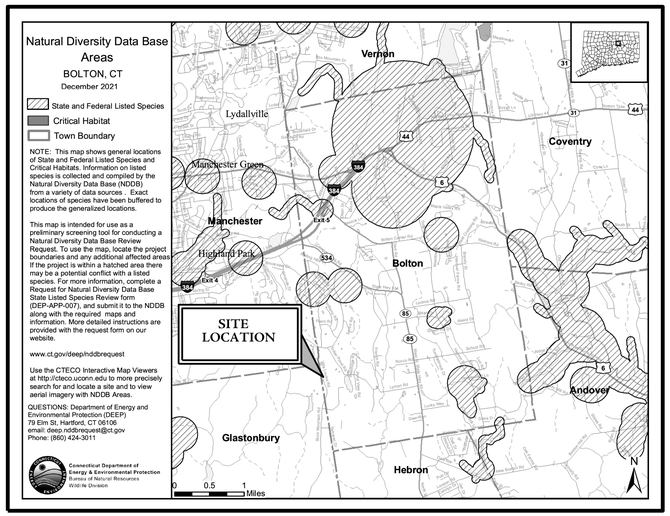
SITE DEVELOPMENT PLAN

PREPARED FOR:

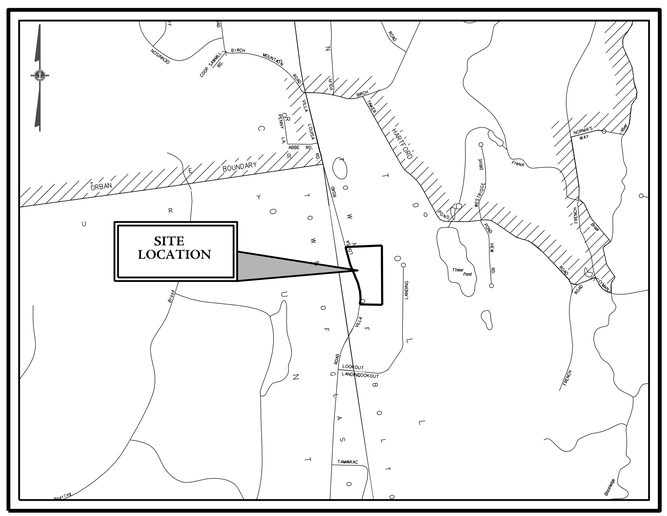
60 VILLA LOUISA ROAD, LLC

60 VILLA LOUISA ROAD - BOLTON, CT

DATE: JANUARY 31, 2022
REVISIONS: OCTOBER 24, 2022 & NOVEMBER 04, 2022



NATURAL DIVERSITY DATA BASE AREAS
BOLTON
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

APPLICANT / OWNER:

60 VILLA LOUISA ROAD, LLC
60 VILLA LOUISA ROAD
BOLTON, CT 06043

LIST OF SHEETS

PREPARED BY:

STATE OF CONNECTICUT
MARK M. ZESSIN
No. 16215
LICENSED PROFESSIONAL ENGINEER

Barton & Loguidice
41 Sequin Drive
Glastonbury, CT 06033
Phone: (860) 633-8770
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www.bandlct.com
Civil Engineering • Environmental Consulting • Land Surveying • Construction Management

Project No. 4390.002.001

NOTES

1) BEARINGS, COORDINATES AND ELEVATIONS SHOWN ARE BASED UPON HORIZONTAL DATUM NAD 83 AND VERTICAL DATUM NAVD 1988 OBTAINED VIA RTK GPS THROUGH THE SUPERIOR VRS NETWORK .

2) FIELD SURVEY WAS CONDUCTED BY ANCHOR ENGINEERING SERVICES, INC. IN MAY 2018.

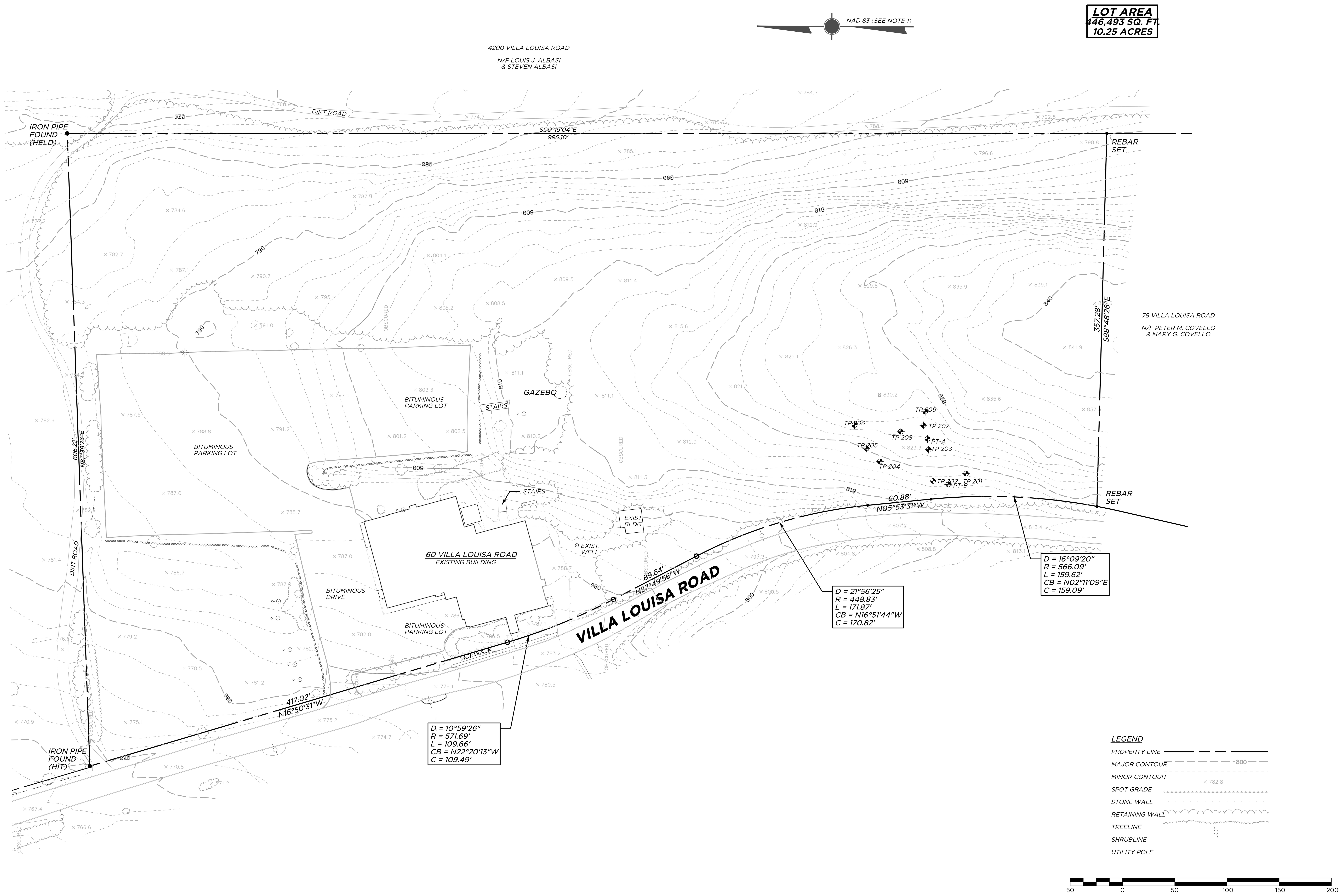
3) TOPOGRAPHY SHOWN HEREON IS BASED UPON AERIAL MAPPING PROVIDED BY EASTERN TOPOGRAPHICS, COMPILATION DATE JUNE 4, 2018. GROUND CONTROL WAS ESTABLISHED BY ANCHOR ENGINEERING SERVICES, INC.

3) UNDERGROUND UTILITY, STRUCTURE AND FACILITY LOCATIONS DEPICTED AND NOTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES OR GOVERNMENT AGENCIES, FROM PAROL TESTIMONY AND FROM OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO ANCHOR ENGINEERING SERVICES, INC., THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES PRIOR TO CONSTRUCTION. CALL BEFORE YOU DIG: 1-(800) 922-4455

MAP REFERENCES

1) PROPERTY OF MARY FACCHETTI, VILLA LOUISA ROAD, BOLTON, CONNECTICUT. SCALE: 1"=50'. DATE: APRIL 1968. BY: DOUGLAS PRIOR L.S.#6095.

2) PROPOSED ZONE CHANGE MAPPING, GENERAL LOCATION MAP, PREPARED FOR MIKE COVELLO, PROPERTY LOCATION NO. 78 VILLA LOUISA ROAD, BOLTON, CONNECTICUT. SCALE: 1"=40' . DATE: MARCH 13, 2002. BY: JOEL M. FULLER, L.S. #14197.



NEW ENGLAND ENVIRONMENTAL SERVICES

Wetland Consulting Specialists Since 1983

August 17, 2022

Mr. Kevin Grindle, ASLA, PLA
Barton & Loguidice Company
41 Sequin Drive, Suite 3
Glastonbury, CT 06033

Re: 60 Villa Louisa Road, LLC
Bolton, Connecticut

Dear Mr. Grindle:

I inspected the property at 60 Villa Louisa Road, LLC for wetlands and watercourses on August 14, 2022.

There are no wetlands or watercourses on the property.

If you have any questions, feel free to contact me.

Respectively Submitted,

New England Environmental Services

R. Richard Snarski

R. Richard Snarski
Professional Wetlands Scientist #1391
Registered Professional Soil Scientist
Consulting Botanist

RRS/srh

30 GINA LANE, MARLBOROUGH, CONNECTICUT 06447
richsnarski@gmail.com • 860-918-1970 • www.richsnarski.com

THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300b-1 THRU 20-300b-20 OF THE REGULATIONS OF CONNECTICUT AGENCIES "MINIMUM STANDARDS FOR SURVEY AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. IT IS A BOUNDARY SURVEY EXISTING CONDITIONS PLAN. BOUNDARY DETERMINATION CATEGORY RESURVEY CONFORMING TO HORIZONTAL ACCURACY CLASS A-2. TOPOGRAPHIC ACCURACY T-3.

TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

WILLIAM E. WERTZ, CT. L.S. #70067

ANY ORIGINAL OR DUPLICATE OF THIS MAP IS NOT VALID UNLESS IT BEARS THE EMBOSSED SEAL OF THE SURVEYOR WHOSE REGISTRATION APPEARS ABOVE. NO OTHER CERTIFICATION OR WARRANTY IS EXPRESSED OR IMPLIED.

