

DRESDNER ROBIN

STORMWATER MANAGEMENT SYSTEM OPERATION AND MAINTENANCE MANUAL

PUBLIC STORAGE NO. NJ20016

BLOCK 111, LOTS 1.08

TOWNSHIP OF WEST ORANGE, ESSEX COUNTY, NEW JERSEY

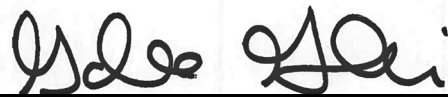
DRESDNER ROBIN PROJECT No. 10461-003

PREPARED FOR

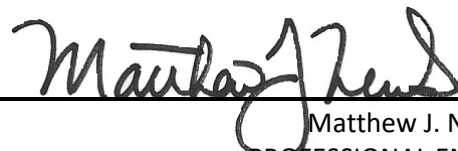
PUBLIC STORAGE
701 WESTERN AVENUE
GLENDALE, CA 91201

PREPARED BY

DRESDNER ROBIN
1 EVERTRUST PLAZA
SUITE 901
JERSEY CITY, NEW JERSEY 07302
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DATE

January 2022

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1.0 INTRODUCTION

The Applicant, Public Storage Atlantic Coast, LLC, is proposing to construct a 3-story self-storage facility. The first floor will consist of the rental office space, the lobby, restrooms, elevators, and mechanical spaces, as well as storage units. The 2nd, and 3rd floors will consist of storage spaces. On the west side of the building will be 19 secure parking spaces within a vehicular gated area and 8 parking spaces for office use and visitors outside said gated area. An emergency access drive will encircle the building. Existing parking along the entrance drive will remain. New landscaping and buffers will be provided.

As part of the project, a subsurface stormwater detention system and associate pipes and structures will be constructed to attenuate stormwater runoff from the project site and provide a controlled discharge to Crystal Lake to the north. As such, maintenance personnel should be properly trained, equipped, certified and supervised when performing maintenance on or within the stormwater management system.

This manual has been prepared in accordance with the New Jersey Stormwater Management Rules (N.J.A.C. 7:8) to describe on-going maintenance procedures that must be undertaken to ensure the successful continued operation of the stormwater management features and should be reviewed in conjunction with the following drawings from a certain set of drawings titled “*Preliminary/Final Site Plan; Public Storage; Lot 1.08, Block 111; Township of West Orange, Essex County, New Jersey*” and prepared by Dresdner Robin.

- C-401 “Grading & Drainage Plan”
- C-402 “Grading & Drainage Plan”
- C-501 “Utility Plan”
- C-901 “Construction Details I”
- C-902 “Construction Details II”

The effectiveness of this maintenance plan should be evaluated at least once a year and be adjusted as necessary to ensure proper maintenance and function of the system.

2.0 RESPONSIBLE ENTITY

In accordance with N.J.A.C. 7:8-5.8(b), the following information is provided to identify the person responsible for preventative and corrective maintenance (including replacement) of the stormwater management measures for this project:

Public Storage Atlantic Coast, LLC
701 Western Avenue
Glendale, CA 91201
(T): (800) 688-8057

3.0 MAINTENANCE PLAN EFFECTIVENESS

In accordance with N.J.A.C. 7:8-5.8(g), the person responsible for maintenance identified above shall evaluate the effectiveness of this maintenance plan at least once per year and adjust the plan and the recorded deed as needed.

The maintenance person responsible shall evaluate the frequency of inspections, specified herein, for any element of the stormwater management system. Upon completion of the first few inspections, the maintenance personnel shall determine the specific elements of the stormwater management system that may require more frequent inspections. Maintenance issues, such as the accumulation of sediment within the stormwater pipes and structures, are potential instances that would require an increase in inspection or maintenance frequency.

Additionally, the maintenance person responsible shall evaluate the frequency of inspections during less than average rainfall events of more than 1-inch of precipitation.

If any modifications to this report are required based on the above, they shall be properly recorded with the deed of the subject property.

4.0 RECOMMENDED TOOLS AND EQUIPMENT

A variety of tools and equipment will be necessary to observe the efficiency of the stormwater management system for the subject property and make repairs if necessary. A typical list of recommended tools and equipment are provided below. Note that this list may not be all inclusive and may require other tools and equipment based on the maintenance being performed:

- Rake
- Manhole pick
- Standard hand tools, including:
 - Flashlight
 - Screw drivers
 - Ratchets
 - Hammer
- Shovel
- Ladder
- Masonry tools and equipment
- Vacuum truck

5.0 KEY MAINTENANCE ITEMS

5.1 Inlets and Outlet Control Structure

Regular site maintenance should remove debris covering the drainage structure rims, grates and curb boxes. Trash, sediment, leaves and other debris should be removed from the rims, grates and curb boxes when the depth of this debris exceeds 6-inches above the bottom of the structure or 20% of the diameter of the outflow pipe, whichever is less. The rims, grates and curb boxes should also be inspected for signs of structural damage, settling or misalignment. Missing, damaged or misaligned grates should be replaced or repaired. Ladder-rungs must be in sound structural condition. If ladder-rungs are

deemed to be unsafe, these items must be repaired or replaced. Debris removed from the rims, grates and curb boxes must be disposed of in a manner which complies with applicable local, state and federal laws and regulations.

Personnel must not enter stormwater management structures unless properly trained, equipped and qualified to enter a confined space as identified by local Occupational Safety and Health Regulations. Maintenance personnel must be aware of and avoid contact with any overhead utilities or obstructions when inspecting the stormwater management structures with long sampling devices. Stormwater management structures are designed so inspection of the facility can be performed from grade (i.e. inspect for obstructions, debris accumulation, etc.).

5.2 Stormwater Manholes

Trash, sediment, leaves and other debris should be removed from the manhole when the depth of this debris exceeds 6-inches above the bottom of the structure or 20% of the diameter of the outflow pipe, whichever is less. The manhole should also be inspected for signs of structural damage, settling or misalignment. Missing, damaged or misaligned manhole covers should be replaced or repaired. Ladder-rungs must be in sound structural condition. If ladder-rungs are deemed to be unsafe, these items must be repaired or replaced. Debris removed from the manhole must be disposed of in a manner which complies with applicable local, state and federal laws and regulations.

Personnel must not enter stormwater manholes unless properly trained, equipped and qualified to enter a confined space as identified by local Occupational Safety and Health Regulations. Maintenance personnel must be aware of and avoid contact with any overhead utilities or obstructions when inspecting the structures with long sampling devices. Manholes are designed so inspection of the facility can be performed from grade (i.e. inspect for obstructions, debris accumulation, etc.).

5.3 Stormwater Pipes

Stormwater pipes are used to convey stormwater runoff. Accumulated sediment and/or debris that exceed 20% of the diameter of the pipe should be removed. Corrective action must be taken when joints are visibly misaligned or disrupted. Structural damage or pipe corrosion must be addressed promptly when identified.

5.4 Pervious Pavement

Care must be taken when removing snow from the pervious paving surface courses. Pervious paving surface courses can be damaged by snowplows or loader buckets that are set too low to the ground. This is particularly true at permeable paver systems where

differential settlement of pavers has occurred. Sand, grit, or cinders should not be used on pervious paving surface courses for snow or ice control. If mud or sediment is tracked onto the surface course of a pervious paving system, it must be removed as soon as possible. Removal should take place when the surface course is thoroughly dry. Disposal of debris, trash, sediment, and other waste matter removed from pervious paving surface courses should be done at suitable disposal/recycling sites and in compliance with local, state, and federal regulations. The surface course of a porous paving system must be vacuum swept at least four times a year. This should be following a high pressure hosing. All dislodged sediment and other particulate matter must be removed and properly disposed.

Maintenance of permeable pavement must should be consistent with the manufacturers recommendation. Maximum drain time for pervious pavers is 72 hours. If 72 hour maximum is exceeded, the various system components and groundwater levels must be evaluated and appropriate measures taken to comply with the maximum drain time requirements and maintain the proper functioning of the system.

6.0 INSPECTION AND MAINTENANCE SCHEDULE

The person responsible for maintenance identified herein shall maintain a detailed log of all preventative 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. The person responsible for maintenance identified herein 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 specified herein.

Inlets and pervious pavement areas will be visually inspected four times annually to ensure debris and obstructions do not impede proper function of these features. While debris removal and structural repairs should be addressed immediately, regular cleaning and maintenance of inlets should be conducted on a semiannual basis, and on a quarterly basis for pervious pavement areas.

The stormwater manholes, and stormwater pipes will be inspected semiannually. Maintenance items will be identified during the inspection and will be addressed immediately.

Inlets will be inspected after minor storms which produce less than 1 inch of rainfall in 30 minutes to ensure debris and obstructions do not impede proper function of these features. The stormwater manholes and stormwater pipes will be inspected after major storms which produce 1 inch of rainfall in 30 minutes or more to ensure debris and obstructions do not impede proper function of these features.

Paved areas, including parking lots and walkways will be swept, at a minimum, twice per year. At least once a week, collect and remove litter from the walkways and platforms in addition to regular sweeping.

TASK FREQUENCY	INSPECT AND MAINTAIN (IF NECESSARY)
Four Times Annually	Inlets and area drains, pervious pavement vacuum sweep
Semi-annually	Storm water manholes, storm water pipes
After Minor Storms (Less than 1 inch in 30 minutes)	Inlets and area drains
After Major Storms (More than 1 inch in 30 minutes)	storm water manholes, storm water pipes

7.0 OPINION OF PROBABLE ANNUAL MAINTENANCE COSTS

Maintenance costs given on the following page are estimates for standard stormwater management facility maintenance. Costs of major or emergency repairs are not considered within the Opinion of Estimated Annual Maintenance Cost Summary Table.

OPINION OF ESTIMATED ANNUAL MAINTENANCE COSTS SUMMARY			
	Cost per Task	Number of Times/Year	Total Yearly Cost Estimate
Storm Sewer System			
Inspect inlets for trash and debris. Clean as necessary.	\$300	4	\$1,200
Removal of sediment, trash and debris.	\$500	1	\$500
PervVacuum sweep of sediment, trash and debris.	\$250	4	\$1000
Pervious Pavement			
Inspect and remove trash and debris.	\$60	4	\$240
Vacuum sweep of sediment, trash and debris	\$250	4	\$1000
Subsurface Detention Facility			
Inspect and remove trash and debris from basin.	\$5000	2	\$1,000
Removal of sediment, trash and debris.	\$2,000	1	\$2,000
Total Estimated Cost of Standard Maintenance Tasks			\$5,940

APPENDIX A

APPENDIX B

Maintenance Log for Stormwater Management Facilities

Name of Facility: Public Storage – West Orange

Location: 424 Eagle Rock Avenue, West Orange, NJ

A. Preventative Maintenance

Date:

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Work Item

(v) Completed

1. Trash and Debris Removal

A. Surface Lot										
B. Inlets										
C. Outlet Structure & Trash Rack										
D. Inlet Filter										
E. Pervious Pavement										
F. Other:										

2. Sediment Removal

A. Inlets										
B. Outlets and Trash Racks										
C. Subsurface Detention Basin										
D. Inlet Filter										
E. Other:										

3. Vacuum Sweep

A. Pervious Pavement										
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4. Other Prevention Maintenance

A.										
B.										
C.										

B. Corrective Maintenance

Work Item

1. Removal of Debris & Sediment

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2. Structural Repairs

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3. Dewatering

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4. Basin Maintenance

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5. Inlet Filter Replacement

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6. Snow & Ice Removal

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7. Other

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Remarks (Refer to Item No., If Applicable):

DRAWINGS

1. EXISTING CONDITIONS AND PROJECT BOUNDARY INFORMATION BASED ON A CERTAIN PLAN TITLED "BOUNDARY & TOPOGRAPHIC SURVEY", PREPARED BY DRESSINDOR ROBIN, DATED 09/24/2020 AND REVISED ON 11/12/2020.
2. SEE ATTACHED PLANS FOR ROOM CONFIGURATION, INTERIOR LAYOUT IS SHOWN FOR LOCATION OF BUILDING TO SITE AS PROVIDED BY THE PROJECT ARCHITECT.
3. RESPONSIBILITY/OSHA STANDARDS: CONTRACTOR SHALL ADHERE TO FEDERAL AND OSHA SAFETY REQUIREMENTS FOR SAFETY IN THE WORKPLACE, INCLUDING U.S. DEPARTMENT OF LABOR, OSHA PUBLICATION NUMBER 3149, 1996 SAFETY AND HEALTH STANDARDS FOR THE CONSTRUCTION INDUSTRY AND ALL HEALTH AND SAFETY REGULATIONS RELATED TO THE PERFORMANCE OF UTILITY CONSTRUCTION WORK.
4. ANY QUANTITIES SHOWN ON THE PLAN ARE FOR GENERAL INFORMATION ONLY. CONTRACTOR TO VERIFY ALL QUANTITIES, CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING WORK. COMMENCING ANY FABRICATION, ORDERING OF MATERIAL, OR PERFORMING ANY WORK, NOTIFY THE ENGINEER OF ANY CONDITIONS OR DIMENSIONS THAT WOULD PREVENT OR HAMPER THE PERFORMANCE OF THE WORK OR INTERFERE WITH THE PROGRESS OF THE CONSTRUCTION.
5. ALL WORK MUST BE PERFORMED IN SUCH A MANNER TO PROTECT AND PREVENT DAMAGE TO SURROUNDING PROPERTY, TO MAINTAIN A SAFE WORK ENVIRONMENT, AND TO ENABLE WORK AND BUSINESSES AT THE SITE TO PROCEED WITH MINIMAL AND COORDINATED INTERRUPTIONS.

