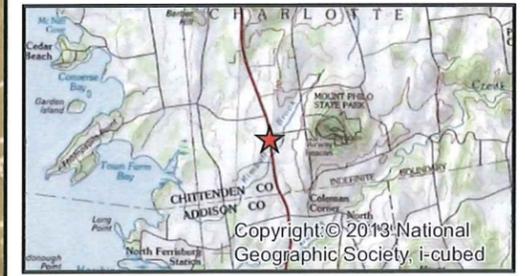


Location



Legend

- Project Area
- Project 1 Mile Buffer
- Hazardous Sites
- ▲ Public Water Sources
- ▲ Private Wells
- VHD Stream
- VHD Open Water
- Special Flood Hazard Area*
 - A
 - AE
- State Significant Wetland
- State Wetland Advisory
- Groundwater Protection Area*
- Surface Water Protection Area*
- Class A Watershed*
- Floodways*
- State River Corridor
- State Class 3 Wetland*

*Layer does not occur within map extent.

Sources: ESRI Aerial Imagery (2015); VT E911 Roads (2015); Hazardous Waste Sites by ANR (2017); Private & Public Water Sources by DEC (2001/2017); Groundwater & Surface Water Protection Areas by ANR (2011/2010); Streams by VHD (2013); VT Water Classifications by ANR (2017); FEMA Flood Hazard Area & Floodway by ANR (2015); River Corridor by ANR (2015); VT Significant Wetland by ANR (2015); Project Area and Buffer by TCE (2018).

Disclaimer: The accuracy of information presented is determined by its sources. TCE is not responsible for any errors or omissions that may exist. Questions of on-the-ground location can be resolved by site inspections and/or surveys by a registered surveyor. This map is not a replacement for surveyed information or engineering studies.

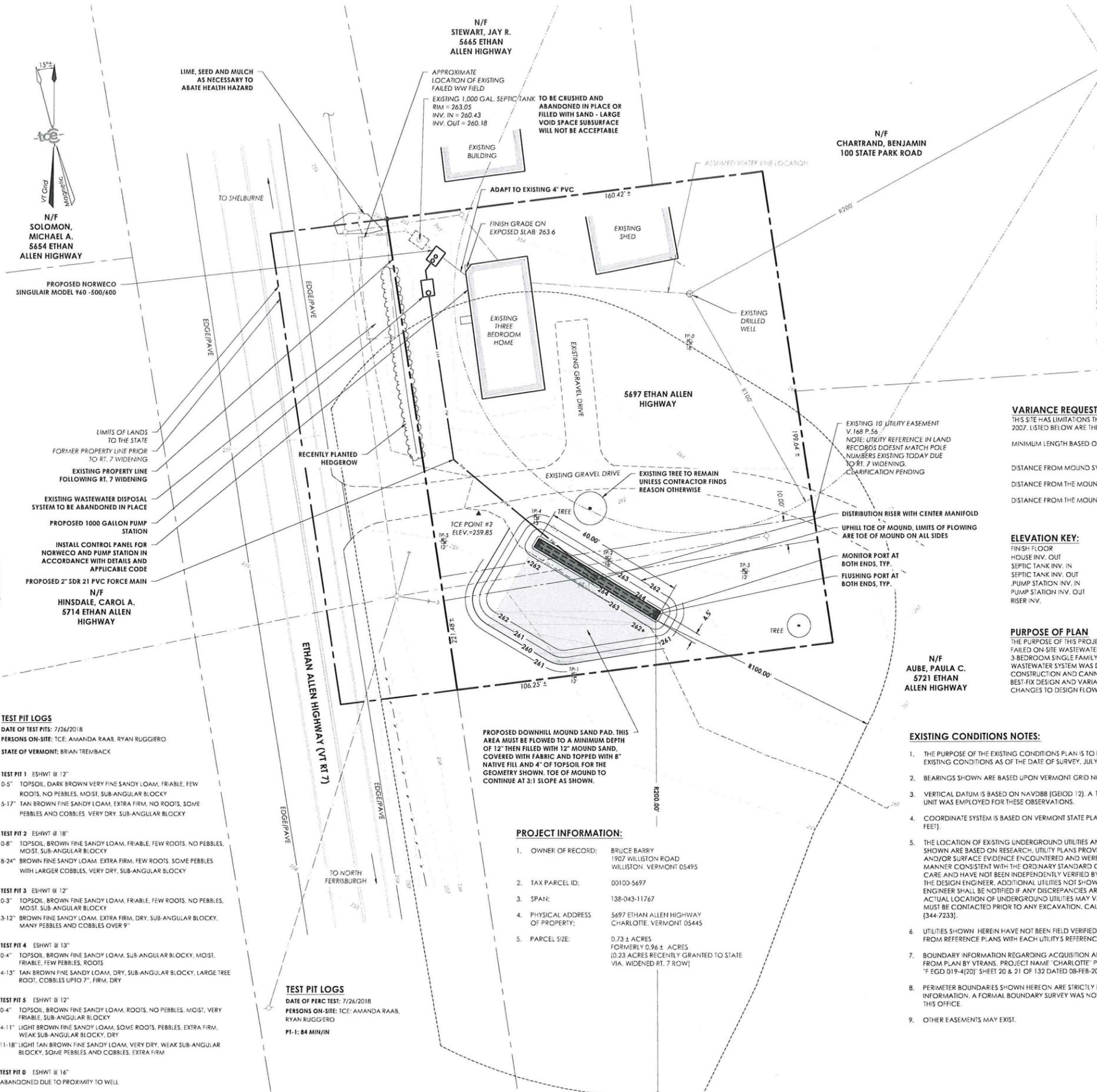
Barry
 5697 Ethan Allen Highway
 Charlotte, VT