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PROJ. ENGINEER	KJF
PROJ. MANAGER	MLK
OFFICE REVIEW	WEW
REVISIONS	
10/24/22	
11/04/22	
SCALE:	1"=50'

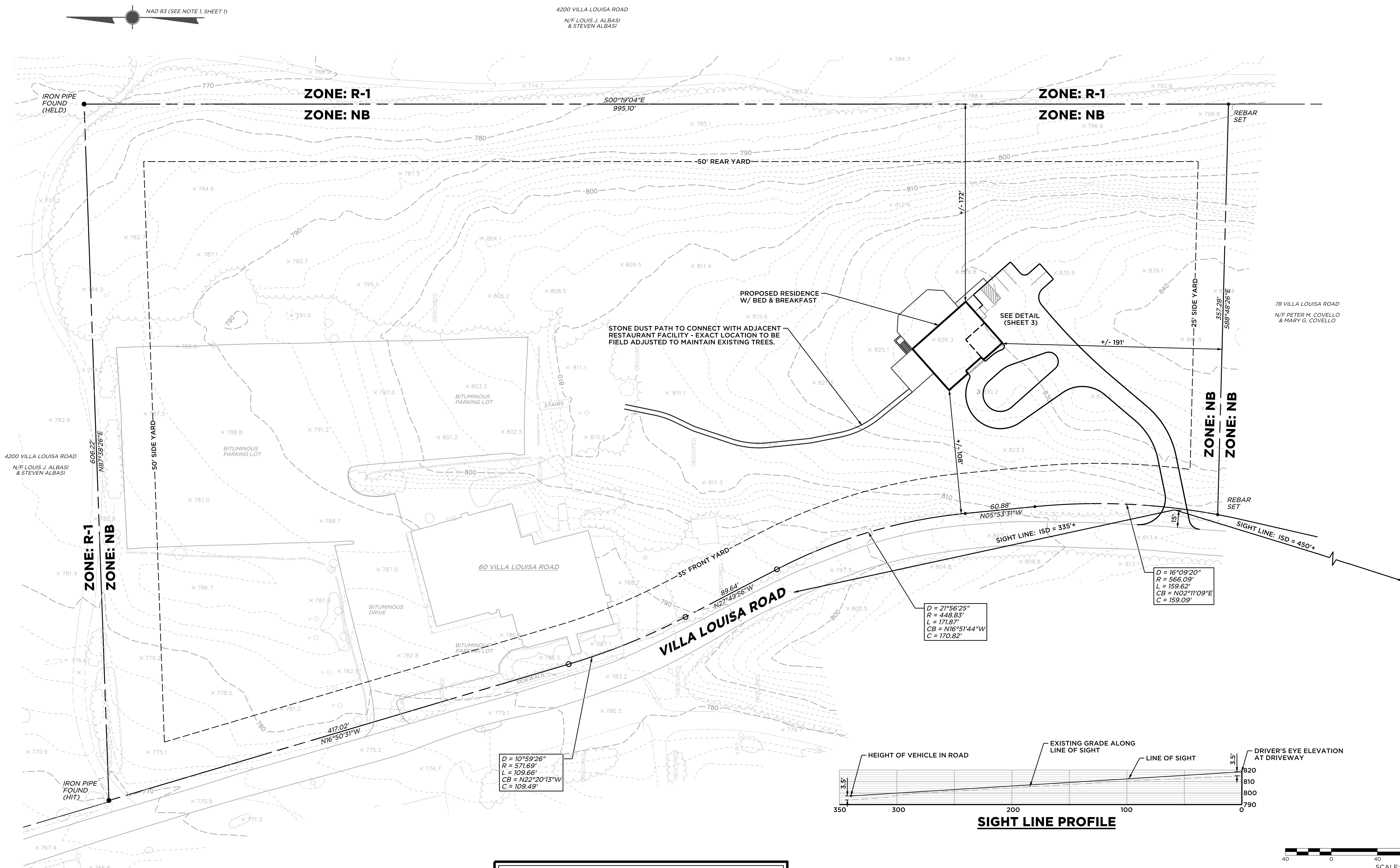
EXISTING CONDITIONS PLAN

A-2 BOUNDARY SURVEY / T-3 TOPOGRAPHY SURVEY
PREPARED FOR

60 VILLA LOUISA ROAD LLC

60 VILLA LOUISA ROAD — BOLTON, CT

PROJECT	DATE	SHEET NO.
4390-002	1/31/22	1 OF 4



PARKING TABLE

PARKING REQUIREMENTS PER TOWN OF BOLTON ZONING REGULATIONS SECTION 15.0	
SINGLE-FAMILY RESIDENCE (1 BEDROOM)	BED & BREAKFAST (5 GUEST ROOMS)
2 SPACES PER DWELLING UNIT (D.U)	1.2 SPACES PER GUEST ROOM OR SUITE (MAX.) 1 SPACE PER GUEST ROOM OR SUITE (MIN.)
PARKING REQUIRED:	
2 SPACES (X) 1 D.U. = 2	MAXIMUM = 1.2 (x) 5 = 6.0 MINIMUM = 1.0 (x) 5 = 5.0
TOTAL PARKING REQUIRED = 2 (+) 5 = 7 SPACES	
8 TOTAL PARKING SPACES PROVIDED (INCLUDING 1 HANDICAPPED SPACE)	

ZONING COMPLIANCE TABLE

NEIGHBORHOOD BUSINESS ZONE (NB)
(SECTION 11 OF THE BOLTON ZONING REGULATIONS)

	REQUIREMENTS	EXISTING	PROPOSED
MIN. LOT AREA:	40,000 SF	446,493 SF	NO CHANGE
MIN. LOT FRONTAGE:	150 FT	1,008.69 FT	NO CHANGE
MIN. FRONT YARD:	35 FT	N/C***	+/- 108 FT
MIN. SIDE YARD:	25 & 50 FT*	+/- 270 FT	+/- 191 FT
MIN. REAR YARD:	25 & 50 FT*	+/- 347 FT	+/- 172 FT
MAX. BUILDING HEIGHT:	35 FT (OR 2.5 STORIES)	< 35 FT	35 FT
MIN. LOT COVERAGE:	20%	3.1%	3.7%
MAX. IMPERVIOUS COVERAGE:	50%	18.2%	22.3%**

*MINIMUM SIDE AND REAR YARDS SHALL BE 25 FT; EXCEPT BOTH YARDS SHALL BE 50 FT MINIMUM WHERE ABUTTING A RESIDENTIAL ZONE.
**MAX. IMPERVIOUS COVERAGE INCLUDES ENTIRE LOT.
***EXISTING BANQUET HALL IS NON-CONFORMING (N/C) TO CURRENT FRONT YARD SETBACK.

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PROJ. MANAGER	KRG
OFFICE REVIEW	KRG
REVISIONS	
10/24/22	
11/04/22	
SCALE:	1"=40'

OVERALL SITE LAYOUT

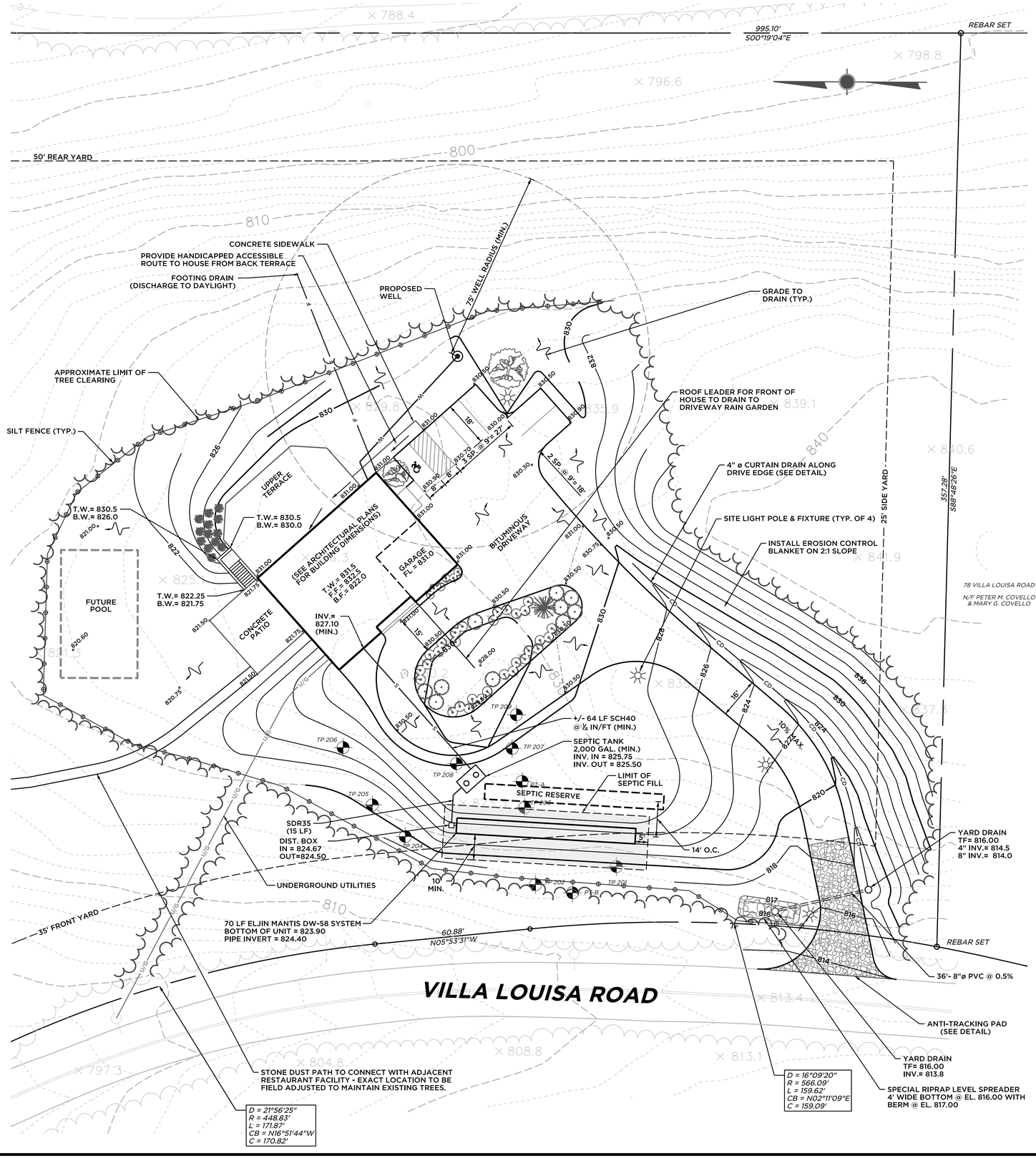
PREPARED FOR

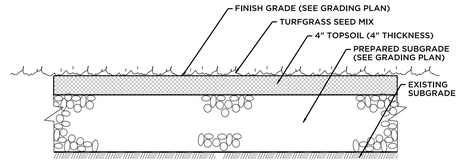
60 VILLA LOUISA ROAD LLC

60 VILLA LOUISA ROAD — BOLTON, CT

PROJECT	DATE	SHEET NO.
4390-002	1/31/2022	2 OF 4

STATE OF CONNECTICUT ★ MARK M. ZESSIN ★ No. 18215 LICENSED PROFESSIONAL ENGINEER





TURF ESTABLISHMENT

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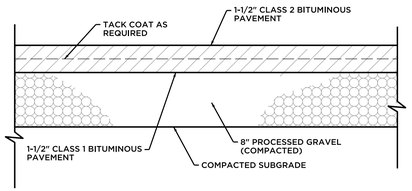

BITUMINOUS PAVEMENT

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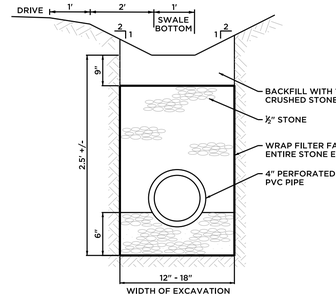
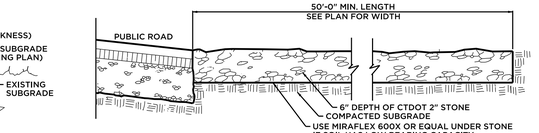


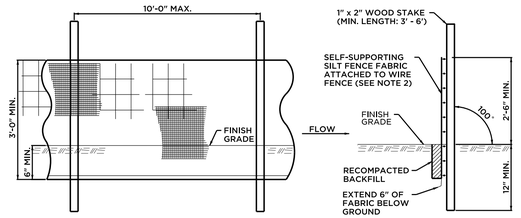
CURTAIN DRAIN DETAIL

NOT TO SCALE



ANTI-TRACKING PAD DETAIL

NOT TO SCALE



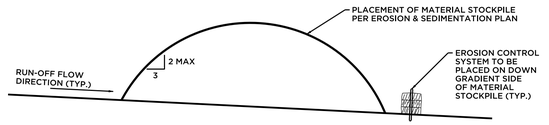
ELEVATION SECTION

NOTES:

1. INSTALL SILT FENCE & WOOD STAKES AS RECOMMENDED BY MANUFACTURER.
2. SILT FENCE SUBJECT TO HEAVY LOADS SHALL BE REINFORCED WITH FARM FENCING & STEEL POSTS (0.5 # STEEL/L.F.). THE MINIMUM POST LENGTH SHALL BE 5'-0".
3. SILT FENCE FABRIC SHALL BE A PERVIOUS SHEET OF WOVEN PROPYLENE, NYLON, POLYESTER OR POLYETHYLENE FILAMENTS AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER.

