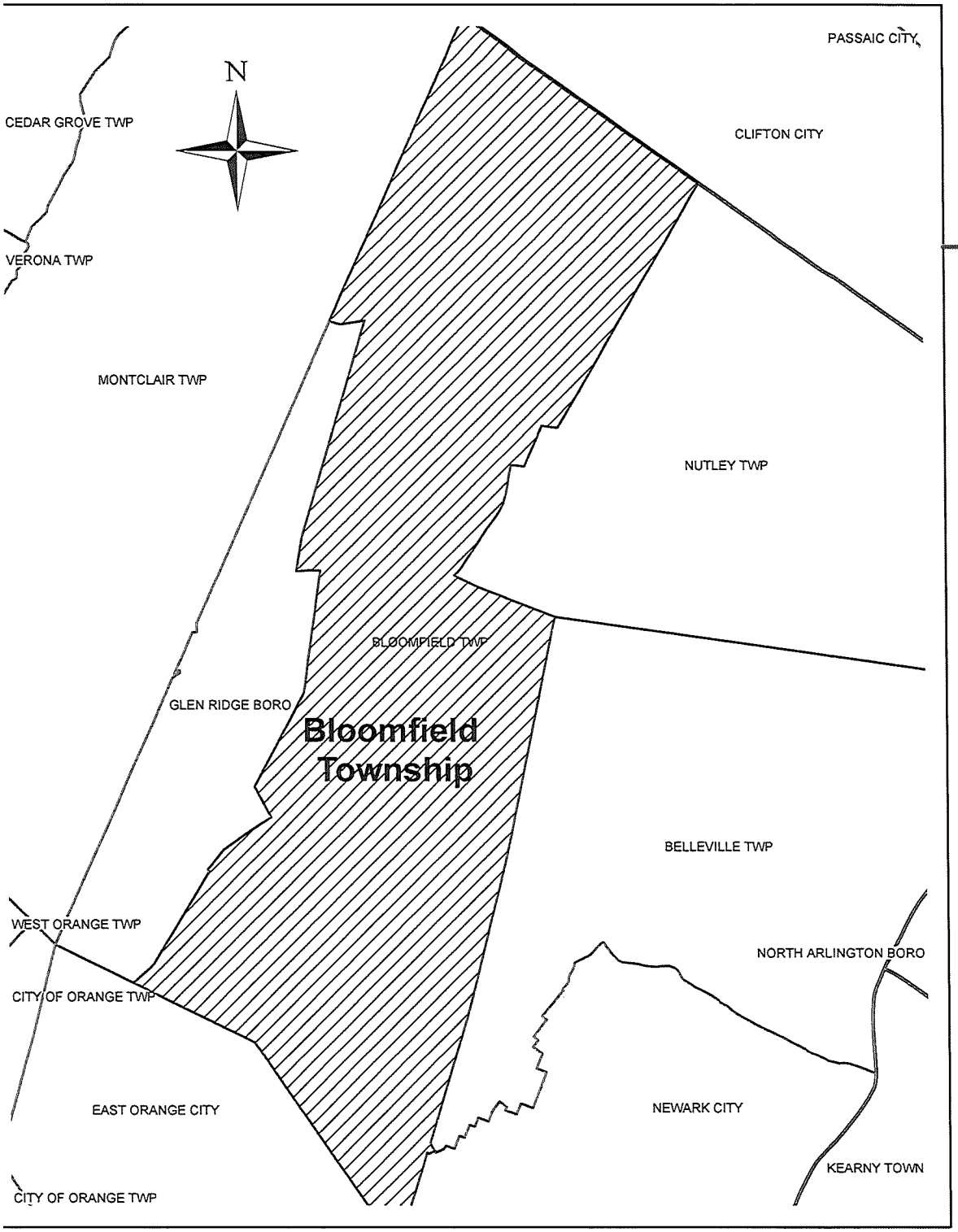
2) the project is not expected to have a permanent adverse or a significant temporary adverse direct or indirect impact on cultural resources, endangered or threatened species or designated habitats, wetlands, floodplains, important farmlands, or other environmentally critical areas;

3) the user cost for the project will be below 1.75 percent of the median annual household income; and

4) the project is not expected to result in significant adverse public comment.

IV. Conclusion

The environmental review of this project indicates that it conforms to a category of projects which, by their nature, generally will have little or no adverse impact on the environment. Project documentation submitted in support of this project and reviewed by the Department indicates that the potential for environmental impacts will be minor. The potential for impacts will be further minimized by incorporating the standard environmental protection measures contained in the "Environmental Assessment Requirements for State Assisted Environmental Infrastructure Facilities" (N.J.A.C. 7:22-10) into the design and construction of the project. In addition, permits will be required to be in place before project construction can proceed. The Department has not received adverse public comment concerning this project.



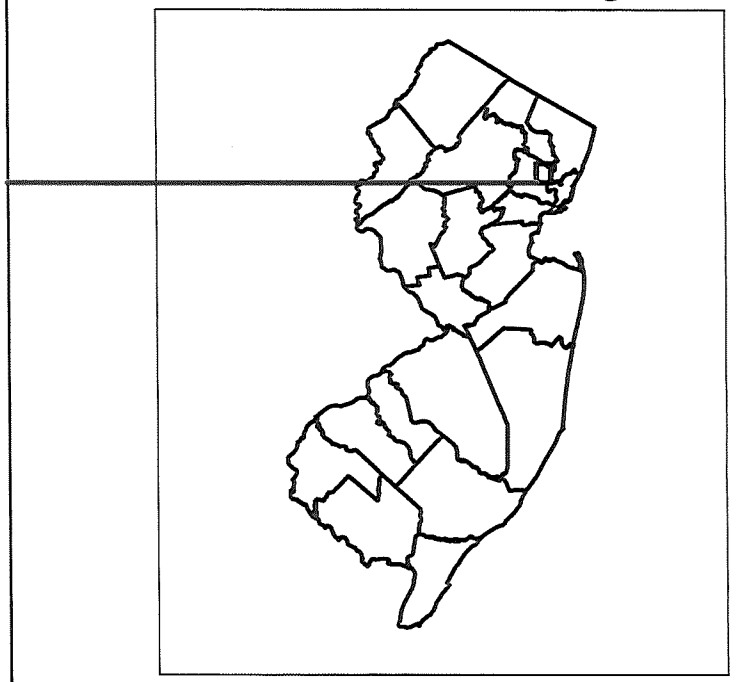
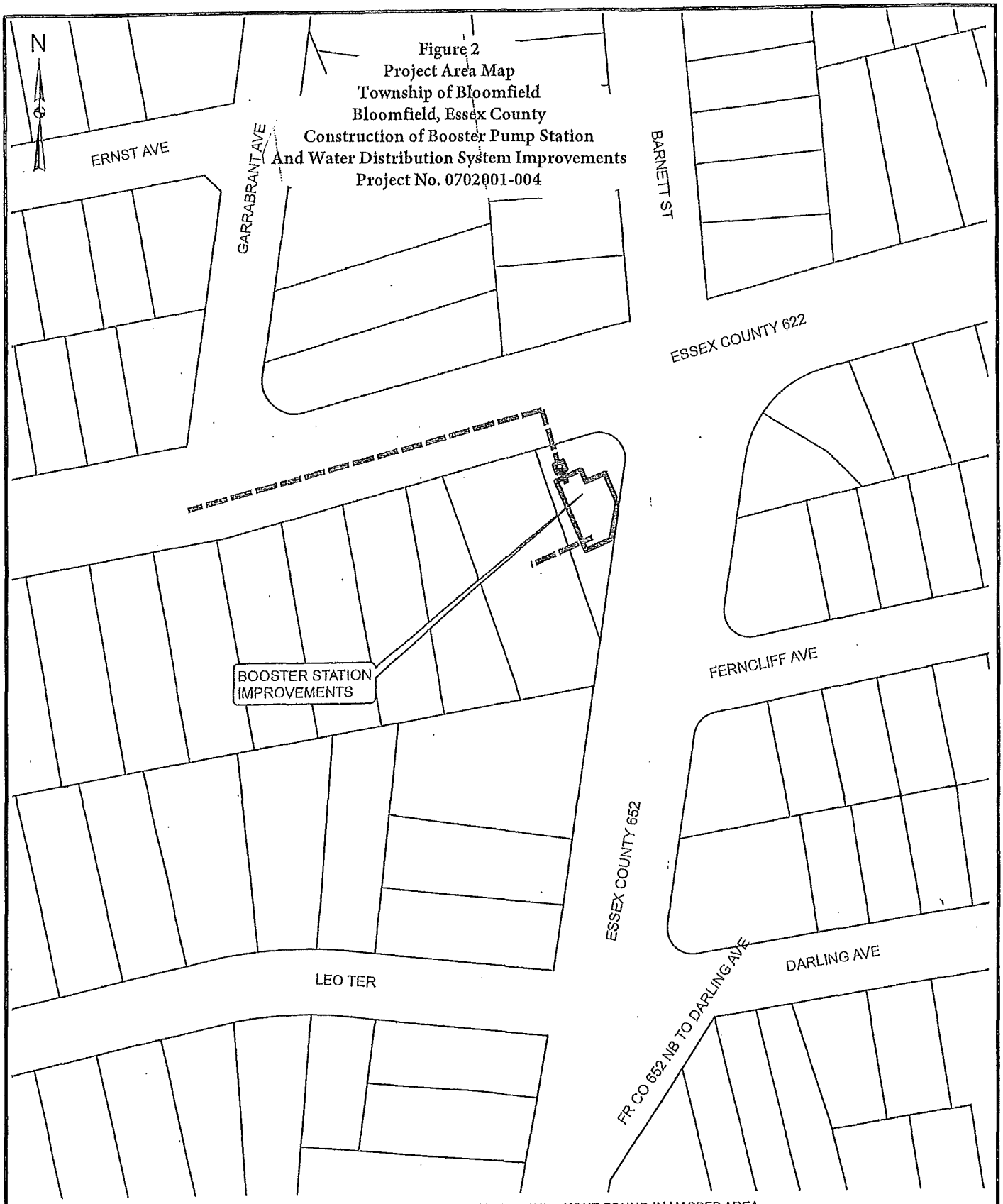


Figure 1
General Site Location Map
and Service Area Map
Township of Bloomfield
Bloomfield, Essex County
Construction of Booster Pump Station
And Water Distribution System Improvements
Project No. 0702001-004

Figure 2
Project Area Map
Township of Bloomfield
Bloomfield, Essex County
Construction of Booster Pump Station
And Water Distribution System Improvements
Project No. 0702001-004



SOURCE: WETLANDS FROM N.J.D.E.P. 2012 LAND USE / LAND COVER RESOURCE DATA. NONE FOUND IN MAPPED AREA.

BLOOMFIELD TOWNSHIP	ALAIMO GROUP *Consulting Engineers* 200 High Street, Mount Holly, N.J. 2 Market Street, Paterson, N.J.	FIGURE 8B
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY		WETLANDS MAP BOOSTER STATION IMPROVEMENTS
		Date: APRIL 2019
Scale: 1" = 100' (APPROX.)	Created By: MAC / Checked By: J.M.H.	Project No.: A-0900-0017-000

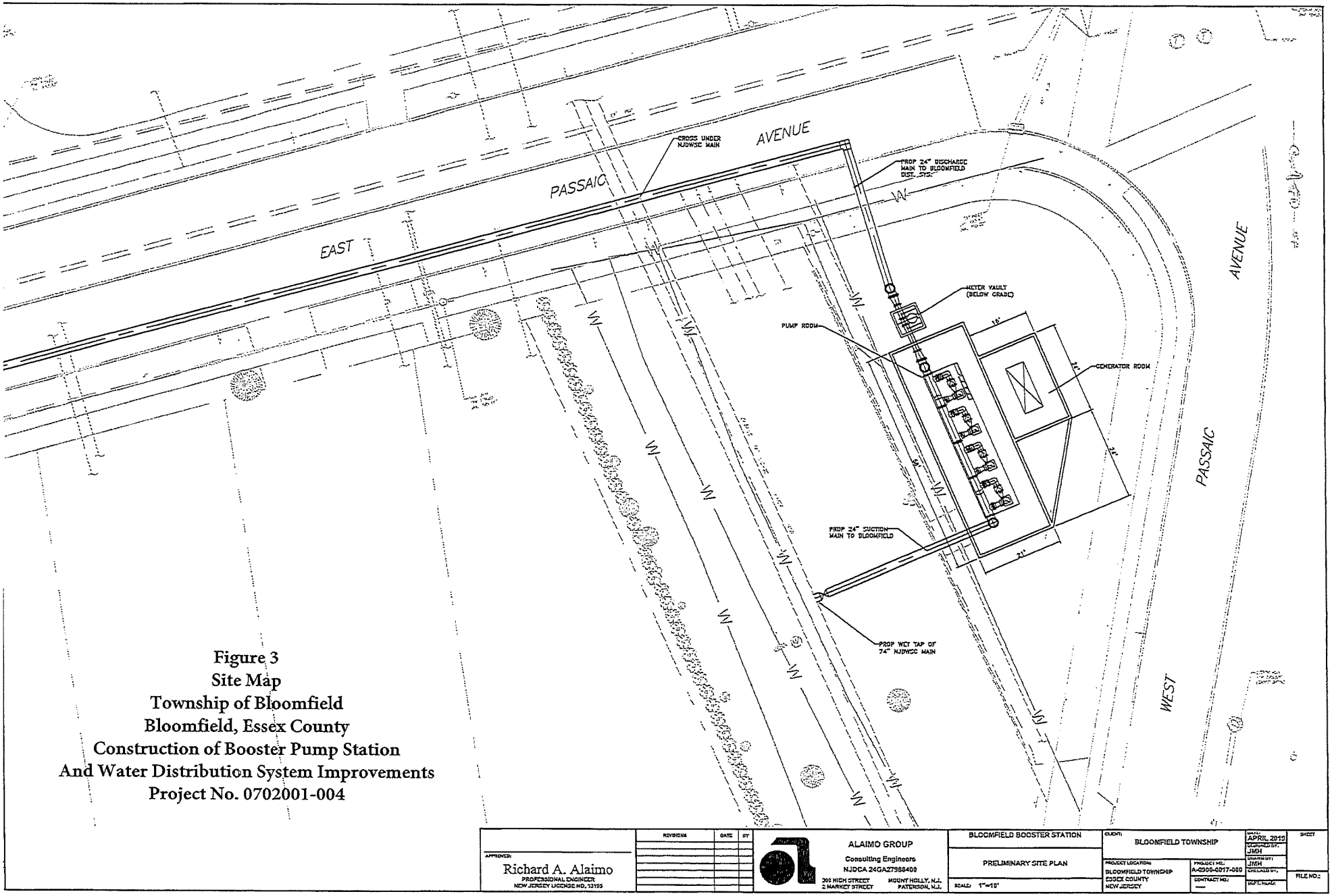


Figure 3
Site Map
Township of Bloomfield
Bloomfield, Essex County
Construction of Booster Pump Station
And Water Distribution System Improvements
Project No. 0702001-004

APPROVED:
Richard A. Alaimo
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 13103

REVISIONS | DATE | BY

ALAIMO GROUP
Consulting Engineers
NJDCA 24GA27988400
200 HIGH STREET, MOUNT HOLLY, N.J.
2 MARKET STREET, PATERSON, N.J.

