

**STORMWATER MAINTENANCE MANUAL**

FOR THE

**PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT  
78 LOCUST AVENUE**

BLOCK 129 – LOT 70

TOWNSHIP OF BLOOMFIELD  
ESSEX COUNTY, NEW JERSEY

OCTOBER 13, 2023  
**LAST REVISED: FEBRUARY 8, 2024**

NEA PROJECT No.: BLFDPRV22.010



34 Park Avenue – P.O. Box 426  
Lyndhurst, New Jersey 07071  
Telephone: (201) 939-8805  
Fax: (201) 939-0846

CERTIFICATE OF AUTHORIZATION (N.J.S.A. 45:8-56) 24GA27927000

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John J. Dunlea, P.E.  
New Jersey Professional Engineer  
License No. 56308

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## **Introduction**

The New Jersey Administrative Code NJAC 7:8-5.8 entitled “Maintenance Requirements” sets forth rules and refers to the New Jersey Stormwater Best Practices Manual (the BMP manual) by the New Jersey Department of Environmental Protection (NJDEP). Chapter 8 of the BMP manual entitled “Maintenance and Retrofit of Stormwater Management Measures” specifically addresses the requirements for maintenance of a major development. A major development is defined in the aforementioned administrative code as any development that ultimately disturbs one or more acres of land or increases the amount of regulated impervious surface by one quarter of an acre or more or increases the amount of regulated motor vehicle surface by one quarter of an acre or more. As per NJAC 7:8, this project classifies as a Major Development because the project disturbance area exceeds one acre, the creation of more than one-quarter acre of regulated impervious surface, and the creation of more than one-quarter acre of regulated motor vehicle surface.

This report is prepared to address the maintenance component of the herein described development to ensure the effective, efficient, and enduring service of a particular stormwater measure. This plan contains preventative and corrective maintenance tasks and procedures.

This manual has been prepared in accordance with the NJDEP Stormwater Best Management Practice Manual dated April 2004, last revised July 2023. The plan presented in this manual shall be evaluated for effectiveness at least once annually and revised as necessary. A maintenance report shall be submitted to the Municipal Clerk annually, by February 1 of the following year. The municipality has the right of access for inspection and maintenance.

This document and any future revisions shall be recorded on the property deed.

## **Party Responsible for Maintenance**

The proposed improvements will be constructed in the Township of Bloomfield. The party responsible for the preventative and corrective maintenance of the proposed stormwater measures described herein is:

Name: **Golemis Realty, LLC**  
Attn.: **Ioannis Golemis**  
Phone: **212-421-2000**  
Email: **igolemis@vernon.net**  
Address: **500 Passaic Avenue**  
**East Newark, New Jersey 07029**

## **Project Contacts:**

Township of Bloomfield Engineer  
Paul Lasek, PE

Township of Bloomfield Planning and Zoning Board Engineer  
Marucci Engineering Associates, LLC  
Anthony Marucci, PE

Design Engineer  
Neglia Group  
34 Park Avenue, Lyndhurst, NJ 07071



### **Safety and Response to Emergencies**

For action to an emergency condition contact:

**Golemis Realty, LLC**

**Ioannis Golemis**

**212-421-2000**

**jgolemis@vernon.net**

**500 Passaic Avenue**

**East Newark, New Jersey 07029**

### **Corrective Response To Emergency Conditions**

A major emergency that may occur at this installation is the blockage of stormwater pipes, inlets or outlets by debris. Should this situation occur, the materials must be removed immediately. The inspection and preventative maintenance schedule should be periodically re-evaluated to assess any necessary changes to avoid re-occurrence of the blockage.

### **Safety Of Inspection And Maintenance Personnel**

Maintenance and inspection of the stormwater facilities is not expected to pose unusual danger to personnel. However, maintenance personnel are expected to dress in appropriate protective clothing and use the appropriate equipment and safety gear in accordance with OSHA regulations and procedures.

### **Project Description**

The 78 Locust Avenue project proposes to construct a new multi-family residential building with a pervious pavement parking lot exfiltration system and landscaping improvements located at 78 Locust Avenue in the Township of Bloomfield.

As per FEMA Flood Insurance Rate Map No. 34013C0112G, effective date April 03, 2020, the subject property is located within a flood hazard area with a flood hazard elevation of 121.9.

This project proposes to disturb the entire 0.96 AC of the existing lot as well as 0.05 AC of the surrounding right of way and adjacent parking easement in order to construct the proposed multi-family residential building and associated site improvements. The total project disturbance area is 1.01 AC. The site under existing conditions is vacant and consists of primarily lawn and gravel areas. Under proposed conditions, the site will consist of a multi-family building, parking lot, internal concrete walkways, concrete retaining walls, lighting and landscaping improvements. The proposed regulated impervious coverage increase for the site is 0.645 AC. The proposed regulated motor vehicle surface coverage increase is 0.28 AC.

As per NJAC 7:8, this project classifies as a Major Development because the project disturbance area exceeds one acre, the creation of more than one-quarter acre of regulated impervious surface, and the creation of more than one-quarter acre of regulated motor vehicle surface. A pervious paving system has been designed in accordance with NJ State Stormwater Management Standards.

## **Stormwater Maintenance Objective**

The stormwater system proposed for this development is intended to attenuate and convey the stormwater that impacts the site. This maintenance plan is prepared to ensure the system in place is operating efficiently and reliably. The responsible party shall ensure the long-term/perpetual operation, maintenance, repair, and safety of the stormwater management facilities. In the event that the stormwater management facility becomes a danger to public safety or public health, or if it is in need of maintenance, the responsible party noted under safety and response to emergencies section above shall take immediate action, to remove the danger. Maintenance procedures are required to maintain the intended operation and safe condition of the stormwater management facility by reducing the occurrence of problems and malfunctions. To be effective, maintenance shall be performed on a regular basis and include such routine procedures as training of staff, periodic inspections, silt and debris removal and disposal, upkeep of moving parts, control of mosquitoes and other insects, and review of maintenance and inspection work to identify where the maintenance program could be more effective.

Repair procedures are required to correct a problem or malfunction at a stormwater management facility and to restore the facility's intended operation and safe condition. Based upon the severity of the problem, repairs shall be performed on an as-needed or emergency basis and include such procedures as structural repairs, mosquito control, removal of debris, sediment and trash which threaten discharge capacity, erosion repair, snow and ice removal, fence repair, and restoration of vegetation.

**In the event that the stormwater management facility becomes a danger to public safety or public health, or if it is in need of maintenance, the responsible party shall immediately initiate maintenance and repair of the facility in a manner that is approved by the municipal engineer or associated designee.**

## **Log Maintenance, Deed Filing & Yearly Plan Filing Requirements**

The responsible party shall maintain a detailed log of all preventive and corrective maintenance for the structural stormwater management measures incorporated into the design of the development, including a record of all inspections and copies of all maintenance-related work orders as required by the Township of Bloomfield Ordinance Section §494-10.B(7)(a).

The responsible party shall ensure that the maintenance plan described herein and any future revisions thereto required by the Township of Bloomfield Ordinance Section §494-10.B(5) be recorded upon the deed of record for the property or properties.

The responsible party shall evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed required by the Township of Bloomfield Ordinance section §494-10.B(7)(b).

The responsible party shall retain and make available, upon request by any public entity with administrative, health, environmental, or safety authority over the site, the maintenance plan and the documentation required by the Township of Bloomfield Ordinance section §494-10.B(7)(c).



Should the ownership of the stormwater facilities change, the responsible party noted herein shall update the maintenance plan to include all the updated owner information. The responsible party shall then hand deliver or forward the plan via registered mail to the Township of Bloomfield within 90 days of the change of ownership/responsible party.

### **Maintenance of Conveyance Systems**

The proposed conveyance system has adequate access for inspection and/or maintenance. The use of the proposed conveyance system is consistent with the community's surroundings for this area.

All conveyance systems including inlets, manholes, concrete chambers and pipes are expected to receive and/or accumulate debris and sediment. These systems must be inspected for clogging and excessive debris and sediment accumulation at four (4) times annually as well as after every storm exceeding 2 inches of rainfall. Sediment removal should take place when all runoff has drained from the conveyance network and the systems are reasonably dry. Disposal of debris, trash, sediment, and other waste material should be done at suitable disposal/recycling sites and in compliance with all applicable local, state, and federal waste regulations.

All structural components must be inspected for cracking, subsidence, breaching, wearing, and deterioration at least annually and after any significant rainstorm event. The condition of the surrounding and above lying materials shall be inspected for evidence of potential failures or deterioration.

Two people will be needed to perform routine maintenance of the conveyance systems. The routine equipment expected to be utilized for the maintenance tasks include a jet vacuum vehicle, shovels, lighting equipment and a wheel barrel or truck for the debris hauling. Water, mosquito control chemicals, and concrete repair materials may also be required depending on the structure condition. No manufacturer's instructions or user manuals are available for these components.

