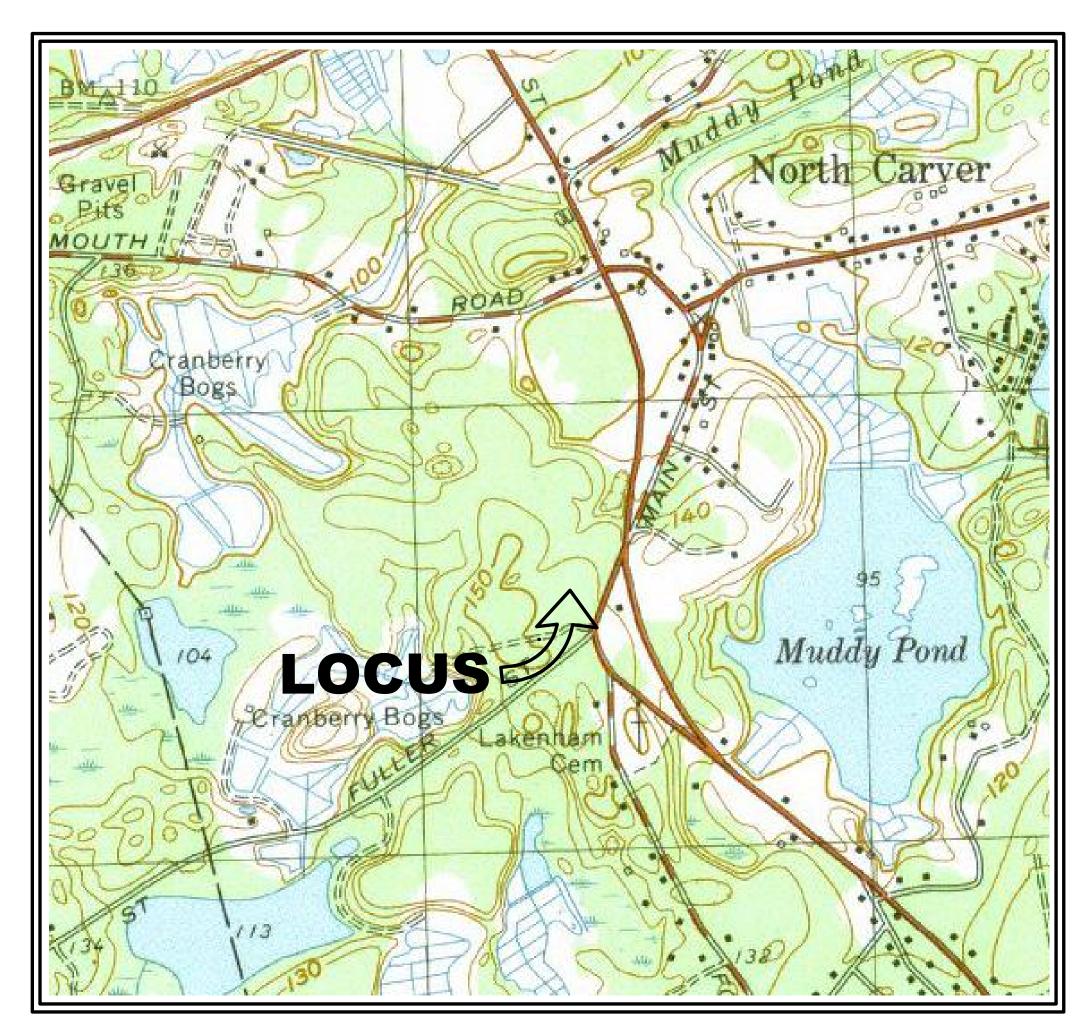
SITE PLAN

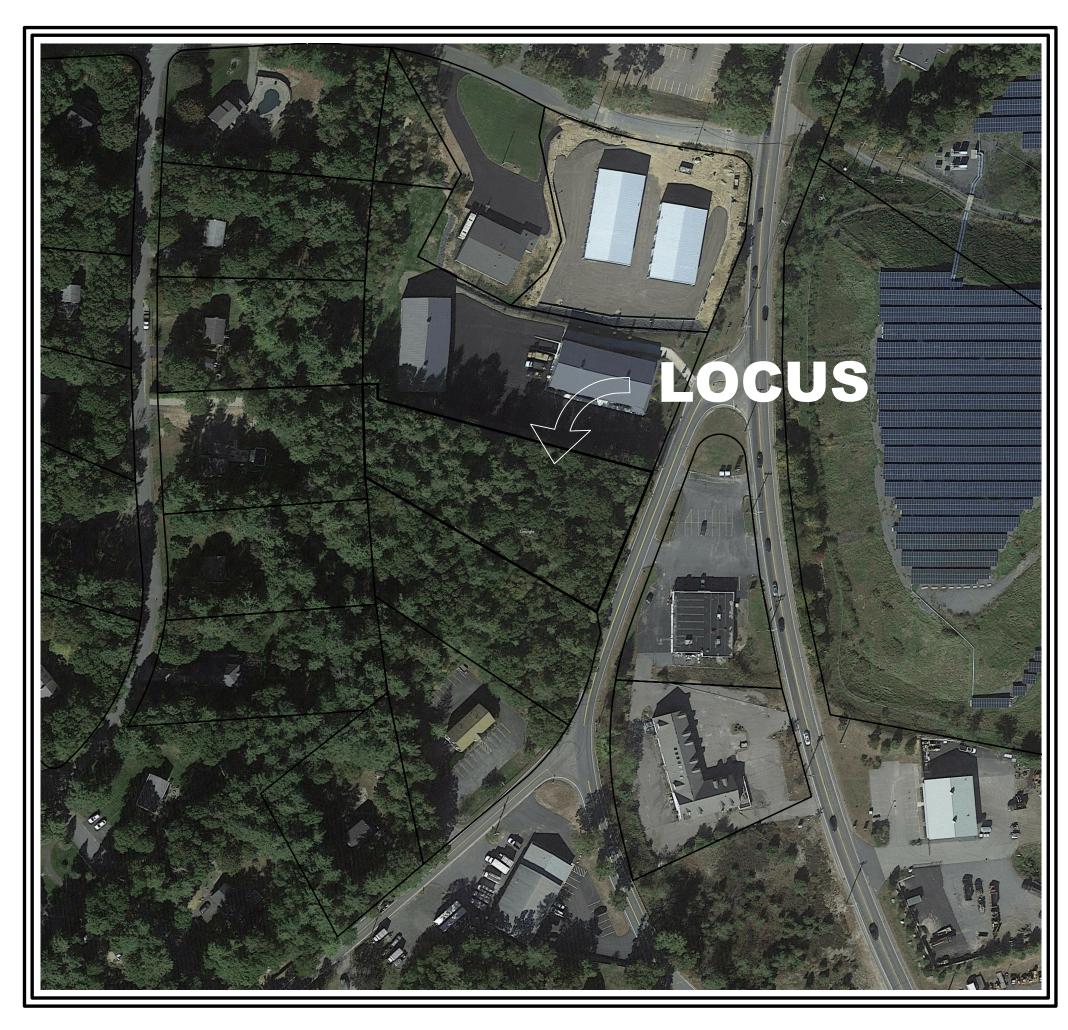
COMMERCIAL DEVELOPMENT 0 FOREST STREET (MAP 49, BLOCK 62, LOT 7-R), CARVER, MA



LOCUS MAP NOT TO SCALE

LEGEND

DESCRIPTION	EXISTING	PROPOSED	DESCRIPTION	EXISTING	PROPOSED
CATCH BASINS		(H)	INTERMEDIATE CONTOUR	52	[55]
SEWER MANHOLE	SS	SS	INDEX CONTOUR	 55 	[55]
DRAIN MANHOLE	(SW)	(D)	SPOT ELEVATIONS	X 160.0	×63.71
FLECTRIC MANUACLE			DRAIN LINE	—D —	<i>—</i> р—
ELECTRIC MANHOLE	(E)	(E)	SEWER LINE	—-S—	<i>—s</i> —
SW TREATMENT UNIT		©	WATER LINE	W	<i></i> w
GAS GATE	×	₩	GAS LINE	—G-—-	—-G—
WATER GATE	\bowtie	\bowtie	ELECTRICAL LINE	——E——	——E——
		<u></u>	200' RIVERFRONT AREA	■ 200' RA ■	
FIRE HYDRANT			100' RIVERFRONT AREA	■ 100' RA ■	
POWER POLE	Ø		100' BUFFER ZONE	■ 100' BZ ■	
CHAIN LINK FENCE	\times — \times	×—×	50' BUFFER ZONE	50' BZ	
STOCKADE FENCE	•—•	•—•	30' BUFFER ZONE	30' BZ	
OVERHEAD WIRES	—он—	—он—	LIMIT OF FLOOD ZONE AE		
LIGHT POLE	**	崇	WETLAND FLAG		



AERIAL MAP NOT TO SCALE

PREPARED JUNE 9, 2022

TABLE OF CONTENTS

SHEET	PLAN ID