BLOOMFIELD BOOSTER STATION
PRELIMINARY SITE PLAN
SCALE: 1"=10'

CLIENT: BLOOMFIELD TOWNSHIP
PROJECT LOCATION: BLOOMFIELD TOWNSHIP, ESSEX COUNTY, NEW JERSEY
PROJECT NO.: A-0900-0017-000
CONTRACT NO.: —

DATE: APRIL 2019
DESIGNED BY: JMH
DRAWN BY: JMH
CHECKED BY:
SHEET
FILE NO.:

Figure 4
Project Area Map
Township of Bloomfield
Bloomfield, Essex County
Construction of Booster Pump Station And Water Distribution System Improvements
Project No. 0702001-004

SOURCE: WETLANDS FROM N.J.D.E.P. 2012 LAND USE / LAND COVER RESOURCE DATA.

BLOOMFIELD TOWNSHIP	ALAIMO GROUP *Consulting Engineers* 200 High Street Mount Holly, N.J. 2 Market Street Paterson, N.J.	FIGURE 8A
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY		WETLANDS MAP WATER MAIN CLEANING AND LINING
		Date: APRIL 2019
Scale: 1" = 500' (APPROX.)	Created By: MAC / Checked By: J.M.H.	Project No.: A-0900-0017-000

BLOOMFIELD TOWNSHIP WATER DEPARTMENT

2019 DRINKING WATER PLANNING DOCUMENT FOR CONSTRUCTION OF A BOOSTER STATION AND IMPROVEMENTS TO THE WATER DISTRIBUTION SYSTEM

BLOOMFIELD TOWNSHIP
ESSEX COUNTY, NEW JERSEY

APPLICATION NO. "NEW PROJECT"

SUBMITTED TO:

Municipal Assistance Program Element
Division of Water Resources
New Jersey Department of Environmental Protection
Pursuant to NJAC 7:22

April 23, 2019
Our File No. A-0900-0017 and A-0900-0022

Richard A. Alaimo, P.E.
New Jersey License No. 13195

Alaimo Group
- Consulting Engineers -

BLOOMFIELD TOWNSHIP WATER DEPARTMENT

CONSTRUCTION OF A BOOSTER STATION AND IMPROVEMENTS TO THE WATER DISTRIBUTION SYSTEM

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- 2.6.1 Construction of Booster Station
- 2.6.2 No Action
- 2.6.3 Water Main Cleaning and Lining - Broughton, Chapel and Spring Streets
- 2.6.4 No Action

2.7 Selected Plan Description

2.8 Design Basis

- 2.8.1 Selected Plan Cost Estimates
- 2.8.2 User Cost/Median Annual Household Income

2.9 Public Participation/Involvement

BLOOMFIELD TOWNSHIP WATER DEPARTMENT

CONSTRUCTION OF A BOOSTER STATION AND IMPROVEMENTS TO THE WATER DISTRIBUTION SYSTEM

1.0 Executive Summary

Bloomfield Township is seeking financial assistance from the New Jersey Financial Assistance Program for Environmental Infrastructure Facilities, to construct a new booster station and to improve portions of their water distribution system on Broughton, Chapel and Spring Streets. Accordingly, this Planning Document has been prepared in pursuant to N.J.A.C. 7:22-3.11(d) 5, N.J.A.C. 7:22-4.11(d) 5 and N.J.A.C. 7:22-10.4(c). This report provides information needed to evaluate the effects of the proposed improvements on the surrounding environment. The information is intended to assist the Bureau of Program Development and Technical Services as they review Bloomfield Township's application for financial assistance.

2.0 Level 1 Environmental Review

The proposed improvements will be a combination of rehabilitation and construction of new ancillary equipment and facilities that will not create a new discharge, reduce level of treatment, increase approved water allocation, or construct a new water tower. The proposed project will not have any temporary or permanent adverse impacts on human environment, no adverse impacts on the health, safety or welfare of the general public, no direct or indirect impact on endangered or threatened species or their designated habitats, no direct or indirect impacts to wetlands, vernal habitats, flood plains, important farmlands or other environmentally critical areas. No Land Use Permits are anticipated, and user costs for the project will not exceed 1.75 percent of the median annual household income. Therefore, this project qualifies for a Level 1 Environmental Review.

2.1 Introduction

This environmental review has been prepared in accordance with NJAC 7:22-10.4, which describes the requirements for a Level 1 environmental review. It is intended to document that financial assistance provided to Bloomfield Township for the proposed construction of a booster station, and upgrade portions of their water distribution system on Broughton, Chapel and Spring Streets is spent in a proper manner for the intended purposes while avoiding or minimizing adverse environmental impacts.

2.2 Description of Planning Area

Bloomfield Township is approximately 5.3 square miles in size and is located in the eastern portion of Essex County, New Jersey. The Township is bordered by Nutley, Belleville, East Orange, Glen Ridge and Montclair in Essex County, and by Clifton in Passaic County. As per the U.S. Census Bureau, July 1, 2016, the estimated population in Bloomfield Township was 48,539.

The Township's water service area includes Bloomfield Township. The portions of the Township not served by the distribution system are supplied by private wells.

Development within the Township's residential zones within the planning area has been essentially completed, with the exception of isolated parcels. The proposed project will not provide additional capacity for any potential developments.

The Township's water system is supplied by three purchased water interconnections. Since the interconnections pump into a single water distribution system, the planning area for the project is considered the same as the service area.

2.2.1 USGS Regional Location Map (Figure 1)

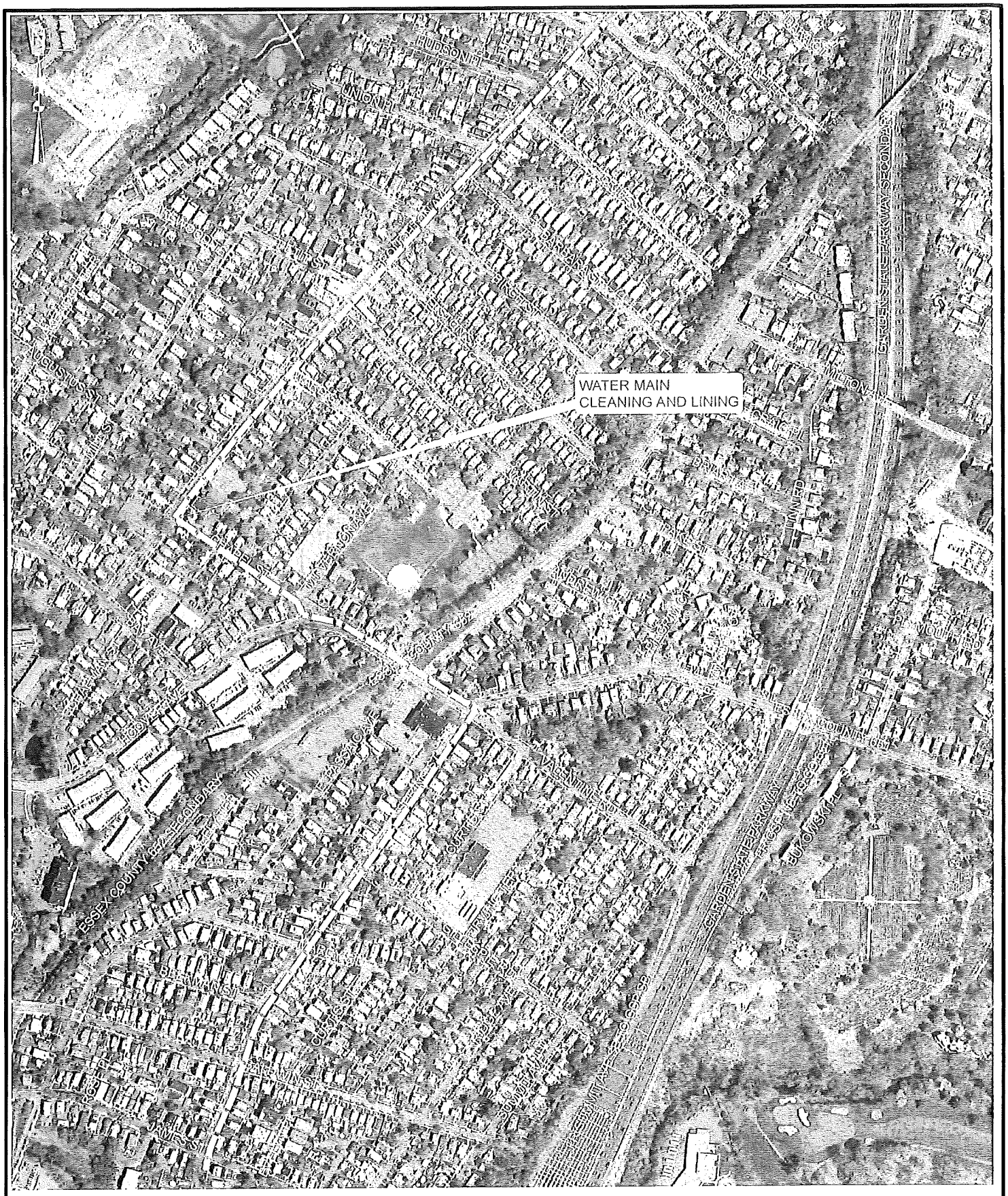
2.2.2 Aerial Location Maps (Figures 2A – 2B)

2.2.3 Water Service Area Map (Figure 3)

2.2.4 Planning Area Map (Figure 4)

SOURCE: U.S.G.S. 7.5 MINUTE SERIES QUADRANGLE, ORANGE, NEW JERSEY

BLOOMFIELD TOWNSHIP	ALAIMO GROUP Consulting Engineers 200 HIGH STREET, MOUNT HOLLY, N.J. 2 MARKET STREET, PATERSON, N.J.	FIGURE 1
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY		U.S.G.S. LOCATION MAP
		Date: APRIL 2019
Scale: 1" = 2,000'	Created By: MAC / Check By: J.M.H.	Project No.: A-0900-0017-000

