

SITE PLAN

FOR TWO BUILDINGS: 1ST 1-STORY RETAIL/STORAGE 2ND BUILDING: 1-STORY CRAFTSMAN/TRADESMAN

APPLICANT: ERIC PONTIFF
LOCATION: OFF FOREST STREET
CARVER, MA
REVISED: DATE: MAY 17, 2020

ZONE GB - GENERAL BUSINESS ZONING REQUIREMENTS		
	REQUIRED:	PROVIDED:
AREA:	40,000 SF	85,835 SF
FRONTAGE:	200 FT.	200 FT
FRONT YARD:	40 FT.	40 FT
SIDE YARD:	25 FT.	27 FT.
REAR YARD:	25 FT.	50 FT.
MAXIMUM HEIGHT:	<40 FT	35 FT
LOT WIDTH % OF FRONT.:	80%	95.8%
BUILDING COVERAGE:	50%	17.2%
LANDSCAPE BUFFERS:		
FRONT BUFFER:	20 FT.	20 FT.
SIDE & REAR BUFFER:	10 FT.	12 FT. & 50'
BORDERING RESIDENTIAL:	50 FT.	50 FT.
PARKING DIMENSIONAL CRITERIA		
SIZE	10' X 18'	ALL NOT HP
HANDICAP	11' X 18'	1
LOADING	12' X 50'	1
DRIVEWAY WIDTH:	24'	30'
CURBING	12" CAPE COD BERM 6" PRECAST CURB AT SIDEWALKS	
LIGHTING	WALL PACKS-DOWNWARD	
NO SPRINKLERS	FRONT RETAIL/STORAGE BLDG (SEE HOWE ENGINEERS REPORT JEREMY MASON, P.E.	

PARKING REQUIREMENTS

CATEGORY:	PROPOSED USAGE	RATE	REQ' SPACES:
BUILDING 1:			
RETAIL/STORAGE	1200 S.F. 6290 S.F./ THREE EMPLOYEES	@ 1 / 250 SF @ 1 SP/TWO EMPLOYEES	5 SPACES 2 SPACES
		PROVIDED:	8 SPACES
BUILDING 2:			
CRAFTSMAN/TRADESMAN	FIVE UNITS./ EACH W/ TWO EMPLOYEES	@ 1 SP/TWO EMPLOYEES	5 SPACES*

* FIVE STRIPED AREAS FOR ACCESS TO INTERIOR PARKING AS NEEDED

TRAFFIC CALCULATIONS

CATEGORY:	PROPOSED USAGE	RATE	REQ' SPACES:
RETAIL/STORAGE: (WAREHOUSING):	7,490 SF W/ TWO EMPLOYEES	4.88 TRIPS/ 1000 SF/DAY	37 TRIPS
CRAFTSMAN/TRADESMAN: (WAREHOUSING):	7200 SF W/ TWO EMPLOYEES/UNIT (5)	10 TRIPS/DAY	50 TRIPS
		TOTAL	87 TRIPS

SIGHT DISTANCES

SIGHT DISTANCES (DESIGN SPEED OF 35 MPH ASSUMED)

STOPPING SIGHT DISTANCE :
LOOKING SOUTH (FROM RT 58) TO DRIVE REQ'D 250' - PROVIDED 275'
LOOKING NORTH TO DRIVE REQ'D 250' - PROVIDED OVER 400'

PREPARED BY:
FLAHERTY & STEFANI, INC.
67 SAMOSET STREET
PLYMOUTH, MA 02360
PHONE: (508) 747-2425
FAX: (508) 747-3991
MARK@FS-ENG.COM

LIST OF DRAWINGS

SHEET 1 COVER SHEET WITH NOTES
SHEET 2 EXISTING CONDITIONS PLAN
SHEET 3 SITE LANDSCAPING PLAN
SHEET 4 GRADING PLAN
SHEET 5 UTILITY PLAN
SHEET 6 EROSION & SEDIMENT CONTROL
SHEET 7 FIRE TRUCK AND DELIVERY TRUCK MOVTS
SHEETS 8 & 9 & 10 & 11 CONSTRUCTION DETAILS
SHEET 12 BUILDINGS ELEVATIONS

DATE	DESCRIPTION
5-17-20	#5 SECTION 3232 WAIVER FOR SLOPES GREATER THAN 3:1 ON SIDE YARD

DRAINAGE REPORT WITH ADDITIONAL DRAWINGS
PRE-DEVELOPMENT WATERSHED PLAN
POST-DEVELOPMENT WATERSHED PLAN
SUB-WATERSHED POST DEVELOPMENT DELINEATION

NOTES

- LOCUS: PLAT 49 LOT 62-6 PARCEL ID. # 040-1534
- APPLICANT: ERIC PONTIFF
184 STANDISH STREET
DUXBURY, MA 02332
- OWNER: CARVER HOMES, INC.
125 MAGOUN PATH
MARSHFIELD, MA 02050
- DEED REFERENCE: BOOK 9563 PAGE 77. PLAN REFERENCE PLAN BOOK 63 PAGE 842 SIGNED BY JEFFREY B. SHOREY, PLS. MAY 23, 2019.
- ZONE: GENERAL BUSINESS (GB))
- THE LOT IS NOT LOCATED WITHIN A FLOOD HAZARD AREA OR PRIORITY HABITAT AREAS FOR RARE OR ENDANGERED SPECIES.
- LOT HAS A INTERIM WELLHEAD WELLHEAD PROTECTION AREA ASSOCIATED WITH WELL ON PROPERTY AT 60 NORTH MAIN STREET "QUICKEEZ CONVENIENCE".
- PROPOSED IS THE CONSTRUCTION OF A RETAIL/STORAGE BUILDING 60' X 124.8' FOR WHOLESALE/RETAIL OF CRANBERRY BOG FERTILIZER PRODUCTS AND A CRAFTSMAN/TRADESMAN BUILDING 60' X 120' 14690 +/- SF - TOTAL BUILDING "FOOTPRINTS"
- SPECIAL PERMIT REQUIRED FROM SECTION 2330 FOR MULTIPLE PRINCIPAL STRUCTURES; SECTION 4341 IMPERVIOUS ROOF AREA GREATER THAN 10,000 SF; AND SECTION 4344 STORAGE OF TOXIC OR HAZARDOUS MATERIALS.
- APPLICANT HAS OBTAINED PERMISSION FROM PROPERTY OWNER OF LOT 62-7 (CARVER HOMES, INC.) TO PERFORM GRADING NECESSARY FOR THE PROPOSED CONSTRUCTION.

WAIVER REQUESTED FROM TOWN OF CARVER ZONING BYLAWS-EFFECTIVE APRIL 24, 2018

1. SECTION 3330 TABLE OF PARKING REQUIREMENTS

- * ALLOW FOR FRONT (EASTERLY) BUILDING TO BE CLASSIFIED AS COMBINATION OF RETAIL (1200 SF WITH 1 SPACE/250 SF OR 5 SPACES) AND STORAGE (6290 SF WITH 1 SPACE PER 2 EMPLOYEES OR 2 SPACES)
- * AND BACK (WESTERLY) BUILDING TO BE CLASSIFIED AS CRAFTSMAN/TRADESMAN UNDER CONTRACTORS YARD CATEGORY WITH EACH UNIT WITH 1 SPACE PER 2 EMPLOYEES OR 5 SPACES

JUSTIFICATION: THE PARKING SPACES FOR PROPOSED BUILDINGS REFLECT THE EXPECTED NEEDS.

2. SECTION 3241 PARKING LOT INTERIOR LANDSCAPING

- * APPROVE OF THE PARKING LOT DESIGN WITHOUT INTERNAL LANDSCAPE ISLANDS
- JUSTIFICATION: THE PARKING LAYOUT WORKS FOR THE EXPECTED TRUCK AND CAR TRAFFIC.

3. SECTION 3232 LANDSCAPING REQUIREMENTS ALONG SIDE PROPERTY LINES

- * APPROVE OF THE PROPOSED TRANSFORMER WITHIN THE 10 FT. LANDSCAPE BUFFER.
- JUSTIFICATION: POWER TO THE TRANSFORMER WILL COME OFF THE THE EXISTING UTILITY POLE AT THE FRONT LEFT LOT CORNER.

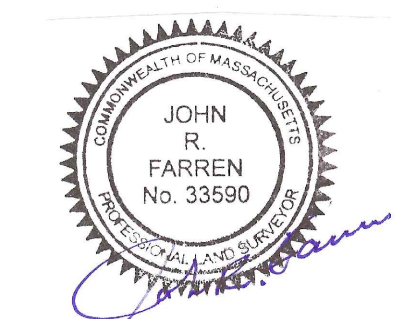
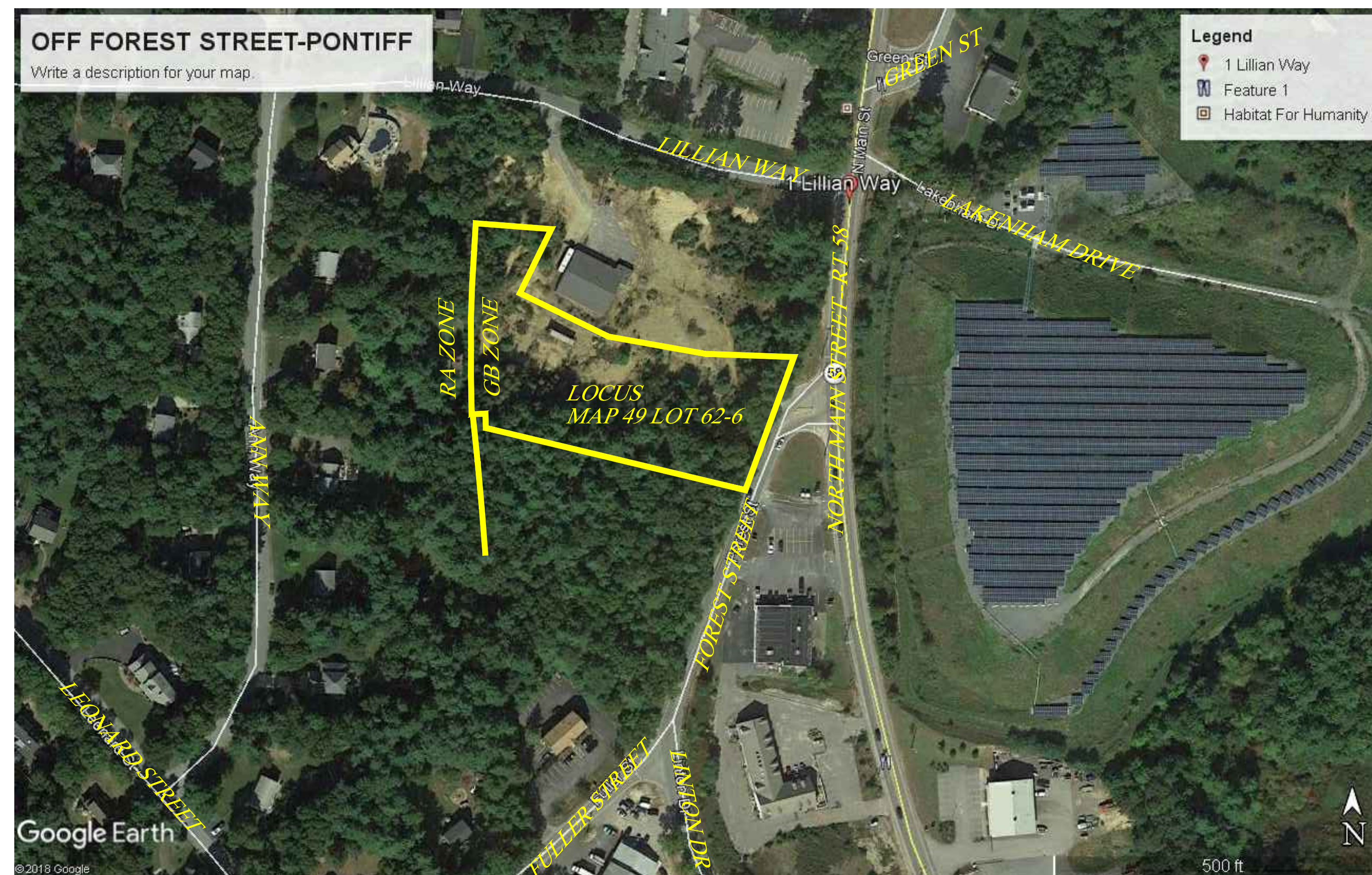
4. SECTION 3130 G SUBMITTAL REQUIREMENTS

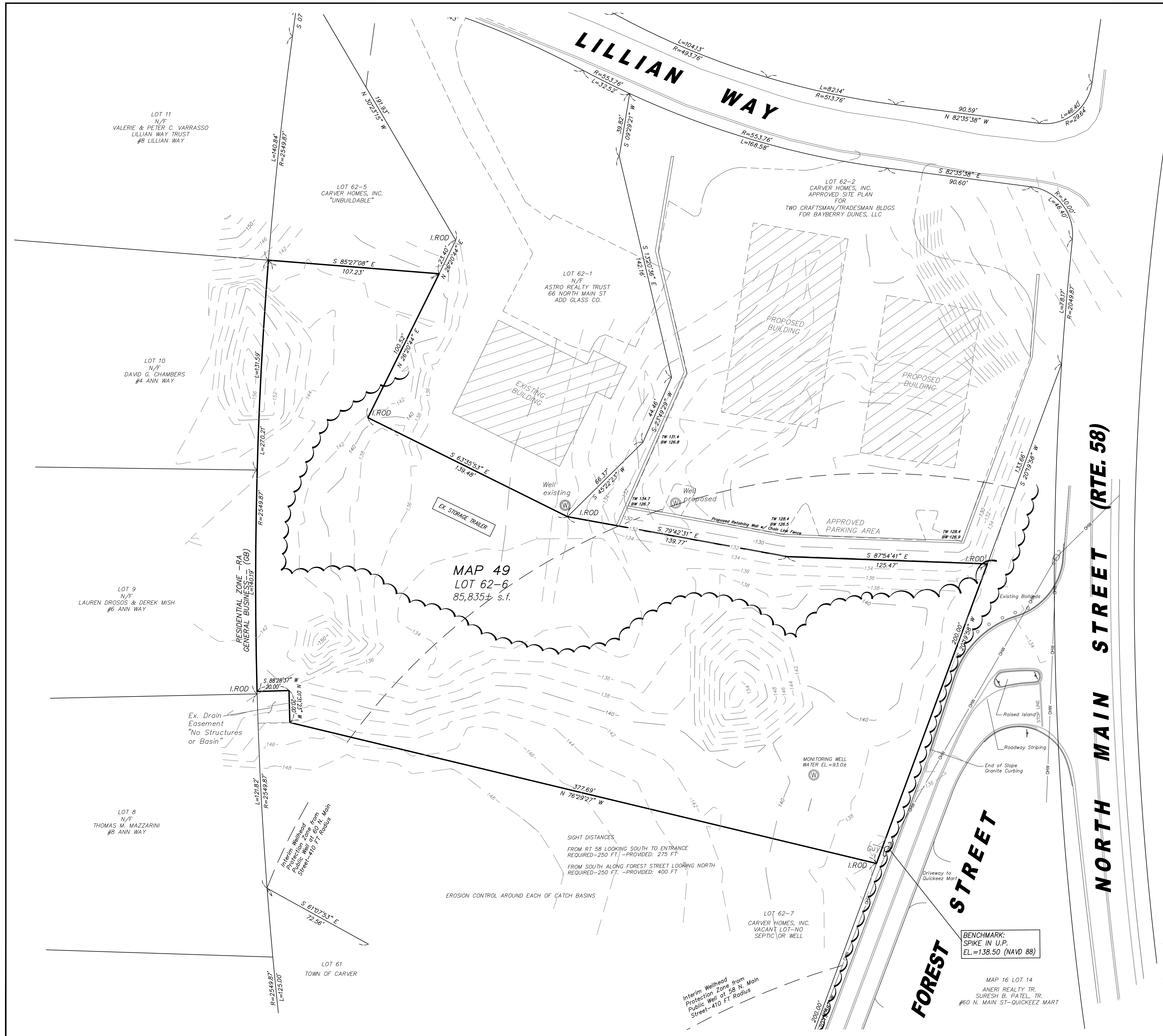
WAIVER TO LOCATE ALL EXISTING TREES OF 10" CALIPER OR BETTER.

JUSTIFICATION: DUE TO THE SIZE OF THE PROPOSED DEVELOPMENT THE LOCATION OF TREES 10" CALIPER OR GREATER ARE NOT SHOWN; BUT THE EXISTING TREE LINE IS SHOWN.

5. SECTION 3232 SLOPES EXCEEDING 3:1 ON SIDE YARD

- * WAIVER IS REQUESTED TO ALLOW STEEPER SLOPES IN THIS SIDE YARD WHICH WOULD BE MATCH UP WITH THE APPROVED SLOPES ON THE ABUTTING PROPERTY.





LEGEND

- PROPOSED WALL-MOUNTED LIGHT
- PROPOSED CATCH BASIN
- PROPOSED DRAIN MANHOLE
- EXISTING DRAIN MANHOLE
- PROPOSED WATER QUALITY UNIT
- EXISTING UTILITY POLE
- LA PROPOSED LANDSCAPED AREA
- PROPOSED ELECTRIC TRANSFORMER

PLAN BK. 53/88

NOTES:

1. LOCUS: OFF FOREST STREET MAP 49 LOT 62-6
2. APPLICANT: ERIC J. PONTIFF
184 STANDISH STREET
DUXBURY, MA 02332
3. OWNER: CARVER HOMES, INC.
125 MAGOUN PATH
MARSHFIELD, MA 02050
4. DEED BK:19004 Pg.346
5. PLAN BK:63 Pg.842
6. THE PROPERTY IS NOT LOCATED WITHIN A NHESP HABITAT OF RARE AND ENDANGERED SPECIES.
7. THE PROPERTY IS PARTIALLY WITHIN A DEP LISTED ZONE 1 AQUIFER PROTECTION AREA.
8. THE PROPERTY IS NOT LOCATED WITHIN A FEMA DESIGNATED FLOOD ZONE.
9. SITE IS TO BE SERVICED BY PRIVATE WELL WATER AND A PRIVATE SEPTIC SYSTEM.
10. THE PROPERTY LIES WITHIN THE GENERAL BUSINESS (GB) ZONE.
11. EXISTING FEATURES, TOPOGRAPHICAL SYSTEMS AND DATA WERE OBTAINED BY AN ON-THE-GROUND FIELD SURVEY PERFORMED BY FLAHERTY & STEFANI, INC. IN DECEMBER OF 2019.

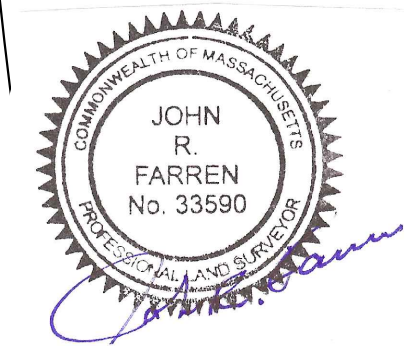
COORDINATE SYSTEM: HARN/NE MA STATE PLANES, MAINLAND ZONE, US FOOT
VERTICAL DATUM: NAVD 88

NO.	DATE	DESCRIPTION
	4-28-20	ADDED EXISTING INFORMATION FROM BAYBERRY DUNES LLC GRADING PLAN
		ADDED INTERIM WELLHEAD 58 N MAIN ST
		ADDED BENCHMARK--SPIKE IN U.P.

**EXISTING CONDITIONS
IN
CARVER, MASSACHUSETTS
PREPARED FOR
ERIC PONTIFF
OFF FOREST STREET
MAP 49 LOT 62-2**

1" = 30' MARCH 1, 2020

FLAHERTY & STEFANI, INC.
67 SAMOSET STREET
PLYMOUTH, MASSACHUSETTS
508-747-2425 AND 508-747-3991 (FAX)
MARK@FS-ENG.COM



BENCHMARK:
SPIKE IN U.P.
EL.=138.50 (NAVD 88)

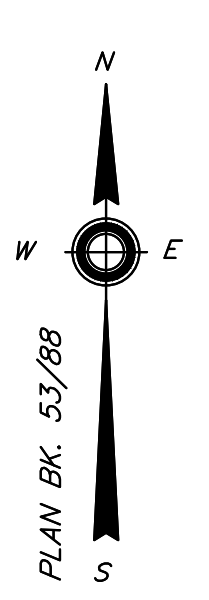
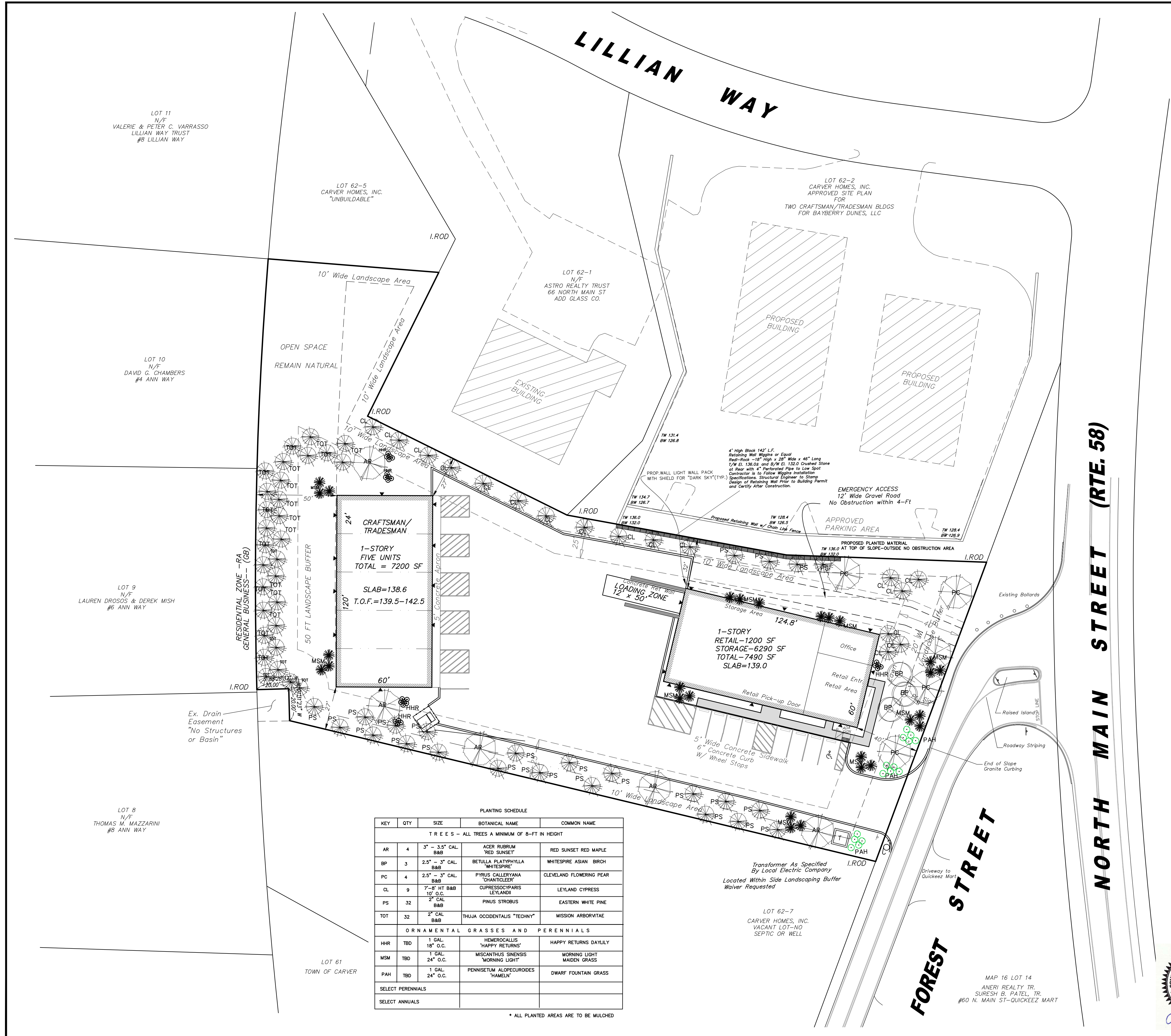
MAP 16 LOT 14
ANERI REALTY TR.
SURESH B. PATEL, TR.
#60 N. MAIN ST--QUICKEEZ MART