1. EXISTING CONDITIONS AND PROPERTY BOUNDARY INFORMATION BASED ON A CERTAIN PLAN TITLED "BOUNDARY & TOPOGRAPHIC SURVEY", PREPARED BY DRESSNER ROBIN, DATED 09/24/2020 AND REVISED ON 11/12/2020.
2. SEE ARCHITECTURAL PLANS FOR ROOM CONFIGURATION. INTERIOR LAYOUT IS SHOWN FOR LOCATION OF BUILDING TO SITE AS PROVIDED BY THE PROJECT ARCHITECT.
3. RESPONSIBILITY/OSHA STANDARDS: CONTRACTOR SHALL ADHERE TO CURRENT LEGAL AND OTHER LEGAL REQUIREMENTS FOR SAFETY IN THE WORKPLACE, INCLUDING U.S. DEPARTMENT OF LABOR, OSHA PUBLICATION NUMBER 3149, 1996 SAFETY AND HEALTH STANDARDS FOR THE CONSTRUCTION INDUSTRY AND ALL HEALTH AND SAFETY REQUIREMENTS RELATED TO THE PERFORMANCE OF UTILITY CONSTRUCTION WORK.
4. ANY QUANTITIES SHOWN ON THE PLAN ARE FOR GENERAL INFORMATION ONLY. CONTRACTOR TO VERIFY ALL INDICATED CONDITIONS AND DIMENSIONS IN THE FIELD BEFORE COMMENCING ANY FABRICATION, ORDERING OF MATERIAL, OR PERFORMING ANY WORK. NOTIFY THE ENGINEER OF ANY CONDITIONS DISCOVERED THAT MAY AFFECT THE PRESENT OR FUTURE SCOPE OF THE WORK IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIFICATIONS.
5. ALL WORK MUST BE PERFORMED IN SUCH A MANNER TO PROTECT EXISTING DAMAGE TO ADJACENT PROPERTIES AND TO MAINTAIN SAFE WORK ENVIRONMENT, AND TO ENABLE WORK AND BUSINESSES AT THE SITE TO PROCEED WITH MINIMAL AND COORDINATED INTERRUPTIONS.
6. ELEVATIONS SHOWN HEREON, UNLESS OTHERWISE SPECIFIED, ARE BASED ON NAVD83.
7. THE CONTRACTOR IS TO FIELD VERIFY-ALL QUANTITIES AND EXISTING INVERTS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES BETWEEN FIELD VERIFIED INVERTS AND THOSE SHOWN ON THE DRAWINGS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
8. THE CONTRACTOR SHALL VERIFY THE LOCATION AND SIZE OF EXISTING UTILITIES BY CONDUCTING TEST PITS, GROUND LOGS, PRIOR TO EXCAVATION AND EXERCISE CARE TO PREVENT DISRUPTION OF ACTIVE SERVICES & AVOID CONFLICTS. CONTRACTOR SHOULD EXPECT TO ENCOUNTER ABANDONED UTILITY RIGHTS-OF-WAY, ABANDONED UTILITIES SHALL BE REMOVED OR FILLED AS NECESSARY TO ADVANCE THE WORK IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS.
9. AREAS OUTSIDE THE LIMITS OF CONSTRUCTION THAT ARE DAMAGED BY THE CONTRACTOR SHALL BE RESTORED, AT THE CONTRACTOR'S EXPENSE, TO THEIR ORIGINAL CONDITION TO THE SATISFACTION OF THE ENGINEER AND OWNER, AT NO ADDITIONAL COST TO THE OWNER.
10. UTILIZE A MOBILE SWEEPER AND WALK BEHIND TRUCK AS NEEDED FOR DUST CONTROL ALONG THE HAUL ROUTE AND IN AREAS MADE AVAILABLE FOR CONSTRUCTION. STREETS AND SIDEWALKS MUST BE KEPT FREE OF DEBRIS, CHIPS, AND OTHER MATERIAL.
11. IN ALL CASES, WALKS & PARKING AREAS TO BE PITCHED TOWARD DRAINAGE STRUCTURES TO PREVENT PONDING.
12. EXISTENT WATER DRAINING RESULTING FROM CONSTRUCTION OPERATIONS, PROMPTLY REMOVE ANY PONDING WATER TO THE SATISFACTION OF THE ENGINEER.
13. THE CONTRACTOR SHALL CEASE WORK IMMEDIATELY IF AN ADJACENT STRUCTURE APPEARS TO BE IN DANGER AND WILL TAKE ALL ACTIONS NECESSARY TO STABILIZE THE ADJACENT STRUCTURE.
14. ALL REPAIRS AND NEW PAYMENT AREAS TO BE INSTALLED TO SMOOTH, EVEN GRADE, CORRECT EXISTING LOW SPOTS AND GRADE DISCREPANCIES BY FILLING AND CUTTING AS REQUIRED.
15. ALL EXISTING CURBS, GUTTERS, AND SIDEWALKS AS NOTED.
16. ALL EXISTING MANHOLE COVERS, GRATES, AND UTILITY STRUCTURES TO REMAIN SHALL BE ADJUSTED TO FINISH GRADE AS SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER.
17. THE CONTRACTOR SHALL MAINTAIN ACCURATE AS-BUILT NOTES AS CONSTRUCTION PROGRESSES. AS-BUILT INFORMATION SHALL CONTAIN, BUT NOT BE LIMITED TO, THE FOLLOWING: ELEVATIONS, REGULAR INTERVALS, DISTANCES TO CENTER OF PIPE/CORNER OF OBJECT FROM A SURVEYABLE POINT, LOCATION AND TYPES OF BENDS IN PIPES AND DEPTH OF COVER, ANY UTILITY OR OBJECT ENCOUNTERED IN THE FIELD. ALL AS-BUILT INFORMATION DISPLAYED ON THE DRAWINGS SHALL BE AS-BUILT BY THE CONTRACTOR AND FORWARDED TO THE ENGINEER AS SOON AS POSSIBLE. UPON COMPLETION OF THE PROJECT, THE CONTRACTOR IS TO SIGN AND SEAL THE AS-BUILT INFORMATION. THE ENGINEER'S DRAWINGS, SIGNED AND SEALED BY A NEW JERSEY LICENSED SURVEYOR, THE ENGINEER RESERVES THE RIGHT TO HAVE THE CONTRACTOR PRODUCE DRAWINGS WITH AS-BUILT INFORMATION ON THEM AT ANYTIME DURING CONSTRUCTION.

DRESDNER ROBIN ENVIRONMENTAL
MANAGEMENT, INC.
1 EVERTRUST PLAZA, SUITE 901, JERSEY
CITY, NJ 07302
TEL: 201.217.9200 FAX: 201.217.9607
NJ CERTIFICATE OF AUTHORIZATION :
24GA27926000

**JERSEY CITY ■ FAIRFIELD
ASBURY PARK ■ CHERRY HILL**

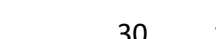
GABRIELLE GORNELLI
PROFESSIONAL ENGINEER
NJ LICENSE NUMBER 24GE05363600

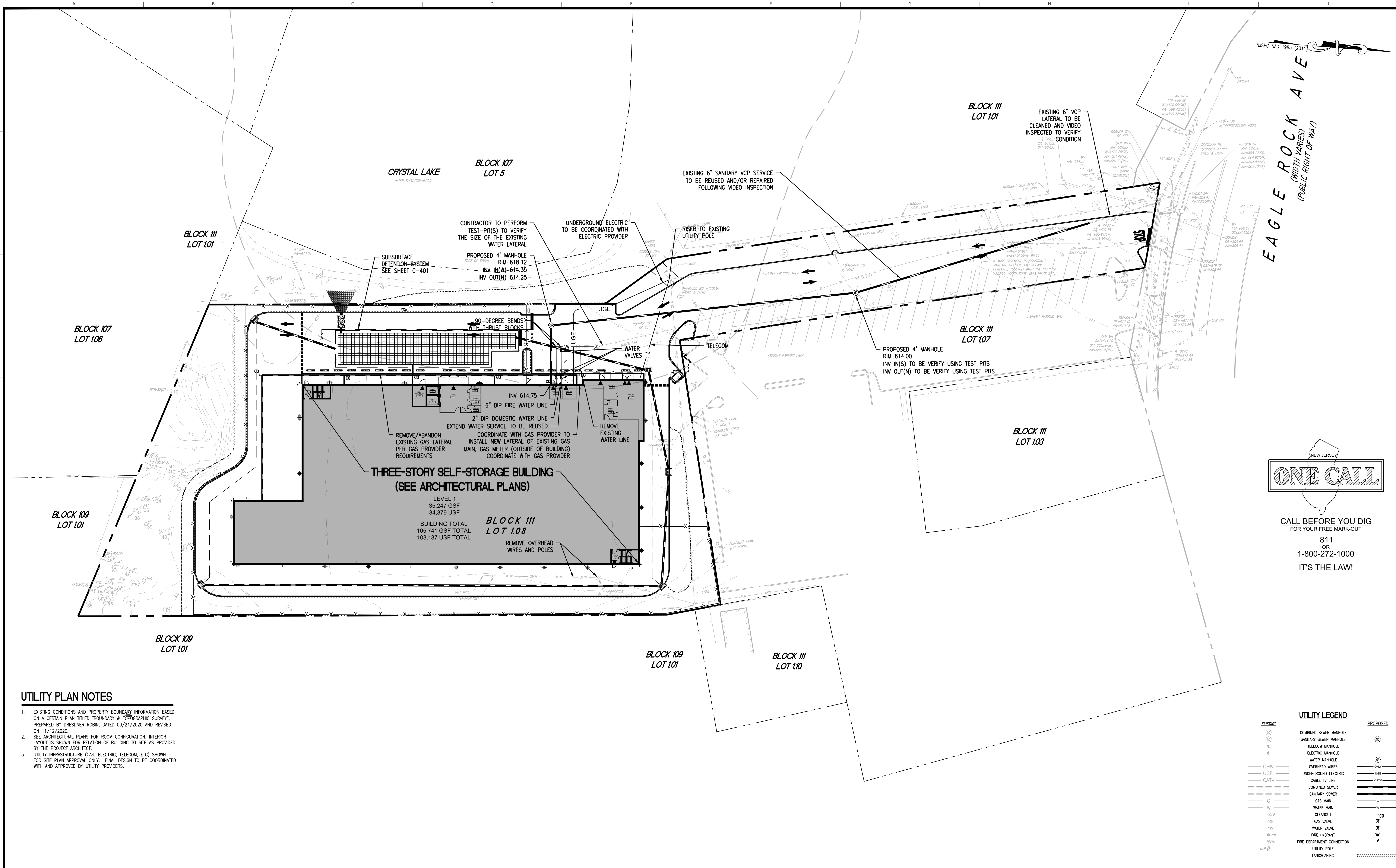
REVISIONS:

**PUBLIC STORAGE
ATLANTIC COAST, LLC**
701 WESTERN AVENUE
GLENDALE, CA 91201

GRADING AND DRAINAGE PLAN

**424 EAGLE ROCK AVENUE
LOT 1.08, BLOCK 111
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY**

SCALE: 		
DRAWN BY: JQJ	CHECKED BY: MJN	DRAWING NUMBER: C-4
SCALE: 1"=30'	DATE: 11-19-2020	
JOB No: 10461-003		SHEET 05



UTILITY PLAN NOTES

- EXISTING CONDITIONS AND PROPERTY BOUNDARY INFORMATION BASED ON A CERTAIN PLAN TITLED "BOUNDARY & TOPOGRAPHIC SURVEY", PREPARED BY DRESDNER ROBIN, DATED 09/24/2020 AND REVISED ON 11/12/2020.
- SEE ARCHITECTURAL PLANS FOR ROOM CONFIGURATION. INTERIOR LAYOUT IS SHOWN FOR RELATION OF BUILDING TO SITE AS PROVIDED BY THE PROJECT ARCHITECT.
- UTILITY INFRASTRUCTURE (GAS, ELECTRIC, TELECOM, ETC) SHOWN FOR SITE PLAN APPROVAL ONLY. FINAL DESIGN TO BE COORDINATED WITH AND APPROVED BY UTILITY PROVIDERS.

