# **ABBREVIATIONS**

**PVMT** 

PWW

RCP

REM

RET

ROW

R&R

R&S

SB

SB/DH

SGE

SMH

STA

STL

SW

TCB

TMH

TSV

TYP

VCP

**VERT** 

VGC

TRANS

REMOD

PAVEMENT

REMOVE

REMODEL

RETAIN

SEWER

STATION

SIDEWALK

TELEPHONE

STEEL

RAILROAD

RIGHT OF WAY

STONE BOUND

SEWER MANHOLE

SEWER SERVICE

TRAFFIC LIGHT

TRANSFORMER

TOP OF SLOPE

UTILITY POLE

WATER MAIN

WATER GATE

VERTICAL

PAVED WATER WAY

REMOVE AND RESET

REMOVE AND STACK

STONE BOUND/DRILL HOLE

SLOPED GRANITE EDGING

TRAFFIC CONTROL BOX

TELEPHONE MANHOLE

VITRIFIED CLAY PIPE

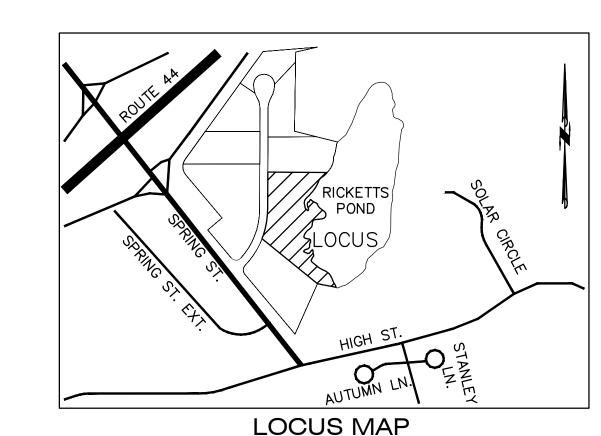
VERTICAL GRANITE CURB

TAPPING SLEEVE, VALVE AND BOX

REINFORCED CONCRETE PIPE

# **LEGEND**

		Existing	Proposed	Description
ABAN ACP	ABANDONED ASBESTOS CEMENT PIPE	J	•	·
ACR	ACCESSIBLE CURB RAMP	× 100.50	+100.50	SPOT ELEVATIONS
ADJ APPROX	ADJUST APPROXIMATE	100.50	100.50	TOP & BOTTOM ELEVATIONS
ASPH	ASPHALT	100.00	100.00	
ACCMP B BD	ASPHALT COATED CORRUGATED METAL PIPE BOLLARD BOUND	100.50 x	100.50 x	SPOT ELEVATIONS WITH LEADER
BLDG	BUILDING	⊢ <b>⊙</b> ⊣	ю	HYDRANT
BIT CONC BM	BITUMINOUS CONCRETE BENCHMARK	$\bowtie$	×	WATER GATE VALVE
BS CAP	BOTTOM OF SLOPE CORRUGATED ALUMINUM PIPE		<b>(W)</b>	WELL
CB	CATCH BASIN	©	©	GAS GATE
C&C CB/DH	CUT AND CAPPED CONC. BOUND/DRILL HOLE			
CB/EPLP	CB/ESCUTCHEON	E	E	ELECTRIC HANDHOLE
CCB CIP	CAPE COD BERM CAST IRON PIPE	*	<b>\(\daggerapsis</b> \)	LIGHT POLE
CIT	CHANGE IN TYPE		ø	UTILITY POLE
© CLF	CENTERLINE CHAIN LINK FENCE		•	GUY POLE
CO CONC	CLEAN OUT	D	D	GUY ANCHOR
COND	CONCRETE CONDUIT	(D)	<b>(D)</b>	DRAIN MANHOLE
CMP CPP	CORRUGATED METAL PIPE CORRUGATED POLYETHYLENE PIPE	<u>(S)</u>	<u>S</u>	SEWER MANHOLE
CS	COMBINED SEWER			
CSMH CULV	COMBINED SEWER MANHOLE CULVERT			CATCH BASIN
$\Delta$	DELTA ANGLE			DOUBLE CATCH BASIN
D DCB	DRAIN DOUBLE CATCH BASIN	-	-	TEST PIT
DIP DMH	DUCTILE IRON PIPE DRAIN MANHOLE	•	<del>•</del>	BORING
Ε	ELECTRIC	0	<del>-0-</del>	SIGN SINGLE POST
ECC ELEV	EXTRUDED CONCRETE CURB ELEVATION			GRANITE OR CONCRETE BOUND
EMH	ELECTRIC MANHOLE		•	WETLAND FLAG
E/T/C EW	ELECTRIC, TELEPHONE, & CABLE TV END WALL	7////////		
EXIST FAB	EXISTING FIRE ALARM BOX	4,,,,,		EXISTING BUILDING
FES	FLARED END SECTION			
FND. FND	FOUND FOUNDATION			PROPOSED BUILDING
F&C F&G	FRAME AND COVER FRAME AND GRATE			MAJOR CONTOUR
G	GAS			
GD GG	GROUND GAS GATE			MINOR CONTOUR
GIP	GALVANIZED IRON PIPE	X	X	CHAINLINK FENCE
GP GS	GUARD POST GAS SERVICE	CTV —	CTV	CABLE TV LINE
GR GRAN.	GUARD RAIL – GRANITE	E/T/C	E/T/C	ELECTRIC, TELEPHONE, CABLE TV DUCTBANK
HDPE	HIGH-DENSITY POLYETHYLENE PIPE	UGE	UGE	UNDERGROUND ELECTRIC
HH HOR	HANDHOLE HORIZONTAL	OHE	OHE	OVERHEAD ELECTRIC
HP	HIGH PRESSURE	——— GAS ———	——— GAS ———	NATURAL GAS LINE
HWL HYD	HEADWALL HYDRANT _	s	s	SANITARY SEWER MAIN
INV I.P.	INVERT IRON PIN -		p	DRAIN PIPE
I.R.	IRON ROD	D	D	
L LSA	LEAD – LANDSCAPED AREA	Τ	Т ———	TELEPHONE LINE
LP MAX	LIGHT POLE MAXIMUM	W		WATER MAIN
MC	METAL COVER		——— FP ———	FIRE PROTECTION LINE
MCC MH	MONOLITHIC CONCRETE CURB MANHOLE			RETAINING WALL
MHB	MASS. HIGHWAY BOUND		~~~~~	TREELINE
MIN MLP	MINIMUM METAL LIGHT POLE		•••••••	HAYBALE & SILT FENCE
NIC NTS	NOT IN CONTRACT NOT TO SCALE			LIMIT BORDERING VEGETATED
OHW	OVERHEAD WIRE	· — · — · —		WETLAND RESOURCE(1)
PB PE	PULL BOX POLYETHYLENE PIPE			100' WETLAND BUFFER ZONE
Р	PROPERTY LINE			
PROP PVC	PROPOSED POLYVINYL CHLORIDE PIPE			
D\/MT	DAVEMENT			



NOT TO SCALE

**GENERAL NOTES** CARVER: ASSESSOR'S MAP 32, LOT 1-3 LOCUS OWNER: RPBP, LLC

3 MARION DRIVE

CARVER. MASSACHUSETTS 02330 DEED BOOK REFERENCE: PLYMOUTH COUNTY REGISTRY OF DEEDS

BOOK 50438, PAGE 270 BOOK 51637, PAGE 211 PLAN BOOK 63, PAGE 848

- 2. LOCUS IS SHOWN ON THE TOWN OF CARVER'S ASSESSOR'S MAP 32 AS LOT 1-3, TOTAL  $AREA = 170,206 \pm S.F. (3.91 AC)$
- 3. LOCUS IS LOCATED WITHIN THE TOWN OF CARVER'S WATER RESOURCE PROTECTION 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL
- CONTROL POINTS AND BENCHMARKS NECESSARY FOR THE WORK. 5. THE CONTRACTOR SHALL PROVIDE INLET PROTECTION, SUCH AS SILT SACKS, AT ALL CATCH BASINS TO PREVENT SEDIMENT FROM ENTERING THE STORMWATER INFILTRATION BASINS. INLET PROTECTION WILL ALLOW THE STORM DRAIN INLETS TO BE
- USED BEFORE FINAL STABILIZATION. 6. ALL EXISTING CONDITIONS INFORMATION, INCLUDING PERIMETER AND TOPOGRAPHIC INFORMATION WAS PREPARED FROM AN ON THE GROUND FIELD SURVEY PERFORMED BY MCKENZIE ENGINEERING GROUP, INC. IN FEBRUARY OF 2018.
- 7. BORDERING VEGETATED WETLANDS DELINEATED BY ENVIRONMENTAL CONSULTING & RESTORATION, LLC. ON FEBRUARY 6, 2018. DELINEATED BY METHODOLOGY ESTABLISHED BY THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION (MASS DEP) REGULATIONS FOUND AT 310 CMR 10.55. AN ORAD APPROVING THE LIMIT OF BORDERING VEGETATED WETLAND WAS ISSUED BY THE TOWN OF CARVER CONSERVATION COMMISSION ON JULY 9, 2018 (DEP FILE NO. SE 126-0566).
- 8. THE PROPERTY SHOWN HEREON IS LOCATED IN THE TOWN OF CARVER SPRING STREET INNOVATION ZONING DISTRICT PER ZONING MAP DATED 2016.
- 9. UTILITY INFORMATION FROM ABOVE GROUND OBSERVED EVIDENCE IN CONJUNCTION WITH DIG SAFE MARKINGS AND RECORD PLANS. THE LAND SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN HEREON COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE LAND SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM AVAILABLE INFORMATION AND CONSTRUCTION AS THE LAND SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. BEFORE CONSTRUCTION CALL DIG SAFE SYSTEMS, INC. AT 1-888-344-7233.
- 10. ANY CHANGE IN THE FIELD CONDITIONS SHALL BE REPORTED TO THE ENGINEER TO ENSURE THAT ANY MODIFICATIONS TO THE ORIGINAL DESIGN ARE PROPER AND ADEQUATE TO SERVE
- THE PROJECT'S NEEDS, AND COMPLY WITH THE APPLICABLE STANDARDS AND REGULATION. 11. LOCALS FALLS WITHIN ZONE X AS SHOWN ON F.I.R.M. PANEL NO: 25023C0334K DATED JULY 6, 2021.
- 12. ALL ELEVATIONS SHOWN REFER TO NAVD 1988 DATUM.
- 13. NO MUNICIPAL WATER SERVICE IS LOCATED ON SPRING STREET. THE PROPOSED BUILDINGS WILL USE PRIVATE WELLS THAT WILL BE APPROVED AND INSTALLED PER THE TOWN OF CARVER BOARD OF HEALTH REGULATIONS.
- 14. SEE PLANS ENTITLED "DEFINITIVE SUBDIVISION PLANS, RICKETTS POND BUSINESS PARK, SPRING STREET, CARVER, MASSACHUSETTS" PREPARED BY MEG DATED JANUARY 10, 2019 AND REVISED APRIL 2, 2019 FOR EXISTING AND PROPOSED SITE CONDITIONS FOR THE ADJACENT SUBDIVISION.

# GENERAL UTILITY NOTES

- 1. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THIS INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR COMPLETE. THE LOCATION OF ALL UNDERGROUND UTILITIES AND STRUCTURES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANY, ANY GOVERNING PERMITTING AUTHORITY, AND "DIGSAFE" AT LEAST 72 HOURS PRIOR TO ANY EXCAVATION WORK TO REQUEST EXACT FIELD LOCATION OF UTILITIES AND THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION SHALL BE TAKEN BEFORE PROCEEDING WITH THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE
- 2. THE CONTRACTOR SHALL COORDINATE ALL STREET WORK WITH THE CARVER DPW. ALL WATER SERVICES SHALL BE INSTALLED WITH 5' OF COVER EXCEPT AS NOTED OR
- DETAILED OTHERWISE. 4. ALL POTABLE WELL WATER SERVICE APPURTENANCES, MATERIALS, METHODS OF INSTALLATION SHALL MEET OR EXCEED ALL LOCAL MUNICIPAL REQUIREMENTS.
- 5. AFTER PRESSURE TESTING AND CHLORINATION IS COMPLETED, SAMPLES SHALL BE TAKEN FROM THE WATER SERVICE AND SHALL BE TESTED AT 200 PSI FOR A MINIMUM OF 2 HOURS. THE CONTRACTOR IS REQUIRED TO NOTIFY THE CARVER DEPARTMENT OF PUBLIC WORKS AT LEAST 24 HOURS PRIOR TO THE TESTING.
- 6. THE LOCATIONS OF PROPOSED ELECTRIC, TELEPHONE AND COMMUNICATION (E.T.C.) SERVICES ARE APPROXIMATE. THE PROJECT ELECTRICAL ENGINEER SHALL VERIFY THESE LOCATIONS PRIOR TO THE START OF CONSTRUCTION. COORDINATE ALL E.T.C. WORK WITH THE APPROPRIATE UTILITY COMPANIES.
- 7. ALL CONSTRUCTION WORK SHALL BE PERFORMED IN ACCORDANCE WITH CARVER DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS.

# WAIVERS REQUESTED FROM THE TOWN OF CARVER ZONING BY-LAW EFFECTIVE APRIL 2020 1. SEC 3341 PARKING LOT DESIGN:

REQUIRED: "TO THE EXTENT FEASIBLE, REQUIRED PARKING AREAS SHALL NOT BE LOCATED FORWARD OF ANY BUILDING FRONT LINE ON THE LOT. NOTWITHSTANDING THE ABOVE, ANY DISTRICT EXCEPT FOR RA, V AND PTCD, THE PLANNING BOARD MAY GRANT PERMISSION IN THE COURSE OF SITE PLAN REVIEW TO LOCATE NOT MORE THAN EIGHT (8) PARKING SPACES IN FRONT OF THE

PROVIDED: 24 PARKING SPACES ARE PROVIDED IN FRONT OF THE TWO PRINCIPAL BUILDINGS.

# 2. SEC 3345 PARKING LOT DESIGN:

REQUIRED: "FOR PARKING AREAS OF FIFTEEN (15) OR MORE SPACES, BICYCLE RACKS FACILITATING LOCKING SHALL BE PROVIDED TO ACCOMMODATE ONE BICYCLE PER FIVE (5) PARKING SPACES...." PROVIDED: BICYCLE PARKING SPACES ARE NOT PROVIDED BY THIS SUBMISSION.

# 3. SEC 3130.G. SUBMITTAL REQUIREMENTS:

REQUIRED: "EXISTING TREES 10" CALIPER OR BETTER AND EXISTING TREE/SHRUB MASSES; PROPOSED PLANTING, LANDSCAPING AND SCREENING;" PROVIDED: DUE TO THE SIZE OF THE PROPOSED DEVELOPMENT, SPECIFIC LOCATIONS OF EXISTING

TREES 10" CALIPER OR GREATER ARE NOT INCLUDED. OUR SUBMISSION WILL SHOW THE EXISTING TREELINE AS SURVEYED BY MCKENZIE ENGINEERING GROUP, INC.