Wastewater Application Map

Project: 18-128
 Prepared By: BJL
 07/26/2018
 1 inch = 1,200 feet



Revisions	No.	Description	Date	By



- BASIS OF DESIGN FOR A PERFORMANCE-BASED MOUND:**
 THE DESIGN FOR THE PROPOSED HOUSE IS PERFORMANCE BASED.
- DESIGN FLOW FOR 3 BEDROOM HOUSE: 140 GPD/BDRM X 3 BDRM = ### GPD
 - LOADING RATE: 2.0 GPD / SF FOR FILTRATE
 - DISPOSAL AREA REQUIRED: ### GPD / 2.0 GPD/SF = 210 SF
 - DISPOSAL AREA PROVIDED: # TRENCH @ 4' WIDE x ##' LONG = ### SF
 - BASAL AREA REQUIRED = ### GPD/### GPD/SF = ##### SF
 - BASAL AREA PROVIDED = 1850 SF (SHOWN SHADED)
 - ORIFICE SPACING: (1) ORIFICE PER 25 SF
 - ORIFICES REQUIRED: ### SF / 25 SF/ORIFICE = ### ORIFICES
 - USE 1 ORIFICES AT ###" - ##### GPM (MAINTAIN MINIMUM 1 PSI PER ORIFICE)
 - REQUIRED FLOW: 1 ORIFICES @ ### GPM/ORIFICE = ##### GPM USE ## GPM.
 - PUMP SELECTION: REFER TO DESIGN BRIEF AND CONFIRM CONDITIONS BASED ON ACTUAL ELEVATION OF HOUSE AND RESPECTIVE PUMP STATION.

VARIANCE REQUEST
 THIS SITE HAS LIMITATIONS THAT MAKE IT UNABLE TO MEET THE CURRENT ENVIRONMENTAL PROTECTION RULES DATED SEPTEMBER 29, 2007. LISTED BELOW ARE THE VARIANCES REQUESTED AS PART OF THIS DESIGN.

MINIMUM LENGTH BASED ON LLR APPENDIX 7	MINIMUM = 19'	PROVIDED = 60'
ADDITIONAL DOWNHILL MOUND PAD PROVIDED DUE TO NON-COMPLIANCE WITH THIS REQUIREMENT	MINIMUM = 10' UPHILL	PROVIDED = 1'
DISTANCE FROM MOUND SYSTEM TOE TO PROPERTY LINE	MINIMUM = 25' DOWNHILL	PROVIDED = 9'
DISTANCE FROM THE MOUND SYSTEM TOE TO DRIVEWAY	MINIMUM = 10' UPHILL	PROVIDED = 8'
DISTANCE FROM THE MOUND SYSTEM TO TO A TREE	MINIMUM = 25' DOWNHILL	PROVIDED = 11'
	MINIMUM = 10'	PROVIDED = 7' TO DRIP LINE 14' TO TRUNK

ELEVATION KEY:

FINISH FLOOR	= 265.6 +/-
HOUSE INV. OUT	= 262.0 +/-
SEPTIC TANK INV. IN	= 260.43
SEPTIC TANK INV. OUT	= 260.18
PUMP STATION INV. IN	= 260.08
PUMP STATION INV. OUT	= 257.24
RISER INV.	= 263.1

PURPOSE OF PLAN
 THE PURPOSE OF THIS PROJECT IS TO REPLACE A CURRENTLY FAILED ON SITE WASTEWATER DISPOSAL SYSTEM SERVING THE 3-BEDROOM SINGLE FAMILY HOME ON THIS PARCEL. THE WASTEWATER SYSTEM WAS DAMAGED DURING ROUTE 7 CONSTRUCTION AND CANNOT BE REPAIRED IN PLACE. THIS IS A BEST-FIX DESIGN AND VARIANCES ARE REQUESTED. NO CHANGES TO DESIGN FLOW OR WATER SUPPLY.

- EXISTING CONDITIONS NOTES:**
- THE PURPOSE OF THE EXISTING CONDITIONS PLAN IS TO DEPICT PERTINENT EXISTING CONDITIONS AS OF THE DATE OF SURVEY, JULY 24TH, 2018.
 - BEARINGS SHOWN ARE BASED UPON VERMONT GRID NORTH.
 - VERTICAL DATUM IS BASED ON NAVD88 (GEOID 12). A TRIMBLE R6 RTK GPS UNIT WAS EMPLOYED FOR THESE OBSERVATIONS.
 - COORDINATE SYSTEM IS BASED ON VERMONT STATE PLANE (U.S. SURVEY FEET).
 - THE LOCATION OF EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS SHOWN ARE BASED ON RESEARCH, UTILITY PLANS PROVIDED BY OTHERS, AND/OR SURFACE EVIDENCE ENCOUNTERED AND WERE OBTAINED IN A MANNER CONSISTENT WITH THE ORDINARY STANDARD OF PROFESSIONAL CARE AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE DESIGN ENGINEER. ADDITIONAL UTILITIES NOT SHOWN MAY EXIST. ENGINEER SHALL BE NOTIFIED IF ANY DISCREPANCIES ARE ENCOUNTERED. ACTUAL LOCATION OF UNDERGROUND UTILITIES MAY VARY. DIGSAFE MUST BE CONTACTED PRIOR TO ANY EXCAVATION. CALL 1-888-DIG SAFE (344-7233).
 - UTILITIES SHOWN HEREIN HAVE NOT BEEN FIELD VERIFIED AND ARE DRAWN FROM REFERENCE PLANS WITH EACH UTILITY'S REFERENCE LABELED.
 - BOUNDARY INFORMATION REGARDING ACQUISITION ALONG ROUTE 7 FROM PLAN BY VTRANS. PROJECT NAME: "CHARLOTTE" PROJECT NUMBER "F EGD 019-4(20)" SHEET 20 & 21 OF 132 DATED 08-FEB-2013.
 - PERIMETER BOUNDARIES SHOWN HEREON ARE STRICTLY FROM TAX PARCEL INFORMATION. A FORMAL BOUNDARY SURVEY WAS NOT CONDUCTED BY THIS OFFICE.
 - OTHER EASEMENTS MAY EXIST.