### **Maintenance of Pervious Paving Systems**

The proposed pervious paving system provides adequate ability for inspection and/or maintenance. The use of the proposed system allows for an optimized development and a minimization of disturbance. Maintenance shall be in accordance with the NJ Stormwater Best Management Practices Manual Chapter 9.6, last revised July 2023 as outlined below:

The pervious paving system consists of the pavement section, distribution pipes, inspection ports, outlet control structures, stone bed and appurtenances. The surface course must be inspected after every storm exceeding 1 inch of rainfall. If mud or sediment is tracked onto the surface course, it must be removed as soon as possible. Removal should take place when all runoff has drained from the surface course. The surface course must be inspected, at least once annually, for cracking, subsidence, spalling, erosion, deterioration and unwanted vegetation. Remedial measures must be taken as soon as possible. Herbicides must not be applied. The surface course of a pervious paving system must be vacuum swept, not power swept, at least four times per year. Vacuum sweeping must be followed by either air blowing, or high-pressure power washing

performed in accordance with the specifications recommended for the particular type of system. All dislodged material must be promptly removed.

The first annual maintenance must be performed in the spring. Maintenance must additionally be performed in the autumn, after the fallen leaves are collected and removed. Each spring, after the last snow or ice event, the infiltration rate of the surface course must be tested in accordance with the methods of either ASTM C1701 or C1781, as corresponds to the post-construction test performed for the system. At least 3 locations must be tested. One of the locations must be in an area where sediment is most likely to be deposited, such as, but not limited to, a parking lot entrance. The other test locations must be evenly spaced across the system surface. The locations and results obtained must be recorded in the maintenance plan for future reference and compared to the as-built testing results as a metric for determining if a system requires corrective action. The chart provided below shows the approximate infiltration rate based upon the time it takes to infiltrate either 8 or 40 pounds of water specified in the above-cited tests. This chart should be included in the maintenance plan for future reference. The infiltration rate, *II*, is based upon the following calculation:

$$II = (KK * MM) / (DD^2 * tt), \text{ where}$$

*K* = 126,870 in-lbs

*M* = water mass, lbs

*DD* = ring diameter = 12 inches

*tt* = time, in seconds

Test Methods Per ASTM C1701 or C1781		
Time to Infiltrate the Specified Amount of Water (seconds)	Approximate Surface Infiltration Rate (inches per hour)	
	<i>M</i> = 8 lbs	<i>M</i> = 40 lbs
30	235	1175
60	118	587
100	70.5	352
200	35.2	176
350	20.1	100.7
360	19.6	97.9
380	18.5	92.7
900	7.8	39.2
1760	4.0	20.0
1910	3.7	18.5
3600	2.0	9.8
5400	1.3	6.5
5470	1.3	6.4
6000	1.2	5.9

Over the lifetime of the surface course, no more than 10% of its surface area may be patched with impervious material such as bituminous asphalt or concrete. All patching must be recorded in the maintenance manual for future reference to prevent exceedance of this maximum.

Two people will be needed to perform routine maintenance of the pervious paving system. The routine equipment to be utilized for the maintenance tasks include a jet vacuum vehicle, shovels, lighting equipment and a wheel barrel or truck for the debris hauling. No manufacturer's instructions or user manuals are available for maintenance of these components. Maintenance would only take place in the adjacent components of the system, i.e. the structures, catch basins, pipes, inspection ports, outlet control structure and other units outside the pervious paving system. Water, mosquito control chemicals, and concrete repair materials may also be required depending on the structure condition.

### **Cost Estimate for Inspection and Maintenance Tasks**

The estimated annual cost for inspection and maintenance tasks is anticipated to be approximately \$5,000.00 for this project.

**MAINTENANCE INSPECTION FOR CONVEYANCE  
SYSTEM**

**Golemis Realty, LLC**

**NOTE: INSPECTIONS TO BE EVALUATED DURING A PERIOD  
OF DRY AND WARM WEATHER AND LOW TIDE  
CONDITIONS AT THE PROJECT SITE**

Yes	No	Maintenance Evaluation	Action(s) Required if Answer "Yes"
<input type="checkbox"/>	<input type="checkbox"/>	Is there a buildup of sediment (in excess of 2 inches), trash, debris or any other stormwater pollution within the header pipes or outlet control structure?	Remove sediment, trash, debris, etc. Dispose debris in accordance with local, state and federal requirements.
<input type="checkbox"/>	<input type="checkbox"/>	Is there any structural failure?	Consult engineer to determine safety and/or stability of the system.
<input type="checkbox"/>	<input type="checkbox"/>	Are there visible signs of cracking, subsidence, erosion or deterioration of any of the underground infiltration system?	Consult engineer to determine safety and/or stability of the system.
<input type="checkbox"/>	<input type="checkbox"/>	Are there any signs of unusual color, odor or turbidity within the discharged water?	Evaluate header pipes and structures for possible sediment, trash and debris. Cleanse system if any of the aforementioned obstructions are encountered. Dispose obstructions in accordance with local, state and federal requirements.
<input type="checkbox"/>	<input type="checkbox"/>	Are there root intrusions or any other plant growth occurring with the system(s)?	Remove vegetation and dispose in accordance with local, state and federal regulations.
<input type="checkbox"/>	<input type="checkbox"/>	Are mosquito or other insect habitats consistently present in the area as a result of the structure(s)?	Use appropriate mosquito insecticides or agents to control or eliminate insect breeding.

**MAINTENANCE INSPECTION FOR PERVIOUS PAVING SYSTEM**

**Golemis Realty, LLC**

**NOTE: INSPECTIONS TO BE EVALUATED DURING A PERIOD OF DRY AND WARM WEATHER AND LOW TIDE CONDITIONS AT THE PROJECT SITE**

Yes	No	Maintenance Evaluation	Action(s) Required if Answer "Yes"
<input type="checkbox"/>	<input type="checkbox"/>	Is there a buildup of sediment (in excess of 2 inches), trash, debris or any other stormwater pollution within the header pipes or outlet control structure?	Remove sediment, trash, debris, etc. Dispose debris in accordance with local, state and federal requirements.
<input type="checkbox"/>	<input type="checkbox"/>	Is there any structural failure?	Consult engineer to determine safety and/or stability of the system.
<input type="checkbox"/>	<input type="checkbox"/>	Are there visible signs of cracking, subsidence, erosion or deterioration of any of the underground infiltration system?	Consult engineer to determine safety and/or stability of the system.
<input type="checkbox"/>	<input type="checkbox"/>	Are there any signs of unusual color, odor or turbidity within the discharged water?	Evaluate header pipes and structures for possible sediment, trash and debris. Cleanse system if any of the aforementioned obstructions are encountered. Dispose obstructions in accordance with local, state and federal requirements.
<input type="checkbox"/>	<input type="checkbox"/>	Are there root intrusions or any other plant growth occurring with the system(s)?	Remove vegetation and dispose in accordance with local, state and federal regulations.
<input type="checkbox"/>	<input type="checkbox"/>	Are mosquito or other insect habitats consistently present in the area as a result of the structure(s)?	Use appropriate mosquito insecticides or agents to control or eliminate insect breeding.