# 4. SEC 3242 PARKING LOT PERIMETER LANDSCAPING:

REQUIRED: BUFFER STRIP OF 24 FT. LOCATED ALONG THE PERIMETER OF AT LEAST THREE SIDES OF THE PARKING AREA. PROVIDED: A LANDSCAPE BUFFER OF APPROXIMATELY 7 FT. IS PROVIDED RICKETTS POND DRIVE. A LANDSCAPED BUFFER OF APPROXIMATELY 7 FT. IS PROVIDED ALONG THE SIDES OF EACH PARKING AREA FOR THE PROPOSED PRINCIPAL BUILDINGS. A LANDSCAPED BUFFER OF APPROXIMATELY 7 FT. IS PROVIDED ADJACENT TO NORTH (SIDE) PROPERTY LINE, A LANDCAPED BUFFER OF APPROXIMATELY 45 FT. IS PROVIDED ADJACENT TO THE SOUTH (SIDE) PROPERTY LINE, AND A 65 FT. LANDSCAPED BUFFER IS PROVIDED TO THE REAR PROPERTY LINE. THE SITE IS LOCATED WITHIN THE SPRING STREET INNOVATION ZONING DISTRICT, SPRING STREET RIGHT-OF-WAY IS LOCATED IN THE ROUTE 44 ZONING DISTRICT ADJACENT TO THE SUBDIVISION. THE SITE WILL NOT BE VISIBLE BY ANY RESIDENTIAL USES. THE 38' WIDE LOADING AREA BEHIND THE FRONT PRINCIPAL BUILDING HAS BEEN SIZED DUE TO THE REQUIRED MINIMUM TURNING RADIUS OF A BOX TRUCK ACCESSING THE LOADING DOCK AND LEAVING THE SITE. 24 FT. WIDE DRIVING AISLES ASSOCIATED WITH THE SITE ARE BASED ON THE MINIMUM REQUIRED WIDTH FOR TWO-WAY TRAFFIC. BASED ON THE TECHNICAL JUSTIFICATION ABOVE WE BELIEVE ADEQUATE PARKING LOT PERIMETER LANDSCAPING HAS BEEN PROVIDED.

Drawing Index: **Drawing Title** G-1 LEGEND, ABBREVIATIONS & GENERAL NOTES **EXISTING CONDITIONS PLAN** C-1 SITE LAYOUT PLAN GRADING AND DRAINAGE PLAN UTILITY PLAN **BUILDING ELEVATIONS** E-1

**EROSION AND SEDIMENT CONTROL PLAN** 

LANDSCAPING PLAN

LA-1

SIA

MCKENZIE ENGINEERING GROUP Assinippi Office Park 150 Longwater Drive, Suite 101 Norwell, MA 02061 P: 781.792.3900 F: 781.792.0333 www.mckeng.com

# , щ́ Э

PROFESSIONAL ENGINEER:

<u>S</u>

ESTONE
OPMENT
(1384
TH, MASSACH

APPLICANT:
BRIDGE
DEVELC
P.O. BOX 1
PLYMOUTH DRAWN BY: DESIGNED BY: CHECKED BY: BCM APPROVED BY: MARCH 21, 2022 1"=100

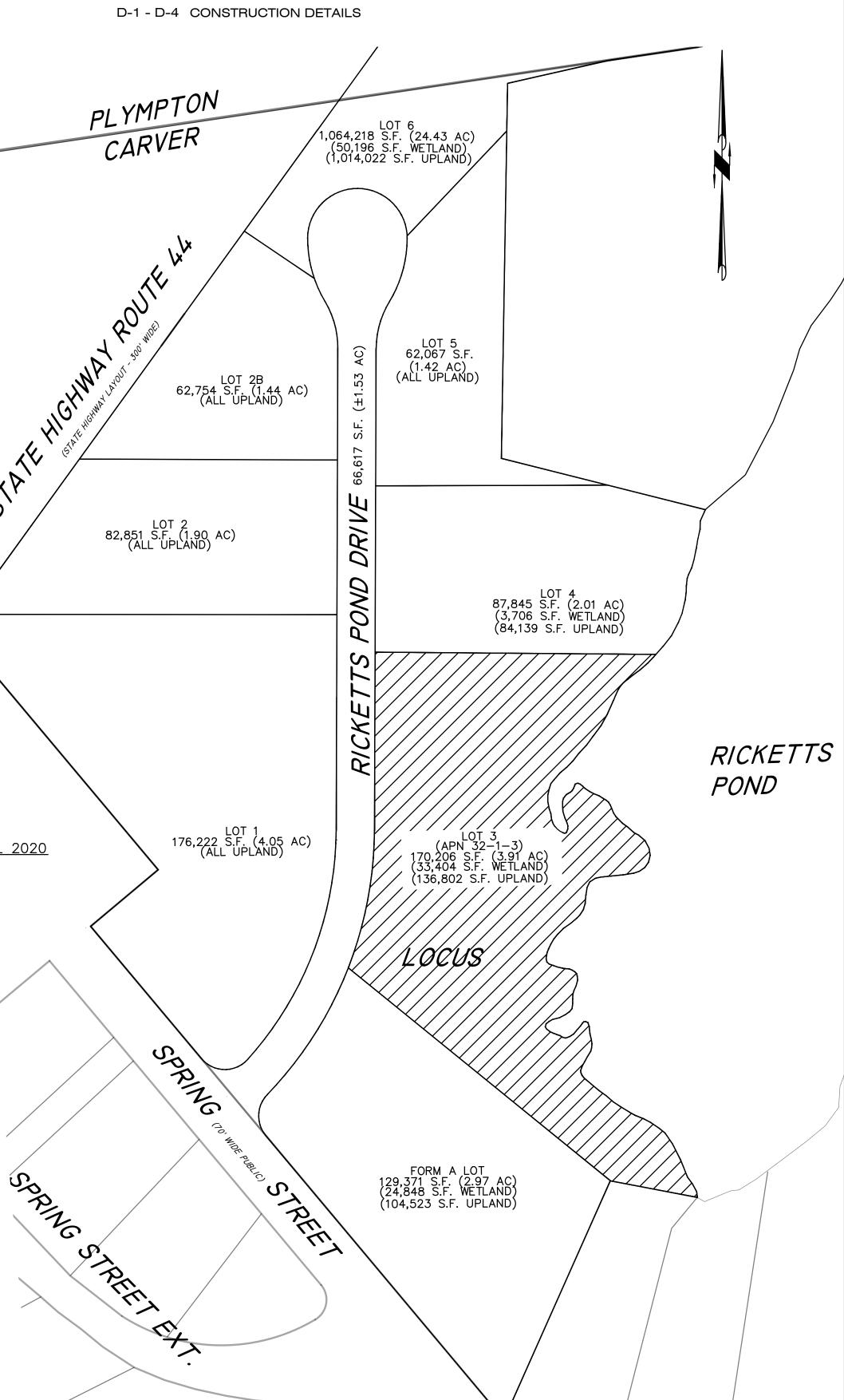
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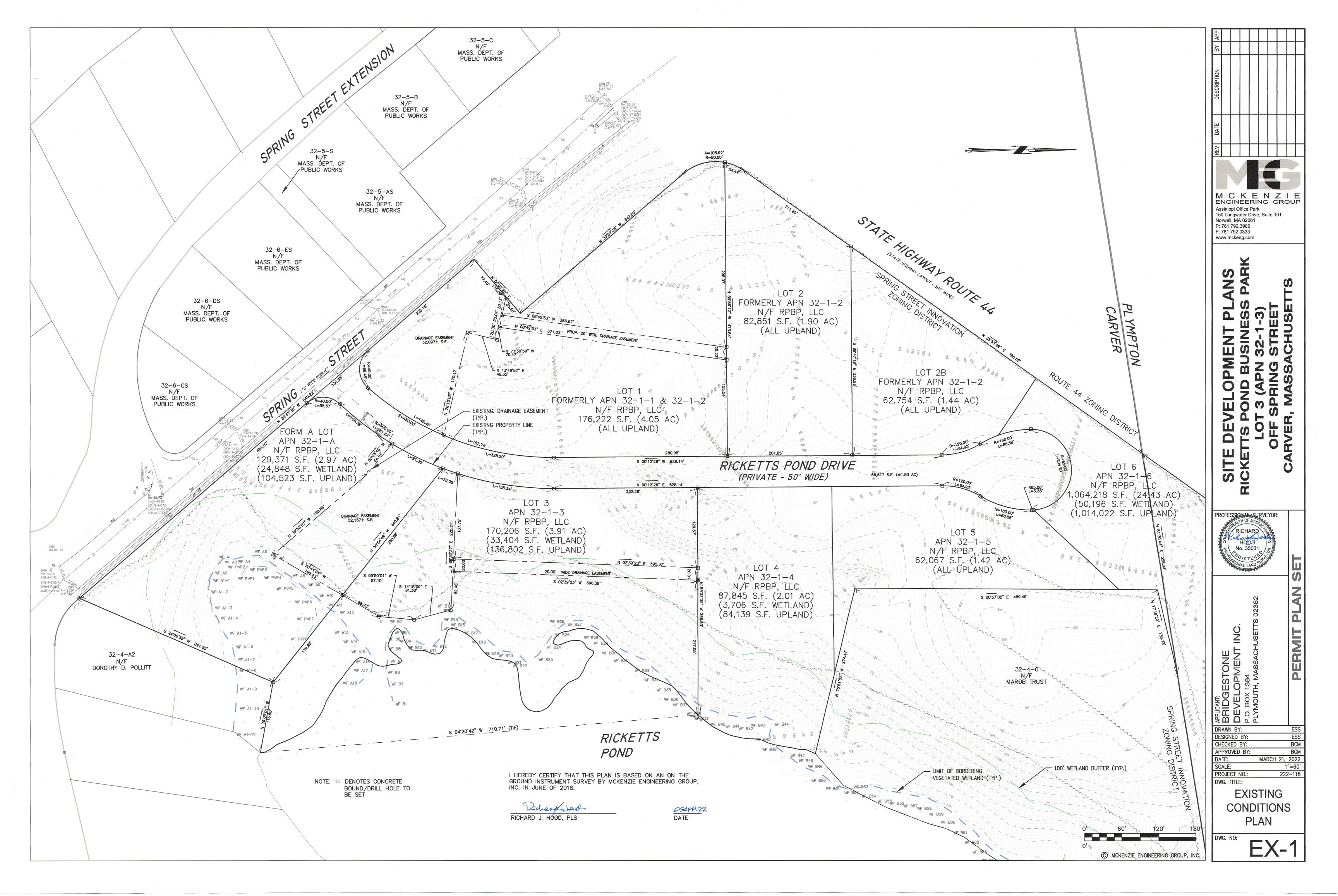
**ABBREVIATIONS & GENERAL NOTES** 

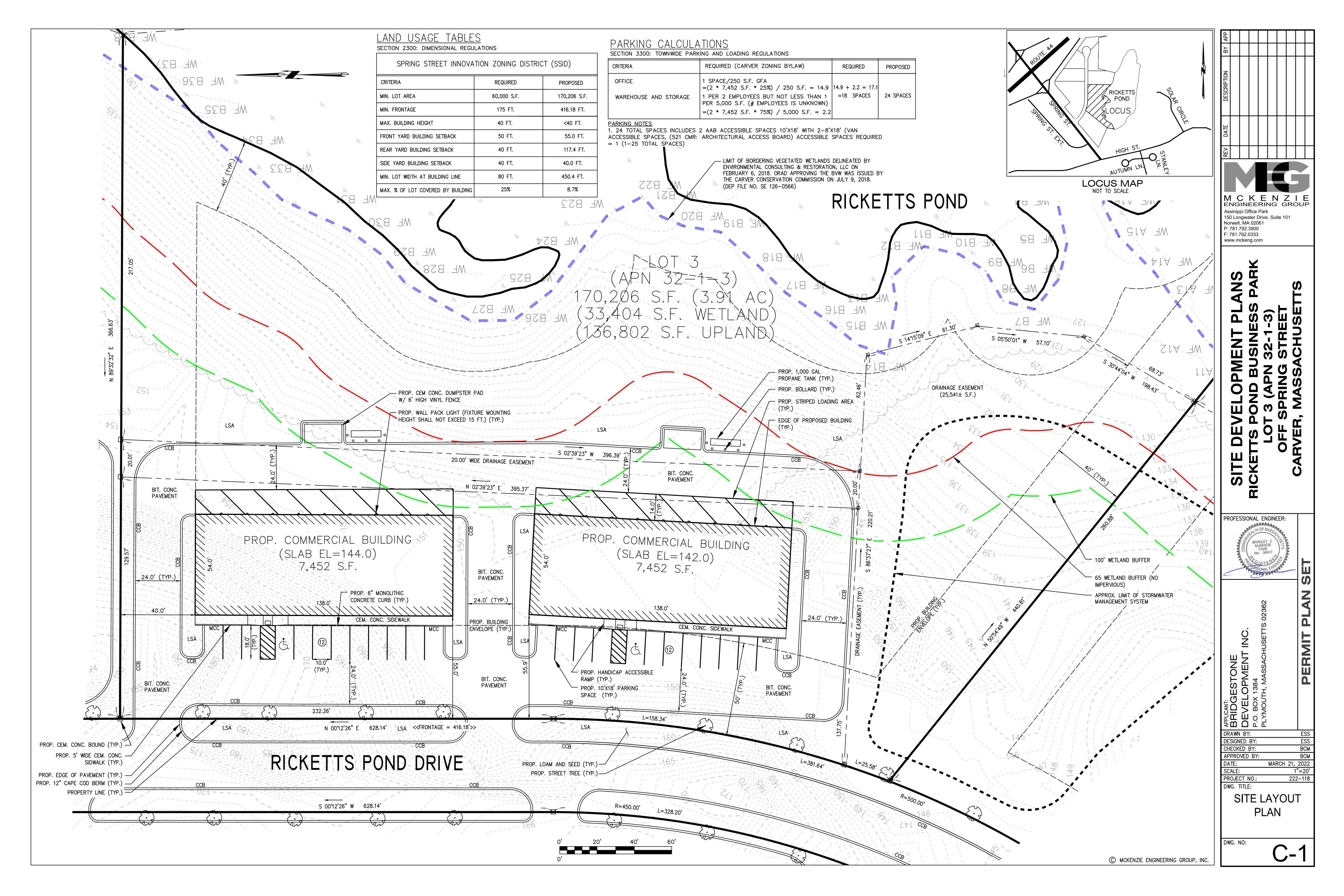
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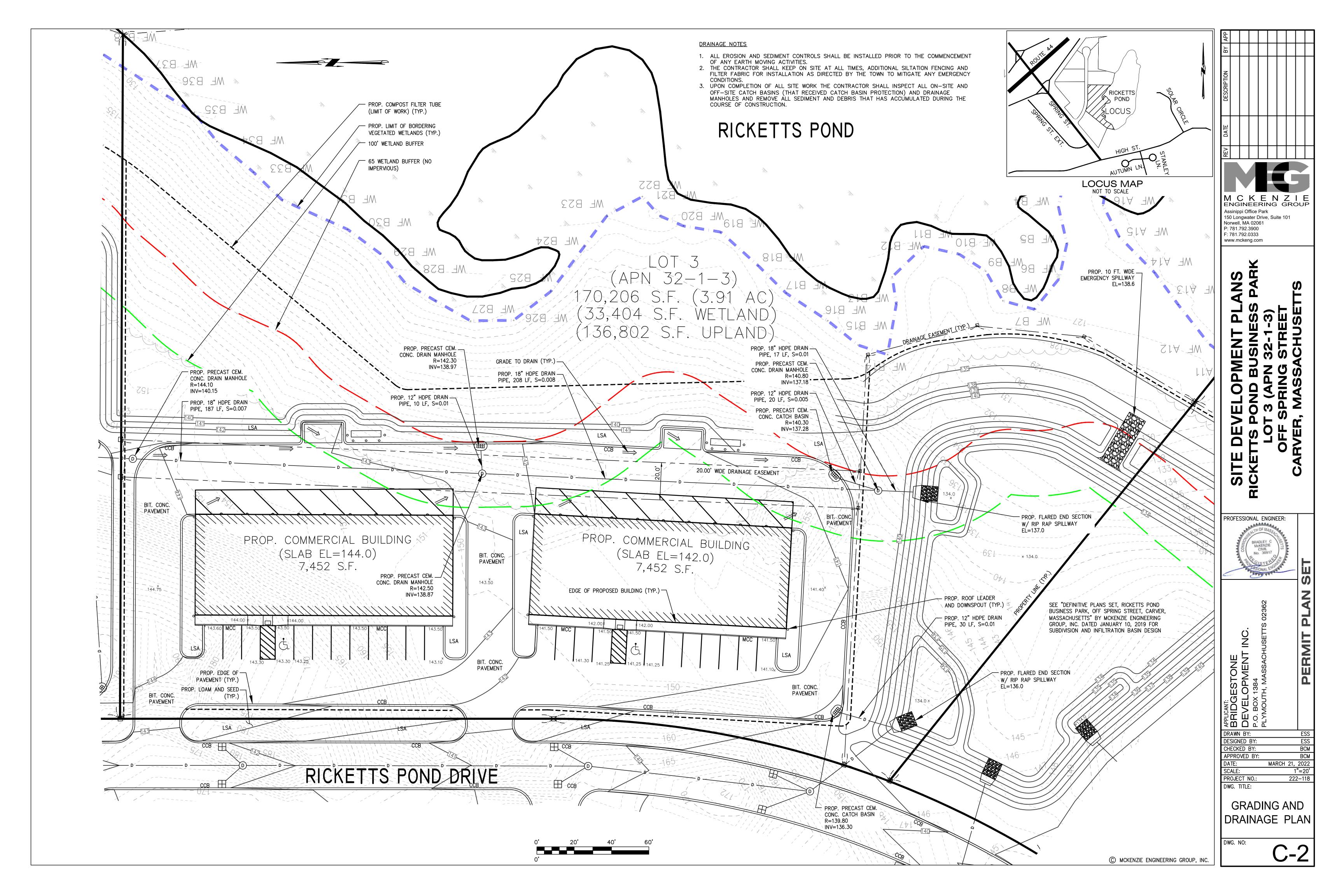
© MCKENZIE ENGINEERING GROUP, INC