SILT FENCE

NOT TO SCALE



SOIL STOCKPILE DETAIL

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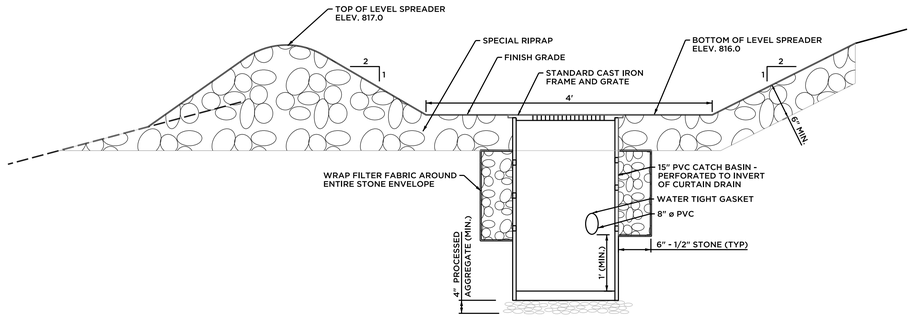

LEVEL SPREADER/YARD DRAIN DETAIL

NOT TO SCALE

NOTES

1. NO WETLAND SOILS ARE PRESENT WITHIN THE SUBJECT AREA.
2. ALL AREAS OUTSIDE OF PAVED AREAS, WALKS AND BUILDINGS WILL BE RESTORED WITH TOPSOIL AND A PERENNIAL GRASS SEED MIX TO ESTABLISH LAWN AREA. LANDSCAPED AREAS ARE SHOWN ON THE PLAN. EXACT TYPES AND SIZES OF PLANTINGS TO BE INSTALLED IN THESE AREAS WILL BE SELECTED BY THE OWNER AND THE LANDSCAPE CONTRACTOR AT THE TIME OF INSTALLATION.
3. PROPOSED POST TOP MOUNTED LIGHTS ARE SHOWN ALONG THE DRIVEWAY AND PARKING. THE POST TOP FIXTURES SHALL PROVIDE A WARM LED DOWN-LIGHT TO PREVENT GLARE AND OFF-SITE TRESPASS. OTHER POSSIBLE LIGHT SOURCES SHALL BE BUILDING MOUNTED DECORATIVE AND/OR SECURITY LIGHTING AS REQUIRED BY THE BUILDING CODE.

20 0 20 40 60 80

SCALE: 1"=20'

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SCALE:	1"=20'

SITE DEVELOPMENT PLAN
PREPARED FOR
60 VILLA LOUISA ROAD LLC
60 VILLA LOUISA ROAD BOLTON, CT

PROJECT	DATE	SHEET NO.	OF
4390-002	1/31/2022	3	4

GENERAL NOTES

1. PARCEL DETAILS:
   - A) PARCEL ID: MAP/BLOCK/LOT 19-12
   - B) LOT AREA: 446,493 SQUARE FEET (OR) 10.25 ACRES.
2. ZONING:
   - A) THE ZONING DISTRICT OF THIS PARCEL IS NEIGHBORHOOD BUSINESS (NB).
   - B) USE OF LAND: BANQUET FACILITY/RESIDENTIAL/BED & BREAKFAST
   - C) USE OF LAND AND STRUCTURES SHALL COMPLY WITH THE APPLICABLE STANDARDS OF THE TOWN'S ZONING REGULATIONS. SEE ZONING COMPLIANCE TABLE, FOR THE MINIMUM LOT AND BULK REQUIRMENTS ASSOCIATED WITH THIS ZONE.
3. UTILITIES/CBYD:
   - A) UNDERGROUND UTILITIES, STRUCTURE AND FACILITY LOCATIONS DEPICTED AND NOTED HEREON HAVE BEEN COMPILED, IN PART, FROM RECORD MAPPING SUPPLIED BY THE RESPECTIVE UTILITY COMPANIES OR GOVERNMENT AGENCIES, FROM PAROL TESTIMONY AND FROM OTHER SOURCES. THESE LOCATIONS MUST BE CONSIDERED APPROXIMATE IN NATURE. ADDITIONALLY, OTHER SUCH FEATURES MAY EXIST ON THE SITE, THE EXISTENCE OF WHICH ARE UNKNOWN TO ANCHOR ENGINEERING SERVICES, INC. THE SIZE, LOCATION AND EXISTENCE OF ALL SUCH FEATURES MUST BE FIELD DETERMINED AND VERIFIED BY THE APPROPRIATE AUTHORITIES.
   - B) THE CONTRACTOR SHALL CALL "CALL BEFORE YOU DIG" 1-800-922-4455 (OR) #811 AND HAVE ALL UTILITIES MARKED ON THE GROUND PRIOR TO CONSTRUCTION.
   - C) ALL UTILITY SERVICES ARE TO BE UNDERGROUND, UNLESS OTHERWISE SHOWN ON THIS PLAN. THE EXACT LOCATION AND SIZE OF ELECTRIC, TELEPHONE, CABLE TELEVISION, GAS, OR OTHER ARE TO BE DETERMINED BY THE RESPECTIVE UTILITY COMPANIES.
4. REGULATIONS/PERMITTING:
   - A) THE CONTRACTOR AND/OR DEVELOPER SHALL CONFORM TO ALL REQUIREMENTS OF THE ZONING REGULATIONS, BUILDING CODE, AND OF ALL AGENCIES OF THE TOWN AND STATE OF CONNECTICUT.
   - B) ALL MATERIALS AND METHODS OF CONSTRUCTION WITHIN THE TOWN OR STATE RIGHT-OF-WAY SHALL CONFORM TO THE LATEST PUBLIC IMPROVEMENT STANDARDS.
   - C) THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED TOWN AND/OR STATE PERMITS PRIOR TO ANY CONSTRUCTION ACTIVITY.
5. FOUNDATION/ARCHITECTURE:

   SEE ARCHITECTURAL BUILDING PLANS FOR ACCURATE BUILDING DIMENSIONS AND DETAILS. PROPOSED BUILDING ELEVATIONS AND FOUNDATION LOCATION SUBJECT TO CHANGE AS FIELD CONDITIONS WARRANT. ALL DIMENSIONS AND BUILDING ELEVATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER.
6. GRADING/ELEVATIONS:
   - A) PROPOSED CONTOURS ARE SHOWN IN AREAS OF PROPOSED CONSTRUCTION AND FINISH GRADING SHALL BE ACCOMPLISHED AS INDICATED BY THE PROPOSED CONTOURS.
   - B) ALL ELEVATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER. DRAINAGE SWALES SHALL BE CONSTRUCTED AS INDICATED TO DIVERT SURFACE WATER RUNOFF AWAY FROM ANY STRUCTURE AND SEPTIC SYSTEM.
7. SEDIMENT & EROSION CONTROL:

   SEDIMENT AND EROSION CONTROL MEASURES AS DEPICTED ON THESE PLANS SHALL BE IMPLEMENTED AND MAINTAINED UNTIL PERMANENT COVER AND STABILIZATION ARE ESTABLISHED. ALL EROSION & CONTROL MEASURES SHALL CONFORM TO THE "2002 CONNECTICUT GUIDELINES FOR SOIL AND SEDIMENT CONTROL" AND IN ALL CASES BEST MANAGEMENT PRACTICES SHALL PREVAIL. ANY ADDITIONAL SEDIMENT & EROSION CONTROL MEASURES DEEMED NECESSARY BY TOWN STAFF OR THE DESIGN ENGINEER SHALL BE INSTALLED BY THE SITE CONTRACTOR. ALL EROSION CONTROLS ARE TO BE INSPECTED BEFORE, DURING, AND AFTER EVERY STORM EVENT AND REPAIRED OR REPLACED AS NECESSARY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEANING OF NEARBY STREETS, AS ORDERED BY THE TOWN OR STATE, OF ANY DEBRIS ASSOCIATED WITH THIS SITE'S CONSTRUCTION ACTIVITIES.
8. WATER SUPPLY:
   - A) THE PROPOSED STRUCTURE IS TO BE CONNECTED TO A PRIVATE DOMESTIC WATER WELL. LOCATION AS SHOWN. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER.
   - B) MINIMUM SEPARATING DISTANCE TO THE POTABLE WATER SUPPLY WELL OF 75 FEET FROM ANY PART OF ANY SUBSURFACE SEWAGE DISPOSAL SYSTEM (ON SITE OR OFF); AND 25 FEET FROM A FOUNDATION DRAIN SHALL BE MAINTAINED.
   - C) INSTALLATION OF THE PRIVATE DOMESTIC WATER WELL AND CONSTRUCTION MATERIALS USED SHALL COMPLY WITH THE LASTEST REVISIONS OF THE CONNECTICUT PUBLIC HEALTH CODE.
   - D) THE NEW WELL CONSTRUCTION MAY PROCEED ONLY AFTER ANY SITE BLASTING TO REMOVE LEDGE HAS BEEN COMPLETED.
9. WASTEWATER DISPOSAL SYSTEM:
   - A) THE PROPOSED STRUCTURE IS TO BE CONNECTED TO AN ON-SITE SUBSURFACE SEWAGE DISPOSAL SYSTEM.
   - B) INSTALLATION OF AND MATERIALS USED FOR THE CONSTRUCTION OF THE SUBSURFACE DISPOSAL SYSTEM AND ITS COMPONENTS SHALL COMPLY WITH ALL RESPECTS WITH THE LASTEST REVISION OF THE STATE OF CONNECTICUT PUBLIC HEALTH CODE. SEE SEPTIC SYSTEM NOTES FOR ADDITIONAL INFORMATION REGARDING DESIGN AND INSTALLATION.
10. GUTTERS/ROOF DRAINS:

    GUTTERS AND ROOF DRAINS SHALL BE TIED INTO THE TOWN STORM DRAINAGE SYSTEM WHERE FEASIBILE. WHERE REQUIRED, ROOF LEADERS ARE TO DISCHARGE TO SPLASH PADS AT GRADE AND BE DIRECTED AWAY FROM THE FOUNDATION.
11. FOOTING PERIMETER DRAINS:

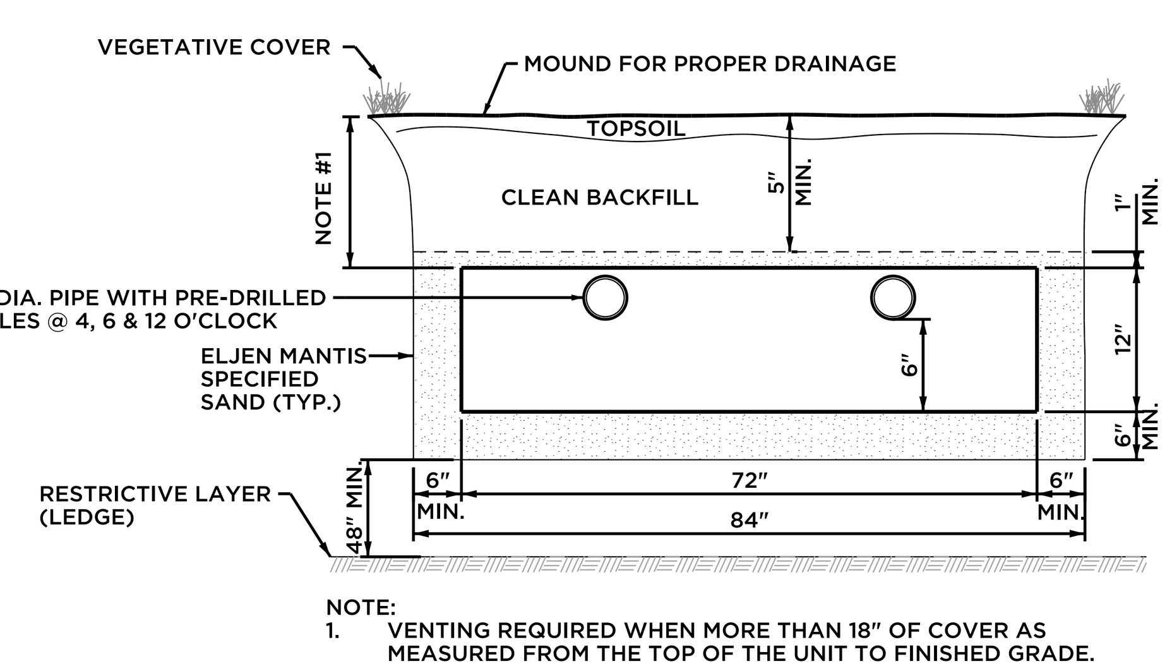
    DUE TO SOIL CONDITIONS AND BASEMENT ELEVATIONS, A FOOTING PERIMETER DRAIN IS RECOMMENDED. THE FOOTING DRAIN SHALL BE CONSTRUCTED OF TIGHT PIPE AND INSTALLED NO LESS THAN 25 FT UPGRADIENT OR 50 FEET DOWN GRADIENT OF ANY SUBSURFACE DISPOSAL SYSTEM. THE FOOTING DRAIN SHALL DISCHARGE TO DAYLIGHT OR CONNECT TO THE TOWN'S STORM DRAINAGE SYSTEM WHENEVER POSSIBLE. DESIGN OR LOCATION DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER PRIOR TO INSTALLATION.
12. RETAINING WALL:

    ANY RETAINING WALL OR DECORATIVE LANDSCAPING WALL EXCEEDING FOUR (4) FEET IN HEIGHT SHALL RE-QUIRE A BUILDING PERMIT. PRIOR TO CONSTRUCTION, THE WALL DESIGN AND STRUCTURAL CALCULATIONS IN COMPLIANCE WITH THE REQUIRMENTS OF THE BUILDING CODE SHALL BE SUBMITTED FOR APPROVAL.
13. DISTURBED AREAS/SEEDING:

    ALL AREAS, EXCEPT SIDEWALKS AND DRIVEWAYS, DISTURBED DURING CONSTRUCTION MUST BE RESTORED WITH 4" MINIMUM OF TOPSOIL AND STABILIZED WITH VEGETATION AS SOON AS POSSIBLE AFTER THE FOUND-ATION IS COMPLETED TO PREVENT EROSION. ALL AREAS ARE TO BE RAKED, SEEDED, AND FERTILIZED. LAWN AND ANY OTHER LANDSCAPING MUST BE PLANTED PRIOR TO A REQUEST FOR A CERTIFICATE OF OCCUPANCY. RECOMMENDED SEEDING DATES ARE FROM MARCH 15 TO JUNE 15 AND FROM SEPTEMBER 15 TO OCTOBER 15.
14. LOT CORNERS/PINNING:

    WHEN A CERTIFICATE OF OCCUPANCY IS REQUESTED, ALL LOT (AND EASEMENT) CORNERS MUST BE FLAGGED FOR FIELD IDENTIFICATION. ANY LOT CORNER MISSING OR DAMAGED MUST BE RE-ESTABLISHED BY A LICENSED CONNECTICUT LAND SURVEYOR.
15. RECORD DRAWINGS/AS-BUILT:

    WHEN A CERTIFICATE OF OCCUPANCY IS REQUESTED, RECORD DRAWINGS OF THE ENTIRE SITE SHALL BE SUBMITTED TO THE TOWN UPON COMPLETION OF THE WORK AND SHALL BE IN THE FORM ACCEPTABLE TO THE TOWN. THE CONTRACTOR/DEVELOPER/OWNER SHALL BE RESPONSIBLE FOR PROCURRING ALL INFORMATION NECESSARY TO GENERATE SAID DRAWINGS.



NOTE:
1. VENTING REQUIRED WHEN MORE THAN 18" OF COVER AS MEASURED FROM THE TOP OF THE UNIT TO FINISHED GRADE.

MANTIS DW-58 (LOW PROFILE) SAND FILL CROSS SECTION

NOT TO SCALE

SEPTIC SYSTEM DESIGN

DESIGN PARAMETERS

NUMBER OF BEDROOMS:	6	EFFECTIVE LEACHING AREA (ELA) REQ.:	775 SF
PERCOLATION RATE (MIN/INCH):	4 MIN./IN	GARBAGE DISPOSAL PROPOSED:	NO
SEPTIC TANK SIZE REQUIRED (MIN):	2,000 GAL.	LARGE CAPACITY TUB (>100 GAL):	NO

MINIMUM LEACHING SYSTEM SPREAD (MLSS)

RESTRICTIVE LAYER: (TEST PIT #201)	39 INCHES	HYDRAULIC GRADIENT/SLOPE:	> 15%
HYDRAULIC FACTOR (HF):	16	MLSS (REQUIRED):	= (HF) x (FF) X (PF)
FLOW FACTOR (FF):	2.25		= (16) x (2.25) x (1.0)
PERCOLATION FACTOR (PF):	1.0		= 36 LINEAR FEET

LEACH FIELD DESIGN

LEACHING SYSTEM USED:	MANTIS DW-58 (LOW-PRO)	CENTER-TO-CENTER SPACING:	14 LINEAR FEET
PRODUCT DIMENSIONS:	72"W x 60"L x 12"H	CONFIGURATION (AS SHOWN):	1 ROW AT 70 LF
EFFECTIVE LEACHING RATIO:	11.6 SF/LF	NUMBER OF UNITS:	14 UNITS TOTAL
ELA (PROVIDED) = (1) x (70 LF) x (11.6 SF)= 812 SF		MLSS (PROVIDED) = 70 LINEAR FEET	

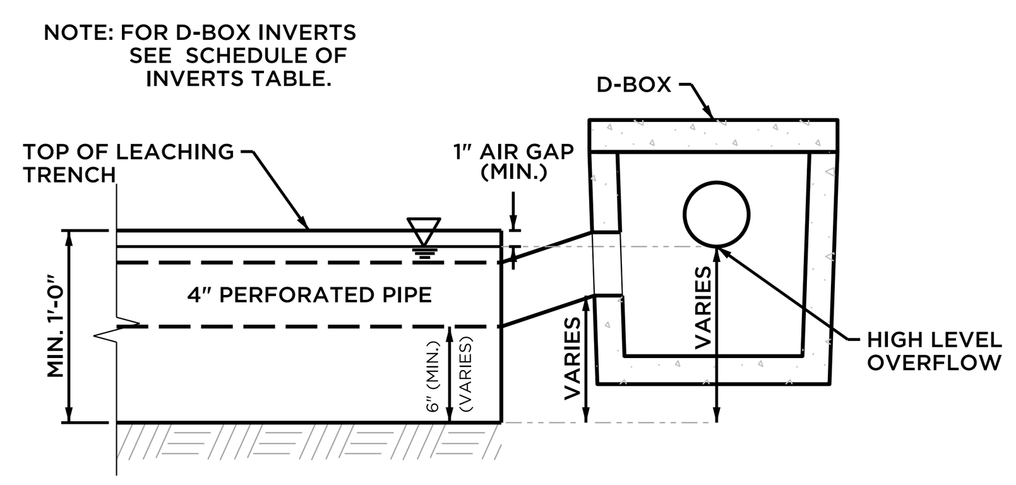
SEPTIC SYSTEM NOTES

1. GENERAL PROVISIONS:
   - A) INSTALLATION OF AND MATERIALS USED FOR THE CONSTRUCTION OF THE SUBSURFACE SEWAGE DISPOSAL SYSTEM (SSDS) AND ALL ITS COMPONENTS SHALL COMPLY WITH THE LASTEST REVISION OF THE STATE OF CONNECTICUT PUBLIC HEALTH CODE, AS AMENDED.
   - B) PRIOR TO THE START OF CONSTRUCTION, THE SSDS IS TO BE STAKED BY A LICENSED LAND SURVEY-OR AND A BENCHMARK MUST BE SET WITHIN 40 FEET OF THE SEPTIC SYSTEM LEACHING AREA.
   - C) A ONE HUNDRED PERCENT (100%) SEPTIC RESERVE AREA HAS BEEN PROVIDED, AS SHOWN.
   - D) IF THE CONTRACTOR FINDS CONDITIONS DIFFERENT THAN THOSE NOTED ON THE PLANS OR IF CONDITIONS ARE ADVERSE TO CONSTRUCTION, THEN THE CONTRACTOR MUST STOP WORK IMMEDIATELY AND NOTIFY THE DESIGN ENGINEER.
   - E) THE SEPTIC SYSTEM SHOULD NOT BE CONSTRUCTED DURING WET WEATHER CONDITIONS OR IF THE SUBSOIL IS SATURATED. CARE MUST BE TAKEN TO PROTECT LEACHING SYSTEM FROM ANY ACTIVITY THAT MAY RESULT IN SEDIMENTATION OR COMPACTION OF THE SOILS.
2. SEWER PIPE:
   - A) THE SEWER PIPE FROM THE HOUSE TO THE SEPTIC TANK SHALL BE 4" DIAMETER PVC SCHEDULE 40 ASTM D 1785 PRESSURE WATER PIPE OR APPROVED EQUAL. THE MINIMUM SLOPE SHALL BE 1/4 INCH PER FOOT.
   - B) PIPING AFTER THE SEPTIC TANK TO THE DISTRIBUTION BOX (D-BOX) SHALL BE A 4" DIAMETER PVC SDR-35 ASTM 3034 PIPE OR APPROVED EQUAL.
   - C) ALL CHANGES OF PIPE DIRECTION SHALL BE MADE WITH PROPER FITTINGS. PIPE LEADING INTO AND OUT OF THE SEPTIC TANK AND D-BOXES SHALL BE PROPERLY SECURED INTO PLACE AFTER THE PIPE INSTALLATION IS COMPLETE. INSTALLED PIPING SHALL BE PROTECTED DURING CONSTRUCTION AND FINAL GRADING TO AVOID CRUSHING OR DISPLACING.
3. SEPTIC TANK AND DISTRIBUTION BOXES:
   - A) THE SEPTIC TANK AND D-BOXES SHALL BE PRECAST CONCRETE OR APPROVED EQUAL AND SHALL BE STANDARD PRODUCTS OF A SUPPLIER REGULARLY ENGAGED IN THE MANUFACTURE OF SUCH UNITS.
   - B) THE SEPTIC TANK SHALL BE SET LEVEL ON A FIRM BED OF NATIVE SOIL OR SAND FILL AND ALL D-BOXES SHALL BE SET LEVEL IN A FULLY EXCAVATED TRENCH AFTER BACKFILLING WITH STONE.
   - C) SEPTIC TANK ACCESS PORTS LOCATED MORE THAN 12 INCHES (12") BELOW GRADE SHALL REQUIRE RISERS ON ALL ACCESS PORTS.
4. LEACHING SYSTEM INSTALLATION:

   THE AREA WHERE THE PROPOSED LEACHING SYSTEM IS TO BE INSTALLED SHALL BE PROPERLY PREPARED PRIOR TO PERFORMING ANY ACTUAL INSTALLATION OF THE SUBSURFACE DISPOSAL SYSTEM. THE AREA FOR THE PROPOSED LEACHING SYSTEM SHALL MEAN THE ENTIRE AREA WITHIN THE PERIMETER 15 FEET OUTSIDE THE ENDS AND SIDES OF THE PRIMARY LEACHING SYSTEM SHOWN.
5. SELECT FILL (IF APPLICABLE):
   - A) WHERE PLAN INDICATES THAT FILLING SHALL OCCUR, ALL VEGETATION SHALL BE REMOVED AND TOPSOIL CAREFULLY STRIPPED AND STOCKPILED FOR LATER REPLACEMENT OVER THE FILL AREA.
   - B) THE AREA TO BE FILLED SHALL BE ROUGHENED BY HAND OR MACHINE, IN A DIRECTION PARALLEL TO THE PROPOSED LEACHING TRENCHES, TO ALLOW PROPER UNITING WITH THE PROPOSED FILL. AFTER PREPARATION, THIS AREA SHALL BE PROTECTED FROM TRAFFIC.
   - C) THE FILL MATERIAL SHALL CONFORM TO THE FILL SPECIFICATIONS OUTLINED IN SECTION VIII.A OF THE LATEST REVISION TO THE CONNECTICUT PUBLIC HEALTH CODE REGULATIONS AND TECHNICAL STANDARDS FOR SUBSURFACE SEWAGE DISPOSAL SYATEMS. ALL FILL SHALL BE ACCEPTABLE TO THE HEALTH DISTRICT.