# Maintenance Log

**MAINTENANCE LOG  
FOR CONVEYANCE SYSTEM**

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**Golemis Realty, LLC**

**INSTRUCTIONS:  
THIS LOG SHALL BE UPDATED TO INCLUDE ALL  
MAINTENANCE PERFORMED AT A SPECIFIC  
STORMWATER MEASURE**

DATE	PERSON CONDUCTING MAINTENANCE	AREA OF MAINTENANCE	PROBLEM(S) FOUND	ACTION(S) TAKEN

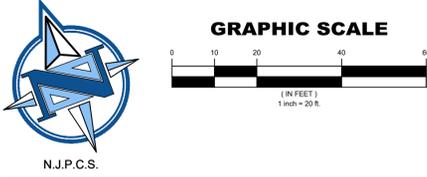
**MAINTENANCE LOG  
FOR PERVIOUS PAVING SYSTEM**

**INSTRUCTIONS:  
THIS LOG SHALL BE UPDATED TO INCLUDE ALL  
MAINTENANCE PERFORMED AT A SPECIFIC  
STORMWATER MEASURE**

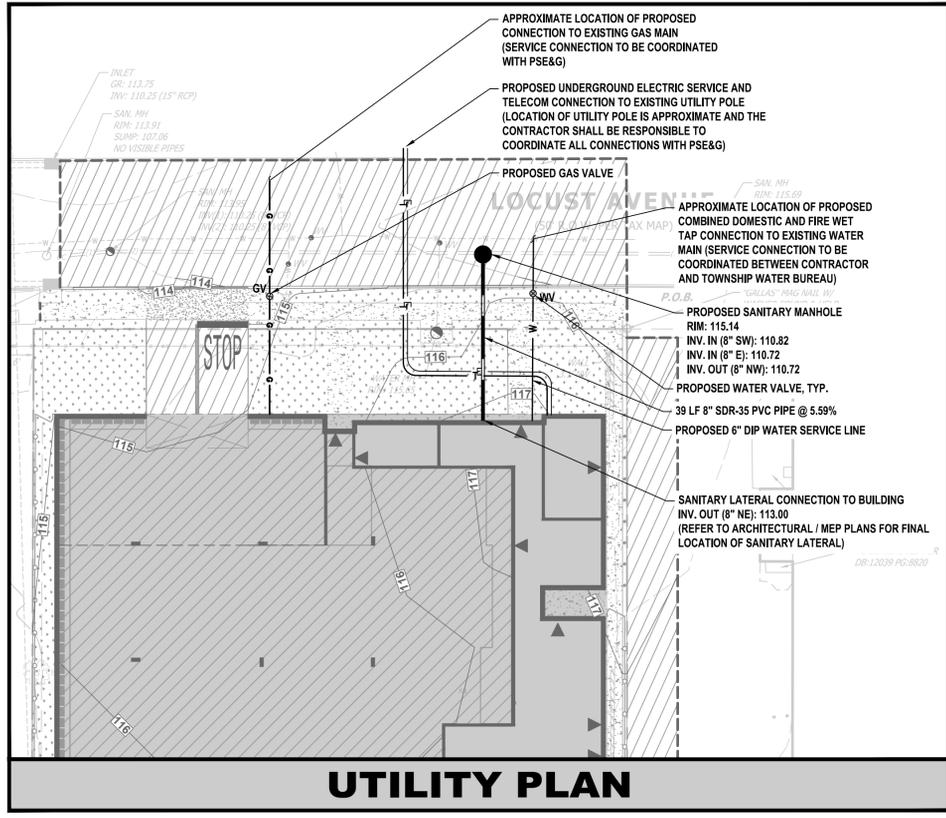
**Golemis Realty, LLC**

DATE	PERSON CONDUCTING MAINTENANCE	AREA OF MAINTENANCE	PROBLEM(S) FOUND	ACTION(S) TAKEN

# Appendix



N.J.P.C.S.



### UTILITY PLAN

- #### GENERAL NOTES
- EXISTING CONDITIONS ARE AS PER THE PLAN ENTITLED "BOUNDARY AND TOPOGRAPHIC SURVEY, 78-88 LOCUST AVENUE, BLOCK 129 - LOT 70, TOWNSHIP OF BLOOMFIELD, ESSEX COUNTY, NJ," PREPARED BY NEGLIA GROUP, DATED APRIL 11, 2022.
  - NEGLIA GROUP CIVIL SITE PLAN HAS BEEN PREPARED FOR THE PURPOSES OF MUNICIPAL AND AGENCY REVIEW PURPOSES ONLY. THIS PLAN SHEET SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS OR FOR DIGITAL STAKEOUT UNTIL ALL NECESSARY APPROVALS HAVE BEEN OBTAINED BY THE APPLICANT, ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED BY THE APPLICANT, AND THE NEGLIA GROUP CIVIL SITE PLAN SET IS MARKED "ISSUED FOR CONSTRUCTION."
  - DEMOLITION WORK SHALL INCLUDE ITEMS DENOTED WITHIN THESE PLANS AND ANY ADDITIONAL DEMOLITION WORK NECESSARY FOR PROPOSED SITE WORK AS DEPICTED ON THE SITE PLAN DRAWINGS.
  - BUILDING FOOTPRINT / LAYOUT AS PER ARCHITECTURAL CAD FILE PREPARED BY AUGUSTIN PEYTCHEV, A.I.A., LEED AP (BD+C) OF AB DESIGN STUDIO, INC., PROVIDED ELECTRONICALLY ON SEPTEMBER 21, 2023.

#### PERMEABLE ASPHALT

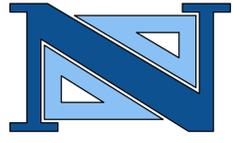
TOTAL AREA OF PERVIOUS ASPHALT SYSTEM = 7,770.27 SF  
 TOTAL AREA OF COLLECTED BY SYSTEM = 23,283.43 SF  
 MAXIMUM ALLOWED AREA IS 3:1 = 23,301.81 SF  
 MAXIMUM SLOPE: 5%

APPLICANT	OWNER
IOANNIS GOLEMIS 8701 CHURCHILL ROAD, APT. 1501 NORTH BERGEN, NJ 07047	GOLEMIS REALTY LLC 500 PASSAIC AVENUE EAST NEWARK, NJ 07029

- #### DRAINAGE AND UTILITY NOTES
- ALL ROOF DRAIN DOWNSPOUTS SHALL BE CONNECTED TO THE UNDERGROUND STORM CONVEYANCE SYSTEM. LOCATIONS OF ROOF DRAINS ARE APPROXIMATE AT THIS TIME AND SHALL BE COORDINATED WITH ARCHITECTURAL MEP STORM PLUMBING PLANS PRIOR TO CONSTRUCTION. ALL ROOF DRAINS, ALL DOWNSPOUTS, ALL CANOPY DRAINS SHALL BE PIPED UNDERGROUND AND CONNECTED TO THE SITE DRAINAGE SYSTEM.
  - CONTRACTOR SHALL FIELD VERIFY/CONFIRM LOCATION, ELEVATION, AND PIPE SIZE OF EXISTING DOWNSTREAM STORM CONVEYANCE SYSTEMS VIA TEST PITS AT PROPOSED CONNECTION POINTS PRIOR TO CONSTRUCTING ANY PORTION OF THE SITE DRAINAGE SYSTEM AND PRIOR TO ORDERING ANY PRECAST DRAINAGE STRUCTURES. SHOULD ANY DISCREPANCIES BE DETERMINED, THE ENGINEER SHALL BE CONTACTED IMMEDIATELY PRIOR TO ANY CONSTRUCTION.
  - CONTRACTOR SHALL CONFIRM THAT EXISTING DOWNSTREAM STORM CONVEYANCE SYSTEM IS FREE FLOWING PRIOR TO CONSTRUCTION ANY PORTION OF THE SITE DRAINAGE SYSTEM AND PRIOR TO ORDERING ANY PRECAST DRAINAGE STRUCTURES. CONTRACTOR SHALL CONFIRM SIZE, MATERIAL, AND INVERT ELEVATION OF DOWNSTREAM STORM SEWER.
  - GRADING AND DRAINAGE SHALL BE CONSTRUCTED SUCH THAT ALL RUNOFF SHALL BE DIRECTED TO PROPOSED CATCH BASINS, DRAINS, AND ADJACENT ROADWAY WITH POSITIVE PITCH.
  - UTILITY CONNECTIONS AT PROPOSED BUILDING TO BE COORDINATED WITH MEP DESIGN BY OTHERS AND GOVERNING UTILITY AUTHORITIES.
  - CONTRACTOR SHALL FIELD LOCATE EXISTING UTILITIES AT ALL UTILITY CROSSINGS VIA TEST PITS PRIOR TO CONSTRUCTION AND SHALL COORDINATE ANY REQUIRED RELOCATIONS WITH GOVERNING UTILITY AUTHORITIES.
  - EXISTING UTILITY LINES ON SITE THAT ARE NO LONGER IN SERVICE SHALL BE PROPERLY REMOVED AND CAPPED PER UTILITY AUTHORITY REQUIREMENTS. CONTRACTOR SHALL COORDINATE RECONSTRUCTION/RELOCATION OF ANY UTILITIES NECESSARY FOR THE CONSTRUCTION OF PROJECT AS SHOWN ON THE SITE PLAN DRAWINGS WITH GOVERNING UTILITY AUTHORITIES.
  - CONTRACTOR SHALL COORDINATE UTILITY POLE REMOVAL WITH UTILITY AUTHORITY.