	LEGEND	
	EXISTING	PROPOSED
PAVED DRIVE OR ROAD	—————	—————
GRAVEL DRIVE OR ROAD	—————	—————
TOPOGRAPHIC CONTOURS	392	394
STREAM	~~~~~	~~~~~
SEWER MAINS AND SERVICES	—————	—————
SEWER FORCEMAIN	—————	—————
WATER MAINS AND SERVICES	—————	—————
OVERHEAD POWER	—————	—————
UNDERGROUND POWER	—————	—————
PROPERTY LINE	—————	—————
FORMER PROPERTY LINE	—————	—————
ADJOINING PROPERTY LINE	—————	—————
EASEMENTS	—————	—————
UTILITY POLE	⊙	⊙
WELL	⊙	⊙

LEGEND NOTE:
 SOME INFORMATION MAY BE PROVIDED BY OTHERS AND COULD BE SHOWN WITH A DIFFERENT SYMBOL NOT SHOWN ON THIS LEGEND. HOWEVER, THEY ARE LABELED ON RESPECTIVE PLANS. IN SOME CASES A CHANGE IN SCALE OR PRINTER CAN ALTER INFORMATION TO NOT SHOW AN EXACT MATCH ON THIS LEGEND. IF ANY QUESTIONS EXIST CONTACT THE ENGINEER TO CLARIFY. ADDITIONAL LEGEND INFORMATION IS SUPPLIED SEPARATELY ON EROSION CONTROL PLANS AND SOME SURVEY PLATS.



TEST PIT LOGS
 DATE OF TEST PITS: 7/26/2018
 PERSONS ON-SITE: TCE: AMANDA RAAH, RYAN RUGGIERO
 STATE OF VERMONT: BRIAN TREMBACK

TEST PIT 1 ESHWT @ 12"
 0-5" TOPSOIL, DARK BROWN VERY FINE SANDY LOAM, FRIABLE, FEW ROOTS, NO PEBBLES, MOST, SUB-ANGULAR BLOCKY
 5-17" TAN BROWN FINE SANDY LOAM, EXTRA FIRM, NO ROOTS, SOME PEBBLES AND COBBLES, VERY DRY, SUB-ANGULAR BLOCKY

TEST PIT 2 ESHWT @ 18"
 0-8" TOPSOIL, BROWN FINE SANDY LOAM, FRIABLE, FEW ROOTS, NO PEBBLES, MOST, SUB-ANGULAR BLOCKY
 8-24" BROWN FINE SANDY LOAM, EXTRA FIRM, FEW ROOTS, SOME PEBBLES WITH LARGER COBBLES, VERY DRY, SUB-ANGULAR BLOCKY

TEST PIT 3 ESHWT @ 12"
 0-3" TOPSOIL, BROWN FINE SANDY LOAM, FRIABLE, FEW ROOTS, NO PEBBLES, MOST, SUB-ANGULAR BLOCKY
 3-12" BROWN FINE SANDY LOAM, EXTRA FIRM, DRY, SUB-ANGULAR BLOCKY, MANY PEBBLES AND COBBLES OVER 9"

TEST PIT 4 ESHWT @ 13"
 0-4" TOPSOIL, BROWN FINE SANDY LOAM, SUB-ANGULAR BLOCKY, MOST, FRIABLE, FEW PEBBLES, ROOTS
 4-13" TAN BROWN FINE SANDY LOAM, DRY, SUB-ANGULAR BLOCKY, LARGE TREE ROOT, COBBLES UP TO 7", FIRM, DRY

TEST PIT 5 ESHWT @ 12"
 0-4" TOPSOIL, BROWN FINE SANDY LOAM, ROOTS, NO PEBBLES, MOST, VERY FRIABLE, SUB-ANGULAR BLOCKY
 4-11" LIGHT BROWN FINE SANDY LOAM, SOME ROOTS, PEBBLES, EXTRA FIRM, WEAK SUB-ANGULAR BLOCKY, DRY
 11-18" LIGHT TAN BROWN FINE SANDY LOAM, VERY DRY, WEAK SUB-ANGULAR BLOCKY, SOME PEBBLES AND COBBLES, EXTRA FIRM

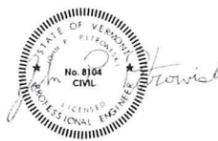
TEST PIT 0 ESHWT @ 16"
 ABANDONED DUE TO PROXIMITY TO WELL

PROJECT INFORMATION:

- OWNER OF RECORD: BRUCE BARRY
 1907 WILLISTON ROAD
 WILLISTON, VERMONT 05495
- TAX PARCEL ID: 00100-5697
- SPAN: 138-043-11767
- PHYSICAL ADDRESS OF PROPERTY: 5697 ETHAN ALLEN HIGHWAY
 CHARLOTTE, VERMONT 05445
- PARCEL SIZE: 0.73 ± ACRES
 FORMERLY 0.96 ± ACRES
 (0.23 ACRES RECENTLY GRANTED TO STATE VIA WIDENED RT. 7 ROW)

