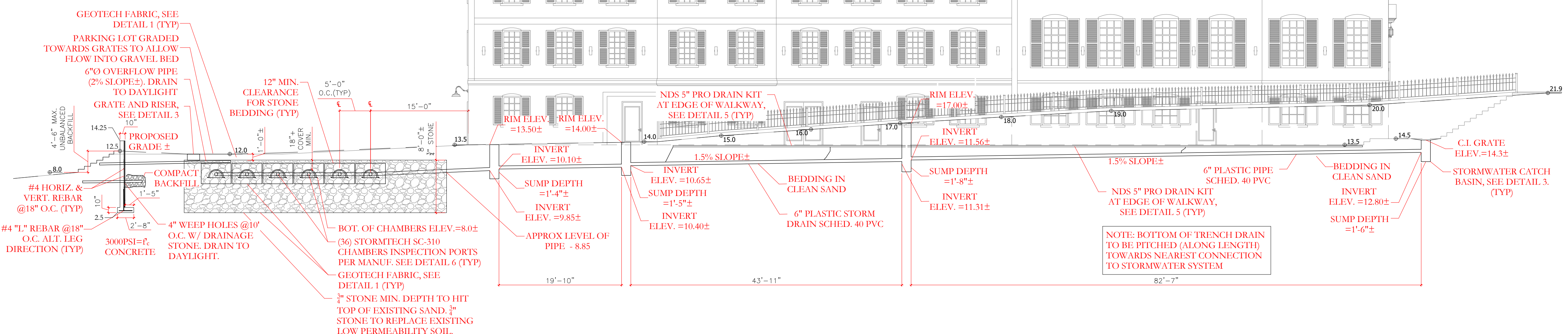


SCALE: 1" = 10'-0"

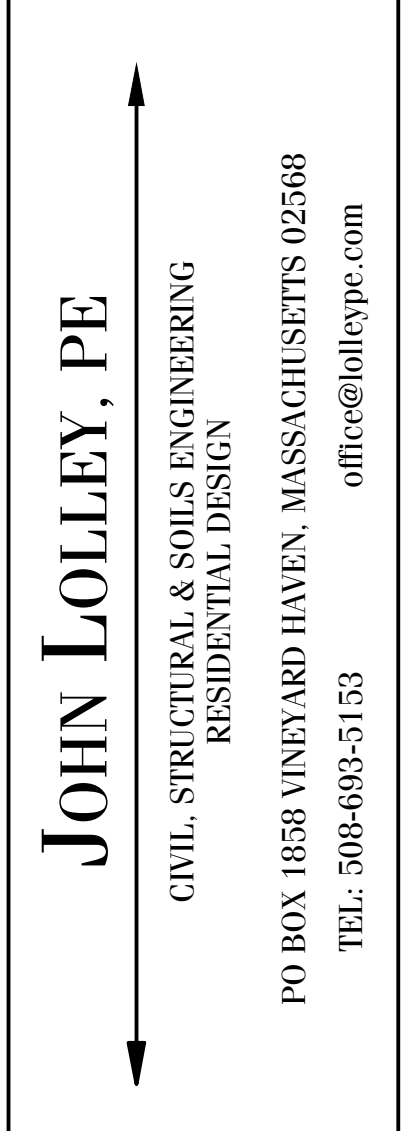
STORMWATER MANAGEMENT:
 DESIGN STORM - 25-YEAR, DURATION - 24HR.
 DUKE'S COUNTY:
 25-YEAR, 24HR STORM = 5.8"
 SOIL PERMEABILITY BELOW 8'-0"± ESTIMATED TO BE .0001 91 FT/5.



SCALE: 1" = 10'-0"

CHECK BY:	J. LOLLEY
DRAWN BY:	VMC
DATE:	5.3.22
ISSUED FOR:	CHECK SET

JOHN LOLLEY, PE
 CIVIL, STRUCTURAL & SOILS ENGINEERING
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 TEL: 508-693-5153
 office@lolleypc.com



SCALE: 1" = 10'-0"

JOB NUMBER:
21091

ADDRESS:
4 STATE ROAD,
VINEYARD HAVEN, MA
PARCEL ID: 9-A-6

PLAN NAME:
SITE PLAN #
STORMWATER PLAN # SECTION

DATE:
3 MAY 2022

SW 1.0

SC-310 CHAMBER

Designed to meet the most stringent industry performance standards for superior structural integrity while providing designers with a cost-effective method to save valuable land and protect water resources. The StormTech system is designed primarily to be used under parking lots, thus maximizing land usage for private (commercial) and public applications. StormTech chambers can also be used in conjunction with Green Infrastructure, thus enhancing the performance and extending the service life of these practices.