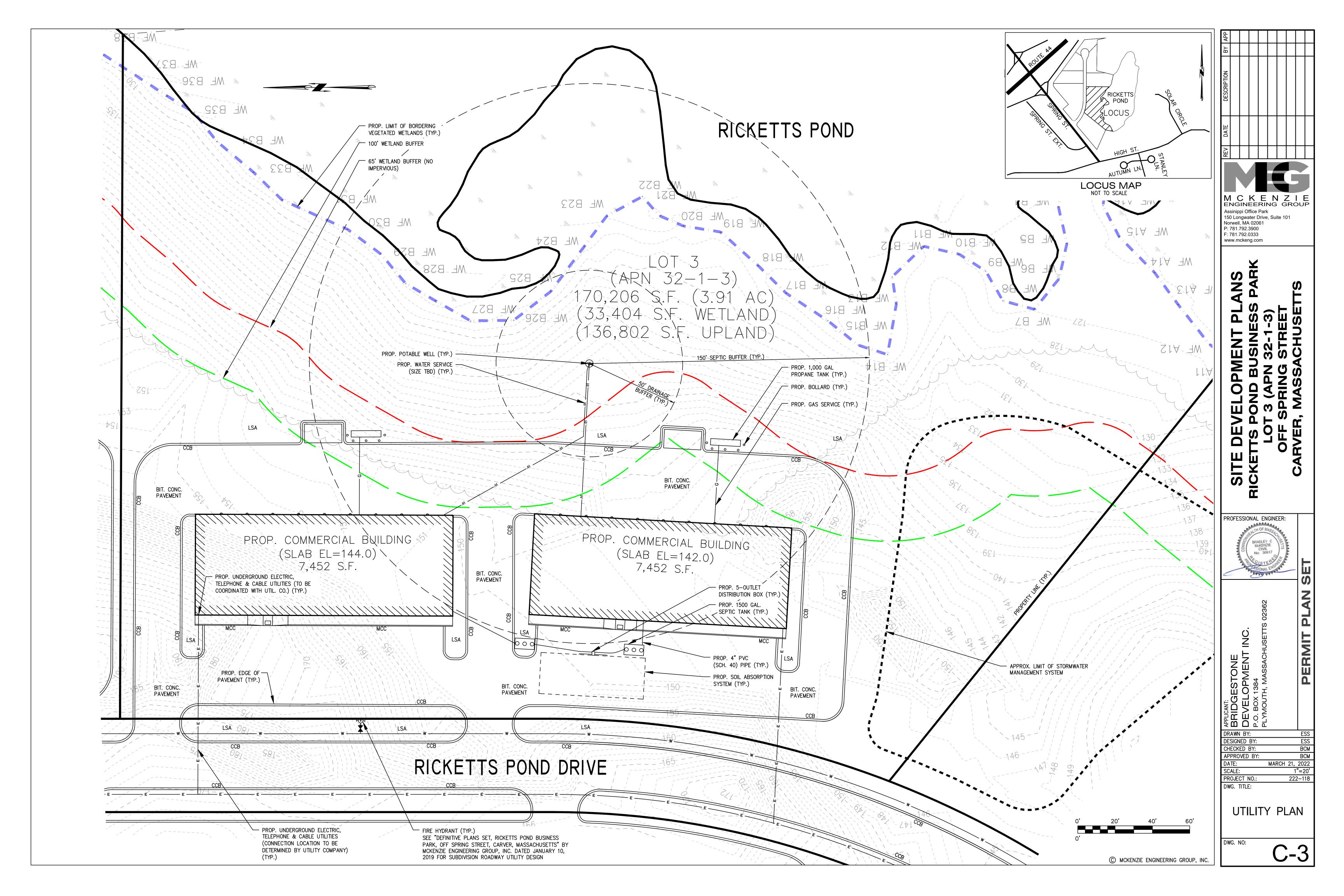
**G**-













FRONT ELEVATION

NOT TO SCALE



FRONT ELEVATION

NOT TO SCALE

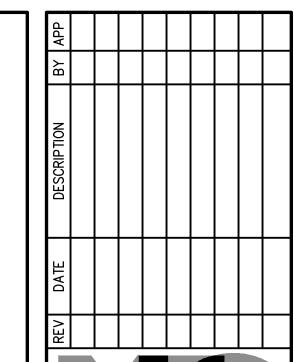


SIDE ELEVATION NOT TO SCALE



REAR ELEVATION

NOT TO SCALE



Assinippi Office Park
150 Longwater Drive, Suite 101
Norwell, MA 02061
P: 781.792.3900
F: 781.792.0333
www.mckeng.com

S E

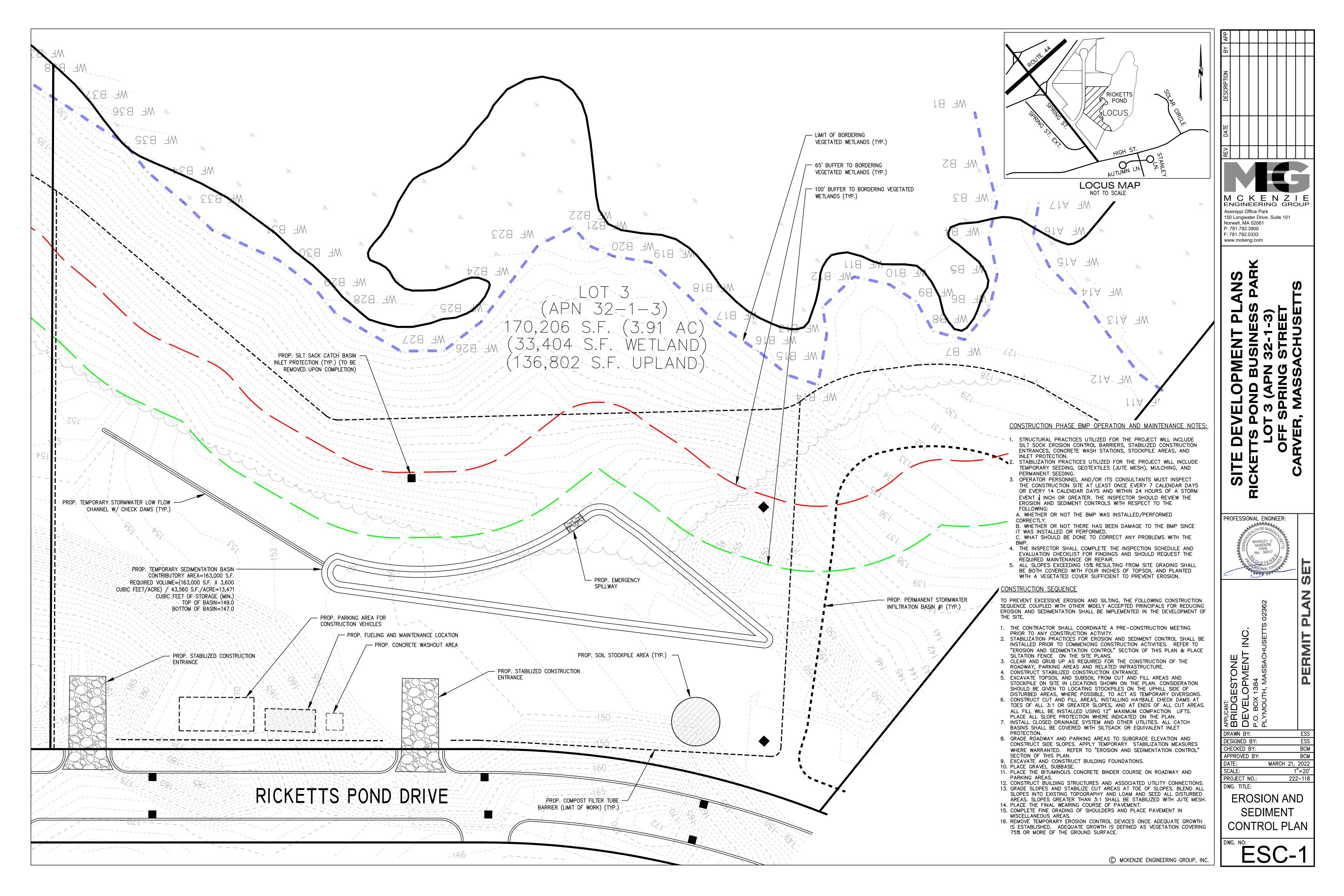
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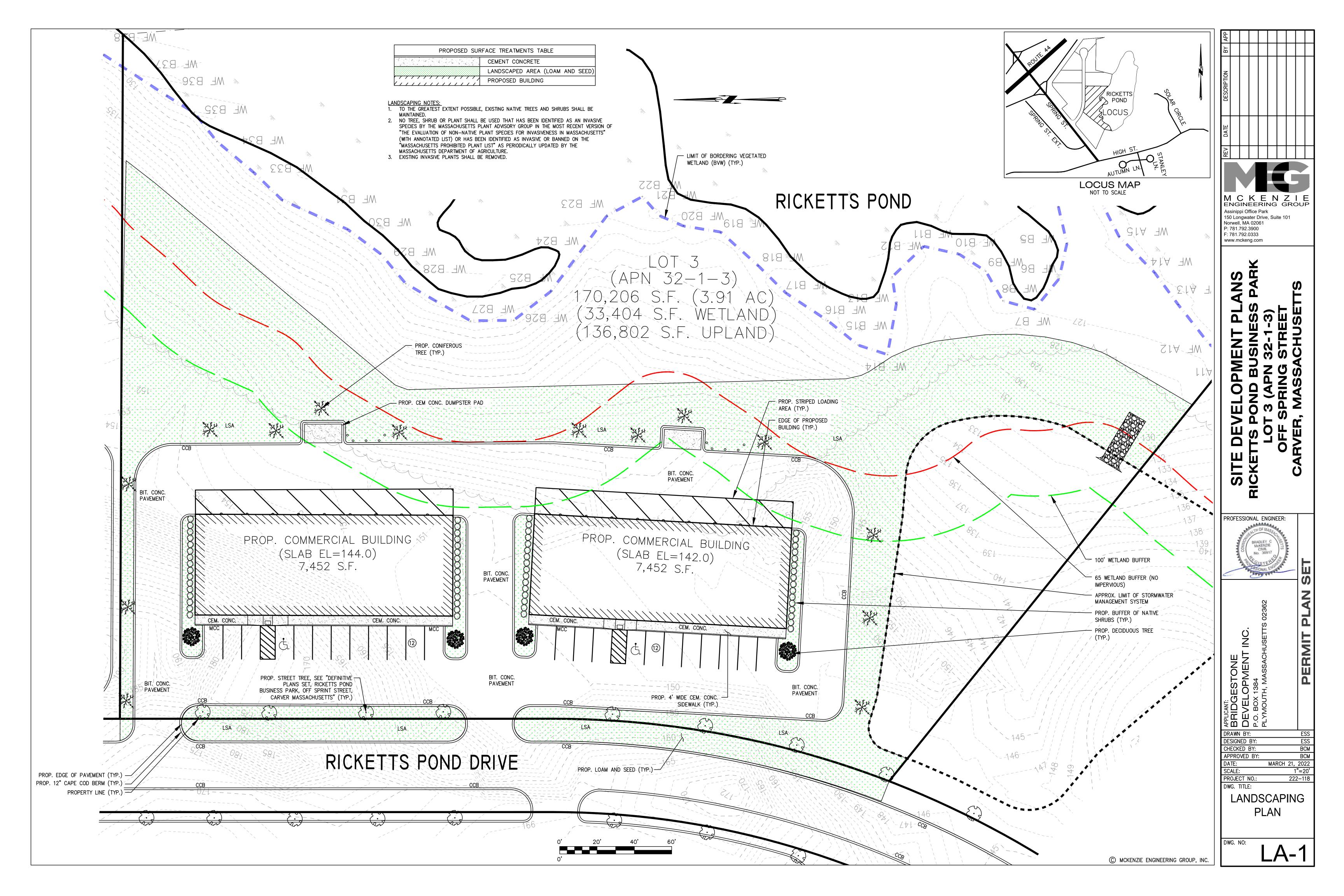
DRAWN BY:
DESIGNED BY:
CHECKED BY:
APPROVED BY:
DATE:
SCALE:
PROJECT NO.:
DWG. TITLE: ESS BCM BCM MARCH 21, 2022