TEST PIT LOGS
 DATE OF PERC TEST: 7/26/2018
 PERSONS ON-SITE: TCE: AMANDA RAAH, RYAN RUGGIERO
 PT-1: 84 MIN/IN

TAX ID: 00100-5697
 Use of These Drawings
 1. Unless otherwise noted, these Drawings are intended for preliminary planning, coordination with other disciplines or utilities, and/or approval from the regulatory authorities. They are not intended as construction drawings unless noted as such or marked approved by a regulatory authority.
 2. By use of these drawings for construction of the Project, the Owner represents that they have reviewed, approved, and accepted the drawings, obtained all necessary permits, and have met with all applicable parties/disciplines, including but not limited to, the Engineer and the Architect, to insure these plans are properly coordinated including, but not limited to, contract documents, specifications, owner/contractor agreements, building and mechanical plans, private and public utilities, and other pertinent permits for construction.
 3. Owner and Architect, are responsible for final design and location of buildings shown, including an area measured a minimum five (5) feet around any building and coordinating final utility connections shown on these plans.
 4. Prior to using these plans for construction layout, the user shall contact TCE to ensure the plan contains the most current revisions.
 5. These Drawings are specific to the Project and are not transferable. As instruments of service, these drawings, and copies thereof, furnished by TCE are its exclusive property. Changes to the drawings may only be made by TCE. If errors or omissions are discovered, they shall be brought to the attention of TCE immediately.
 6. It is the User's responsibility to ensure this copy contains the most current revisions. If unsure, please contact TCE.



Project Title

Barry Wastewater
 5697 Ethan Allen Highway
 Charlotte, Vermont

Sheet Title

Wastewater Plan

Date: 08/02/18

Scale: 1" = 20'

Project Number: 18-128

Drawn By: NPC

Project Engineer: ALR

Approved By: JPP

Field Book:

C3-01

CONTRACTOR'S CERTIFICATION REQUIRED

PRIOR TO THE DESIGN ENGINEER CERTIFYING THAT THE INSTALLATION HAS BEEN INSTALLED IN ACCORDANCE WITH THE PERMITTED DESIGN, THE CONTRACTOR SHALL PROVIDE A CERTIFICATION THAT THE WASTEWATER SYSTEM WAS INSTALLED AND TESTED IN ACCORDANCE WITH THE APPROVED DESIGN PLANS. STATE PERMITS REQUIRE THERE SHALL BE NO DEVIATIONS FROM THE APPROVED PLANS WITHOUT PRIOR APPROVALS. THE DESIGN ENGINEER SHALL BE NOTIFIED AND ALLOWED TO OBSERVE THE CRITICAL PHASES OF CONSTRUCTION INCLUDING ANY REQUIRED TESTS. LIKEWISE, THE DESIGN ENGINEER SHALL BE NOTIFIED OF ANY DEVIATIONS FROM THE APPROVED PLANS. SINCE THE DESIGN ENGINEER DOES NOT CUSTOMARILY OBSERVE ALL PHASES OF THE WORK OR ALL TESTING, HE MAY RELY ON THE CONTRACTOR'S CERTIFICATION AS THE BASIS FOR FINAL CERTIFICATION. THE CONTRACTOR SHALL THEREFORE SIGN AND RETURN A COPY OF THE FOLLOWING CERTIFICATION UPON COMPLETION OF THE WORK.

"I HEREBY CERTIFY THAT I HAVE INSTALLED, PROPERLY TESTED, AND SUCCESSFULLY PASSED THOSE TESTS, AND THE WASTEWATER DISPOSAL AND COLLECTION SYSTEM(S) ARE BUILT IN ACCORDANCE WITH THE APPROVED DESIGN PLANS AND APPLICABLE PERMIT CONDITIONS."

CONTRACTOR NAME _____

AUTHORIZED AGENTS NAME _____

SIGNATURE _____

DATE _____

NOTE ANY DEVIATIONS FROM APPROVED PLANS HERE: _____

NOTE: THE CERTIFICATION AND THE PROJECT ENGINEER'S SUBSEQUENT CERTIFICATION DOES NOT VOID THE CONTRACTOR FROM REPAIR OR REPLACEMENT OF DISCREPANCIES DISCOVERED AT A LATER DATE. THE CONTRACTOR REMAINS RESPONSIBLE, INCLUDING CUSTOMARY GUARANTEE AND WARRANTY PERIODS.