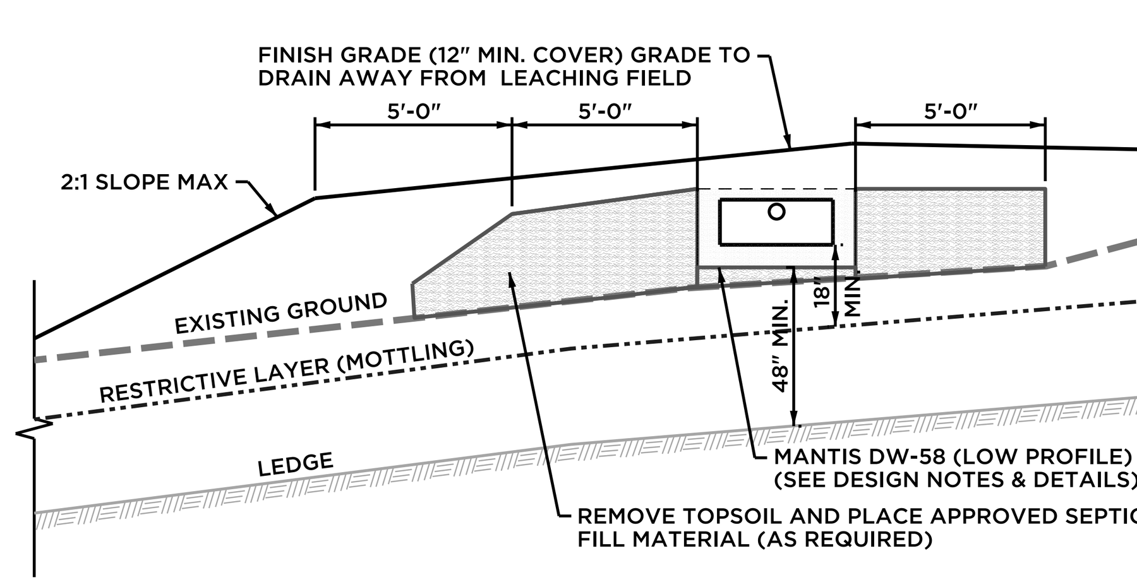
	PERCENT PASSING	
SIEVE SIZE	(WET SIEVE)	(DRY SIEVE)
#4	100	100
#10	70 - 100	70 - 100
#40	10 - 50*	10 - 75
#100	0 - 20	0 - 5
#100	0 - 20	0 - 5
#200	0 - 5	0 - 2.5

   *(PERCENT PASSING THE #40 SIEVE CAN BE INCREASED TO NO GREATER THAN 75% IF THE PERCENT PASSING THE #100 SIEVE DOES NOT EXCEED 10% AND THE #200 SIEVE DOES NOT EXCEED 5%)
   - D) THE FILL MATERIAL SHALL BE DUMPED ON THE UPHILL SIDE OF THE PROPOSED LEACHING AREA AND SPREAD TOWARD THE DOWNFILL SIDE WITH A BULLDOZER, TAKING CARE THAT MACHINERY RIDES ONLY ON NEW FILL.
   - E) THE FILL SHALL BE SPREAD OVER THE ENTIRE AREA IN 12 INCH (12") LIFTS AND COMPACTED BY HEAVY MACHINERY, TO A POINT WHERE IT IS FIRM. UPON COMPLETION OF SPREADING AND COMPACTING, THE ENTIRE FILLED AREA SHALL BE BACKBLADED AND SPECIAL CARE SHALL BE TAKEN TO ENSURE THAT THE ENTIRE FILL AREA, AND TOE OF SLOPE, IS EVENLY AND ADEQUATELY COMPACTED.
   - F) AFTER THE AREA FOR THE PROPOSED LEACHING SYSTEM HAS BEEN PROPERLY FILLED, THE LEACHING SYSTEM SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS.
6. SPECIAL RECOMMENDATIONS:
   - A) LOW FLOW SANITARY FIXTURES AND FLOW RESTRICTIVE SHOWER HEADS ARE RECOMMENDED FOR INSTALLATION IN PROPOSED HOUSE.
   - B) GARBAGE GRINDERS ARE NOT RECOMMENDED FOR USE WITH SUBSURFACE DISPOSAL SYSTEMS. IF A GARBAGE DISPOSAL IS TO BE INSTALLED, THEN THE SIZE OF THE SEPTIC TANK SHALL BE INCREASED BY A MINIMUM OF 250 GALLONS.
   - C) IF A LARGE CAPACITY (100 GALLON OR GREATER) TUB IS INSTALLED THEN THE SIZE OF THE SEPTIC TANK SHALL BE INCREASED BY A MINIMUM OF 250 TO GALLONS. SEE THE CONNECTICUT PUBLIC HEALTH CODE FOR CAPACITY INCREASE REQUIREMENTS.
7. INSPECTION/AS-BUILT:
   - A) AFTER CONSTRUCTION AND PRIOR TO COVERING, THE SEPTIC SYSTEM INSTALLER SHALL NOTIFY THE HEALTH DISTRICT THAT THE SITE IS READY FOR INSPECTION. THE HEALTH DISTRICT SHALL INSPECT ALL COMPONENTS OF THE SEPTIC SYSTEM FOR COMPLIANCE WITH THE STATE OF CONNECTICUT PUBLIC HEALTH CODE AND APPROVED PLANS PRIOR TO COVERING.
   - B) A RECORD PLAN (AS-BUILT) OF THE SEWAGE DISPOSAL SYSTEM AND ITS COMPONENTS SHALL BE PREPARED BY THE INSTALLER AND BE SUBMITTED TO THE HEALTH DISTRICT.



D-BOX CONNECTION DETAIL

NOT TO SCALE



LEACHING SYSTEM CROSS-SECTION (TYP.)

NOT TO SCALE

SOIL TEST OBSERVATION RESULTS

SOIL TESTING PERFORMED BY: BARTON & LOGUIDICE, LLC (MAREK KEMENT, PE/LS) ON APRIL 30, 2018
WITNESSED BY HEALTH DISTRICT: EASTERN HIGHLANDS HEALTH DISTRICT (HOLLY HOOD, RS).
EXCAVATION PERFORMED BY: KEMENT & SON CONSTRUCTION, INC.

TEST PIT: TP-201

DEPTH (INCHES)	SOIL DESCRIPTION
0 - 5	TOPSOIL
5 - 26	ORANGE BROWN
26 - 39	RED BROWN SAND TILL

GROUNDWATER OBSERVED AT:	N/A
SEEPAGE OBSERVED AT:	N/A
MOTTLING OBSERVED AT:	N/A
ROOTS OBSERVED AT:	26"
LEDGE OBSERVED AT:	39"
RESTRICTIVE LAYER AT:	39"
STANDPIPE INSTALLED:	NO
TOP OF PIPE ELEVATION:	N/A

TEST PIT: TP-202

DEPTH (INCHES)	SOIL DESCRIPTION
0 - 4	TOPSOIL
4 - 20	ORANGE BROWN
20 - 29	RED BROWN SAND TILL

GROUNDWATER OBSERVED AT:	N/A
SEEPAGE OBSERVED AT:	N/A
MOTTLING OBSERVED AT:	N/A
ROOTS OBSERVED AT:	20"
LEDGE OBSERVED AT:	29"
RESTRICTIVE LAYER AT:	29"
STANDPIPE INSTALLED:	NO
TOP OF PIPE ELEVATION:	N/A

TEST PIT: TP-203

DEPTH (INCHES)	SOIL DESCRIPTION
0 - 5	TOPSOIL
5 - 24	ORANGE BROWN
24 - 41	RED BROWN SAND TILL

GROUNDWATER OBSERVED AT:	N/A
SEEPAGE OBSERVED AT:	N/A
MOTTLING OBSERVED AT:	N/A
ROOTS OBSERVED AT:	24"
LEDGE OBSERVED AT:	41"
RESTRICTIVE LAYER AT:	41"
STANDPIPE INSTALLED:	NO
TOP OF PIPE ELEVATION:	N/A

TEST PIT: TP-204

DEPTH (INCHES)	SOIL DESCRIPTION
	UNSUITABLE SOIL

GROUNDWATER OBSERVED AT:	N/A
SEEPAGE OBSERVED AT:	N/A
MOTTLING OBSERVED AT:	N/A
ROOTS OBSERVED AT:	N/A
LEDGE OBSERVED AT:	16"
RESTRICTIVE LAYER AT:	16"
STANDPIPE INSTALLED:	NO
TOP OF PIPE ELEVATION:	N/A

TEST PIT: TP-205

DEPTH (INCHES)	SOIL DESCRIPTION
	UNSUITABLE SOIL

GROUNDWATER OBSERVED AT:	N/A
SEEPAGE OBSERVED AT:	N/A
MOTTLING OBSERVED AT:	N/A
ROOTS OBSERVED AT:	N/A
LEDGE OBSERVED AT:	12"
RESTRICTIVE LAYER AT:	12"
STANDPIPE INSTALLED:	NO
TOP OF PIPE ELEVATION:	N/A

TEST PIT: TP-206

DEPTH (INCHES)	SOIL DESCRIPTION
	UNSUITABLE SOIL

GROUNDWATER OBSERVED AT:	N/A
SEEPAGE OBSERVED AT:	N/A
MOTTLING OBSERVED AT:	N/A
ROOTS OBSERVED AT:	N/A
LEDGE OBSERVED AT:	11"
RESTRICTIVE LAYER AT:	11"
STANDPIPE INSTALLED:	NO
TOP OF PIPE ELEVATION:	N/A

TEST PIT: TP-207

DEPTH (INCHES)	SOIL DESCRIPTION
0 - 5	TOPSOIL
5 - 24	ORANGE BROWN
24 - 40	RED BROWN SAND TILL (FIRM)

GROUNDWATER OBSERVED AT:	N/A
SEEPAGE OBSERVED AT:	N/A
MOTTLING OBSERVED AT:	N/A
ROOTS OBSERVED AT:	24"
LEDGE OBSERVED AT:	40"
RESTRICTIVE LAYER AT:	40"
STANDPIPE INSTALLED:	NO
TOP OF PIPE ELEVATION:	N/A