UTILITY LEGEND

EXISTING		PROPOSED
	COMBINED SEWER MANHOLE	
	SANITARY SEWER MANHOLE	
	TELECOM MANHOLE	
	ELECTRIC MANHOLE	
	WATER MANHOLE	
	OVERHEAD WIRES	
	UNDERGROUND ELECTRIC	
	CABLE TV LINE	
	COMBINED SEWER	
	SANITARY SEWER	
	GAS MAIN	
	WATER MAIN	
	CLEANOUT	
	GAS VALVE	 X CO
	WATER VALVE	 X
	FIRE HYDRANT	 X
	FIRE DEPARTMENT CONNECTION	 X
	UTILITY POLE	
	LANDSCAPING	

DRESDNER
ROBIN

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JERSEY CITY • FAIRFIELD
ASBURY PARK • CHERRY HILL

MATTHEW J. NEULS
PROFESSIONAL ENGINEER
NJ LICENSE NUMBER 24GE04313300

GABRIELLE GORNELLI
PROFESSIONAL ENGINEER
NJ LICENSE NUMBER 24GE05363600

NO.	DATE	DESCRIPTION	BY
06	01/07/2022	REVISED PER TOWNSHIP REVIEW COMMENTS	BIZ
05	12/06/2021	REVISED PER SITE LAYOUT CHANGE	GRG
04	10/14/2021	REVISED PER TOWNSHIP REVIEW COMMENTS	GRG
03	08/26/2021	REVISED PER TOWNSHIP REVIEW COMMENTS	GRG
02	08/09/2021	REVISED PER TOWNSHIP REVIEW COMMENTS	GRG
01	03/26/2021	REVISED PER TOWNSHIP REVIEW COMMENTS	GRG
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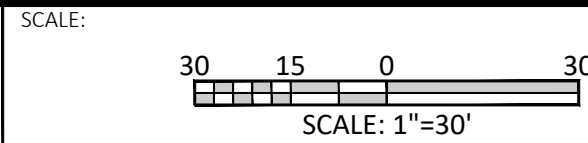
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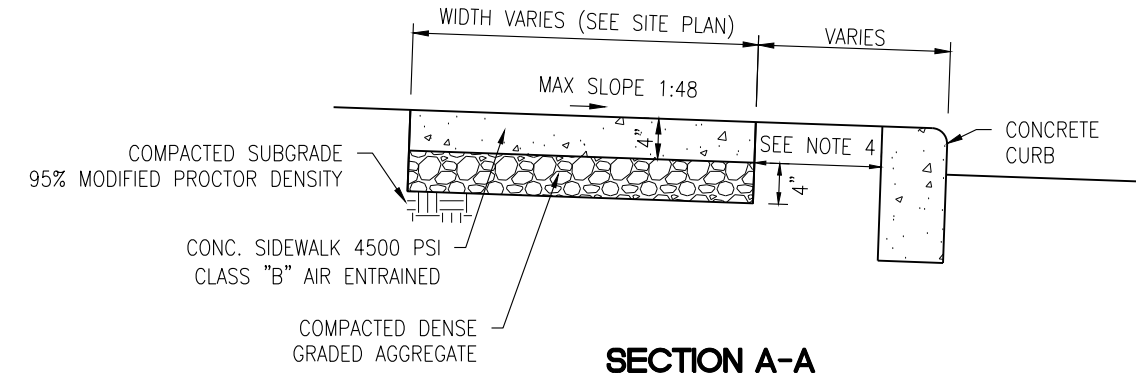
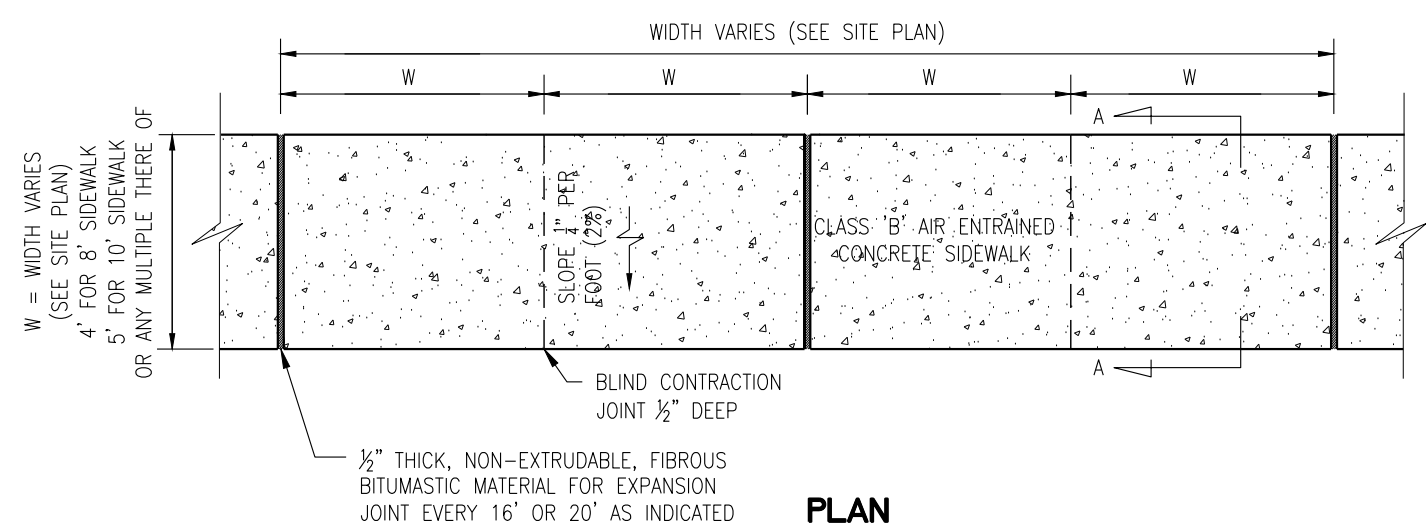
PUBLIC STORAGE
ATLANTIC COAST, LLC
701 WESTERN AVENUE
GLENDALE, CA 91201

UTILITY PLAN

PUBLIC STORAGE NO. NJ20016
424 EAGLE ROCK AVENUE
LOT 1.08, BLOCK 111
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

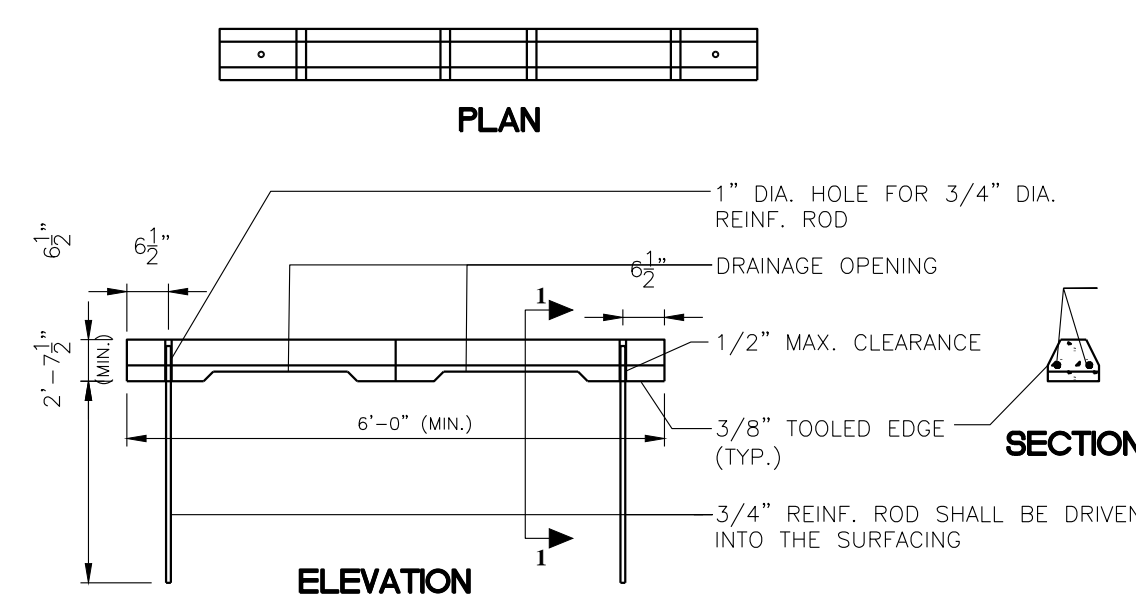


DRAWN BY: JCQ	CHECKED BY: MIN	DRAWING NUMBER: C-501
SCALE: 1"=30'	DATE: 11-19-2020	
JOB No: 10461-003	SHEET 07	OF 16



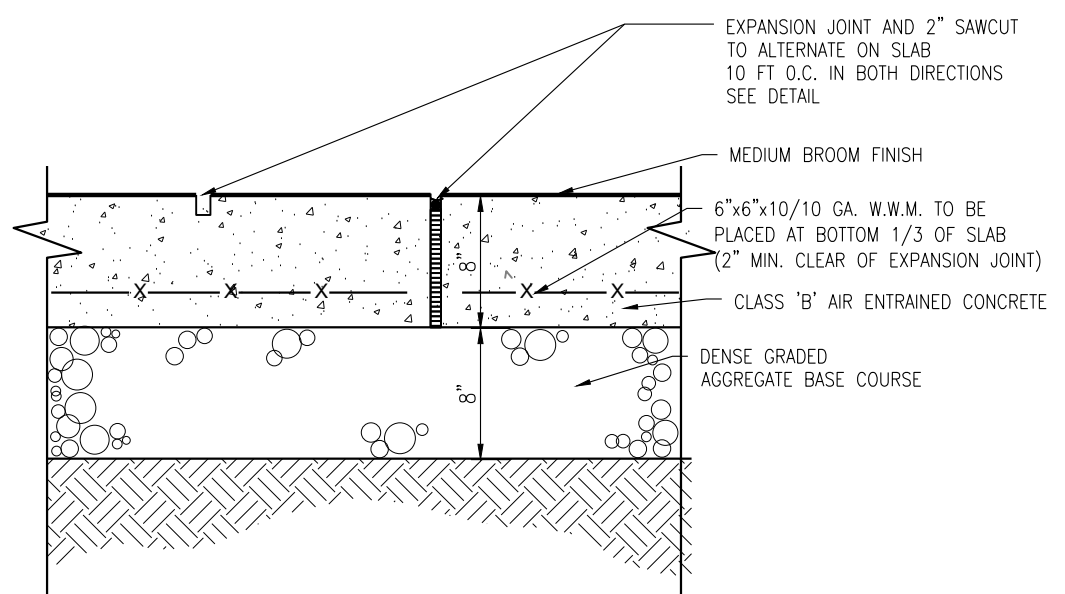
- NOTES:
- ALL CONCRETE SHALL CONFORM TO NJ STATE HIGHWAY DEPARTMENT SPECIFICATION CLASS "B", AIR-ENTRAINED, 4500 PSI MINIMUM AT 28 DAYS. ALL CONCRETE WORK SHALL HAVE A WOOD FLOAT AND TRANSVERSE BROOM FINISH. BROOMING SHALL BE DONE BEFORE INITIAL SET USING A STEEL OR BARN BROOM. ALL JOINTS AND EDGES SHALL BE TOOLED AND ROUNDED.
 - SUBBASE AND FORMWORK SHALL BE FIRM AND APPROVED BY THE CITY OF ENGINEER OR HIS/HER REPRESENTATIVE PRIOR TO POURING.
 - ALL CONSTRUCTION METHODS AND MATERIALS SHALL CONFORM TO 2007 NJDOT STANDARD SPECIFICATIONS.
 - WHEN SIDEWALK ABUTS CURB OR SIDEWALK, 1/2" THICK NON-EXTRUDABLE FIBROUS BITUMASTIC EXPANSION JOINT IS REQUIRED.
 - FOR SCORING PATTERN, SIDEWALK SHALL BE DIVIDED INTO 2 LONGITUDINAL SECTIONS.