STORMTECH SC-310 CHAMBER

(not to scale)

Nominal Chamber Specifications

Size (L x W x H)
85.4" x 34.0" x 16.0"
2,170 mm x 864 mm x 406 mm

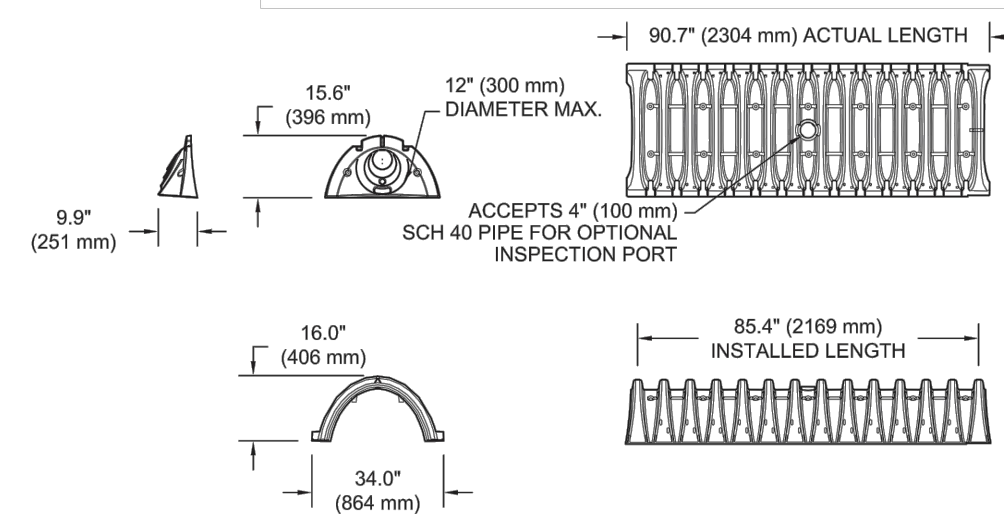
Chamber Storage
14.7 ft³ (0.42 m³)

Min. Installed Storage*
31.0 ft³ (0.88 m³)

Weight
37.0 lbs (16.8 kg)

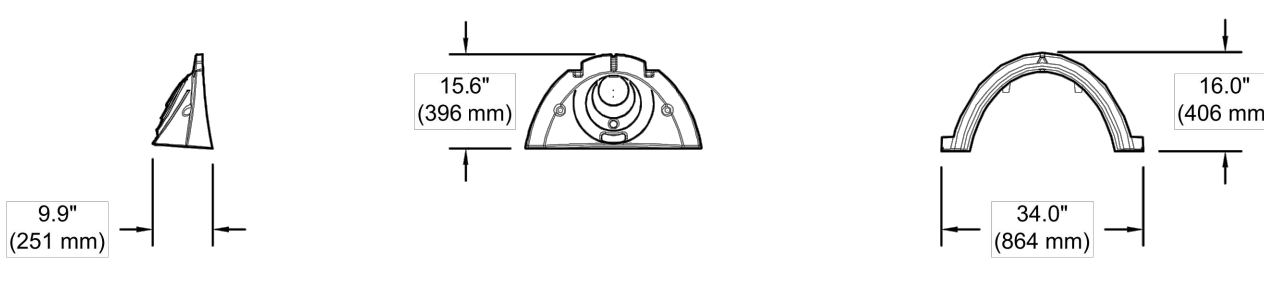
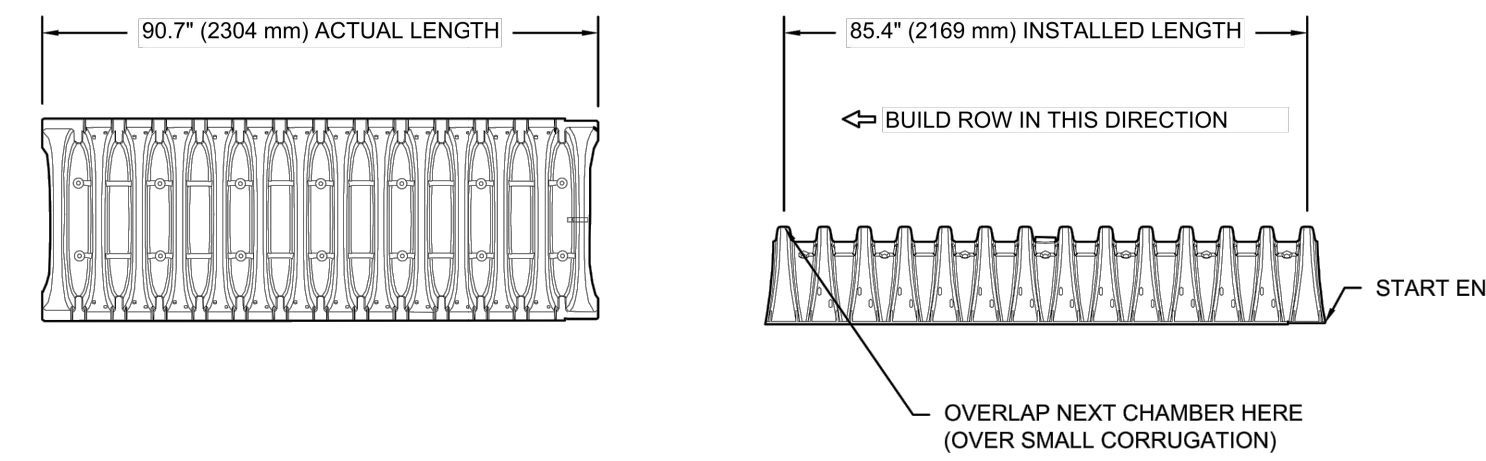
Shipping
41 chambers/pallet
108 end caps/pallet
18 pallets/truck