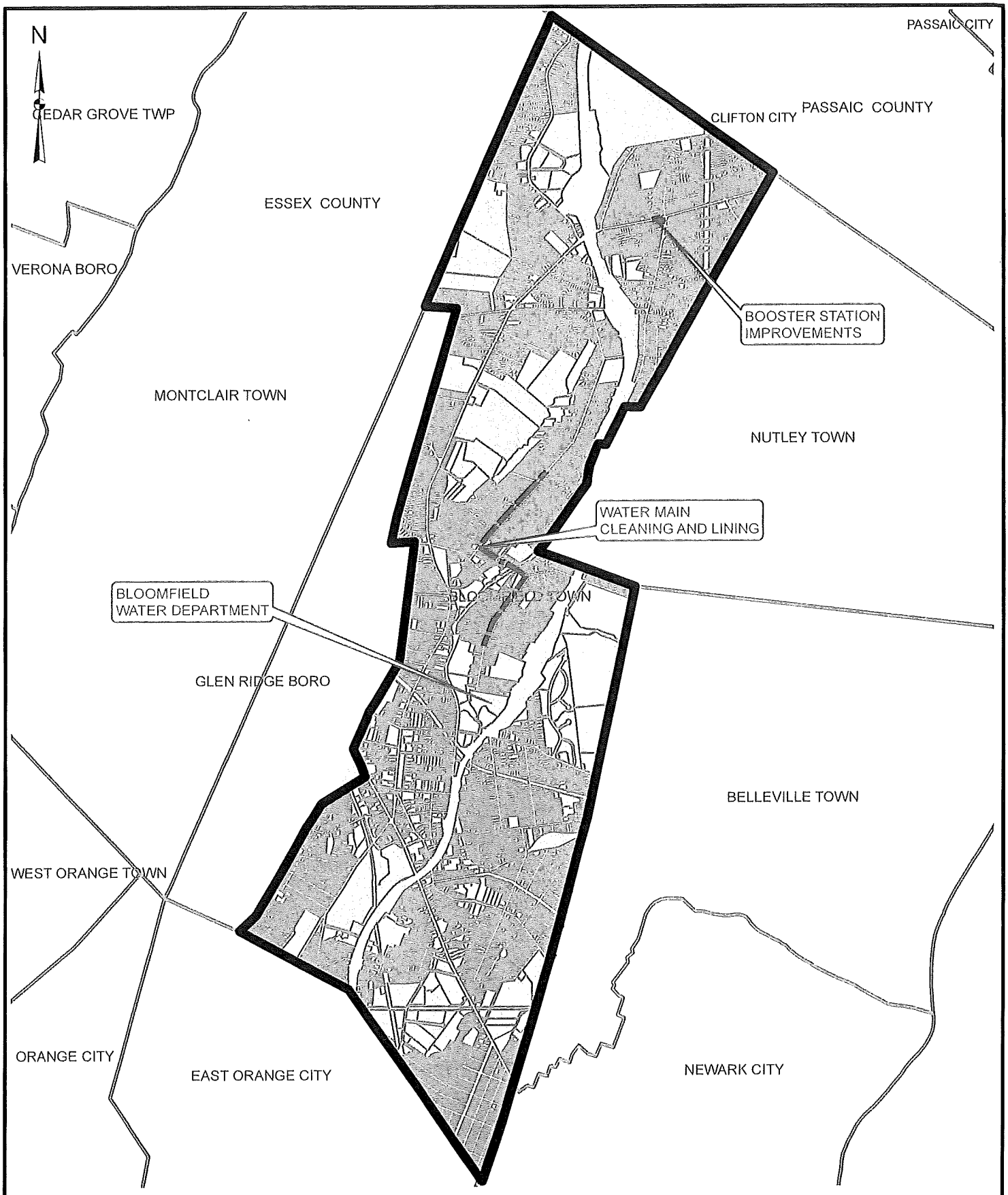


SOURCE: NEW JERSEY STATE AERIAL PHOTOGRAPHY CAPTURED FEBRUARY 2015.

BLOOMFIELD TOWNSHIP	ALAIMO GROUP *Consulting Engineers* 200 High Street, Mount Holly, N.J. 2 Market Street, Paterson, N.J.	FIGURE 2A AERIAL LOCATION MAP WATER MAIN CLEANING AND LINING
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY		Date: APRIL 2019
Scale: 1" = 500' (APPROX.)	Created By: MAC / Checked By: J.M.H.	Project No.: A-0900-0017-000

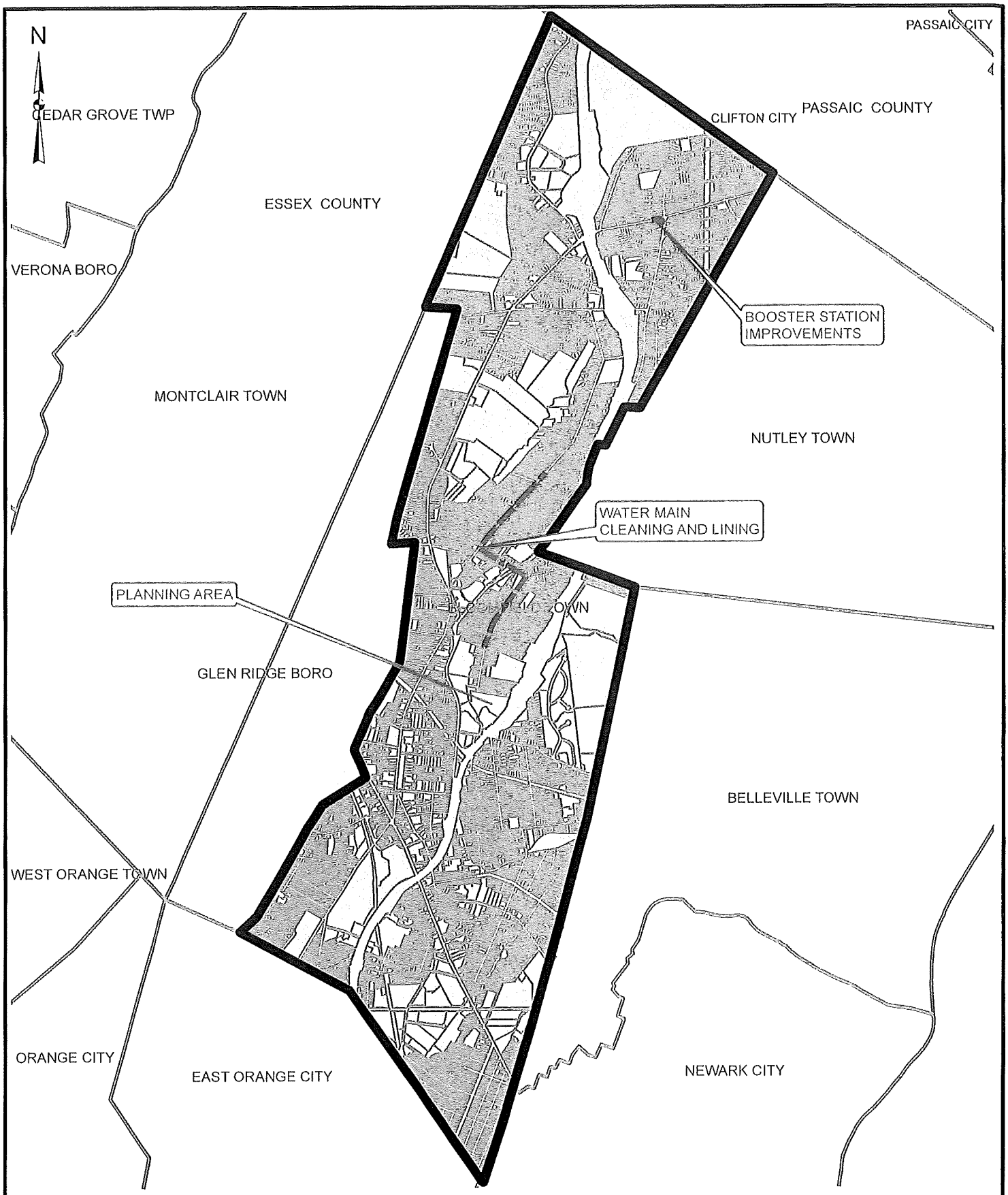
SOURCE: NEW JERSEY STATE AERIAL PHOTOGRAPHY CAPTURED FEBRUARY 2015.

BLOOMFIELD TOWNSHIP	ALAIMO GROUP *Consulting Engineers* 200 High Street, Mount Holly, N.J. 2 Market Street, Paterson, N.J.	FIGURE 2B
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY		AERIAL LOCATION MAP BOOSTER STATION IMPROVEMENTS
		Date: APRIL 2019
Scale: 1" = 100' (APPROX.)	Created By: MAC / Checked By: J.M.H.	Project No.: A-0900-0017-000



SOURCE: WATER SERVICE AREA FROM N.J.D.E.P. WATER PURVEYOR RESOURCE DATA.

BLOOMFIELD TOWNSHIP	ALAIMO GROUP *Consulting Engineers* 200 High Street, Mount Holly, N.J. 2 Market Street, Paterson, N.J.	FIGURE 3
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY		WATER SERVICE AREA MAP WATER MAIN CLEANING & LINING & BOOSTER STA. IMPROVEMENTS
		Date: APRIL 2019
Scale: 1" = 3,300' (APPROX.)	Created By: MAC / Checked By: J.M.H.	Project No.: A-0900-0017-000



SOURCE: WATER SERVICE AREA FROM N.J.D.E.P. WATER PURVEYOR RESOURCE DATA.

BLOOMFIELD TOWNSHIP	ALAIMO GROUP *Consulting Engineers* 200 High Street, Mount Holly, N.J. 2 Market Street, Paterson, N.J.	FIGURE 4
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY		PLANNING AREA MAP WATER MAIN CLEANING & LINING & BOOSTER STA. IMPROVEMENTS
		Date: APRIL 2019
Scale: 1" = 3,300' (APPROX.)	Created By: MAC / Checked By: J.M.H.	Project No.: A-0900-0017-000

2.3 Project Need & Location of Structures to be Built

Proposed Booster Station

Three purchased water interconnections with the City of Newark supply Bloomfield Township. The Garrabrant Avenue interconnection is located in the northern portion of the Township. The Center and Grove Street interconnections are located in the southern portion of the Township. The Township utilizes all three interconnections daily. The majority of water is delivered by the Garrabrant interconnection. The Garrabrant interconnection is supplied by forty-eight inch and forty-two inch diameter Newark aqueducts in a right-of-way parallel to Garrabrant Avenue. Center and Grove Street are supplied by a sixty inch aqueduct on Bloomfield Avenue.

Water quality from the interconnections has not met the MCL for HAA5 over the last few summers. This has resulted in Notices of Violation in the Bloomfield System. NJDEP has commented on the corrosiveness of the purchased water supply, and has even inquired about the possibility of treatment at the interconnections.

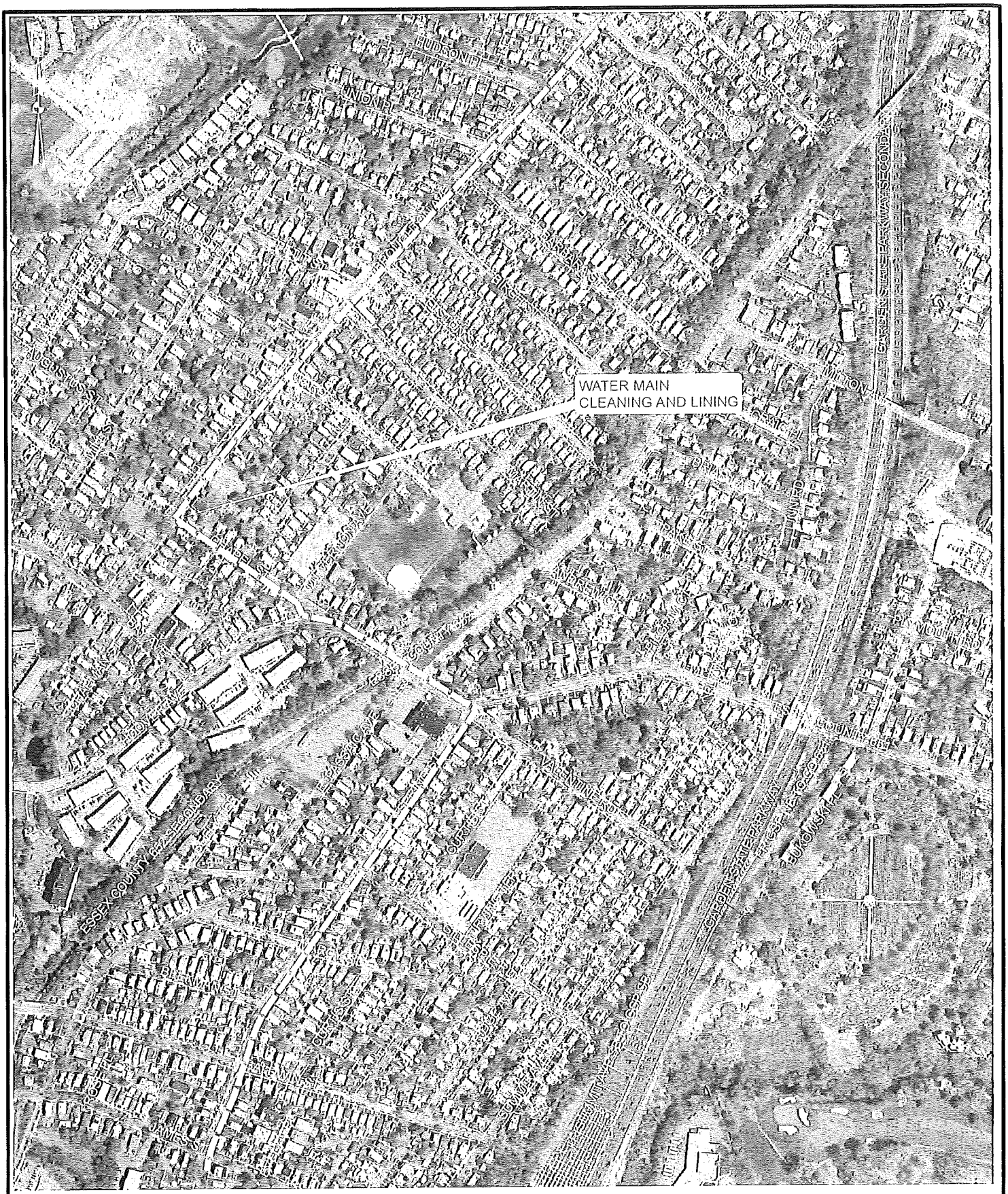
The Township of Bloomfield has proposed construction of an interconnection with the North Jersey District Water Supply Commission (NJDWSC). The interconnection requires the construction of a new booster station on Township-owned property adjacent to the right-of-way containing the seventy-four inch NJDWSC aqueduct. The site is in close proximity to the Garrabrant interconnection, and would be used in lieu of that interconnection.

Water Main Distribution System Improvements in Broughton, Chapel and Spring Streets.

The cleaning and lining of these water mains are part of an ongoing effort on the part of the Township to upgrade all of the unlined cast iron pipe within its system with cement-lined water pipe. The pipes being upgraded are twelve inch mains and carry a significant volume of water from north to south in the distribution system. Tuberculation of the existing mains has reduced their carrying capacity. Cleaning and lining will restore the mains to near-new interior condition.