CS1.1 EX1.1 SP1.1 SP1.2 EC1.1 LTC1.1 D1.1 D1.2 SSD1.1 SSD1.2	COVER SHEET EXISTING CONDITIONS SITE LAYOUT PLAN GRADING & DRAINAGE EROSION CONTROL PLAN LANDSCAPE & TRAFFIC CIRCULATION PLAN DETAILS 1 DETAILS 2 SEPTIC SYSTEM DETAILS—1 SEPTIC SYSTEM DETAILS—2

<u>iown</u>	<u> </u>	CARVER	PLANNING	<u>B0</u> /
SITE PL	_AN A	APPROVAL		
DATE A	\PPRC	OVED:		

OWNER(S):

CARVER HOMES, INC, 25 MAGOUN PATH MARSHFIELD, MA

APPLICANT:

PRIOLO CONCRETE FORMS, INC 233 PEMBROKE STREET KINGSTON, MA 02364

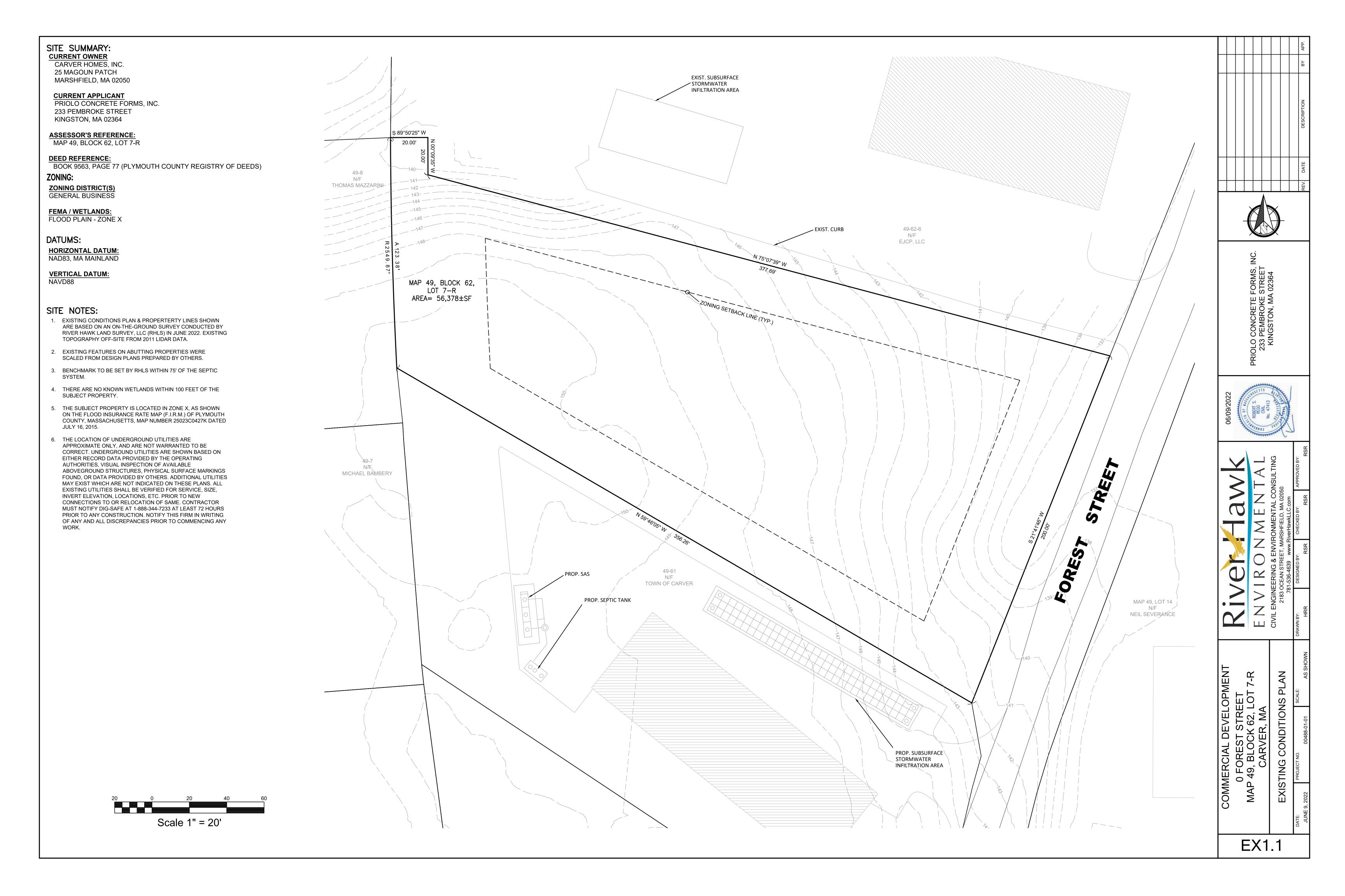
PREPARED BY:



CIVIL ENGINEERING & ENVIRONMENTAL CONSULTING 2183 OCEAN STREET, MARSHFIELD, MA 02050 781-536-4639 www.RiverHawkLLC.com

SHEET CS1.1

PROJECT: 00488-01-01 DRAWING: SITE PLAN



SITE SUMMARY:

PARCEL ID: 49-68-7-R TOTAL AREA: 56,378± S.F. (1.29± ACRES) ZONING DISTRICT: GENERAL BUSINESS

ZONING REQUIREMENTS:

ITEM:	REQUIRED	PROPOSED
LOT AREA (SF)	40,000	56,378±
FRONTAGE (FT)	200	200.00
FRONT SETBACK (FT)	40	52.0
SIDE SETBACK (FT)	25	26.0 & 26.0
REAR SETBACK (FT)	25	180.1
BLDG. COVERAGE (%)	50	12.7

USE:

CRAFTSMANS/TRADESMAN - ALLOWED BY RIGHT

CAR PARKING REQUIREMENTS:

TEM: REQ'D PER UNIT PROPOSED MIN. REQ'D

CRAFTSMAN/TRADESMAN 1 PER 400 SF 7,140 SF 18

TOTAL SPACES REQUIRED: 18

SPACES PROVIDED: 20

ADA SPACES REQUIRED ON—SITE: 1 (VAN ACCESSIBLE)

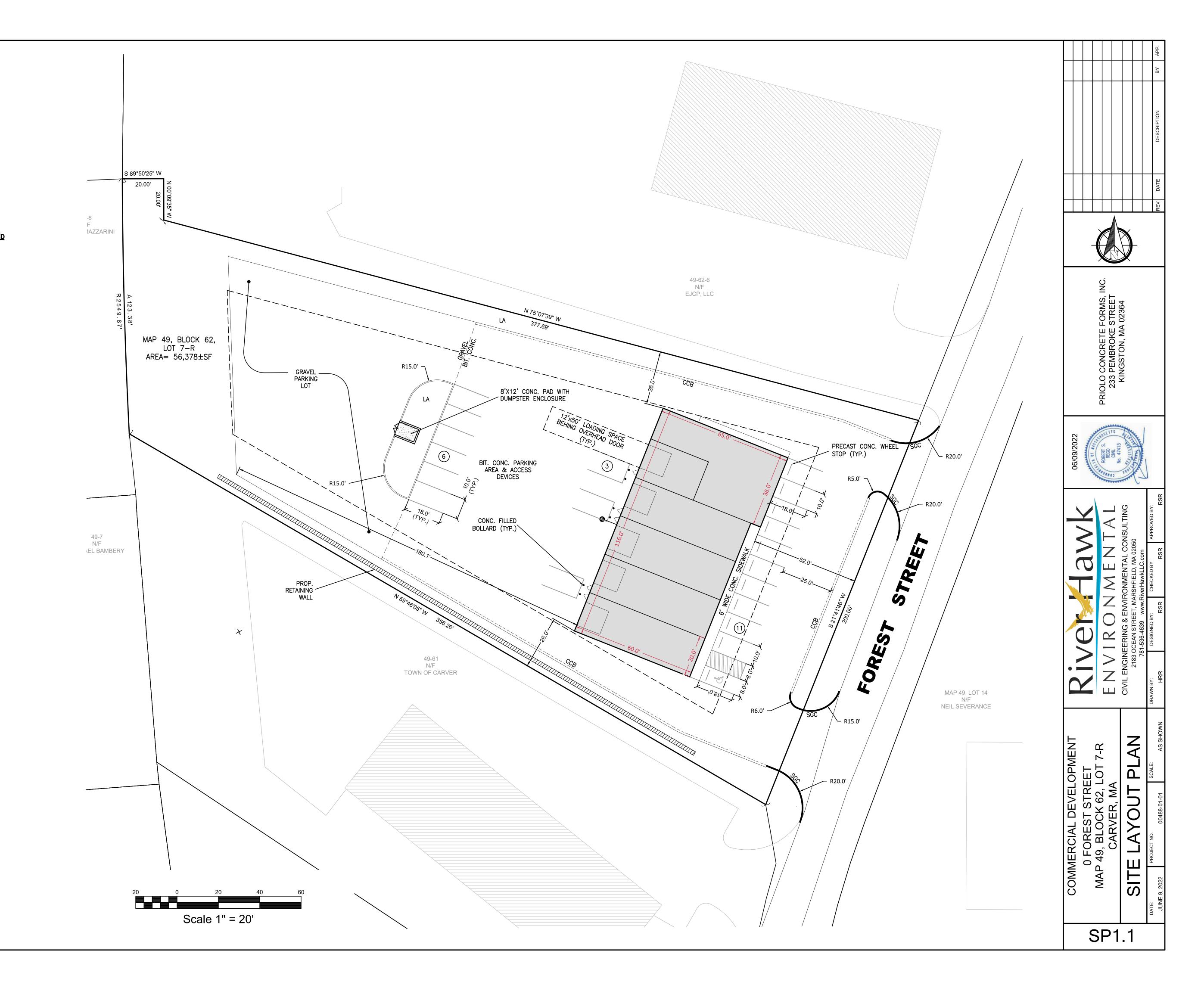
TYPICAL CAR PARKING SPACE DIMENSION:

MIN. 10' WIDE X 18' DEEP (STANDARD SPACE)

ADA SPACES PROVIDED ON-SITE: 1 (VAN ACCESSIBLE)

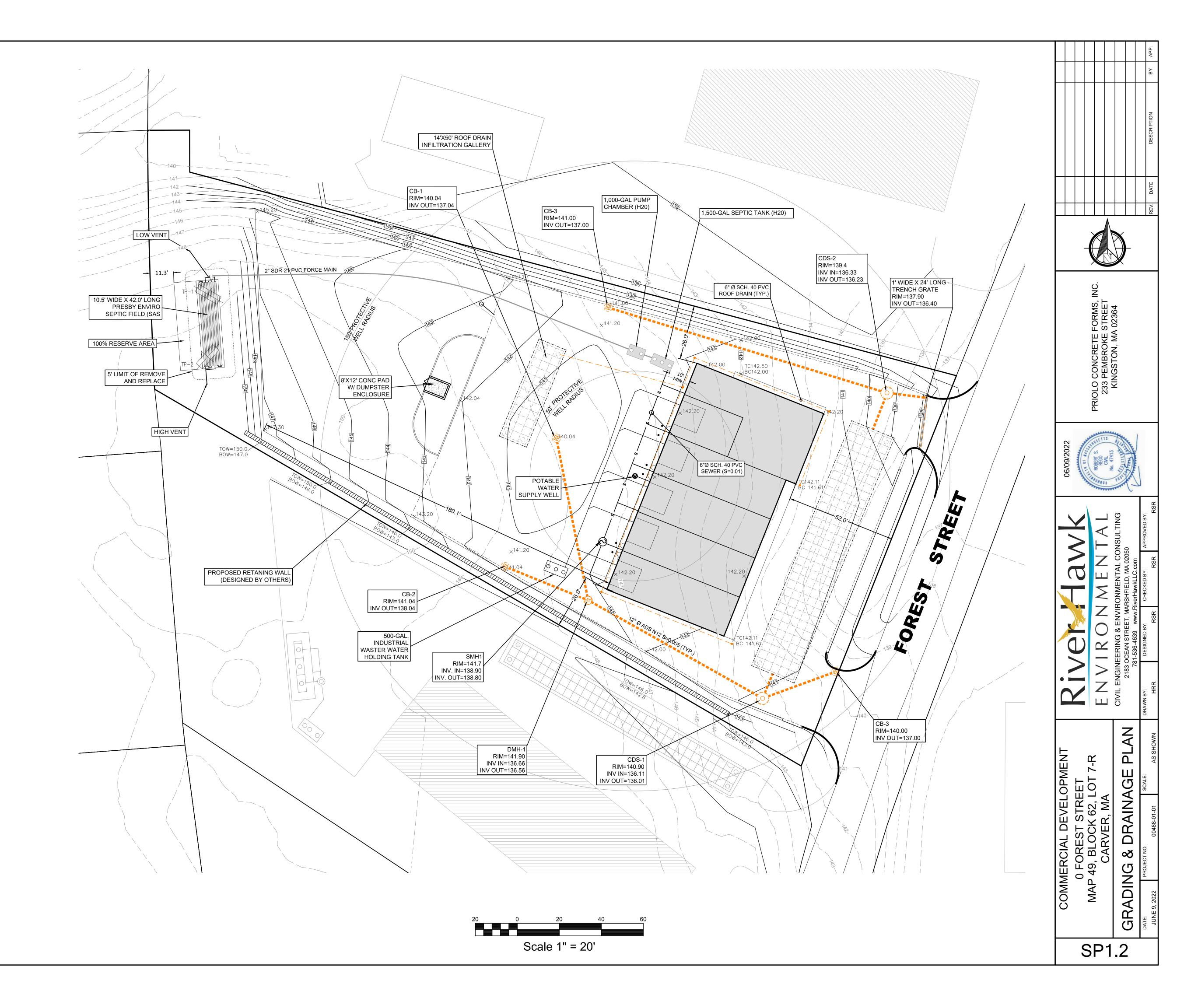
WAIVER REQUESTS:

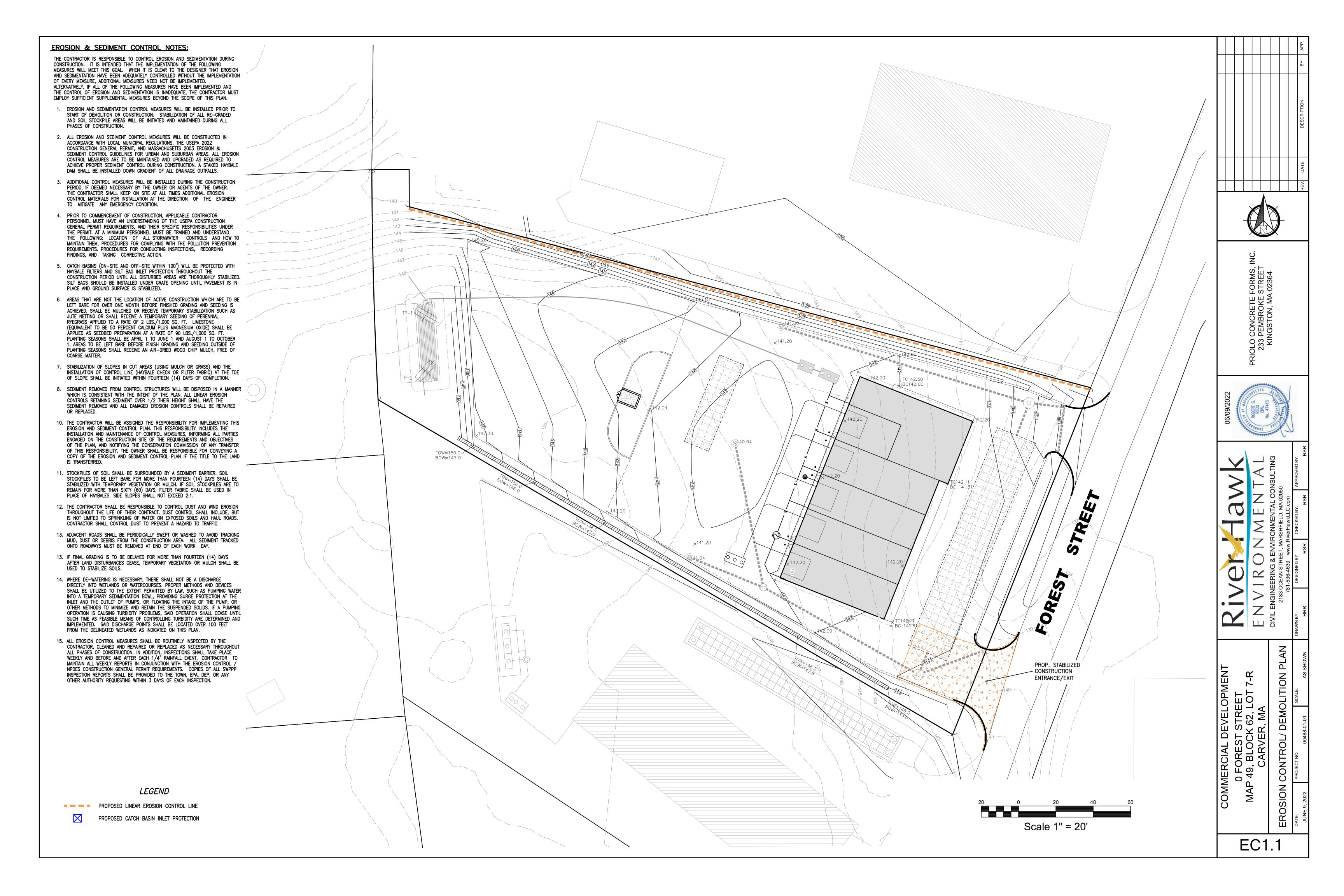
- 1. A WAIVER FROM SECTION 3351, ALLOWING A CURB CUT WITHIN 75' OF AN EXISTING CURB CUT IS REQUESTED. THE ABUTTING PROPERTIES TO THE NORTH AND SOUTH ALONG FOREST STR. BOTH HAVE CURB CUTS THAT ARE IMMEDIATELY ADJECENT TO THE SUBJECT PROPERTY.
- 2. A WAIVER FROM SECTION 3200 WHICH REQUIRES A 20'
 FRONT YARD LANDSCAPE BUFFER AND 10' SIDE YARD
 BUFFER IS REQUESTED. WAIVERS ALLOWING A 10' FRONT
 AND 9' SIDE BUFFERS ARE REQUESTED. THE SUBJECT
 PROPERTY ABUTS COMMERCIAL PROPERTIES ON BOTH
 SIDES AND ACROSS THE ROADWAY.
- 3. A WAIVER FROM SECTION 3341 WHICH REQUIRES TO THE EXTENT FEASIBLE THAT PARKING SHOULD NOT BE LOCATED FORWARD OF ANY BUILDING FRONT LINE IS REQUESTED. GIVEN THE LONG NARROW SHAPE OF THE LOT, A WAIVER FROM THIS REQUIREMENT IS REQUESTED.
- 4. A WAIVER FROMN SECTION 3131(g) WHICH REQUIRES
 THAT TREES WITH GREATER THAN 10" CALIPER BE SHOWN
 ON THE PLANS IS REQUESTED. IN ORDER TO
 ACCOMODATE THE PROPOSED DEVELOPMENT, MOST OF
 THE SITE WILL BE CLEARED.