CONCRETE SIDEWALK DETAIL
NOT TO SCALE



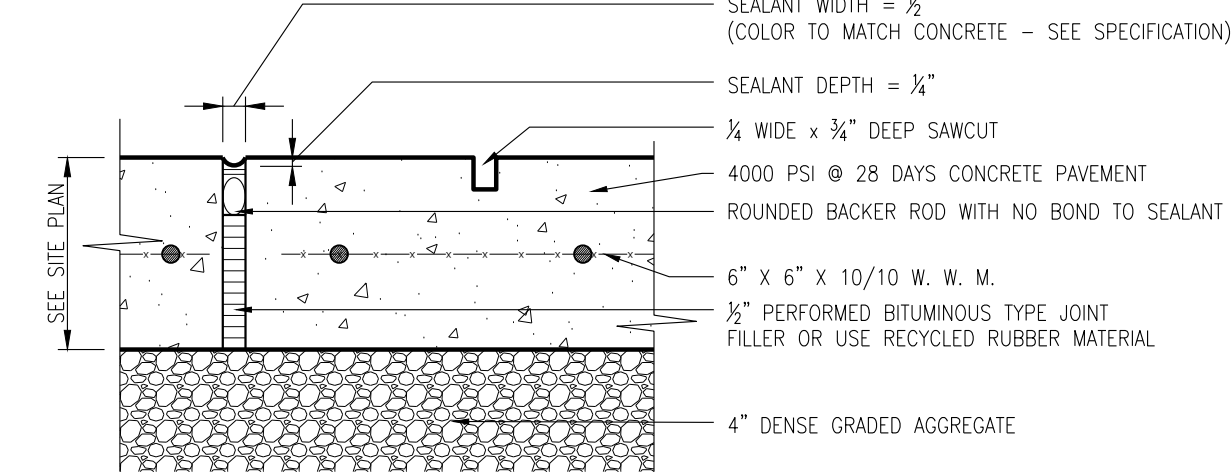
INSTALLATION PLAN

PRECAST CONCRETE WHEEL STOP
NOT TO SCALE



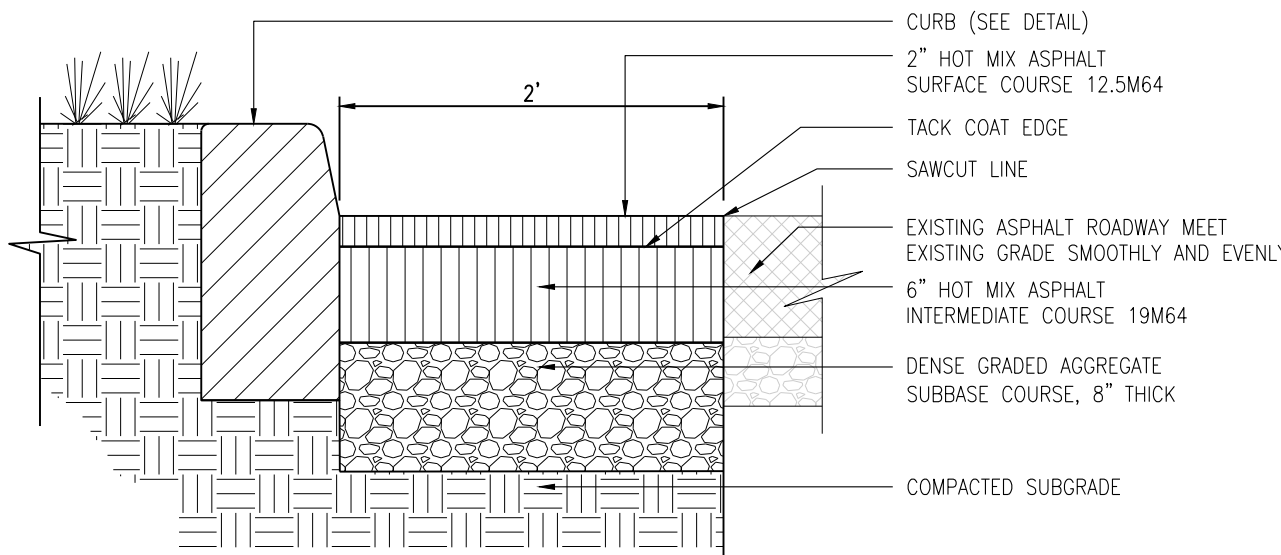
- NOTES:
- CONCRETE TO TEST 4500 P.S.I. MINIMUM ON 28 DAY TEST. AIR ENTRAINMENT 4% TO 7% SLUMP TO BE 3" MAXIMUM.
 - SEE EXPANSION JOINT DETAIL ABOVE FOR INFORMATION REGARDING EXPANSION JOINTS AND SAWCUT SPACING IN REINFORCED CONCRETE SLAB. TO BE ALTERNATING 10 FT O.C. IN BOTH DIRECTIONS.

REINFORCED CONCRETE PAD

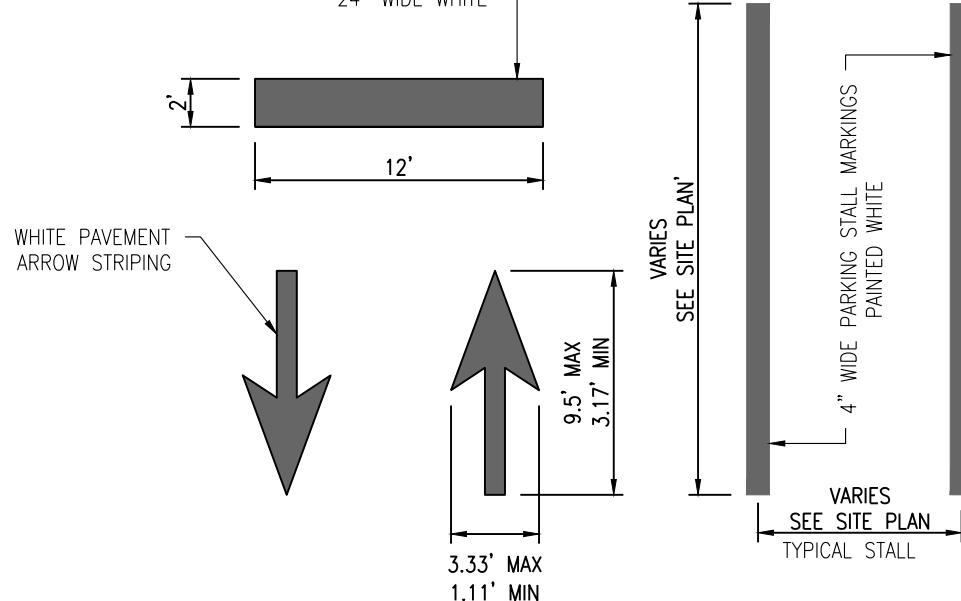


- NOTES:
- WHERE APPLICABLE, EXPANSION AND SCORE JOINT PATTERN SHALL MATCH EXISTING. OTHERWISE, EXPANSION JOINTS SHALL BE 10' O.C. AND SCORE JOINTS SHALL BE 5' O.C. BOTH WAYS.
 - EXPANSION JOINTS SHALL RUN CONTINUOUS ALONG BUILDING FACADE, CURBS, WALLS OR EXISTING RIGID PAVEMENTS.

EXPANSION JOINT
NOT TO SCALE

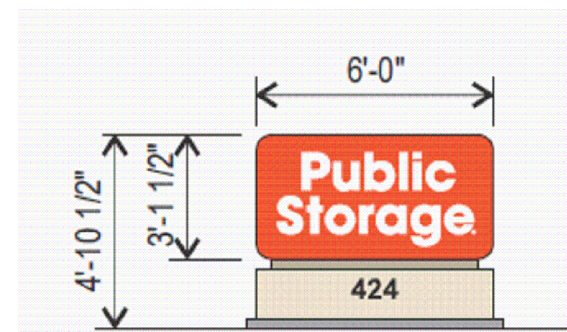


PAVEMENT REPAIR
NOT TO SCALE

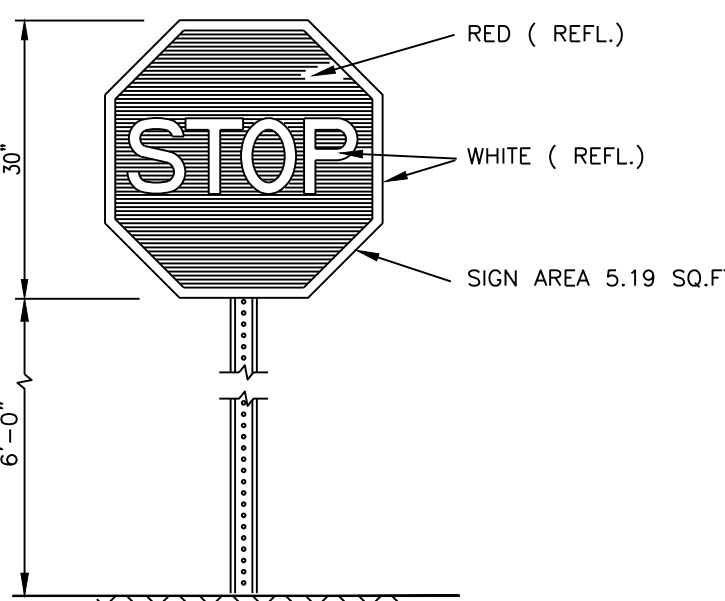


- NOTES:
- ARROWS AND WORDS CAN BE ARRANGED IN OTHER COMBINATIONS THAN THOSE ILLUSTRATED HERE TO ACHIEVE DESIRED RESULT.
 - ALL PAINT ON-SITE TO BE LONG-LIFE EPOXY RESIN.
 - ALL PAINT WITHIN RIGHT-OF-WAY TO BE THERMOPLASTIC.
 - STANDARD NJDOT OR FHWA TRAFFIC ARROWS MAY BE USED WITH OVERALL SIZE REDUCED BY 1/3. SEE PAGE 3B-40 FHWA "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" LATEST EDITION.

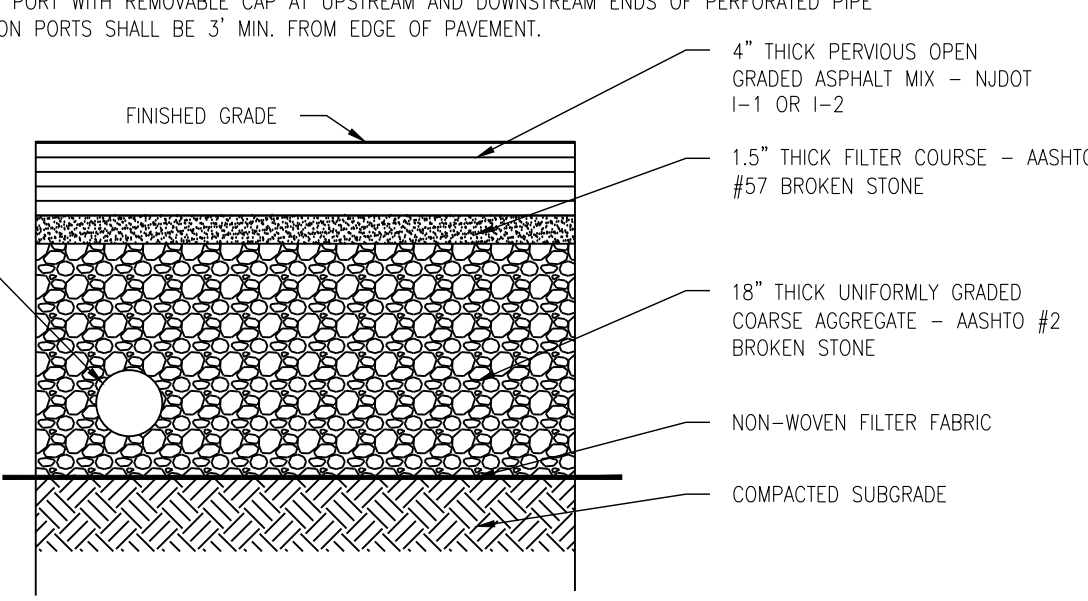
PAVEMENT MARKING
NOT TO SCALE



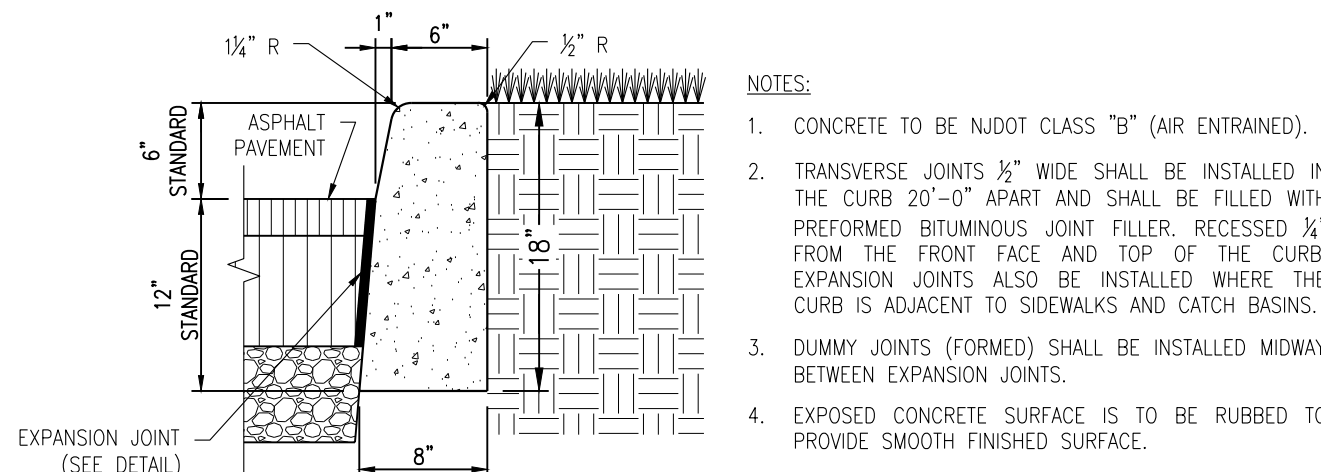
- NOTE:
- DETAIL TAKEN FROM DRAWING NUMBER TG-0720-20 DATED 09/15/2020 BY IMAGE NATIONAL SIGNS
 - SIGNAGE FOUNDATION DESIGN BY OTHER
- D/F MONUMENT SIGN
NOT TO SCALE