*Assumes 6" (150 mm) stone above and below chambers and 40% stone porosity.



SC-310 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	34.0" X 16.0" X 85.4"	(864 mm X 406 mm X 2169 mm)
CHAMBER STORAGE	14.7 CUBIC FEET	(0.42 m ³)
MINIMUM INSTALLED STORAGE*	31.0 CUBIC FEET	(0.88 m ³)
WEIGHT	35.0 lbs.	(16.8 kg)

*ASSUMES 6" (152 mm) ABOVE, BELOW, AND BETWEEN CHAMBERS

PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"

PART #	STUB	A	B	C
SC310EPE06T / SC310EPE06TPC	6" (150 mm)	9.6" (244 mm)	5.8" (147 mm)	---
SC310EPE06B / SC310EPE06BPC	---	---	---	0.5" (13 mm)
SC310EPE08T / SC310EPE08TPC	8" (200 mm)	11.9" (302 mm)	3.5" (89 mm)	---
SC310EPE08B / SC310EPE08BPC	---	---	---	0.6" (15 mm)
SC310EPE10T / SC310EPE10TPC	10" (250 mm)	12.7" (323 mm)	1.4" (36 mm)	---
SC310EPE10B / SC310EPE10BPC	---	---	---	0.7" (18 mm)
SC310EPE12B	12" (300 mm)	13.5" (343 mm)	---	0.9" (23 mm)

ALL STUBS, EXCEPT FOR THE SC310EPE12B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC310EPE12B THE 12" (300 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 0.25" (6 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