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REVISIONS			DRAWN	DESIGNED	CHECKED
NO.	DATE	DESCRIPTION	J.J.L./L.A.R.	J.J.L.	J.J.D.
1	02/08/2024	REVISED PER NJDEP COMMENTS AND BOARD RESUBMISSION			



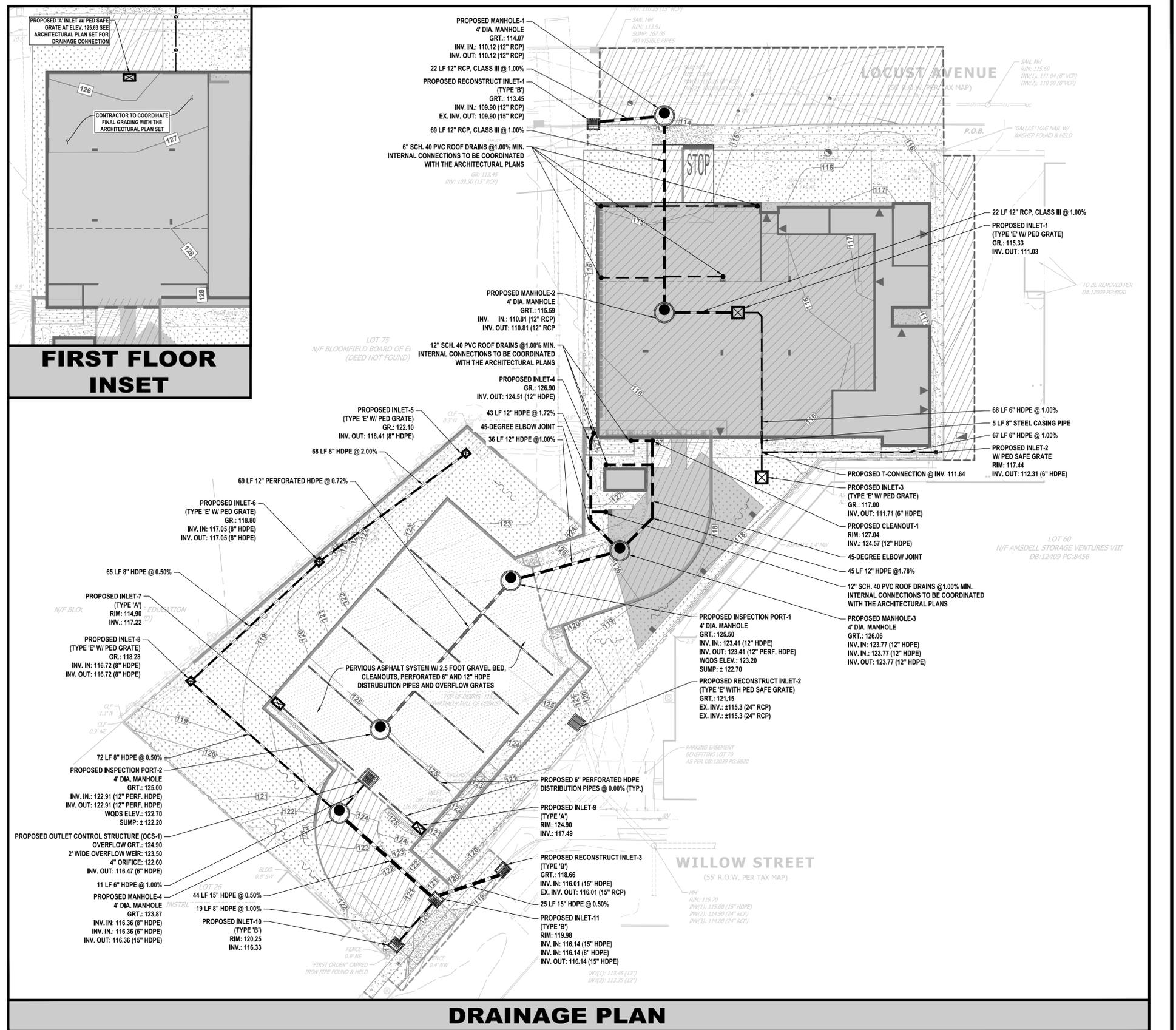
**DAVID JUZMESKI, P.E., P.P.**  
 PROFESSIONAL ENGINEER  
 N.J. LICENSE NO. 46751  
 PROFESSIONAL PLANNER  
 N.J. LICENSE NO. 8154

**JOHN J. DUNLEA, P.E.**  
 PROFESSIONAL ENGINEER  
 N.J. LICENSE NO. 56308

**NEGLIA ENGINEERING ASSOCIATES**  
 34 PARK AVENUE  
 TEL: 201-939-8805  
**MICHAEL J. NEGLIA, P.E., P.L.S., P.P.**  
 PROFESSIONAL ENGINEER  
 N.J. LICENSE NO. 38604  
 PROFESSIONAL LAND SURVEYOR  
 N.J. LICENSE NO. 38604  
 PROFESSIONAL PLANNER  
 N.J. LICENSE NO. 33100569800

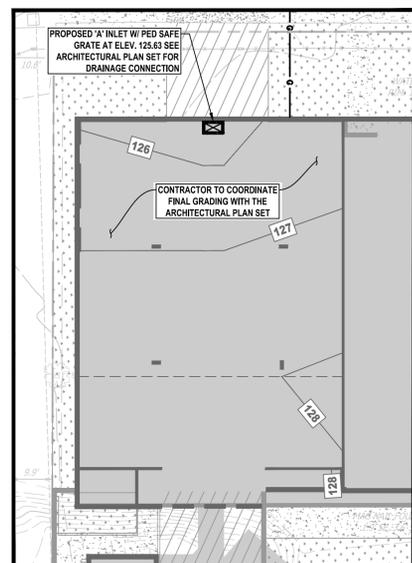
**DRAINAGE AND UTILITY PLAN**  
**PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT**  
**78 LOCUST AVENUE (BLOCK 129 - LOT 70)**  
**TOWNSHIP OF BLOOMFIELD**  
**ESSEX COUNTY**  
**NEW JERSEY**

DESIGNED BY: J.J.D./J.J.L./L.A.R. CHECKED BY: J.J.D. PROJECT NO.: BLFDPRV22.010 SHEET NO.: 5.00  
 FIELD BOOK NO.: SCALE: 1"=20' DATE: OCTOBER 13, 2023



### DRAINAGE PLAN

### FIRST FLOOR INSET



m:\bloomfield\221010778-88 locust ave\civil\10111005-00 - drainage plan.dwg, Printed: Wednesday, February 7, 2024, 8:07:18 PM

# INLET PROTECTION STANDARDS

## DEFINITION

A TEMPORARY BARRIER AND SETTLING FACILITY INSTALLED AT A STORM SEWER INLET.

## PURPOSE

THE PURPOSE OF STORM SEWER INLET PROTECTION IS TO INTERCEPT AND RETAIN SEDIMENT, THUS PREVENTING THE ENTRANCE OF SEDIMENT INTO THE STORM SEWER SYSTEM.

## CONDITIONS WHERE PRACTICE APPLIES

- CONTRIBUTING DRAINAGE AREA IS 3 ACRES OR LESS.
- A STORM SEWER OR THE OUTLET CHANNEL OF A STORM SEWER NEEDS PROTECTION FROM SEDIMENT.
- TRAFFIC WILL NOT DESTROY OR CAUSE CONSTANT MAINTENANCE OF THE STORM SEWER INLET PROTECTION.
- A TRAFFIC HAZARD WILL NOT BE CREATED.
- A FLOODING PROBLEM WILL NOT BE CREATED.

## WATER QUALITY ENHANCEMENT

THE PRIMARY BENEFIT TO WATER QUALITY IS REMOVAL OF SEDIMENT FROM STORMWATER RUNOFF PRIOR TO ENTERING THE STORM SEWER SYSTEM. AS AN ADDED BENEFIT, OTHER FLOATABLE DEBRIS, SUCH AS VEGETATIVE MATTER AND LITTER, MAY ALSO BE FILTERED OUT OF THE RUNOFF.

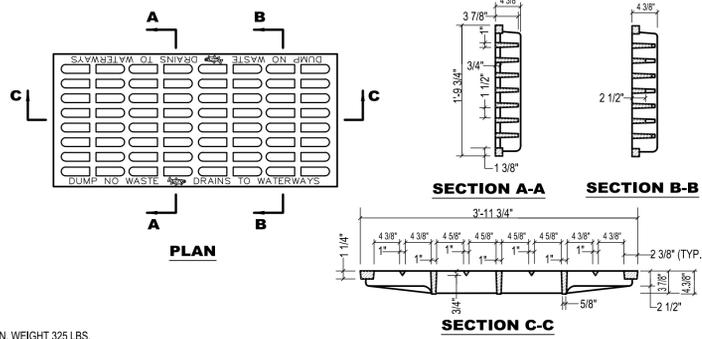
## DESIGN CRITERIA

THE FOLLOWING APPLIES TO ALL METHODS OF STORM SEWER INLET PROTECTION:

- MUST SLOW THE STORM WATER, PROVIDE THE COARSE SEDIMENT PARTICLES A CHANCE TO SETTLE, AND PROVIDE AN AREA TO RETAIN THE PARTICLES THAT HAVE SETTLED.
- IN ALL CASES, THE INLET PROTECTION SHOULD NOT COMPLETELY CLOSE OFF THE INLET.
- THE PROTECTION DEVICE WILL BE DESIGNED TO CAPTURE OR FILTER RUNOFF FROM THE 1 YEAR, 24 HOUR STORM EVENT AND SHALL SAFELY CONVEY HIGHER FLOWS DIRECTLY INTO THE STORM SEWER SYSTEM.