CONTRACTOR CERTIFICATION FOR WASTEWATER SYSTEM

2014 TRUDELL CONSULTING ENGINEERS LAST REVISED 04/21/14 SN-002

- CONTACT THE DESIGN ENGINEER PRIOR TO CONSTRUCTION FOR AN ON-SITE MEETING WITH THE CONTRACTOR TO DISCUSS THE CONSTRUCTION AND TO STAKE OUT THE SITE WITH THE PROPER ORIENTATION OF THE SYSTEM ACCORDING TO THE APPROVED PLAN.
- REMOVE GROUND VEGETATION SHALL BE CLOSELY CUT AND REMOVED FROM THE GROUND SURFACE THROUGHOUT THE AREA TO BE UTILIZED FOR THE PLACEMENT OF THE FILL MATERIAL. PRIOR TO PLOWING, THE DOSING PUMP DISCHARGE LINE FROM THE PUMP CHAMBER TO THE POINT OF CONNECTION WITH THE DISTRIBUTION PIPING HEADER SHALL BE INSTALLED. CONTACT THE DESIGN ENGINEER TO OBSERVE TESTING OF THE SEWER FORCE MAIN.
- THE AREA SHALL THEN BE PLOWED TO A DEPTH OF 12 INCHES PARALLEL TO THE LAND CONTOUR FLOWING THE SOIL UP SLOPE TO PROVIDE A PROPER INTERFACE BETWEEN THE FILL AND THE NATURAL SOILS. ONCE PLOWING OF THE ENTIRE MOUND AREA IS COMPLETED, WHICH IS THE ENTIRE AREA SHOWN WITH PROPOSED GRADING, THE AREA SHALL BE FENCED TO PREVENT VEHICLES AND EQUIPMENT FROM ENTERING THE PLOWED AREA.
- THE AREA SURROUNDING THE MOUND SHALL BE GRADED TO PROVIDE DIVERSION OF SURFACE RUN-OFF WATERS.
- ONCE THE PLOWING IS COMPLETED, THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER FOR AN INSPECTION OF THE SITE PRIOR TO THE PLACEMENT OF SAND FILL.
- PLACE THE APPROVED SAND FILL AROUND THE EDGE OF THE PLOWED AREA KEEPING THE WHEELS OF THE DUMP TRUCK FROM PLOWED AREA. WHEEL TRACKS IN THE AREA WILL LEAD TO COMPACTION. THE EFFLUENT WILL FLOW WITHIN THE RUTS AND SEEP FROM THE MOUND.
- USING A TRACTOR WITH A BLADE, MOVE THE SAND AROUND INTO PLACE. KEEP AT LEAST 6 INCHES OF SAND UNDER THE TRACKS TO MINIMIZE COMPACTION OF THE PLOWED SURFACE. SHAPE THE SIDES TO THE REQUIRED SLOPES AS SHOWN ON THE SITE PLAN.
- WITH THE BLADE OF THE CRAWLER, FORM THE BED BY MOVING ALONG ITS LENGTH. MAKE SURE THE BOTTOM OF THE BED IS LEVEL. SOME HAND SHOVEL LEVELING WILL BE REQUIRED. FORM THE SAND PAD AT THIS TIME.
- PRIOR TO THE PLACEMENT OF STONE IN THE BED, THE STONE SHALL BE WASHED FREE OF ALL STONE DUST OR SEDIMENT. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE WASHING OF THE STONE. WASHING SHALL BE DONE BY TRYING THE BODY OF THE DUMP TRUCK AND WITH A FIRE HOSE, HOUSING THE STONE UNTIL THE WATER EXITING THE TRUCK IS CLEAR. CONTACT THE DESIGN ENGINEER FOR INSPECTION OF THE WASHED STONE PRIOR TO PLACEMENT.
- UPON ACCEPTANCE, USE A BUCKET ON THE CRAWLER TO PLACE THE STONE IN THE BED BY TRAVELING UP THE SIDE SLOPE. LEVEL THE STONES OFF TO THE DESIRED ELEVATION INDICATED ON THESE PLANS.
- THE PRESSURE DISTRIBUTION PIPE SHALL BE PLACED IN CAUSTICED STONE WITH THE ORIFICES UPWARD. THE HOLES SHALL BE COVERED WITH AN ORIFICE SHIELD. ONE ORIFICE SHALL BE FACED DOWNWARD TO ALLOW DRAINAGE OF THE PIPING AND TO HELP PREVENT FREEZING. THE MATERIAL USED TO COVER THE TOP OF THE STONE SHALL BE ONE LAYER OF FABRIC AND ONE LAYER OF INSULATION OVER THE MANHOLE.
- CONTACT THE DESIGN ENGINEER PRIOR TO BACKFILLING FOR INSPECTION OF THE DISTRIBUTION PIPING.
- FINISH BY PLACING 2 INCHES OF STONE OVER THE DISTRIBUTION PIPE.
- PLACE ONE LAYER OF FABRIC OVER STONES. THE ENTIRE MOUND SHALL BE COVERED WITH A MINIMUM OF 12 INCHES OF TOPSOIL (18 INCHES AT THE CREST) SHAPING THE MOUND SURFACE AS SHOWN ON THE PLAN.
- LANDSCAPE THE MOUND BY PLANTING GRASSES ON THE SURFACE. A MIXTURE OF 90 PERCENT BIRDFOOT TROFOIL AND 10 PERCENT TIMOTHY MAY BE DESIRABLE IF THE MOUND WILL NOT BE MANICURED. IF MANICURING IS DESIRED, A COMBINATION OF 40 PERCENT BLUEGRASS, 30 PERCENT CREEPING RED FESCUE AND 10 PERCENT ANNUAL RYE GRASS MAY BE THE DESIRED VEGETATIVE COVER. SHRUBS PLACED ALONG THE SIDE SLOPES AND TCE ARE RECOMMENDED. DO NOT PLACE SHRUBS OR TREES DIRECTLY ON TOP OF THE MOUND AS ROOTS WILL INTERFERE WITH THE DISTRIBUTION SYSTEM.
- UPON COMPLETION OF THE CONSTRUCTION, CONTACT THE DESIGN ENGINEER. IF THE MOUND CONSTRUCTION IS SATISFACTORY, THE DESIGN ENGINEER WILL PROVIDE WRITTEN CERTIFICATION THAT THE CONSTRUCTION WAS DONE IN ACCORDANCE WITH THE APPROVED PLANS.