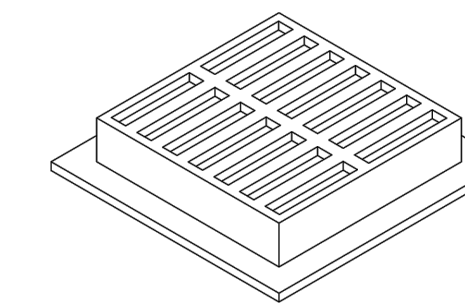
NOTE: ALL DIMENSIONS ARE NOMINAL



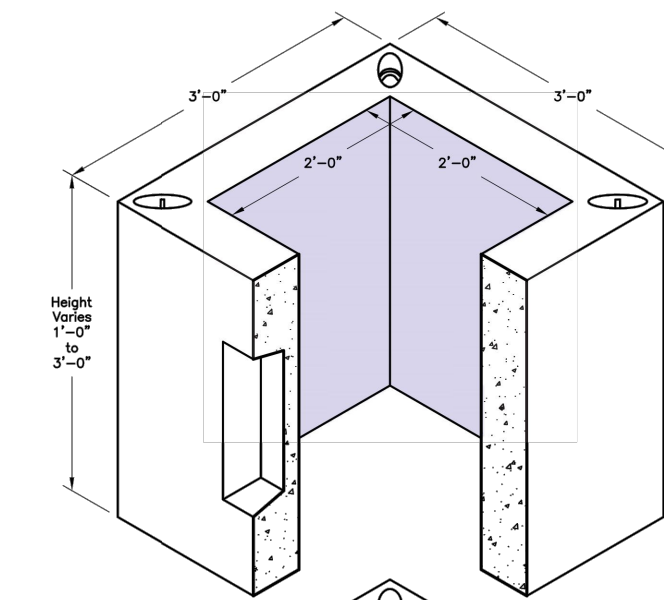
WATER

2'-0"x2'-0" Catch Basin w/ Riser Section
Model: 22 CB R

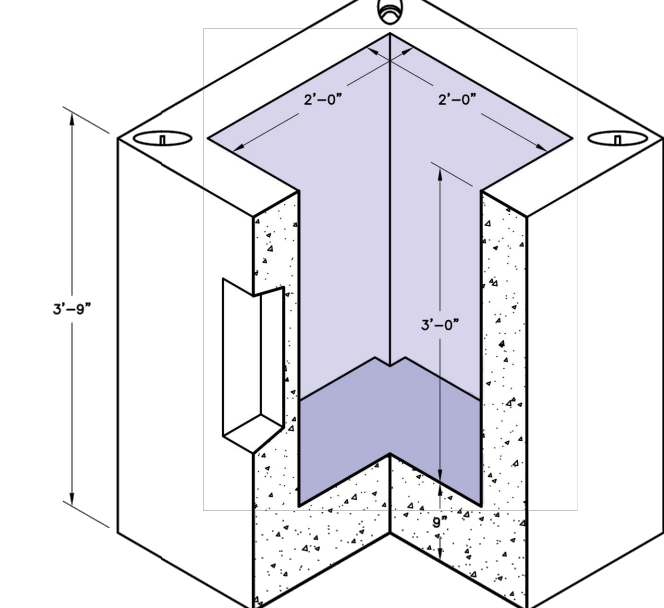
Frame & Grate



Riser Section (Optional)



Base Section



- GENERAL NOTES:**
- Concrete: 28 Day Compressive Strength $f_c = 4,000$ psi.
 - Steel Reinforcement: ASTM A-615, Grade 60, ASTM A-185.
 - Base poured monolithic.
 - Designed for AASHTO HS-20 loading.

Mid Atlantic Region

For more information about our products please visit us on the web at:
oldcastleprecast.com
© 2013 Oldcastle Precast, Inc.
W-CB-3

888-9 Oldcastle
(888-965-3227)

1 DETAIL 1: SC-310 INFILTRATION CHAMBERS

NOT TO SCALE

Test Hole 1	
(surface elev. 11.5 ±)	
Depth	Soil Description
0"-90"	Fill
	Broken Brick, Rock, And Asphalt
90"+	Undisturbed Soil

Test Hole 2	
(surface elev. 10.5 ±)	
Depth	Soil Description
0"-90"	Fill
	Broken Brick, Rock, And Asphalt
90"+	Undisturbed Soil

Test Hole 3	
(surface elev. 11 ±)	
Depth	Soil Description
0"-108"	Fill
	Broken Brick, Rock, And Asphalt
108"+	Top of Manhole