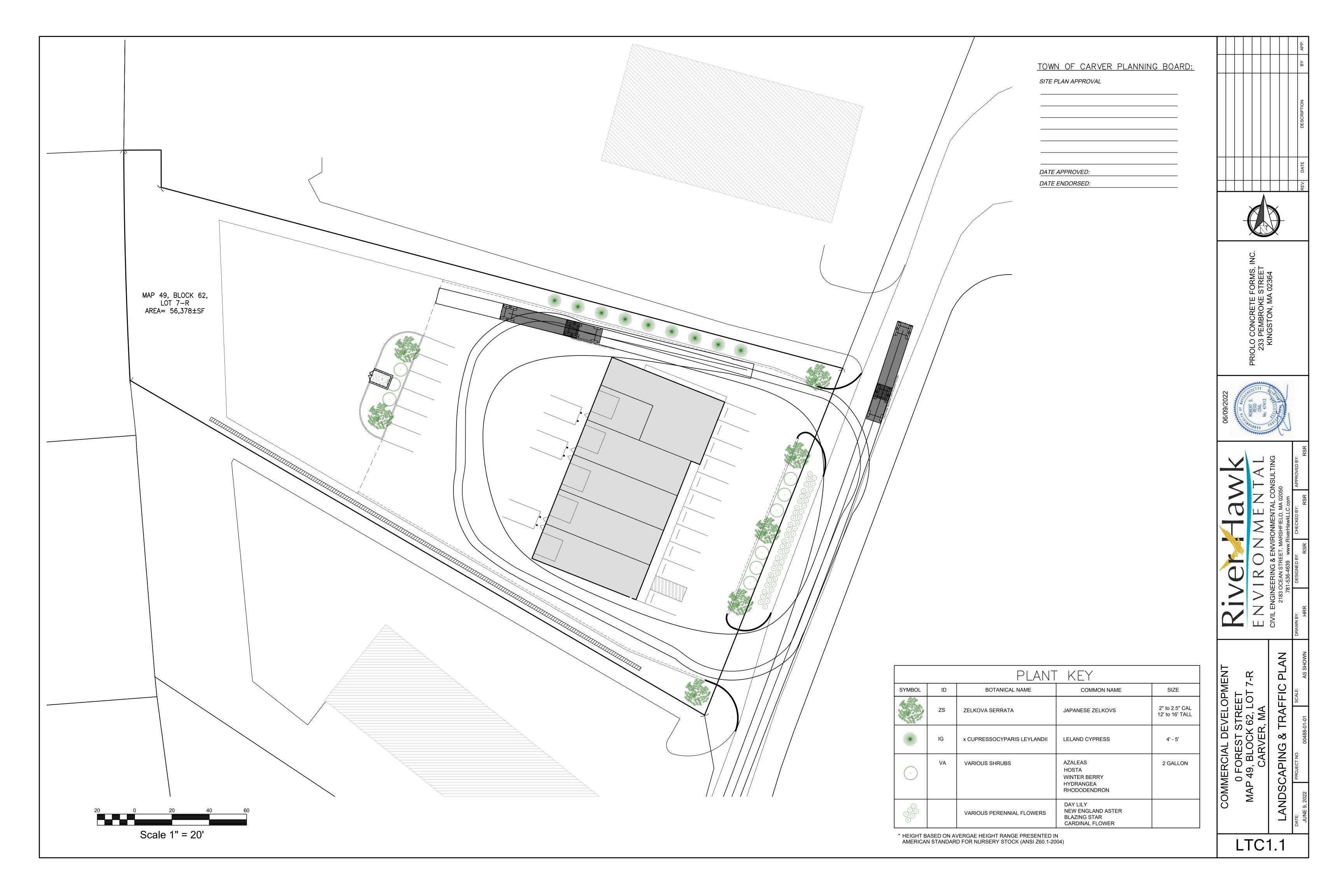


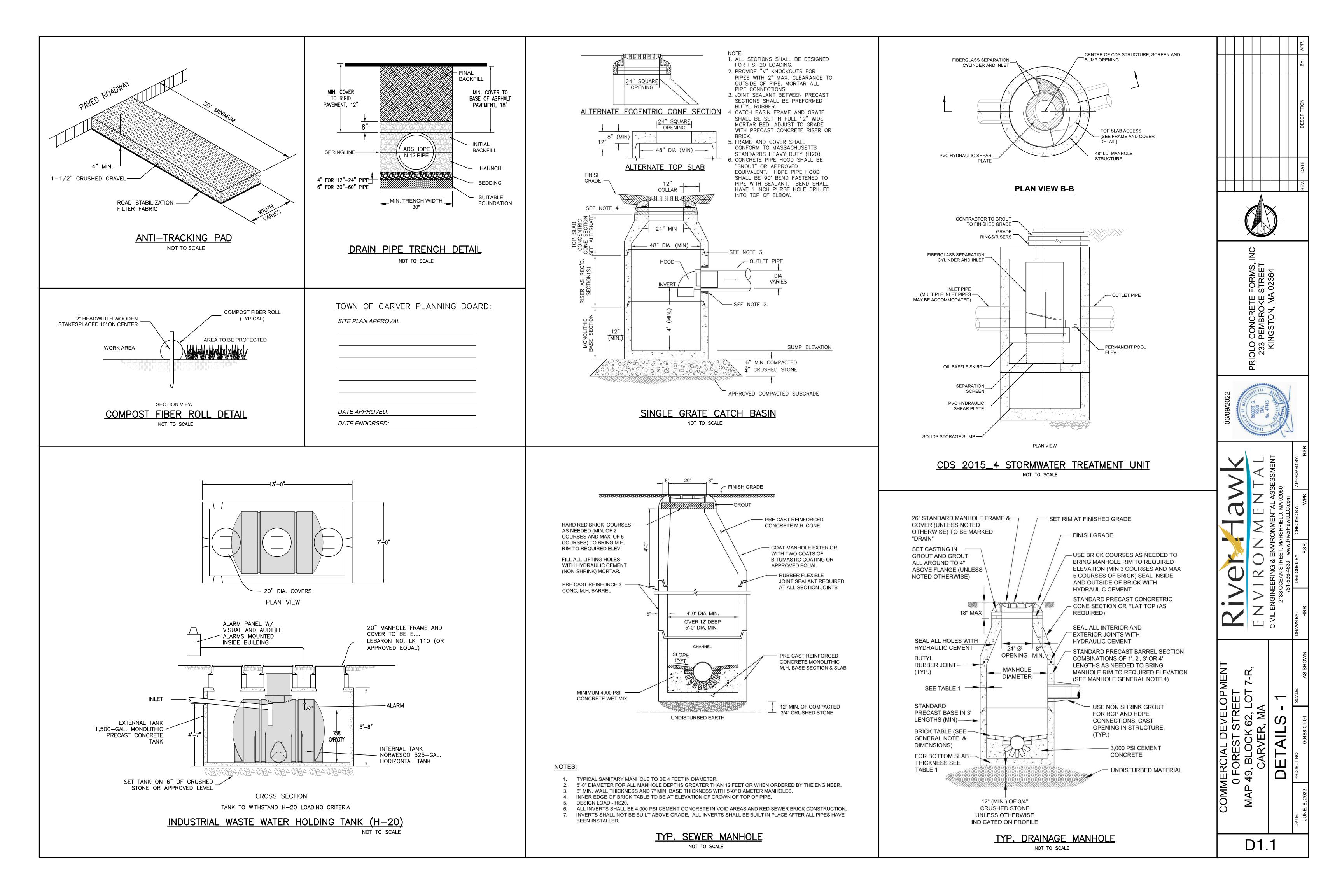
NOTES:

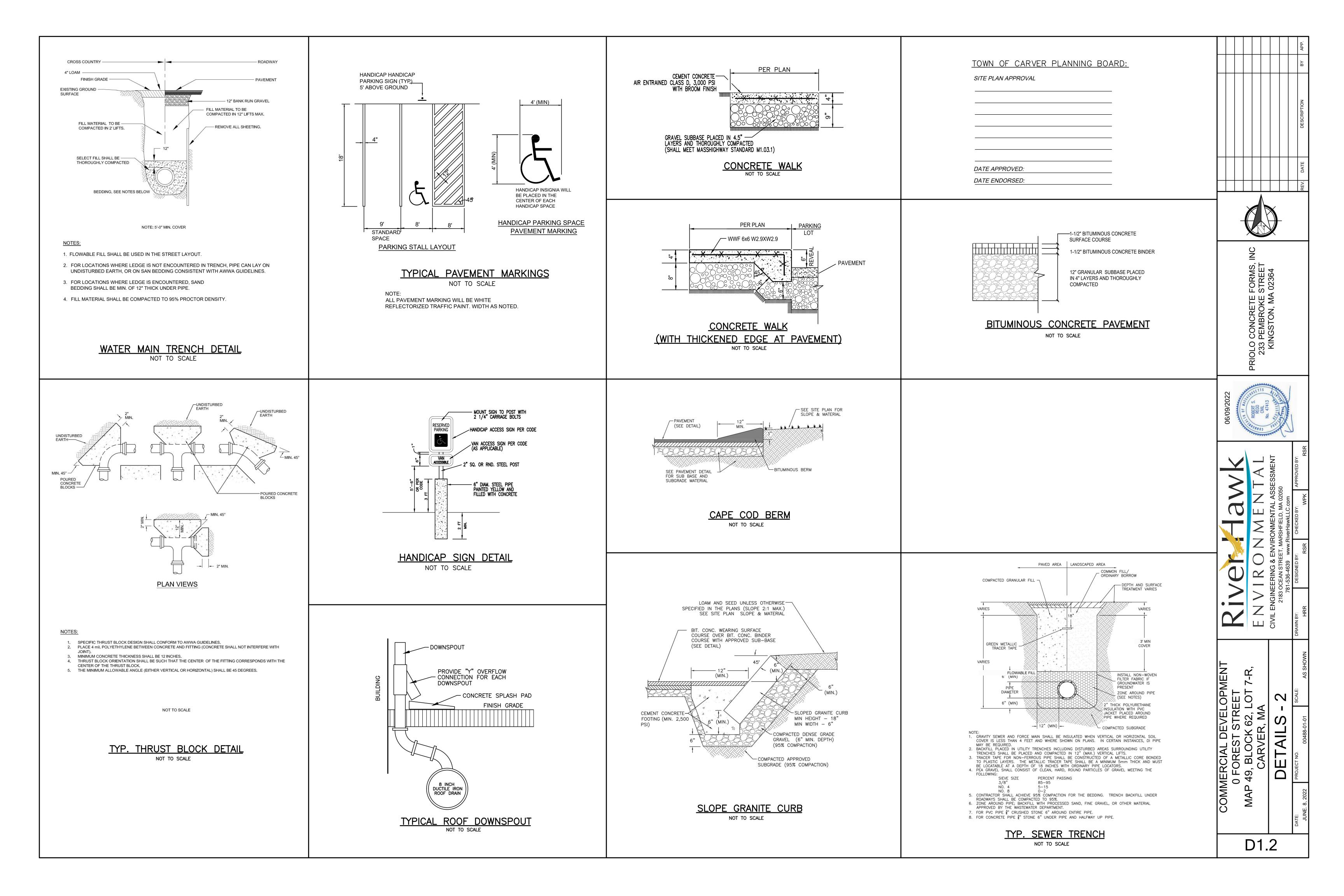
- 1. ALL SITE WORK SHALL MEET OR EXCEED THE SITE SPECIFICATIONS PREPARED THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE OWNER PRIOR TO ANY SITE WORK WHICH WOULD BE AFFECTED.
- 2. NO CERTIFICATION IS MADE AS TO THE EXISTENCE OR NON EXISTENCE OF ANY SUBSURFACE STRUCTURE/UTILITY NOT VISIBLE AND EVIDENCED FROM THE GROUND SURFACE.
- 3. CONTRACTOR SHALL VERIFY LOCATIONS OF ALL UTILITIES PRIOR TO THE START ANY WORK.
- 4. ALL DRAINAGE PIPE TO BE 12"Ø ADS N-12 SLOPED AT 0.005FT/FT, UNLESS SPECIFIED OTHERWISE.
- 5. UNLESS SPECIFIED, ALL MATERIALS SHALL BE COMPLIANT WITH THE LATEST TOWN OF CARVER PUBLIC WORKS STANDARDS AND SPECIFICATIONS.
- 6. THE CONTRACTOR SHALL VERIFY EXISTING GRADES IN THE FIELD AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE OWNER'S ENGINEER. THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES, AS REQUIRED. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK. THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE OWNER AND OWNER'S ENGINEER FOR RESOLUTION.
- 7. CONTRACTOR SHALL PROTECT ALL UNDERGROUND DRAINAGE, SEWER AND UTIUTY FACILITIES FROM EXCESSIVE VEHICULAR LOADS DURING CONSTRUCTION. ANY DAMAGE TO THESE FACILITIES RESULTING FROM CONSTRUCTION LOADS WILL BE RESTORED TO ORIGINAL CONDITION.
- EXCAVATION REQUIRED WTHIN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION AT NO COST TO THE OWNER.
- 9. ALL UTILITY COVERS, GRATES, ETC. TO REMAIN SHALL BE ADJUSTED TO BE FLUSH WITH THE FINISH GRADE UNLESS OTHERMSE NOTED. RIM ELEVATIONS FOR STRUCTURES AND MANHOLES ARE APPROXIMATE.
- 10. AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT, CURBS AND EARTHWORK SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES AND JOINTS.
- 11. ALL SEDIMENT IS TO BE KEPT OUT OF THE PROPOSED INFILTRATION AREAS, WHICH SHALL NOT BE USED UNTIL ALL CATCH BASINS AND OTHER DRAINAGE SYSTEM APPURTENANCES ARE INSTALLED AND FUNCTIONAL.
- 12. PITCH EVENLY BETWEN SPOT GRADES. GRADE ALL AREAS TO DRAIN.
- 13. CONTRACTOR SHALL SCHEDULE HIS WORK TO ALLOW THE FINISHED SUBGRADE ELEVATIONS TO DRAIN PROPERLY WITHOUT PUDDLING. SPECFICALLY, ALLOW WATER TO ESCAPE WHERE PROPOSED CURB MAY RETAIN RUNOFF PRIOR TO APPLICATION OF FINISH SUBGRADE. PROVIDE TEMPORARY POSITIVE DRAINAGE AS REQUIRED.
- 14. OTHER THAN THOSE SHOWN, THERE ARE NO SEPTIC SYSTEMS WITHIN 200' OF THE PROPOSED WELL.
- 15. OTHER THAN THOSE SHOWN, THERE ARE NO SUBSURFACE DRAINS WITHIN 100' OF THE PROPOSED SAS.
- 16. OTHER THAN THOSE SHOWN, THERE ARE NO WELLS WITHIN 200' OF THE PROPOSED SEPTIC SYSTEM.