SIGHT DISTANCES
FROM RT 58 LOOKING SOUTH TO ENTRANCE
REQUIRED--250 FT. | PROVIDED: 275 FT.
FROM SOUTH ALONG FOREST STREET LOOKING NORTH
REQUIRED--250 FT. | PROVIDED: 400 FT

EROSION CONTROL AROUND EACH OF CATCH BASINS

LOT 62-7
CARVER HOMES, INC.
VACANT LOT--NO SEPTIC OR WELL

Interim Wellhead
Protection Zone from
Public Well of 58 N. Main
Street--410 FT Radius



- LEGEND**
- ▶ PROPOSED WALL-MOUNTED LIGHT
 - ⊙ PROPOSED CATCH BASIN
 - ⊕ PROPOSED DRAIN MANHOLE
 - ⊙(WQ) PROPOSED WATER QUALITY UNIT
 - ⊕ EXISTING UTILITY POLE
 - ⊠ PROPOSED ELECTRIC TRANSFORMER

NOTES

1. LOCUS: MAP 49 LOT 62-6
2. APPLICANT: ERIC PONTIFF
184 STANDISH STREET
DUXBURY, MA 02332
3. OWNER : CARVER HOMES, INC.
1A FULLER STREET
CARVER, MA 02330
3. DEED REFERENCE: BOOK 19004 PAGE 346
4. ZONE: GENERAL BUSINESS (GB)
5. THE LOT IS NOT LOCATED WITHIN A FLOOD HAZARD AREA OR A PRIORITY HABITAT AREA FOR RARE OR ENDANGERED SPECIES.
6. PROPOSED IS CONSTRUCTION OF A 1-STORY RETAIL/STORAGE BUILDING 7,490 SF -AND 1-STORY CRAFTSMAN/TRADESMAN BUILDING 7,200 SF
7. SITE IS PARTIALLY LOCATED WITHIN AN INTERIM WELLHEAD PROTECTION AQUIFER PROTECTION ZONE DUE TO QUICKKEEZ MART DRINKING WELL.
8. ELEVATIONS SHOWN BASED ON NAVD 88 DATUM

NO.	DATE	DESCRIPTION
4-28-20		RE-LOCATE TRANSFORMER
		EMERGENCY ACCESS-CLEARANCE
		WHEEL STOPS
		ADDITIONAL LANDSCAPING
5-17-20		REFLECT F&O COMMENTS W/ RETAINING WALL

PLANTING SCHEDULE

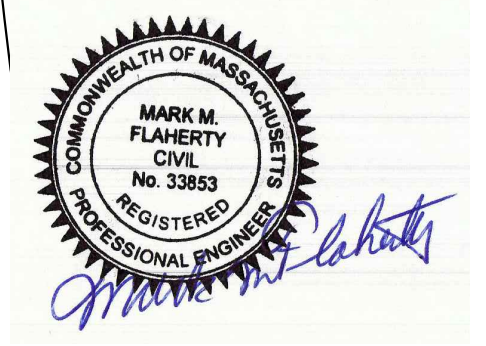
KEY	QTY	SIZE	BOTANICAL NAME	COMMON NAME
T R E E S - ALL TREES A MINIMUM OF 8-FT IN HEIGHT				
AR	4	3" - 3.5" CAL B&B	ACER RUBRUM RED SUNSET	RED SUNSET RED MAPLE
BP	3	2.5" - 3" CAL B&B	BETULA PLATYPHYLLA 'WHITESPICE'	WHITESPICE ASIAN BIRCH
PC	4	2.5" - 3" CAL B&B	PYRUS CALLERYANA 'CHANTICLEER'	CLEVELAND FLOWERING PEAR
CL	9	7'-8" HT B&B 10' O.C.	CUPRESSOCYPRUS LEYLANDI	LEYLAND CYPRESS
PS	32	2" CAL B&B	PINUS STROBUS	EASTERN WHITE PINE
TOT	32	2" CAL B&B	THUJA OCCIDENTALIS 'TECHNY'	MISSION ARBORVITAE
ORNAMENTAL GRASSES AND PERENNIALS				
HHR	TBD	1 GAL 18" O.C.	HEMEROCALLIS 'HAPPY RETURNS'	HAPPY RETURNS DAYLILY
MSM	TBD	1 GAL 24" O.C.	MISCANTHUS SINENSIS 'MORNING LIGHT'	MORNING LIGHT MAIDEN GRASS
PAH	TBD	1 GAL 24" O.C.	PENNISETUM ALOPECUROIDES 'MAMELY'	DWARF FOUNTAIN GRASS
SELECT PERENNIALS				
SELECT ANNUALS				

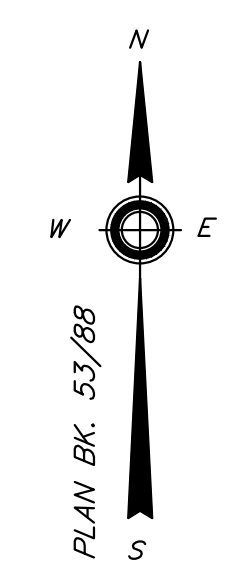
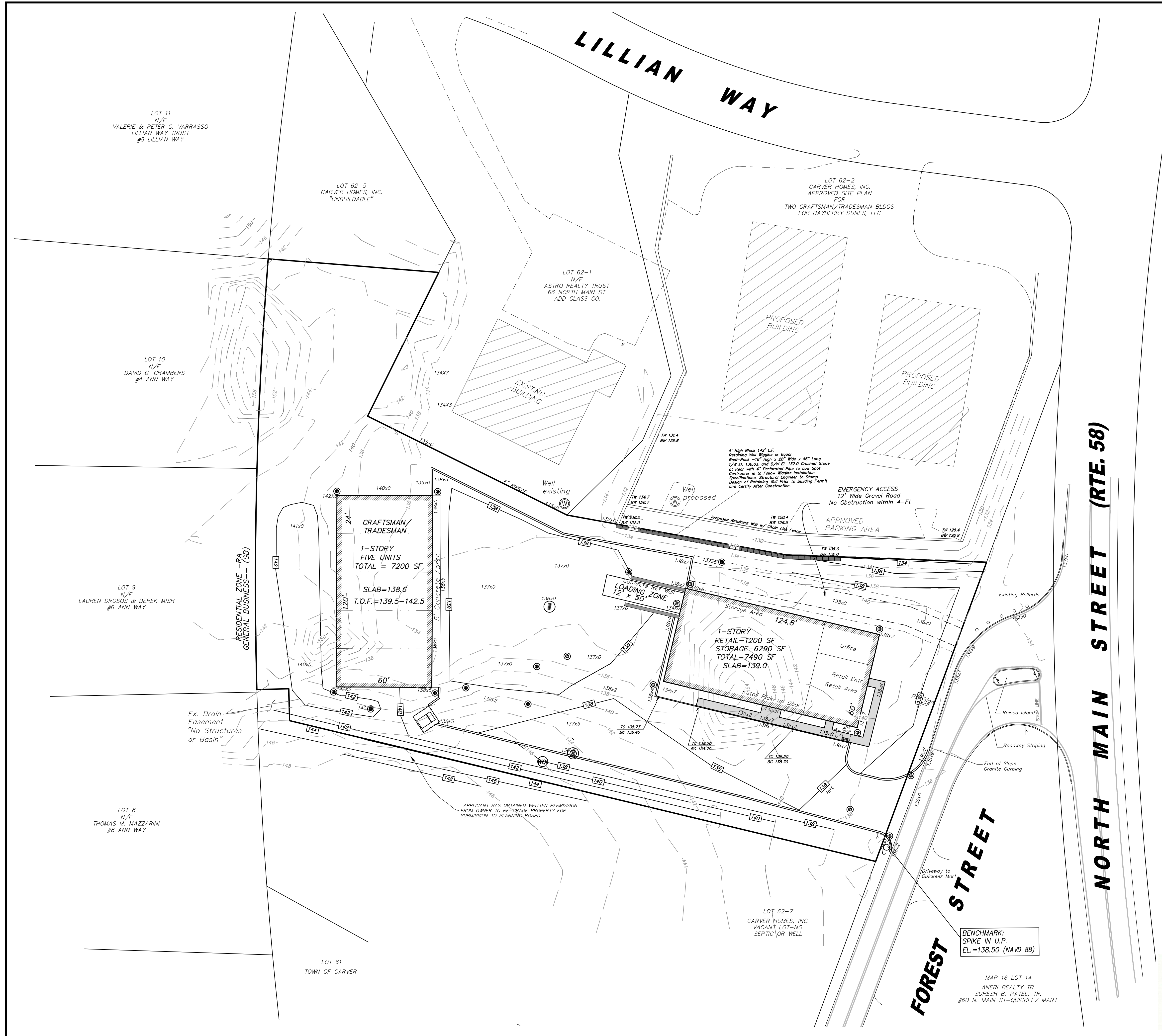
* ALL PLANTED AREAS ARE TO BE MULCHED

**SITE AND LANDSCAPING PLAN
IN
CARVER, MASSACHUSETTS**

PREPARED FOR
ERIC PONTIFF
OFF FOREST STREET
MAP 49 LOT 62-6
1" = 30'
MARCH 1, 2020
REVISED: MAY 17, 2020

FLAHERTY & STEFANI, INC.
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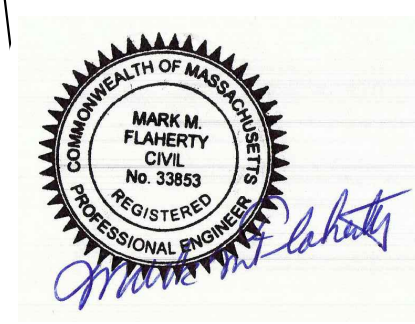




NO.	DATE	DESCRIPTION
4-28-20		CORRECTED SPOT SHOT AT SIDE DOOR
		ADDED TOP AND BOTTOM CURB ELEV'S
		REFLECT NEIGHBORING GRADING SCHEME
		REMOVE TURNING FIRE TRUCK RADI
5-17-20		ADD RETAINING WALL TO LESSEN SLOPE

GRADING PLAN
 IN
CARVER, MASSACHUSETTS
 PREPARED FOR
ERIC PONTIFF
OFF FOREST STREET

MAP 49 LOT 62-2
 MARCH 1, 2020
 REVISED: MAY 17, 2020
FLAHERTY & STEFANI, INC.
 67 SAMOSET STREET
 PLYMOUTH, MASSACHUSETTS
 508-747-2425 AND 508-747-3991 (FAX)
 MARK@FS-ENG.COM



BENCHMARK:
 SPIKE IN U.P.
 EL.=138.50 (NAVD 88)

MAP 16 LOT 14
 ANERI REALTY TR.
 SURESH B. PATEL, TR.
 #60 N. MAIN ST-QUICKEEZ MART

APPLICANT HAS OBTAINED WRITTEN PERMISSION
 FROM OWNER TO RE-GRADE PROPERTY FOR
 SUBMISSION TO PLANNING BOARD.

Ex. Drain
 Easement
 "No Structures
 or Basin"

RESIDENTIAL ZONE - RA
 GENERAL BUSINESS - (GB)

LOT 11
 N/F
 VALERIE & PETER C. VARRASSO
 LILLIAN WAY TRUST
 #8 LILLIAN WAY

LOT 62-5
 CARVER HOMES, INC.
 "UNBUILDABLE"

LOT 62-1
 N/F
 ASTRO REALTY TRUST
 66 NORTH MAIN ST
 ADD GLASS CO.

LOT 62-2
 CARVER HOMES, INC.
 APPROVED SITE PLAN
 FOR
 TWO CRAFTSMAN/TRADESMAN BLDGS
 FOR BAYBERRY DUNES, LLC

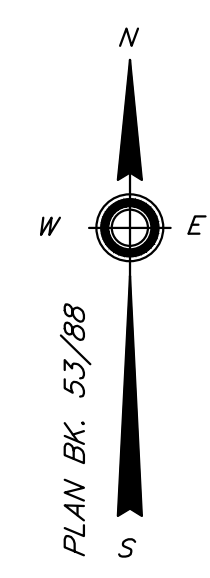
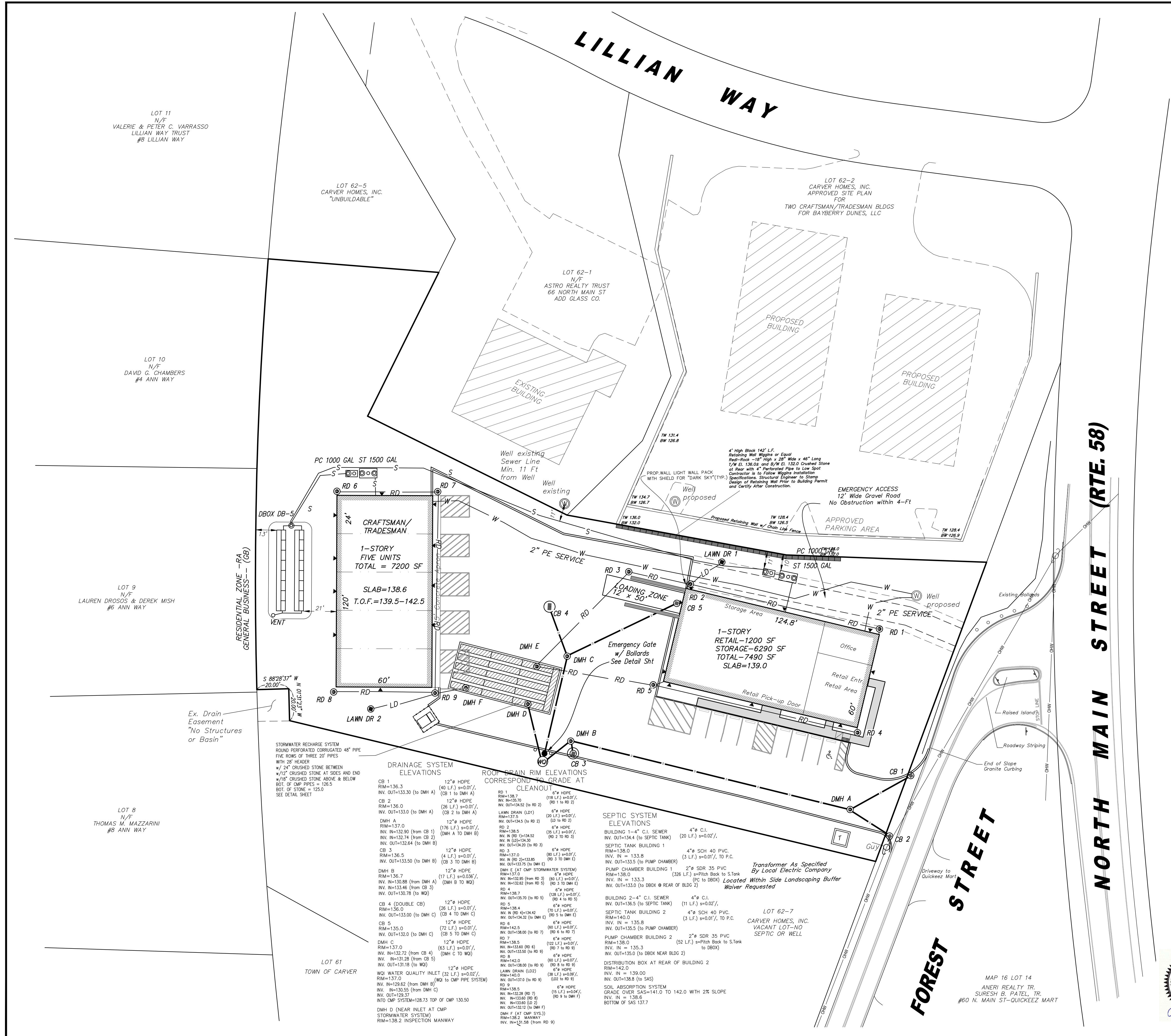
LOT 10
 N/F
 DAVID G. CHAMBERS
 #4 ANN WAY

LOT 9
 N/F
 LAUREN DROSSOS & DEREK MISH
 #9 ANN WAY

LOT 8
 N/F
 THOMAS M. MAZZARINI
 #8 ANN WAY

LOT 61
 TOWN OF CARVER

LOT 62-7
 CARVER HOMES, INC.
 VACANT LOT-NO
 SEPTIC OR WELL



LEGEND

- PROPOSED WALL-MOUNTED LIGHT
- PROPOSED CATCH BASIN
- PROPOSED DRAIN MANHOLE
- EXISTING DRAIN MANHOLE
- PROPOSED WATER QUALITY UNIT
- EXISTING UTILITY POLE
- PROPOSED LANDSCAPED AREA
- PROPOSED ELECTRIC TRANSFORMER

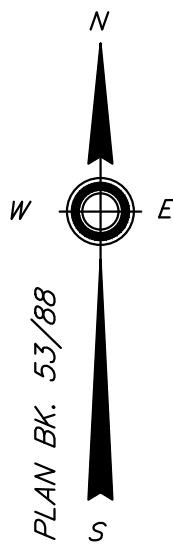
NO.	DATE	DESCRIPTION
4-28-20		ADDED SEPTIC SETBACKS
		CLARIFIED ROOF DRAIN CLEANOUT RIM ELEV'S
		RE-LOCATE LAWN DRAIN LABEL
5-17-20		F&O COMMENTS W/ RETAINING WALL

UTILITY NOTES:

1. THE LOCATIONS, SIZES AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR ITS REPRESENTATIVE(S) HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATIONS, SIZES AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES AND SHALL CONFIRM THAT THERE ARE NO INTERFERENCES WITH THE EXISTING UTILITIES AND THE PROPOSED UTILITY ROUTES, INCLUDING ROUTES WITHIN THE PUBLIC'S RIGHTS OF WAY.
2. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT. CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES THE OWNER FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAYBE WARRANTED TO RESOLVE THE CONFLICT.
3. SET CATCH BASIN RIMS AND INVERTS OF SEWERS, DRAINS, AND DITCHES IN ACCORDANCE WITH ELEVATIONS ON THE GRADING AND UTILITY PLANS. SEE NOTES ON PREVIOUS SHEETS FOR REQUIREMENTS FOR WORKING IN FOREST STREET.
4. RIM ELEVATIONS FOR DRAIN AND SEWER MANHOLES, WATER VALVE COVERS, GAS GATES, ELECTRIC AND TELEPHONE PULL BOXES, MANHOLES AND OTHER SUCH ITEMS ARE APPROXIMATE AND SHALL BE SET/RESET AS FOLLOWS:
 - A) PAVEMENT AND CONCRETE SURFACES: FLUSH
 - B) ALL SURFACES ALONG ACCESSIBLE ROUTES: FLUSH
 - C) LANDSCAPE, LOAM AND SEED, AND OTHER EARTH SURFACE AREAS: 1 INCH ABOVE SURROUNDING AREA AND TAPER EARTH TO THE RIM ELEVATION.
5. THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITIES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS PROVIDED BY, AND APPROVED BY, THE RESPECTIVE UTILITY COMPANY (GAS, TELEPHONE, ELECTRIC, FIRE ALARM, ETC.). FINAL DESIGN LOADS AND LOCATIONS TO BE COORDINATED WITH THE OWNER AND ENGINEER.
6. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR, AND SHALL BE RESPONSIBLE FOR, PAYING FEES AND FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES, WHETHER WORK IS PERFORMED BY CONTRACTOR OR BY THE UTILITY COMPANY.
7. UTILITY PIPE MATERIALS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON PLAN:
 - A) WATER SERVICE TO BE SIZED 2" PE DOMESTIC LINE
 - B) DRAIN PIPE SHALL BE 12" HDPE N-12 ADS PIPE OR EQUAL.
8. SITE CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR AND SHALL FURNISH EXCAVATION, INSTALLATION, AND BACKFILL OF ELECTRICAL FURNISHED SITEMARK RELATED ITEMS, SUCH AS PULL BOXES, CONDUITS, DUCT BANKS, LIGHT POLE BASES AND CONCRETE PADS. SITE CONTRACTOR SHALL FURNISH CONCRETE ENCASUREMENT OF DUCT BANKS IF REQUIRED BY THE UTILITY COMPANY AND AS INDICATED ON THE DRAWING.
9. SITE CONTRACTOR SHALL EXCAVATE AND BACKFILL TRENCHES FOR GAS IN ACCORDANCE WITH THE GAS COMPANY'S REQUIREMENTS, IF GAS BECOMES AVAILABLE TO THE SITE.
10. ALL DRAINAGE MANHOLE STRUCTURE INTERIOR DIAMETERS SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS.
11. CONTRACTOR MUST OBTAIN "WATER-TIGHTNESS" CERTIFICATIONS FROM ITS SUPPLIER OF ALL DRAINAGE STRUCTURES TO PREVENT INFILTRATION.
12. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE CARVER DPW FOR ALL PROPOSED WORK.
13. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT CONSTRUCTION PLANS AND MEET WITH CARVER DPW AND TOWN PLANNER FOR ITS FINAL REVIEW AND APPROVAL OF PROPOSED UTILITIES.

UTILITY PLAN
 IN
CARVER, MASSACHUSETTS
 PREPARED FOR
ERIC PONTIFF
OFF FOREST STREET
 MAP 49 LOT 62-2
 MARCH 1, 2020
 REVISED: APRIL 28, 2020
FLAHERTY & STEFANI, INC.
 67 SAMOSET STREET
 PLYMOUTH, MASSACHUSETTS
 508-747-2425 AND 508-747-3991 (FAX)
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- CONSTRUCTION PHASING: SEQUENCE OF MAJOR ACTIVITIES**
1. PRECONSTRUCTION NOTIFICATION AND MEETING.
 2. INSTALL EROSION CONTROL MEASURES (EROSION CONTROL BLANKETS TO BE PLACED ON ALL SLOPES)
 3. CLEAR AND GRUB VEGETATION
 4. INSTALL FILL TO SUBGRADE
 5. STABILIZE DENUDE AREAS AND STOCKPILES
 6. INSTALL UTILITIES, STORM DRAINAGE, AND ROADWAY BASE MATERIALS
 7. CONSTRUCT NEW PARKING AREAS WITH ITS ATTENDANT GRADING AND UTILITIES.
 8. COMPLETE GRADING AND INSTALL PERMANENT SEEDING AND PLANTINGS
 9. COMPLETE FINAL PAVEMENT; REMOVE ACCUMULATED SEDIMENT FROM BASINS
 10. UPON COMPLETION OF CONSTRUCTION ACTIVITY REMOVE EROSION CONTROL MEASURES AND RESEED ANY AREAS DISTURBED BY THEIR REMOVAL.
 11. UPON COMPLETION OF CONSTRUCTION ACTIVITY THE EXISTING STORM DRAINAGE SYSTEM STRUCTURES ARE TO BE CLEANED.