NO GROUNDWATER ENCOUNTERED*
SOIL WAS DAMP IN TEST HOLE 2

MONITORING PIPE INSTALLED IN HOLES 1 & 2

4 DETAIL 4: SOIL DATA

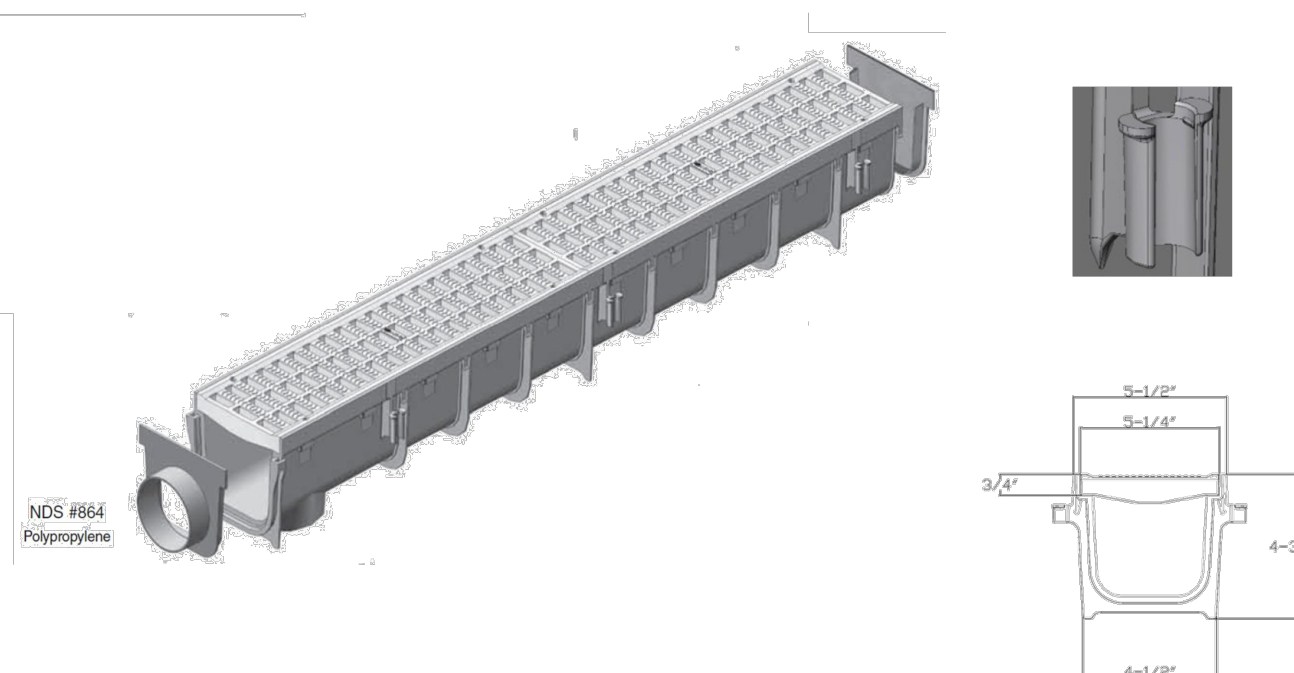
NOT TO SCALE

2 DETAIL 2: SPEC SHEET

NOT TO SCALE



5 Inch Pro Series Drain Kit



Part #: 864 (Includes #814-Grates (2qty.), #800-Channel (1qty.), #813-End Outlet (1qty.), and #812-End Cap (1qty.))
Material: Channel (Polyolefin) Grates (HDPE)
Color: Light Gray
Fits: 3" (Hub) and 4" (Spigot) Sewer/Drain Pipe
Rebar tie clips for easier installation: Fits #4 Rebar
Grate Opening: 3/8"x 1-1/4"
Open Surface Area: 23.52 Sq. Inch per Ft.
Head Pressure / Flow Rate:
Head (inches) - Max Flow
1" = 101.75 GPM
0.5" = 71.95 GPM
Weight per each: 5.67 lbs.
Screw: #829 Stainless Steel Screw, 4 per grate.
UV Inhibitors

Class B
• Loads of 61-175 psi.
• Recommended for medium-duty pneumatic tire traffic, autos and light trucks at speeds less than 20 m.p.h.

ADA Compliant

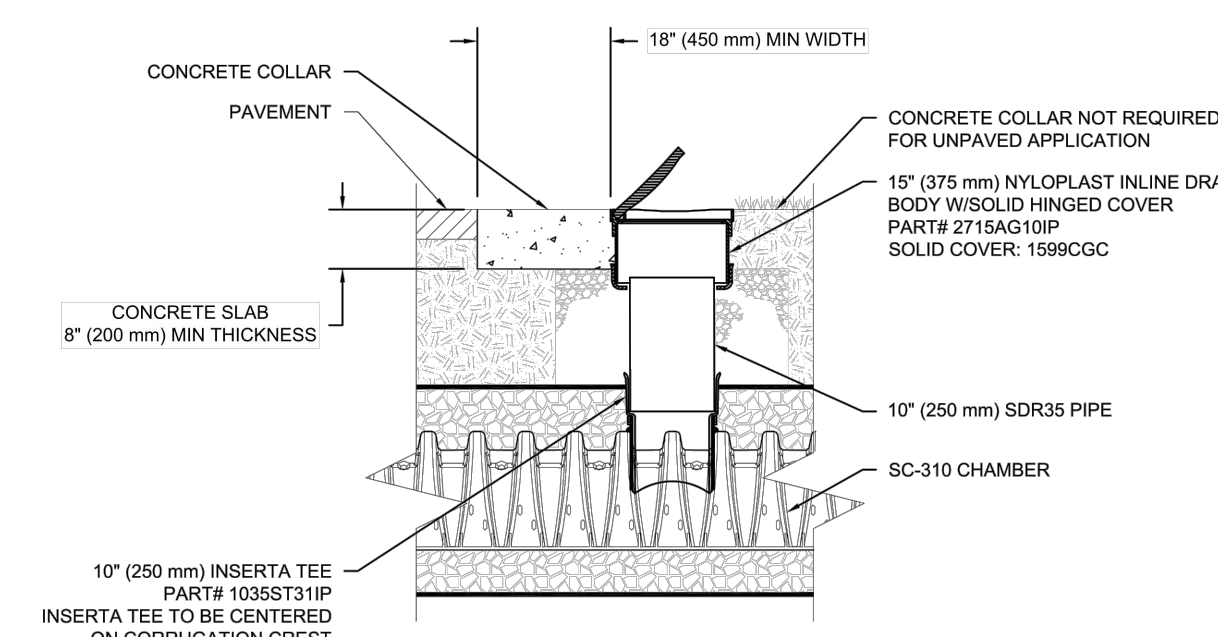


5 DETAIL 5: TRENCH DRAIN ALONG WALKWAY

NOT TO SCALE

3 DETAIL 3: STORMWATER CATCH BASIN FOR COMMERCIAL AREA

NOT TO SCALE



SC-310 10" (250 mm) INSPECTION PORT DETAIL

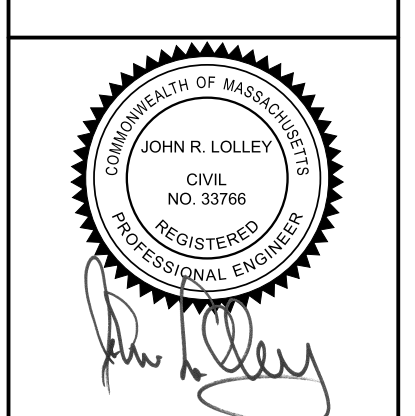
NTS

6 DETAIL 6: INSPECTION PORT

NOT TO SCALE

CHECK BY:	J. LOLLEY
DRAWN BY:	VMC
DATE:	5.3.22
ISSUED FOR:	CHECK SET

JOHN LOLLEY, PE
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TEL: 508-693-5153
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SCALE:
NOT TO SCALE

