

# NEPTUNE (A.K.A. WEST MALL DRIVE) BOULEVARD

(70' RIGHT OF WAY - T.M.)

PROP. 2" DOMESTIC METER

HOT-BOX CONCRETE  
SLAB FORM; TOP OF  
FORM ELEV=46.35  
0.33' CLEAR OF R.O.W.

END OF EX. PIPE  
UNDER TREE ROOTS;  
INVERT INACCESSIBLE

INLET  
TC=40.61  
GR=39.95  
INV=37.75 (15")  
INV=32.7 (18")

UTILITY  
POLE  
#JC3269

APPROXIMATE LOCATION EXISTING GAS MAIN

PROPOSED 2" DOMESTIC  
WATER SERVICE LATERAL

PROPOSED WATER MAIN  
'TEE' & VALVE ASSEMBLY

PROP. WATER MAIN ~ 8" D.I.P. CLASS 50

PROPOSED 3:1 SLOPE

12" WATER MAIN PER MARK-OUT

18" CMP ~  
16' @ 1.0%

INLET  
TC=40.81  
GR=40.16  
INV=33.1

18" CMP  
INV=33.26

PROP. ARBORVITAE SCREEN;  
5'-6' TALL; 3' ON CENTER  
16 PLANTS TOTAL

PROP. NATURAL  
GAS SERVICE

PROP. 'HOT BOX'  
PER APPROVED  
SITE PLANS

INV=45.86

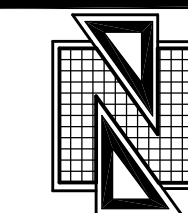
CONSTRUCT 216 LF ~ 4" PVC  
SAN. LATERAL @ 2.00%

PROP. THREE STORY BUILDING  
COVERAGE= 33,294 SQ. FT.  
GFA= 87,513 SQ. FT.

FAR=0.663 PROP. FIRE SUPPRESSION  
SERVICE LATERALS ~  
FFE=49.86 (2) 6" D.I.P. CLASS 50

3.	ADDED NORTH ARROW; ADJUSTED LANDSCAPE	10-13-21	DHB	MRD
2.	ADDED PAGE 2 WITH DETAILS	09-01-21	DHB	MRD
1.	ADJUSTED HOT BOX SIZE AND SLOPE TO SIDEWALK	08-12-21	DHB	MRD
NO.	REVISION DESCRIPTION	DATE	DRWN	CHKD BY

PROPOSED WATER SERVICE 'HOT-BOX'  
WASATCH STORAGE PARTNERS  
TAX BLOCK 816, TAX LOT 5.02  
TOWNSHIP OF NEPTUNE  
MONMOUTH COUNTY, NEW JERSEY  
(TAX MAP REFERENCE TOWNSHIP OF NEPTUNE SHEET No. 8, DATED DECEMBER 2014)



**Nelson Engineering  
Associates, Inc.**

444 NEPTUNE BOULEVARD, SUITE 4  
NEPTUNE, NEW JERSEY 07753  
TEL. (732)-918-2180  
WWW.NELSONENG.NET  
CERTIFICATE OF AUTHORIZATION # 24GA28014900

SITE ENGINEERING  
TRAFFIC ENGINEERING  
LANDSCAPE ARCHITECTURE  
ENVIRONMENTAL STUDIES  
LAND SURVEYING & MAPPING

*Matthew R. Dubois*  
**MATTHEW R. DUBOIS, P.E.**  
PROFESSIONAL ENGINEER NEW JERSEY LICENSE No. 48357

SCALE: 1"=10'  
DRAWN BY: DHB  
CHKD. BY: MRD  
FILE: 180102  
DATE: 06-14-2021  
SHEET 1 OF 2



**1 GENERAL**  
**1.1 WORK INCLUDED**  
A. Provide manufactured outdoor enclosure for backflow prevention assembly.

**1.2 QUALITY ASSURANCE**  
A. Qualifications: The manufacturer of the outdoor enclosure shall be a company specializing in the field of manufacturing of such enclosures with at least ten (10) years of successful field installations and be ASSE 1060 Seal certified.