PRESSURIZED MOUND CONSTRUCTION SPECIFICATIONS

2014 TRUDELL CONSULTING ENGINEERS LAST REVISED 04/21/14 SN-003

- THIS SITE DOES NOT MEET THE MINIMUM REQUIREMENTS FOR A CONVENTIONAL SANITARY DISPOSAL SYSTEM. THE DESIGN OF A MOUND-TYPE DISPOSAL SYSTEM WILL BRING THE SITE INTO CONFORMANCE WITH THE MINIMUM REQUIREMENTS WITH VARIANCES REQUESTED.
- THE ENGINEER HAS DETERMINED A LOCATION FOR SANITARY DISPOSAL ON THE PROPERTY, BASED ON SITE INVESTIGATION AND SOIL TESTS. THE REQUIRED DISPOSAL AREA AND SYSTEM DESIGN WERE DETERMINED BY CODE REQUIREMENTS AND SUBMITTED TO APPROVING AUTHORITIES. UPON APPROVAL, THE OWNER ASSUMES RESPONSIBILITY FOR PROPER CONSTRUCTION AND CONTINUED OPERATION OF THE SYSTEM.
- THE OWNER IS RESPONSIBLE FOR OPERATING THE DISPOSAL SYSTEM IN A MANNER WHICH WILL PROTECT THE PUBLIC HEALTH AND PREVENT POLLUTION.
- NEW DISPOSAL SYSTEMS REQUIRE ADJUSTMENTS OR MODIFICATIONS DURING START UP, AND DURING THE LIFE OF THE SYSTEM. THESE ADJUSTMENTS INCLUDE LEVELING THE SEPTIC TANK, PUMP STATION OR SIPHON, DUE TO SETTLEMENT OR FROST ACTION. FILL MAY BE ADDED TO REPAIR EROSION OR LEVEL SETTLED AREAS.
- ON SITE SANITARY DISPOSAL SYSTEMS REQUIRE REGULAR INSPECTION AND MAINTENANCE. THE SEPTIC TANK, BIO-FILTER AND PUMP STATION OR SIPHON CHAMBER, IF APPLICABLE, SHOULD BE INSPECTED ANNUALLY AND PUMPED OUT AND CLEANED EVERY 3 YEARS OR MORE FREQUENTLY IF NECESSARY. THE PLUMBING AND ELECTRICAL SYSTEMS, IF APPLICABLE, SHOULD BE CHECKED FOR PROPER OPERATION AND LEAKS.
- THE LIFE OF THE DISPOSAL SYSTEM CAN BE AFFECTED BY A VARIETY OF OPERATIONAL AND ENVIRONMENTAL FACTORS. THE PRESENCE OF EXCESS GROUNDWATER, RAINWATER, INTRODUCTION OF MATERIAL OTHER THAN HUMAN WASTES, (INCLUDING BUT NOT LIMITED TO, BACKWASH FROM WATER SOFTENERS, POOLS, SPAS, AND/OR SIMILAR EQUIPMENT), OR EXCESSIVE SEWAGE FLOWS WILL ADVERSELY AFFECT OPERATION OF ANY DISPOSAL SYSTEM. SOIL SETTLEMENT, FREEZING OF COMPONENTS, AND CLOGGING DUE TO ORGANIC SOLIDS ACCUMULATION WILL REQUIRE REPAIRS.
- THE OWNER IS RESPONSIBLE FOR COMPLIANCE WITH STATE AND LOCAL OPERATION AND MAINTENANCE REQUIREMENTS. THE ENGINEER AND CONTRACTOR ASSUMES NO RESPONSIBILITY FOR THE IMPROPER USE AND/OR MAINTENANCE OF THE SYSTEM.
- WARNING: WITH SUCH FINE FILTRATION (SEPTIC TANK EFFLUENT FILTER/ADVANCED TREATMENT AERATION UNIT) A SCHEDULED MAINTENANCE PROGRAM MUST BE FOLLOWED. A CONTRACT WITH A MAINTENANCE PROVIDER WILL BE REQUIRED BY THE STATE.
- THE OWNER IS RESPONSIBLE FOR ALL STATE AND LOCAL PERMITS AND REQUIRED CONDITIONS OF SAID PERMITS. THIS MAY INCLUDE ANNUAL INSPECTIONS AND REPORTING. CHECK PERMIT CONDITIONS FOR COMPLIANCE. THE OWNER IS ALSO RESPONSIBLE FOR RECORDING PERMITS IN THE TOWN LAND RECORDS OFFICE. IF CONSTRUCTION DOES NOT OCCUR IN THE TIME FRAMES ESTABLISHED BY SAID PERMITS THEN THE OWNER IS RESPONSIBLE FOR REVISING DESIGN PLANS AS NEEDED AND RE-PERMITTING. IF CHANGES IN THE REGULATIONS OCCUR ONCE THE PERMITS HAVE EXPIRED, TRUDELL CONSULTING ENGINEERS DOES NOT OFFER ANY GUARANTEES THAT THE PERMIT WILL BE RE-ISSUED. CHANGING REQUIREMENT MAY PREVENT COMPLIANCE AND CAUSE CERTAIN PROPERTIES TO BE UN-DEVELOPABLE.