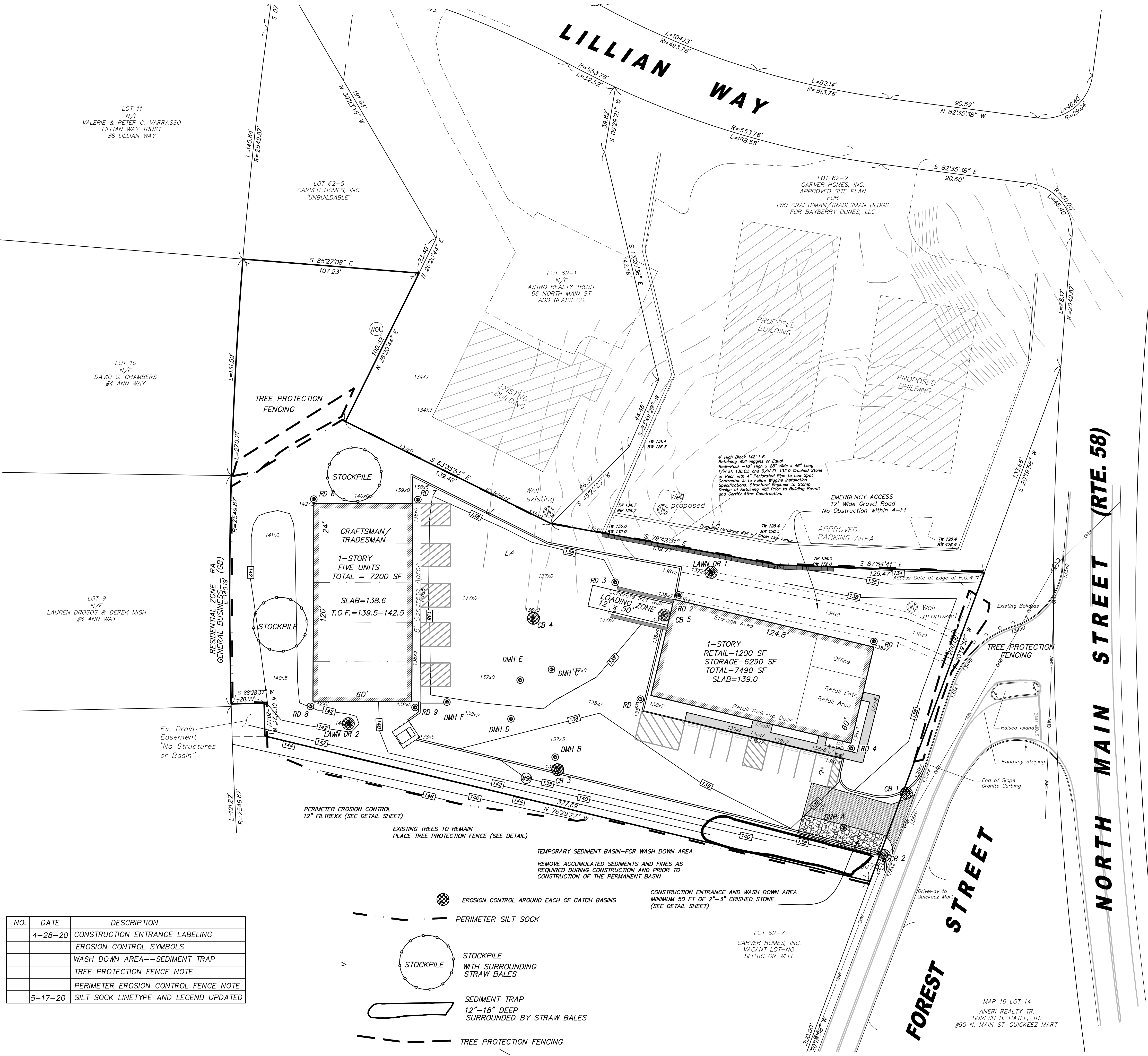
- EROSION CONTROL NOTES:**
1. THE SITE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SUITABLE EROSION AND SEDIMENTATION CONTROL DEVICES ON SITE DURING CONSTRUCTION AS REQUIRED TO PREVENT SILT FROM LEAVING THE SITE. SILT WILL NOT BE ALLOWED BEYOND CONSTRUCTION LIMITS.
 2. EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES. CONTRACTOR IS RESPONSIBLE FOR REPAIRING OR REPLACING EROSION CONTROL DEVICES WHICH BECOME INEFFECTIVE.
 3. CONTRACTOR SHALL OBTAIN ALL PERMITS FOR ALL GRADING AND OTHER LAND DISTURBING ACTIVITIES PRIOR TO CONSTRUCTION.
 4. SLOPE STABILIZATION INSPECTIONS WILL BE INCLUDED IN THE QUARTERLY MONITORING REPORT
 5. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL TEMPORARY EROSION CONTROL MEASURES AFTER CONSTRUCTION IS COMPLETE AND ALL DISTURBED AREAS HAVE BEEN STABILIZED.
 6. THE CONTRACTOR SHALL PROVIDE TEMPORARY GROUND COVER FOR ALL AREAS WITH EXPOSED SOIL WHICH WILL NOT BE DISTURBED BY GRADING OPERATIONS FOR A PERIOD OF THIRTY DAYS OR MORE. IF THE PROJECT IS SUSPENDED FOR ANY REASON, THE CONTRACTOR SHALL MAINTAIN THE SOIL EROSION AND SEDIMENTATION FACILITIES.
 7. SPRINKLE OR APPLY DUST SUPPRESSERS TO KEEP DUST WITHIN TOLERABLE LIMITS AT THE CONSTRUCTION SITE.
 8. STOCKPILES SHALL BE SURROUNDED ON THEIR PERIMETERS WITH SILT FENCE TO PREVENT AND CONTROL SILTATION AND EROSION.

**EROSION CONTROL PLAN
IN
CARVER, MASSACHUSETTS**

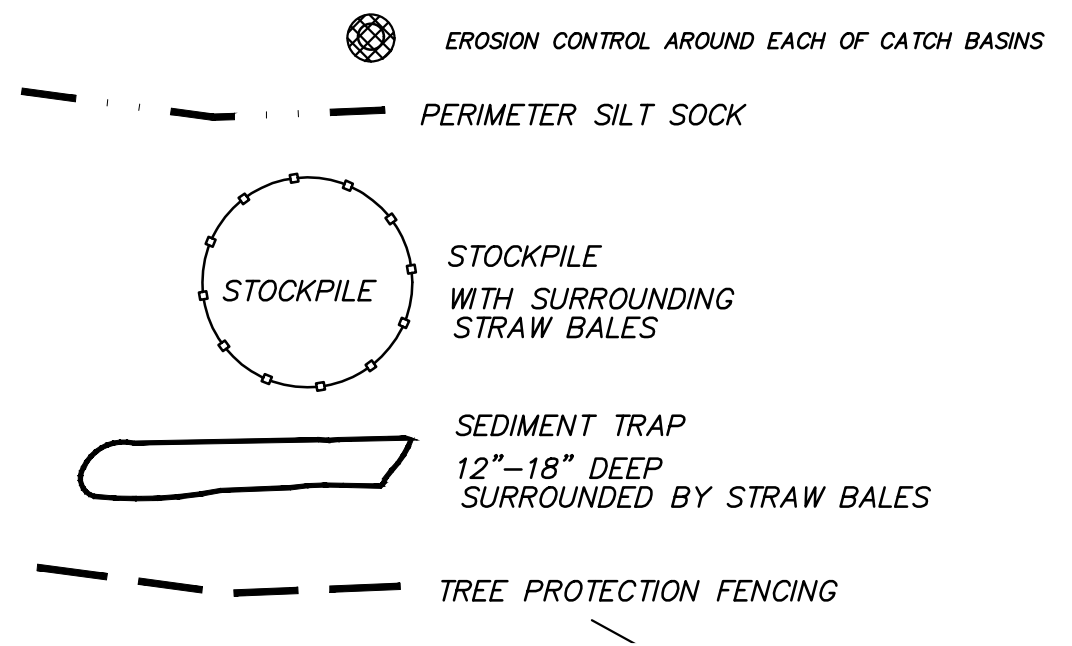
PREPARED FOR
ERIC PONTIFF

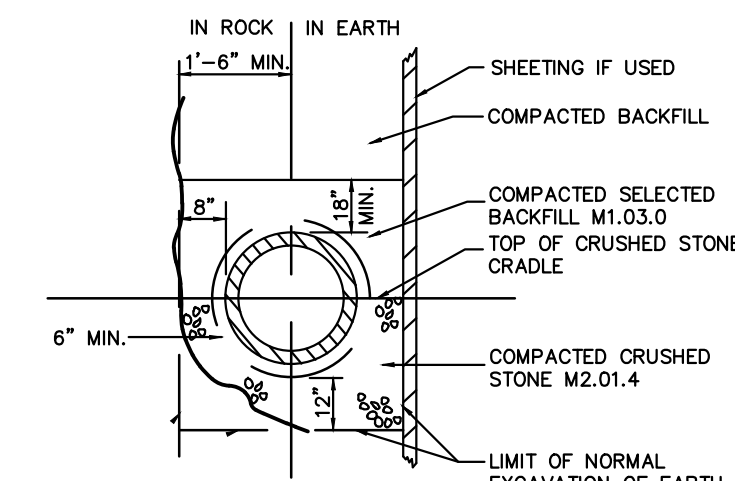
OFF FOREST STREET

MAP 19 LOT 62-2
1" = 30'
MARCH 1, 2020
REVISED: MAY 17, 2020
FLAHERTY & STEFANI, INC.
67 SAMOSET STREET
PLYMOUTH, MASSACHUSETTS
508-747-2425 AND 508-747-3991 (FAX)
MARK@FS-ENG.COM



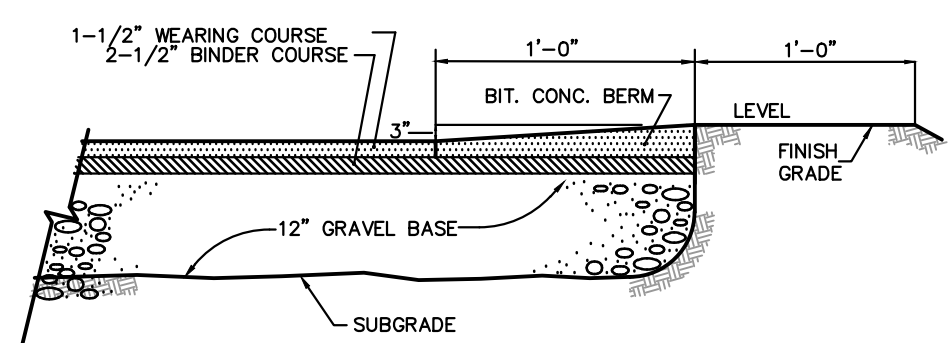
NO.	DATE	DESCRIPTION
4-28-20		CONSTRUCTION ENTRANCE LABELING
		EROSION CONTROL SYMBOLS
		WASH DOWN AREA--SEDIMENT TRAP
		TREE PROTECTION FENCE NOTE
		PERIMETER EROSION CONTROL FENCE NOTE
5-17-20		SILT SOCK LINETYPE AND LEGEND UPDATED



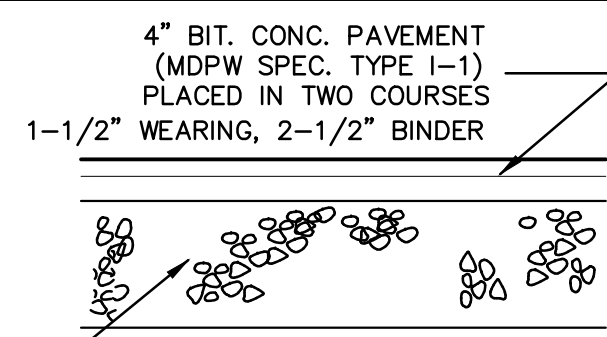


STORM DRAIN TRENCH SECTION - ONE PIPE
NOT TO SCALE

NOTE: ALL PIPE TO BE HDPE WITH A MINIMUM OF 18" COVER

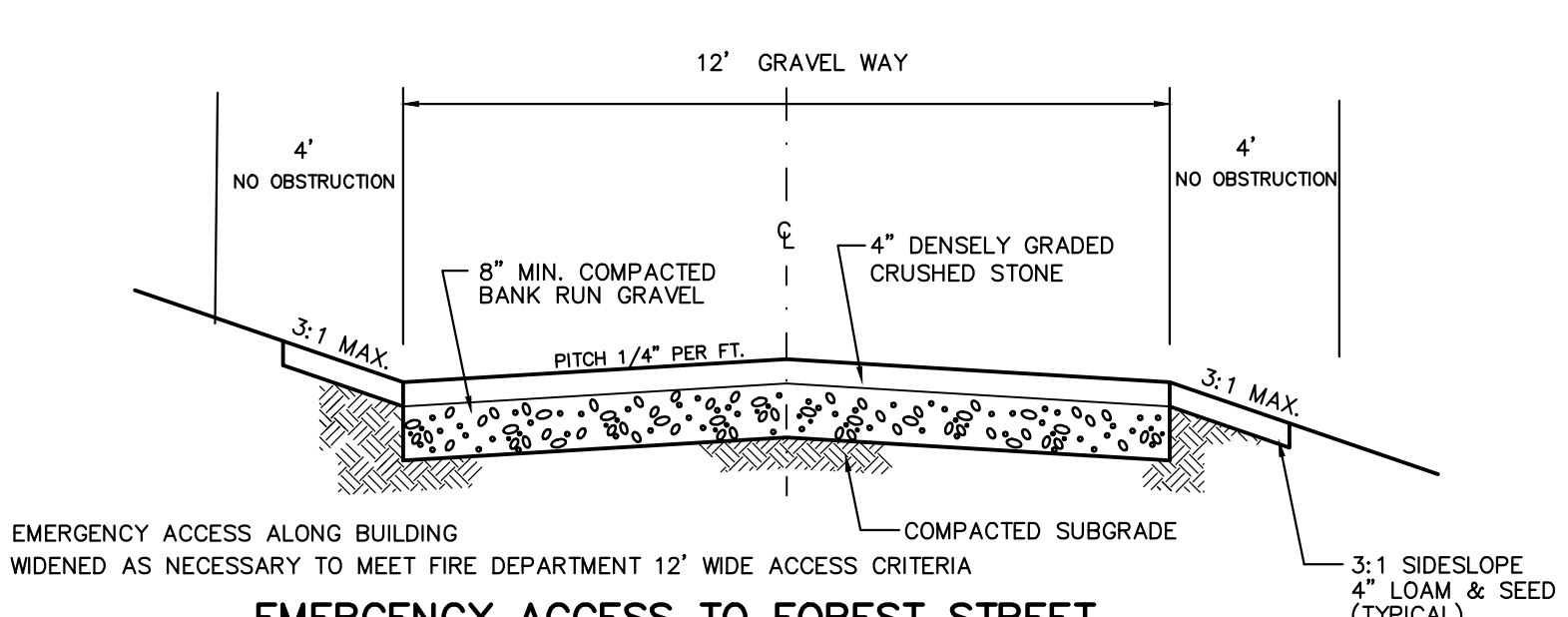


CAPE COD BERM
NOT TO SCALE



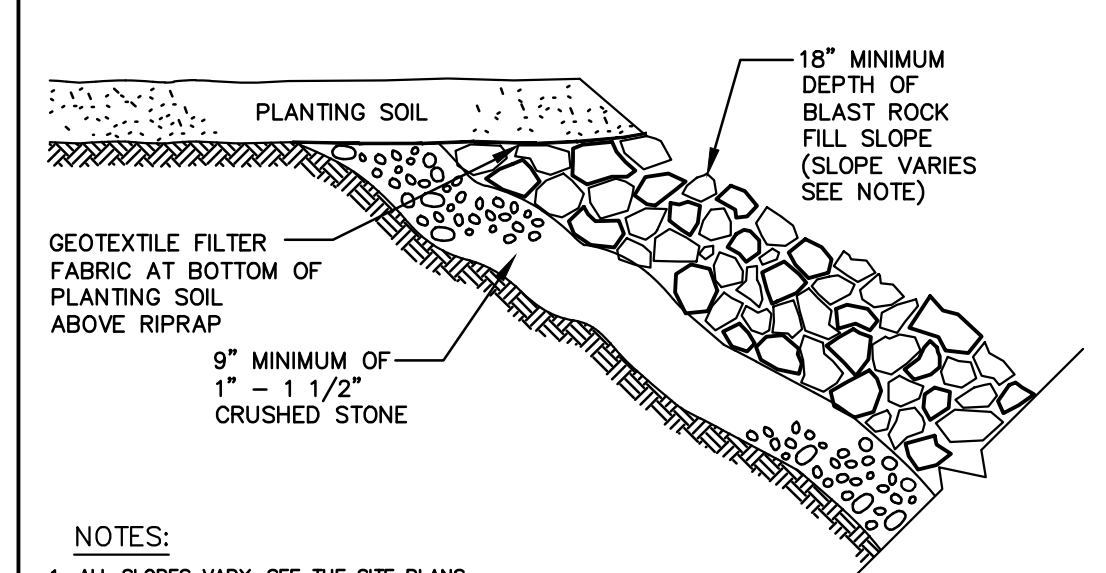
PAVEMENT SECTION
NOT TO SCALE

4" OF SELECT GRAVEL OVER 8" OF CLEAN BANK GRAVEL



EMERGENCY ACCESS TO FOREST STREET
TYPICAL ROAD CROSS-SECTION
NOT TO SCALE

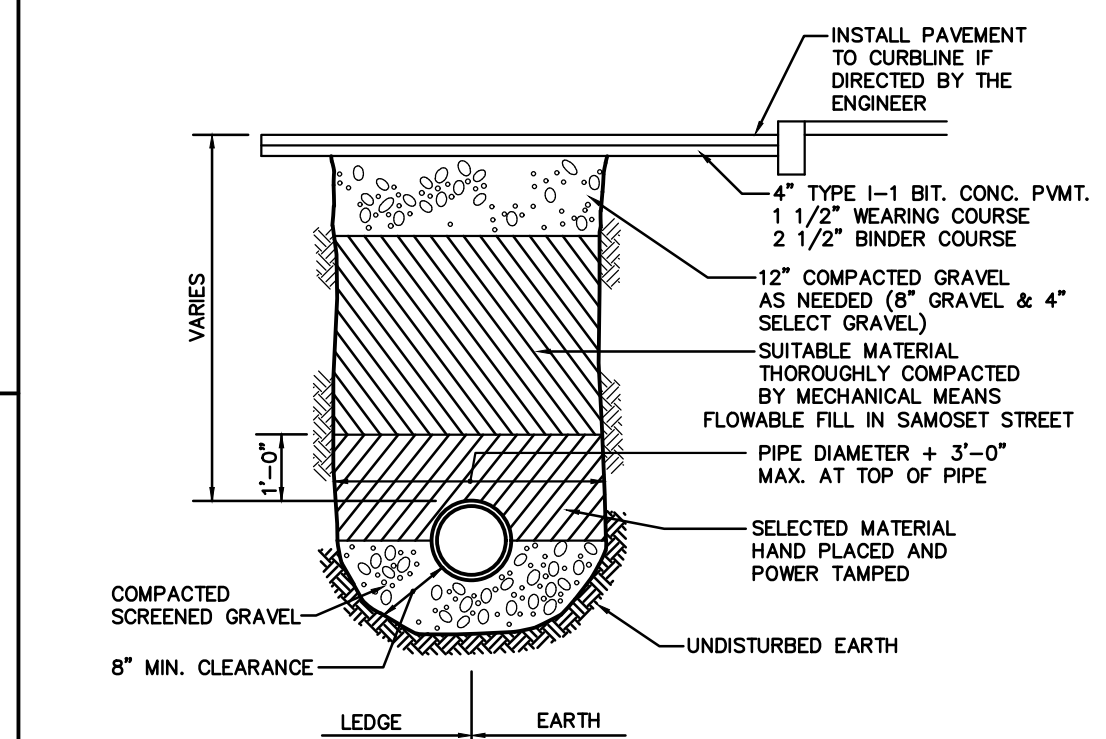
EMERGENCY ACCESS ALONG BUILDING WIDENED AS NECESSARY TO MEET FIRE DEPARTMENT 12' WIDE ACCESS CRITERIA



BLAST ROCK SPECIFICATION

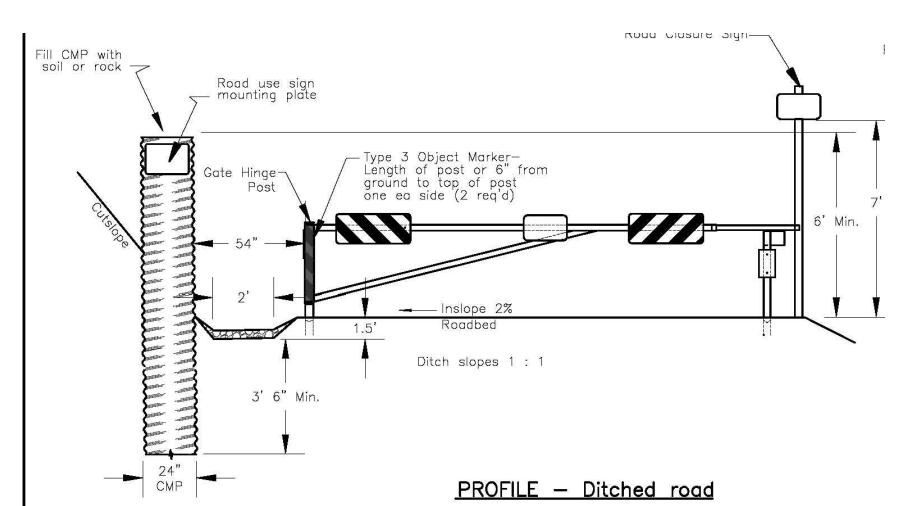
SIZE	MAX. % OF THE TOTAL WT. SMALLER THAN GIVEN SIZE
400 lb	100
300 lb	80
200 lb	50
25 lb	10