2.3.1 Proposed Facilities Maps (Figures 5A - B)

2.3.2 Project Site Plans (Figures 6A - B)



SOURCE: NEW JERSEY STATE AERIAL PHOTOGRAPHY CAPTURED FEBRUARY 2015.

BLOOMFIELD TOWNSHIP	ALAIMO GROUP *Consulting Engineers* 200 High Street, Mount Holly, N.J. 2 Market Street, Paterson, N.J.		FIGURE 5A
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY			PROPOSED FACILITIES MAP WATER MAIN CLEANING AND LINING
			Date: APRIL 2019
Scale: 1" = 500' (APPROX.)	Created By: MAC	Checked By: J.M.H.	Project No.: A-0900-0017-000

SOURCE: NEW JERSEY STATE AERIAL PHOTOGRAPHY CAPTURED FEBRUARY 2015.

BLOOMFIELD TOWNSHIP	ALAIMO GROUP *Consulting Engineers* 200 High Street, Mount Holly, N.J. 2 Market Street, Paterson, N.J.	FIGURE 5B PROPOSED FACILITIES MAP BOOSTER STATION IMPROVEMENTS
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY		Date: APRIL 2019
Scale: 1" = 100' (APPROX.)	Created By: MAC / Checked By: J.M.H.	Project No.: A-0900-0017-000

2.4 Extent of Beneficial/Adverse Impacts on the Environment

The proposed booster station and interconnection will have the beneficial impact of providing improved water quality to the distribution system. The project will also provide both the owner and customer a beneficial cost effective solutions to improve the reliability of the Township's water supply systems. The improvements to the water distribution system will replace tuberculated pipes with cleaned and cement-lined pipe that will increase the carrying capacity, improve water quality and extend the life of the pipe by years. The proposed improvements will be a combination of rehabilitation and replacement of existing environmental infrastructure facilities, and construction of new ancillary equipment and facilities. The proposed project will not have any temporary or permanent adverse impacts on human environment, no adverse impacts on the health, safety or welfare of the general public, no direct or indirect impact on endangered or threatened species or their designated habitats, no direct or indirect impacts to wetlands, vernal habitats, flood plains, important farmlands or other environmentally critical areas.

Specific areas to be disturbed are as follows:

Booster Station

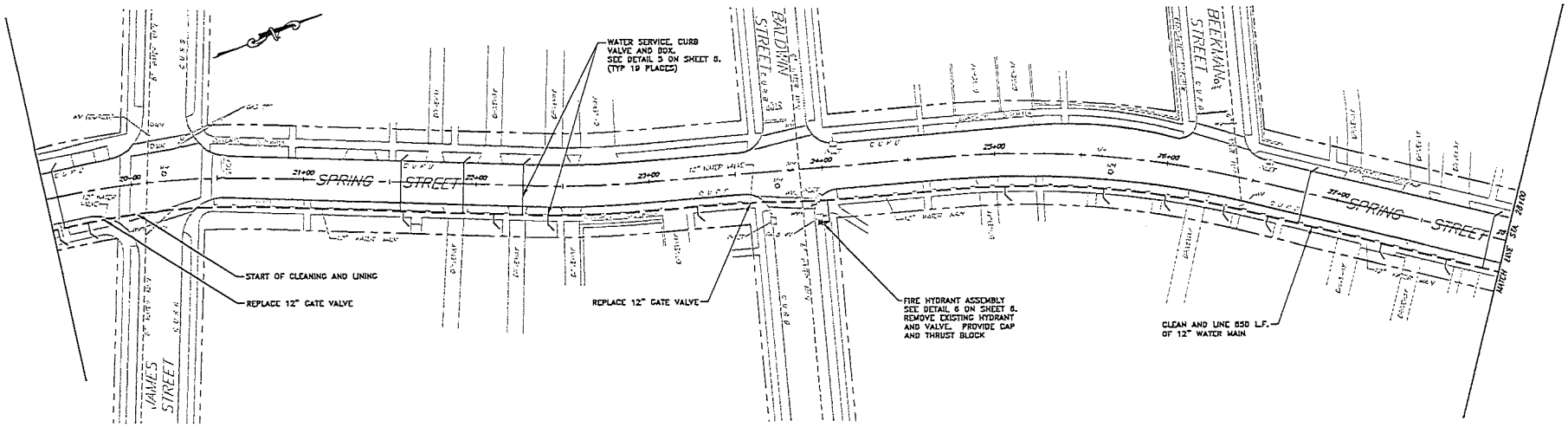
- *Bituminous/Concrete Pavement – 3195 S.F. / .0031 Acres*
- *Lawn – 137 S.F. / 0.073 Acres*

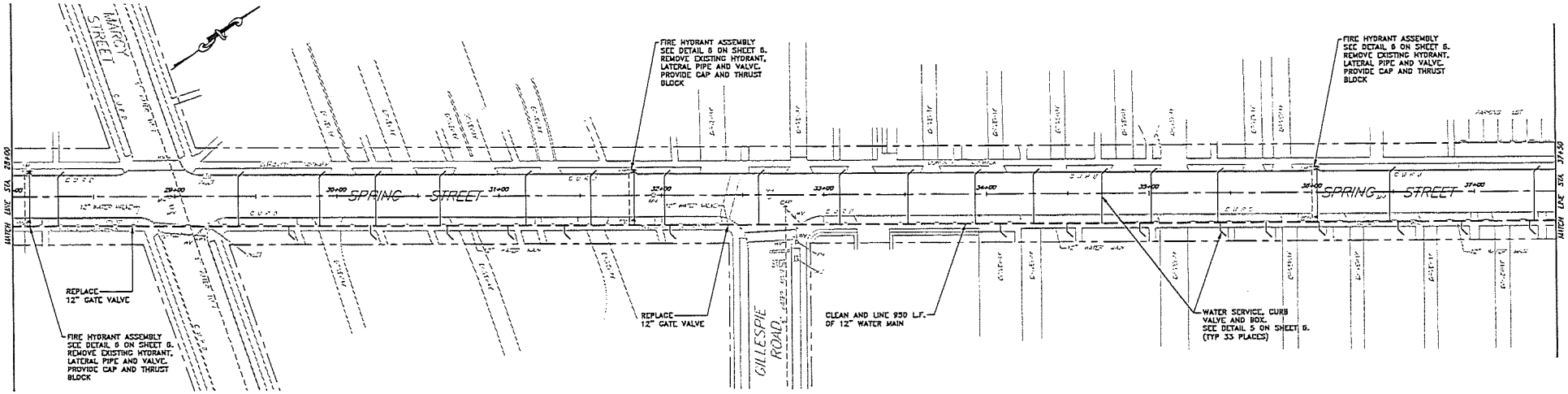
Total Area of Site Disturbance – 3,332 S.F. / 0.077 Acres

Broughton, Chapel and Spring Streets Cleaning and Lining

- *Bituminous Pavement – 768 S.F. / 0.017 Acres*
- *Lawn – 1,418 S.F. / 0.032 Acres*

Total Area of Site Disturbance –2,186 S.F. / 0.049 Acres





WATER SERVICE NOTES:

1. ALL SERVICES TO BE ABANDONED SHALL BE SHUT OFF AT THE CORPORATION STOP. NOTIFY THE ENGINEER WHERE THIS CANNOT BE ACCOMPLISHED. NO EXTRA PAYMENT WILL BE MADE FOR LOCATING CORPORATION STOPS.

NOTES:

1. TOPOGRAPHIC INFORMATION FROM 2012 NEW JERSEY STATE AERIAL PHOTOGRAPHY.
2. LOT LINES ARE BASED ON TAX MAPS AND ARE APPROXIMATE.

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

APPROVED:
Richard A. Alaimo
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 13195

REVISIONS	DATE	BY

ALAIMO GROUP
Consulting Engineers
NJDCA 24GA27988400
200 HIGH STREET, MOUNT HOLLY, N.J.
2 MARKET STREET, PATERSON, N.J.

WATER MAIN CLEANING AND LINING - PHASE II

PLAN
STA. 19+50 THRU STA. 37+50

SCALE: 1" = 30'

CLIENT: BLOOMFIELD TOWNSHIP

PROJECT LOCATION: BLOOMFIELD TOWNSHIP, ESSEX COUNTY, NEW JERSEY

PROJECT NO.: A-0900-0022-000

CONTRACT NO.: 2018-1

DATE: JULY 2018
DESIGNED BY: JMH
DRAWN BY: MAC
CHECKED BY:
DEPT. HEAD:

SHEET 2

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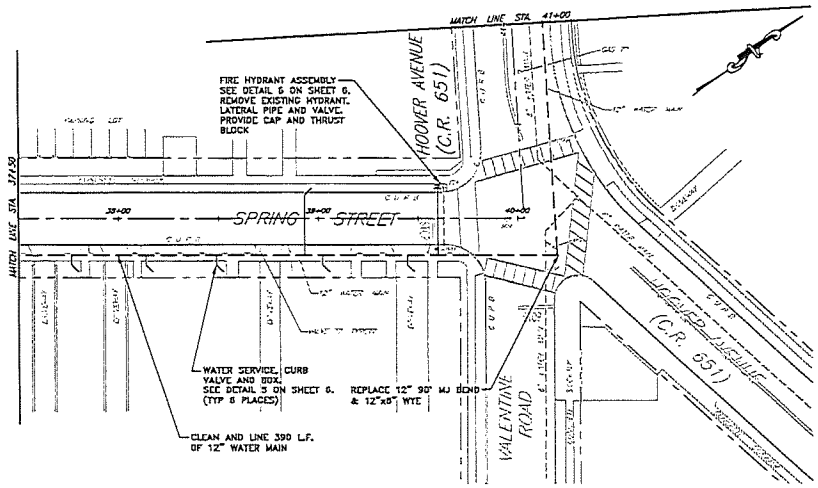

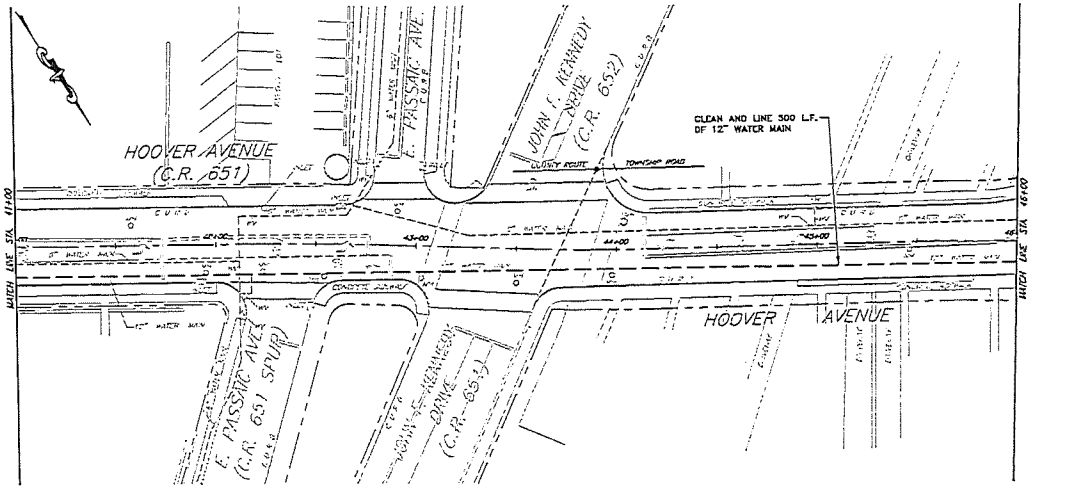

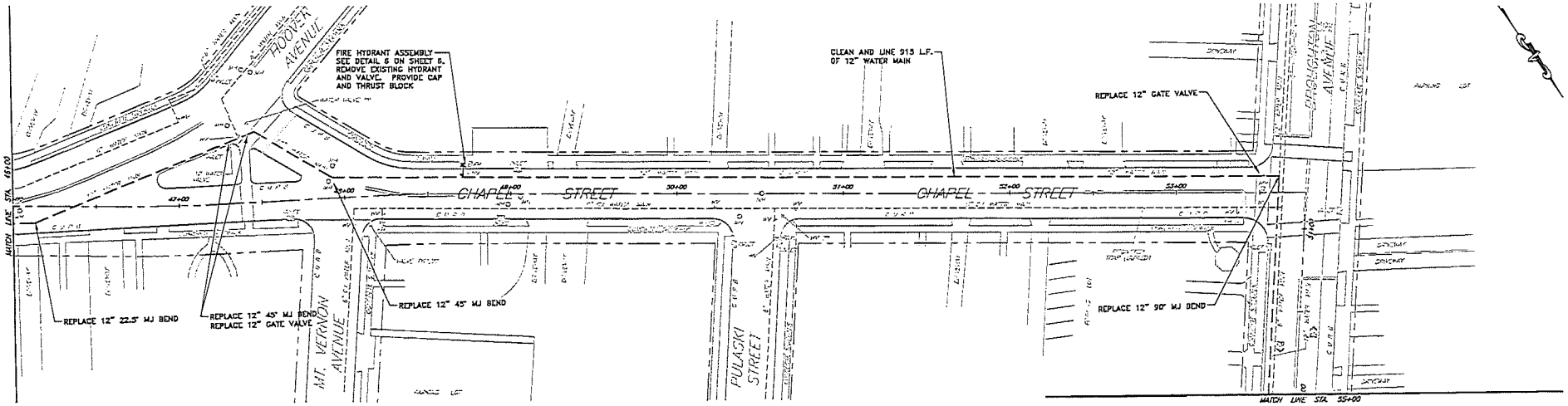

WATER SERVICE NOTES:

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NOTES:

1. TOPOGRAPHIC INFORMATION FROM 2012 NEW JERSEY STATE AERIAL PHOTOGRAPHY.
2. LOT LINES ARE BASED ON TAX MAPS AND ARE APPROXIMATE.