OTHER METHODS THAT ACCOMPLISH THE PURPOSE OF STORM SEWER INLET PROTECTION MAY BE USED IF APPROVED BY THE SOIL CONSERVATION DISTRICT.

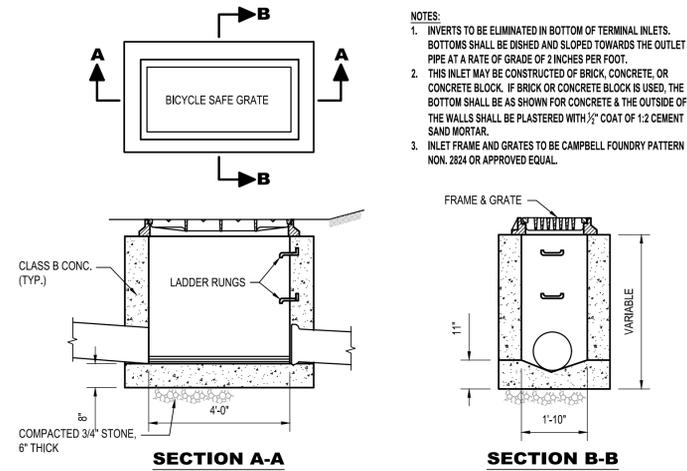
INSPECTIONS SHALL BE FREQUENT. MAINTENANCE, REPAIR, AND REPLACEMENT SHALL BE MADE PROMPTLY, AS NEEDED. THE BARRIER SHALL BE REMOVED WHEN THE AREA DRAINING TOWARD THE INLET HAS BEEN STABILIZED.



MIN. WEIGHT 325 LBS.  
NJDOT CD-602-1.8

## BICYCLE SAFE GRATE (CAST IRON)

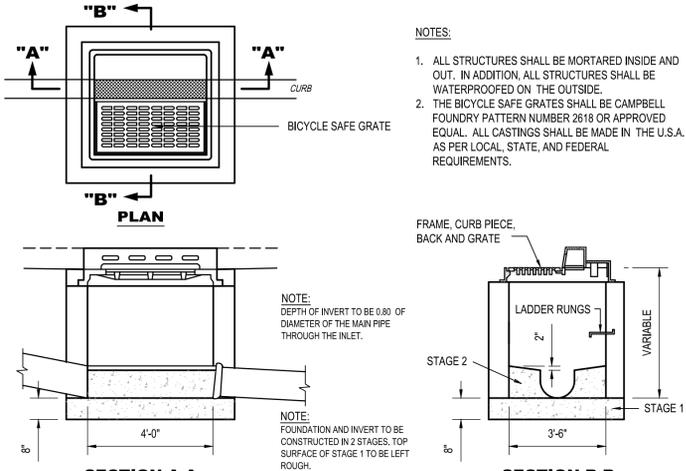
NOT TO SCALE



- NOTES:
- INVERTS TO BE ELIMINATED IN BOTTOM OF TERMINAL INLETS. BOTTOMS SHALL BE DISHED AND SLOPED TOWARDS THE OUTLET PIPE AT A RATE OF GRADE OF 2 INCHES PER FOOT.
  - THIS INLET MAY BE CONSTRUCTED OF BRICK, CONCRETE, OR CONCRETE BLOCK. IF BRICK OR CONCRETE BLOCK IS USED, THE BOTTOM SHALL BE AS SHOWN FOR CONCRETE & THE OUTSIDE OF THE WALLS SHALL BE PLASTERED WITH 1/2\"/>
  - INLET FRAME AND GRATES TO BE CAMPBELL FOUNDRY PATTERN NON. 2824 OR APPROVED EQUAL.

## INLET TYPE "A"

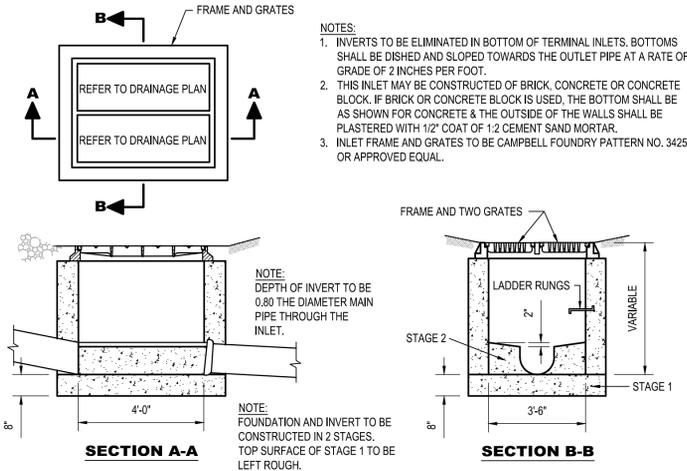
NOT TO SCALE



- NOTES:
- ALL STRUCTURES SHALL BE MORTARED INSIDE AND OUT. IN ADDITION, ALL STRUCTURES SHALL BE WATERPROOFED ON THE OUTSIDE.
  - THE BICYCLE SAFE GRATES SHALL BE CAMPBELL FOUNDRY PATTERN NUMBER 2616 OR APPROVED EQUAL. ALL CASTINGS SHALL BE MADE IN THE U.S.A. AS PER LOCAL, STATE, AND FEDERAL REQUIREMENTS.

## INLET TYPE "B"

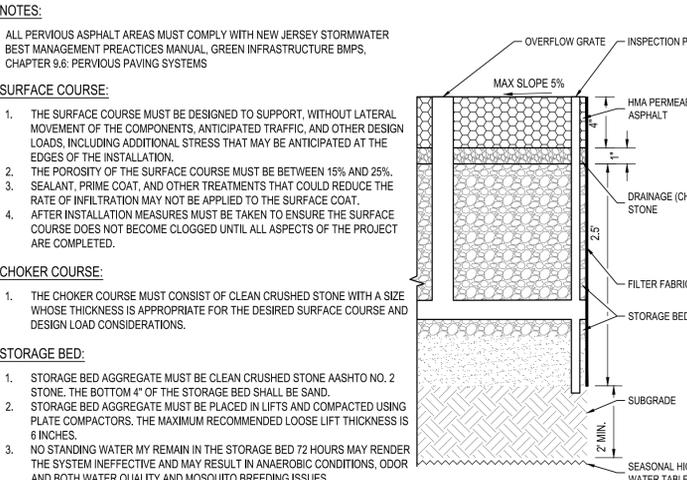
NOT TO SCALE



- NOTES:
- INVERTS TO BE ELIMINATED IN BOTTOM OF TERMINAL INLETS. BOTTOMS SHALL BE DISHED AND SLOPED TOWARDS THE OUTLET PIPE AT A RATE OF GRADE OF 2 INCHES PER FOOT.
  - THIS INLET MAY BE CONSTRUCTED OF BRICK, CONCRETE OR CONCRETE BLOCK. IF BRICK OR CONCRETE BLOCK IS USED, THE BOTTOM SHALL BE AS SHOWN FOR CONCRETE & THE OUTSIDE OF THE WALLS SHALL BE PLASTERED WITH 1/2\"/>
  - INLET FRAME AND GRATES TO BE CAMPBELL FOUNDRY PATTERN NO. 3425 OR APPROVED EQUAL.

## INLET TYPE "E"

NOT TO SCALE



NOTES:

ALL PERVIOUS ASPHALT AREAS MUST COMPLY WITH NEW JERSEY STORMWATER BEST MANAGEMENT PRACTICES MANUAL, GREEN INFRASTRUCTURE BMPs, CHAPTER 9.6: PERVIOUS PAVING SYSTEMS

### SURFACE COURSE:

- THE SURFACE COURSE MUST BE DESIGNED TO SUPPORT, WITHOUT LATERAL MOVEMENT OF THE COMPONENTS, ANTICIPATED TRAFFIC, AND OTHER DESIGN LOADS, INCLUDING ADDITIONAL STRESS THAT MAY BE ANTICIPATED AT THE EDGES OF THE INSTALLATION.
- THE POROSITY OF THE SURFACE COURSE MUST BE BETWEEN 15% AND 25%.
- SEALANT, PRIME COAT, AND OTHER TREATMENTS THAT COULD REDUCE THE RATE OF INFILTRATION MAY NOT BE APPLIED TO THE SURFACE COAT.
- AFTER INSTALLATION MEASURES MUST BE TAKEN TO ENSURE THE SURFACE COURSE DOES NOT BECOME CLOGGED UNTIL ALL ASPECTS OF THE PROJECT ARE COMPLETED.