TEST PIT: TP-208

DEPTH (INCHES)	SOIL DESCRIPTION
	UNSUITABLE SOIL

GROUNDWATER OBSERVED AT:	N/A
SEEPAGE OBSERVED AT:	N/A
MOTTLING OBSERVED AT:	N/A
ROOTS OBSERVED AT:	N/A
LEDGE OBSERVED AT:	12"
RESTRICTIVE LAYER AT:	12"
STANDPIPE INSTALLED:	NO
TOP OF PIPE ELEVATION:	N/A

TEST PIT: TP-209

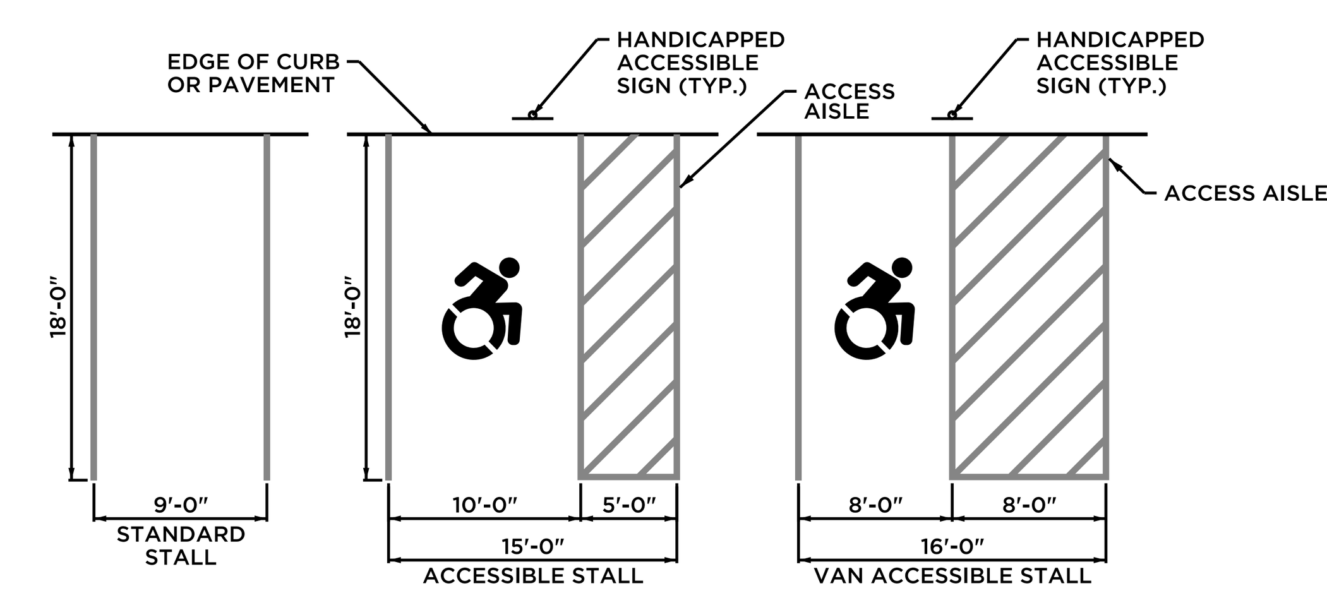
DEPTH (INCHES)	SOIL DESCRIPTION
0 - 2	LEAF LITTER
2 - 6	TOPSOIL
6 - 18	ORANGE BROWN SILTY VERY FINE SANDY LOAM
18 - 28	LOAMY SAND TILL GRAY

GROUNDWATER OBSERVED AT:	N/A
SEEPAGE OBSERVED AT:	N/A
MOTTLING OBSERVED AT:	N/A
ROOTS OBSERVED AT:	18"
LEDGE OBSERVED AT:	28"
RESTRICTIVE LAYER AT:	28"
STANDPIPE INSTALLED:	NO
TOP OF PIPE ELEVATION:	N/A

PERC TEST RESULTS

PERC TEST PERFORMED ON 5/30/2018
BY BARTON & LOGUIDICE
(HOLES WERE PRESOAKED PRIOR TO TESTING)

PERC TEST - A DEPTH @ 20"	PERC TEST - B DEPTH @ 19"
RATE = 4 MIN/INCH	RATE = 4 MIN/INCH



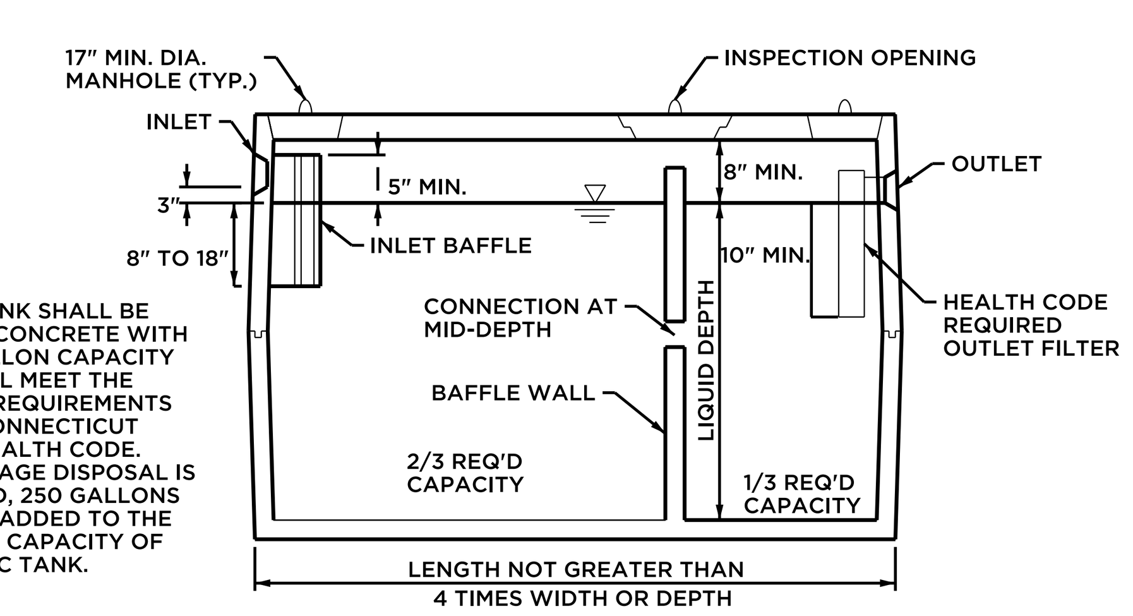
NOTE: ALL STRIPING TO BE 4" WHITE

PARKING STALL DETAILS

NOT TO SCALE

GENERAL NOTES:

1. ACCESS AISLES SHALL ADJOIN AN ACCESSIBLE ROUTE.
2. ACCESS AISLES (CROSS HATCH) SERVING CAR PARKING SPACES SHALL BE 60 INCHES (1525 mm) MINIMUM IN WIDTH. ACCESS AISLES SERVING VAN PARKING SPACES SHALL BE 96 INCHES (2440 mm) MINIMUM IN WIDTH. TWO PARKING SPACES SHALL BE PERMITTED TO SHARE A COMMON ACCESS AISLE. IF A CAR AND A VAN SPACE SHARE A COMMON ACCESS AISLE, THAT AISLE SHALL BE 96 INCHES MINIMUM IN WIDTH.
3. PARKING SPACES MAY HAVE ACCESS AISLES PLACED ON EITHER SIDE OF THE CAR OR VAN PARKING SPACE. VAN PARKING SPACES THAT ARE ANGLED SHALL HAVE ACCESS AISLES LOCATED ON THE PASSENGER SIDE OF THE PARKING SPACE.
4. ACCESSIBLE PARKING SPACES SHALL BE IDENTIFIED BY ABOVE GRADE SIGNS IN ACCORDANCE WITH DETAILS.



NOTES
1. SEPTIC TANK SHALL BE PRECAST CONCRETE WITH 2,000 GALLON CAPACITY AND SHALL MEET THE MINIMUM REQUIREMENTS OF THE CONNECTICUT PUBLIC HEALTH CODE.
2. IF A GARBAGE DISPOSAL IS PROPOSED, 250 GALLONS SHALL BE ADDED TO THE REQUIRED CAPACITY OF THE SEPTIC TANK.

SEPTIC TANK CROSS SECTION

NOT TO SCALE

EROSION & SEDIMENTATION CONTROL PLAN:

1. ALL EROSION AND CONTROL MEASURES WILL BE INSTALLED AT THE PROJECT SITE PRIOR TO CONSTRUCTION WHEREEVER POSSIBLE.
2. AN ANTI-TRACKING APRON WILL BE INSTALLED AT THE ENTRANCE TO THE CONSTRUCTION SITE IN ORDER TO PREVENT THE TRANSPORT OF SEDIMENTS OFF THE CONSTRUCTION SITE BY TRUCK AND CONSTRUCTION EQUIPMENT TRAFFIC.
3. AN EROSION CONTROL SYSTEM SHALL BE INSTALLED AROUND ALL ON-SITE STOCKPILES OF SOIL.
4. DUST CONTROL MEASURES SHALL BE APPLIED THROUGHOUT THE CONSTRUCTION PERIOD AND UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED.
5. DUST CONTROL MEASURES WILL BE APPLIED DURING THE CONSTRUCTION PERIOD UNTIL ALL DISTURBED AREAS HAVE BEEN STABILIZED, AS REQUIRED BY FIELD CONDITIONS.
6. TEMPORARY SEDIMENT TRAPS WILL BE INSTALLED AS NECESSARY DURING CONSTRUCTION ACTIVITIES. ALL TEMPORARY STORMWATER DISCHARGE WILL BE DIRECTED TO THESE TRAPS.

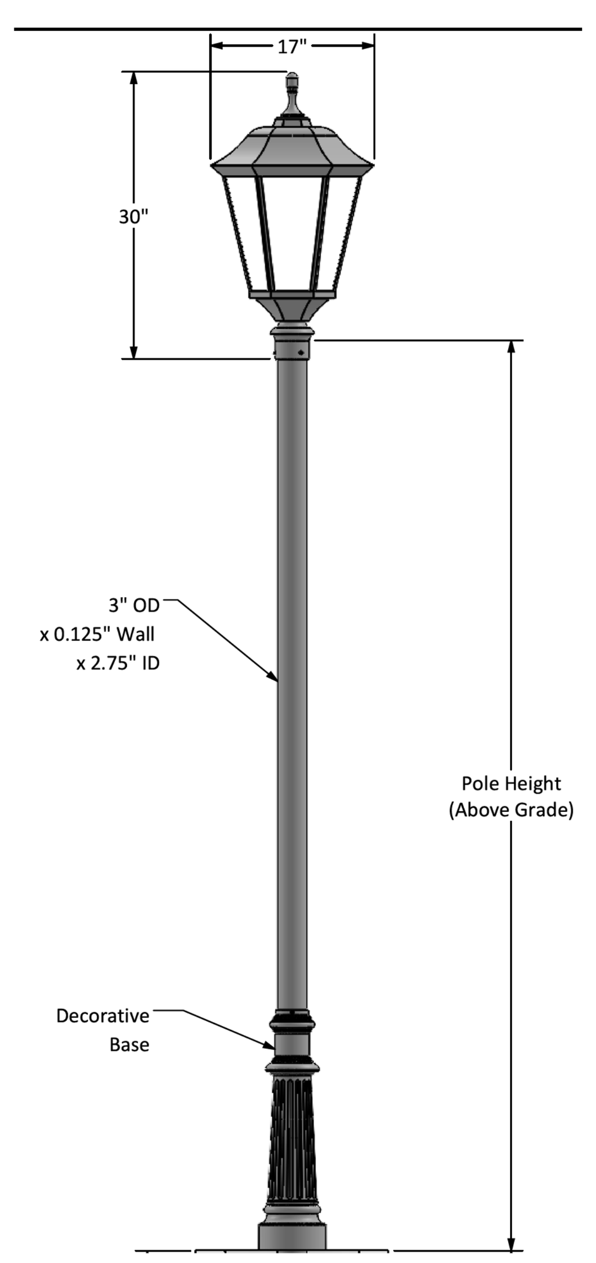
EROSION & SEDIMENTATION CONTROL NOTES:

1. EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE TOWN PRIOR TO CONSTRUCTION.
2. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL", DATED 2002, AS AMENDED AND THE TOWN REGULATIONS.
3. ALL EROSION CONTROL DEVICES SHALL BE MAINTAINED OR REPLACED BY THE CONTRACTOR DURING THE CONSTRUCTION PERIOD AS NECESSARY OR AS REQUIRED BY THE ENGINEER OR TOWN.
4. ALL ON-SITE EROSION AND SEDIMENT CONTROLS ARE REQUIRED TO BE INSPECTED WITHIN 24-HOURS AFTER A RAIN EVENT OF AT LEAST A HALF-INCH, AND MAINTAINED, REPLACED OR INCREASED AS REQUIRED BY SPECIFIC FIELD CONDITIONS.
5. SEDIMENT REMOVED FROM ANY CONTROL STRUCTURES SHALL BE DISPOSED OF IN A MANNER WHICH IS CONSISTENT WITH THE INTENT OF THE PLAN.
6. ADDITIONAL EROSION CONTROL MEASURES WILL BE INSTALLED DURING THE CONSTRUCTION PERIOD IF DEEMED NECESSARY OR REQUIRED BY THE ENGINEER OR TOWN.
7. THE CONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING ALL EROSION AND SEDIMENTATION CONTROL DEVICES AS SHOWN ON THESE PLANS OR AS ORDERED BY THE ENGINEER.
8. ALL DISTURBED AREAS ARE TO BE RAKED, SEEDED AND FERTILIZED PER "TURF ESTABLISHMENT" SPECIFICATION IN CTDOT 818, AT THE COMPLETION OF PROJECT.
9. AREAS OUTSIDE OF PAVED AREAS, WALKS, AND BUILDINGS ARE TO RECEIVE A MINIMUM 4" OF TOPSOIL.
10. THE FOLLOWING DATES FOR SEEDING SHALL BE USED:

    SPRING: APRIL 15 TO JUNE 15
    FALL: AUGUST 15 TO SEPTEMBER 15
11. THE FOLLOWING GRASS SEED MIXTURES SHALL BE APPLIED AT A RATE NO LESS THAN 100 LBS. PER ACRE:

SPECIES	PROPORTION BY WEIGHT (POUNDS)	MINIMUM PURITY (PERCENT)	MINIMUM GERMINATION (PERCENT)
VELVET BENTGRASS, (AGROSTIS CANINA)	25	96	85
RED FESCUE (FESTUCA RUBRA L. SSP. RUBRA)	35	97	80
PARTRIDGE PEA (CHAMAECRISTA FASCICULATA)	10	95	90
INDIAN GRASS (SORGHASTRUM NUTANS)	15	95	90
CANADA WILDRYE (ELYMUS CANADENSIS)	5	95	90
KENTUCKY BLUE GRASS (POA PRATENSIS)	10	95	90

13. TEMPORARY GRASS SEEDING, IF NECESSARY, SHALL BE PERENNIAL RYE GRASS (LOLIUM PERENNE) APPLIED AT A RATE OF 100 LBS. PER ACRE.



LED Power (Watt)	Lumens	Lumens Per Watt	Voltage (Volt)
27	3,900	144	120-277
36	5,400	150	120-277
45	6,800	151	120-277
80	10,800	135	120-277
100	13,500	135	120-277

NOTES
1. POLE HEIGHT TO BE A MAXIMUM OF 10 FEET.
2. POLE SHALL BE MOUNTED PER MANUFACTURER'S RECOMMENDATION.
3. PROPOSED LIGHT POWER TO BE DETERMINED BY PHOTOMETRIC DETAIL TO BE SUBMITTED PRIOR TO ISSUANCE OF BUILDING PERMIT.

LIGHT DETAIL

NOT TO SCALE

STATE OF CONNECTICUT · MARK M. ZESSIN · No. 16215 · LICENSED PROFESSIONAL ENGINEER

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PROJ. ENGINEER	MJP
PROJ. MANAGER	KRG
OFFICE REVIEW	KRG
REVISIONS	
10/24/22	
11/04/22	
SCALE:	NOT TO SCALE

CONSTRUCTION NOTES

PREPARED FOR

60 VILLA LOUISA ROAD LLC

60 VILLA LOUISA ROAD BOLTON, CT

PROJECT	DATE	SHEET NO.
4390-002	1/31/2022	4 OF 4

PROPOSED TREATMENT STRUCTURE SIZING

Compute Water Quality Volume - AREA TO RAIN GARDEN

$$WQV = \frac{(1" \times R \times A)}{12}$$

WQV = Water Quality Volume (acre-feet)
R = Volumetric Runoff Coefficient, 0.050 + 0.009(I)
I = Percent Impervious Cover, Impervious Area / Total Area
DA = Drainage Area (Acres) DA = **0.120** acres
IA = Impervious Area (Acres) IA = **0.080** acres

Determine Percent Impervious Cover (I) **Calculate Volumetric Runoff Coefficient (R)**

I = 67% R = 0.65

Calculate Water Quality Volume

WQV = 0.007 acre-feet= **283 cubic feet** **Available rain garden volume is 540 CF up to elevation 529.5.**

The proposed rain garden will provide an excess of volume to treat flow from the turnaround drive and front roof of the house.

PROPOSED STORMWATER ANALYSIS

Compute 25 YR Peak Flow to Villa Louisa Road from the site.

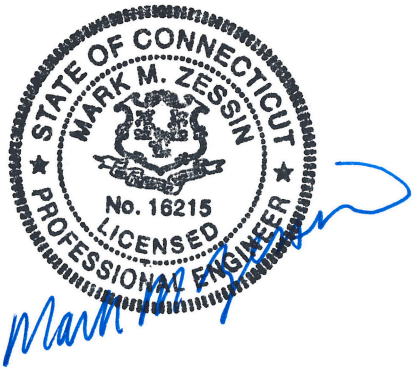
EXISTING CONDITIONS

AREA = 1.6 ACRES
C = 0.25 (Woods)
TC = 38 MINUTES (see attached)
I25 = 3.05 IN/HR

Q25 = CIA
Q25 = 1.6 x 0.25 x 3.05 = **1.22** **CFS**

PROPOSED CONDITIONS

AREA = 1.4 ACRES
C = 0.316
0.75 ac. -woods (0.25)
0.30 ac. -grass (0.3)
0.10 ac. - impervious (0.9)
TC = 32 MINUTES (see attached)
I25 = 3.3 IN/HR
Q25 = CIA
Q25 = 1.4 x 0.316 x 3.3 = **1.46** **CFS**



THE AREA DRAINING TO VILLA LOUISA ROAD IN THE PROPOSED CONDITIONS HAS BEEN REDUCED BY 0.20 ACRES BUT THERE IS A MINOR INCREASE IN THE 25 YR PEAK FLOW DUE TO CLEARING OF WOODS AND INSTALLATION OF LAWN AND A PAVED DRIVEWAY.
INFILTRATION OPPORTUNITIES ARE PROPOSED ON THE EAST SIDE OF THE DRIVEWAY TO COLLECT STORMWATER IN A CURTAIN DRAIN AND DISCHARGE TO A STONE LEVEL SPREADER PRIOR TO OVERFLOW TO THE ROADWAY VEGETATED SHELF. THE CURTAIN DRAIN IS PROPOSED 1.75 FEET BELOW THE BOTTOM OF THE LEVEL SPREADER AND CONNECTS TO A YARD DRAIN WITH A GRATE AT GRADE. ONCE THE YARD DRAIN FILLS, IT WILL FLOW OUT OF THE GRATE AND INTO THE LEVEL SPREADER. THE WEST SIDE OF THE DRIVEWAY IS ALSO DIRECTED TO FLOW INTO THE LEVEL SPREADER TO ALLOW INFILTRATION AND SLOWING DOWN OF THE FLOW. ONCE THE WATER ELEVATION IN THE STONE LEVEL SPREADER REACHES ONE FOOT, FLOW WILL DRAIN INTO THE ROADWAY VEGETATED SHELF AS IN EXISTING CONDITIONS.
THE PROPOSED INCREASE IN FLOW IS MINOR AND IS CONSISTANT WITH A RESIDENTIAL HOME LOT AND WILL NOT ADVERSELY IMPACT DRAINAGE CONDITIONS IN THE ROAD.
REVISION 11/04/22:
THE DESIGN NOW INCLUDES A SWALE OVER THE CURTAIN DRAIN TO COLLECT STORMWATER FROM THE DRIVEWAY AND THE EAST SLOPE. A YARD DRAIN WILL BE INSTALLED AT THE BOTTOM OF THE SWALE TO COLLECT SURFACE RUNOFF AND PIPE IT TO THE LEVEL SPREADER ON THE OTHER SIDE OF THE DRIVEWAY, MINIMIZING THE AMOUNT OF DIRECT STORM RUNOFF ONTO THE ROADWAY.

TIME OF CONCENTRATION - EXISTING

TIME OF CONCENTRATION (Tc) OR TRAVEL TIME (Tt)

Sheet Flow		Segment ID					
1.- Surface Description							
2.- Manning's Roughness Coeff. "n"		0.4		0.4			
3.- Flow Length, L (total L ≤ 300ft)	ft	100		50			
4.- Two-year 24-hr. rainfall, P_2	inch	3.17		3.17			
5.- Land Slope, S	ft/ft	0.01		0.07			
6.- $T_t = \frac{0.007\,(nL)^{0.8}}{P_2^{0.5}\,S^{0.4}}$	hr	**0.47**	+	**0.13**	=	**0.60**	

Shallow Concentrated Flow		Segment ID					
7.- Surface Description (paved or Unpaved)		Unpaved					
8.- Flow Length, L	ft	480					
9.- Watercourse Slope, S	ft/ft	0.097					
10.- Average Velocity, V *	ft/s	5.03					
11.- $T_t = \frac{L}{3600V}$	hr	**0.03**	+		=	**0.03**	

Channel Flow		Segment ID					
12.- Cross Sectional Area, a	ft^2						
13.- Wetted Perimeter, P_w	ft						
14.- Hydraulic Radius r = a/Pw	ft						
15.- Channel Slope, S	ft/ft						
16.- Manning's Roughness Coeff. "n"							
17.- $V = \frac{1.49r^{2/3}\,S^{0.5}}{n}$	ft/s						
18.- Flow Length, L	ft						
19.- $T_t = \frac{L}{3600V}$	hr				=	**0.00**	

20.- Watershed Or Subarea T_c or T_t (add T_t from steps 6,11,and 19) hrs. **0.63**

= min **38**

* Average Velocity:

Unpaved $V = 16.1345(S)^{0.5}$ ft/s

Paved $V = 20.3284(S)^{0.5}$ ft/s

TIME OF CONCENTRATION - PROPOSED

TIME OF CONCENTRATION (Tc) OR TRAVEL TIME (Tt)

Sheet Flow		Segment ID					
1.- Surface Description							
2.- Manning's Roughness Coeff. "n"		0.4		0.3			
3.- Flow Length, L (total L ≤ 300ft)	ft	100		40			
4.- Two-year 24-hr. rainfall, P_2	inch	3.17		3.17			
5.- Land Slope, S	ft/ft	0.01		0.24			
6.- $T_t = \frac{0.007\,(nL)^{0.8}}{P_2^{0.5}\,S^{0.4}}$ hr	hr	**0.47**	+	**0.05**	=	**0.52**	