RIP-RAP BANK DETAIL
NOT TO SCALE

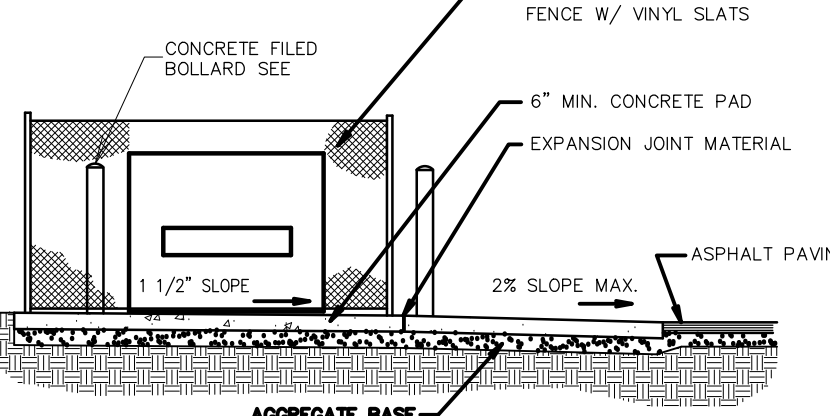


TYPICAL TRENCH & PATCH
NOT TO SCALE

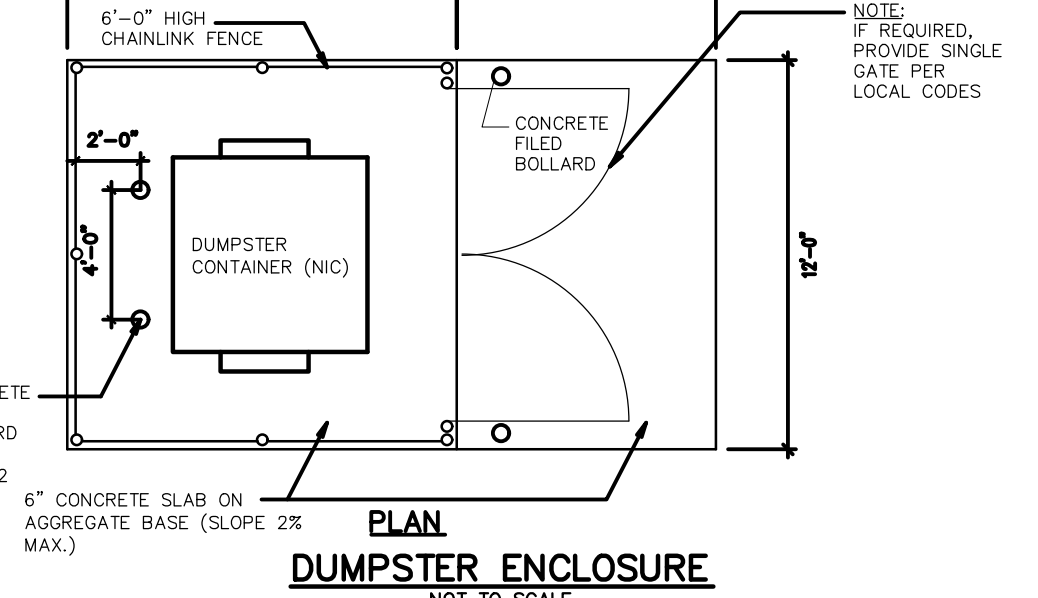
INSTALL PAVEMENT TO CURBLINE IF DIRECTED BY THE ENGINEER



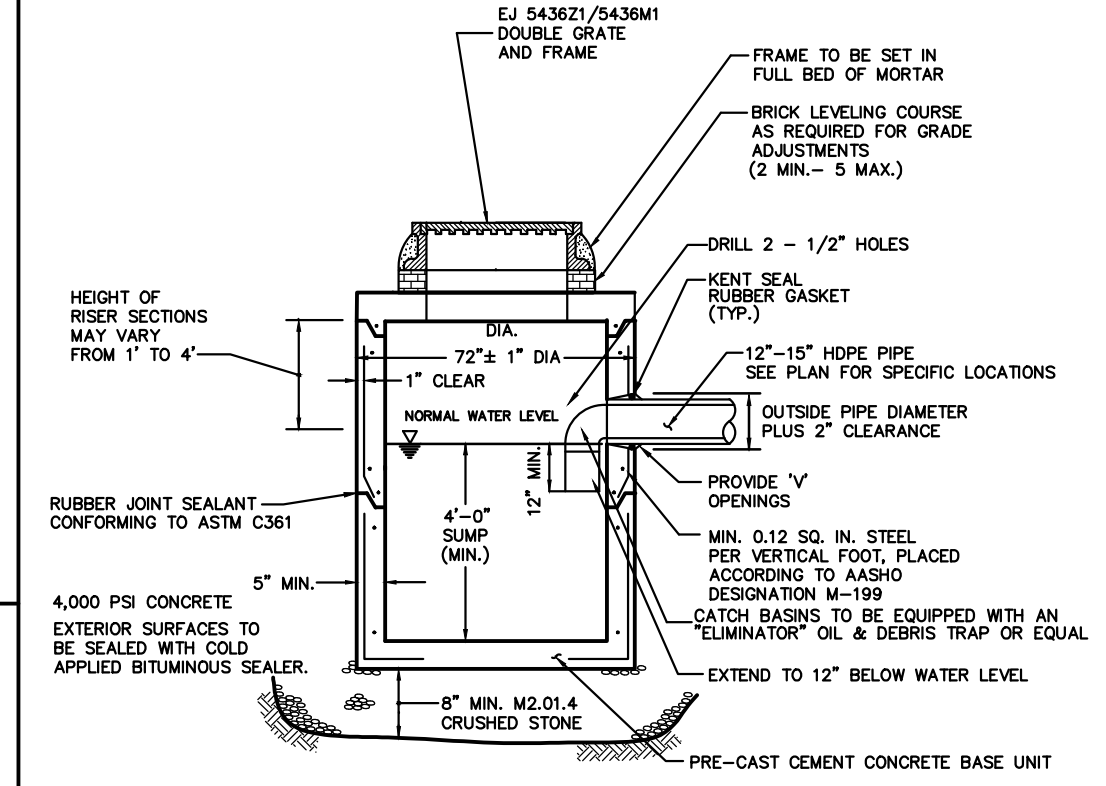
ACCESS ROAD GATE
NOT TO SCALE



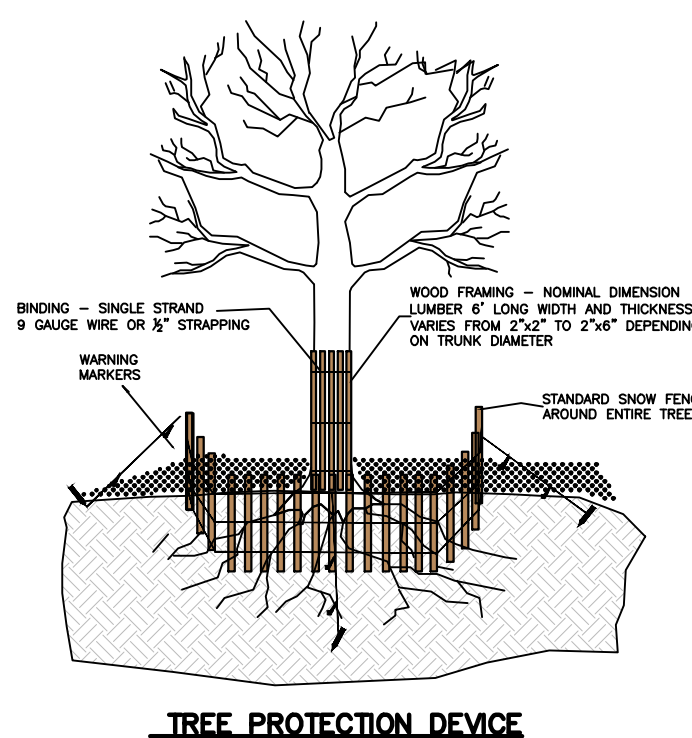
DUMPSTER ENCLOSURE
NOT TO SCALE



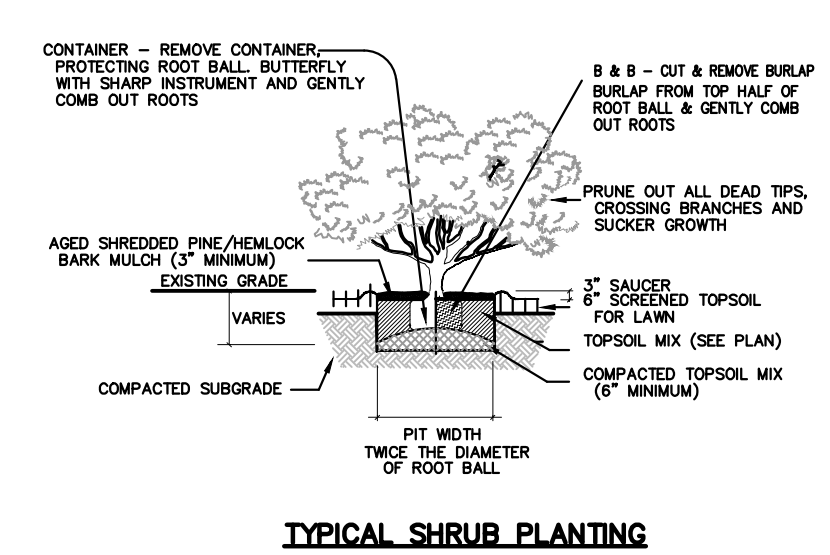
DUMPSTER ENCLOSURE
NOT TO SCALE



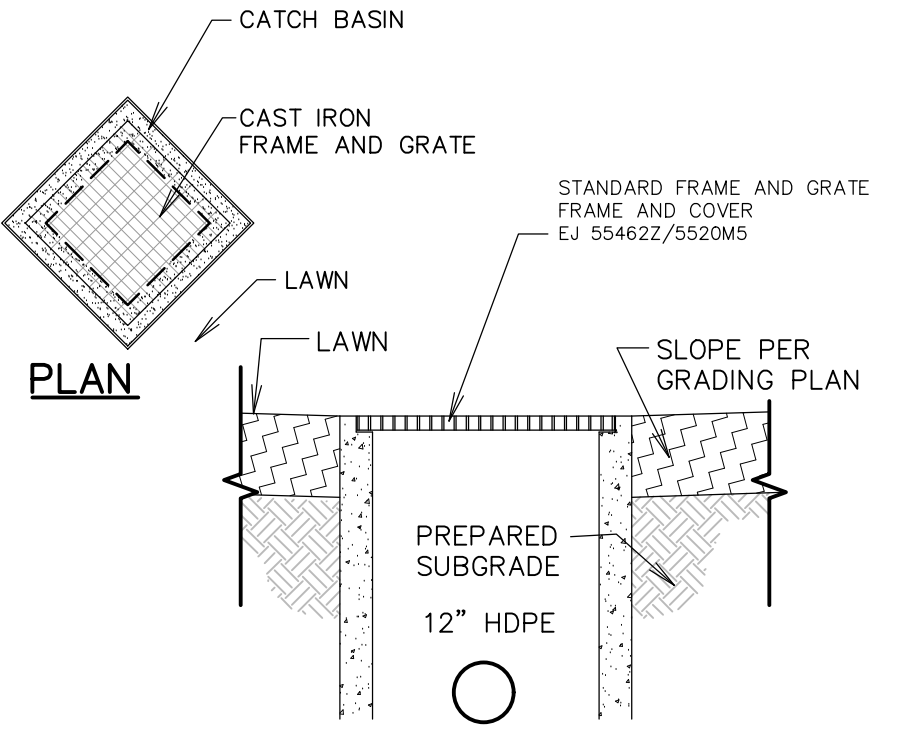
DOUBLE GRATE PRE-CAST CONCRETE CATCH BASIN
NOT TO SCALE



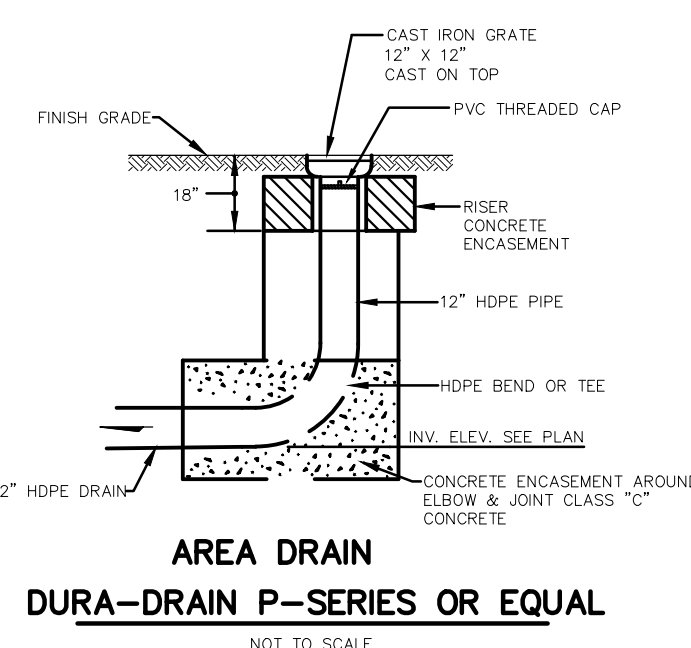
TREE PROTECTION DEVICE



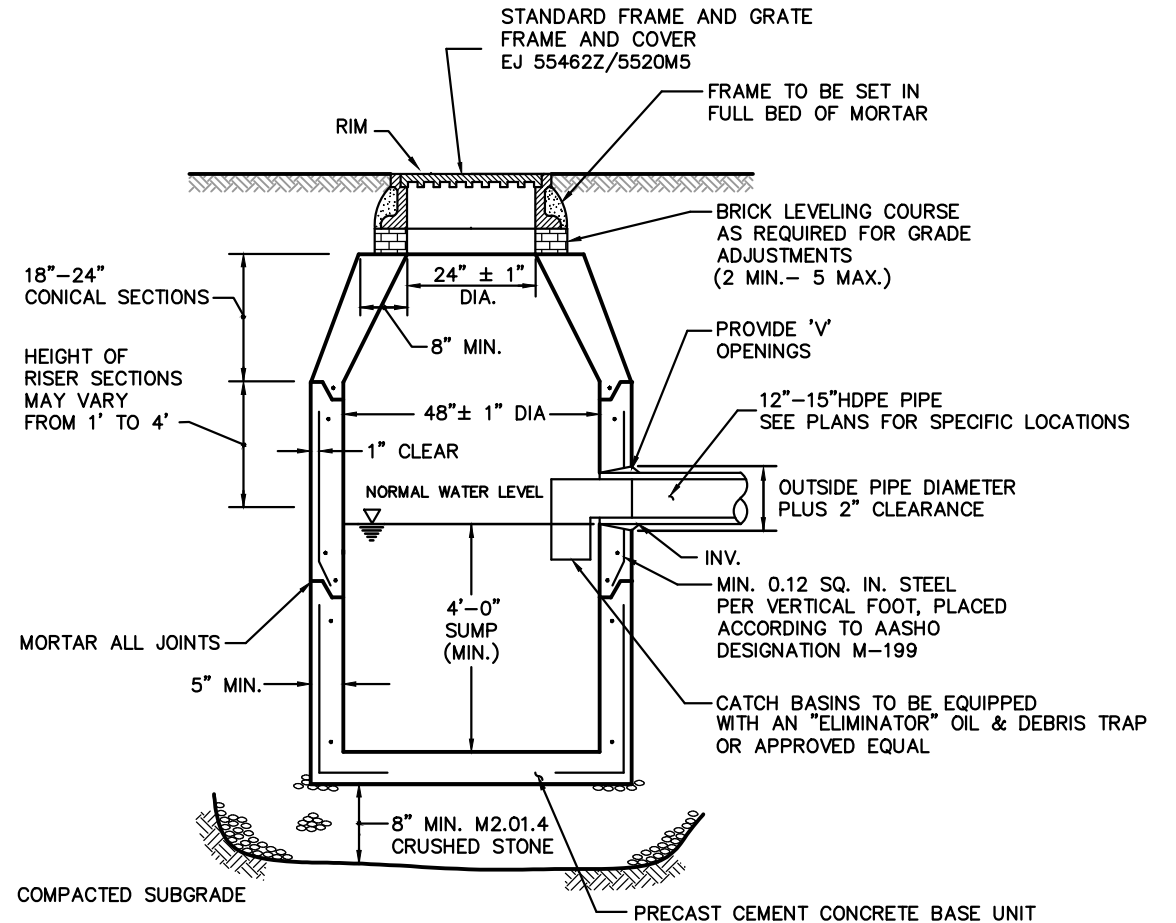
TYPICAL SHRUB PLANTING
NOT TO SCALE



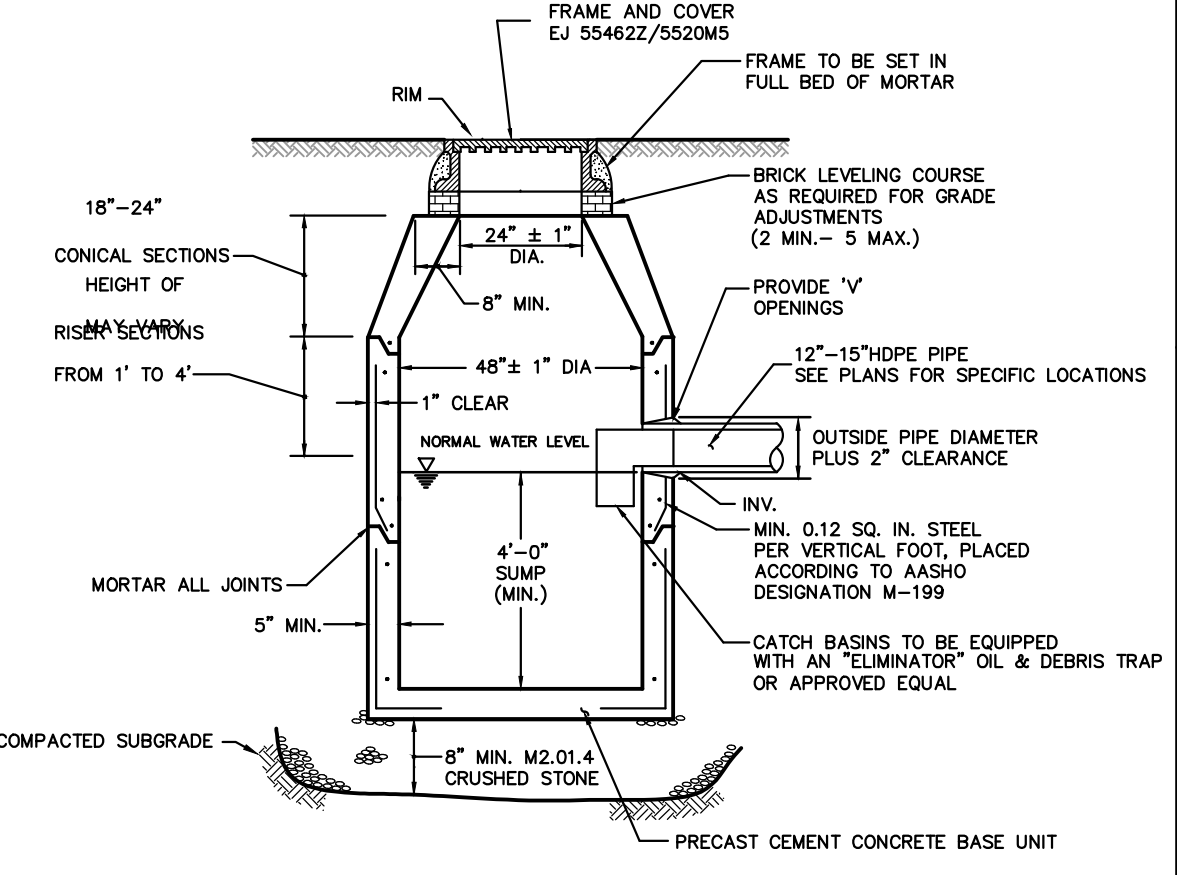
LAWN DRAIN
NOT TO SCALE



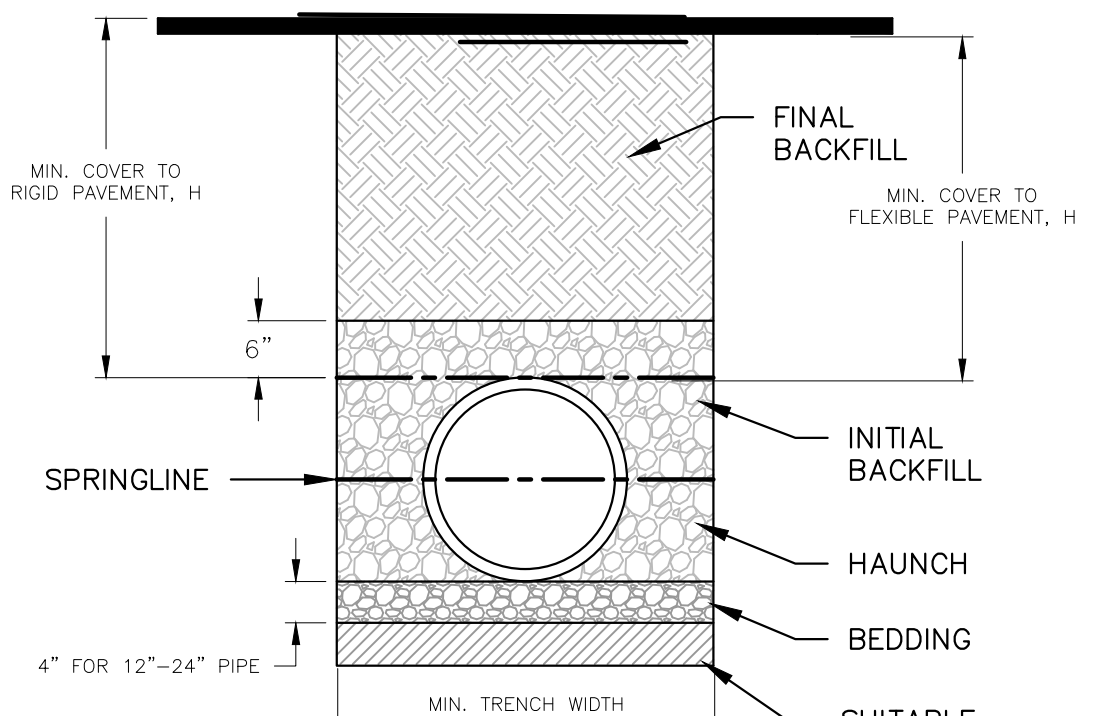
AREA DRAIN
DURA-DRAIN P-SERIES OR EQUAL
NOT TO SCALE



PRECAST AREA DRAIN MANHOLE



PRECAST CONCRETE CATCH BASIN



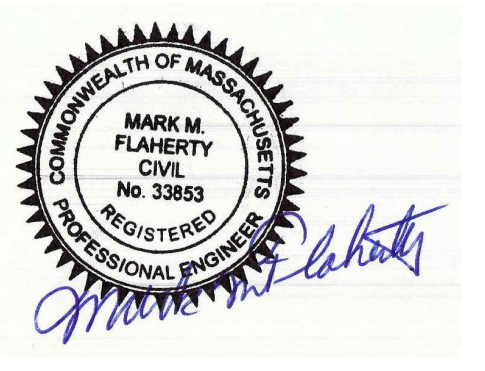
STORM DRAIN TRENCH SECTION - HDPE PIPE
NOT TO SCALE

NOTE: ALL PIPE TO BE HDPE WITH A MINIMUM OF 18" COVER

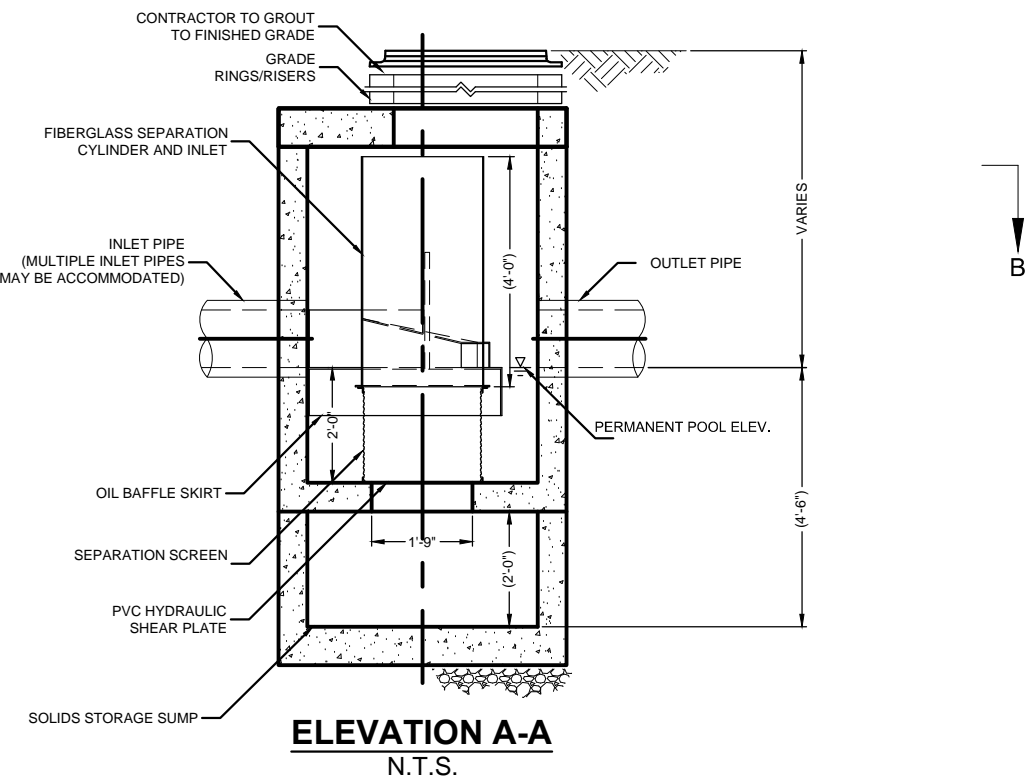
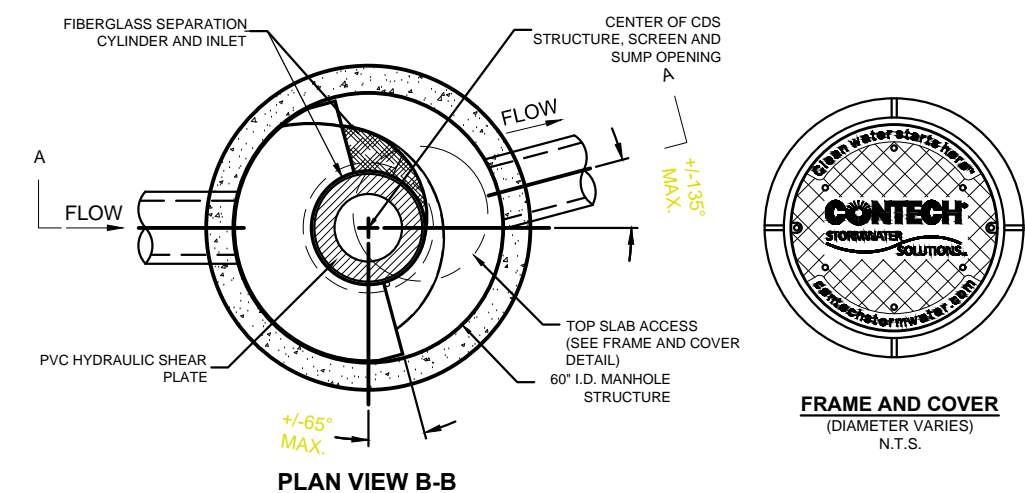
NOTES:

- ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS, LATEST EDITION"
- MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE PINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
- FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER, AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
- BEDDING: SUITABLE MATERIAL SHALL BE CLASS II OR III IN THE PIPE ZONE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER. MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-1500mm).
- INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I OR II IN THE PIPE ZONE EXTENDING NOT LESS THAN 4' ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
- MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT. FOR TRAFFIC APPLICATIONS WITH LESS THAN FOUR FEET OF COVER, EMBEDEDMENT OF THE PIPE SHALL BE USING ONLY A CLASS I OR CLASS II BACKFILL.

DATE	DESCRIPTION
4-28-20	EMERGENCY ACCESS-4 FT CLEAR



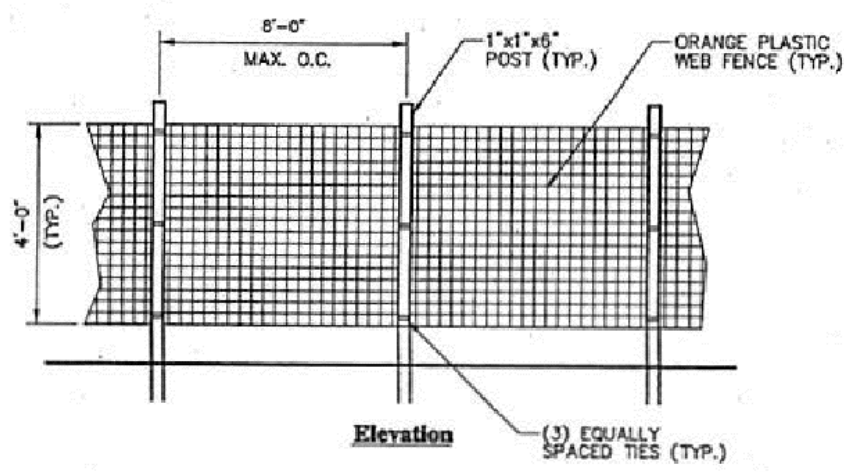
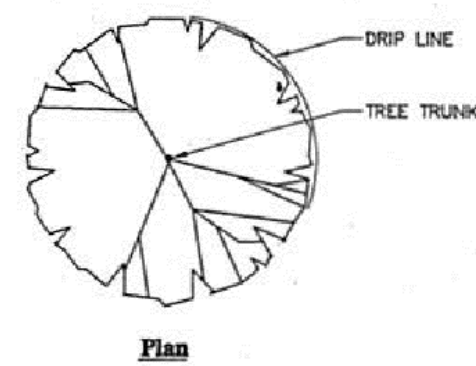
DETAILS OF CONSTRUCTION
IN
CARVER, MASS.
PREPARED FOR
ERIC PONTIFF
OFF FOREST STREET
MAP 49 LOT 62-6
NTS MARCH 1, 2020
REVISED: MAY 17, 2020
FLAHERTY & STEFANI, INC.
67 SAMOSET STREET
PLYMOUTH, MASSACHUSETTS
508-747-2425 AND 508-747-3991 (FAX)
MARK@FS-ENG.COM



CONTECH CDS 2015-4 DETAIL

- GENERAL NOTES**
- CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
 - DIMENSIONS MARKED WITH () ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
 - FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
 - CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
 - STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
 - PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

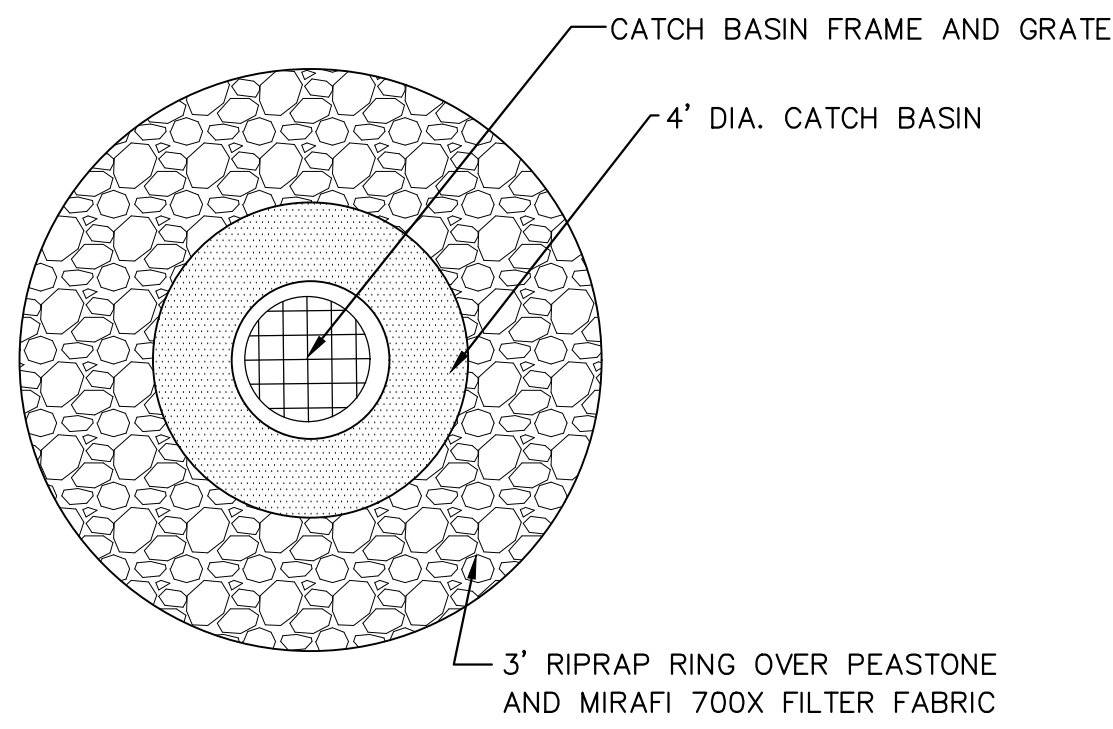
- INSTALLATION NOTES**
- ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
 - CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
 - CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
 - CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
 - CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.



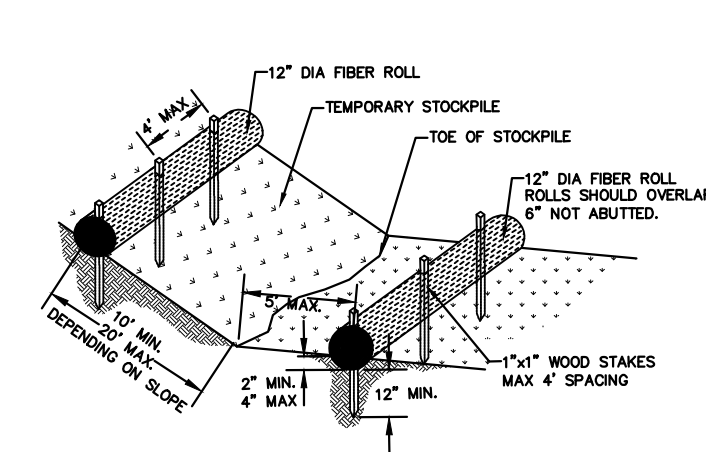
- Notes:**
- INSTALL TREE PROTECTION FENCE AT THE DRIP LINE OF EXISTING TREES TO REMAIN.

TREE PROTECTION FENCING
NOT TO SCALE

DATE	DESCRIPTION
4-28-20	TREE PROTECTION FENCE DETAIL
5-17-20	REPLACE REFERENCE FROM HAY BALES TO STRAW BALES

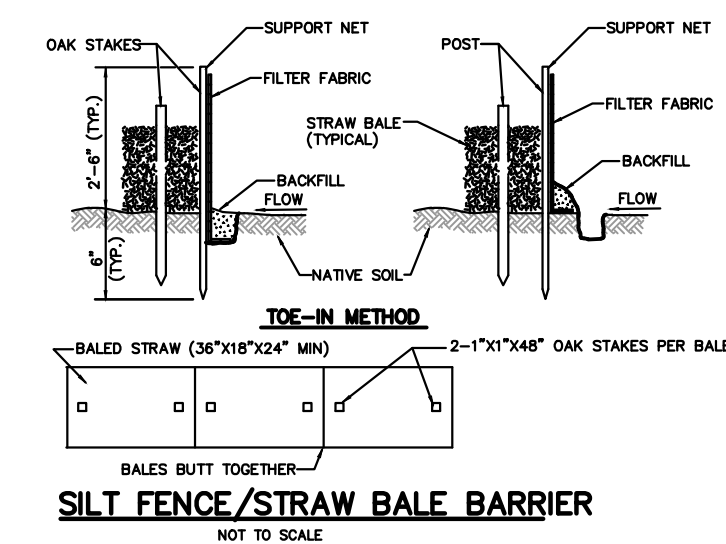


EROSION PROTECTION AROUND CATCH BASIN

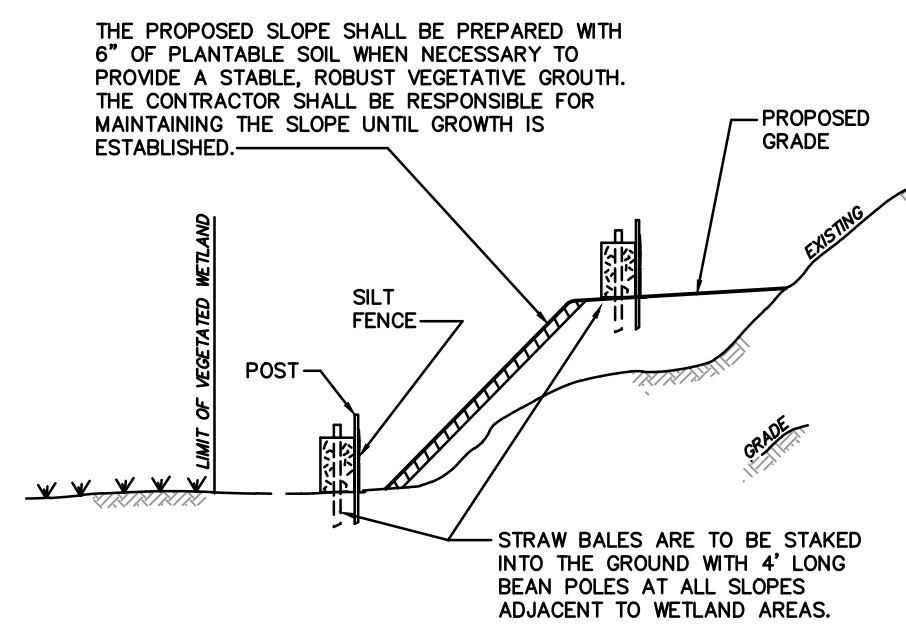


INSPECTION SCHEDULE SHALL COMPLY WITH THE 2017 EPA CONSTRUCTION GENERAL PERMIT MAINTENANCE SHALL OCCUR WHEN NECESSARY. FIBER ROLLS SHALL BE REPLACED EVERY 6 MONTHS AND STACKS SHALL BE INSPECTED TO ENSURE STRUCTURAL INTEGRITY. FIBER ROLLS SHALL BE INSPECTED WEEKLY AND ALL MAINTENANCE ISSUES SHALL BE CORRECT AT THAT TIME. TEMPORARY STOCKPILES ARE STOCKPILES THAT WILL BE USED WITHIN 14 DAYS FOR BEING PLACED. IF A STOCKPILE IS BEING LEFT UNDISTURBED FOR LONGER THAN 14 DAYS THEN PERMANENT STABILIZATION WILL BE REQUIRED.

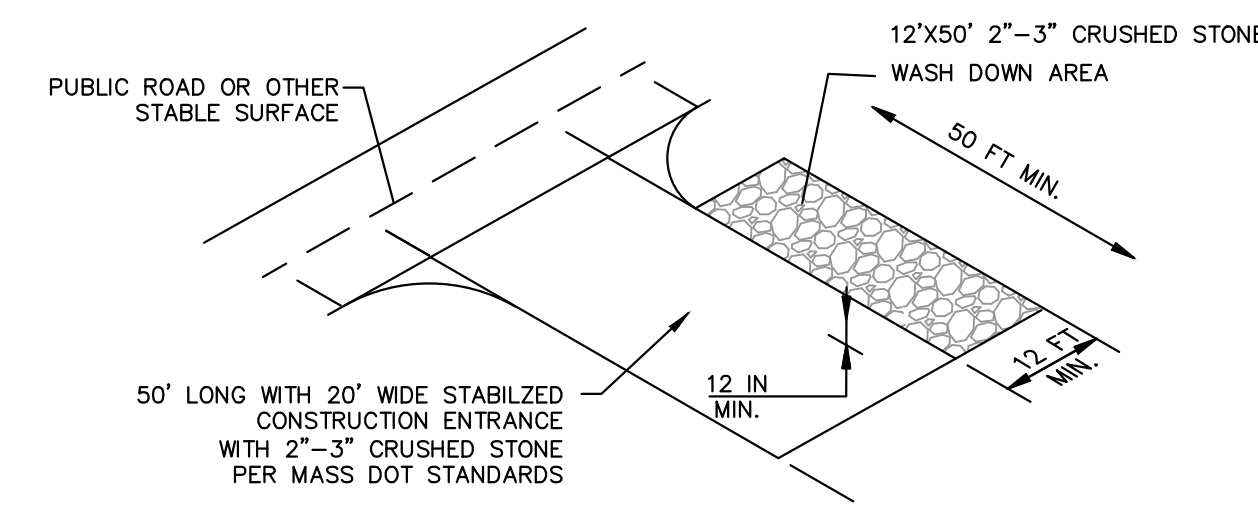
TYPICAL STOCKPILE PROTECTION
NOT TO SCALE



SILT FENCE/STRAW BALE BARRIER
NOT TO SCALE



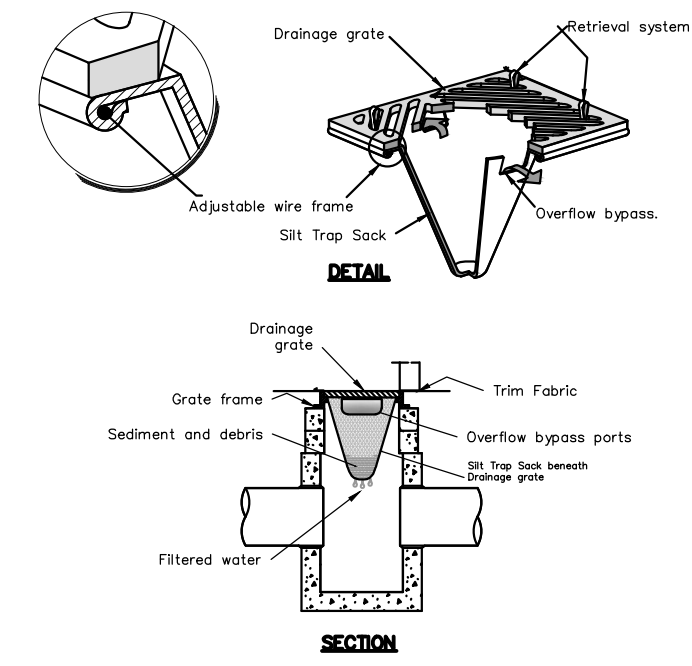
SLOPE TREATMENT
NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

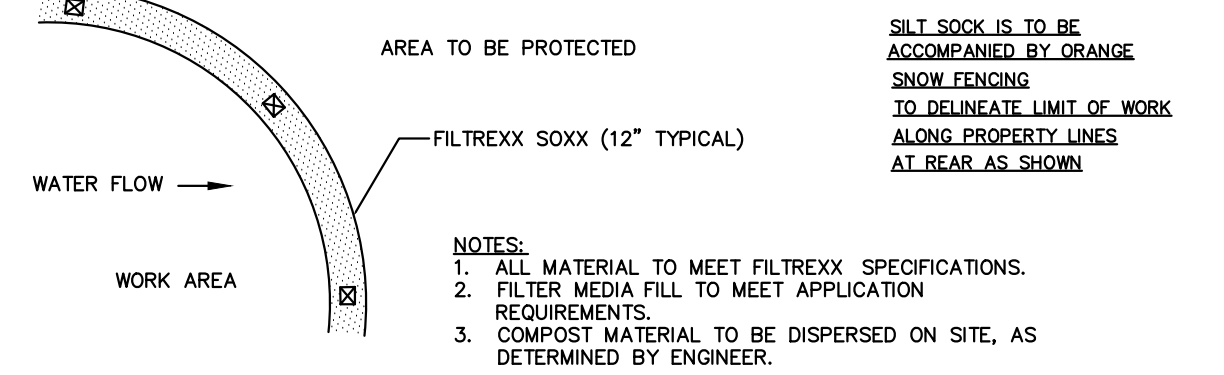
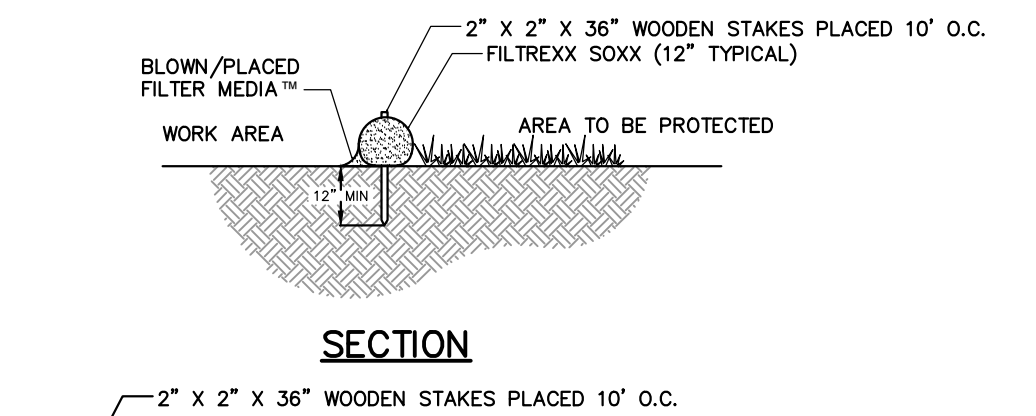
- USE A WASH DOWN AREA DESIGNED FOR THE ANTICIPATED TRAFFIC LOADS.
- EVERY TRUCK TO BE WASHED DOWN BEFORE EXITING SITE.
- INSTALL PRIOR TO, ALONG SIDE OF, OR AS PART OF THE CONSTRUCTION ENTRANCE.
- DIRECT WASH WATER TO THE SEDIMENT TRAPPING DEVICE NOTED ON THE EROSION CONTROL PLAN.
- MAINTAIN STONE SURFACE OF ACCUMULATED SEDIMENT AS NEEDED.