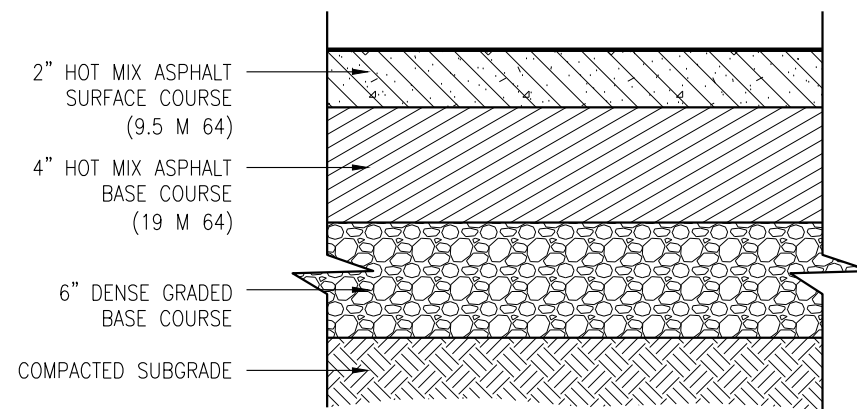
STOP SIGN



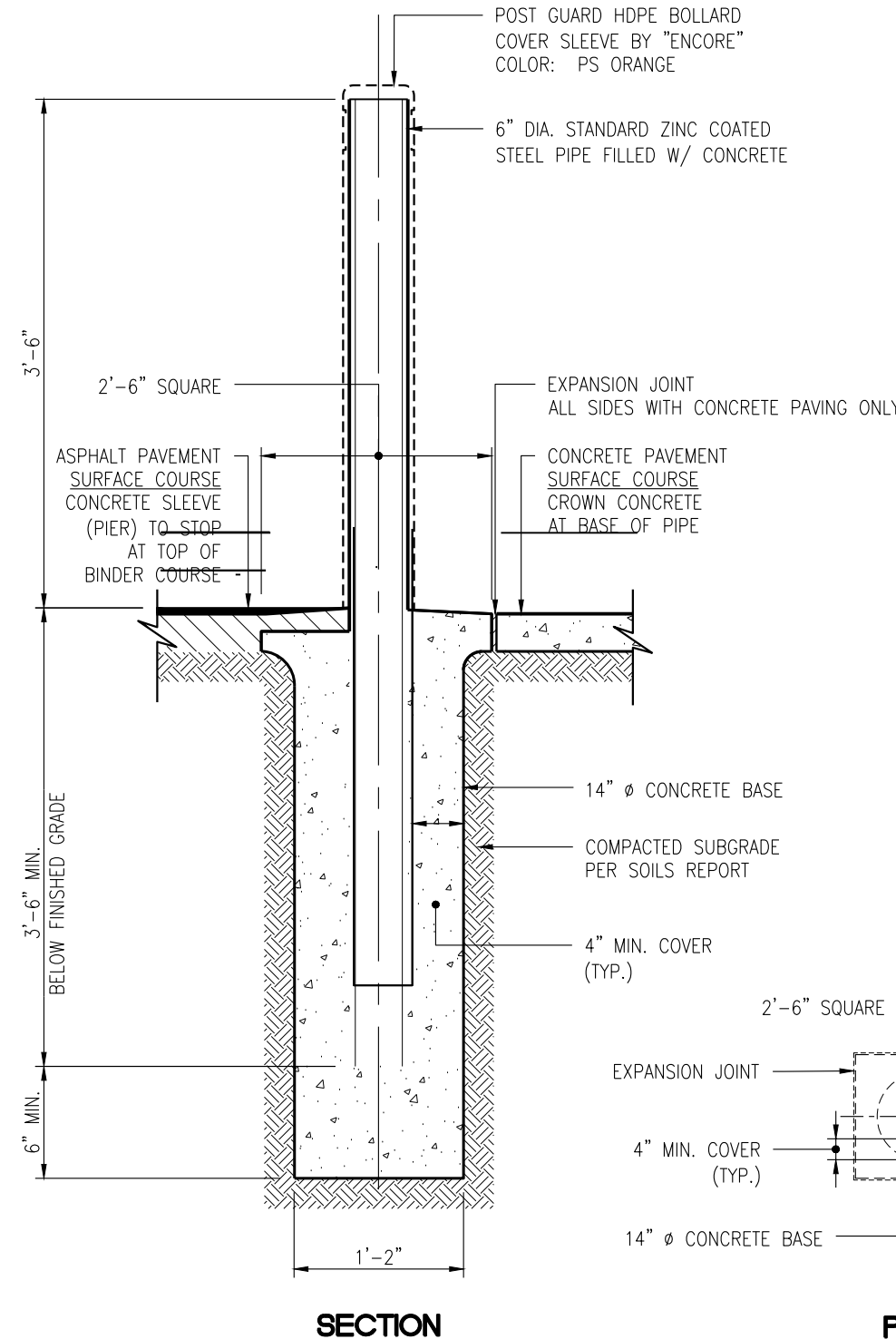
PERMEABLE ASPHALT PAVEMENT
NOT TO SCALE



CONCRETE CURB
SOURCE: TOWNSHIP OF FRANKLIN STANDARD DETAIL
NOT TO SCALE

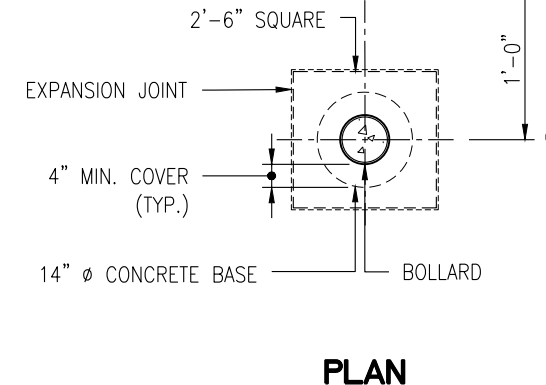


FULL DEPTH ASPHALT PAVEMENT
NOT TO SCALE

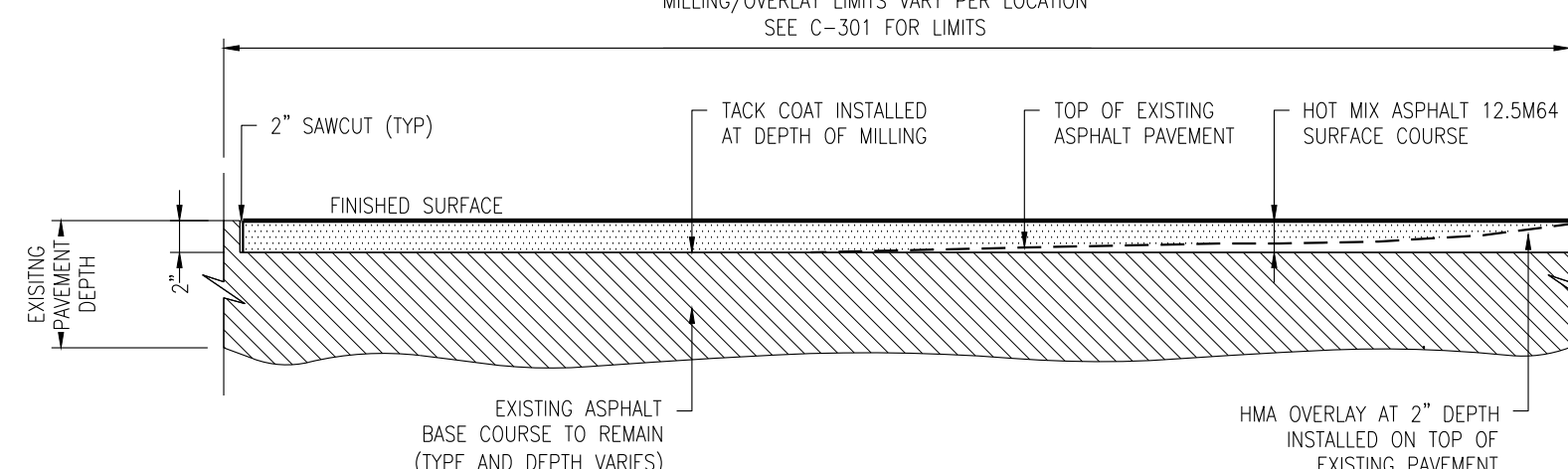


SECTION

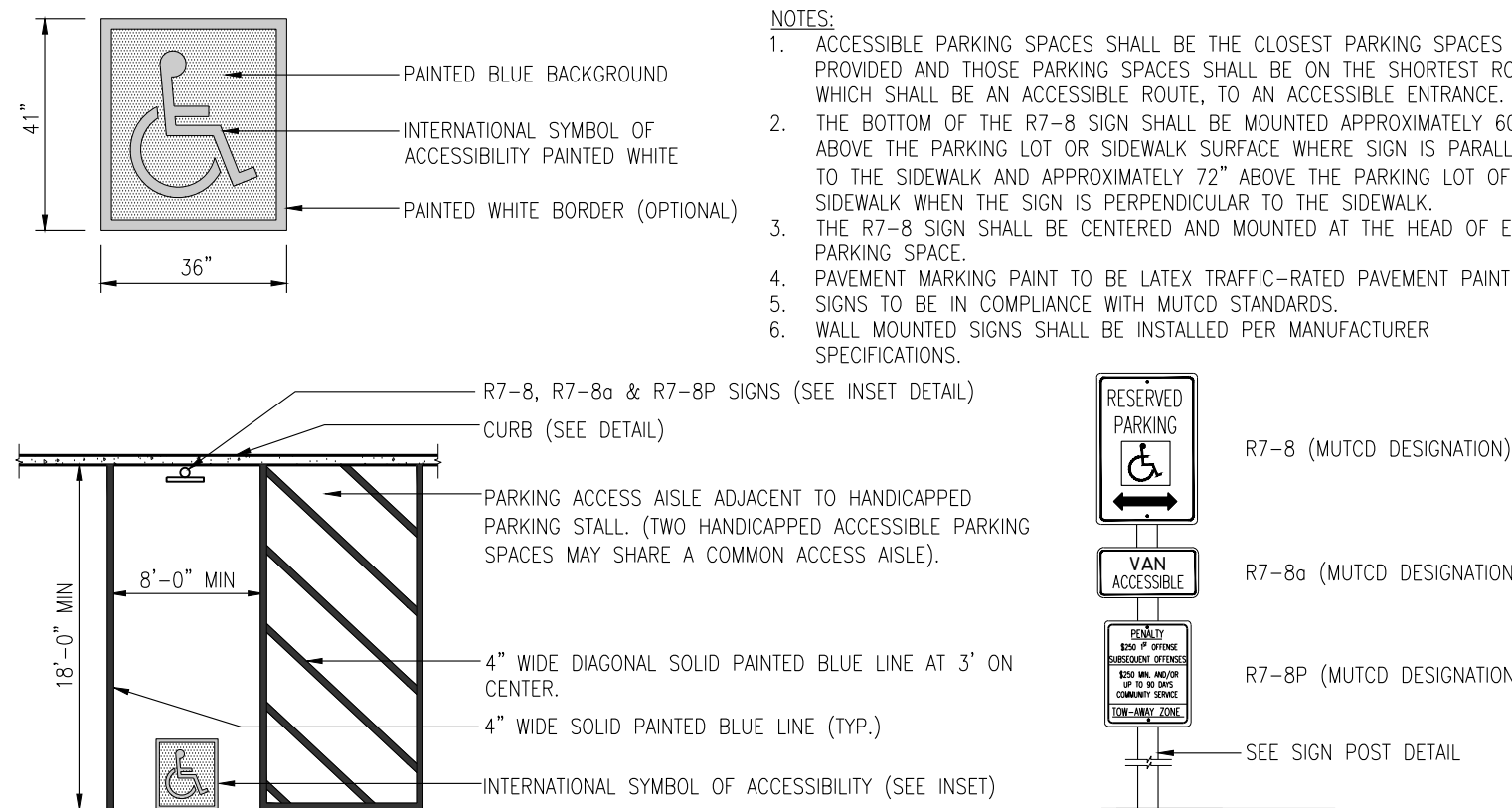
BOLLARD
NOT TO SCALE



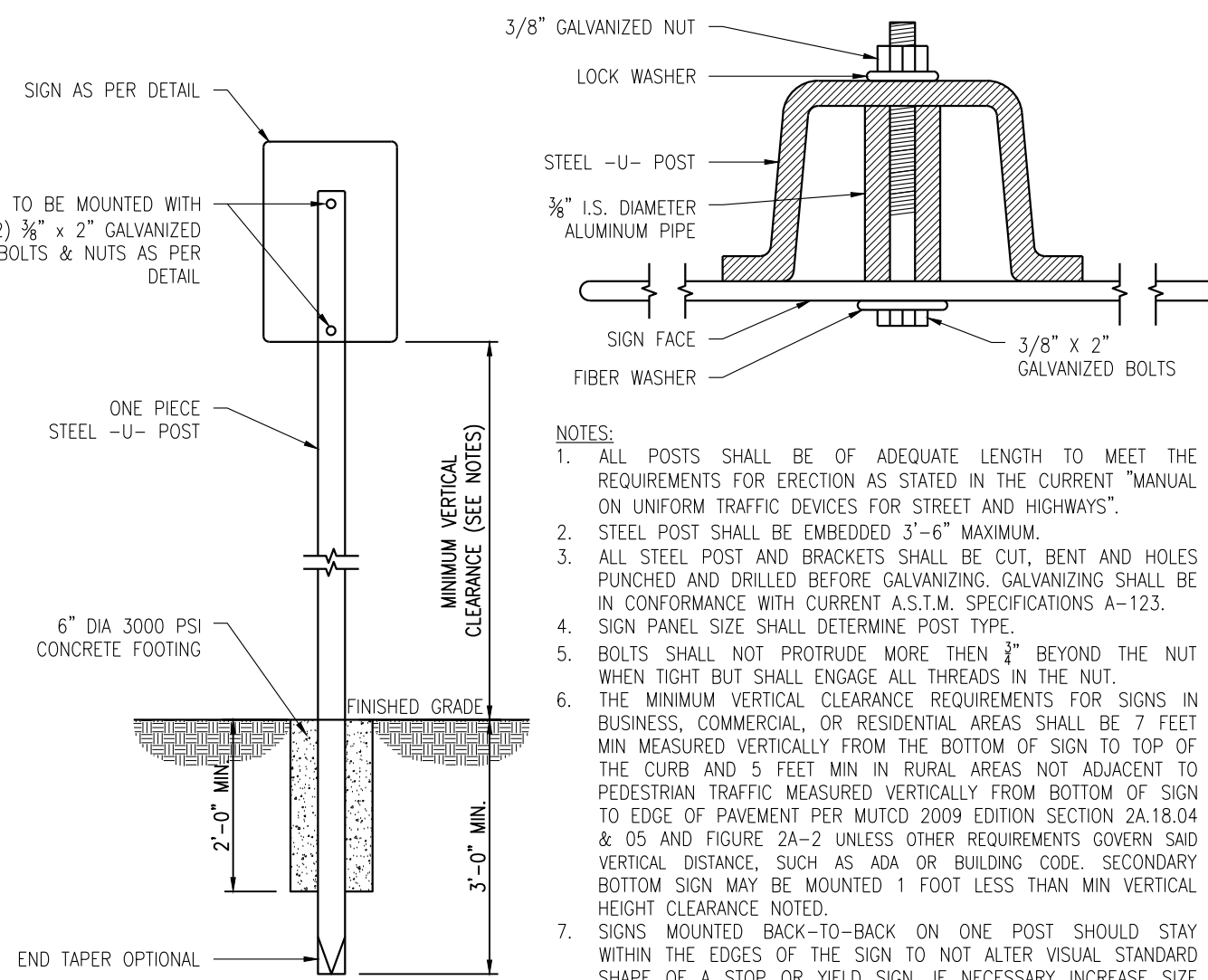
PLAN



MILLING AND OVERLAY



ACCESSIBLE PARKING STALL STRIPING AND SIGNAGE
NOT TO SCALE



SIGN MOUNTING
NOT TO SCALE

- NOTES:
- ALL POSTS SHALL BE OF ADEQUATE LENGTH TO MEET THE REQUIREMENTS FOR ERECTION AS STATED IN THE CURRENT "MANUAL ON UNIFORM TRAFFIC DEVICES FOR STREET AND HIGHWAYS".
 - STEEL POST SHALL BE EMBEDDED 3'-6" MAXIMUM.
 - ALL STEEL POST AND BRACKETS SHALL BE CUT, BENT AND HOLES PUNCHED AND DRILLED BEFORE GALVANIZING. GALVANIZING SHALL BE IN CONFORMANCE WITH CURRENT A.S.T.M. SPECIFICATIONS A-123.
 - SIGN PANEL SIZE SHALL DETERMINE POST TYPE.
 - BOLTS SHALL NOT PROTRUDE MORE THAN 1/2" BEYOND THE NUT WHEN TIGHT BUT SHALL ENGAGE ALL THREADS IN THE NUT.
 - THE MINIMUM VERTICAL CLEARANCE REQUIREMENTS FOR SIGNS IN BUSINESS, COMMERCIAL, OR RESIDENTIAL AREAS SHALL BE 7 FEET MIN MEASURED VERTICALLY FROM THE BOTTOM OF SIGN TO TOP OF THE CURB AND 5 FEET MIN IN RURAL AREAS NOT ADJACENT TO PEDESTRIAN TRAFFIC MEASURED VERTICALLY FROM BOTTOM OF SIGN TO EDGE OF PAVEMENT PER MUTCD 2009 EDITION SECTION 2A.18.04 & 05 AND FIGURE 2A-2 UNLESS OTHER REQUIREMENTS GOVERN SAID VERTICAL DISTANCE. SUCH AS ADA OR BUILDING CODE. SECONDARY BOTTOM SIGN MAY BE MOUNTED 1 FOOT LESS THAN MIN VERTICAL HEIGHT CLEARANCE NOTED.