JOB NUMBER:
21091

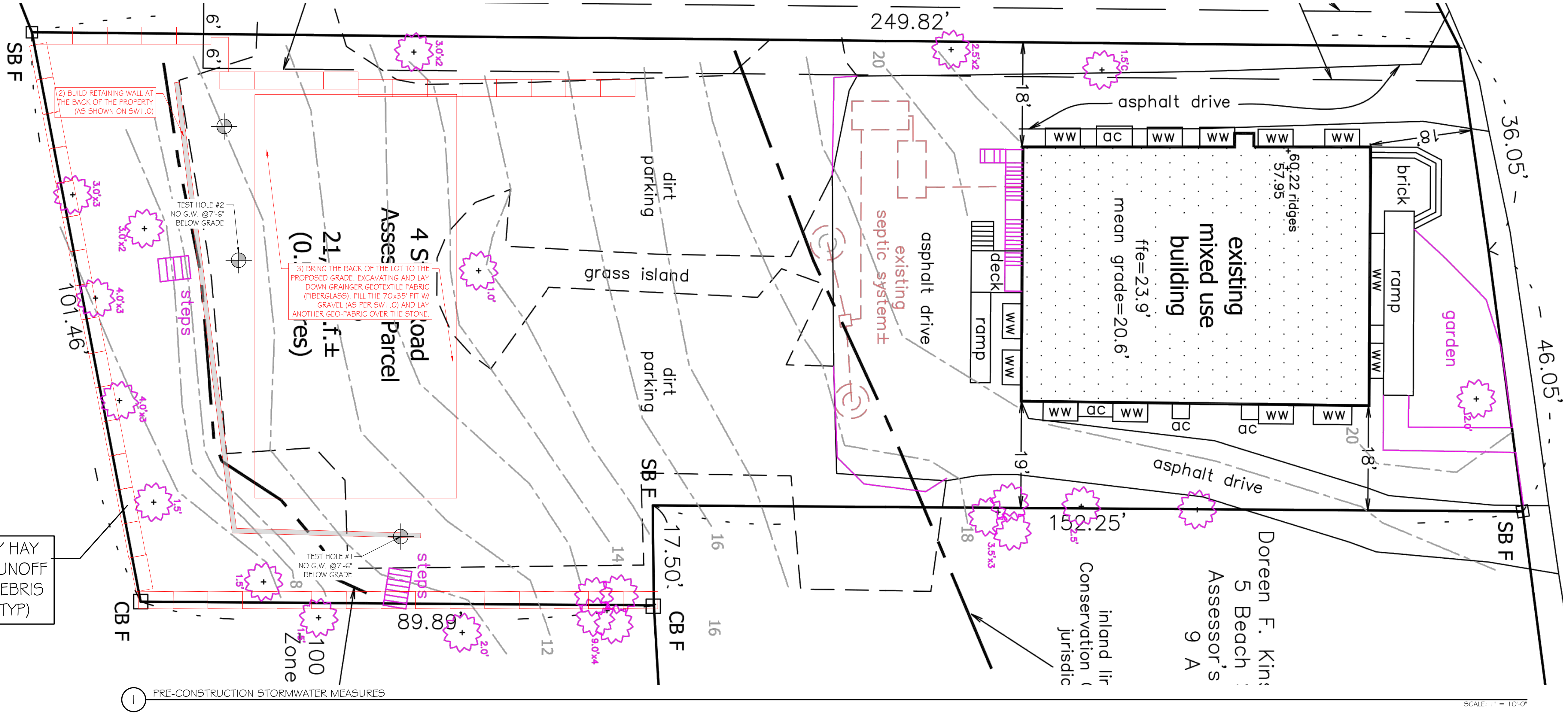
ADDRESS:
4 STATE ROAD,
VINEYARD HAVEN, MA
PARCEL ID: 9-A-6
STORMWATER DETAILS

PLAN NAME:

DATE:
3 MAY 2022

SW 2.0

1) LOT TO BE ENCLOSED BY HAY BAILS TO SLOW SURFACE RUNOFF AND COLLECT EROSION & DEBRIS DURING CONSTRUCTION (TYP)



2) BUILD RETAINING WALL AT THE BACK OF THE PROPERTY (AS SHOWN ON SW1.0)

3) BRING THE BACK OF THE LOT TO THE PROPOSED GRADE. EXCAVATING AND LAY DOWN GRANGER GEOTEXTILE FABRIC (FIBERGLASS). FILL THE 70x35' PIT W/ GRAVEL (AS PER SW1.0) AND LAY ANOTHER GEO-FABRIC OVER THE STONE.