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

APPROVED:
Richard A. Alaimo
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 13105

REVISIONS	DATE	BY

ALAIMO GROUP
Consulting Engineers
NJDCA 24GA27988400
200 HIGH STREET, MOUNT HOLLY, N.J.
2 MARKET STREET, PATERSON, N.J.

WATER MAIN CLEANING AND LINING - PHASE II

PLAN
STA. 37+50 THRU STA. 55+00

SCALE: 1" = 30'

CLIENT: BLOOMFIELD TOWNSHIP

PROJECT LOCATION: BLOOMFIELD TOWNSHIP, ESSEX COUNTY, NEW JERSEY

PROJECT NO.: A-0900-0022-000

CONTRACT NO.: 2018-1

DATE: JULY 2018
DESIGNED BY: JMH
DRAWN BY: MAC
CHECKED BY:
DEPT. HEAD:

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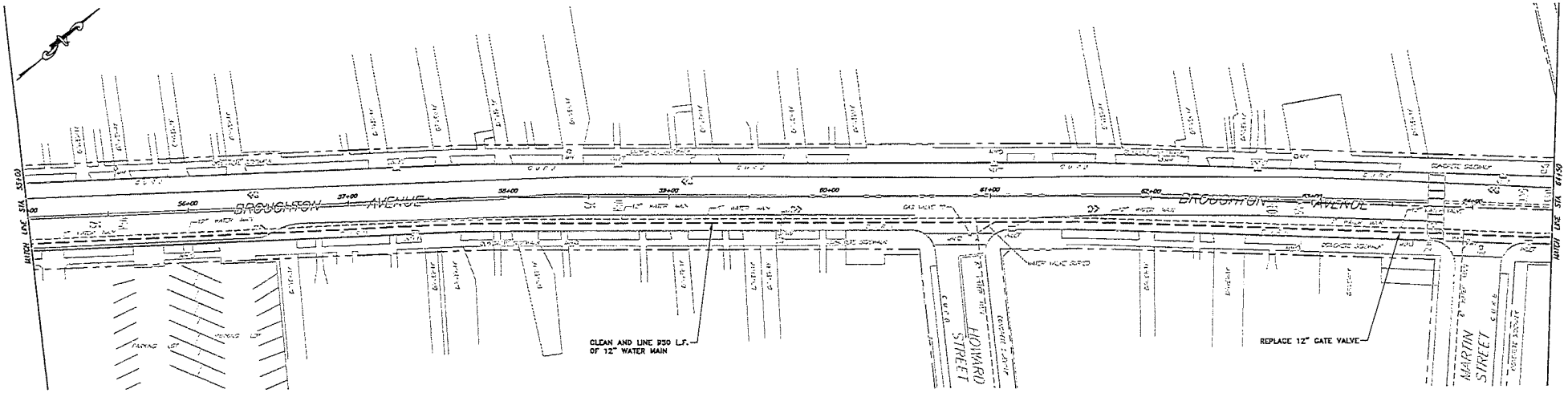
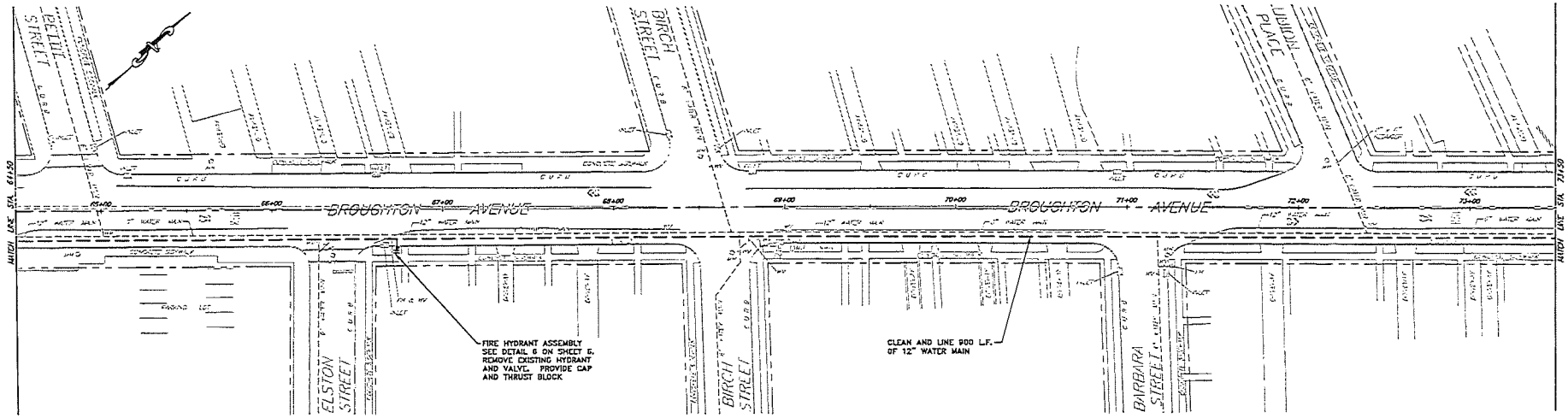




WATER SERVICE NOTES:

1. ALL SERVICES TO BE ABANDONED SHALL BE SHUT OFF AT THE CORPORATION STOP. NOTIFY THE ENGINEER WHERE THIS CANNOT BE ACCOMPLISHED. NO EXTRA PAYMENT WILL BE MADE FOR LOCATING CORPORATION STOPS.

NOTES:

1. TOPOGRAPHIC INFORMATION FROM 2012 NEW JERSEY STATE AERIAL PHOTOGRAPHY.
2. LOT LINES ARE BASED ON TAX MAPS AND ARE APPROXIMATE.

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

APPROVED:
Richard A. Alaimo
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 12195

REVISIONS	DATE	BY

ALAIMO GROUP
Consulting Engineers
NJDCA 24GA27908400
200 HIGH STREET, MOUNT HOLLY, N.J.
2 MARKET STREET, PATERSON, N.J.

WATER MAIN CLEANING AND LINING - PHASE II

PLAN
STA. 55+00 THRU STA. 73+50

SCALE: 1" = 30'

CLIENT: BLOOMFIELD TOWNSHIP

PROJECT LOCATION: BLOOMFIELD TOWNSHIP, ESSEX COUNTY, NEW JERSEY

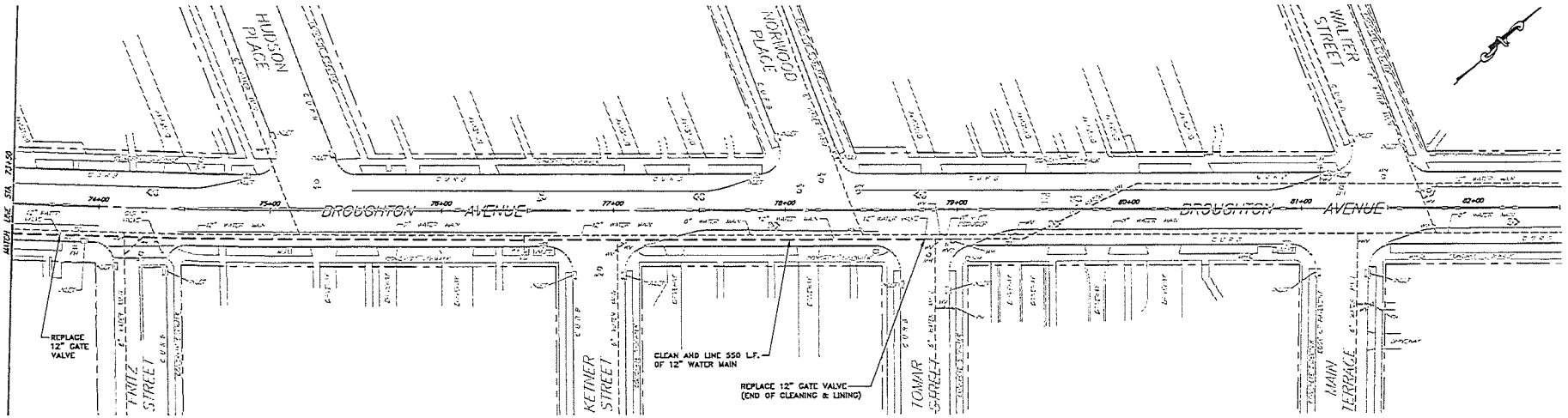
PROJECT NO.: A-0900-0022-000

CONTRACT NO.: 2018-1

DATE: JULY 2018
DESIGNED BY: JMH
DRAWN BY: MAC
CHECKED BY:
DEPT. HEAD:

SHEET 4

FILE NO.:



WATER SERVICE NOTES:

1. ALL SERVICES TO BE ABANDONED SHALL BE SHUT OFF AT THE CORPORATION STOP. NOTIFY THE ENGINEER WHERE THIS CANNOT BE ACCOMPLISHED. NO EXTRA PAYMENT WILL BE MADE FOR LOCATING CORPORATION STOPS.

NOTES:

1. TOPOGRAPHIC INFORMATION FROM 2012 NEW JERSEY STATE AERIAL PHOTOGRAPHY.
2. LOT LINES ARE BASED ON TAX MAPS AND ARE APPROXIMATE.

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

APPROVED:
Richard A. Alaimo
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 13195

REVISIONS	DATE	BY

ALAIMO GROUP
Consulting Engineers
NJDCA 24GA27988400
200 HIGH STREET, MOUNT HOLLY, N.J.
2 MARKET STREET, PATERSON, N.J.

WATER MAIN CLEANING AND LINING - PHASE II

PLAN
STA. 73+50 THRU STA. 82+50

SCALE: 1" = 30'

CLIENT: BLOOMFIELD TOWNSHIP

PROJECT LOCATION: BLOOMFIELD TOWNSHIP, ESSEX COUNTY, NEW JERSEY

PROJECT NO.: A-0900-0022-000

CONTRACT NO.: 2018-1

DATE: JULY 2018
DESIGNED BY: JMH
DRAWN BY: MAC
CHECKED BY:
DEPT. HEAD:

SHEET 5

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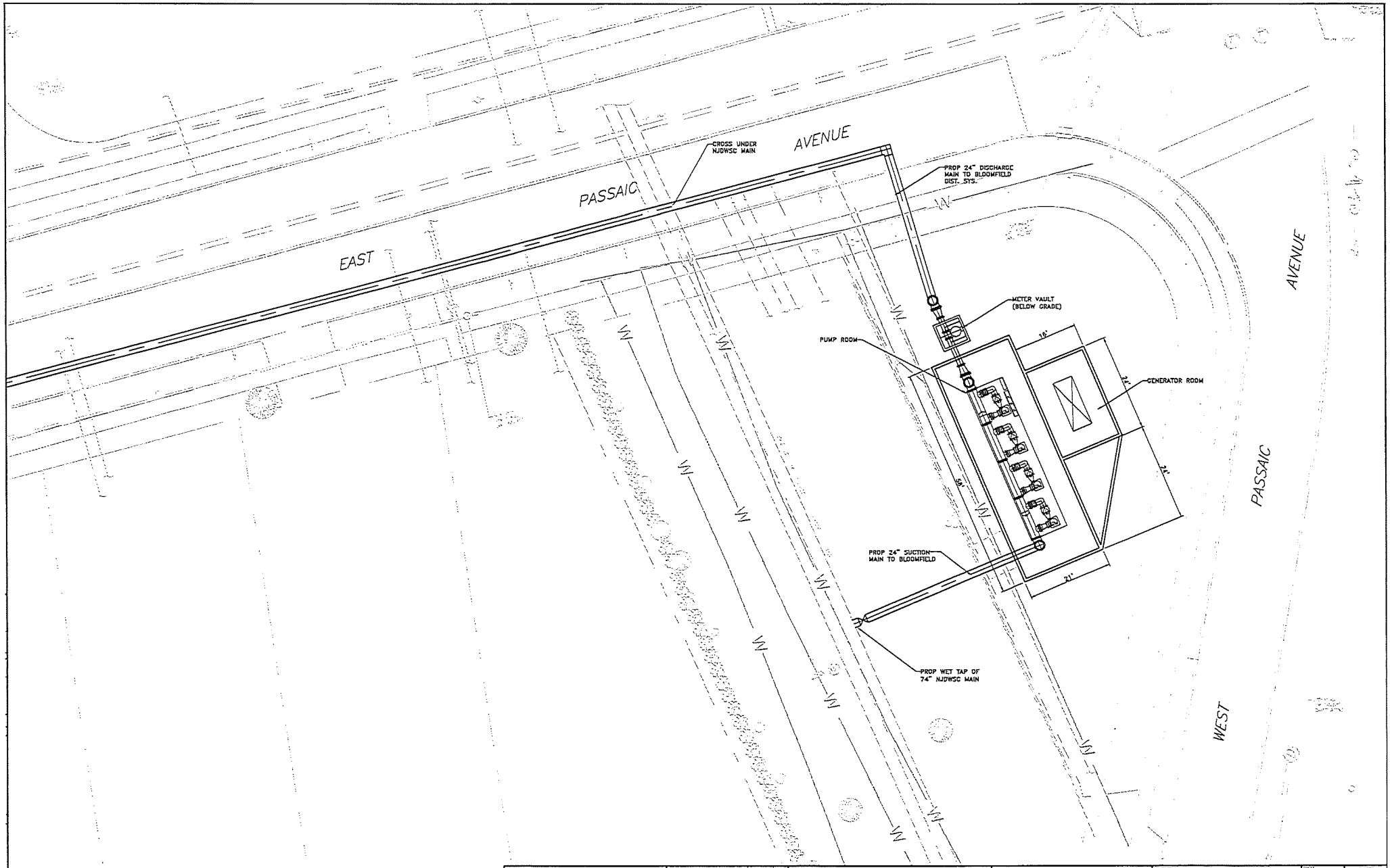


APPROVED:
Richard A. Alaimo
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE NO. 13195

REVISIONS	DATE	BY

ALAIMO GROUP
Consulting Engineers
NJDCA 24GA27988400
200 HIGH STREET, MOUNT HOLLY, N.J.
2 MARKET STREET, PATERSON, N.J.