MOUND DISPOSAL FIELD - OPERATION AND MAINTENANCE

TRUDELL CONSULTING ENGINEERS LAST REVISED 07/23/2018 SN-004

- CONTRACT DOCUMENTS THESE PLANS WERE PREPARED BY TRUDELL CONSULTING ENGINEERS (TCE) AND ARE INTENDED TO BE USED IN CONJUNCTION WITH THE STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT, KC-700 PREPARED BY THE ENGINEERS JOINT CONTRACT DOCUMENTS COMMITTEE (EJCDC), LATEST EDITION. COPIES ARE AVAILABLE AT WWW.EJCDC.ORG/EJCDC
- UNDERGROUND IMPROVEMENTS: THE LOCATION OF EXISTING UNDERGROUND UTILITIES AND IMPROVEMENTS SHOWN ARE ASSUMED BASED ON RESEARCH, UTILITY PLANS PROVIDED BY OTHERS, AND/OR SURFACE EVIDENCE AVAILABLE AND WERE OBTAINED IN A MANNER CONSISTENT WITH THE ORDINARY STANDARD OF PROFESSIONAL CARE AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE DESIGN ENGINEER.
- DIFFERING SUBSURFACE OR PHYSICAL CONDITIONS: IF CONTRACTOR BELIEVES THAT ANY SUBSURFACE OR PHYSICAL CONDITION AT OR CONTIGUOUS TO THE SITE THAT IS UNCOVERED OR REVEALED EITHER: (1) IS OF SUCH A NATURE AS TO ESTABLISH THAT ANY "TECHNICAL DATA" ON WHICH CONTRACTOR RELIED IS MATERIALLY INACCURATE; OR (2) IS OF SUCH A NATURE AS TO REQUIRE A CHANGE IN THE PLANS/ CONTRACT DOCUMENTS, OR (3) DIFFERS MATERIALLY FROM THAT SHOWN OR INDICATED IN THE PLANS/ CONTRACT DOCUMENTS; OR (4) IS OF AN UNUSUAL NATURE, AND DIFFERS MATERIALLY FROM CONDITIONS ORDINARILY ENCOUNTERED AND GENERALLY RECOGNIZED AS INHERENT IN WORK OF THE CHARACTER PROVIDED FOR IN THE PLANS/ CONTRACT DOCUMENTS, THEN CONTRACTOR SHALL, PROMPTLY AFTER BECOMING AWARE THEREOF AND BEFORE FURTHER DISTURBING THE SUBSURFACE OR PHYSICAL CONDITIONS OR PERFORMING ANY WORK IN CONNECTION THEREWITH (EXCEPT IN AN EMERGENCY), NOTIFY OWNER AND ENGINEER ABOUT SUCH CONDITION. CONTRACTOR SHALL NOT FURTHER DISTURB SUCH CONDITION OR PERFORM ANY WORK IN CONNECTION THEREWITH (EXCEPT AS AFORESAID) UNTIL RECEIPT OF WRITTEN ORDER TO DO SO. ALL PARTIES INVOLVED (OWNER, ENGINEER, ARCHITECT, AND MUNICIPALITY IF APPLICABLE) SHALL AGREE UPON HOW TO PROCEED AND ANY RELATED COST IMPLICATIONS.
- UTILITIES: PRIVATE AND PUBLIC UTILITIES SUCH AS ELECTRIC, TELEPHONE, GAS, CABLE, FIBER OPTIC ETC. ARE THE RESPONSIBILITY OF THE RESPECTIVE UTILITY COMPANY. ANY INFORMATION SHOWN BY TCE SHOULD BE CONSIDERED PRELIMINARY (ESPECIALLY TO ASSIST WITH PERMITTING), FINAL DESIGN, CONSTRUCTION AND MAINTENANCE ARE THE RESPONSIBILITY OF RESPECTIVE UTILITY COMPANIES. COMPLIANCE WITH EASEMENTS AND REGULATIONS (STATE AND LOCAL) ARE THE RESPONSIBILITY OF RESPECTIVE UTILITY COMPANY.
- DIGSAFE: IN ACCORDANCE WITH VERMONT STATE LAW (VSA TITLE 30 CHAPTER 84 AND PSB RULE 3.800) THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT DIGSAFE SYSTEMS, INC. "DIGSAFE". AT LEAST 48 HOURS, EXCLUDING SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS, BUT NOT MORE THAN 30 DAYS BEFORE COMMENCING EXCAVATION ACTIVITIES, EXCEPT IN AN EMERGENCY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRE-MARKING THE SITE AND MAINTAINING DESIGNATED MARKINGS. FOR MORE INFORMATION ON DIGSAFE REQUIREMENTS SEE WWW.DIGSAFE.COM.
- JOBSITE SAFETY: NEITHER THE PROFESSIONAL ACTIVITIES OF TRUDELL CONSULTING ENGINEERS (TCE), NOR THE PRESENCE OF TCE OR ITS EMPLOYEES AND SUB CONSULTANTS AT A CONSTRUCTION SITE, SHALL RELIEVE THE GENERAL CONTRACTOR AND ANY OTHER ENTITY OF THEIR OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. TCE AND ITS PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR OTHER ENTITY OR THEIR EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY HEALTH OR SAFETY PRECAUTIONS. THE CLIENT AGREES THAT THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR JOBSITE SAFETY, AND WARRANTS THAT THIS INTENT SHALL BE MADE EVIDENT IN THE CLIENT'S AGREEMENT WITH THE GENERAL CONTRACTOR. THE CLIENT ALSO AGREES THAT THE CLIENT, TCE AND TCE'S CONSULTANTS SHALL BE INDEMNIFIED AND SHALL BE MADE ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S GENERAL LIABILITY INSURANCE POLICY.
- CODES AND STANDARDS COMPLIANCE: TCE SHALL EXERCISE USUAL AND CUSTOMARY PROFESSIONAL CARE IN ITS EFFORTS TO COMPLY WITH CODES, STANDARDS, REGULATIONS, AND ORDINANCES IN EFFECT. THE OWNER ACKNOWLEDGES THAT SUCH REQUIREMENTS MAY BE SUBJECT TO VARIOUS AND CONTRADICTIONARY INTERPRETATIONS. TCE, THEREFORE, WILL USE ITS REASONABLE PROFESSIONAL EFFORTS AND JUDGMENT TO INTERPRET APPLICABLE REQUIREMENTS AS THEY APPLY TO THE PROJECT. TCE, HOWEVER, CANNOT AND DOES NOT WARRANT OR GUARANTEE THAT THE PROJECT WILL COMPLY WITH ALL INTERPRETATIONS OF SUCH REQUIREMENTS.
- CONSTRUCTION OBSERVATION: TCE MAY VISIT THE PROJECT AT APPROPRIATE INTERVALS DURING CONSTRUCTION TO BECOME GENERALLY FAMILIAR WITH THE PROGRESS AND QUALITY OF THE CONTRACTOR'S WORK AND TO DETERMINE IF THE WORK IS PROCEEDING IN GENERAL ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE OWNER HAS NOT RETAINED TCE TO MAKE DETAILED INSPECTIONS OR TO PROVIDE EXHAUSTIVE OR CONTINUOUS PROJECT REVIEW AND OBSERVATION SERVICES. TCE DOES NOT GUARANTEE THE PERFORMANCE OF, OR SHALL NOT HAVE RESPONSIBILITY FOR, THE ACTS OR OMISSIONS OF ANY CONTRACTOR, SUB CONTRACTOR, SUPPLIER OR ANY OTHER ENTITY FURNISHING MATERIALS OR PERFORMING ANY WORK ON THE PROJECT. TCE SHALL NOT SUPERVISE, DIRECT OR HAVE CONTROL OVER THE CONTRACTOR'S WORK NOR HAVE ANY RESPONSIBILITY FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OF THE CONTRACTOR. IF THE OWNER DESIRES MORE EXTENSIVE PROJECT OBSERVATION OR FULL-TIME PROJECT REPRESENTATION, THE OWNER SHALL REQUEST SUCH SERVICES BE PROVIDED BY TCE AS ADDITIONAL SERVICES.