TEST HOLE #2
NO G.W. @ 7'-6" BELOW GRADE

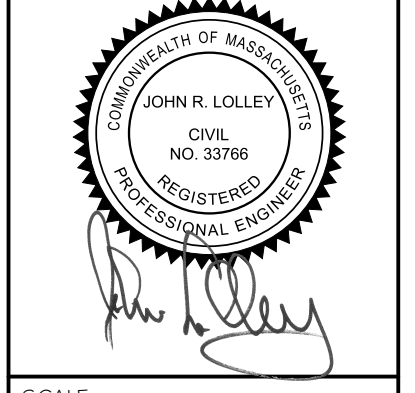
TEST HOLE #1
NO G.W. @ 7'-6" BELOW GRADE

PRE-CONSTRUCTION STORMWATER MEASURES

SCALE: 1" = 10'-0"

ISSUED FOR:	CHECK SET
DATE:	5.3.22
DRAWN BY:	VMC
CHECK BY:	J. LOLLEY

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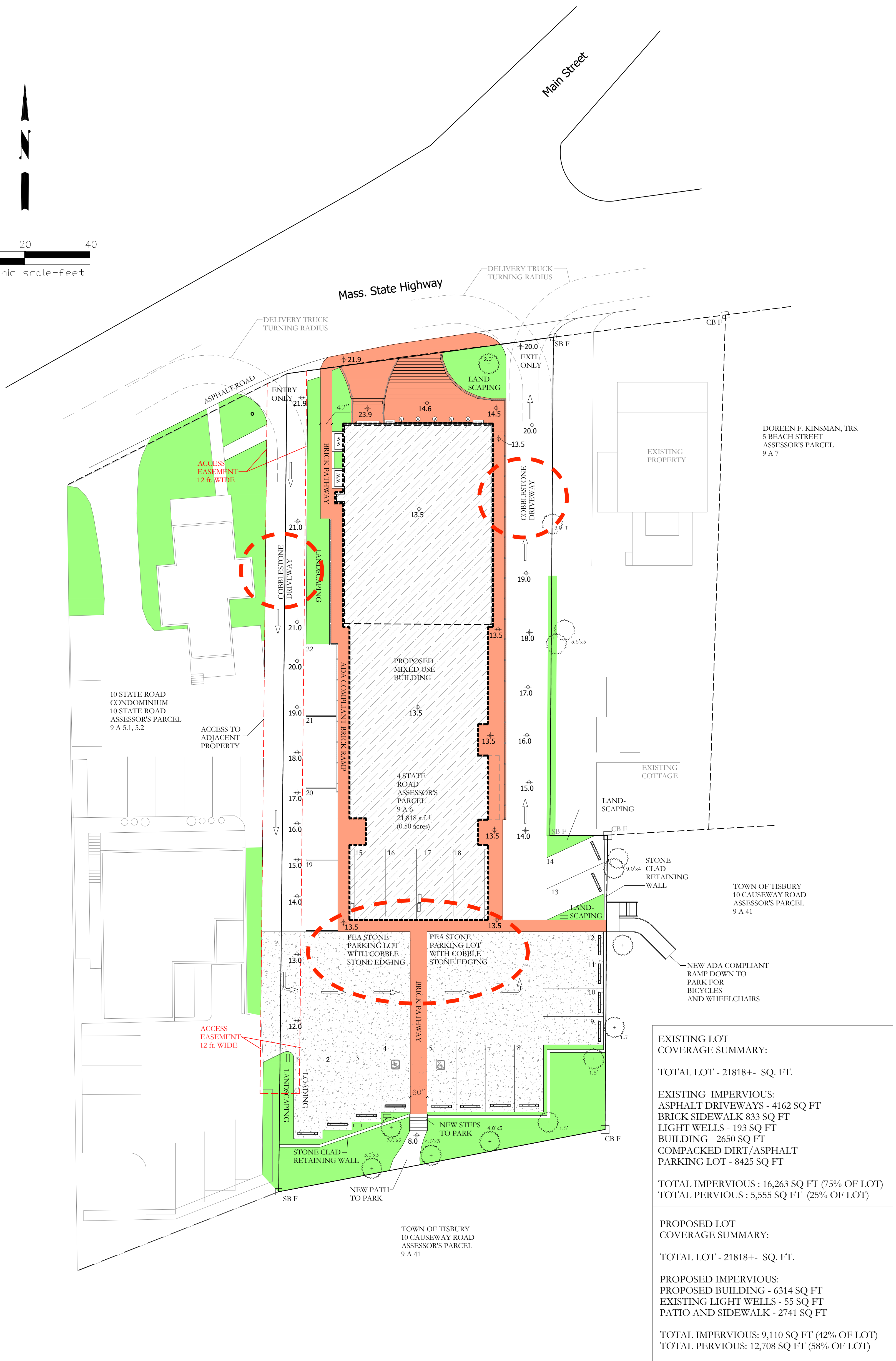
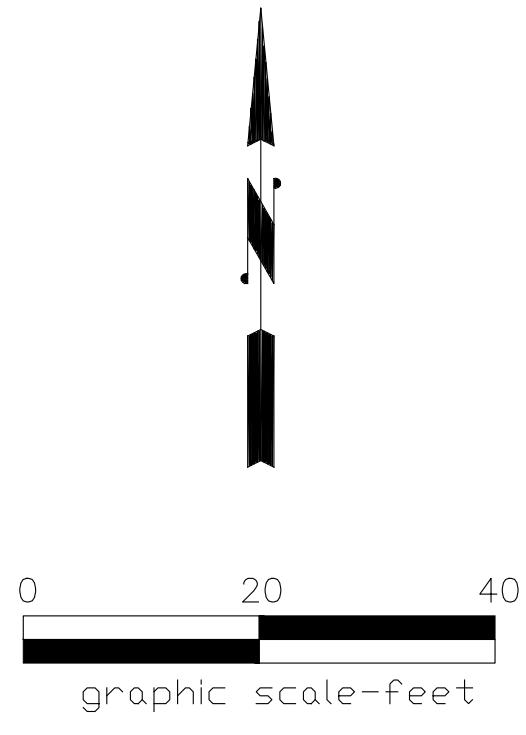