 - SIGNS MOUNTED BACK-TO-BACK ON ONE POST SHOULD STAY WITHIN THE EDGES OF THE SIGN TO NOT ALTER VISUAL STANDARD SHAPE OF A STOP OR YIELD SIGN. IF NECESSARY INCREASE SIZE OF STOP OR YIELD SIGN AS NECESSARY OR SEPARATE BY 3' ON SEPERATE POSTS.

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ROBIN

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NJ CERTIFICATE OF AUTHORIZATION:
24GA0793500

JERSEY CITY • FAIRFIELD
ASBURY PARK • CHERRY HILL

MATTHEW J. NEULS
PROFESSIONAL ENGINEER
NJ LICENSE NUMBER 24GE04313300

GABRIELLE GORNELLI
PROFESSIONAL ENGINEER
NJ LICENSE NUMBER 24GE05363600

NO.	DATE	DESCRIPTION	BY
06	01/07/2022	REVISED PER TOWNSHIP REVIEW COMMENTS	BIZ
05	12/08/2021	REVISED PER SITE LAYOUT CHANGE	GRG
04	10/14/2021	REVISED PER TOWNSHIP REVIEW COMMENTS	GRG
03	08/26/2021	REVISED PER TOWNSHIP REVIEW COMMENTS	GRG
02	08/09/2021	REVISED PER TOWNSHIP REVIEW COMMENTS	GRG
01	03/26/2021	REVISED PER TOWNSHIP REVIEW COMMENTS	GRG
NA			
REVISIONS:			

OWNER / APPLICANT:



PUBLIC STORAGE
ATLANTIC COAST, LLC
701 WESTERN AVENUE
GLENDALE, CA 91201

DRAWING TITLE:

CONSTRUCTION DETAILS I

PROJECT:

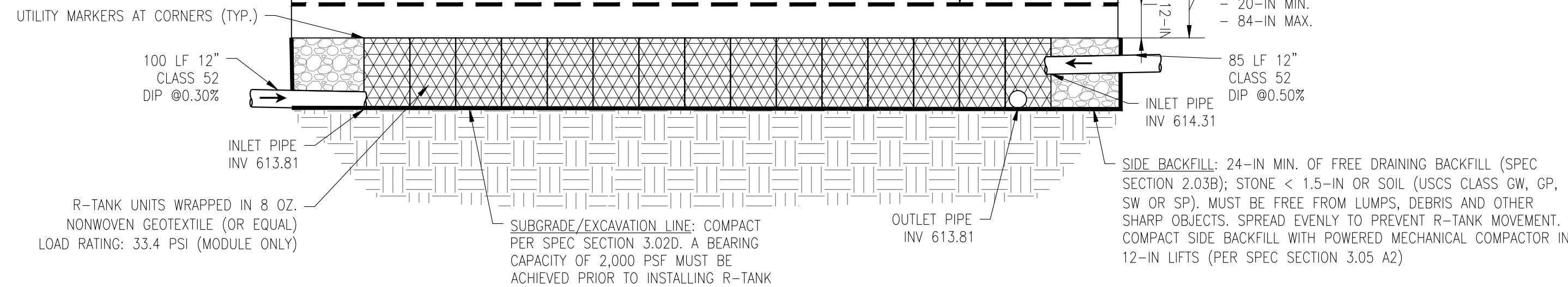
PUBLIC STORAGE NO. NJ20016
424 EAGLE ROCK AVENUE
LOT 1.08, BLOCK 111
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

SCALE:

AS SHOWN

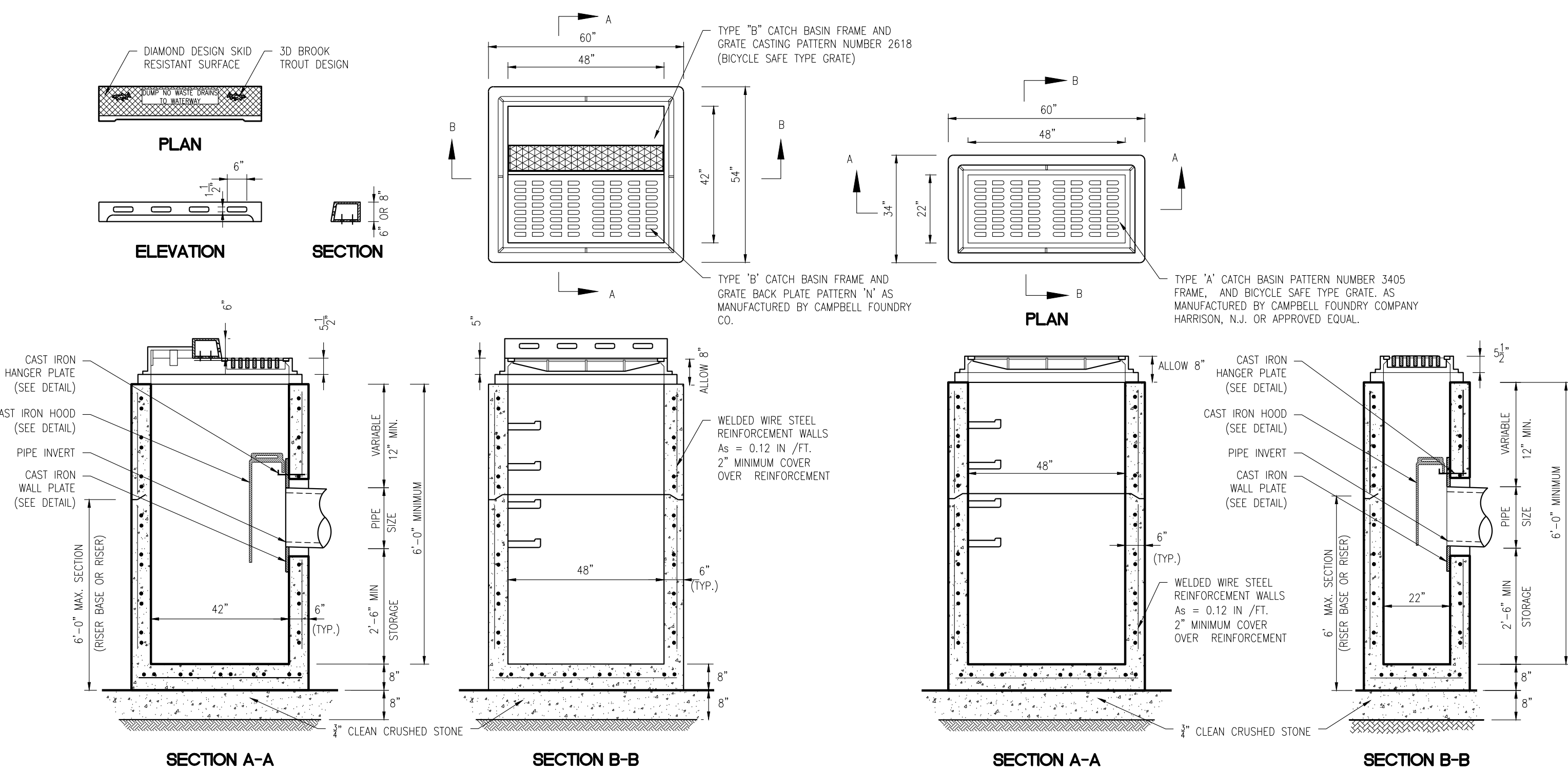
DRAWN BY: ICQ	CHECKED BY: MIN	DRAWING NUMBER: C-901
SCALE: 11-19-2020	DATE:	
JOB No: 10461-003		SHEET 14 OF 16