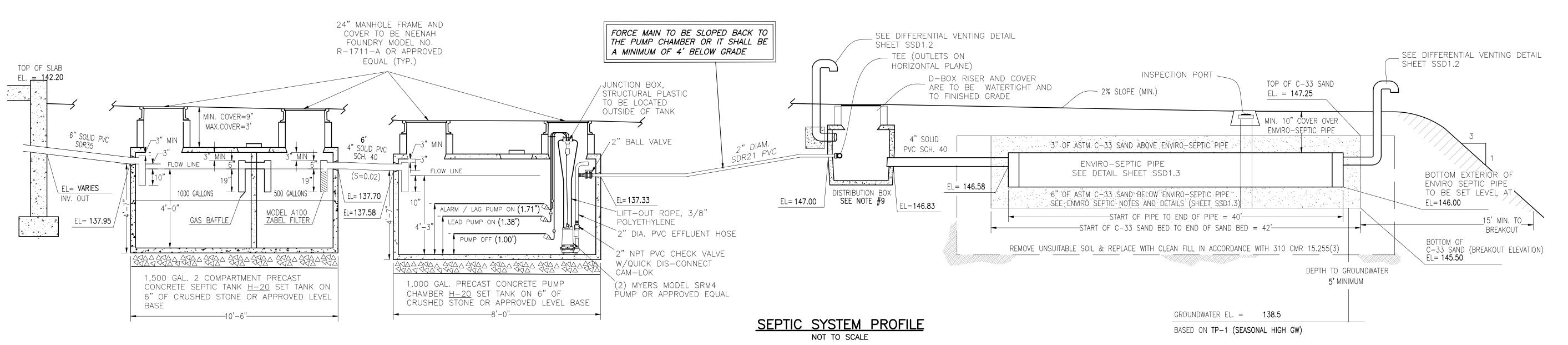












DESIGN DATA:

DESIGN FLOW:

REQUIRED FLOW FOR PROP. CRAFTSMAN/STORAGE SPACE
2 PERSONS UNIT X 5 UNITS X 15 GPD/PERSON = 150 GPD

REQUIRED FLOW FOR PROP. OFFICE SPACE $2,500 \times 75 \text{ GPD}/1000 \text{ SF} = 187.5 \text{ GPD} (200 \text{ GPD MIN})$

TOTAL REQUIRED MINIMUM FLOW = 150 + 200 = 350 GPD

<u>SEPTIC TANK:</u>

USE 2 COMPARTMENT TANK

COMPARTMENT 1 (48-HR RETENTION TIME)
350 GPD X 2 DAYS = 700 GALLON

COMPARTMENT 2 (24-HR X 1 DAY = 350 GALLON

USE 1,500 GAL. 2 COMPARTMENT TANK

(1000-GAL/500 GALLON)

SOIL ABSORPTION SYSTEM (ENVIRO-SEPTIC):

PERCOLATION RATE = <2 MIN./INCH (CLASS I SOIL)
USE STANDARD ENVIRO—SEPTIC PIPE IN BED CONFIGURATION

TASK 1: LINEAR FEET OF ENVIRO—SEPTIC PIPE REQUIRED

DESIGN LOADING RATE = 0.50 LF OF ENVIRO—SEPTIC PIPE/GPD

LINEAR FEET OF ENVIRO—SEPTIC PIPE REQ'D =

LINEAR FEET OF ENVIRO—SEPTIC PIPE REQ'D = (350 GPD) X (0.50 LF/GPD) = 175 LF

TASK 2: SLOPE OF PROPOSED SAS SAND BED TO HAVE NO SLOPE

TASK 3: MINIMUM CENTER TO CENTER SPACING
MINIMUM CENTER TO CENTER PIPE SPACING = 1.5'
DESIGN CENTER TO CENTER PIPE SPACING = 1.5'

TASK 4: LINE LAYOUT
USE BASIC SERIAL SYSTEM
LINEAR FEET OF ENVIRO—SEPTIC PIPE PROVIDED =
USE 40 LF (LINE LENGTH) X 6 (LINES) = 240 LF OF
ENVIRO—SEPTIC PIPE

240 LF x (100 GPD/50 LF) = 480 GPD < 500 GPD MAX.

TASK 5: TOTAL SYSTEM BED AREA AREA OF SAND BED = $(42' \text{ LONG} \times 10.5' \text{ WIDE}) = 441 \text{ SF}$ AREA OF TYPICAL AGGREGATE SYSTEM=(350 GPD)/(0.74 GPD/SF) = 473 SF MINIMUM AREA OF SAND BED REQUIRED= $(473 \text{ SF}) \times (0.60) = 284 \text{ SF}$ MINIMUM AREA OF SAND BED REQUIRED=400 SF (PROVIDED) 441 SF > 400 SF (MINIMUM REQUIRED)

FLOW PROVIDED:

DATE ENDORSED:

(240 L.F.) X (100 GPD / 50 L.F.) = 480 GPD(PROVIDED) 480 GPD > 350 GPD (MINIMUM REQUIRED)

TOWN OF CARVER PLANNING BOARD:

SITE PLAN APPROVAL

DATE APPROVED:

PUMP NOTES:

- AN AUDIBLE AND VISUAL ALARM SHALL BE PROVIDED. PUMPS TO BE ON SEPARATE CIRCUIT FROM ALARM.
 PUMPS AND APPURTENANCES TO BE INSTALLED AND LOCATED ACCORDING TO MANUFACTURES INSTRUCTIONS AND LOCAL BUILDING
- 3. PUMPS SHALL CONSIST OF A MYERS MODEL SRM4 SUBMERSIBLE PUMP (OR APPROVED EQUAL). PUMPS SHALL BE RATED AT 4/10 HP AND SHALL HAVE A 2" DISCHARGE. THE PUMPS SHALL OPERATE FROM A 115 VOLT, 11.5 AMP, SINGLE PHASE, 60 HERTZ POWER SUPPLY.
- PUMP CONTROL PANEL SHALL CONSIST OF MYERS CE DUPLEX SERIES ELECTRICAL CONTROL PANEL (OR APPROVED EQUAL).
 THE FORCE MAIN FROM THE PUMP CHAMBER TO THE D-BOX SHALL BE SLOPED BACK TOWARDS THE PUMP CHAMBER OR IT SHALL BE BURRIED AT LEAST 4' BELOW THE GROUND SURFACE.

SEPTIC CONSTRUCTION NOTES:

- 1. THE CONTRACTOR SHALL NOTIFY THE LOCAL BOARD OF HEALTH AND RIVER HAWK ENVIRONMENTAL, LLC., AT LEAST 48 HOURS PRIOR TO REQUIRED INSPECTIONS. THE REQUIRED INSPECTIONS ARE AS FOLLOWS:

 A. AFTER LEACH FIELD EXCAVATION PRIOR TO PLACEMENT OF SAND
 - B. AFTER PLACEMENT OF ENVIRO—SEPTIC IN SAND BED. PRIOR TO BACKFILL.
 C. PRIOR TO BACKFILL, THE CONTRACTOR IS TO PROVIDE A CURRENT SIEVE ANALYSIS SHOWING THAT THE SAND
 - MEETS PRESBY SPECIFICATIONS.

 D. DURING BACKFILLING IN ACCORDANCE WITH 310 CMR 15.021 (2).
- 2. BENCHMARK TO BE SET WITHIN 75' OF THE SAS BY RIVER HAWK ENVIRONMENTAL PRIOR TO CONSTRUCTION.

 3. HEAVY EQUIPMENT SHALL NOT BE ALLOWED TO OPERATE OVER THE LIMITS OF THE SAS DURING THE COURSE OF
- CONSTRUCTION OF THE SYSTEM.

 4. NO FIELD MODIFICATIONS TO THE SEWAGE SYSTEM SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE
- ENGINEER AND THE LOCAL BOARD OF HEALTH.