BLOOMFIELD BOOSTER STATION

PRELIMINARY SITE PLAN

SCALE: 1"=10'

CLIENT: BLOOMFIELD TOWNSHIP

PROJECT LOCATION: BLOOMFIELD TOWNSHIP, ESSEX COUNTY, NEW JERSEY

PROJECT NO.: A-0900-0017-000

CONTRACT NO.: —

DATE: APRIL 2019

DESIGNED BY: JMH

DRAWN BY: JMH

CHECKED BY:

SUPT. APPR.:

SHEET

FILE NO.:

2.4.1 Soils Maps (Figures 7A – 7B)

2.4.2 Wetlands Maps (Figures 8A – 8B)

2.4.3 Floodplain Maps (Figures 9A – 9B)

2.4.4 Stream Corridor Map (Figures 10A – 10B)

2.4.5 Threatened & Endangered Species Maps (Figures 11A – 11B)

2.5 Extent of Beneficial/Adverse Impacts on Cultural Resources

The proposed improvements to the booster station and water distribution system will be a combination of rehabilitation, installation of new environmental infrastructure facilities, and construction of new ancillary equipment and facilities. The proposed project will not have any temporary or permanent adverse impacts on any known or documented cultural resources. The booster station site and the water main replacement sites are fully developed and fully disturbed and none of the sites are listed on the NJDEP Known Historic Sites Mapping or the SHPO New Jersey and National Registers of Historic Places.

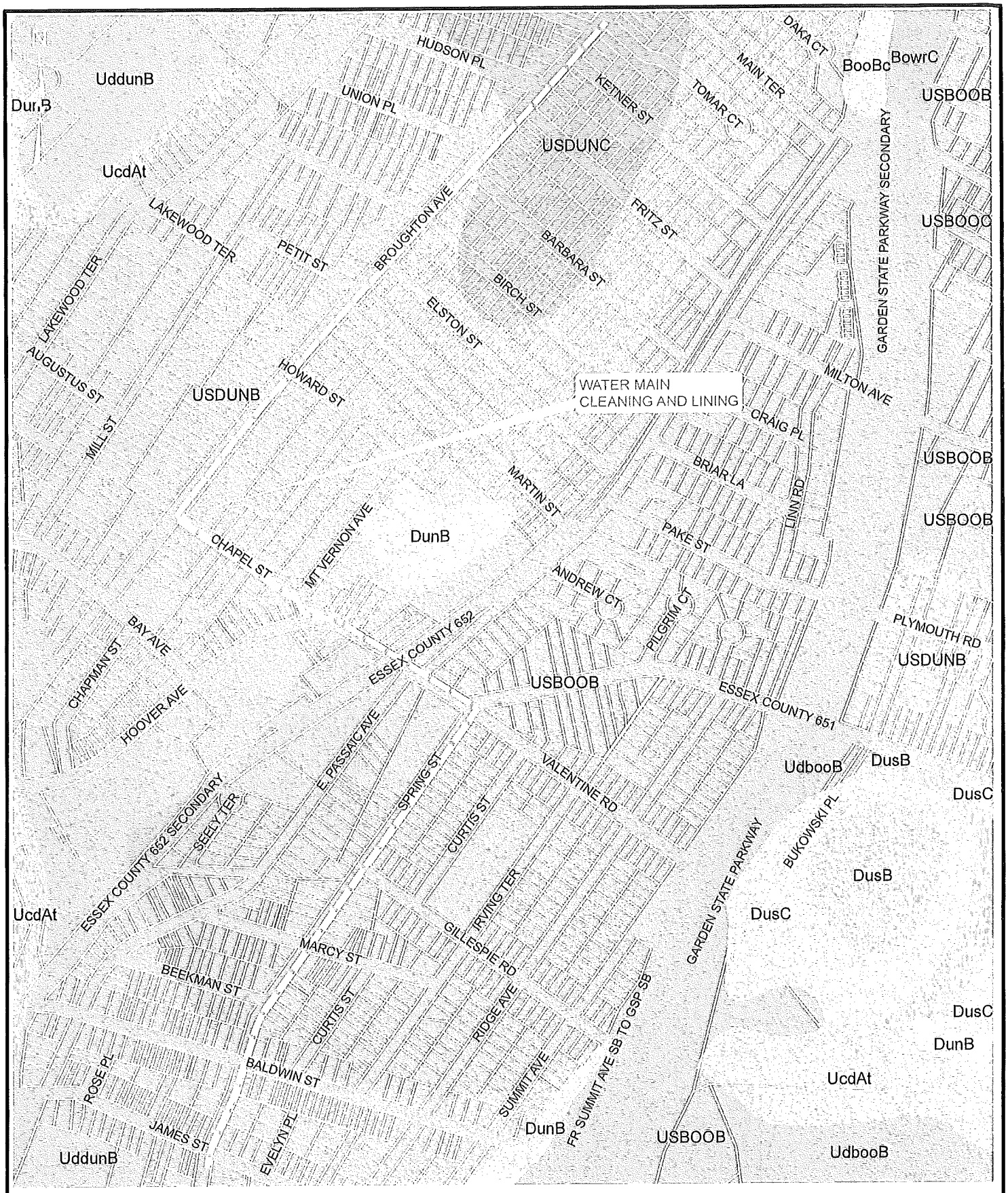
2.5.1 Known Historic Sites Map (Figures 12A – 12B)

2.6 Evaluation of Alternatives

2.6.1 Construction of Booster Station

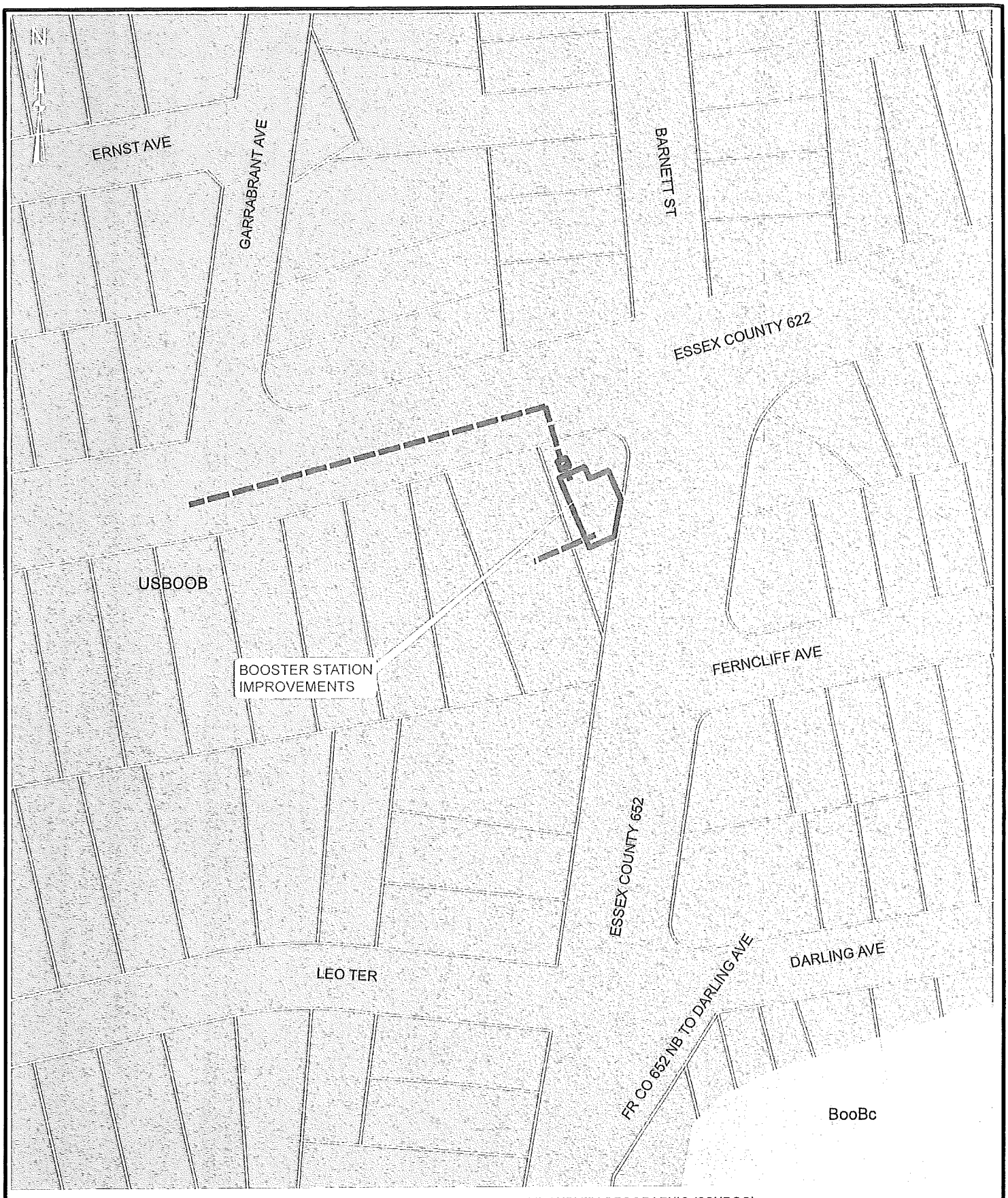
The booster station and interconnection improvements are the most cost effective alternative. The proposed alternative will address the problems with water quality from the Newark interconnection at Garrabrant Avenue. Future distribution improvements will allow the interconnection to replace the supply from the Center and Grove Street interconnections with Newark. In the interim, the interconnection and booster station will replace the need to use the Garrabrant interconnection, the largest of the three current interconnections.

The booster station and interconnection improvements will only disturb Township property and the adjacent street, including grassed areas between the NJDWSC main and the booster station building. When the improvements are completed, the turf and roadway areas will be restored.



SOURCE: U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICES (N.R.C.S.) - SOIL SURVEY GEOGRAPHIC (SSURGO).

BLOOMFIELD TOWNSHIP	ALAIMO GROUP *Consulting Engineers* 200 High Street, Mount Holly, N.J. 2 Market Street, Paterson, N.J.	FIGURE 7A
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY		SOILS MAP WATER MAIN CLEANING AND LINING
		Date: APRIL 2019
Scale: 1" = 500' (APPROX.)	Created By: MAC / Checked By: J.M.H.	Project No.: A-0900-0017-000

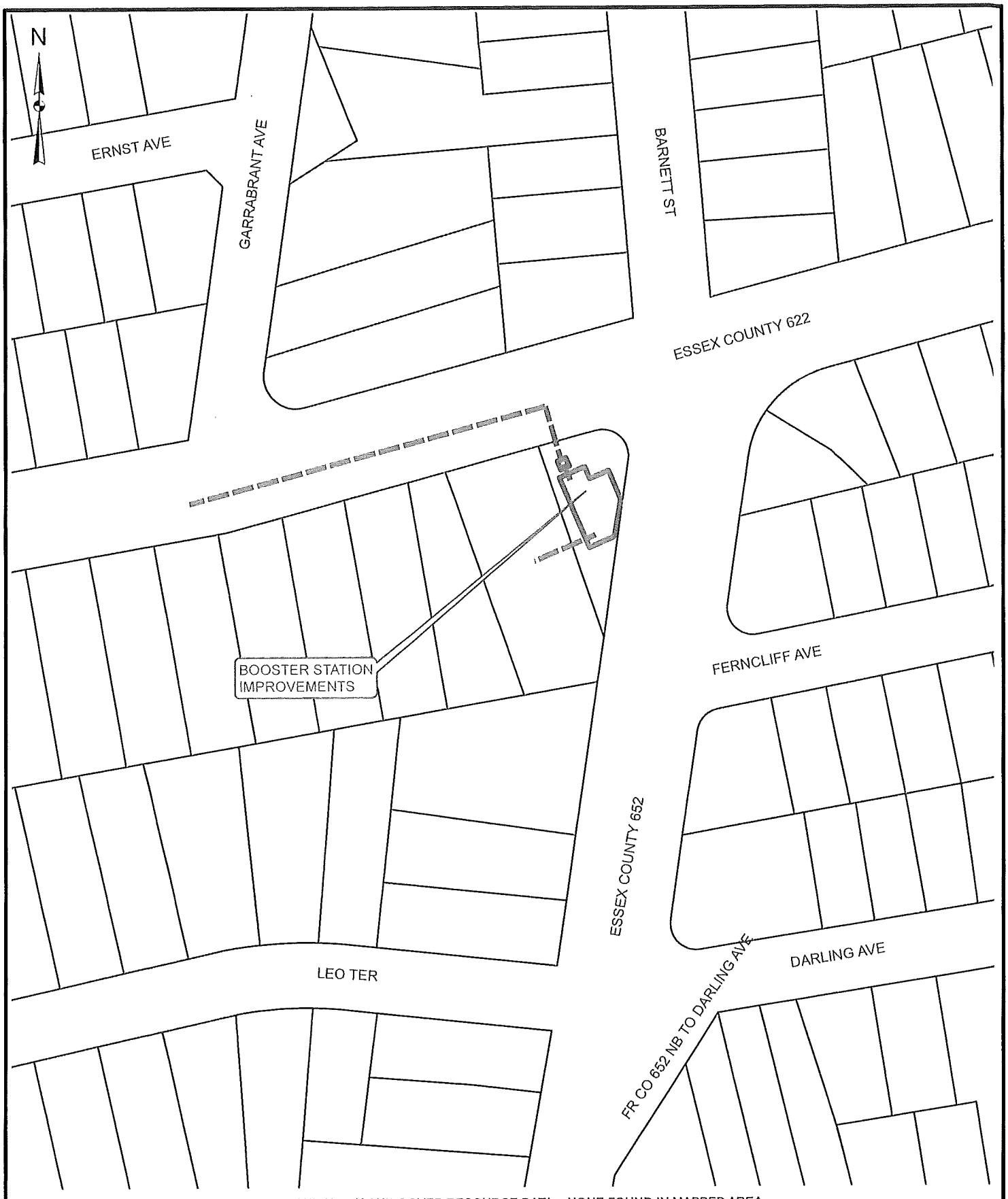


SOURCE: U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICES (N.R.C.S.) - SOIL SURVEY GEOGRAPHIC (SSURGO).