**1.3 REFERENCES**  
A. ASSE 1060-Performance Requirements for Outdoor Enclosures for Backflow Prevention Assemblies.  
B. ASTM B209

**1.4 ACCEPTABLE MANUFACTURERS**  
A. AquaSHIELD or Engineer approved equivalent.

**2 PRODUCTS**  
**2.1 MODEL NO. & SIZE**  
A. Model No. shall be BFP10-CH  
B. Inside dimensions shall be 144"W x 84"H (+ or - 1/2")

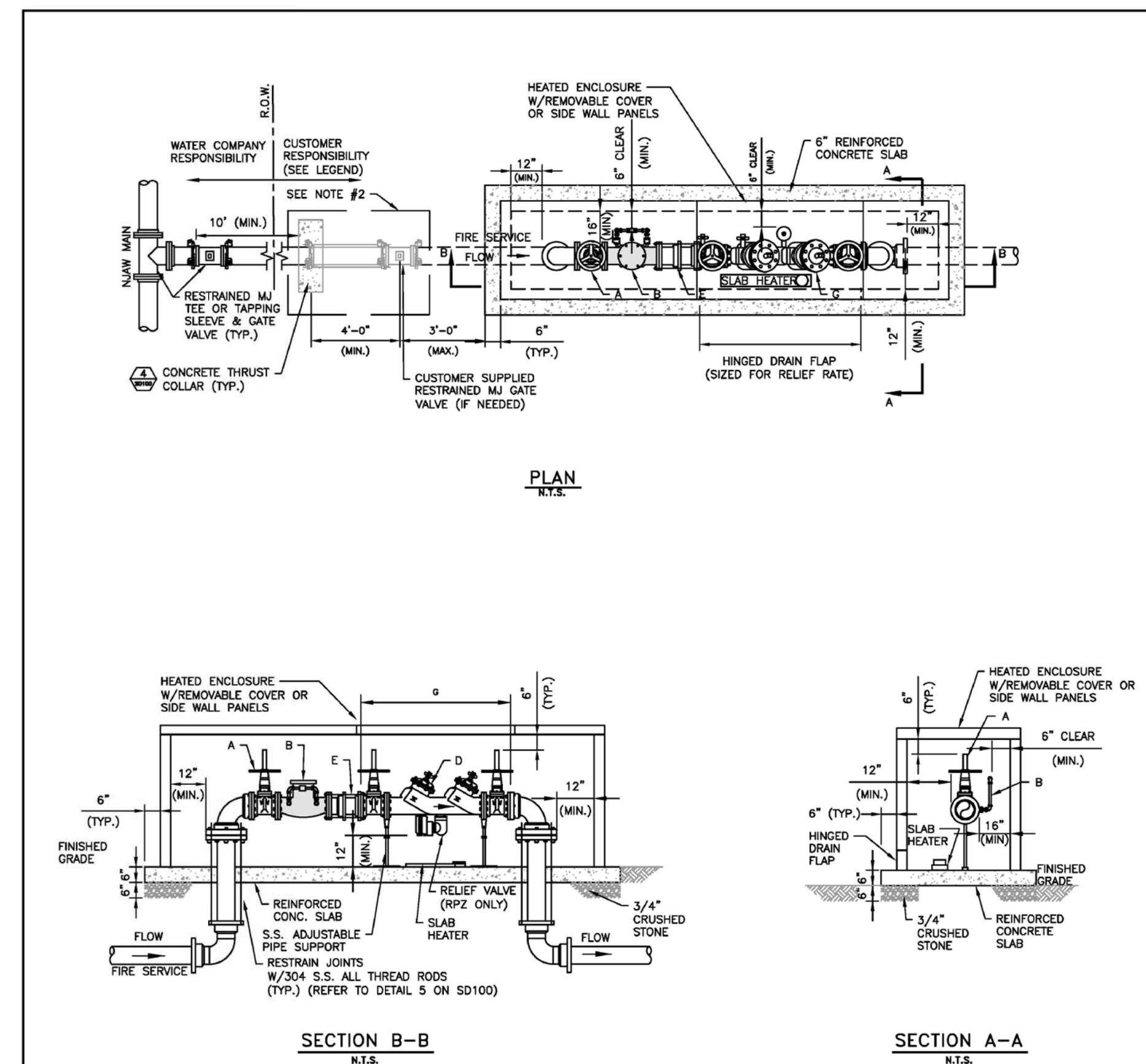
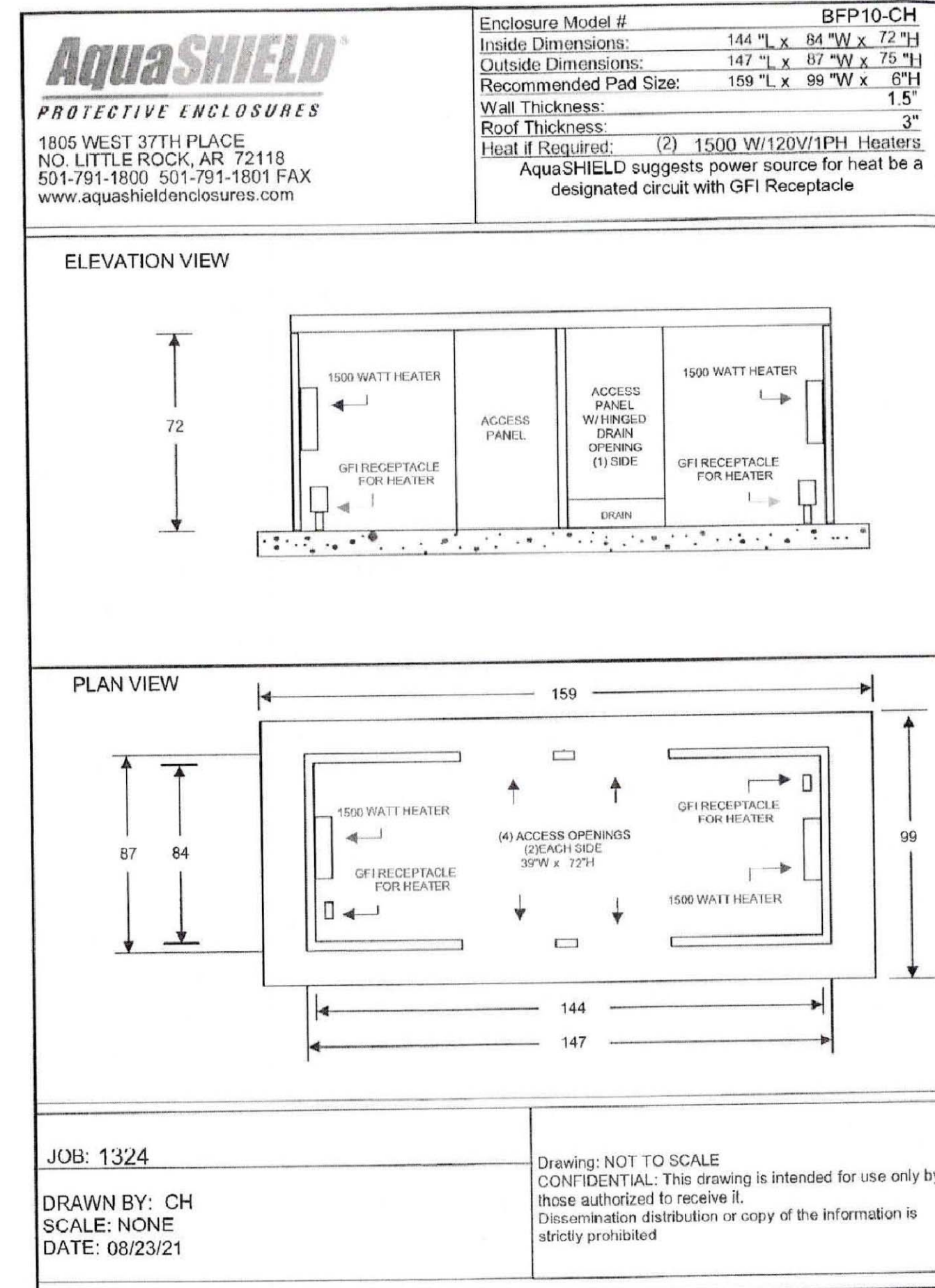
**2.2 MATERIALS OF FABRICATION**  
A. Materials for exterior walls shall be 5052-H32 aluminum (.050/18 gauge) and shall comply with ASTM B209. The aluminum shall have a factory mill finish.  
B. Insulation shall be a closed cell polyisocyanurate foam core laminated to heavy black glass fiber reinforced fibers on each side. The insulation shall have the following properties:  
• R-Value - 9.0  
• Dimensional Stability - 2% Linear Change  
• Compressive Strength - 20 psi and 25 psi  
• Product Density - Nominal 2.0 pcf  
• Water Absorption - <1% By Volume  
• Service Temperature - (-100°F to +250°F)  
• Moisture Vapor Transmission - < One (1) Perm  
• Flame Spread - 25  
• Insulation shall be 1.5" thick  
C. Adhesive shall be ChemLink WallSecure brand and shall have the following features:  
• Bonds foam products  
• Water resistant bond  
• Stays resilient  
• Will not freeze  
• Freeze/thaw stable