SCALE: 1" = 10'-0"
 JOB NUMBER: 21091

ADDRESS:
 4 STATE ROAD,
 VINEYARD HAVEN, MA
 PARCEL ID: 9-A-6
 PLAN NAME:
 PRE-CONSTRUCTION
 STORMWATER PLAN

DATE:
 3 MAY 2022

SW 3.0



PERMIT SET
 NOT FOR CONSTRUCTION

A-101

1/16"=1'-0" Scale: 03/07/2022 Date:

LOT COVERAGE PLAN

4 State Road
 Tisbury, Massachusetts



Delano & Co.
 1 Lagoon Pond Road, #2109
 Vineyard Haven, Massachusetts

	Exist.	Prop.	Exist.	Prop.
$A_{\text{impervious}} =$	16,263	\rightarrow 9,110 [ft ²]	$\sim 75\%$	\rightarrow 42%
$A_{\text{pervious}} =$	5,555	\rightarrow 12,708 [ft ²]	$\sim 25\%$	\rightarrow 58%

(Areas provided by Xerxes' site plan)

$$V_{\text{impervious}} = A_{\text{impervious}} (I \times C) = (9,110 \text{ ft}^2) (.483 \text{ ft}) (1.0) = \boxed{4,400 \text{ ft}^3}$$

min. storage required

$$V_{\text{pervious}} = A_{\text{pervious}} (I \times C) = (12,708 \text{ ft}^2 - 1,900 \text{ ft}^2) \times .483 \text{ ft} \times (.75) = 3,915.2 \text{ ft}^3$$

Area permeable that is outside the system \nearrow weighted Avg. \nearrow

$$V_{\text{stone}} = (42.5') (70') (7.5') = 22,312.5 \text{ ft}^3$$

$\times .40 \leftarrow$ % voids

$$\boxed{8,925 \text{ ft}^3} \leftarrow \text{storage capacity}$$

$8,925 \text{ ft}^3 > 4,400 \text{ ft}^3$
 $\sim 50\%$ capacity utilized

$$Q_{\text{in}} = C_i A$$

$$C = [(1.0)(.42) + (.75)(.58)] = .855$$

$$i = 5.8'' = .483 \text{ ft}$$

$$A \approx \frac{1}{2} \text{ Acre}$$

$$\boxed{Q_{\text{in}} = .1033 \text{ cfs}}$$

$$Q_{\text{out}} = K \times \text{Area}$$

$$K = 8.27 \text{ in/hr} = .000191 \text{ ft/sec}$$

$$A = A_{\text{infil.}} \times \# \text{ of infil.} = (20.16 \text{ ft}^2) (36) = 725.76 \text{ ft}^2$$

$$\boxed{Q_{\text{out}} = .1386 \text{ cfs}}$$

$$Q_{\text{in}} < Q_{\text{out}} \rightarrow .1033 < .1386 \checkmark \sim 75\% \text{ capacity utilized}$$

- * 1) Storage slightly higher $\rightarrow 26 V_{\text{infil.}} \rightarrow [36 V_{\text{infil.}}] \times .4$
Volume of all basins \nearrow \nwarrow equivalent volume (storage) held by stone.
- * 2) Does not account for flow through gravel (> sand). *
- * 3) Does not account for the spreading of water over the increased 42'-6" x 70' gravel-sand interface. *