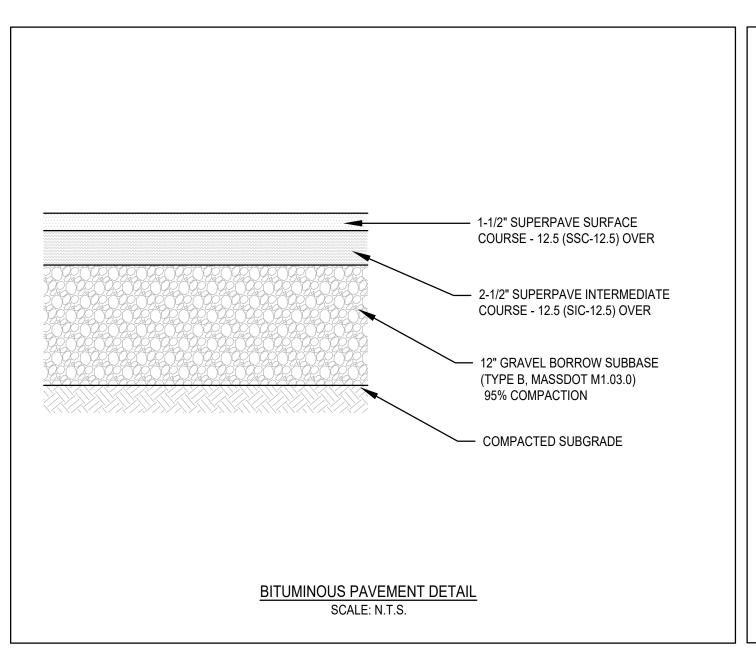
BUILDING **ELEVATIONS** 

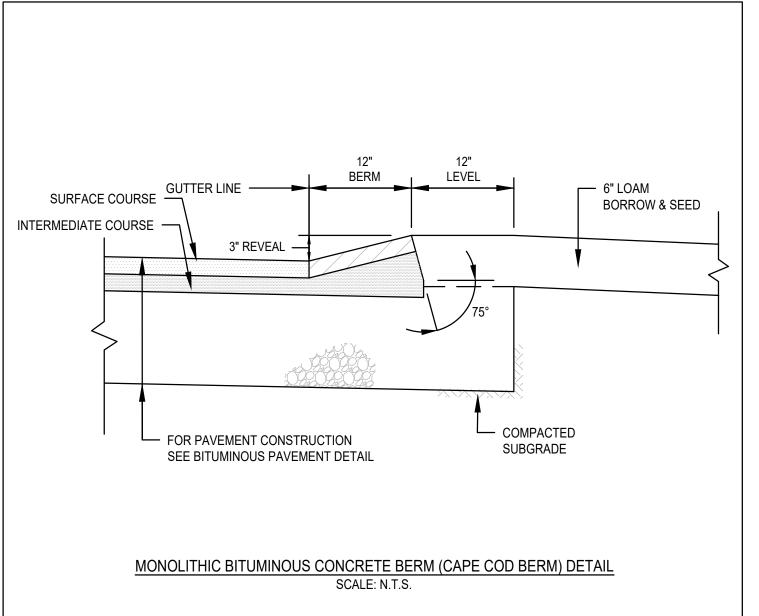
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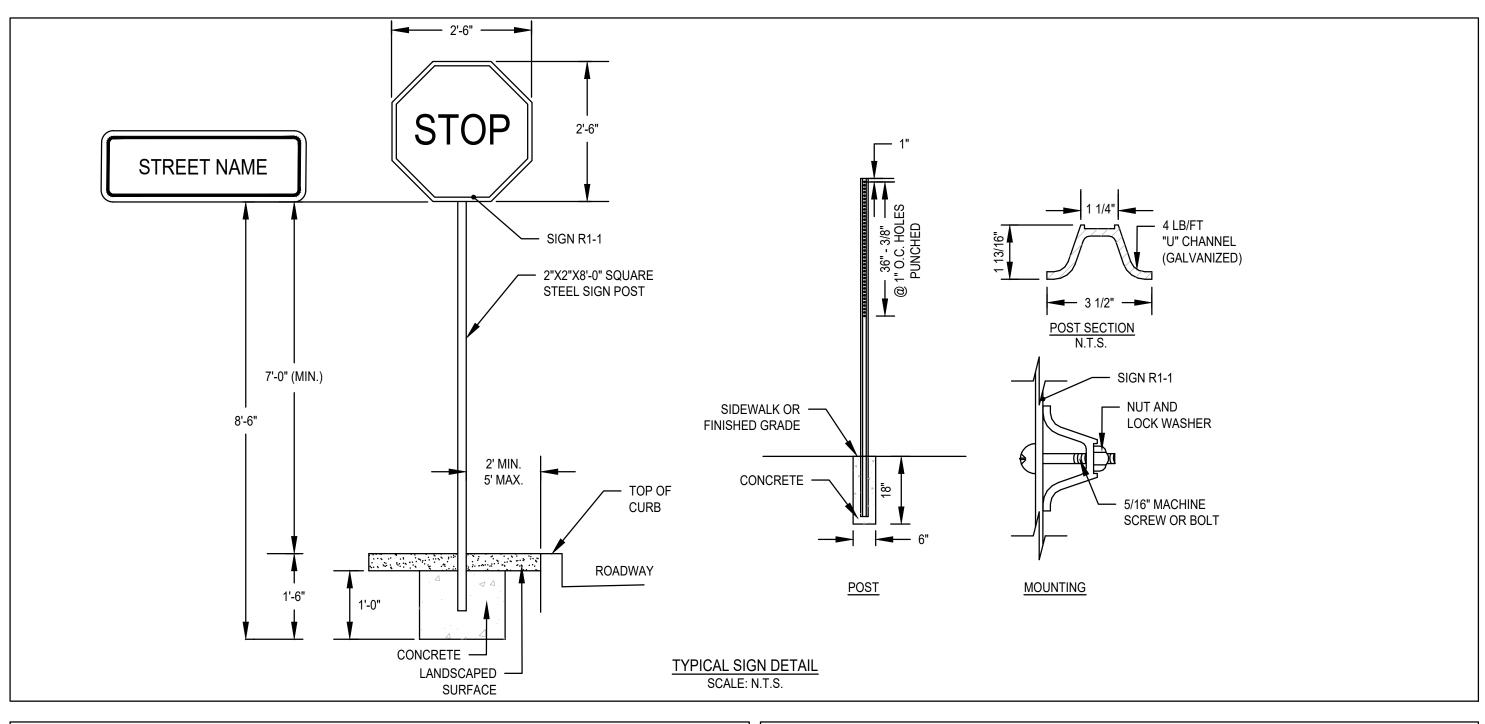
E-1

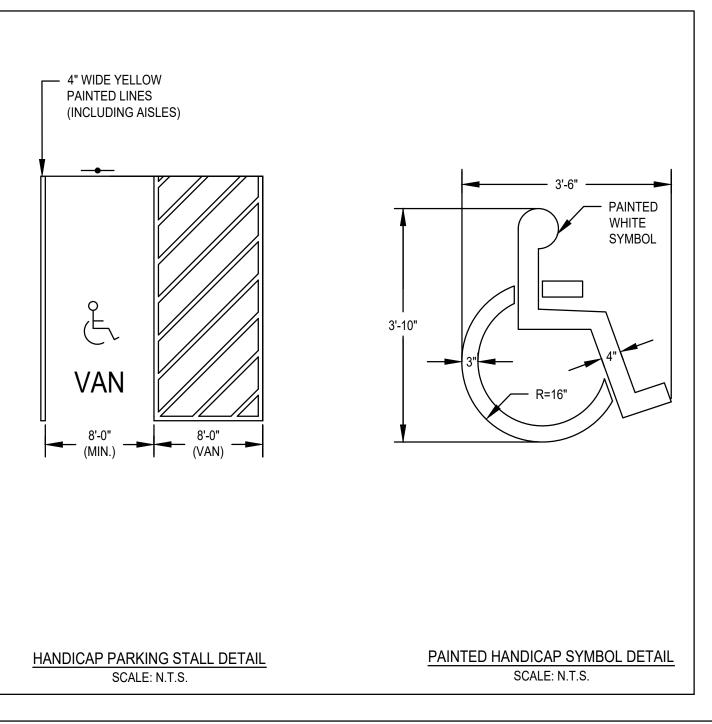


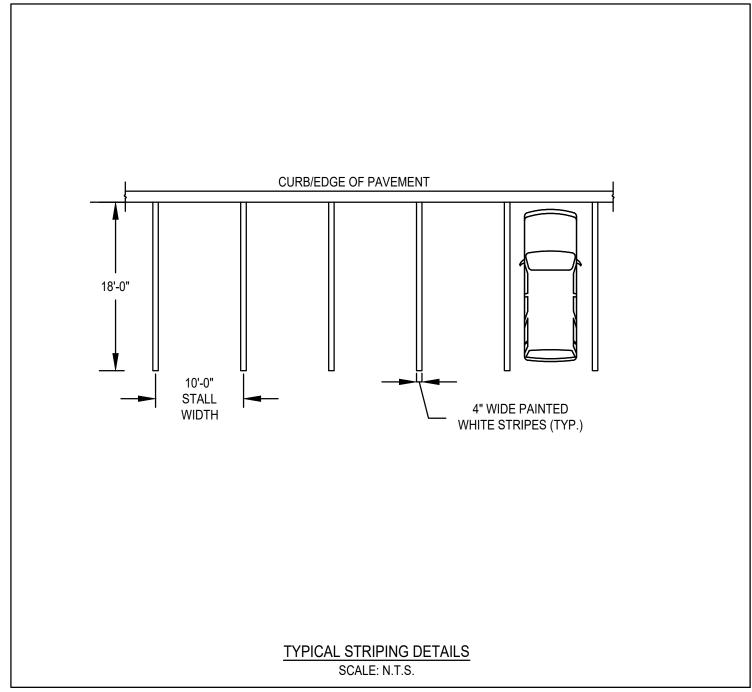


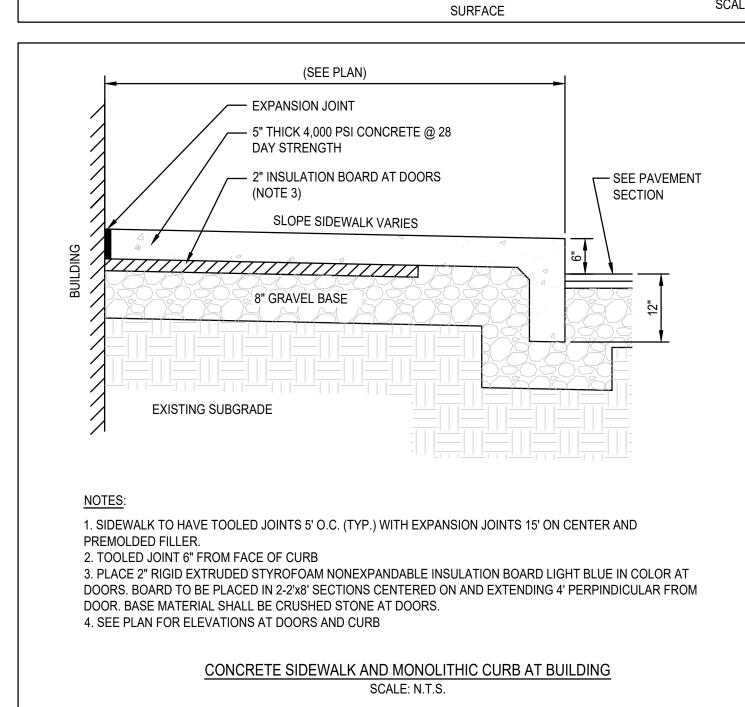


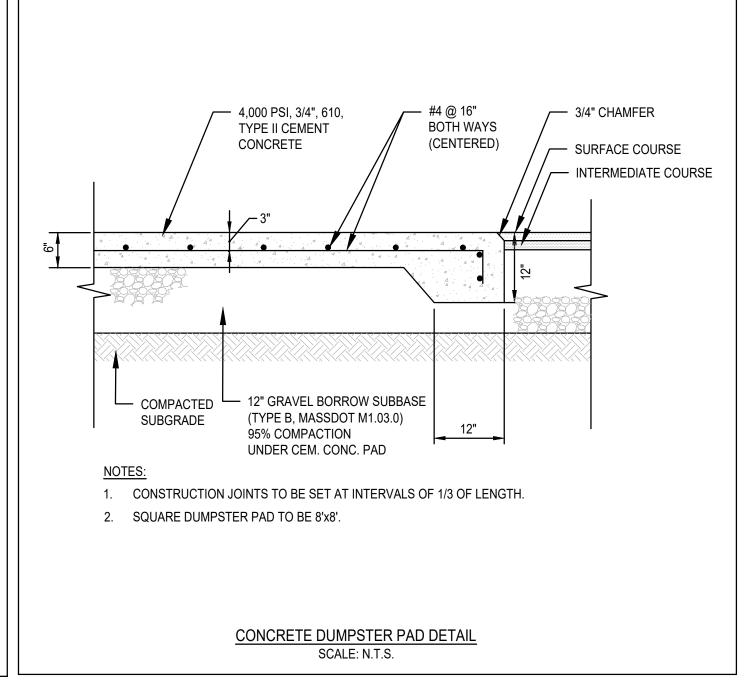


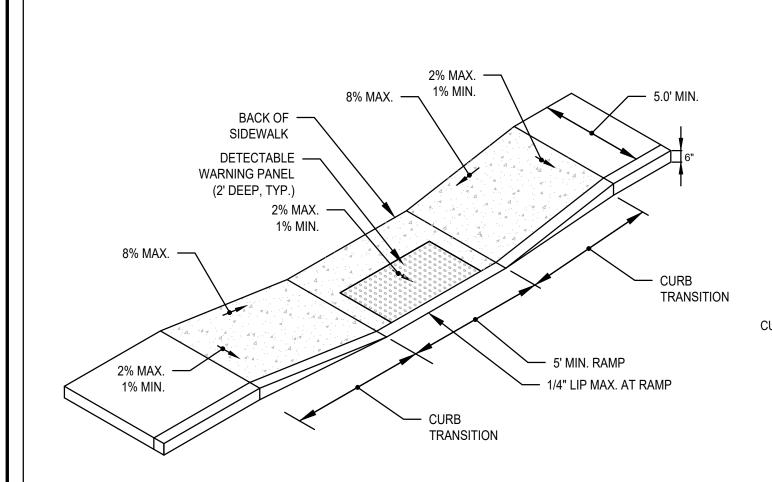


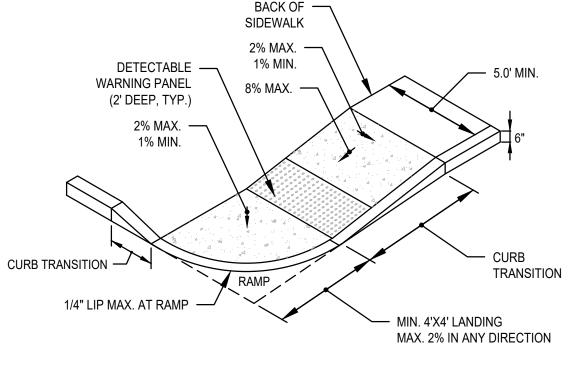


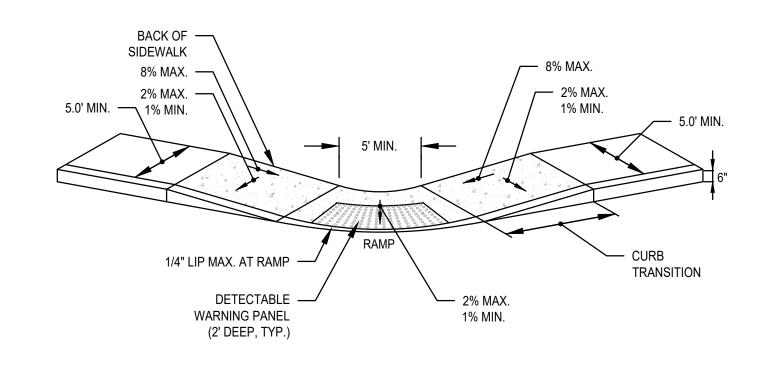












CEM. CONC. ACCESSIBLE CURB RAMPS

SCALE: N.T.S.

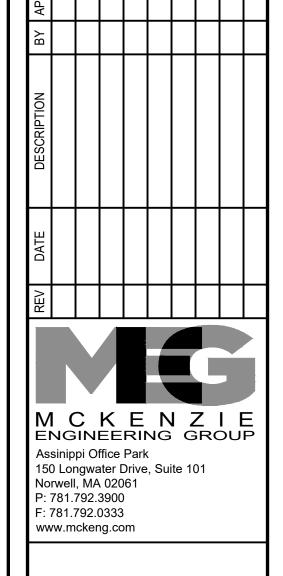
NOTES.

- 1. CURBS AND WALKS ALONG ACCESSIBLE ROUTES SHALL MEET OR EXCEED THE APPLICABLE REGULATIONS OF THE
- MASSACHUSETTS ARCHITECTURAL ACCESS BOARD, FAIR HOUSING ACT AND ADA.