WASH DOWN AREA
NOT TO SCALE

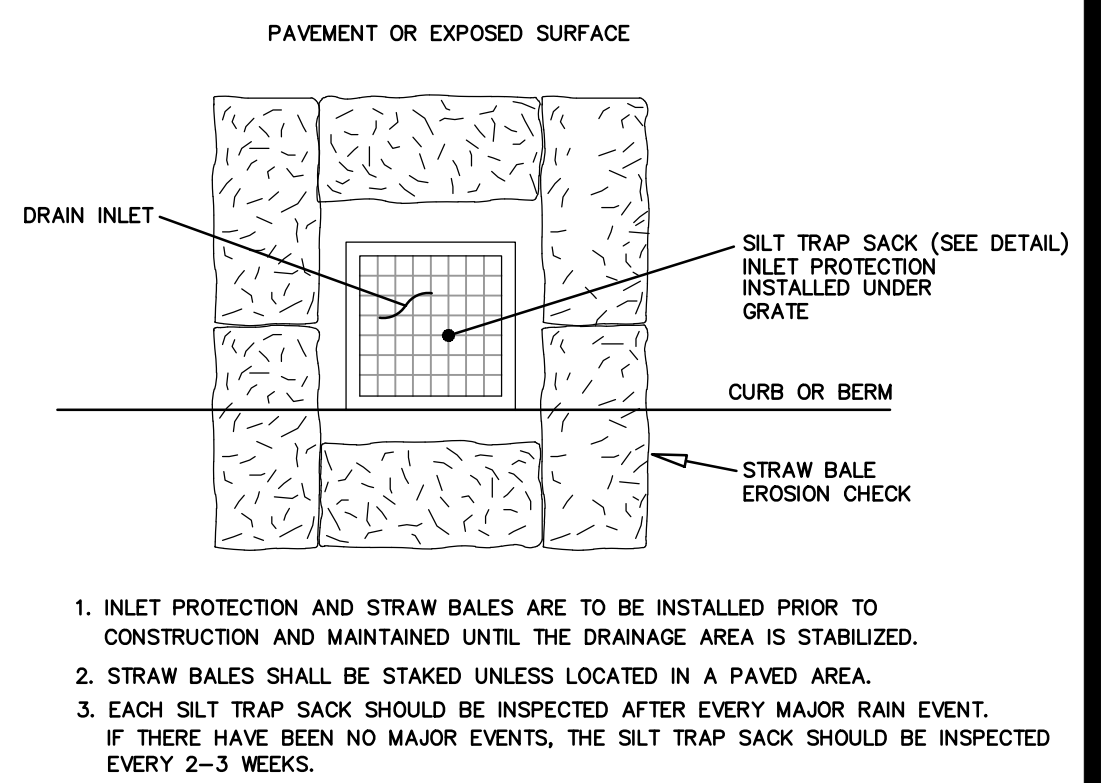


- Notes:**
- Size and shape of the silt trap sack to fit the storm structure it will service. (rectangular or round).
 - The silt trap sack shall have a built-in high-flow relief system (overflow bypass).
 - The silt trap sack assembly must allow removal without spilling the collected material.
 - Empty silt trap sack and dispose of sediment and debris before the sack is half-full.
 - Ensure the silt trap sack assembly does not spill or fall into the storm structure. If sediment is spilled into the storm structure, remove the spilled material by suction hose or other approved method.

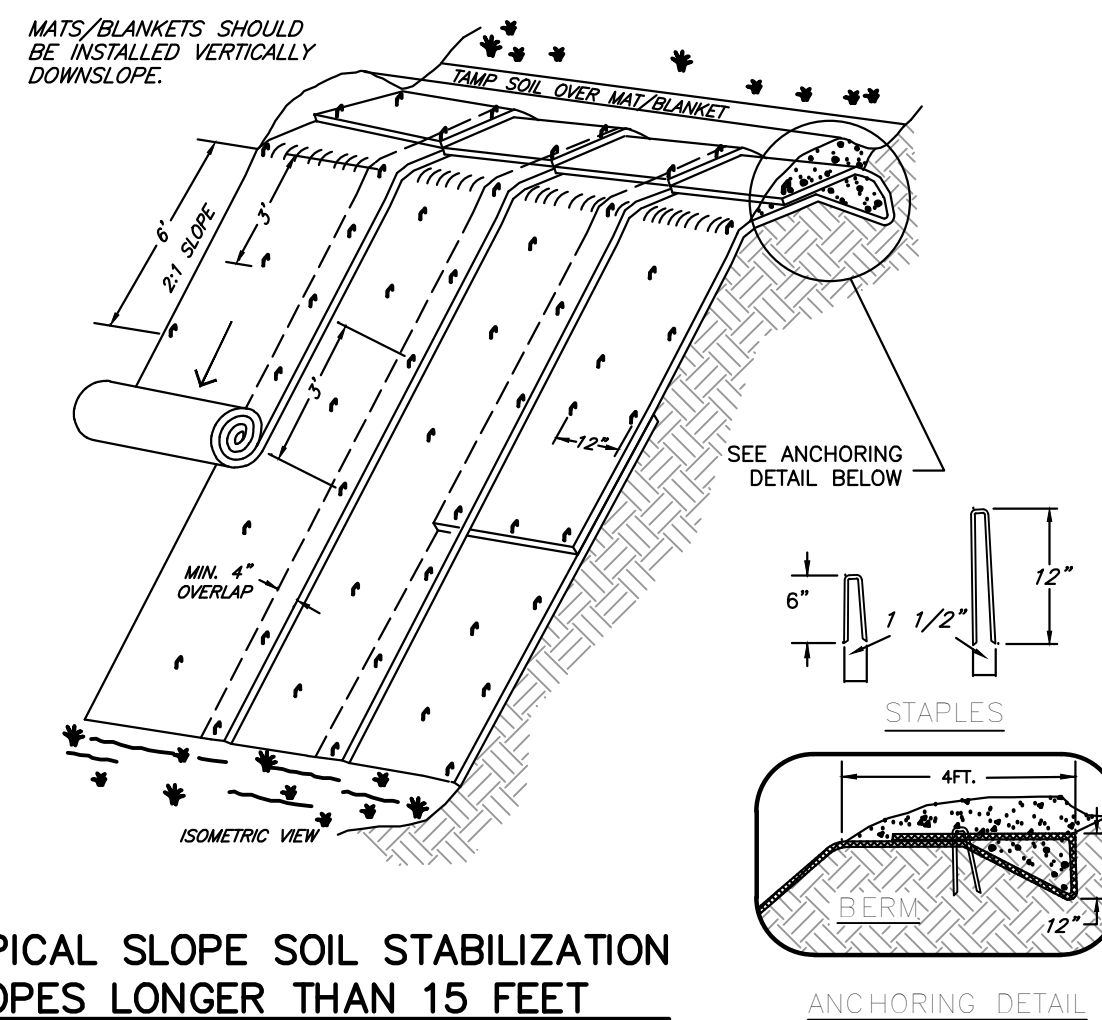
SILT TRAP SACK
NOT TO SCALE



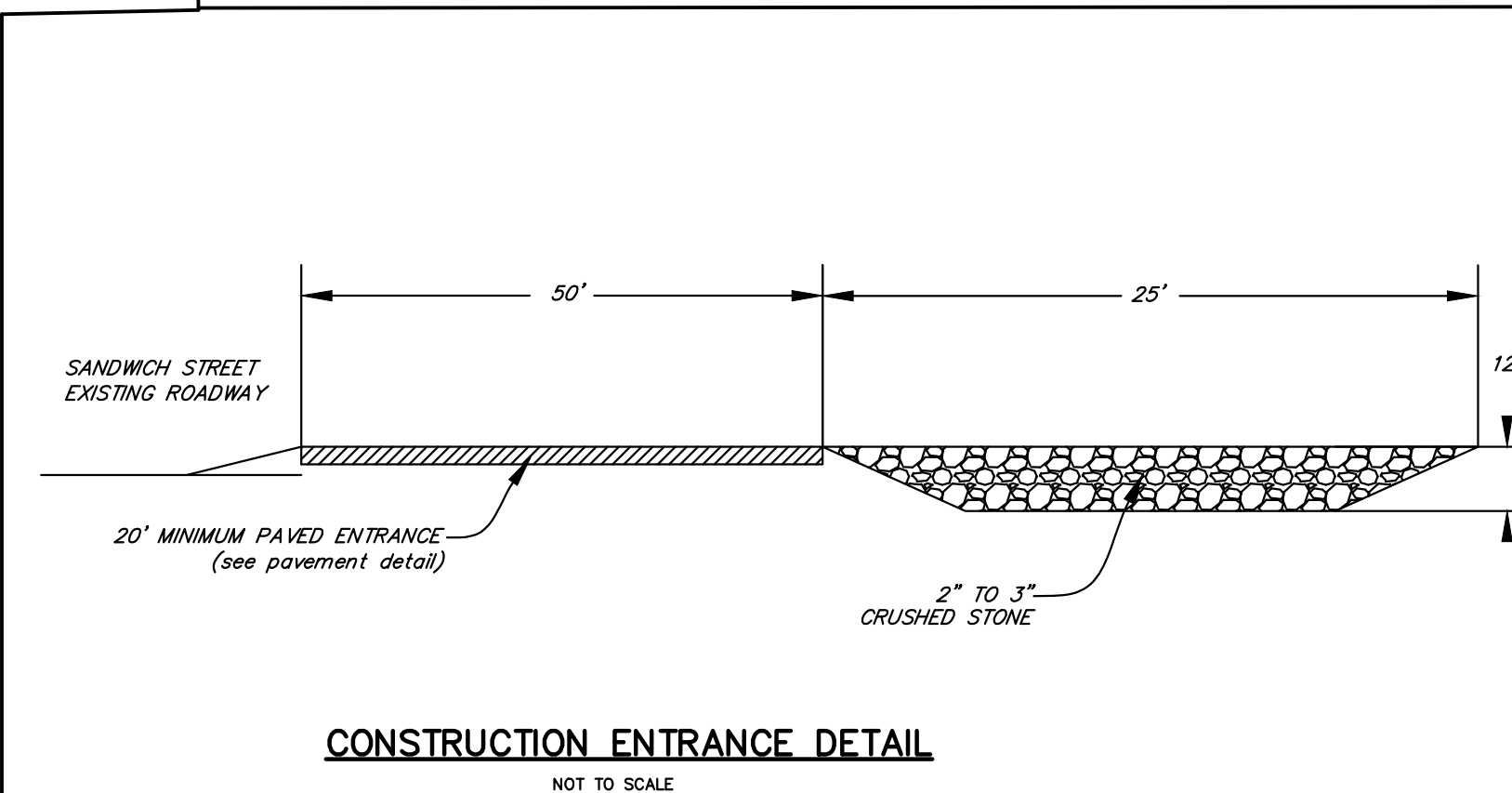
FILTRREXX SEDIMENT CONTROL
NOT TO SCALE



DRAIN INLET PROTECTION
NOT TO SCALE



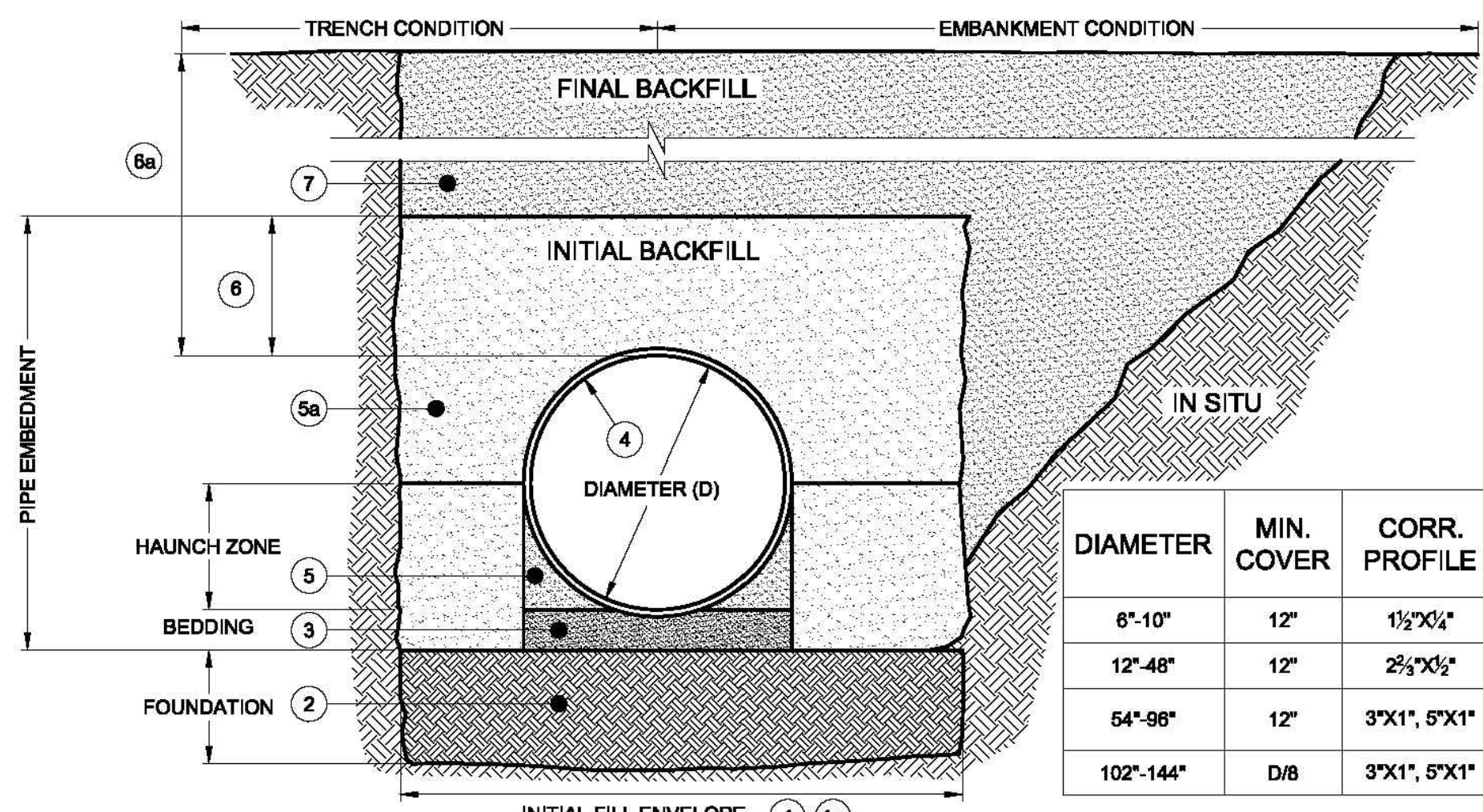
TYPICAL SLOPE SOIL STABILIZATION SLOPES LONGER THAN 15 FEET
NOT TO SCALE



CONSTRUCTION ENTRANCE DETAIL
NOT TO SCALE

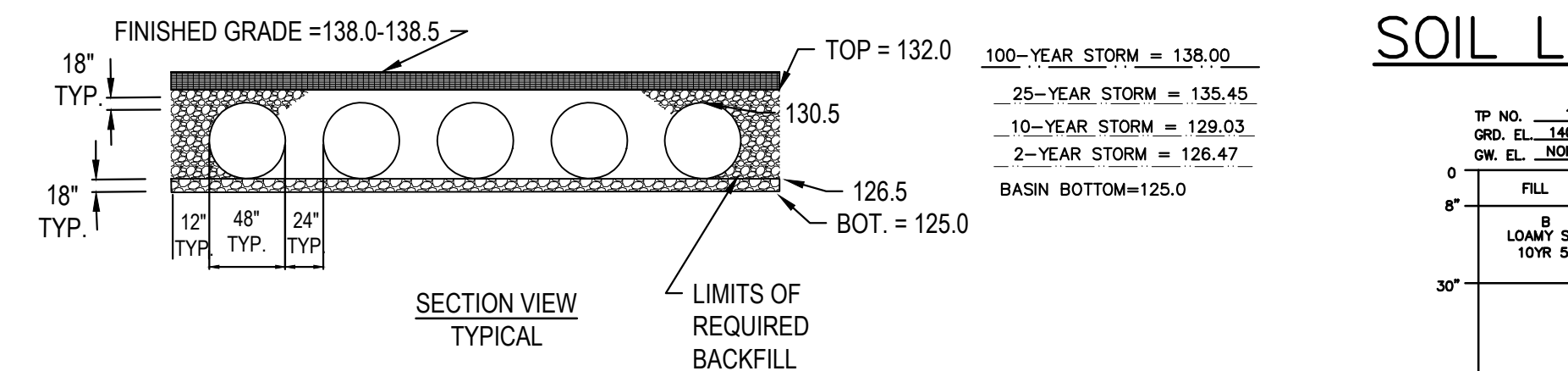
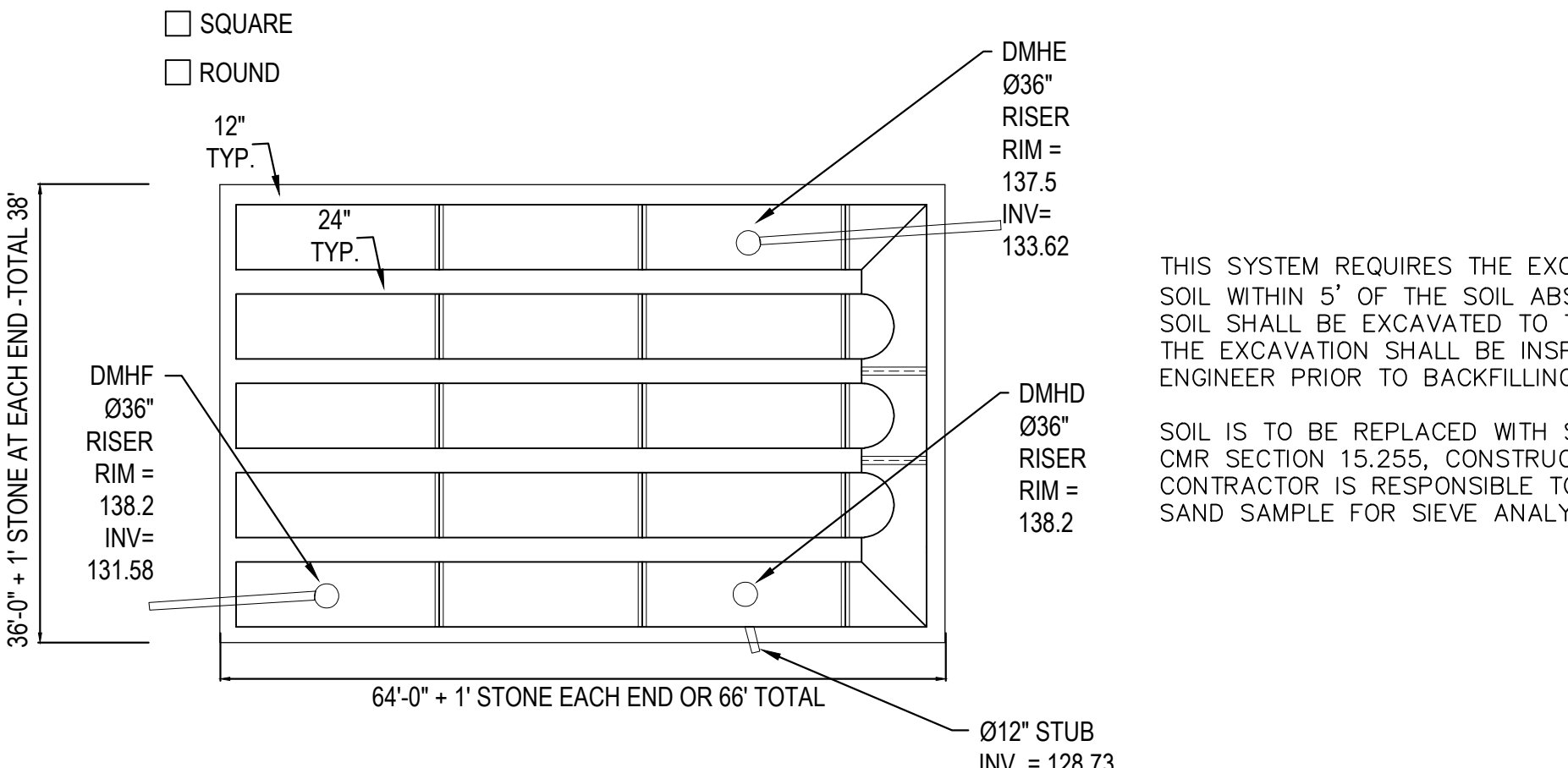
DETAILS OF CONSTRUCTION IN CARVER, MASS.
PREPARED FOR
ERIC PONTIFF
OFF FOREST STREET
MAP 49 LOT 62-6
NTS MARCH 1, 2020
REVISED: MAY 17, 2020
FLAHERTY & STEFANI, INC.
67 SAMOSET STREET
PLYMOUTH, MASSACHUSETTS
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- BACKFILL REQUIREMENTS FOLLOW THE GUIDELINES OF AASHTO LRFD BRIDGE DESIGN (SEC 12) and CONSTRUCTION (SEC 26).
- MINIMUM TRENCH WIDTH MUST ALLOW ROOM FOR PROPER COMPACTION OF HAUNCH MATERIALS UNDER THE PIPE. THE MINIMUM TRENCH WIDTH (12.6.6.1):
PIPE ≤ 12": D + 16"
PIPE > 12": 1.5D + 12"
- MINIMUM EMBANKMENT WIDTH (in feet) FOR INITIAL FILL ENVELOPE (12.6.6.2):
PIPE < 24": 3.0D
PIPE 24" - 144": D + 4'0"
PIPE > 144": D + 10'0"
- THE FOUNDATION UNDER THE PIPE AND SIDE BACKFILL SHALL BE ADEQUATE TO SUPPORT THE LOADS ACTING UPON IT (26.5.2).
- BEDDING MATERIAL SHALL BE A RELATIVELY LOOSE MATERIAL THAT IS ROUGHLY SHAPED TO FIT THE BOTTOM OF THE PIPE, AND A MINIMUM OF TWICE THE CORRUGATION DEPTH IN THICKNESS, WITH THE MAXIMUM PARTICLE SIZE OF ONE-HALF OF THE CORRUGATION DEPTH (26.5.3).
- CORRUGATED STEEL PIPE (CSP) (HEL-COR).
- HAUNCH ZONE MATERIAL SHALL BE HAND SHOVELED OR SHOVEL SLICED INTO PLACE TO ALLOW FOR PROPER COMPACTION (26.5.4).
- INITIAL BACKFILL FOR PIPE EMBEDMENT TO MEET AASHTO A-1, A-2 OR A-3 CLASSIFICATION OR APPROVED EQUAL, COMPACTED TO 90% STANDARD PROCTOR (T-99). MAXIMUM PARTICLE SIZE NOT TO EXCEED 3" (12.4.1.2). ALL LIFTS PLACED IN A CONTROLLED MANNER. IT IS RECOMMENDED THAT LIFTS NOT EXCEED AN 8" UNCOMPACTED LIFT HEIGHT TO PREVENT UNEVEN LOADING, AND THE LESSER OF 1/3 THE DIAMETER OR 24" AS THE MAXIMUM DIFFERENTIAL SIDE-TO-SIDE (26.5.4).
- INITIAL BACKFILL ABOVE PIPE MAY INCLUDE ROAD BASE MATERIAL (AND RIGID PAVEMENT IF APPLICABLE). SEE TABLE ABOVE.
- TOTAL HEIGHT OF COMPACTED COVER FOR CONVENTIONAL HIGHWAY LOADS IS MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TOP OF RIGID PAVEMENT (12.6.6.3).
- FINAL BACKFILL MATERIAL SELECTION AND COMPACTION REQUIREMENTS SHALL FOLLOW THE PROJECT PLANS AND SPECIFICATIONS PER THE ENGINEER OF RECORD (26.5.4.1).