TOTAL COVER: 20-IN MIN. AND 84-IN MAX. FIRST 12-IN MUST BE FREE DRAINING BACKFILL (SPEC SECTION 2.03B); STONE < 1.5-IN OR SOIL (USCS CLASS GW, GP, SW OR SP). ADDITIONAL FILL MAY BE STRUCTURAL FILL (SPEC SECTION 2.03C); STONE OR SOIL (USCS CLASS SM, SP, SW, GM, GP OR GW) WITH MAX CLAY CONTENT < 10%, MAX. 25% PASSING NO. 200 SIEVE, AND MAX. PLASTICITY INDEX OF 4. A MIN. 12-IN COVER MUST BE MAINTAINED BETWEEN BACKFILL EQUIPMENT AND THE TOP OF THE R-TANK SYSTEM AT ALL TIMES. TOTAL HEIGHT OF TOP BACKFILL SHOULD NOT EXCEED 7-FT. CONTACT ACF ENVIRONMENTAL IF MORE THAN 7-FT OR LESS THAN 20-IN OF TOP BACKFILL IS REQUIRED (FROM TOP OF TANK TO TOP OF PAVEMENT)



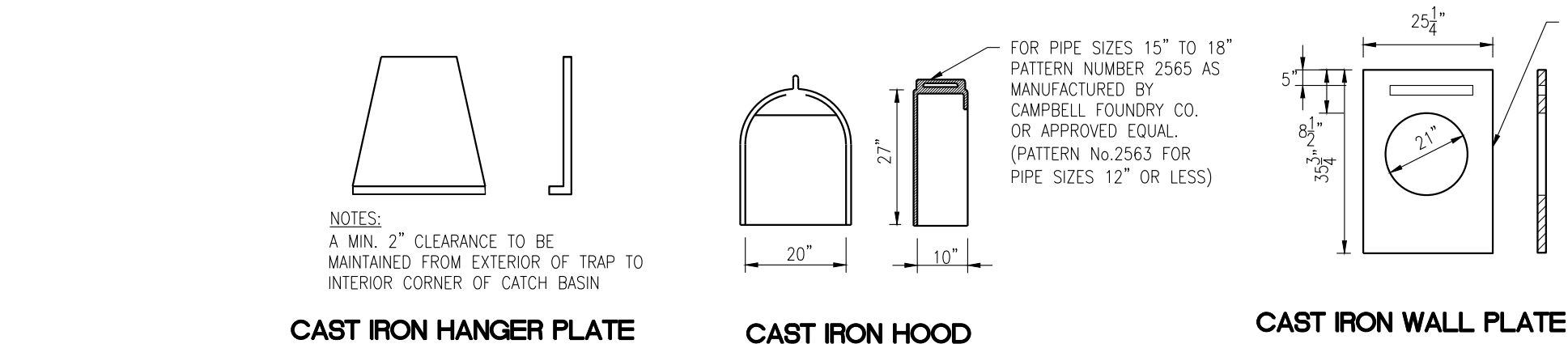
- NOTES:
- FOR COMPLETE MODULE DATA, SEE APPROPRIATE R-TANK MODULE SHEET.
 - INSTALLATIONS PER THIS DETAIL MEET GUIDELINES OF HL-93 LOADING PER THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, CUSTOMARY U.S. UNITS, 7TH EDITION, 2014 WITH 2015 AND 2016 INTERIM REVISIONS.
 - PRE-TREATMENT STRUCTURES ARE NOT SHOWN.
 - FOR INFILTRATION APPLICATIONS, GEOTEXTILE ENVELOPING R-TANK SHALL BE ACF M200 (PER SPEC SECTION 2.02A) AND BASE SHALL BE 4-IN MIN. UNCOMPACTED FREE DRAINING BACKFILL (SPEC SECTION 2.03A) TO PROVIDE A LEVEL BASE. SURFACE MUST BE SMOOTH, FREE OF LUMPS OR DEBRIS, AND EXTEND 2-FT BEYOND R-TANK FOOTPRINT.

R-TANK-XD DETANTION SYSTEM (A-A)
NOT TO SCALE



TYPE 'B' INLET

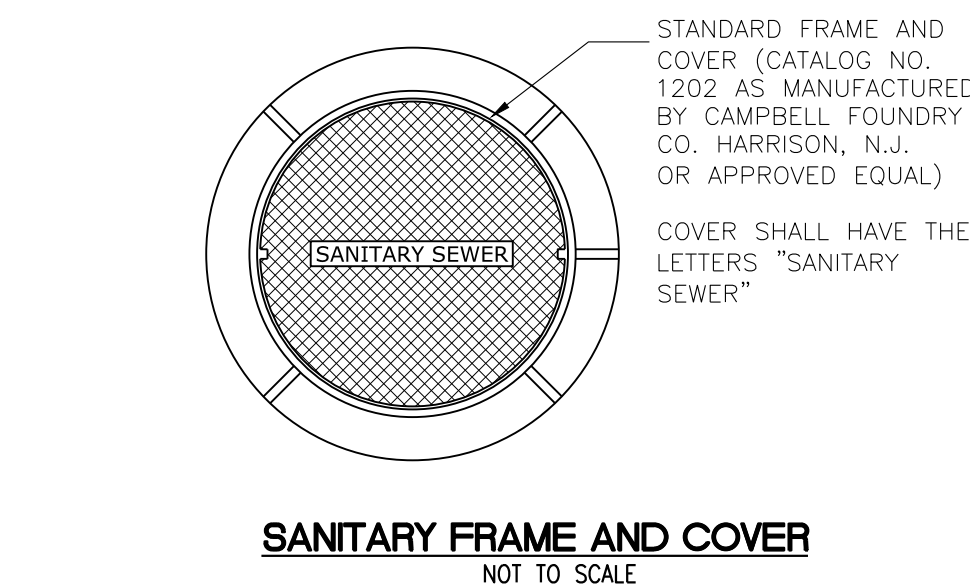
TYPE 'A' INLET



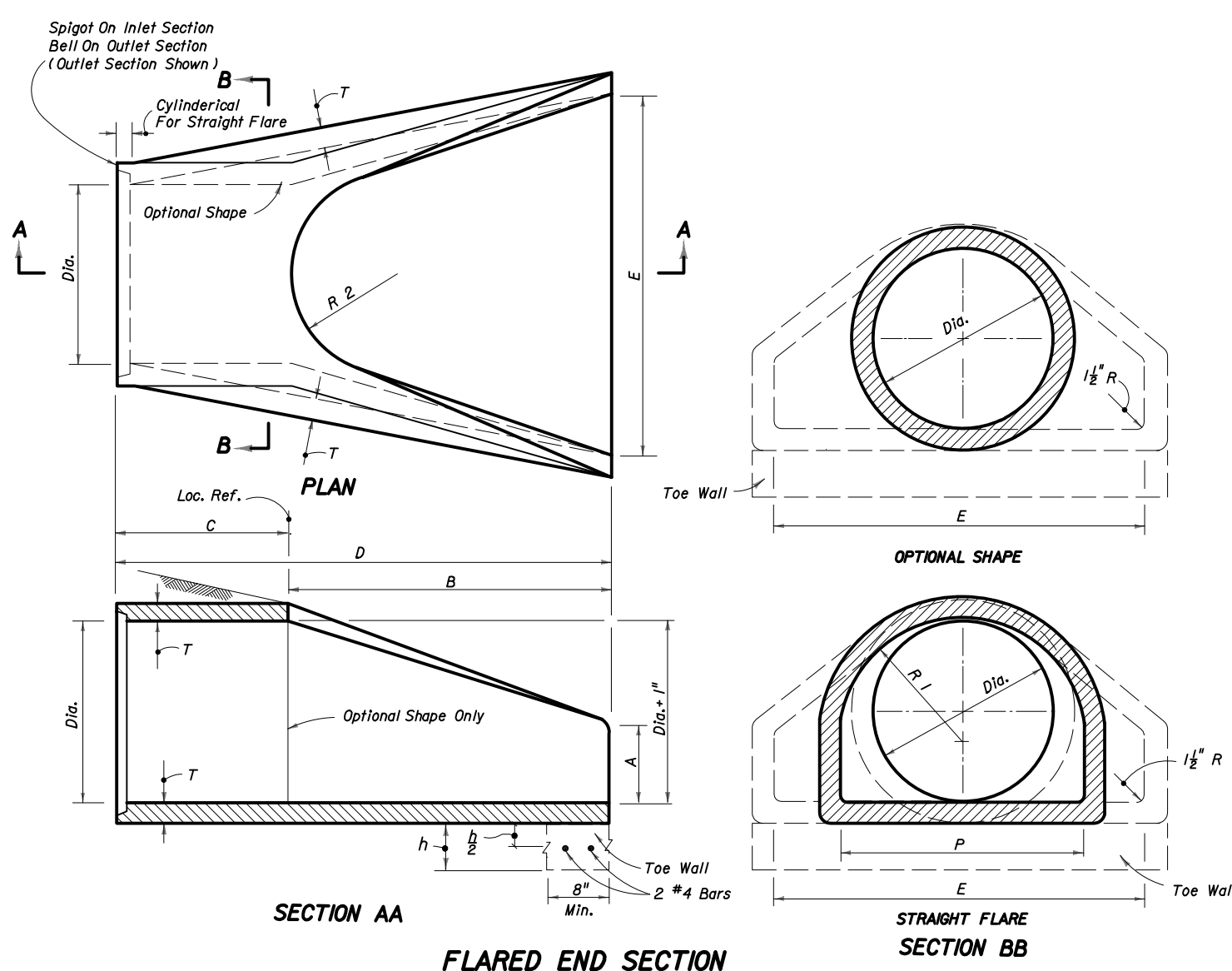
CATCH BASIN TRAP AND NOTES

- GENERAL NOTES:
- CONCRETE TO BE CLASS "B" 4,000 psi @ 28 DAYS.
 - CONCRETE BLOCK AND/OR BRICK (N.J.D.O.T. SECTION 910) AS REQUIRED FOR GRADE.
 - 2" MINIMUM COVER OVER REINFORCEMENT.
 - ALL EXCESS EXCAVATION SHALL BE BACKFILLED AS SHOWN ON THE TRENCH DETAIL.
 - STEPS TO BE POLYPROPYLENE, 12" O.C. CATCH BASINS MAY BE CONSTRUCTED OF CONCRETE BLOCK IF APPROVED BY THE ENGINEER. CONCRETE BLOCK CATCH BASINS SHALL BE CONSTRUCTED OF 6" CONCRETE BLOCKS ON 5'-6"4"-0"18" THICK PRECAST CLASS "B" CONCRETE FOOTING. A 1" THICK CEMENT PLASTER SHALL BE APPLIED TO THE INSIDE AND OUTSIDE WALLS OF THE CATCH BASIN. ALL OTHER DETAILS AS SHOWN FOR THE PRECAST CATCH BASIN SHALL APPLY.