  2. THE MAXIMUM ALLOWABLE SIDEWALK AND CURB RAMP CROSS SLOPES SHALL BE 2%.
- 3. THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE EXCLUDING CURB RAMPS SHALL BE 5%.
- THE MAXIMUM ALLOWABLE SLOPE OF ACCESSIBLE ROUTE CURB RAMPS SHALL BE 7.5%..
- 5. MAINTAIN A MINIMUM OF 3 FEET CLEAR AT ANY PERMANENT OBSTACLE IN ACCESSIBLE ROUTE (I.E., HYDRANTS,
- UTILITY POLES, TREE WELLS, SIGNS ETC.).
- 6. GRADE BASE OF RAMP TO PREVENT PONDING..
- 7. RAMP CONSTRUCTION SHALL CONFORM TO TYPICAL SIDEWALK SECTION.
- 8. WHERE ACCESSIBLE ROUTES ARE LESS THAN 5' IN WIDTH (EXCLUDING CURBING) A 5'X5' PASSING AREA SHALL BE PROVIDED AT INTERVALS NOT TO EXCEED 200 FEET.
- 9. ALL CURBING AT RAMPS SHALL BE VERTICAL CURBING SET FLUSH WHERE IT ABUTS ROADWAY.
- 10. ALL RAMPS SHALL BE CEMENT CONCRETE WITH ROUGHENED NON-SLIP SURFACE.
- 11. ALL DETECTABLE WARNING PANELS SHALL BE CAST IN PLACE WITH A STAINLESS STEEL ANCHORING SYSTEM. MINIMUM DIMENSIONS SHALL BE 2-FEET WIDE BY 5-FEET LONG, OR AS APPROVED.
- 12. THE MATERIAL USED TO PROVIDE CONTRAST SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE.

  DETECTABLE WARNINGS USED ON INTERIOR SURFACES SHALL DIFFER FROM ADJOINING WALKING SURFACES IN RESILIENCY OR SOUND-ON-CANE-CONTACT.
- 13. CEMENT CONCRETE TO BE 4000 PSI, 3/4", 610, TYPE II.

© MCKENZIE ENGINEERING GROUP, INC.



RICKETTS POND BUSINESS PAR
LOT 3 (APN 32-1-3)
OFF SPRING STREET

PROFESSIONAL ENGINEER:

BRADLEY C
MCKENZIE
CIVIL
NO. 36917

BRADLEY C
MCKENZIE
CIVIL
NO. 36917

CHUSETTS 02362

RIDGESTONE DEVELONG.

VC.

O. BOX 1384

LYMOUTH, MASSACHUSETTS 0:

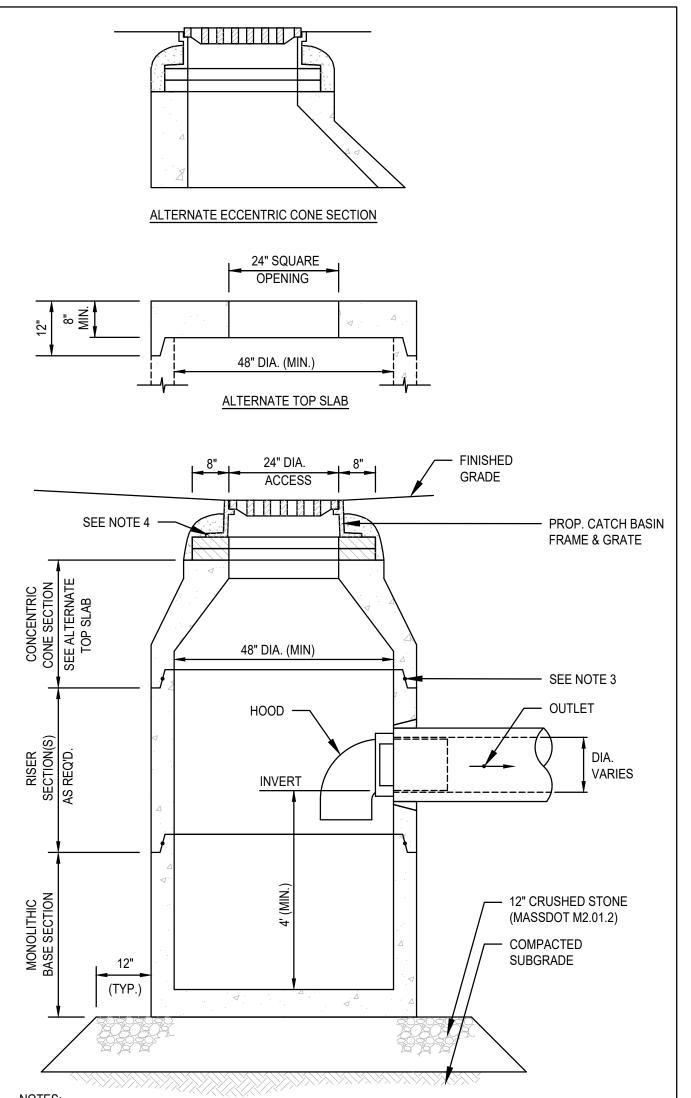
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DESIGNED BY: ESS
CHECKED BY: BCM
APPROVED BY: BCM
DATE: MARCH 21, 2022
SCALE: AS NOTED
PROJECT NO.: 222-118

DWG. TITLE:

CONSTRUCTION

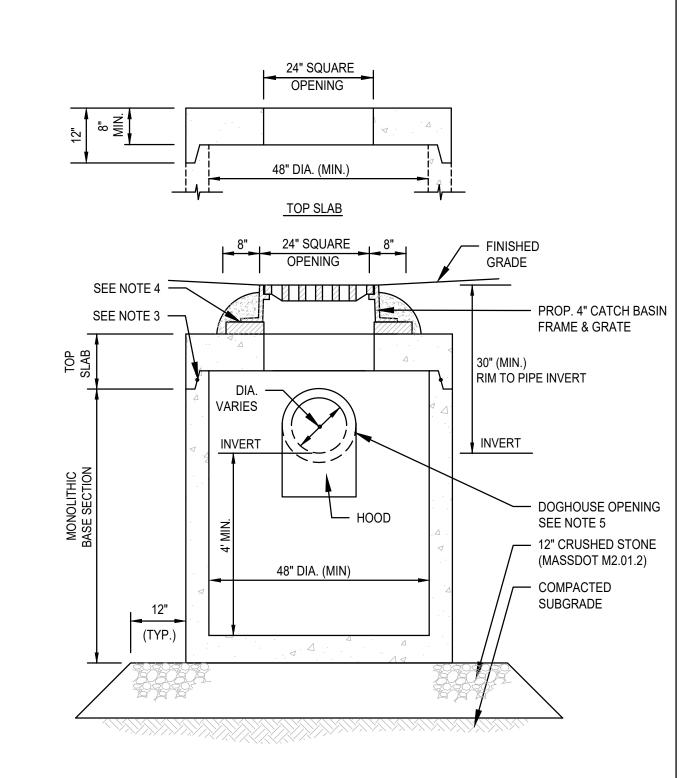
DETAILS

DWG. NO:



- 1. ALL SECTIONS SHALL BE DESIGNED FOR HS-20 LOADING.
- 2. PROVIDE "V" KNOCKOUTS FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. MORTAR ALL PIPE CONNECTIONS.
- 3. MORTAR ALL PIPE CONNECTIONS. JOINT SEALANT BETWEEN PRECAST SECTIONS SHALL BE PREFORMED BUTYL RUBBER.
- 4 CATCH BASIN FRAME AND GRATE SHALL BE SET IN FULL MORTAR BED. ADJUST TO GRADE WITH CLAY BRICK AND MORTAR (2 BRICK COURSES TYPICALLY, 5 BRICK COURSES MAXIMUM).

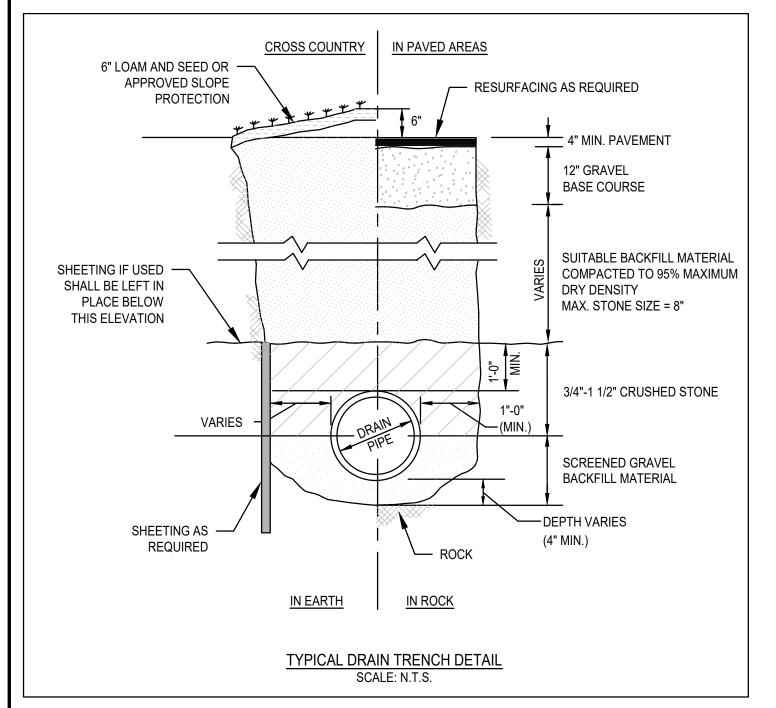
# CATCH BASIN W/HOOD SCALE: N.T.S.

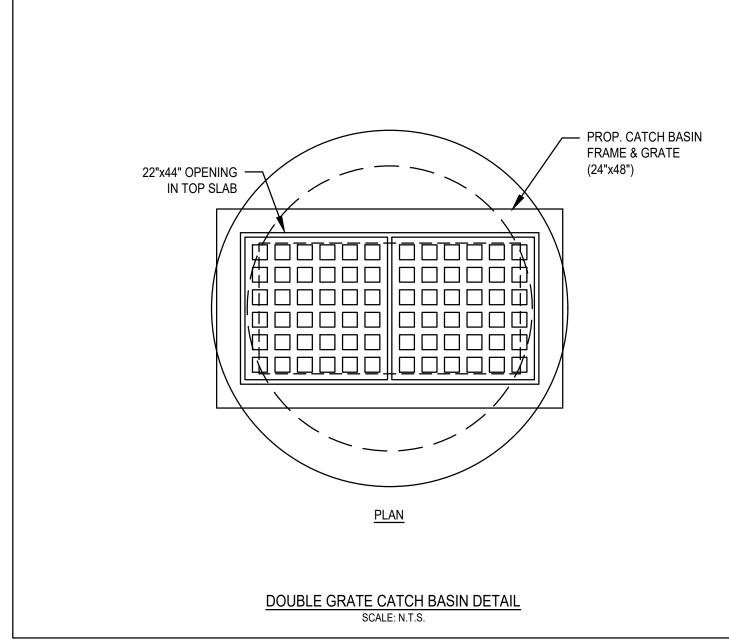


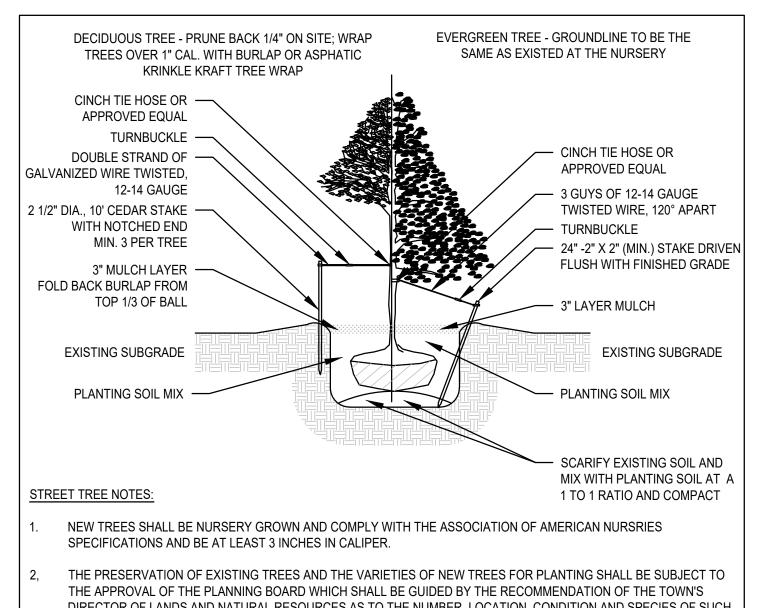
# NOTES:

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- 5. PROVIDE DOG HOUSE OPENING FOR PIPES WITH 2" MAX. CLEARANCE TO OUTSIDE OF PIPE. TOP SLAB SHOULD NOT REST DIRECTLY ON PIPE. MORTAR ALL PIPE CONNECTIONS.

# SHALLOW CATCH BASIN SCALE: N.T.S.

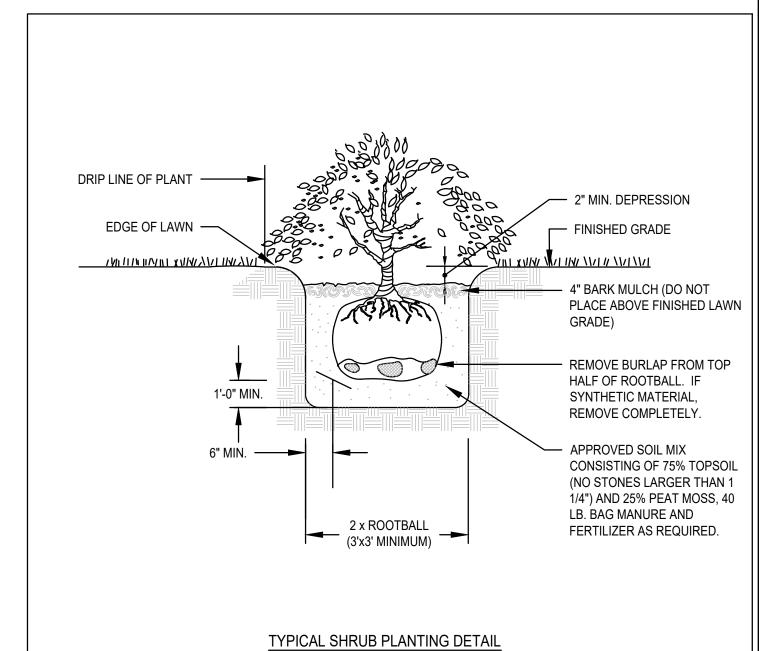




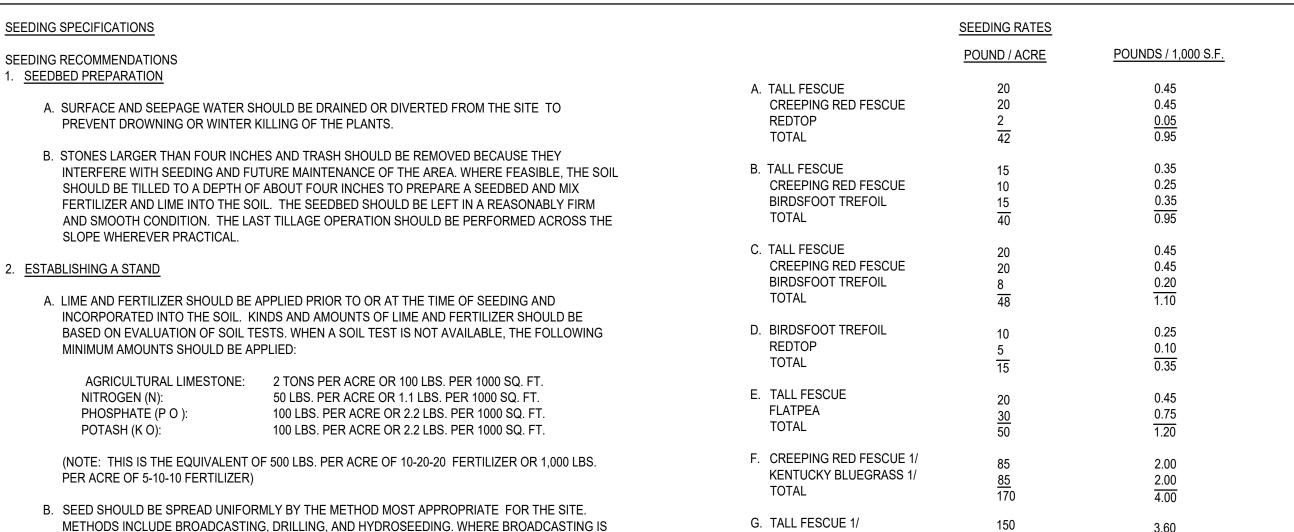


DIRECTOR OF LANDS AND NATURAL RESOURCES AS TO THE NUMBER, LOCATION, CONDITION AND SPECIES OF SUCH TREES AND UNDER APPENDIX III 0 DETAIL B.