**2.3 COMPONENTS**  
A. The roof, walls and access panels shall be constructed of 5052-H32 (.050/18 gauge) mill finish marine grade aluminum ASTM B209 outside with insulation 1.5" thick (9.0 "R" value) in the walls and access panels and 3" thick (18.0 "R" value) in the roof panel.  
B. The above components shall be securely bonded to form a composite panel.  
C. The exterior of the panels shall have a protective PVC masking to protect the finish. The protective masking shall be removed by the customer immediately after installation of the enclosure.  
D. The roof and wall panels shall be fastened together with self-tapping stainless steel screws through holes provided in panels.  
E. The roof panel shall be secured to the wall panels by stainless steel screws on the outside and security clips on the inside.  
F. Access panels shall be (4) total in number (2) per side and shall be 39"W x 72"H.  
G. Each access panel shall have factory installed locks with master keys provided.  
H. Drain relief panel for the enclosure shall be constructed of same said materials as wall panels and be located in one or more of the access panels.  
I. Drain relief panel shall have a stainless steel hinge and stainless steel spring as a positive means of closure after water discharge to prevent the intrusion of outside air, debris, and small animals.

**2.4 HEATING EQUIPMENT**  
A. Enclosure with heating equipment provided by manufacturer will maintain an interior temperature of +40°F with an external temperature of -30°F.  
B. Enclosure without heating equipment are designated for climates where the ambient temperature does not go below 33°F for long periods of time.  
C. Heater shall be ETL, UL, or CSA certified.  
D. Heating equipment shall be installed above the level of RPZ discharge.  
E. Electrical power source for heater shall be a designated circuit with G.F.I. protection and a minimum of 8" clearance from receptacle base to top of slab.

**2.5 INSTALLATION HARDWARE**  
A. Threaded fasteners shall be stainless steel and provided by the manufacturer.  
B. Concrete anchors shall be metal hit type and provided by the manufacturer. Optional anchors with Florida Building Code High-Velocity Hurricane Zone approval available.  
C. Masonry drill bit and screw chuck shall be provided by the manufacturer