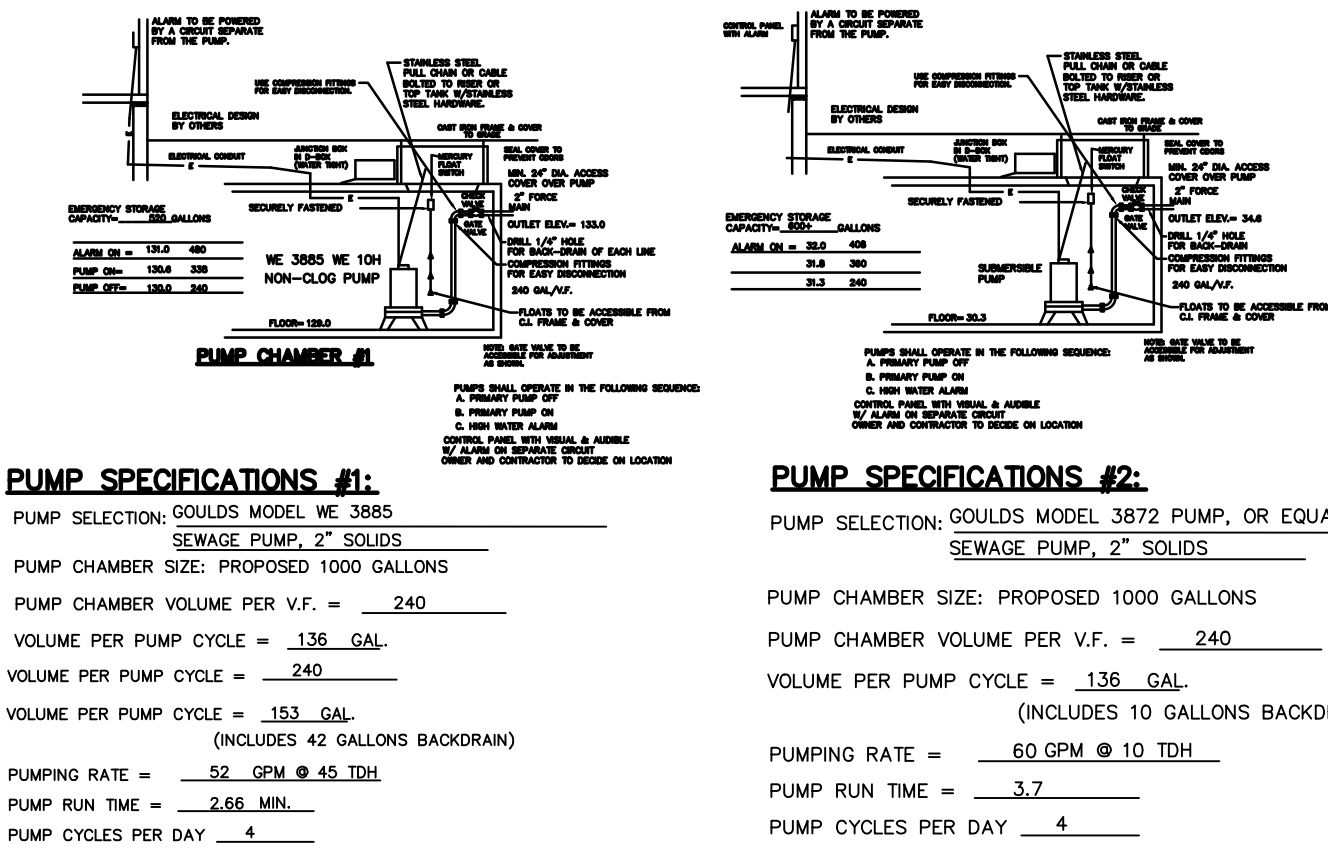
NOTES:
 • GEOTEXTILE SHOULD BE CONSIDERED FOR USE TO PREVENT SOIL MIGRATION INTO VARYING SOIL TYPES (PROJECT ENGINEER).
 • FOR MULTIPLE BARREL INSTALLATIONS THE RECOMMENDED STANDARD SPACING BETWEEN PARALLEL PIPE RUNS SHALL BE PIPE DIA./2 BUT NOT LESS THAN 12", OR 36" FOR PIPE DIAMETERS 72" AND LARGER. CONTACT YOUR CONTECH REPRESENTATIVE FOR NONSTANDARD SPACING (TABLE C12.6.7-1).
 SELECT DESIRED MANHOLE CAP:



STORMWATER DETENTION AND INFILTRATION
 CORRUGATED METAL PIPE PERFORATED

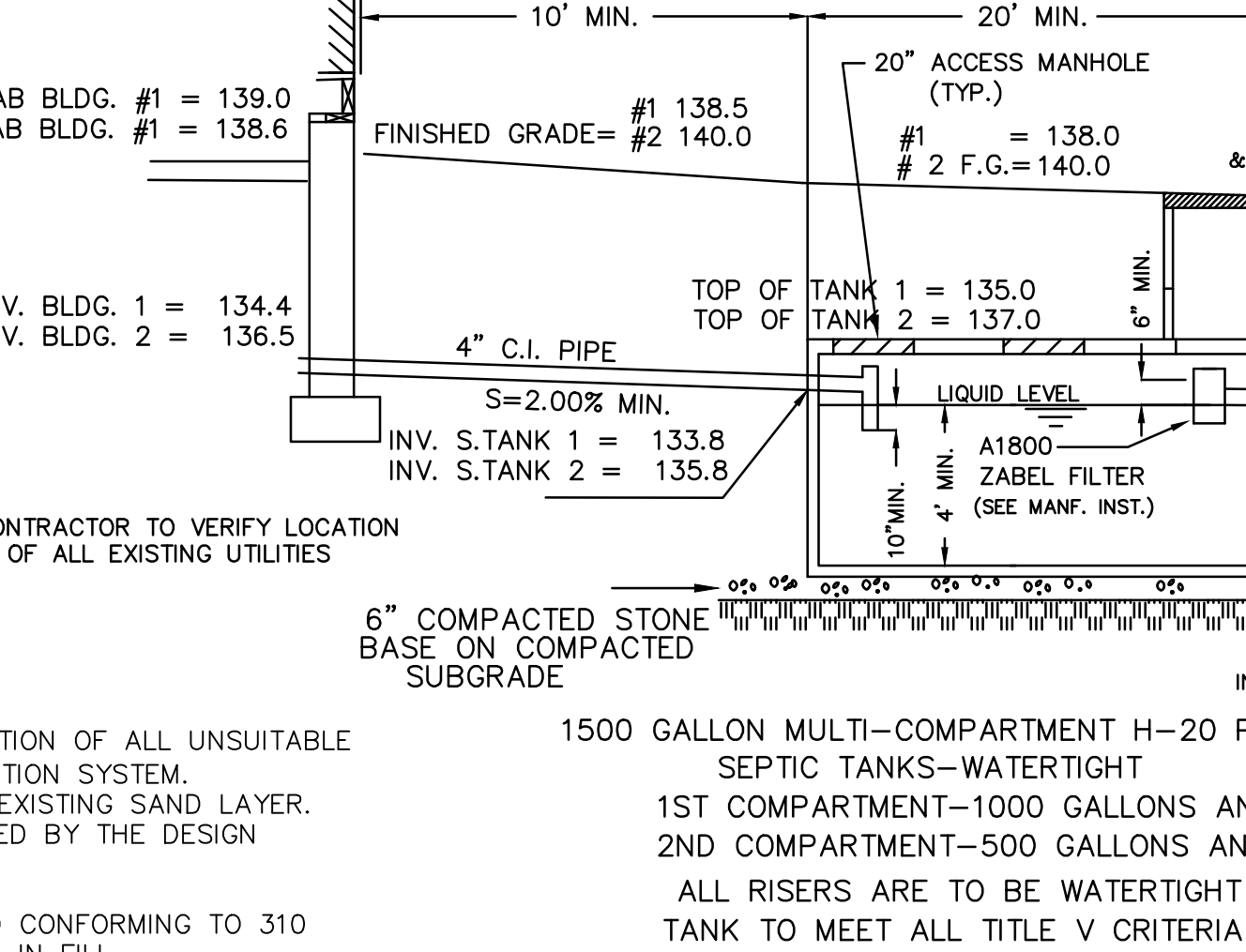
DESIGN SEPTIC SYSTEM CALCULATIONS:

SOIL TEXTURAL CLASS: I
 PERC. RATE: LESS THAN 2 MIN./INCH
 RETAIL/WAREHOUSE: 200 GPD
 LESS THAN 10 EMPLOYEES BOTH BUILDINGS
 DESIGN FLOW REQUIRED: 200 GPD (750 S.F. MIN.)
 SEPTIC TANK SIZE: PROPOSED 1500 GALLONS (NO GARBAGE GRINDER)
 LEACHING PROVIDED:
 2 - TRENCHES 34" WIDE x 16" DEEP x 50.6' LONG
 ADS BIODIFFUSER 16" HIGH CAPACITY CHAMBERS
 7.88 S.F./L.F. PER DEP APPROVAL
 TOTAL = 798 S.F. (750 S.F. MIN)
 LOADING RATE = 0.74 GPD/SF
 FLOW PROVIDED: 590 GPD



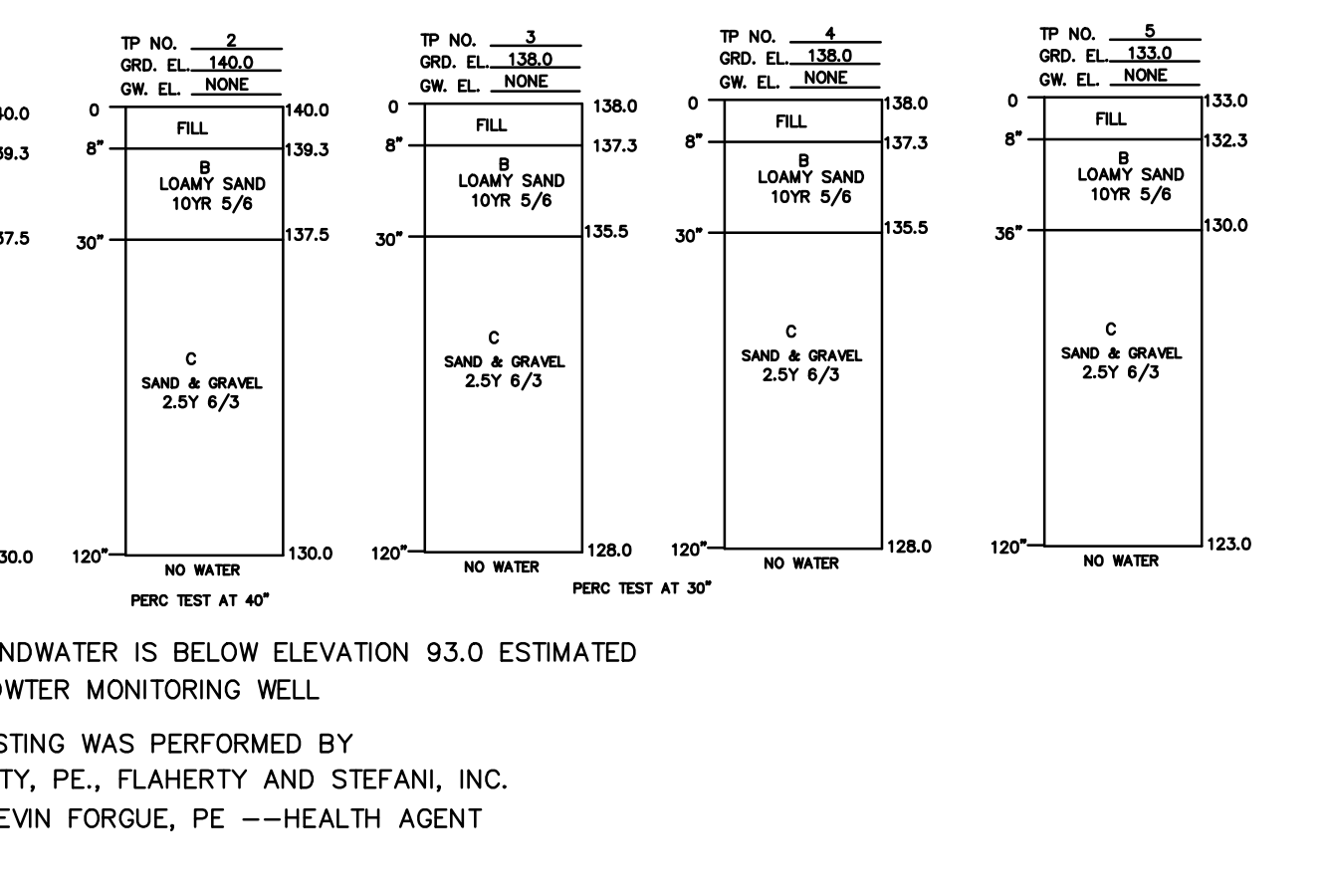
PUMP SPECIFICATIONS #1:
 PUMP SELECTION: GOULDS MODEL WE 3885
 SEWAGE PUMP, 2" SOLIDS
 PUMP CHAMBER SIZE: PROPOSED 1000 GALLONS
 PUMP CHAMBER VOLUME PER V.F. = 240
 VOLUME PER PUMP CYCLE = 136 GAL.
 VOLUME PER PUMP CYCLE = 240
 VOLUME PER PUMP CYCLE = 193 GAL.
 (INCLUDES 42 GALLONS BACKDRAIN)
 PUMPING RATE = 32 GPM @ 95 TDH
 PUMP RUN TIME = 2.68 MIN.
 PUMP CYCLES PER DAY = 4

PUMP SPECIFICATIONS #2:
 PUMP SELECTION: GOULDS MODEL 3872 PUMP, OR EQUAL
 SEWAGE PUMP, 2" SOLIDS
 PUMP CHAMBER SIZE: PROPOSED 1000 GALLONS
 PUMP CHAMBER VOLUME PER V.F. = 240
 VOLUME PER PUMP CYCLE = 136 GAL.
 (INCLUDES 10 GALLONS BACKDRAIN)
 PUMPING RATE = 60 GPM @ 10 TDH
 PUMP RUN TIME = 3.7
 PUMP CYCLES PER DAY = 4

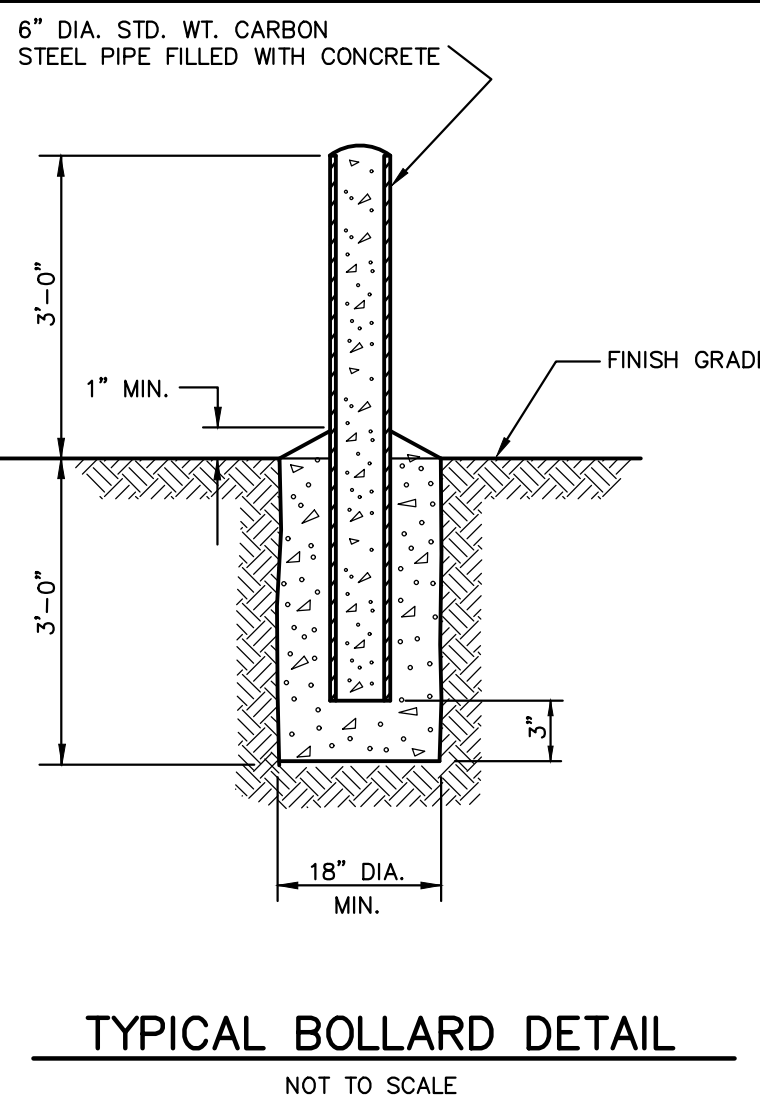


THIS SYSTEM REQUIRES THE EXCAVATION OF ALL UNSUITABLE SOIL WITHIN 5' OF THE SOIL ABSORPTION SYSTEM. SOIL SHALL BE EXCAVATED TO THE EXISTING SAND LAYER. THE EXCAVATION SHALL BE INSPECTED BY THE DESIGN ENGINEER PRIOR TO BACKFILLING.
 SOIL IS TO BE REPLACED WITH SAND CONFORMING TO 310 CMR SECTION 15.255, CONSTRUCTION IN FILL. CONTRACTOR IS RESPONSIBLE TO PROVIDE ENGINEER WITH SAND SAMPLE FOR SIEVE ANALYSIS.

SOIL LOGS FOR PROJECT-SEPTIC SYSTEM & DRAINAGE:



ESTIMATED GROUNDWATER IS BELOW ELEVATION 93.0 ESTIMATED EXISTING GROUNDWATER MONITORING WELL
 NOTE: SOIL TESTING WAS PERFORMED BY MARK M. FLAHERTY, PE, FLAHERTY AND STEFANI, INC.
 WITNESSED BY: KEVIN FORGUE, PE ---HEALTH AGENT
 JANUARY 3, 2019



10/10/2018
 Disk: Stainless Steel Type 316
 Stem: Stainless Steel Type 316
 Pressure Rating: All Sizes
 Tests:
 YIELD STRENGTH > 30,000psi
 TENSILE STRENGTH > 50,000psi
 ELONGATION > 20%
 BENDING TO FAILURE (90 DEGREE)
 OTHER MATERIALS ON SPECIAL REQUEST
 100% Maximum Non-Block Service @ 73°F
 Sealing to bubble tightness
 Every valve is performance tested per MSS SP-47 Type I (no leak allowed) requirements and leakage tested per AWWA C900 @ 100psi and 73°F

CONSTRUCTION AND OPERATION NOTES:
 1. VALVES SHALL BE BROUGHT TO GRADE PER MANUFACTURER'S RECOMMENDATIONS.
 2. ALL VALVES SHALL BE GEAR OPERATED AND HAVE A 18" HANDWHEEL SET A MINIMUM OF 36" ABOVE GRADE.
 3. SHUT OFF VALVE TO BE PROVIDED WITH AN IDENTIFICATION MARKER VISIBLE FROM ROADWAY AND ADJACENT DEVELOPMENT.
 4. IN THE EVENT OF A HAZARDOUS SPILL IDENTIFICATION OF THE INFILTRATION BASIN THE OWNER/OPERATOR WILL IMMEDIATELY NOTIFY PLYMOUTH DPW AND MAINTENANCE CONTRACTOR TO SHUT OFF VALVES. HAZARDOUS SPILL CLEAN UP WILL BE OVERSEEN BY A LICENSED CONTRACTOR. VALVES WILL NOT BE REOPENED WITHOUT REVIEW AND APPROVAL BY PLYMOUTH DPW.

Water Butterfly Valves | Ball valves | Fusible Butterfly Valves
 10/10/2018
 TimeSaver™ Wafer Butterfly Valves are designed to be installed into flanged piping systems. Whenbar™ H-CPE on req. The Series 891 Utilizes existing flanges and eliminates the need for valve spacers. The wafer valve is preferred in applications where easy access into the piping system is needed.

SERIES 891 WAFER BUTTERFLY VALVE

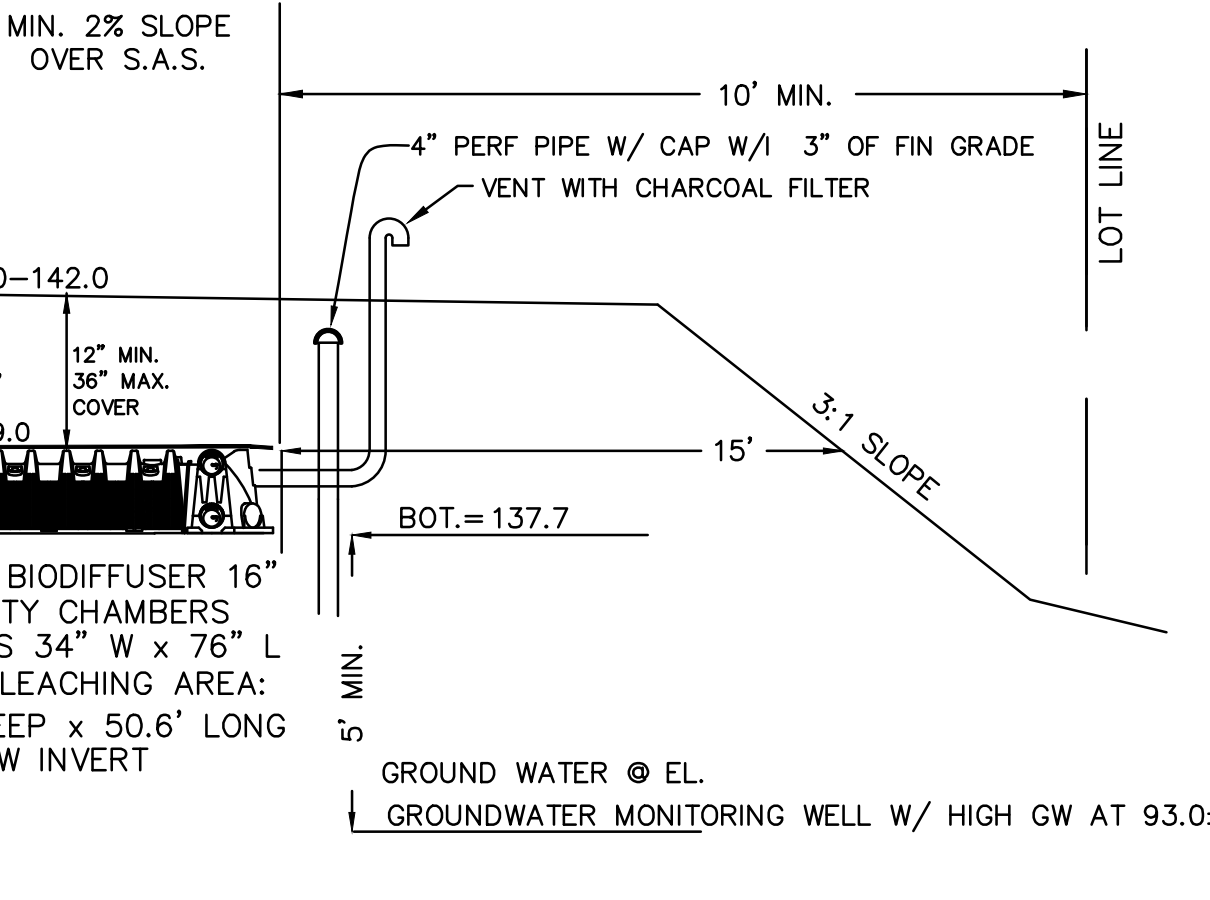
The tough H-CPE valve designed to be retro-fitted into a non-H-CPE piping system (ductile iron, etc.) allowing existing large diameter water distribution lines to be replaced with the new valve system. The wafer valve also allows for easy access into the piping system.