> <u>DECIDUOUS AND EVERGREEN TREE</u> PLANTING DETAIL SCALE: N.T.S.



SCALE: N.T.S.



RATES OF SEEDING.
D. WHEN SEEDED AREAS ARE MULCHED, PLANTINGS MAY BE MADE FROM EARLY SPRING SPRING TO
EARLY OCTOBER. WHEN SEEDED AREAS ARE NOT MULCHED, PLANTINGS SHOULD BE MADE FROM

C. REFER TO SEEDING RATES AND SEEDING GUIDES FOR APPROPRIATE SEED MIXTURES AND

USED, COVER SEED WITH 0.25 INCH OF SOIL OR LESS, BY CULTIVATING OR RAKING.

EARLY SPRING TO MAY 20 OR FROM AUGUST 10 TO SEPTEMBER 1.

- A. HAY, STRAW, OR OTHER MULCH, WHEN NEEDED, SHOULD BE APPLIED IMMEDIATELY AFTER
- B. MULCH WILL BE HELD IN PLACE USING TECHNIQUES AS SPECIFIED IN THE "BEST MANAGEMENT PRACTICES OPERATION AND MAINTENANCE PLAN"

# 4. MAINTENANCE TO ESTABLISH A STAND

- A. PLANTED AREAS SHOULD BE PROTECTED FROM DAMAGE BY FIRE, GRAZING, TRAFFIC, AND DENSE WEED GROWTH.
- B. FERTILIZATION NEEDS SHOULD BE DETERMINED BY ONSITE INSPECTIONS. SUPPLEMENTAL FERTILIZER IS USUALLY THE KEY TO FULLY COMPLETE THE ESTABLISHMENT OF THE STAND BECAUSE MOST PERENNIALS TAKE 2 TO 3 YEARS TO BECOME ESTABLISHED.
- C. IN WATERWAYS, CHANNELS, OR SWALES WHERE UNIFORM FLOW CONDITIONS ARE ANTICIPATED

# OCCASIONAL MOWING MAY BE NECESSARY TO CONTROL GROWTH OF WOODY VEGETATION. NOTES: 1. TOP OF LOAM (

1.	,	PSOIL) IS FINISHED GRADE.		PREPARED SEEDED LAWN OR SOD
2.	AND SHALL HAVE	ONTAIN BETWEEN 5% AND 12% ORGANIC MATTER  A MAXIMUM STONE SIZE OF 3/4" AND SHALL  E FOLLOWING GRADATION:		
	<u>SIEVE</u> 1 1/4 INCH No.4 No.40 No.100	<u>% PASSING</u> 100 85-100 60-85 38-60		PREPARED SCREENED TOPSOIL (NO STONES LARGER THAN 3/4")
	No.200	28-40		PREPARED SUBGRADE

SEEDED OR SODDED LAWN DETAIL SCALE: N.T.S.

20 20 2 42	0.45 0.45 <u>0.05</u> 0.95	
15 10 15 40	0.35 0.25 0.35 0.95	
20 20 8 48	0.45 0.45 <u>0.20</u> 1.10	
10 5 15	0.25 0.10 0.35	
20 30 50	0.45 0.75 1.20	
85 85 170	2.00 2.00 4.00	

**TEMPORARY SEEDING RATES** 

WINTER RYE	112	2.50	(BEST FOR FALL SEEDING, AUG 15 TO SEPT. 5)
OATS	80	2.00	(BEST FOR SPRING SEEDING, BEFORE MAY 15)
ANNUAL RYEGRASS	<u>40</u>	<u>1.00</u>	(BEST FOR FALL SEEDING, AUG 15 TO SEPT. 15)
TOTAL	232	5.50	(MAY BE USED EARLY SPRING ALSO)

1/ FOR HEAVY USE ATHLETIC FIELDS CONSULT THE UNIVERSITY OF NEW HAMPSHIRE COOPERATIVE EXTENSION TURF SPECIALIST FOR CURRENT VARIETIES AND SEEDING RATES.

SEEDING MIXTURE 1/ STEEP CUTS AND FILLS, BORROW AND DISPOSAL AREAS WATERWAYS, EMERGENCY SPILLWAYS, AND OTHER CHANNELS WITH FLOWING WATER

SEEDING GUIDE

LAWN AREAS

C)MCKENZIE ENGINEERING GROUP, INC

M C K E N Z I E ENGINEERING GROUP

Assinippi Office Park 150 Longwater Drive, Suite 101 Norwell, MA 02061 P: 781.792.3900 F: 781.792.0333 www.mckeng.com

PROFESSIONAL ENGINEER:

APPLICANT:
BRIDGE
INC.
P.O. BOX 13

DRAWN BY: ESS DESIGNED BY: ESS BCM CHECKED BY: APPROVED BY: BCM MARCH 21, 2022 SCALE: AS NOTED PROJECT NO.: 222-118

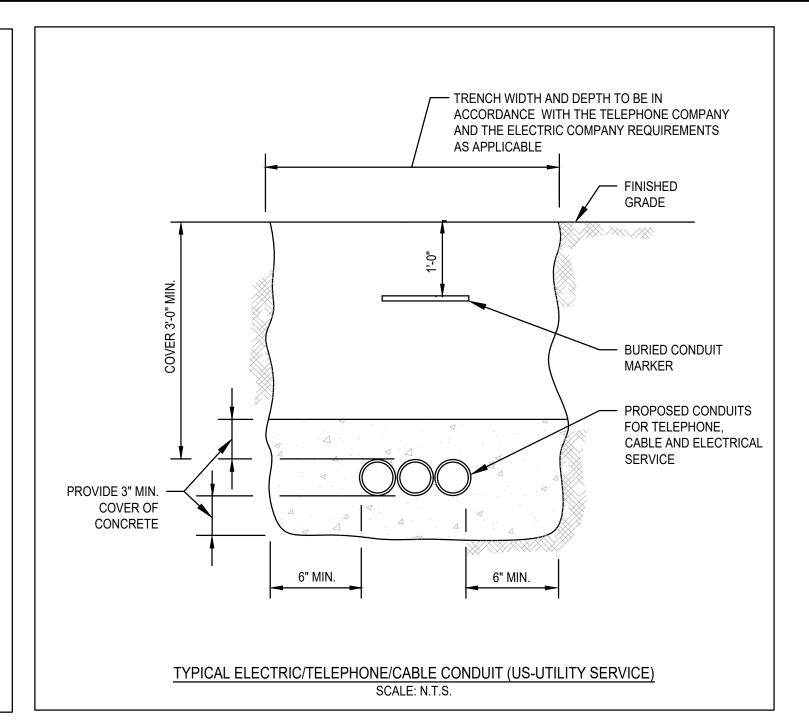
DWG. TITLE: CONSTRUCTION **DETAILS** 

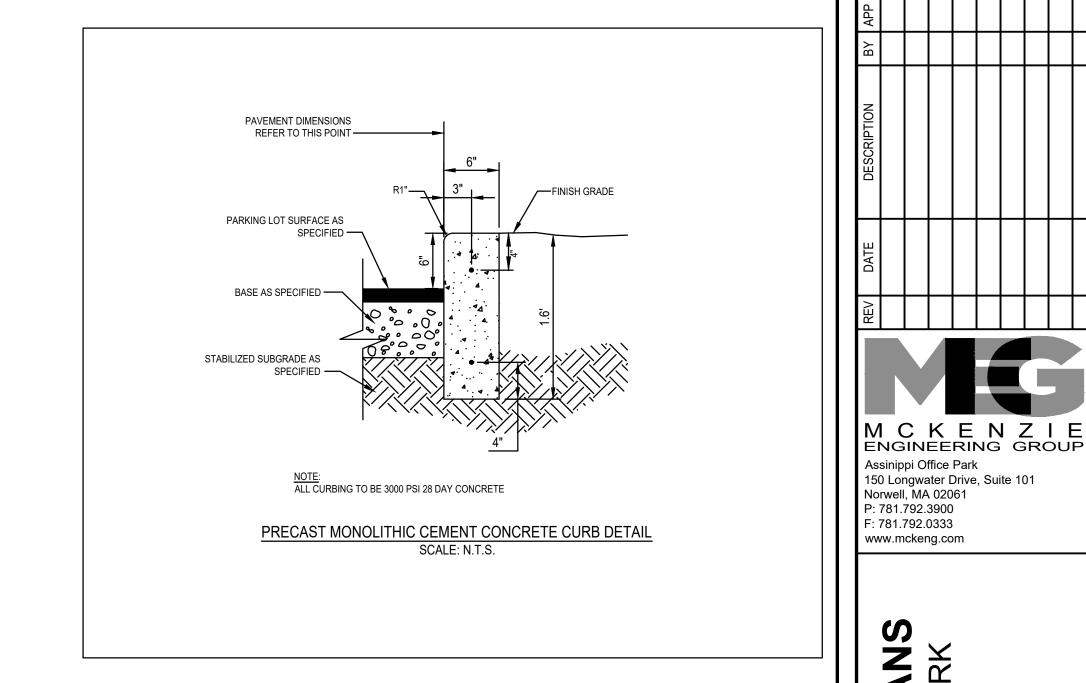
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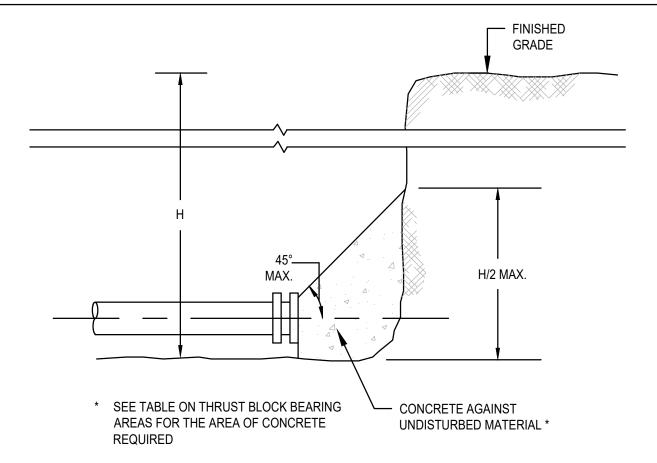
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# GENERAL NOTES

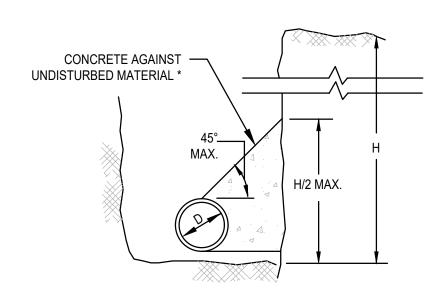
- 1. IF SHEETING IS USED, IT SHALL BE CUT OFF NO MORE THAN 12" ABOVE TOP OF PIPE.
- 2. ALL PIPES SHALL BE PRESSURE TESTED AT 200 PSI WORKING PRESSURE FOR A MINIMUM DURATION OF TWO HOUR
- 3. WATER SYSTEM IS TO BE DISINFECTED TO 50 P.P.M. AVAILABLE CHLORINE AND AFTER 24 HOURS TO 25 P.P.M. OR AS REQUIRED BY CARVER WATER SUPERINTENDENT/ENGINEER.
- 4. WATER PIPE IS TO BE CEMENT LINED DUCTILE IRON "TYTON" OR EQUAL TYPE JOIN, CONFORMING TO A.N.S.I./A.W.W.A. C150/A21.50, CLASS 52, AS APPROVED BY THE TOWN'S WATER SUPERINTENDENT/ENGINEER.
- 5. ALL PIPING SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH A.W.W.A. STANDARDS PRIOR TO PAVING IF PAVING ABOVE TRENCH IS REQUIRED.
- 6. BACKFILL IS TO BE COMPACTED TO 90% MAXIMUM DRY DENSITY BY AASHTO T-180 D.
- 7. ALL WATER PIPE SHALL BE LAID WITH A MINIMUM OF 5 FEET OF COVER OF APPROVED MATERIALS.
- 8. RESULTS FROM PRESSURE TESTING AND DISINFECTION SHALL BE FURNISHED TO THE CARVER WATER DEPT. AND DIRECTOR OF PUBLIC WORKS FOR APPROVAL PRIOR TO WATER BEING TURNED ON.
- 9. ALL WORK SHALL BE IN CONFORMANCE WITH CARVER WATER DEPT. STANDARDS.
- 10. ALL PERMITS REQUIRED FOR STREET OPENINGS AND WATER MAIN TAPPING MUST BE OBTAINED.
- 11. NO WATER WILL BE TURNED ON IN THE PROJECT WITHOUT CARVER WATER DEPT. APPROVAL.







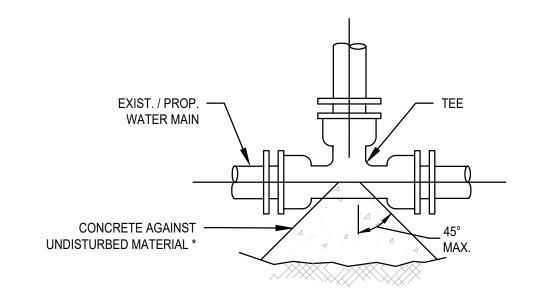
THRUST WATER MAIN PLUG SCALE: N.T.S.



THRUST WATER MAIN THRUST BLOCK SECTION DETAIL SCALE: N.T.S.

# THRUST BLOCK BEARING AREAS FOR WATER PIPE

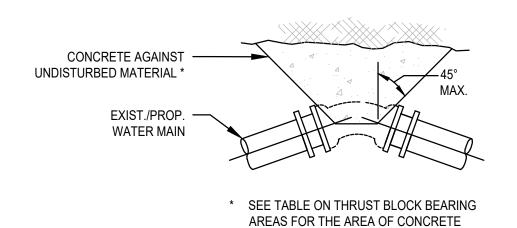
TABLE OF BEARING AREAS IN SQ. FT. AGAINST UNDISTURBED MATERIAL FOR WATER MAIN FITTINGS*			
SIZE OF MAIN (IN.)	90 ° BEND	TEES AND PLUGS	45 ° BEND
6	4	2.5	2
8	6	4	3
12	12	9	7
16	21	16	12



\* SEE TABLE ON THRUST BLOCK BEARING AREAS FOR THE AREA OF CONCRETE REQUIRED

TYPICAL WATER MAIN TEE THRUST BLOCK DETAIL

SCALE: N.T.S.



REQUIRED

THRUST WATER MAIN BEND THRUST BLOCK DETAIL SCALE: N.T.S.