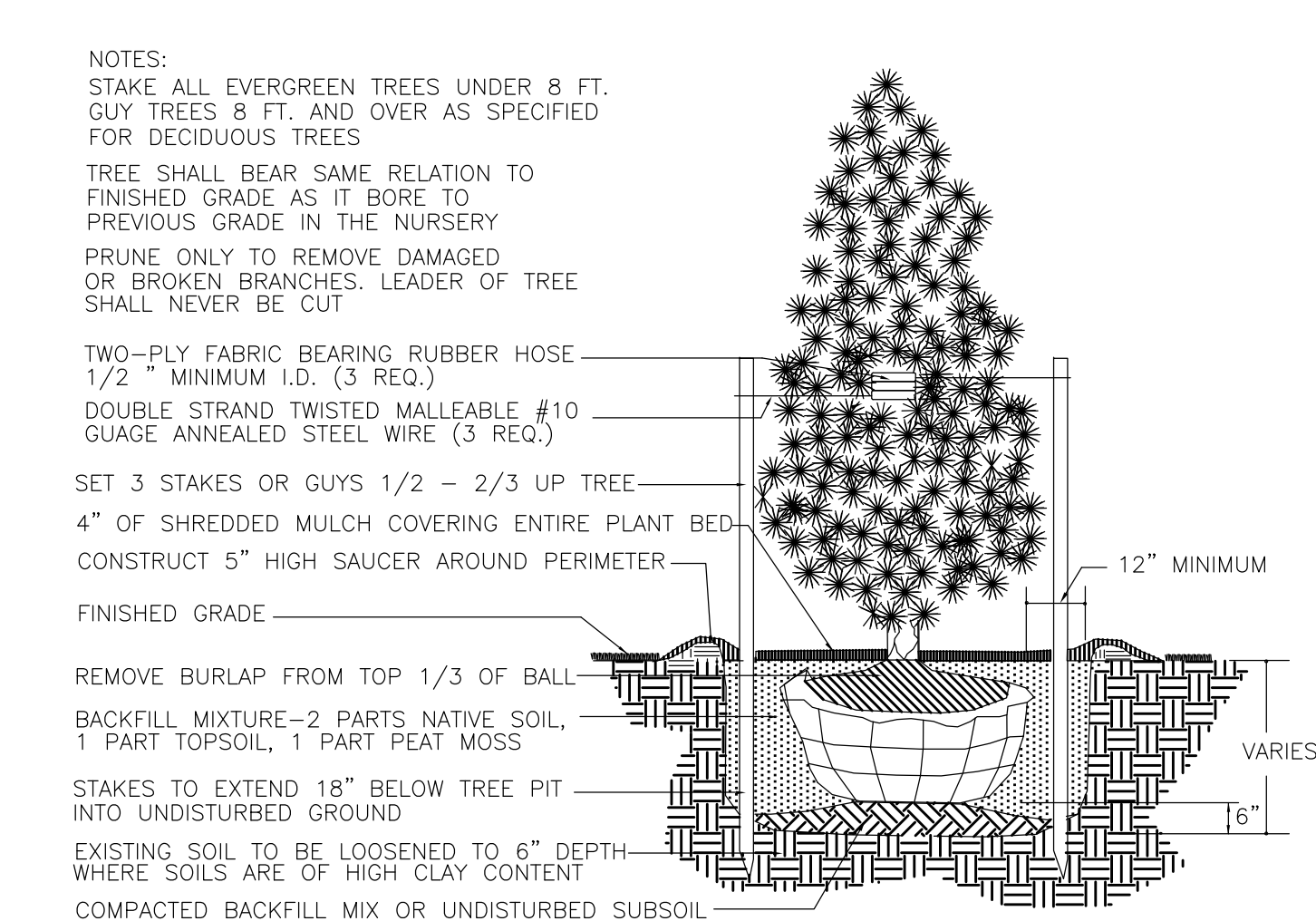
**2.6 INSTALLATION**  
A. Recommended pad size shall be 159"L x 99"W x 6"T.  
B. Enclosure shall be assembled per manufacturer's instructions provided with enclosure.  
C. Enclosure shall be mounted to concrete pad per manufacturer's instructions.  
D. Enclosure shall be assembled plumb and square.