View American AWK Data
 View American AWK Brochure

Size (IPS)	Body OD (Inches)	Disc OD (Inches)	Disc Ht (Inches)	F/F Ratio	Weight (Lbs)	Weight (Kg)	Disc Ht (Inches)	Disc OD (Inches)	Disc Ht (Inches)	Disc OD (Inches)	Disc Ht (Inches)
1/2"	1.315	1.315	0.40	0.31	4.20	1.90	0.40	1.315	0.40	1.315	0.40
3/4"	1.625	1.625	0.40	0.25	5.50	2.50	0.40	1.625	0.40	1.625	0.40
1"	1.915	1.915	0.40	0.20	7.70	3.50	0.40	1.915	0.40	1.915	0.40
1 1/2"	2.375	2.375	0.40	0.15	12.00	5.50	0.40	2.375	0.40	2.375	0.40
2"	2.875	2.875	0.40	0.12	17.50	8.00	0.40	2.875	0.40	2.875	0.40
2 1/2"	3.437	3.437	0.40	0.10	24.00	11.00	0.40	3.437	0.40	3.437	0.40
3"	3.937	3.937	0.40	0.08	31.00	14.20	0.40	3.937	0.40	3.937	0.40
3 1/2"	4.437	4.437	0.40	0.07	39.00	17.80	0.40	4.437	0.40	4.437	0.40
4"	4.937	4.937	0.40	0.06	47.00	21.50	0.40	4.937	0.40	4.937	0.40
4 1/2"	5.437	5.437	0.40	0.05	56.00	25.50	0.40	5.437	0.40	5.437	0.40
5"	5.937	5.937	0.40	0.04	65.00	29.50	0.40	5.937	0.40	5.937	0.40
5 1/2"	6.437	6.437	0.40	0.03	75.00	34.00	0.40	6.437	0.40	6.437	0.40
6"	6.937	6.937	0.40	0.02	85.00	38.50	0.40	6.937	0.40	6.937	0.40
6 1/2"	7.437	7.437	0.40	0.01	95.00	43.00	0.40	7.437	0.40	7.437	0.40
7"	7.937	7.937	0.40	0.01	105.00	47.50	0.40	7.937	0.40	7.937	0.40
7 1/2"	8.437	8.437	0.40	0.01	115.00	52.00	0.40	8.437	0.40	8.437	0.40
8"	8.937	8.937	0.40	0.01	125.00	56.50	0.40	8.937	0.40	8.937	0.40
8 1/2"	9.437	9.437	0.40	0.01	135.00	61.00	0.40	9.437	0.40	9.437	0.40
9"	9.937	9.937	0.40	0.01	145.00	65.50	0.40	9.937	0.40	9.937	0.40
9 1/2"	10.437	10.437	0.40	0.01	155.00	70.00	0.40	10.437	0.40	10.437	0.40
10"	10.937	10.937	0.40	0.01	165.00	74.50	0.40	10.937	0.40	10.937	0.40

Body: High Density Polyethylene
 Handle:
 Call Class: PEH4644C - ASTM D 3350
 180psi @ 73°F / 5.5" x 1.5" x 1.5"
 ESCR - 1000 hours - ASTM D 1689
 Tensile Strength = 3000 psi - ASTM D 438
 17" - 12" forged type 316 stainless steel
 1/4" & 1/2" gear operated with hand wheel.

DRAINAGE SYSTEM CONTAINMENT-EMERGENCY SHUT OFF VALVE
 NOT TO SCALE

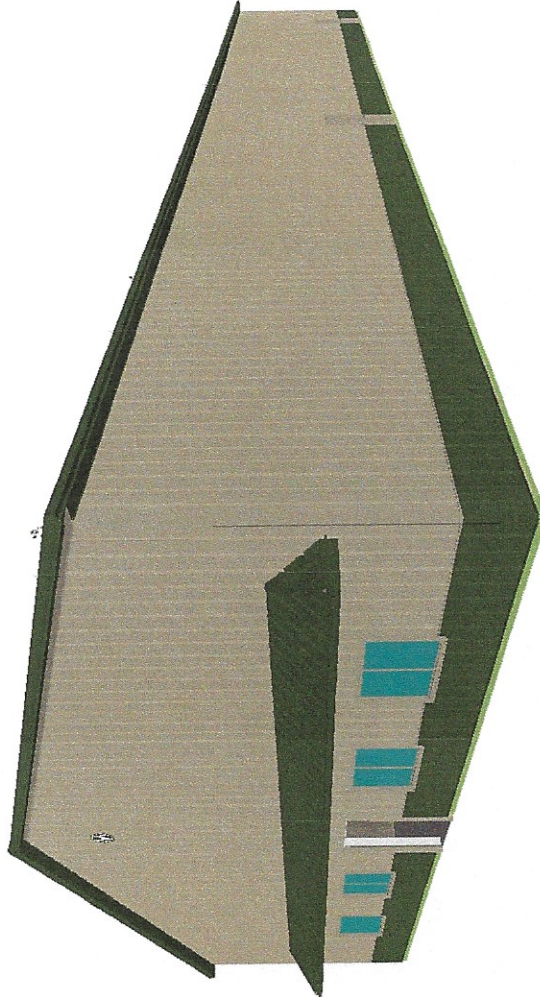


NOTE: CONTROL PANEL AND ALARMS FOR THE PROPOSED SYSTEM SHALL BE INSTALLED AT A LOCATION ACCESSIBLE AT ALL TIMES TO THE OPERATOR
 NOTE: FORCEMAIN FROM PUMP CHAMBER AND EJECTOR PUMP TO RECEIVE 2' WIDE x 1' THICK FIBERBOARD INSULATION OVER PIPES

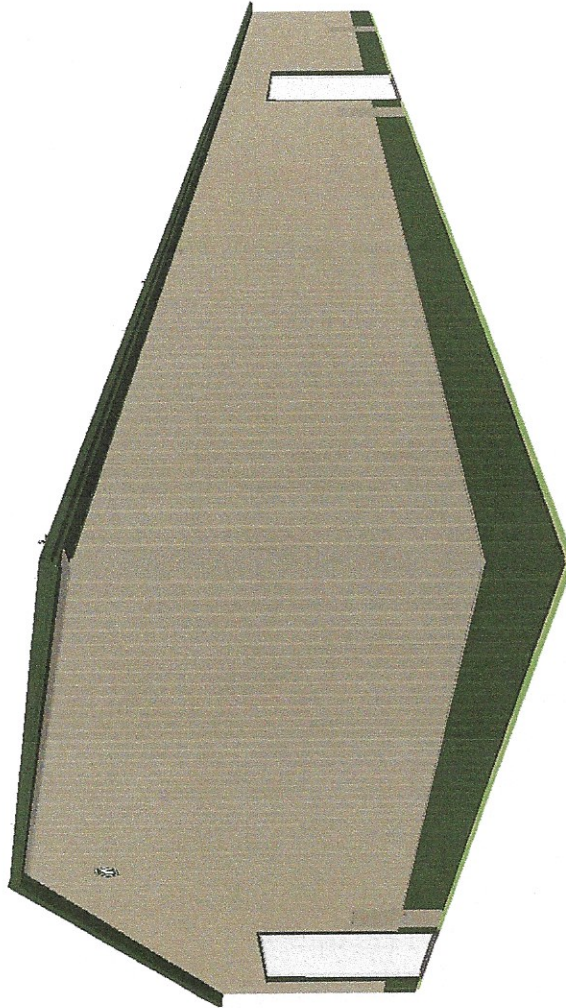
DETAILS OF CONSTRUCTION
 IN
CARVER, MASS.
 PREPARED FOR
ERIC PONTIFF
OFF FOREST STREET
 MAP 49 LOT 62-6
 NTS MARCH 11, 2020
 REVISED: MAY 17, 2020
 FLAHERTY & STEFANI, INC.
 67 SAMOSET STREET
 PLYMOUTH, MASSACHUSETTS
 508-747-2425 AND 508-747-3991 (FAX)
 MARK@FS-ENG.COM

REGISTERED PROFESSIONAL ENGINEER
 MARK M. FLAHERTY
 CIVIL
 No. 33853

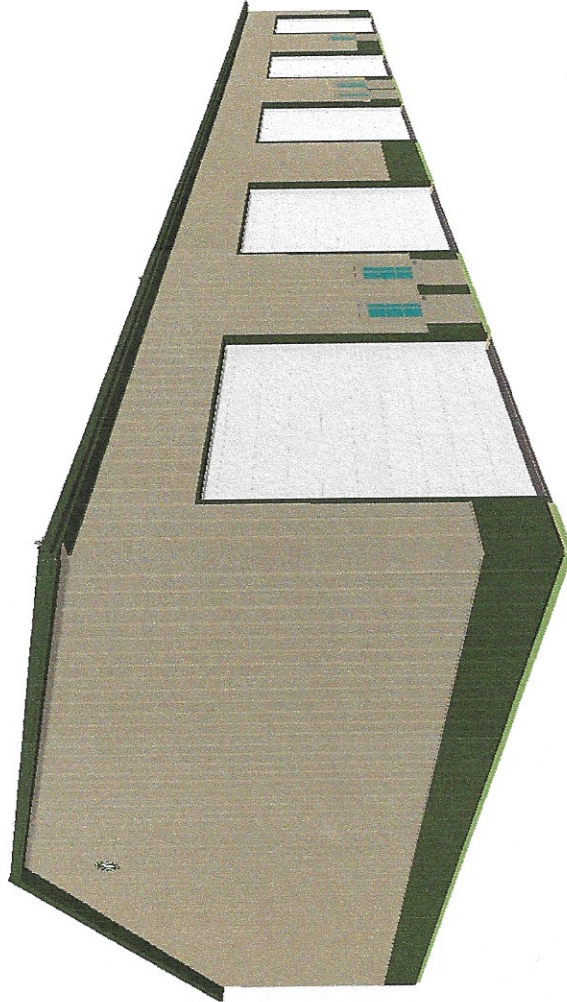
306 60'x18'x125' West and South Walls



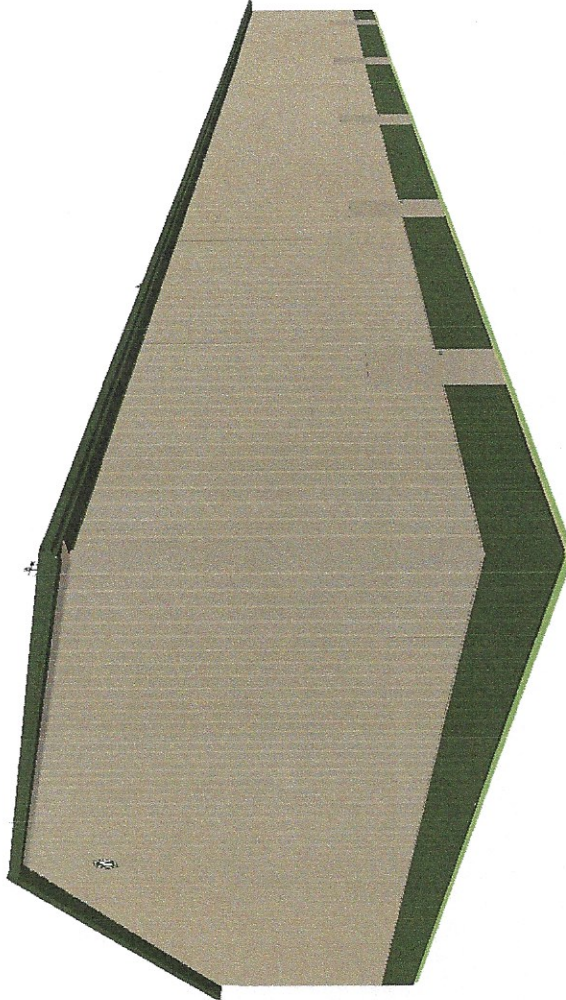
306 60'x18'x125' East and North Walls

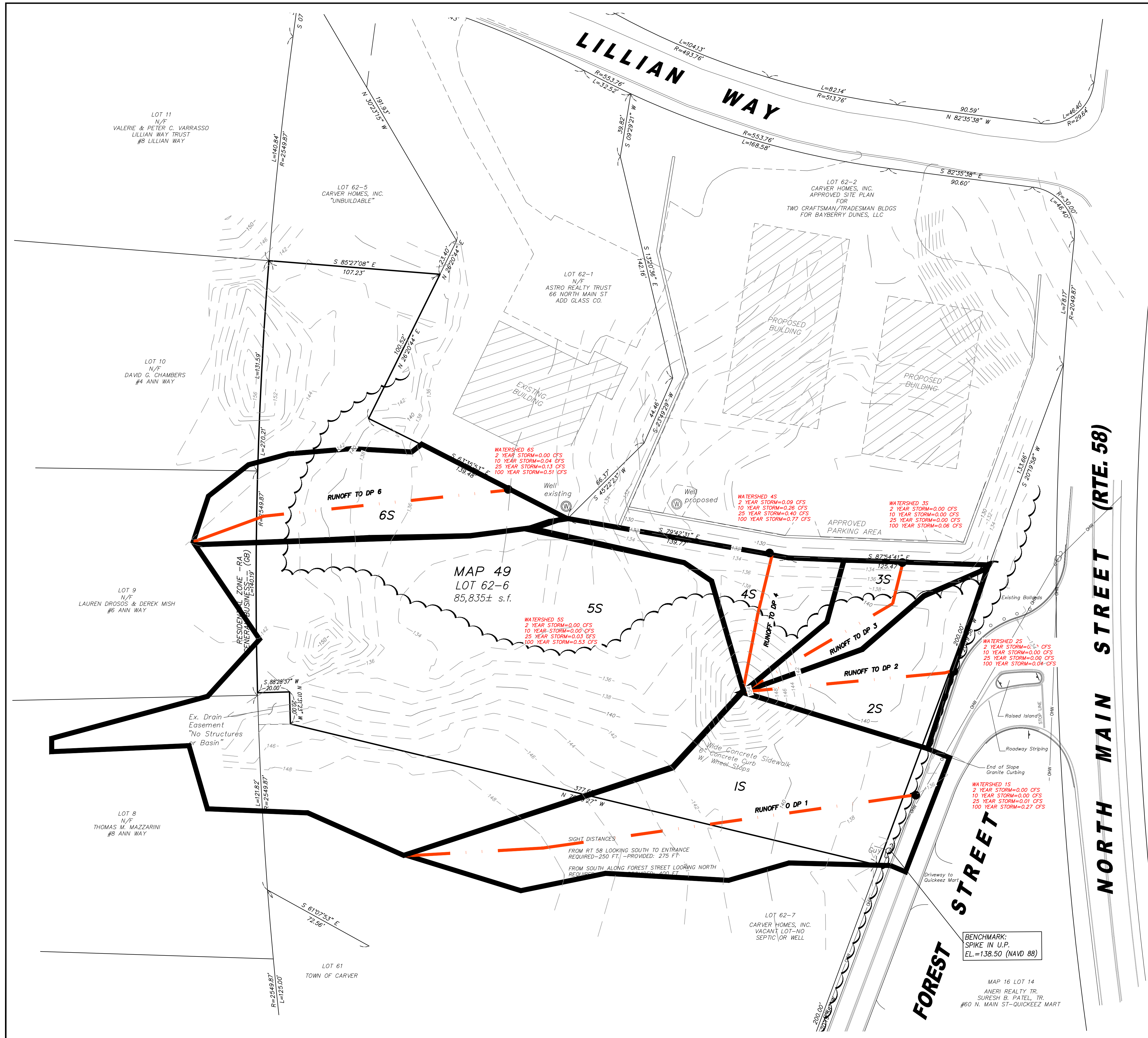


306 60'x18'x120' West and South Walls



306 60'x18'x120' East and North Walls

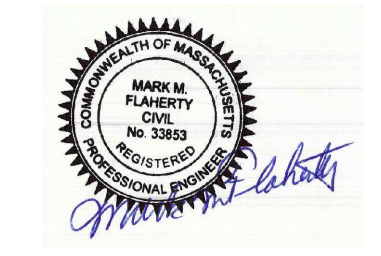




- LEGEND**
- PROPOSED WALL-MOUNTED LIGHT
 - PROPOSED CATCH BASIN
 - PROPOSED DRAIN MANHOLE
 - EXISTING DRAIN MANHOLE
 - PROPOSED WATER QUALITY UNIT
 - EXISTING UTILITY POLE
 - PROPOSED LANDSCAPED AREA
 - PROPOSED ELECTRIC TRANSFORMER

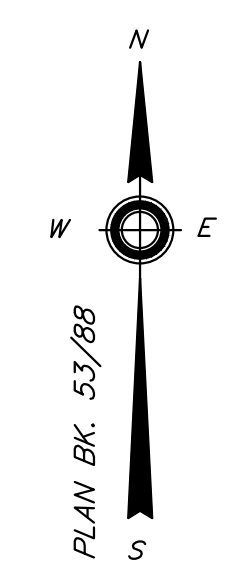
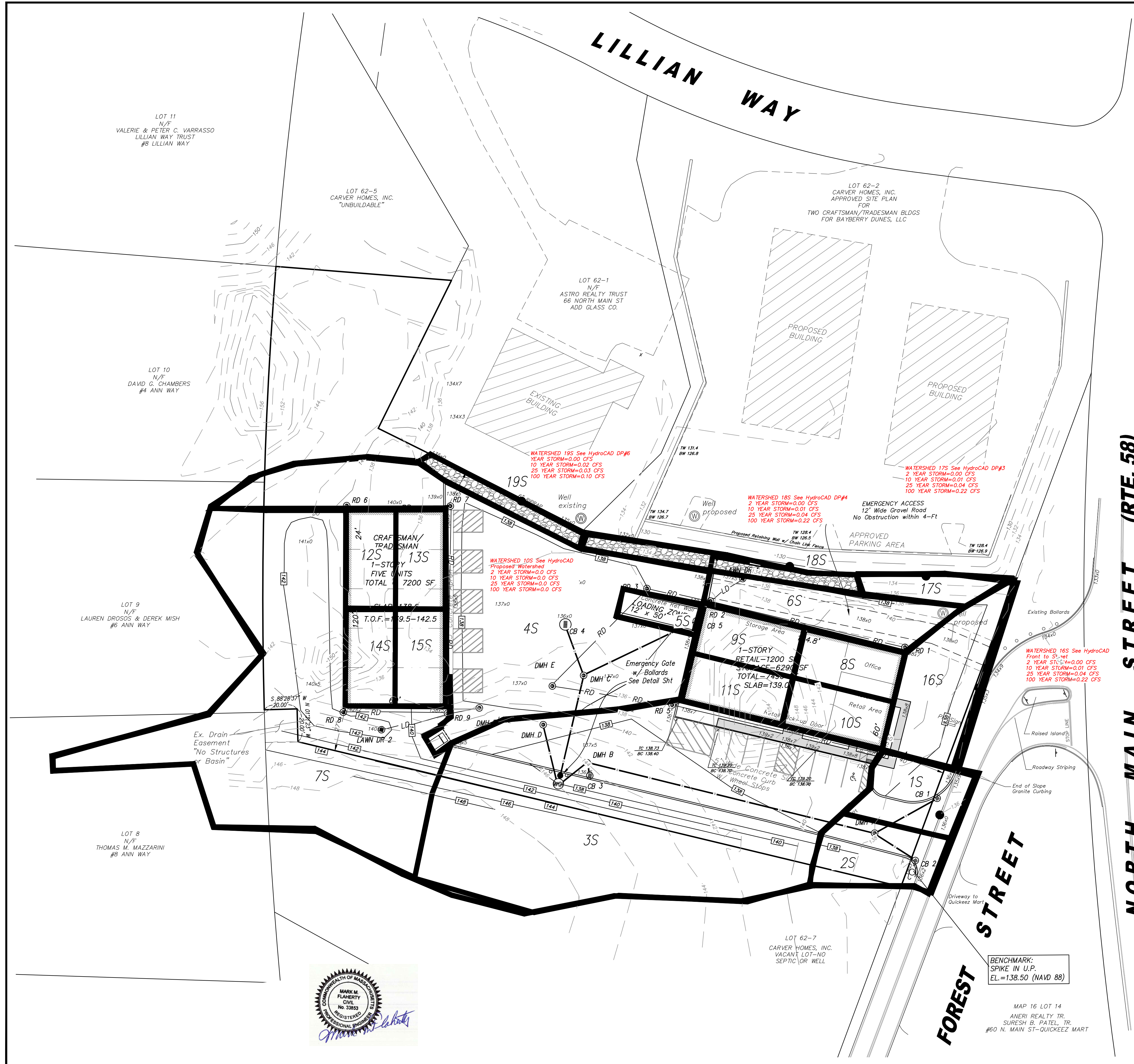
- NOTES:**
1. LOCUS: OFF FOREST STREET MAP 49 LOT 62-6
 2. APPLICANT: ERIC J. PONTIFF
184 STANDISH STREET
DUXBURY, MA 02332
 3. OWNER: CARVER HOMES, INC.
125 MAGOUN PATH
MARSHFIELD, MA 02050
 4. DEED Bk:19004 Pg:346
 5. PLAN Bk:63 Pg:842
 6. THE PROPERTY IS NOT LOCATED WITHIN A NHESP HABITAT OF RARE AND ENDANGERED SPECIES.
 7. THE PROPERTY IS PARTIALLY WITHIN A DEP LISTED ZONE 1 AQUIFER PROTECTION AREA.
 8. THE PROPERTY IS NOT LOCATED WITHIN A FEMA DESIGNATED FLOOD ZONE.
 9. SITE IS TO BE SERVICED BY PRIVATE WELL WATER AND A PRIVATE SEPTIC SYSTEM.
 10. THE PROPERTY LIES WITHIN THE GENERAL BUSINESS (GB) ZONE.
 11. EXISTING FEATURES, TOPOGRAPHICAL SYSTEMS AND DATA WERE OBTAINED BY AN ON-THE-GROUND FIELD SURVEY PERFORMED BY FLAHERTY & STEFANI, INC. IN DECEMBER OF 2019.
- COORDINATE SYSTEM: HARN/NE MA STATE PLANES, MAINLAND ZONE, US FOOT
VERTICAL DATUM: NAVD 88

PRE-DEVELOPMENT WATERSHED
IN
CARVER, MASSACHUSETTS
PREPARED FOR
ERIC PONTIFF
OFF FOREST STREET
MAP 49 LOT 62-2
JANUARY 15, 2020
REVISED: APRIL 28, 2020
FLAHERTY & STEFANI, INC.
67 SAMOSET STREET
PLYMOUTH, MASSACHUSETTS
508-747-2425 AND 508-747-3991 (FAX)
MARK@FS-ENG.COM



BENCHMARK:
SPIKE IN U.P.
EL.=138.50 (NAVD 88)

MAP 16 LOT 14
ANERI REALTY TR.
SURESH B. PATEL, TR.
#60 N. MAIN ST-QUICKEEZ MART



NORTH MAIN STREET (RTE. 58)

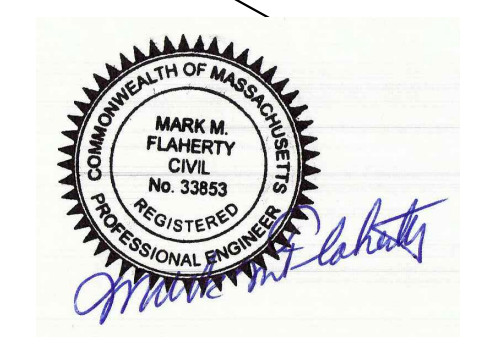
FOREST STREET

**POST-DEVELOPMENT WATERSHED PLAN
IN
PLYMOUTH, MASSACHUSETTS**

PREPARED FOR
ERIC PONTIFF
OFF FOREST STREET

MAP 49 LOT 62-2
MARCH 1, 2020
REVISED APRIL 28, 2020

FLAHERTY & STEFANI, INC.
67 SAMOSET STREET
PLYMOUTH, MASSACHUSETTS
508-747-2425 AND 508-747-3991 (FAX)
MARK@FS-ENG.COM



BENCHMARK:
SPIKE IN U.P.
EL.=138.50 (NAVD 88)

MAP 16 LOT 14
ANERI REALTY TR.
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