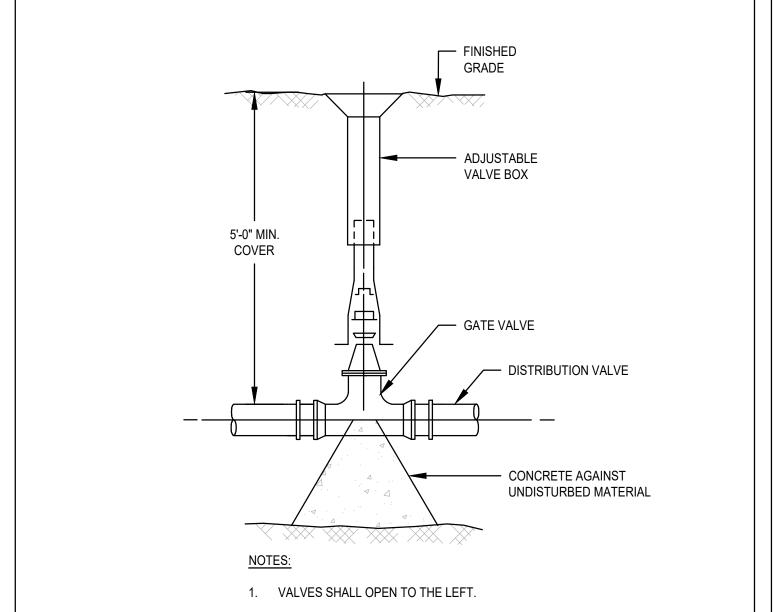
# NOTES:

- 1. FOR FITTINGS WITH LESS THAN 45° DEFLECTION, USE BEARING AREAS FOR 45° BEND.
- 2. BEARING AREAS BASED ON HORIZONTAL PASSIVE SOIL PRESSURE OF 2000 P.S.F. AND INTERNAL WATER PRESSURE OF 150 P.S.I.G. JOINTS SHALL NOT BE ENCASED IN CONCRETE. BEARING AREAS MAY BE DIREGARDED FOR TRENCHES IN ROCK WHERE THE TOP OF THE ROCK FACE IS AT OR ABOVE THE CROWN OF THE PIPE. HOWEVER, CONCRETE BACKING SHALL BE PLACED BETWEEN THE PIPE AND THE ROCK FACE.
- 3. THE CONTRACTOR SHALL SUBMIT 2 WEEKS IN ADVANCE OF PLACEMENT, WORKING DRAWINGS FOR EACH THRUST BLOCK TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
- 4. ALL VALVES AND FITTINGS SHALL BE RODDED TOGETHER.

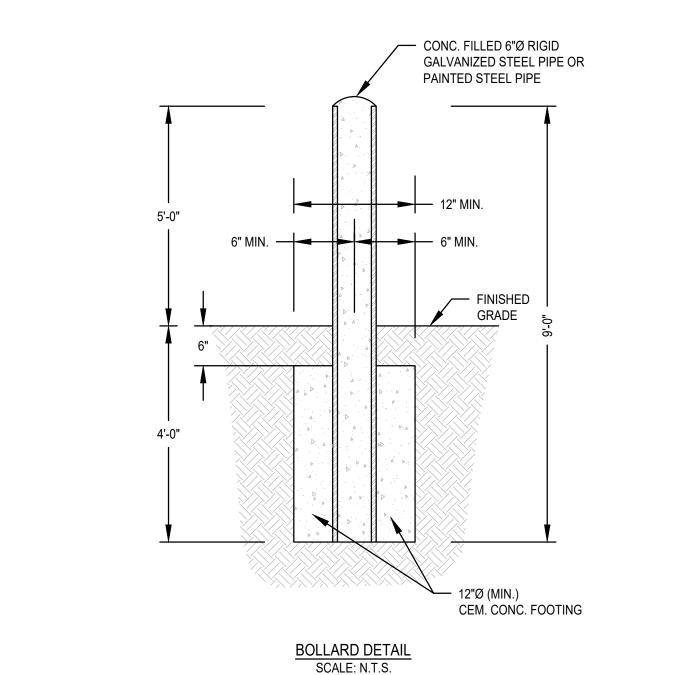
# ASSUMPTIONS:

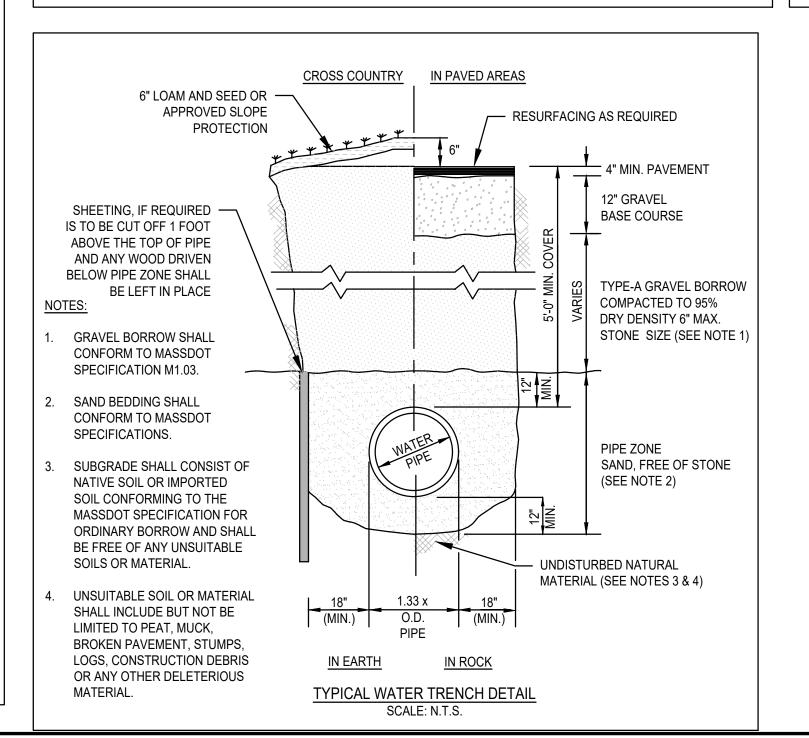
\* TYPE OF SOIL IS MEDIUM CLAYEY, 6 OR MORE BLOWS PER FOOT, OR LOOSE GRANULAR, 9 OR MORE BLOWS PER FOOT. SOIL CONDITIONS OTHER THAN THOSE GIVEN WILL REQUIRE LARGER BEARING AREAS.

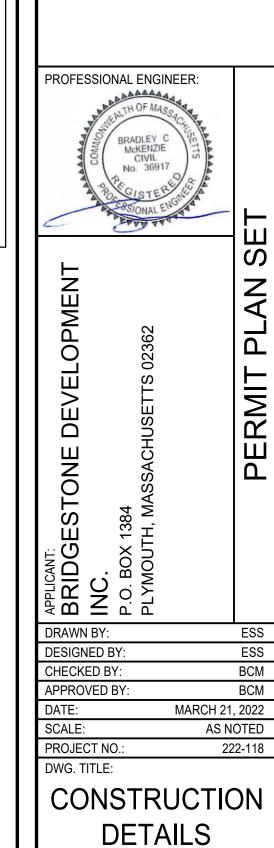
THRUST BLOCK DETAILS



WATER GATE DETAIL SCALE: N.T.S.







C MCKENZIE ENGINEERING GROUP, INC.

DWG. NO:

## CONSTRUCTION SEQUENCE

TO PREVENT EXCESSIVE EROSION AND SILTING, THE FOLLOWING CONSTRUCTION SEQUENCE COUPLED WITH OTHER WIDELY ACCEPTED PRINCIPALS FOR REDUCING EROSION AND SEDIMENTATION SHALL BE IMPLEMENTED IN THE DEVELOPMENT OF THE SITE.

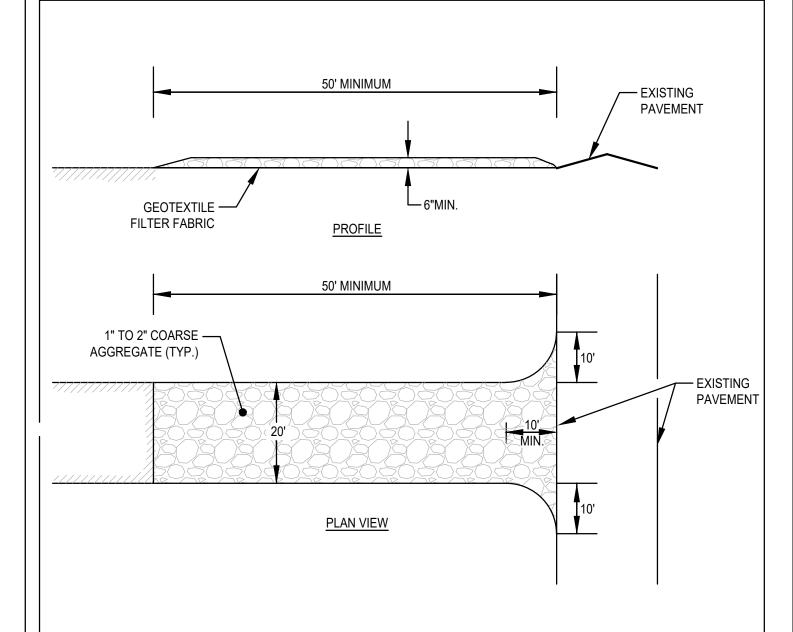
- 1. THE CONTRACTOR SHALL COORDINATE A PRE-CONSTRUCTION MEETING PRIOR TO ANY
- CONSTRUCTION ACTIVITY. STABILIZATION PRACTICES FOR EROSION AND SEDIMENT CONTROL SHALL BE INSTALLED PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. REFER TO "EROSION AND SEDIMENTATION CONTROL" SECTION OF THIS PLAN & PLACE SILTATION FENCE ON THE SITE PLANS.

CLEAR AND GRUB UP AS REQUIRED FOR THE CONSTRUCTION OF THE ROADWAY, PARKING AREAS AND RELATED INFRASTRUCTURE.

- CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE. EXCAVATE TOPSOIL AND SUBSOIL FROM CUT AND FILL AREAS AND STOCKPILE ON SITE IN LOCATIONS SHOWN ON THE PLAN. CONSIDERATION SHOULD BE GIVEN TO LOCATING STOCKPILES ON THE UPHILL SIDE OF DISTURBED AREAS, WHERE POSSIBLE, TO ACT AS
- CONSTRUCT CUT AND FILL AREAS, INSTALLING HAYBALE CHECK DAMS AT TOES OF ALL 3:1 OR GREATER SLOPES, AND AT ENDS OF ALL CUT AREAS. ALL FILL WILL BE INSTALLED USING 12" MAXIMUM COMPACTION LIFTS. PLACE ALL SLOPE PROTECTION WHERE INDICATED ON THE
- INSTALL CLOSED DRAINAGE SYSTEM AND OTHER UTILITIES. ALL CATCH BASINS SHALL BE COVERED WITH SILTSACK OR EQUIVALENT INLET PROTECTION.
- GRADE ROADWAY AND PARKING AREAS TO SUBGRADE ELEVATION AND CONSTRUCT SIDE SLOPES. APPLY TEMPORARY STABILIZATION MEASURES WHERE WARRANTED. REFER TO "EROSION AND SEDIMENTATION CONTROL" SECTION OF THIS PLAN.
- 9. EXCAVATE AND CONSTRUCT BUILDING FOUNDATIONS. 10. PLACE GRAVEL SUBBASE.
- 11. PLACE THE BITUMINOUS CONCRETE BINDER COURSE ON ROADWAY AND PARKING AREAS. 12. CONSTRUCT BUILDING STRUCTURES AND ASSOCIATED UTILITY CONNECTIONS. 13. GRADE SLOPES AND STABILIZE CUT AREAS AT TOE OF SLOPES. BLEND ALL SLOPES INTO
- EXISTING TOPOGRAPHY AND LOAM AND SEED ALL DISTURBED AREAS. SLOPES GREATER THAN 3:1 SHALL BE STABILIZED WITH JUTE MESH.
- 14. PLACE THE FINAL WEARING COURSE OF PAVEMENT.
- 15. COMPLETE FINE GRADING OF SHOULDERS AND PLACE PAVEMENT IN MISCELLANEOUS AREAS. 16. REMOVE TEMPORARY EROSION CONTROL DEVICES ONCE ADEQUATE GROWTH IS ESTABLISHED. ADEQUATE GROWTH IS DEFINED AS VEGETATION COVERING 75% OR MORE OF THE GROUND

# **EROSION AND SEDIMENTATION CONTROL**

- STRUCTURAL PRACTICES UTILIZED FOR THE PROJECT WILL INCLUDE SILT SOCK BARRIER CONTROLS, STABILIZED CONSTRUCTION ENTRANCE, TEMPORARY DIVERSION SWALES WITH STONE CHECK DAMS, SEDIMENT BASINS, AND INLET PROTECTION. STABILIZATION PRACTICES UTILIZED FOR THE PROJECT WILL INCLUDE TEMPORARY SEEDING,
- GEOTEXTILES (JUTE MESH), MULCHING, AND PERMANENT SEEDING. IN GENERAL, THE SMALLEST POSSIBLE AREA OF LAND SHOULD BE EXPOSED AT ONE TIME. WHEN LAND
- IS EXPOSED DURING DEVELOPMENT, THE EXPOSURE SHALL BE CONFINED TO A MAXIMUM PERIOD OF 3 MONTHS. LAND SHALL NOT BE EXPOSED DURING THE WINTER MONTHS. ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY AND THAT WILL BE REGRADED AT A LATER DATE SHALL BE MACHINE HAY MULCHED AND SEEDED WITH WINTER RYE TO PREVENT EROSION.