- NOTES:**
- IN LIEU OF PROVIDING A VAULT FOR LARGE METER(S) (3" & LARGER) AND AN ABOVEGROUND, HEATED ENCLOSURE FOR A BACKFLOW PREVENTER ASSEMBLY, NJAW MAY ALLOW BOTH THE METER ASSEMBLY AND THE BACKFLOW PREVENTER ASSEMBLY TO BE INSTALLED IN A SINGLE ABOVEGROUND, HEATED ENCLOSURE, IF APPROVED BY NJAW. THE ENCLOSURE AND ALL APPEARANCES ARE TO BE FURNISHED AND INSTALLED BY CUSTOMER, UNLESS SPECIFICALLY INDICATED OTHERWISE IN THE LEGEND. ALL ENCLOSURE AND PIPING CONSTRUCTION IS SUBJECT TO WATER COMPANY APPROVAL PRIOR TO SERVICE.
  - IF ENCLOSURE IS >20 FEET FROM NJAW SHUTOFF VALVE, CUSTOMER IS REQUIRED TO FURNISH AND INSTALL AN ADDITIONAL RESTRAINED MECHANICAL JOINT GATE VALVE & VALVE BOX WITHIN 3 FEET OF THE ENCLOSURE. IF VAULT IS <20 FEET FROM NJAW SHUTOFF VALVE, CUSTOMER SHALL INSTALL A SOLID, GASKETED, MECHANICAL JOINT SLEEVE RESTRAINED WITH WEDGE ACTION RESTRAINING GLANDS WITHIN 3 FEET OF VAULT.
  - EXTERIOR VALVES & FITTINGS SHALL BE RESTRAINED WITH WEDGE ACTION RESTRAINING GLANDS, THRUST COLLARS AND/OR 304 STAINLESS STEEL RODS/NUTS AND CLAMPS.
  - BASED ON THE LARGEST SIZE GATE VALVE REQUIRED, THE MINIMUM ENCLOSURE HEIGHT (INTERIOR DIMENSION) SHALL BE AS INDICATED BELOW. LENGTH AND WIDTH SHALL BE AS INDICATED ON STANDARD DETAIL SD101:
- | GATE VALVE SIZE | ENCLOSURE HEIGHT |
|-----------------|------------------|
| 2" to 8"        | 6'-0"            |
| 10"             | 6'-6"            |
| 12"             | 7'-0"            |
- ENCLOSURE PIPING TO BE DUCTILE IRON MEETING ANSI/AWWA C115/C21.15, OR TYPE K DRAIN (HARD) TEMPER COPPER MEETING ASTM-B88. THE USE OF FLANGED COUPLING ADAPTERS IS STRICTLY PROHIBITED.
  - NO DETECTOR CHECK VALVES WILL BE MADE AVAILABLE TO THE CUSTOMER BY NJAW PRIOR TO THE INSPECTION BY NJAW.
  - BACKFLOW PREVENTER ASSEMBLY SHALL NOT BE SUBJECT TO FLOODING.
  - BACKFLOW PREVENTER MUST BE INSTALLED ABOVE NATURAL GROUND, ABOVE THE 100 YEAR FLOOD LEVEL, UNLESS OTHERWISE APPROVED BY NJAW.
  - ENCLOSURE MUST MEET OSHA 29 CFR 1910.145 AND ASSE 1060 CLASS 1.
  - INSULATED HEATED ENCLOSURE CHARACTERISTICS:  
A. ENCLOSURE-5052-H32 MARINE GRADE ALUMINUM (0.050/18 GAUGE), MILL FINISH, OR 1/8" POLYESTER RESIN REINFORCED WITH FIBERGLASS STRAND.  
B. INSULATION-1-1/2" (R6) POLYISOCYANURATE FOAM.  
C. HEATING SYSTEM- SLAB OR WALL MOUNT THERMOSTATICALLY CONTROLLED ELECTRIC HEATER MEETING SECTION 49 OF UL-2021 FOR DAMP OR WET LOCATIONS, WITH GFI RECEPTACLE, U.L. 943 NEMA 3R MOUNTED 8" (MIN.) ABOVE SLAB.  
D. HEATER(S) SHALL BE PROVIDED AS NECESSARY TO MAINTAIN TEMPERATURE ABOVE 40° F AT ALL TIMES.
  - ENCLOSURE MUST BE A SUFFICIENT SIZE TO HOUSE ALL REQUIRED PIPING. ENCLOSURE SHALL BE LOCKABLE, ACCESS PANELS SHALL BE ABOVE THE CENTERLINE OF THE ASSEMBLY, OR IN SIDE WALLS. ENCLOSURE TO HAVE HINGED ONE-WAY DRAIN FLAP SIZED FOR FULL PORT BACKFLOW DISCHARGE TO SURROUNDING GRADE. REFER TO DRAWING SD101.

- LEGEND:**  
COMPONENTS SHADED IN GRAY TO BE FURNISHED BY WATER CO.
- A- OS&Y GATE VALVE WITH FLANGED ENDS (FURNISHED & INSTALLED BY CUSTOMER)
  - B- DETECTOR CHECK VALVE W/ BYPASS METER (FURNISHED BY WATER CO., INSTALLED BY CUSTOMER)
  - E- DISMANTLING JOINT TO HAVE FLANGED ENDS WITH JOINT RESTRAINT (FURNISHED & INSTALLED BY CUSTOMER)
  - G- BACKFLOW PREVENTER ASSEMBLY (FURNISHED & INSTALLED BY CUSTOMER)

	<b>REVISIONS</b> 1 2 3 4	<b>REVISIONS</b> 1 2 3 4		<b>STANDARD DETAIL</b> <b>FIRE SERVICE METER &amp; BACKFLOW PREVENTER</b> <b>IN HEATED ENCLOSURE</b>	NEW JERSEY AMERICAN WATER STANDARDS USE DIMENSIONS ONLY SCALE AS SHOWN <b>0201-0601-SD97</b>
	DATE 08-24-18 PROJECT	DATE 08-24-18 PROJECT			