BLOOMFIELD TOWNSHIP	ALAIMO GROUP *Consulting Engineers* 200 High Street, Mount Holly, N.J. 2 Market Street, Paterson, N.J.	FIGURE 7B
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY		SOILS MAP BOOSTER STATION IMPROVEMENTS
		Date: APRIL 2019
Scale: 1" = 100' (APPROX.)	Created By: MAC / Checked By: J.M.H.	Project No.: A-0900-0017-000

SOURCE: WETLANDS FROM N.J.D.E.P. 2012 LAND USE / LAND COVER RESOURCE DATA.

BLOOMFIELD TOWNSHIP	ALAIMO GROUP *Consulting Engineers* 200 High Street, Mount Holly, N.J. 2 Market Street, Paterson, N.J.		FIGURE 8A
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY			WETLANDS MAP WATER MAIN CLEANING AND LINING
			Date: APRIL 2019
Scale: 1" = 500' (APPROX.)	Created By: MAC	Checked By: J.M.H.	Project No.: A-0900-0017-000

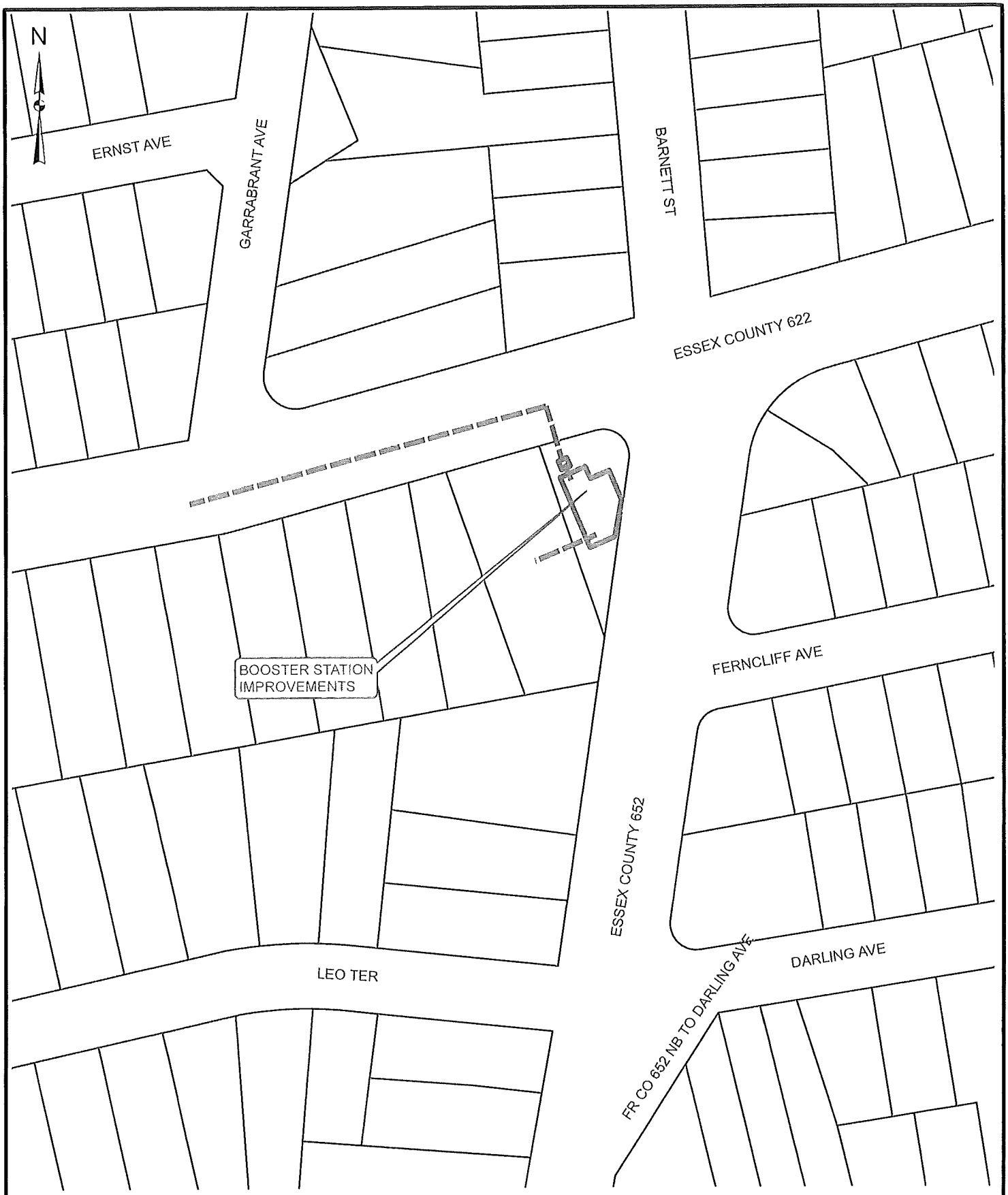


SOURCE: WETLANDS FROM N.J.D.E.P. 2012 LAND USE / LAND COVER RESOURCE DATA. NONE FOUND IN MAPPED AREA.

BLOOMFIELD TOWNSHIP	ALAIMO GROUP *Consulting Engineers* 200 High Street, Mount Holly, N.J. 2 Market Street, Paterson, N.J.	FIGURE 8B
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY		WETLANDS MAP BOOSTER STATION IMPROVEMENTS
		Date: APRIL 2019
Scale: 1" = 100' (APPROX.)	Created By: MAC / Checked By: J.M.H.	Project No.: A-0900-0017-000

SOURCE: FEMA FIRM MAPPING PANELS 34103C0104F, 34013C0108F, 34013C0112F & 34013C0116F DATED JUNE 4, 2007.

BLOOMFIELD TOWNSHIP	ALAIMO GROUP *Consulting Engineers* 200 High Street, Mount Holly, N.J. 2 Market Street, Paterson, N.J.	FIGURE 9A
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY		FLOOD PLAIN MAP WATER MAIN CLEANING AND LINING
		Date: APRIL 2019
Scale: 1" = 500' (APPROX.)	Created By: MAC / Checked By: J.M.H.	Project No.: A-0900-0017-000

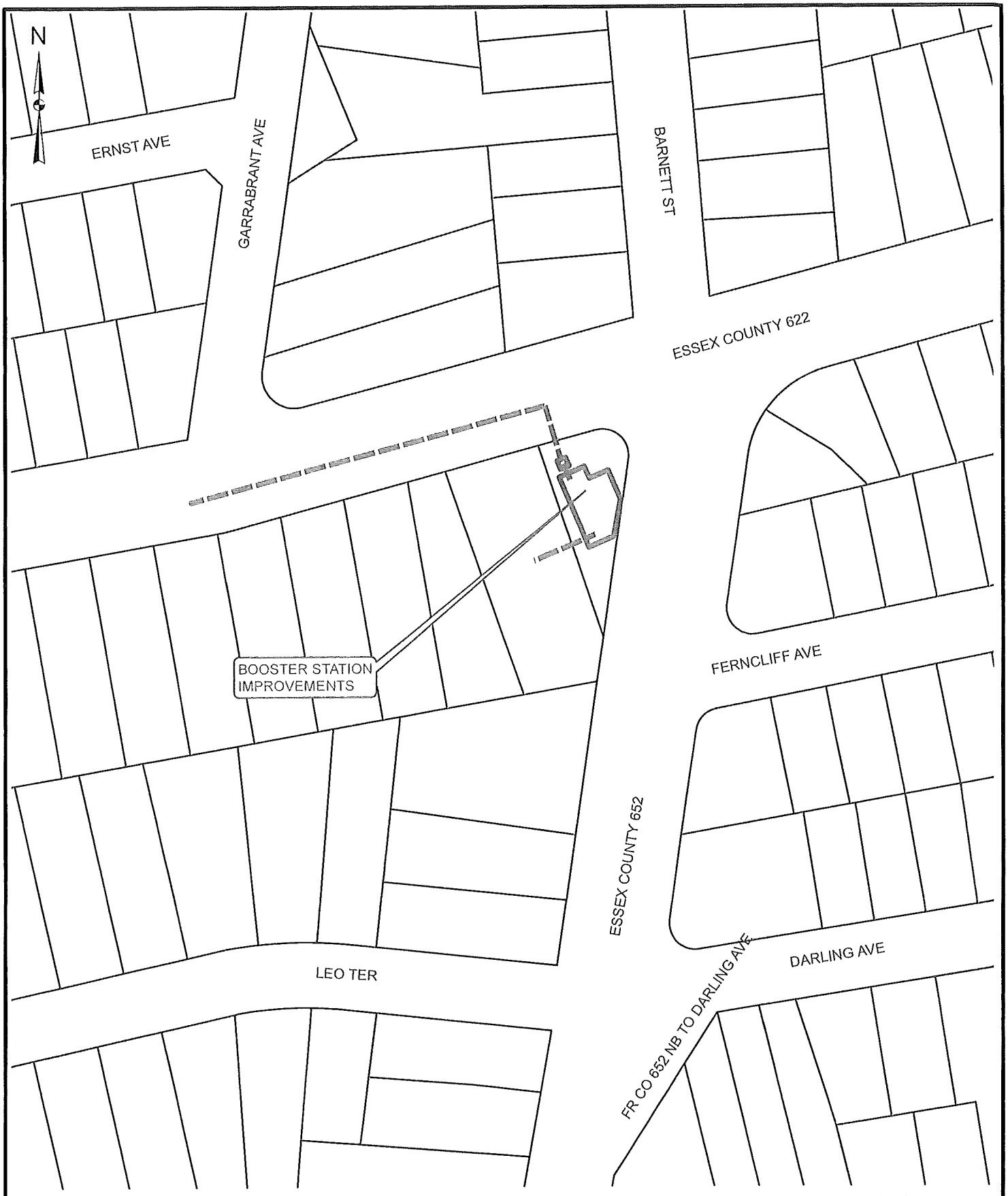


SOURCE: FEMA FIRM MAPPING PANELS 34103C0104F, 34013C0108F, 34013C0112F & 34013C0116F DATED JUNE 4, 2007. NONE FOUND IN MAPPED AREA.

BLOOMFIELD TOWNSHIP	ALAIMO GROUP *Consulting Engineers* 200 High Street Mount Holly, N.J. 2 Market Street Paterson, N.J.		FIGURE 9B
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY			FLOOD PLAIN MAP BOOSTER STATION IMPROVEMENTS
			Date: APRIL 2019
Scale: 1" = 100' (APPROX.)	Created By: MAC	Checked By: J.M.H.	Project No.: A-0900-0017-000

SOURCE: STREAM CORRIDOR DATA FROM N.J.D.E.P. SURFACE WATER QUALITY STANDARDS RESOURCE DATA.