### CHOKER COURSE:

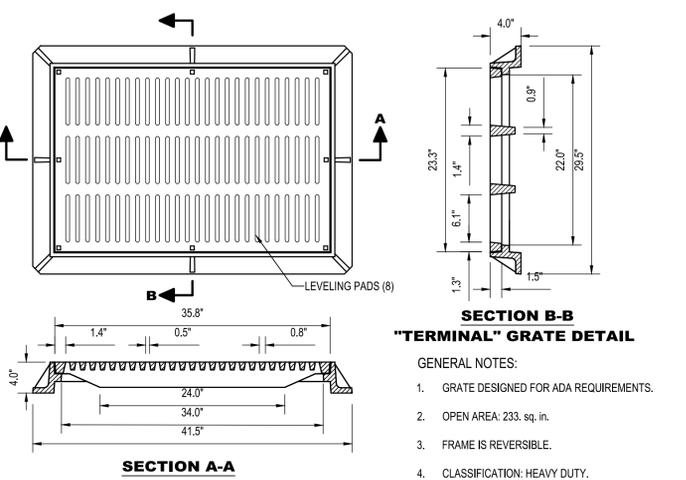
- THE CHOKER COURSE MUST CONSIST OF CLEAN CRUSHED STONE WITH A SIZE WHOSE THICKNESS IS APPROPRIATE FOR THE DESIRED SURFACE COURSE AND DESIGN LOAD CONSIDERATIONS.

### STORAGE BED:

- STORAGE BED AGGREGATE MUST BE CLEAN CRUSHED STONE AASHTO NO. 2 STONE. THE BOTTOM 4\"/>
- STORAGE BED AGGREGATE MUST BE PLACED IN LIFTS AND COMPACTED USING PLATE COMPACTORS. THE MAXIMUM RECOMMENDED LOOSE LIFT THICKNESS IS 6 INCHES.
- NO STANDING WATER MAY REMAIN IN THE STORAGE BED 72 HOURS MAY RENDER THE SYSTEM INEFFECTIVE AND MAY RESULT IN ANAEROBIC CONDITIONS, ODOR AND BOTH WATER QUALITY AND MOSQUITO BREEDING ISSUES.

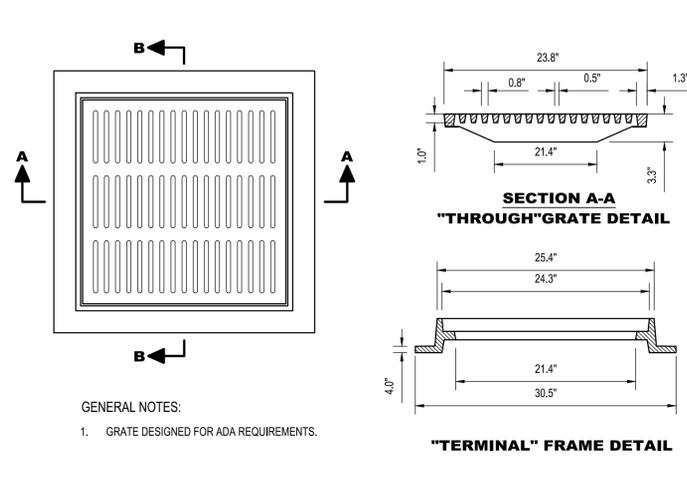
## POROUS PAVEMENT SYSTEM

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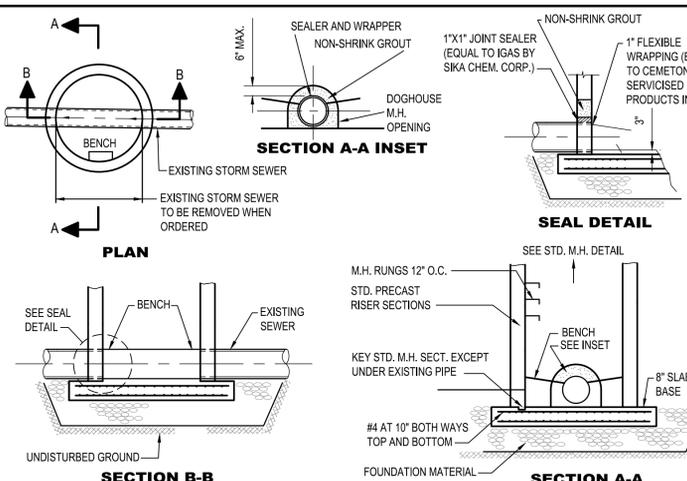
## PEDESTRIAN GRATE 'A' INLET

NOT TO SCALE



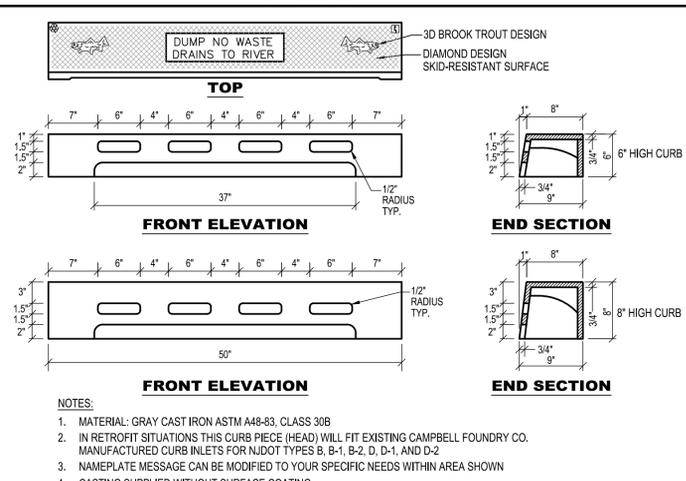
## PEDESTRIAN GRATE 24\"/>

NOT TO SCALE



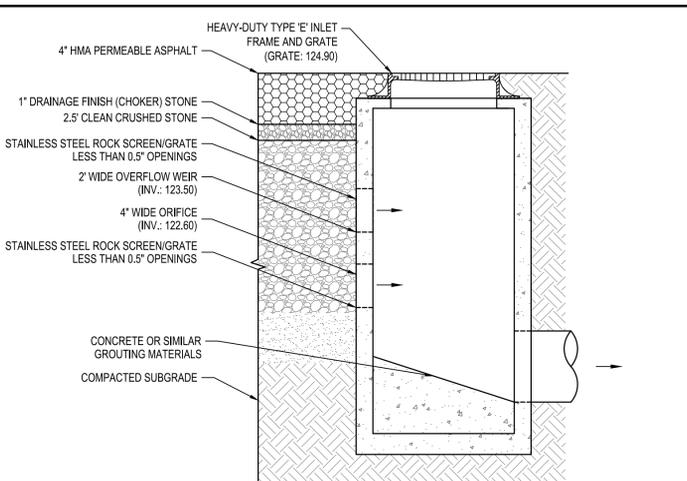
## DOGHOUSE MANHOLE

NOT TO SCALE



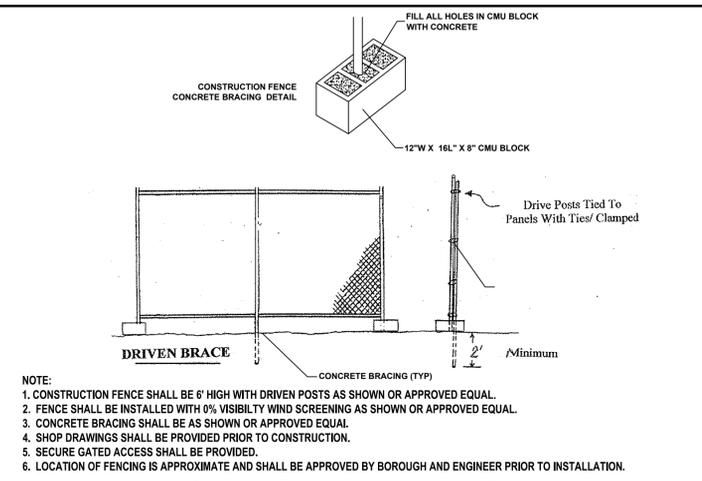
## CURB PIECE TYPE N-ECO

NOT TO SCALE



## OUTLET CONTROL STRUCTURE (OCS-1)

NOT TO SCALE



## DRIVEN POST CHAIN LINK CONSTRUCTION FENCE - 8' HIGH

NOT TO SCALE

REVISIONS				
NO.	DATE	DESCRIPTION	DRAWN	CHECKED
1	02/08/2024	REVISED PER NJDEP COMMENTS AND BOARD RESUBMISSION	J.J.L./L.A.R.	J.J.L./J.J.D.