 5. UNLESS OTHERWISE NOTED ALL SYSTEM COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH TITLE V OF THE STATE ENVIRONMENTAL CODE AND ANY APPLICABLE LOCAL RULES.
- 6. SEPTIC TANKS, PUMP CHAMBER, AND DOSING CHAMBER **SHALL BE MANUFACTURED BY J&R PRECAST OR APPROVED**FOUAL AND SHALL WITHSTAND H-20 LOADING CRITERIA AS NOTED.
- EQUAL AND SHALL WITHSTAND $\frac{\dot{H}-20}{\dot{H}-20}$ LOADING CRITERIA AS NOTED.

 7. DOUBLE GASKETS AND GROUT TO BE USED AT ALL POINTS WHERE PIPES ENTER OR LEAVE ALL CONCRETE STRUCTURES IN ORDER TO PROVIDE A WATERTIGHT SEAL. MORTAR ALL INLET AND OUTLETS NOT USED ON ALL CONCRETE STRUCTURES.
- 8. THIS SYSTEM IS NOT DESIGNED TO ACCOMMODATE GARBAGE GRINDERS.
- 9 THE D-BOX OUTLET IS TO BE A MINIMUM OF 2" HIGHER THAN THE INLET OF THE ENVIRO-SEPTIC PIPE. A MINIMUM OF 2% SLOPE IS REQUIRED BETWEEN THE D-BOX AND THE ENVIRO-SEPTIC PIPE. FLOW EQUALIZERS SHALL BE USED ON ALL OUTLETS.

 10. INSTALLER SHALL BE TRAINED AND CERTIFIED BY PRESBY ENVIRONMENTAL INC.
- 11. THE DESIGNER, ROBERT S. REGO, HAS COMPLETED THE ENVIRO—SEPTIC CERTIFICATION COURSE (CERTIFICATE NO:
- 10235MAES).
 12. ALL PRECAST TANKS SHALL BE WATERTIGHT AS DEFINED IN ASTM C1227 98, STANDARD SPECIFICATION FOR PRECAST
- 12. ALL PRECAST TANKS SHALL BE WATERTIGHT AS DEFINED IN ASTM C1227 98, STANDARD SPECIFICATION FOR PRECAST CONCRETE SEPTIC TANKS, PARAGRAPH 9.2.
- 13. OTHER THAN THOSE SHOWN, THERE ARE NO KNOWN PUBLIC OR PRIVATE DRINKING WATER SUPPLY WELLS WITHIN 200' OF THE THE PROPOSED SOIL ABSORPTION SYSTEM.
- 14. IN ACCORDANCE WITH 310 CMR 15.221, ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC MARKING TAPE.
- 15. FINISH GRADE SHALL BE SLOPED AWAY FROM ALL MANHOLES IN ORDER TO PRECLUDE SURFACE INFILTRATION.

 16. THE PROPOSED SEPTIC SYSTEM IS NOT LOCATED IN A ZONE II (WELL HEAD PROTECTION AREA).
- 17. <u>LOCATION OF UTILITIES ARE CONSIDERED APPROXIMATE ONLY</u>. THE CONTRACTOR SHALL VERIFY THE ACTUAL LOCATION AND INVERTS OF UTILITIES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION.
- 18. THE CONTRACTOR IS RESPONSIBLE UNDER MASSACHUSETTS STATE LAW TO NOTIFY <u>DIGSAFE (800.322.4844)</u> TO

LOCATE UTILITIES IN THE PROJECT AREA 72 HOURS PRIOR TO THE START OF EXCAVATION.

- 19. AN OUTLET TEE FILTER SHALL BE INSTALLED IN THE SEPTIC TANK. THE OUTLET TEE FILTER (ZABEL OR APPROVED EQUAL) SHALL BE INSPECTED AND CLEANED ANNUALLY.
- 20. SYSTEM TO BE INSTALLED IN ACCORDANCE WITH PRODUCT DESIGN AND INSTALLATION MANUAL, STATE AND LOCAL REGULATIONS
- 21. DO NOT INSTALL SYSTEM ON FROZEN GROUND OR LEAVE SYSTEM UNCOVERED FOR EXTENDED PERIODS OF TIME.
 22. THE SAND SURROUNDING THE ENVIRO SEPTIC PIPE SHALL MEET ASTM C-33, AS LONG AS 2% OR LESS OF THE SAND PASSES THROUGH A #200 SIEVE.

DOSE CALCULATION:

DESIGN DOSE = 350 GPD / 4 DOSE/DAY = 87.5 GALLONS

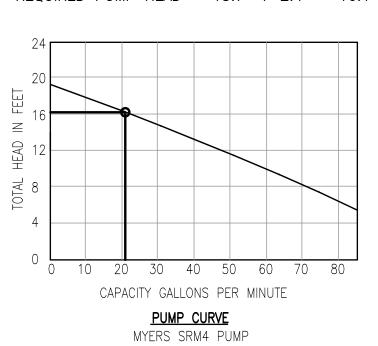
DRAIN BACK VOLUME = 33.3 GALLONS/DOSE

TOTAL DOSE = 87.5 + 33.3 = 120.8 GALLONS

PUMP DESIGN:

REQUIRED HEAD = FRICTION LOSS ± ALTITUDE CHANGE ±
STATIC PRESSURE CHANGE

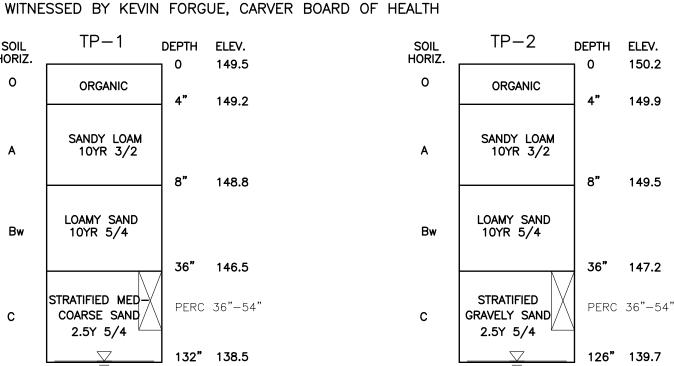
ALTITUDE CHANGE = 147.00' - 133.33' = 13.7'
FRICTION LOSS = 2.4'
STATIC PRESSURE CHANGE = 0
REQUIRED PUMP HEAD = 13.7' + 2.4' = 16.1'



SOIL DATA:

DATE PERFORMED: JANUARY 12, 2022

SOIL TESTING AND PERCOLATION TEST PERFORMED BY RICHARD GRADY, P.E., GRADY CONSULTING, LLC



WEEPING - NONE OBSERVED

MOTTLING - NONE OBSERVED

STANDING WATER - NONE OBSERVED

SEASONAL HIGH GROUNDWATER ELEV. - >138.5

PERC RATE - < 2 MIN/INCH

SMALL LENSE © 56" TO 60", REMOVE AND REPLACE TO 60"

WEEPING - NONE OBSERVED

MOTTLING - NONE OBSERVED

STANDING WATER - NONE OBSERVED

SEASONAL HIGH GROUNDWATER ELEV. - >139.7

PERC RATE - < 2 MIN/INCH

LLC

COMMERCIAL DEVELOPMENT

0 FOREST STREET

MAP 49, BLOCK 62, LOT 7-R,

CARVER, MA

SEPTIC SYSTEM DETAILS - 1

SSD1.