**EVERGREEN TREE PLANTING DETAIL**  
N.T.S.

3. ADDED NORTH ARROW, ADJUSTED LANDSCAPE	10-13-21	DHB	MRD
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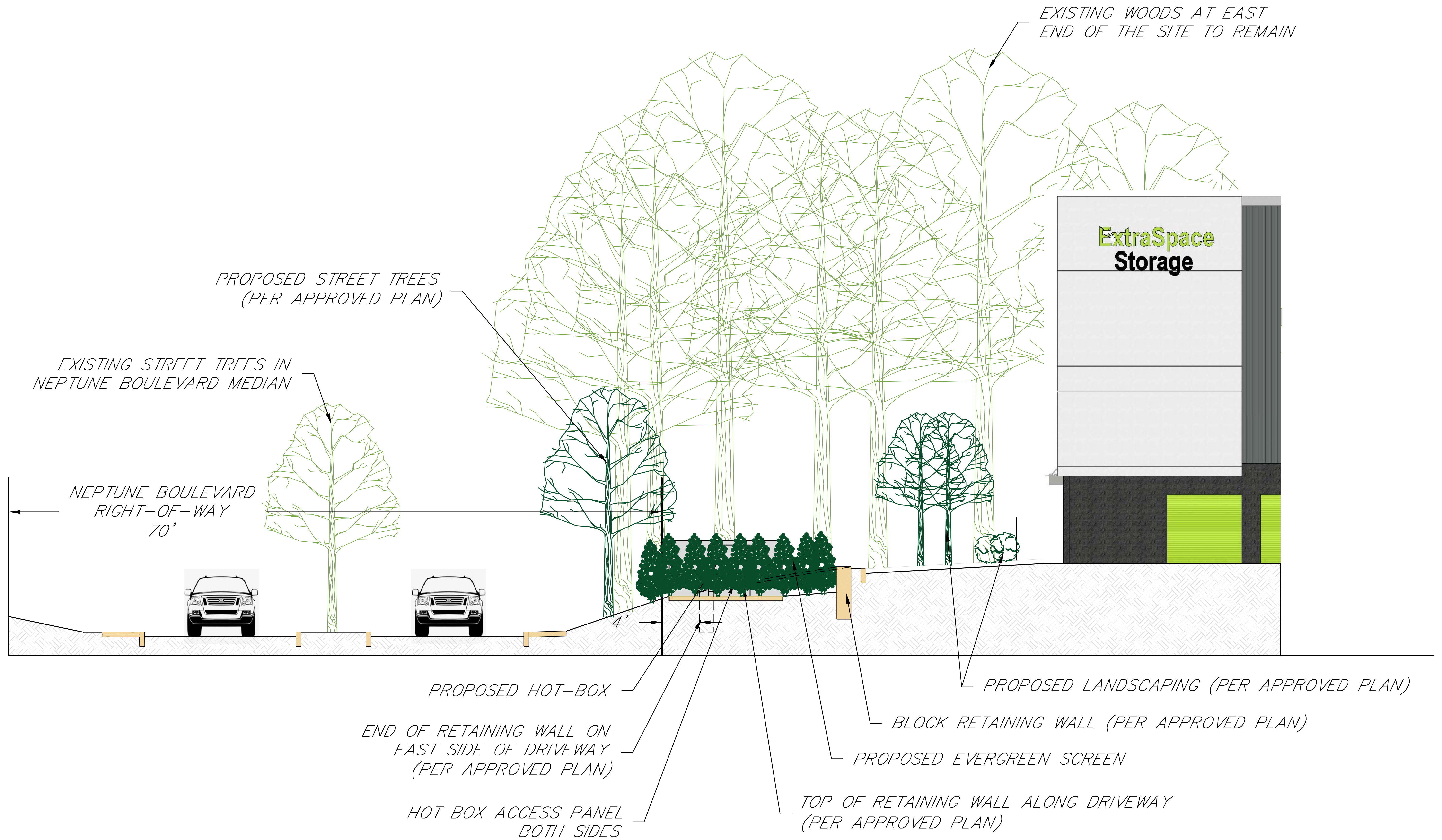
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NEPTUNE, NEW JERSEY 07753  
TEL: (732) 918-2180  
WWW.NELSONENG.NET  
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SCALE: 1"=10'	DRAWN BY: DHB	CHKD. BY: MRD
FILE: 180102	DATE: 06-14-2021	SHEET 2 OF 2





CROSS SECTION: NEPTUNE BOULEVARD TO WASATCH STORAGE PARTNERS