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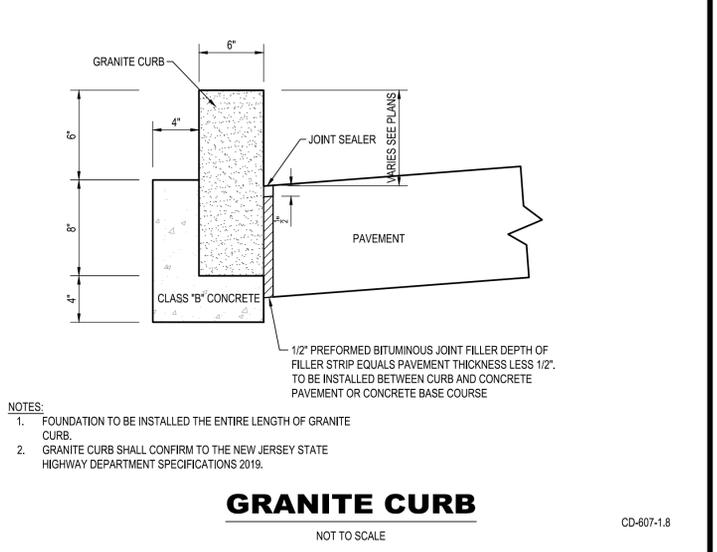
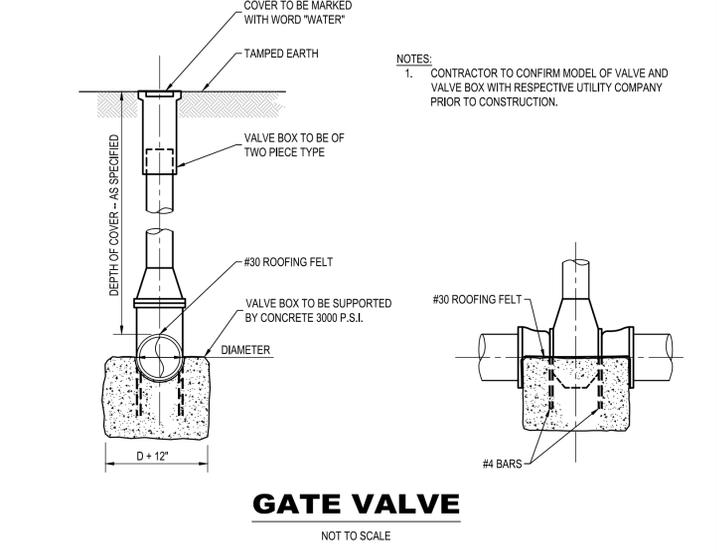
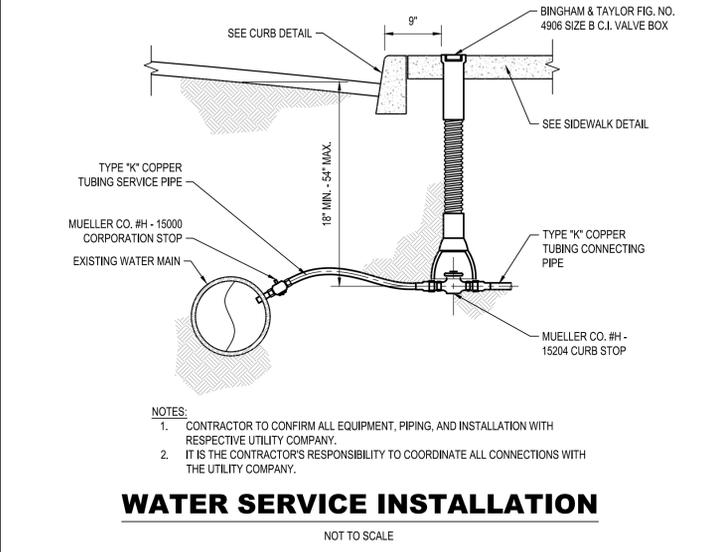
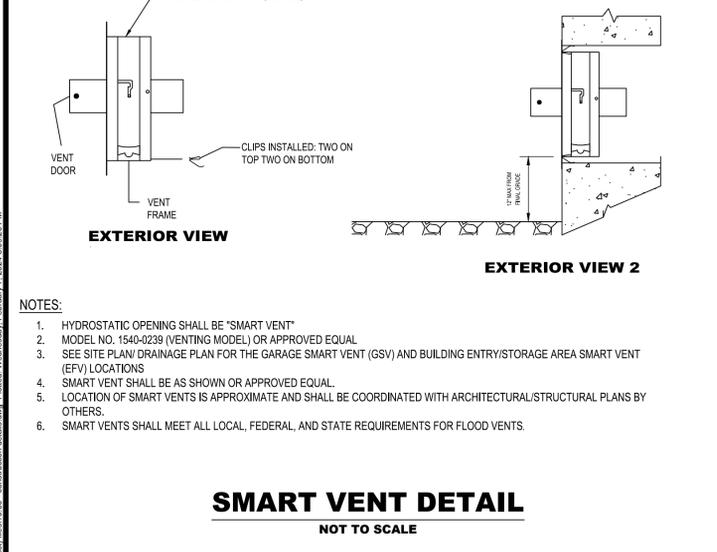
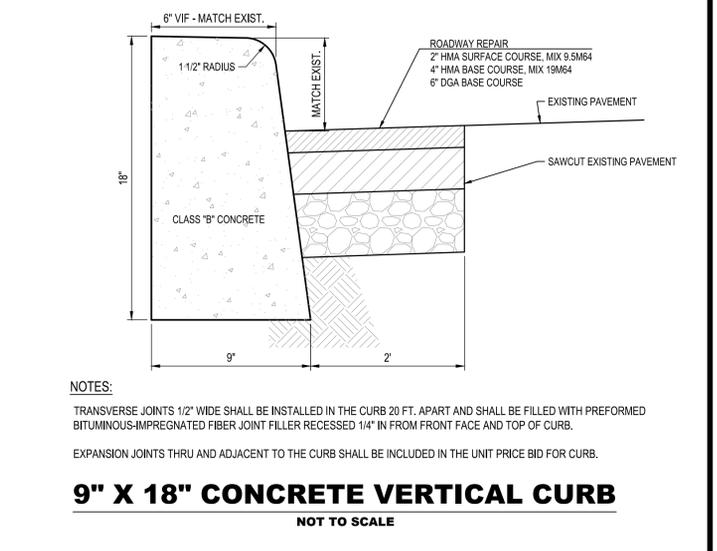
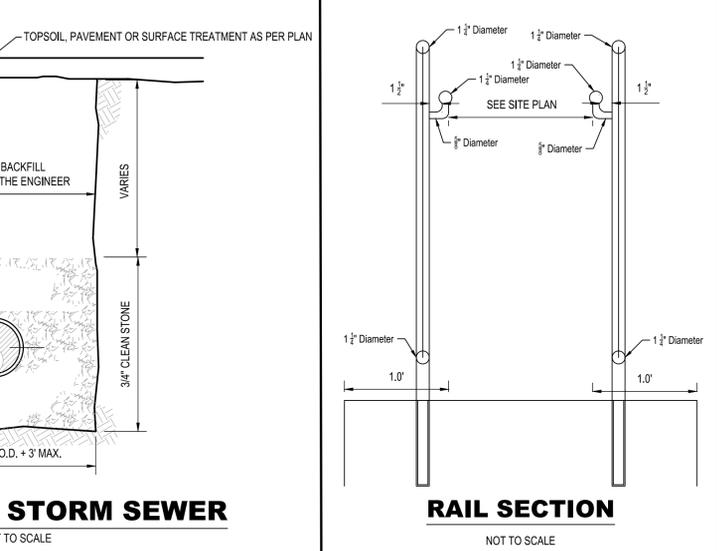
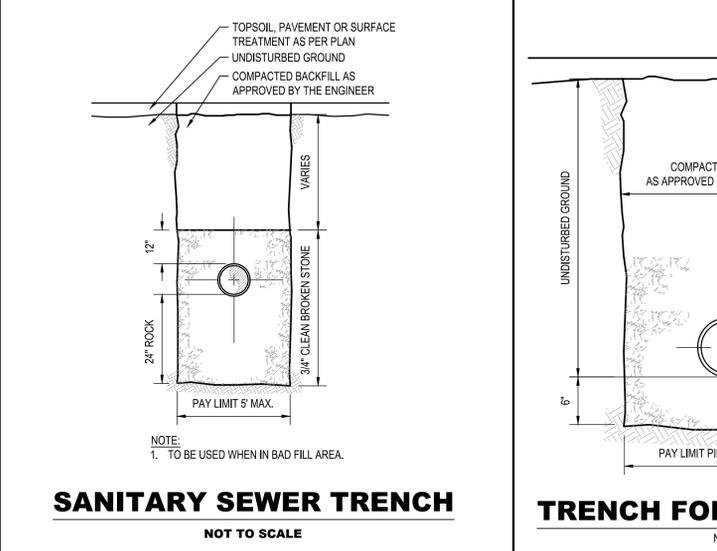
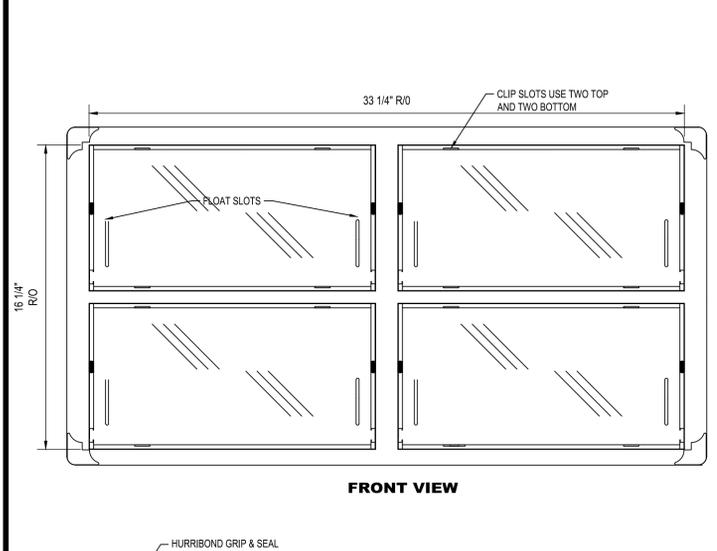
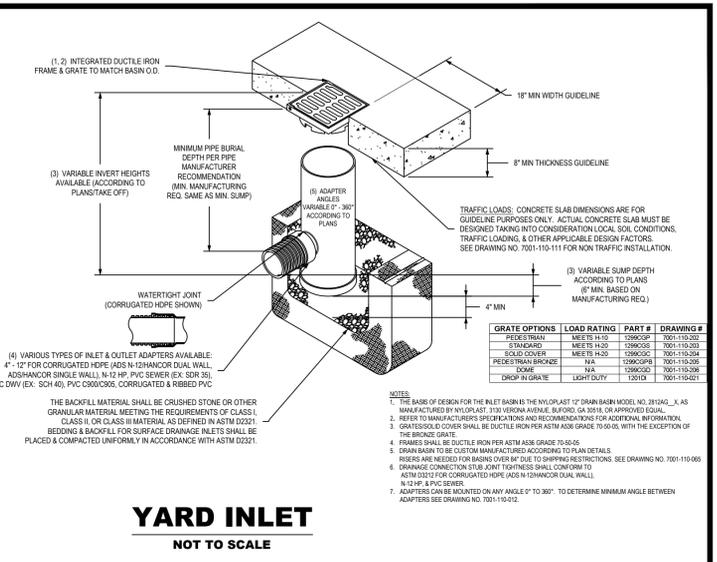
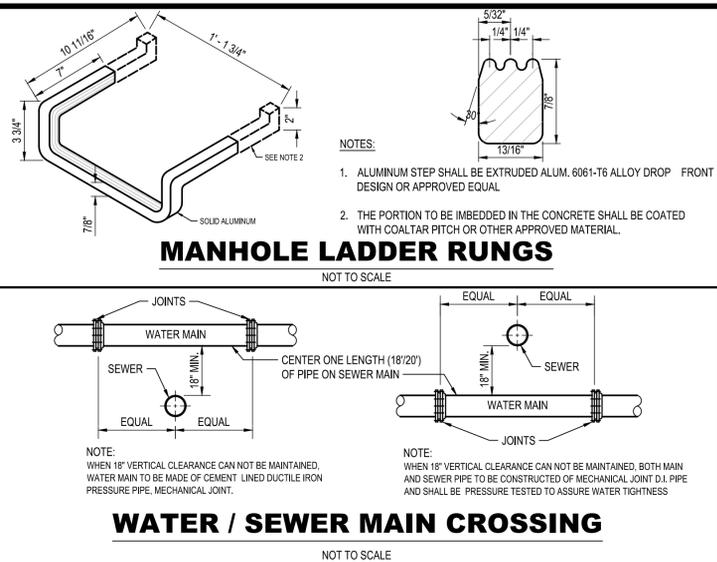
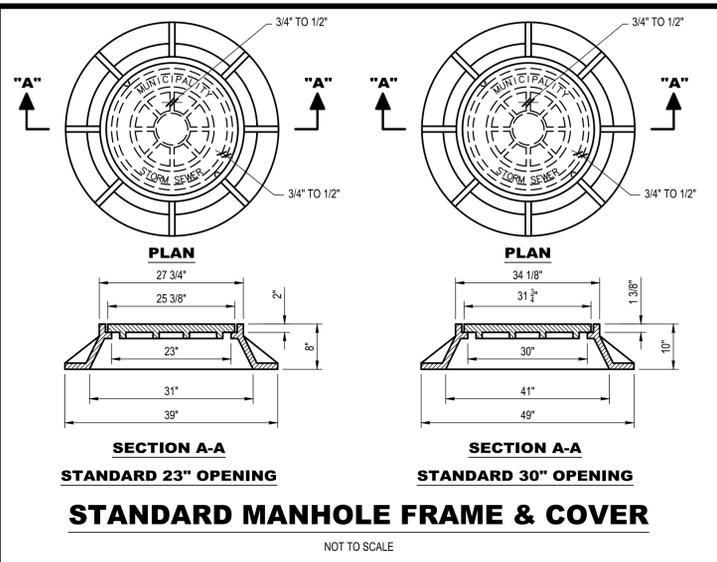
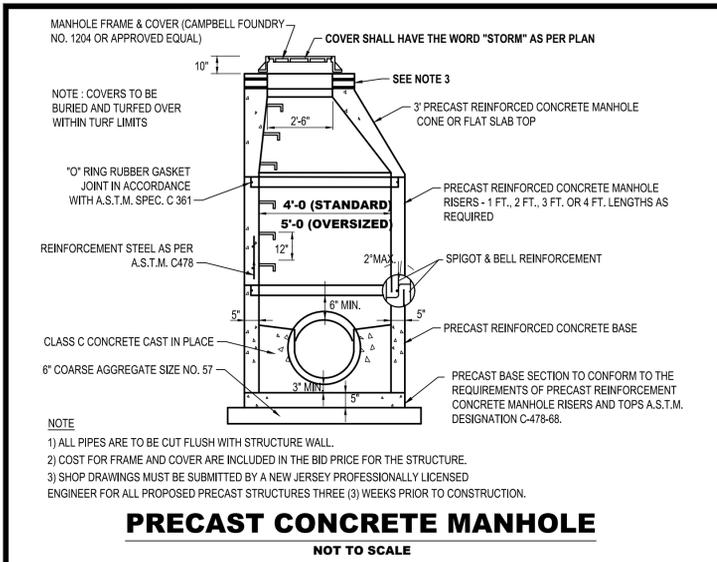
CERTIFICATE OF AUTHORIZATION (N.J.S.A. 45:8-56) 24GA27927000