BLOOMFIELD TOWNSHIP	ALAIMO GROUP *Consulting Engineers* 200 High Street, Mount Holly, N.J. 2 Market Street, Paterson, N.J.	FIGURE 10A
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY		STREAM CORRIDOR MAP WATER MAIN CLEANING AND LINING
		Date: APRIL 2019
Scale: 1" = 500' (APPROX.)	Created By: MAC / Checked By: J.M.H.	Project No.: A-0900-0017-000

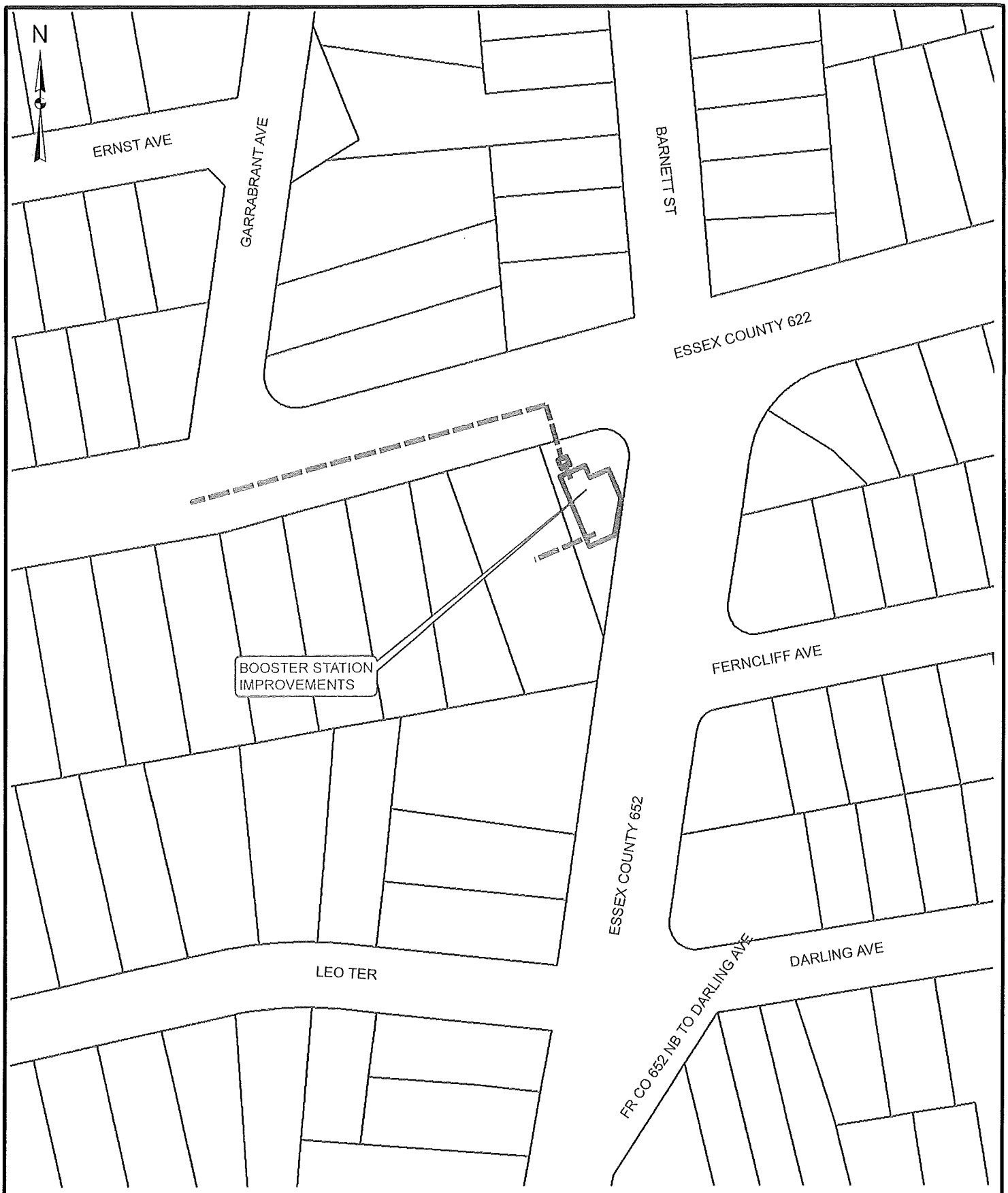


SOURCE: STREAM CORRIDOR DATA FROM N.J.D.E.P. SURFACE WATER QUALITY STANDARDS RESOURCE DATA. NONE FOUND IN MAPPED AREA.

BLOOMFIELD TOWNSHIP	ALAIMO GROUP *Consulting Engineers* 200 High Street, Mount Holly, N.J. 2 Market Street, Paterson, N.J.	FIGURE 10B STREAM CORRIDOR MAP BOOSTER STATION IMPROVEMENTS
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY		Date: APRIL 2019
Scale: 1" = 100' (APPROX.)	Created By: MAC / Checked By: J.M.H.	Project No.: A-0900-0017-000

SOURCE: LANDSCAPE PROJECT DATA VERSION 3.3 FROM NEW JERSEY DIVISION OF FISH AND WILDLIFE. NONE FOUND IN MAPPED AREA.

BLOOMFIELD TOWNSHIP	ALAIMO GROUP *Consulting Engineers* 200 High Street, Mount Holly, N.J. 2 Market Street, Paterson, N.J.	FIGURE 11A
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY		T & E SPECIES MAP WATER MAIN CLEANING AND LINING
		Date: APRIL 2019
Scale: 1" = 500' (APPROX.)	Created By: MAC / Checked By: J.M.H.	Project No.: A-0900-0017-000



SOURCE: LANDSCAPE PROJECT DATA VERSION 3.3 FROM NEW JERSEY DIVISION OF FISH AND WILDLIFE. NONE FOUND IN MAPPED AREA.

BLOOMFIELD TOWNSHIP	ALAIMO GROUP *Consulting Engineers* 200 High Street, Mount Holly, N.J. 2 Market Street, Paterson, N.J.	FIGURE 11B
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY		T & E SPECIES MAP BOOSTER STATION IMPROVEMENTS
		Date: APRIL 2019
Scale: 1" = 100' (APPROX.)	Created By: MAC / Checked By: J.M.H.	Project No.: A-0900-0017-000

SOURCE: KNOWN HISTORIC SITES FROM N.J.D.E.P. HISTORIC PROPERTIES RESOURCE DATA.

BLOOMFIELD TOWNSHIP	ALAIMO GROUP *Consulting Engineers* 200 High Street, Mount Holly, N.J. 2 Market Street, Paterson, N.J.	FIGURE 12A
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY		KNOWN HISTORIC SITES MAP WATER MAIN CLEANING AND LINING
		Date: APRIL 2019
Scale: 1" = 500' (APPROX.)	Created By: MAC / Checked By: J.M.H.	Project No.: A-0900-0017-000

SOURCE: KNOWN HISTORIC SITES FROM N.J.D.E.P. HISTORIC PROPERTIES RESOURCE DATA. NONE FOUND IN MAPPED AREA.

BLOOMFIELD TOWNSHIP	ALAIMO GROUP *Consulting Engineers* 200 High Street, Mount Holly, N.J. 2 Market Street, Paterson, N.J.		FIGURE 12B
N.J.E.I.T. 2018 DRINKING WATER PLANNING DOCUMENT WATER MAIN CLEANING AND LINING AND BOOSTER STATION IMPROVEMENTS BLOOMFIELD TOWNSHIP, NEW JERSEY			KNOWN HISTORIC SITES MAP BOOSTER STATION IMPROVEMENTS
			Date: APRIL 2019
Scale: 1" = 100' (APPROX.)	Created By: MAC	Checked By: J.M.H.	Project No.: A-0900-0017-000

The proposed improvements will help the Township maintain its peak pumping capacity without increasing its supply capacity or requesting an increase in the amount of its Water Allocation Permit. This option will also allow the Township to reduce the need to obtain more expensive purchased water from Newark. This will permit the Township to keep rate increases to its customers to a minimum.

2.6.2 No Action

If no action is taken, the water quality in the Bloomfield System will continue to have levels of HAA5 near or over the MCL. This may lead to Notices of Violation from NJDEP. The Township will also be paying for purchased water at the higher Newark rate which includes a wheeling charge in addition to the base charge from NJDWSC.

2.6.3 Water Main Cleaning and Lining in Broughton, Chapel and Spring Streets.

The project will clean and line approximately 6,000± linear feet (LF) of unlined twelve inch cast iron main in Broughton, Chapel and Spring Streets. Cleaning and cement lining is being utilized to extend the service life of the existing twelve inch main. The mains are an important high capacity route for water moving north and south in the distribution. The cleaning and lining of these larger water mains are part of an ongoing effort on the part of the Township to update all of its large diameter cast iron mains within the distribution system with cement lined pipe. Cleaning and cement lining is a long-time practice for rehabilitating older unlined cast iron pipe. The cement lining provides a smooth surface that improves water flow, prevents the buildup of tuberculation and extends the service life of the mains.

2.6.4 No Action

If no action is taken, the aging deteriorated pipes will continue to fail, cause water quality issues and limit the hydraulic capacity of the Township's water distribution system, resulting in negative impacts to the water system customers.

2.7 Selected Plan Description

Booster Station and Interconnection

- A twenty-four inch wet tap of the NJDWSC aqueduct and a twenty-four inch main to connect the aqueduct to the booster station
- A fifty-eight foot by thirty seven foot by twenty-foot masonry building.
- A prefabricated booster station skid equipped with two 3 mgd pumps and one 6 mgd pump. The skid will be designed to accommodate one additional 6 mgd pump for future use. VFDs for the pumps and a control panel will be mounted on the skid.
- A diesel powered generator sized to run the station in the event of a power outage. The generator will be located inside the building to reduce noise in the residential area.
- An electrical room for a station service entrance, main disconnect, main breaker panel, motor control center, automatic transfer switch and lighting panels.
- The booster pumps will discharge to the distribution system by means of a twenty-four inch main. A magnetic flow meter will be installed outside the station to measure flow.
- Miscellaneous site work – fencing, paving, restoration, utilities.
- HVAC, plumbing and electrical improvements for the building addition.

Water Main Cleaning and Lining in Broughton, Chapel and Spring Streets.

- Clean and line approximately 6,000 L.F. of twelve inch unlined cast iron main.

2.8 Design Basis

2.8.1 Selected Plan Cost Estimate

Water Main Cleaning and Lining in Broughton, Chapel and Spring Streets
Project Cost Estimate

Item	Description	Qty.		Unit Cost.	Cost
1	Mobilization	1	LS	$25,000.00	$25,000.00
2	Performance, Payment and Maintenance Bond	1	LS	$5,000.00	$5,000.00
3	Maintenance and Protection of Traffic	1	LS	$5,000.00	$5,000.00
4	Uniformed Police Traffic Directors	1	AL	$75,000.00	$75,000.00
5	Soil Erosion and Sediment Control	1	LS	$5,000.00	$5,000.00
6	Test Pits	16	UN	$1,500.00	$24,000.00
7	Temporary By-Pass Water Main	1	LS	$100,000.00	$100,000.00
8	Video Inspection	1	LS	$5,000.00	$5,000.00
9	Cement Lining of 12" Water Main	6,005	LF	$38.00	$228,190.00
10	Access Pits	16	UN	$5,000.00	$80,000.00
11	Replacement Fire Hydrants	7	UN	$15,000.00	$105,000.00
12	Replacement Gate Valves	8	UN	$5,000.00	$40,000.00
13	Replacement Water Services	58	UN	$4,000.00	$232,000.00
14	Trench Stabilization, 12" Th #57 Stone	1,300	LF	$5.00	$6,350.00
15	4" Thermoplastic Traffic Stripes	400	LF	$3.00	$1,200.00
16	8" Thermoplastic Traffic Stripes	1,500	LF	$3.00	$4,500.00
17	24" Thermoplastic Traffic Stripes	100	LF	$7.00	$700.00
18	Traffic Markings	10	UN	$250.00	$2,500.00
19	Fuel Price Adjustment	1	AL	$500.00	$500.00
20	Asphalt Price Adjustment	1	AL	$1,500.00	$1,500.00
21	Governmental Permit Fees	1	AL	$5,000.00	$5,000.00
22	Contract Closeout Documentation	1	FP	$20,000.00	$20,000.00
	Total Estimated Construction Cost				**$952,240.00**

Bloomfield Booster Station
Project Cost Estimate

Item	Description	Qty.		Unit Cost.	Cost
1	Pump Package	1	LS	$450,000.00	$450,000.00
2	Generator	1	LS	$150,000.00	$150,000.00
3	Installation	1	LS	$240,000.00	$240,000.00
4	Building	1,800	SF	$300.00	$540,000.00
5	Bldg elec	1	LS	$55,000.00	$55,000.00
6	HVAC	1	LS	$55,000.00	$55,000.00
7	Sanitary Sewer Connection	1	LS	$20,000.00	$20,000.00
8	Site Work	1	LS	$55,000.00	$55,000.00
9	Telemetry	1	LS	$30,000.00	$30,000.00
10	Wet Tap	1	LS	$120,000.00	$120,000.00
11	Meter in Vault	1	LS	$60,000.00	$60,000.00
12	Pump Hoist	1	LS	$25,000.00	$25,000.00
13	Suction/Discharge pipe	400	LF	$300.00	$120,000.00
	Total Estimated Construction Cost				**$1,920,000.00**

2.8.2.1 Calculation of Proposed User Cost in Terms of Median Household Income

Annual Debt Service from NJEIT Calculator	$ 214,509
Annual O&M Costs	$8,239,979
Total Annual Cost	$8,454,488
Percentage of Total $$ Billed to Residential	79%
Annual Cost Allocated to Residential	$6,679,046
Number of Residential Customers	11,675
Annual Cost Allocated to Residential Customer	$ 72.08
Annual Median Household Income	$ 76,393
Annual Cost as a Percentage of Annual Household Income	0.75%

2.9 Public Participation/Involvement

The proposed improvements are located at an existing developed Township lot and paved residential roadways. The booster station improvements will stay on the existing Township lot and within the roadway right-of-way and generally within the same developed footprints. No new wells will be drilled or water towers will be constructed. The construction of the booster station and water distribution system improvements have been discussed at public hearings during the open public session. Upon receipt of the Level 1 decision statement from the Department, Bloomfield Township will publish a notice in a newspaper of general circulation in the planning area within two weeks. The notice will describe the proposed action, indicate the decision by the Department to approve the project, and advise the public that the local government unit shall, upon written request, make available for public review both the planning documents and the Departments decision statement.

JMH/das