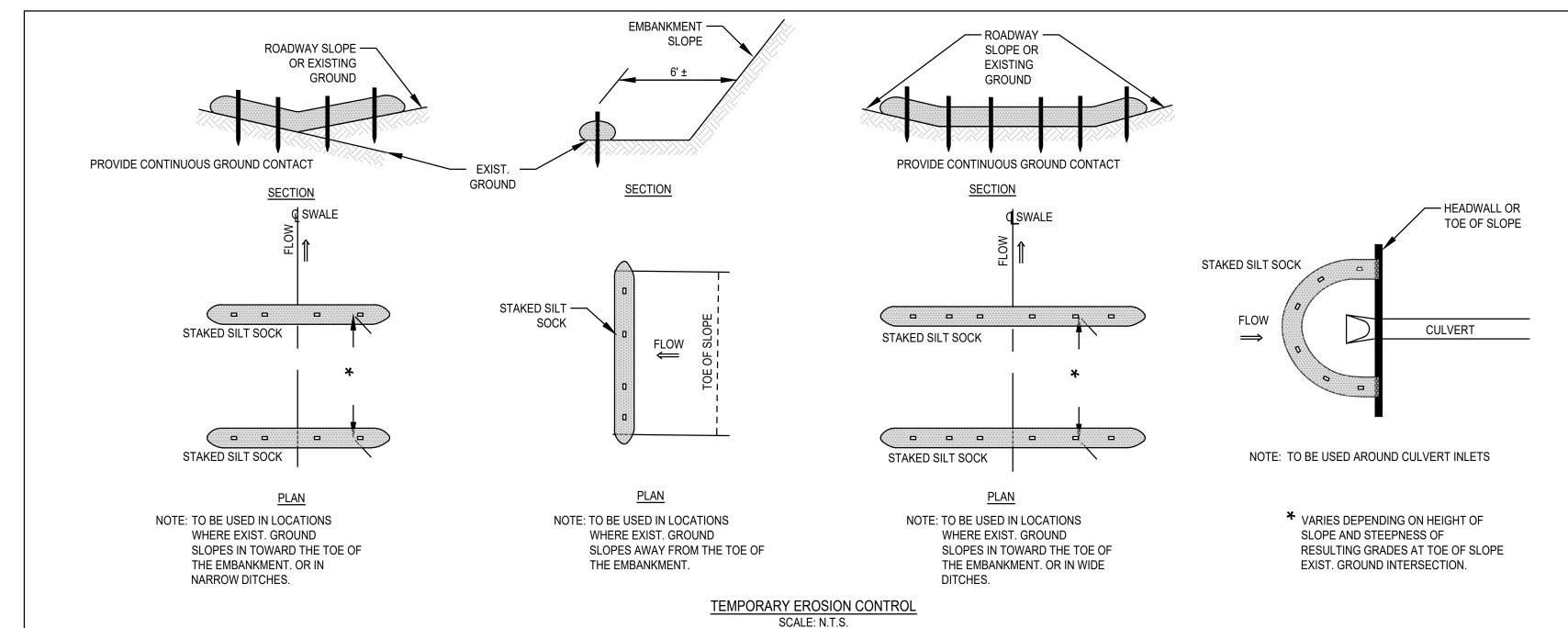
# (SCE) CONSTRUCTION SPECIFICATIONS:

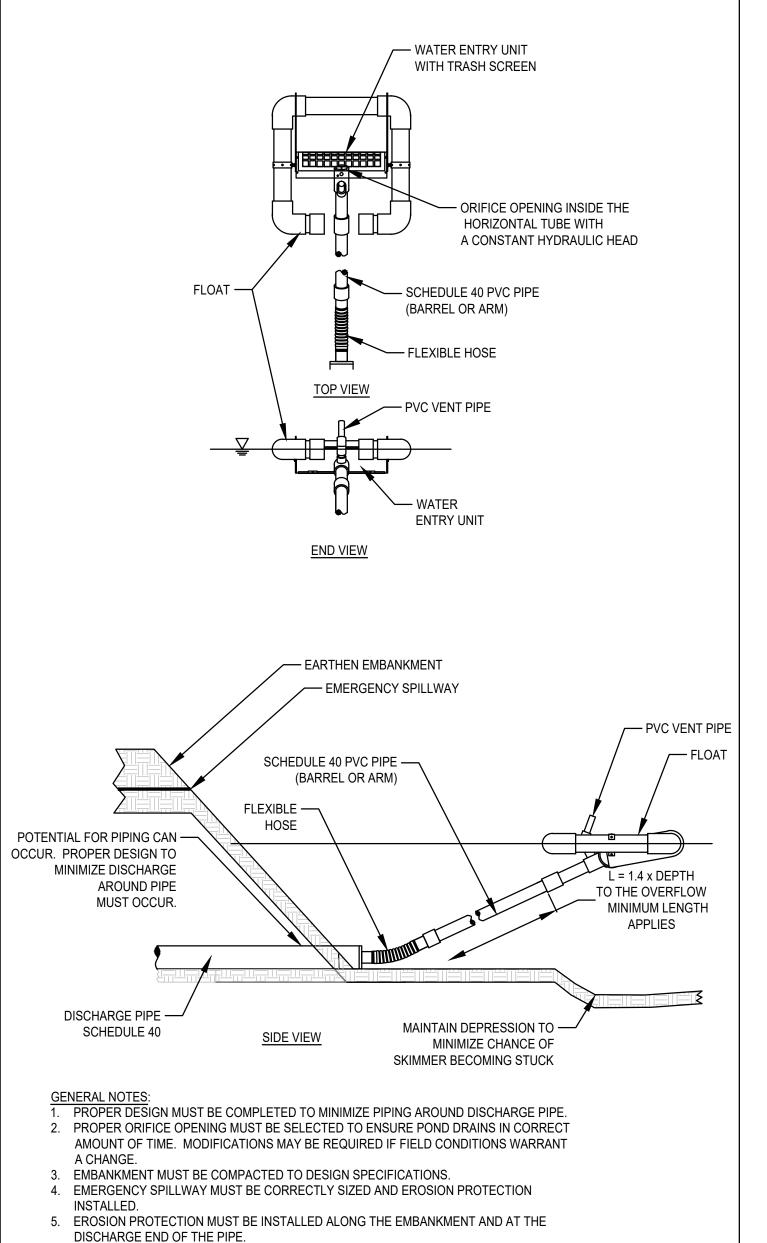
- 1. STONE FOR A STABILIZATION CONSTRUCTION ENTRANCE SHALL BE 1 TO 2 INCH
- STONE, RECLAIMED STONE. 2. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET,
- EXCEPT FOR A SINGLE RESIDENTIAL LOT A 30 FOOT MINIMUM LENGTH WOULD APPLY. 3. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
- 4. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN A FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 10 FEET, WHICH EVER IS GREATER.
- 5. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO
- PLACING THE STONE. 6. ALL SURFACE WATER THAT IS FLOWING TO OR DEVERTED TOWARDS THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
- 7. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOPDRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED

STABILIZED CONSTRUCTION ENTRANCE (SCE) DETAIL SCALE: N.T.S.

# CONSTRUCTION PHASE BMP OPERATION AND MAINTENANCE NOTES:

- 1. STRUCTURAL PRACTICES UTILIZED FOR THE PROJECT WILL INCLUDE SILT SOCK EROSION CONTROL BARRIERS, STABILIZED CONSTRUCTION ENTRANCES, CONCRETE
- WASH STATIONS, STOCKPILE AREAS, AND INLET PROTECTION. STABILIZATION PRACTICES UTILIZED FOR THE PROJECT WILL INCLUDE TEMPORARY SEEDING, GEOTEXTILES (JUTE MESH), MULCHING, AND PERMANENT SEEDING.
- OPERATOR PERSONNEL AND/OR ITS CONSULTANTS MUST INSPECT THE CONSTRUCTION SITE AT LEAST ONCE EVERY 7 CALENDAR DAYS OR EVERY 14 CALENDAR DAYS AND WITHIN 24 HOURS OF A STORM EVENT \$\frac{1}{4}\$ INCH OR GREATER. THE INSPECTOR SHOULD REVIEW THE EROSION AND SEDIMENT CONTROLS WITH RESPECT TO THE FOLLOWING: A. WHETHER OR NOT THE BMP WAS INSTALLED/PERFORMED CORRECTLY. B. WHETHER OR NOT THERE HAS BEEN DAMAGE TO THE BMP SINCE IT WAS INSTALLED
- C. WHAT SHOULD BE DONE TO CORRECT ANY PROBLEMS WITH THE BMP. 4. THE INSPECTOR SHALL COMPLETE THE INSPECTION SCHEDULE AND EVALUATION CHECKLIST FOR FINDINGS AND SHOULD REQUEST THE REQUIRED MAINTENANCE OR
- ALL SLOPES EXCEEDING 15% RESULTING FROM SITE GRADING SHALL BE BOTH COVERED WITH FOUR INCHES OF TOPSOIL AND PLANTED WITH A VEGETATED COVER SUFFICIENT TO PREVENT EROSION.



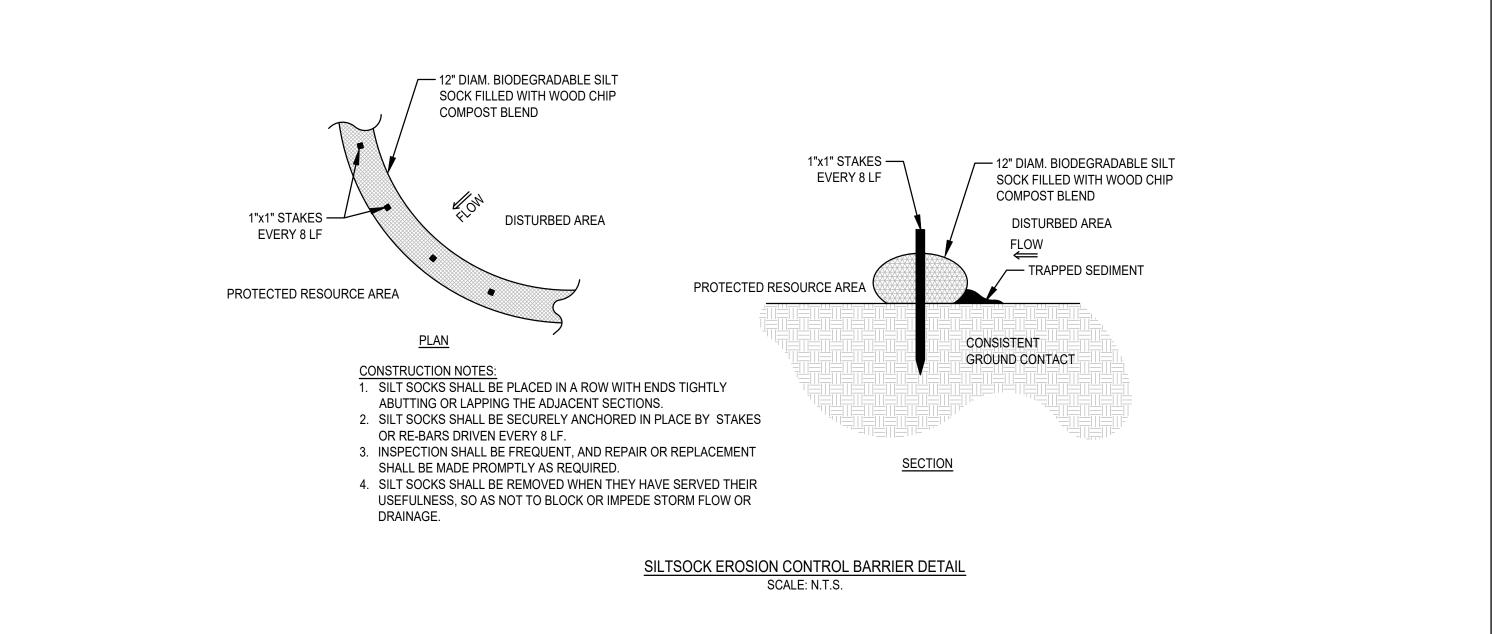


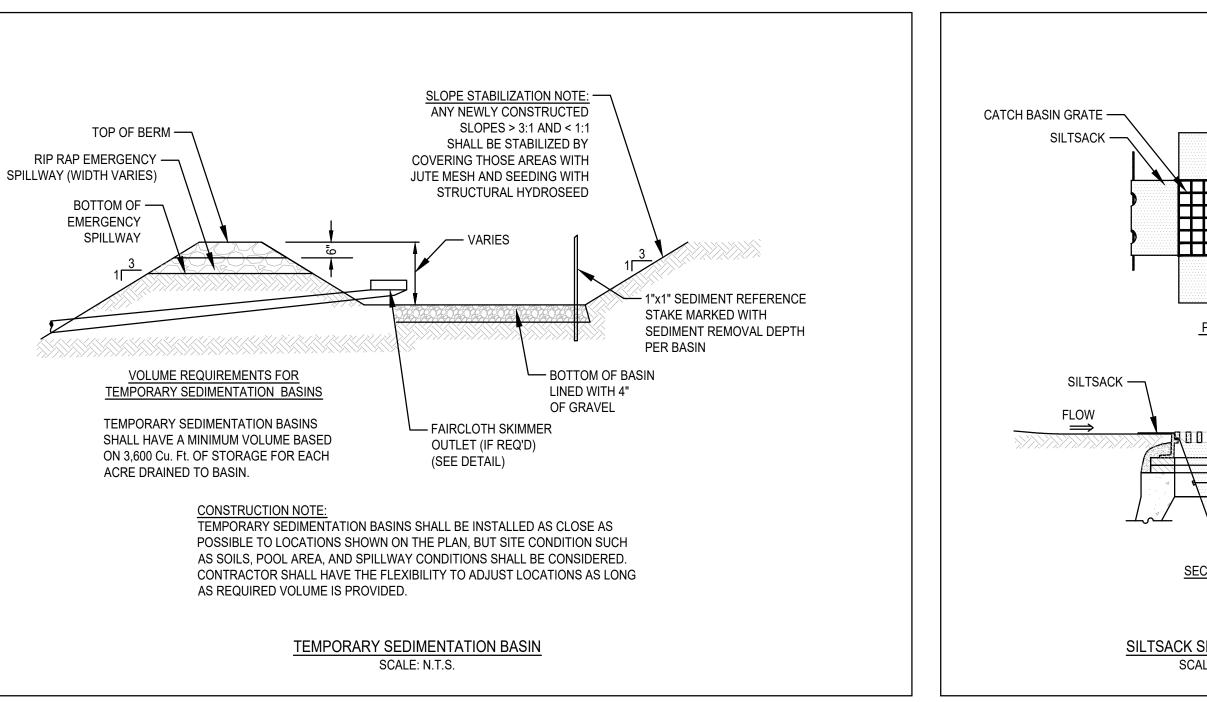
INSPECT SYSTEM REGULARLY TO ENSURE IT IS FUNCTIONING IN A CORRECT MANNER.

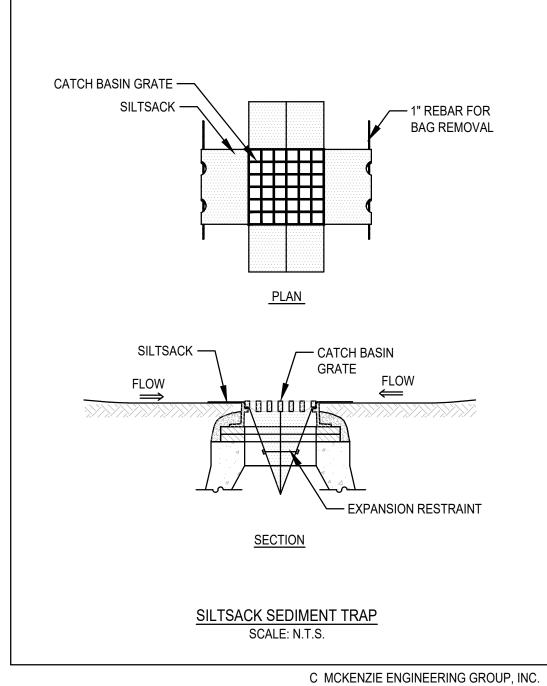
FAIRCLOTH SKIMMER DISCHARGE SYSTEM W/EMBANKMENT

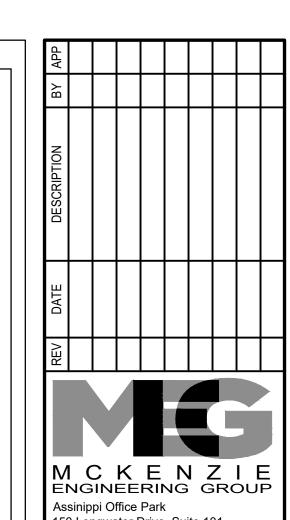
7. EIGHT SIZES OF SKIMMERS ARE AVAILABLE, REFER TO THE FLOW SHEET, CUT SHEET,

AND INSTRUCTIONS ON WEB SITE FOR EACH SIZE.









150 Longwater Drive, Suite 101 Norwell, MA 02061 P: 781.792.3900 F: 781.792.0333 www.mckeng.com

PROFESSIONAL ENGINEER:

APPLIC
BR INC
INC
P.O. I DRAWN BY: DESIGNED BY: ESS CHECKED BY: BCM APPROVED BY: MARCH 21, 2022 SCALE: AS NOTED PROJECT NO.: 222-118

DWG. TITLE: **EROSION AND SEDIMENTATION DETAILS** 

DWG. NO:

M:\MEG\2017 PROJECTS\217-182 (SLT CARVER)\RESEARCH\SLT\INDIVIDUAL LOT DEVELOPMENT\LOT 3\221-190 EROSION AND SEDIMENTATION CONTROL PLAN.DWG