### CONSTRUCTION DETAILS I

## PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT 78 LOCUST AVENUE (BLOCK 129 - LOT 70) TOWNSHIP OF BLOOMFIELD ESSEX COUNTY NEW JERSEY

DRAWN BY: J.J.L./L.A.R.	CHECKED BY: J.J.D./J.J.D.	PROJECT NO.: BLFDPRV22.010	SHEET NO.: 10.00
DESIGNED BY: J.J.D./J.J.L./L.A.R.	SCALE: N.T.S.	DATE: OCTOBER 13, 2023	
FIELD BOOK NO.:	PAGE:		

m:\bloomfield\221010-78-locust-block-and-lot-70-communication-tables.dwg - Project: W/Residential, February 7, 2024 8:09:16 PM



REVISIONS			DRAWN	DESIGNED	CHECKED
NO.	DATE	DESCRIPTION	J.J.L./L.A.R.	J.J.L.	J.J.D.
1	02/08/2024	REVISED PER NJDEP COMMENTS AND BOARD RESUBMISSION	J.J.L./L.A.R.	J.J.L.	J.J.D.

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**CONSTRUCTION DETAILS II**

**PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT**

**78 LOCUST AVENUE (BLOCK 129 - LOT 70)**

**TOWNSHIP OF BLOOMFIELD**

**ESSEX COUNTY**

**NEW JERSEY**

DRAWN BY: J.J.L./L.A.R. CHECKED BY: D.J./J.J.D. PROJECT NO.: BLDFPRV22.010 SHEET NO.: 10.01  
 DESIGNED BY: J.J.D./J.J.L./L.A.R. SCALE: N.T.S. FIELD BOOK NO.: DATE: OCTOBER 13, 2023