FLARE-OUT PIPE
NOT TO SCALE



SANITARY FRAME AND COVER
NOT TO SCALE



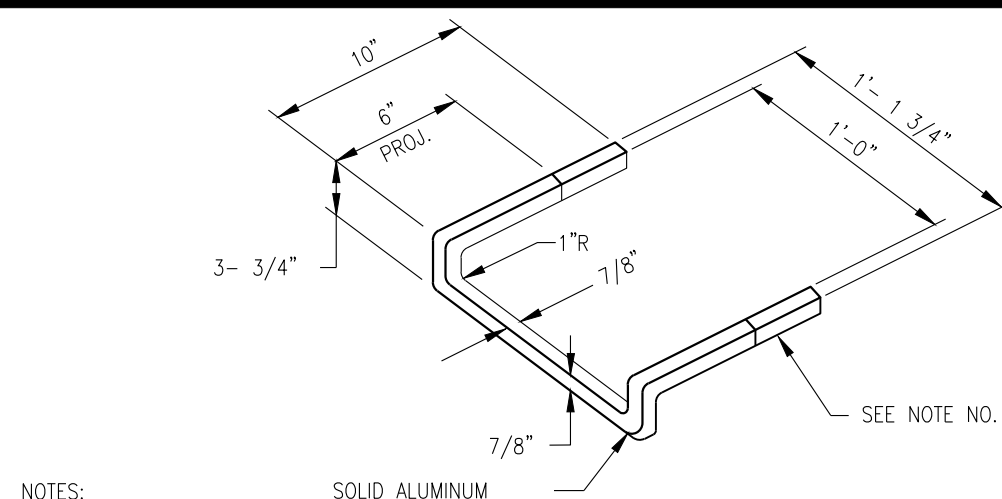
SECTION AA

FLARED END SECTION

SECTION BB

STRAIGHT FLANGE SECTION

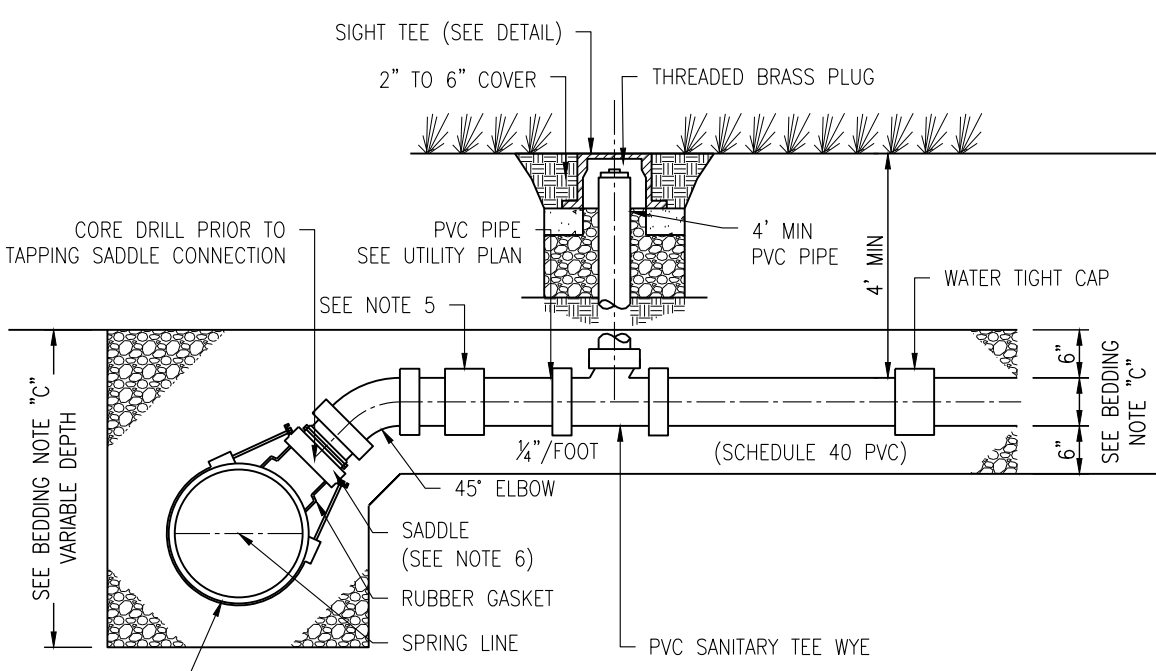
DIA.	T	REIN. SO IN./LF	BELL OR SPOUT	A	B	C	D	E	P	R 1	R 2	FLAT	WEIGHT (LBS.)	h	TOE WALL CLASS CONC. (Min. 1.5)
12"	2"	0.07	1 1/2"	4"	2'-0"	4'-0"	6'-0"	2'-0"	10 1/2"	10 1/2"	9"	3 1/4"	530	12"	.06
15"	2 1/2"	0.07	2"	6"	2'-3"	3'-10"	6'-7"	2'-6"	24 1/2"	12 1/2"	11"	3 1/2"	740	12"	.07
18"	3"	0.07	2 1/2"	9"	2'-6"	3'-9"	6'-11"	3'-0"	25"	15 1/2"	12"	4"	990	15"	.11
21"	3 1/2"	0.07	3"	12"	2'-9"	3'-2"	6'-11"	3'-6"	31 1/2"	16 1/2"	13"	4 1/4"	1280	15"	.12
24"	3 3/4"	0.07	3 1/2"	15"	3'-2"	3'-7"	6'-11"	4'-0"	33 1/2"	16 1/2"	14"	4 1/2"	1550	18"	.17
27"	4"	0.148	4"	18"	4'-0"	2'-11"	6'-11"	4'-6"	36"	18 1/2"	14 1/2"	4 1/2"	1930	18"	.19
30"	3 3/4"	0.148	3"	1'-0"	4'-6"	1'-7 1/2"	6'-11"	5'-0"	30"	18 1/2"	15"	5"	2190	21"	.24
36"	4"	0.148	3 1/2"	1'-3"	5'-3"	2'-10 1/2"	6'-11"	6'-0"	40 1/2"	24 1/2"	20"	5 1/4"	4100	21"	.29
42"	4 1/2"	0.148	3 1/2"	1'-9"	5'-3"	2'-11"	6'-11"	6'-6"	53 1/2"	27 1/2"	22"	5 3/4"	5380	24"	.36
48"	5"	0.148	4 1/2"	2'-0"	6'-0"	2'-2"	6'-11"	7'-0"	56"	28 1/2"	22 1/2"	5 3/4"	6550	24"	.39
54"	5 1/2"	0.174	4 1/2"	2'-3"	5'-5"	2'-11"	6'-11"	7'-6"	65 1/2"	33 1/2"	24"	6"	8040	24"	.42
60"	6"	0.174	5"	2'-6"	5'-0"	3'-3"	6'-11"	8'-0"	72 1/2"	36 1/2"	24"	6 1/4"	8750	24"	.44
66"	6 1/2"	0.174	5 1/2"	2'-9"	6'-6"	1'-9"	6'-11"	8'-6"	72 1/2"	36 1/2"	24"	7 1/4"	10630	24"	.47
72"	7"	0.174	6"	3'-0"	6'-6"	1'-9"	6'-11"	9'-0"	72 1/2"	38 1/2"	24"	7 3/4"	12520	24"	.50



MANHOLE LADDER RUNG
NOT TO SCALE

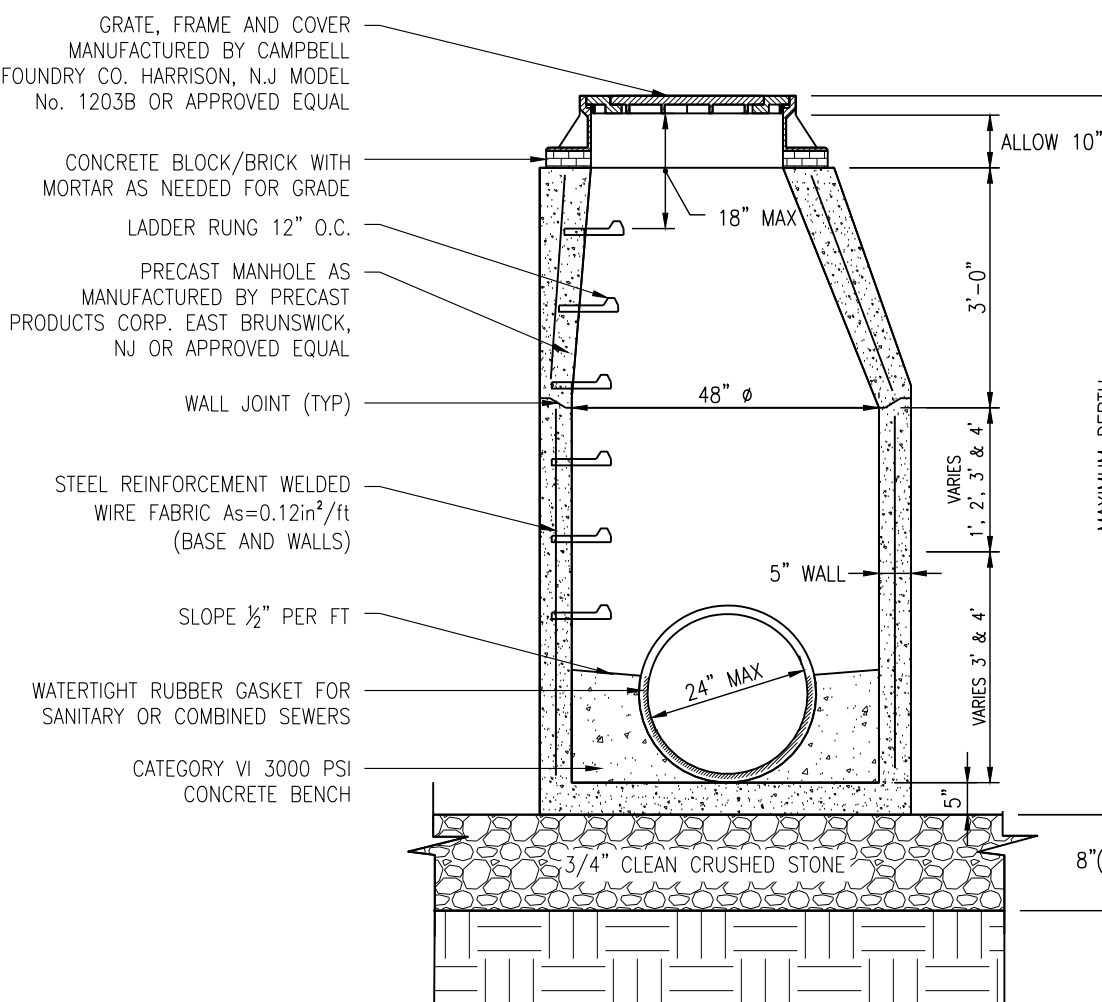
- NOTES:
- ALUMINUM STEPS SHALL BE EXTRUDED ALUMINUM 6061-T6 ALLOY DROP FRONT DESIGN OR APPROVED EQUAL.
 - THE PORTION TO BE IMBEDDED IN THE CONCRETE SHALL BE COATED WITH COAL TAR PITCH OR OTHER APPROVED MATERIAL AND SHALL BE IN ACCORDANCE WITH THE LATEST O.S.H.A. STANDARDS (5" MINIMUM IMBEDMENT)
 - ALL MANHOLE STEPS TO MEET OR EXCEED ASTM AND O.S.H.A. REQUIREMENTS
 - FOR ROADWAY LOCATIONS STEPS SHALL BE ORIENTED TO ALLOW VIEWING OF ONCOMING TRAFFIC WHEN EXITING STRUCTURE.

BUILDING PIPE TO BUILDING LATERAL SEWER CONNECTION
NOT TO SCALE



- NOTES:
- ALL COUPLINGS, PLUGS, AND CAPS SHALL BE STANDARD TYPE OF PIPE USED FOR INSTALLATION TO WATERTIGHT.
 - CLEANOUTS OR INSPECTION WYES ARE TO BE LOCATED AS SHOWN ON DETAIL.
 - 1/2" PER FOOT SLOPE COVERS OVER CONDUITS WITH 5 FOOT MINIMUM COVER DIMENSION.
 - FOR PIPE BEDDING DETAILS, SEE DETAILS ON THIS SHEET.
 - WHERE A NEW PVC CONNECTION IS TO BE INSTALLED, ALL COUPLINGS SHALL BE STANDARD.
 - DUCTILE IRON SADDLE WITH RUBBER GASKET AS MANUFACTURED BY ROMAC INDUSTRIES, INC. OR APPROVED EQUAL.
 - SEWER UTILITY ENGINEER TO BE NOTIFIED AT LEAST 72 HOURS PRIOR TO MAKING CONNECTION TO EXISTING SANITARY SEWER MAIN.

TYPICAL HOUSE CONNECTION
NOT TO SCALE



- NOTES:
- PRECAST MANHOLES SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM C-478. CONCRETE COMPRESSIVE STRENGTH SHALL BE 4,000 PSI IN 28 DAYS.
 - CONCRETE BLOCK/BRICK SHALL BE PLACED ACCORDING TO NJDOT STANDARD SPEC. SECTION 603. JOINTS SHALL BE STAGGERED. A 1/2" CEMENT PLASTER OF 1:2 CEMENT SAND MORTAR SHALL BE TROWELED TO A SMOOTH SURFACE ON BOTH SIDES OF BLOCK/BRICK SURFACES.
 - HOLES IN MANHOLES SHALL BE CAST 4" LARGER THAN O.D. OF PIPE.
 - PIPE SHALL BE LAID THROUGH MANHOLES AND TOP BROKEN LAST AFTER CONCRETE BENCH IS POURED.
 - BLOCK MANHOLES MAY BE USED AS AN ALTERNATIVE TO PRECAST MANHOLES ONLY WITH THE WRITTEN PRE-APPROVAL FROM THE MUNICIPALITY.

STANDARD PRECAST SANITARY MANHOLE

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1 EVERTRUST PLAZA, SUITE 901, JERSEY CITY, NJ 07302
TEL: 201.217.9200 FAX: 201.217.9607
NJ CERTIFICATE OF AUTHORIZATION: 246A2795000
JERSEY CITY • FAIRFIELD ASBURY PARK • CHERRY HILL

MATTHEW J. NEULS
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NJ LICENSE NUMBER 246E04313300

GABRIELLE GORNELLI
PROFESSIONAL ENGINEER
NJ LICENSE NUMBER 246E03363600

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02	08/09/2021	REVISED PER TOWNSHIP REVIEW COMMENTS	GRG
01	03/26/2021	REVISED PER TOWNSHIP REVIEW COMMENTS	GRG
00			

REVISIONS:



PUBLIC STORAGE
ATLANTIC COAST, LLC
701 WESTERN AVENUE
GLENDALE, CA 91201

CONSTRUCTION DETAILS II

PUBLIC STORAGE NO. NJ20016

424 EAGLE ROCK AVENUE
LOT 1.08, BLOCK 111
TOWNSHIP OF WEST ORANGE
ESSEX COUNTY, NEW JERSEY

SCALE:	AS SHOWN
DRAWN BY:	ICQ
CHECKED BY:	MIN
DATE:	11-19-2020
DRAWING NUMBER:	C-902
JOB No:	10461-003
SHEET	15 OF 16