Shallow Concentrated Flow		Segment ID					
7.- Surface Description (paved or Unpaved)		Unpaved					
8.- Flow Length, L	ft	190					
9.- Watercourse Slope, S	ft/ft	0.079					
10.- Average Velocity, V *	ft/s	4.53					
11.- $T_t = \frac{L}{3600V}$	hr	**0.01**	+		=	**0.01**	

Channel Flow		Segment ID					
12.- Cross Sectional Area, a	ft^2						
13.- Wetted Perimeter, P_w	ft						
14.- Hydraulic Radius r = a/Pw	ft						
15.- Channel Slope, S	ft/ft						
16.- Manning's Roughness Coeff. "n"							
17.- $V = \frac{1.49r^{2/3}\,S^{0.5}}{n}$	ft/s						
18.- Flow Length, L	ft						
19.- $T_t = \frac{L}{3600V}$	hr				=	**0.00**	

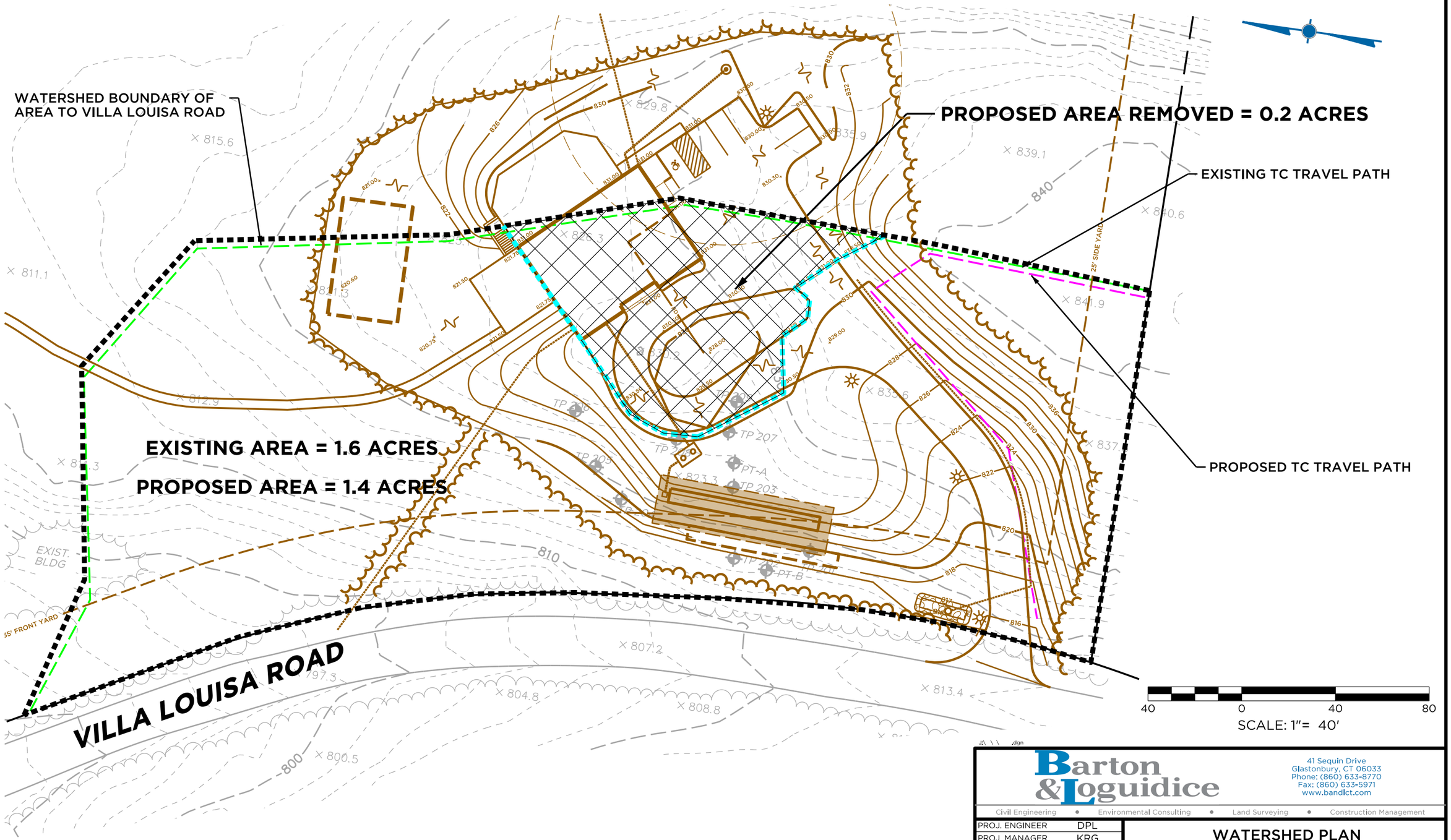
20.- Watershed Or Subarea T_c or T_t (add T_t from steps 6,11,and 19) hrs. **0.53**

= min **32**

* Average Velocity:

Unpaved V = $16.1345(S)^{0.5}$ ft/s

Paved V = $20.3284(S)^{0.5}$ ft/s



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OFFICE REVIEW	KRG
REVISIONS	
SCALE:	1"= 40'

WATERSHED PLAN

PREPARED FOR

60 VILLA LOUISA ROAD LLC

60 VILLA LOUISA ROAD BOLTON, CT

PROJECT	DATE	SHEET NO.	OF
1390-001	10/24/22	1	1

COMMENT RESPONSE SUMMARY

Thad D. King, MPH REHS CP-FS, Eastern Highlands Health District – dated 11/01/22

1. Sheet 4 item 8 indicates a private water supply. The property is currently regulated as a public water supply by CTDPH. The proposed use is as a Bed and Breakfast. It is indeterminate if the proposed use will be considered a private or public supply pending the requested CTDPH review.
   RESPONSE: The applicant/owner has completed and submitted a public water supply screening form to CTDPH regarding the proposed additional well on the property and will continue to follow up for feedback.

2. The well permit for a private supply will likely require an exception under Section 19-13-B51m(b) from CTDPH.
   RESPONSE: See response for #1.

3. Site development notes should indicate that the new well construction may proceed only after any site blasting to remove ledge has been completed.
   RESPONSE: This note was added to plan sheet 4 of 4.

4. The design flow is listed as 6 Br, however the Parking Table lists 3 Br dwelling and 2 Br B&B. ELA is listed as a 6 BR at 742.5 SQ FT.

   A 3 Br dwelling is 495 SQ FT + (2 Br B&B - 300 GAL/1.5 Gal/SQ FT) 200 SQ FT = 695 SF, or 495 SQ FT + (3 Br B&B - 450 Gal/1.5 Gal/SQ FT) 300 SQ FT = 795 SQFT.
   RESPONSE: The parking table and the septic system design information has been revised. The proposed house is 6 bedroom and parking is provided as if 5 of the bedrooms are for the Bed and Breakfast guests. The septic system design has been revised for the following:
   375 S.F. (2-bedroom dwelling) + 4x150 Gal./1.5 Gal./S.F. (4 guest bedrooms) = 775 S.F.

5. The soil conditions are unsuitable for SSDS by definition, with ledge less than 48 inches from the ground surface. The area can be made suitable by placement of suitable material, in this case select sand meeting the plan sieve requirement, per an approved design, and as allowed by Planning and Zoning.
   RESPONSE: Comment noted and system designed accordingly.

6. The propose reserve area is less than 25 FT from the downslope property line.
   RESPONSE: The reserve area has been relocated.

7. The leaching System Cross Section indicates the leaching row is into the existing ground. With ledge at 40 inches the bottom is required to be at least 8 inches above existing ground. Please revise.

RESPONSE: This detail has been revised.

8. Exempt from CT Food Code 19-13-b42 is "a bed-and-breakfast operation that prepares and offers food to the guests if such operation is owner occupied and has the total building occupant load of not more than 16 persons including the owner and occupants, and has no provisions for cooking or warming food in the guest rooms, and breakfast is the only meal offered, and placards are posted at the registration area which read "this establishment is exempt from section 19-13-B42 of the regulations of the public health code ", otherwise a commercial kitchen is required with an external grease receptor for the SSDS.
RESPONSE: The proposed Bed & Breakfast Facility will meet this exemption and will post sign(s) at the registration area that reads "this establishment is exempt from section 19-13-B42 of the regulations of the public health code".

Joseph M. Dillon, P.E., Nathan L Jacobson & Associates

The only outstanding issue that I have is that a swale should be placed adjacent to the proposed driveway. The revised plans show a curtain drain. The curtain drain will not be sufficient to capture surface runoff. Additionally, the driveway should be graded to direct surface runoff toward the swale to try to direct as much water as possible away from the Town road.

RESPONSE: The plans have been revised to include a swale and a yard drain to collect stormwater from the drive and the adjacent slope.

Patrice L. Carson, AICP, Consulting Director of Community Development – 11/01/22 (comments in red)

2. The Commission may want to add a condition that a lighting isodiagram will submitted once the lighting is installed to prove the lighting meets the Zoning Regulations.

5. Based on the density and maturity of the existing trees and the clearing that will be needed for the driveway and septic system, the building will be very visible from the road. A landscaping plan or a request for waiver should be submitted. – Commission will need to discuss this and make a decision.

RESPONSE: The applicant would like to request a waiver for additional landscaping due to the clearing required. A width of approximately 20 feet+ of existing woods will be maintained below the proposed septic system on the east side of Villa Louisa Road. Also, new plantings within the septic system area are undesirable. The footprint for

the new house is just over 2,900 square feet including the garage and is a residential structure similar to others in the area.

8. PE and LS stamps are required on all drawings and any calculations submitted. – none of the plan sets submitted to town hall or uploaded to ViewPoint have stamps – ***needs to be addressed***

RESPONSE: Professional stamps have been added to the submission materials and plans.

Jim Rupert, Fire Marshal

The plans certainly have more detail than the last set which give a clearer picture of the proposed development. With the additional detail comes some additional questions. *Is a dumpster planned for the site? Where would it be placed. Not knowing where the entrance to the building is it is difficult to determine if the driveway slope meets the requirements under the building code for an accessible path between the accessible parking and entrance. The engineers should be certain that is appropriate and code compliant.* I believe Bolton Zoning Regulations require the isometric diagram to be part of the submittal paperwork for the application. Since it is not present I am unable to provide any comments as to compliance with minimum illuminance levels with regard to the building code. I believe the previously cited concerns have been addressed.

RESPONSE: No dumpsters are proposed at the new house. The owner will use dumpsters located at the restaurant facility rather than street side residential pick up.

RESPONSE: Additional spot shots have been added for the accessible parking spaces. The accessible route to/from the house will be provided with the new concrete sidewalk and back terrace.

RESPONSE: An isometric diagram will be submitted by the applicant/owner once final lighting fixtures have been selected.

Lance Dimock

Joe and I just looked at Villa Louisa Rd- The north facing sight line does not appear to be correct 1) vehicle reference is too far back in the driveway and possibly the bank on the opposite side of the road needs to be lowered.
Lance

RESPONSE: The sight line and distances were determined based on the location of the driver's eye in the driveway (minor road) at 15' back from the edge of the road in accordance with the CT DOT Highway Design Manual. The height of the driver's eye is at 3.5 feet above grade of drive (818.5+/-) and the height of the object in the road is at 3.5 feet above road grade (797.5+/-). A profile of the existing grade along the line of

sight to the north has been added to sheet 2 of 4. The actual sight distance is not measured along the sight line but along the path of the vehicle in the roadway.