CONSTRUCTION NOTES FOR CONTRACTOR & CLIENT/OWNER

2014 TRUDELL CONSULTING ENGINEERS LAST REVISED 12/07/2017 SN-014

DON'T PUT THESE ITEMS DOWN THE DRAIN

- FOOD WASTES**
ANIMAL BONES / EGG SHELLS
COFFEE GROUNDS / CORN COBS
MELON RINDS / FRUIT PEELS
SKIN / HOME BREWERY WASTE
- CHEMICALS/TOXINS**
AUTOMOTIVE FLUIDS
CAUSTIC CLEANERS
HARSH DETERGENTS
FLOOR STRIPPERS
HERBICIDES / PESTICIDES
MEDICATIONS / DRUGS
PAINTS - OIL-BASED
QUATERNARY AMMONIUM
SOLVENTS / THINNERS
- OTHER PRODUCTS**
CAT LITTER
CIGARETTE BUTTS
CLOTH TOWELS / RAGS
FILM DEVELOPING WASTE
METAL / PLASTIC OBJECTS
MODELING CLAY
PAPER TOWELS / SCRAPS
PLASTIC BAGS
RV WASTE
STRING / YARN / NYLONS
STICKS / YARD WASTE
- PERSONAL CARE PRODUCTS**
BANDAGES / CONDOMS
DISPOSABLE DIAPERS
FEMINE HYGIENE PRODUCTS
WET WIPES

OUTSIDE DO'S & DON'TS - YARD SAFETY

- REGULAR MAINTENANCE SHOULD BE PERFORMED BY A QUALIFIED SERVICE COMPANY FOR ENSURING THE LONG LIFE OF YOUR SYSTEM.
- BLOWER OPERATION**
DO NOT TURN OFF BLOWER. DO NOTIFY YOUR MAINTENANCE OR SERVICE PROVIDER IF YOU DETECT PROBLEMS WITH SYSTEM OR LEAVING THE PROPERTY FOR AN EXTENDED PERIOD OF (>3 WEEKS).
 - ALARM**
IF ALARM SOUNDS, DO PRESS THE "SILENCE/RESET" BUTTON ON THE FRONT OF THE PANEL. CONTACT YOUR SERVICE PROVIDER (INFO SHOULD BE ON THE CONTROL PANEL AND/OR THE BLOWER).
 - DOWN SPOUTS**
DO DIVERT WATER AWAY FROM ANYWHERE IT IS COLLECTED, I.E. ROOF DOWNSPOUTS, PAVEMENT RUNOFF, OR SUMP PUMP / HOUSE FOOTING DRAINS. THE WATER SHOULD BE ALLOWED TO DISCHARGE OVER BURIED TANK(S) OR DRAIN FIELD.
 - TRAFFIC / LANDSCAPING**
DO NOT DRIVE OVER ANY PORTION OF YOUR SYSTEM (TANK, PIPING, DRAIN FIELD) EXCEPT FOR NORMAL YARD TRAFFIC. I.E. MOWERS, BURIED TANKS (H-20) CAN BE MADE FOR UNDER ROADWAYS. DRIVWAYS, IF POSSIBLE, DEFER TRAFFIC BY USING A FENCE OR CREATE A LANDSCAPED AREA WITH SHALLOW ROOT PLANTS (ORNAMENTALS, SHRUBS, BUSHES, DISCARDIVE GRASSES, AND/OR FLOWERS). DO NOT PLANT TREES NEAR ANY PORTION OF YOUR SYSTEM (WITHIN 30 FEET).
 - STRUCTURES**
DO NOT BUILD PATIOS, CARPORTS, OR OTHER STRUCTURES OVER ANY PART OF YOUR SEPTIC SYSTEM AS THIS MAY CAUSE DAMAGE.
 - VENTS / ODORS / INTAKE**
DO KEEP VENT AND BLOWER HOUSING CLEAR OF DEBRIS, SUCH AS LEAVES OR SNOW. CONTACT YOUR SERVICE PROVIDER IF YOU DETECT SEPTIC ODORS, AS THIS MAY INDICATE A PROBLEM WITH THE SYSTEM.
 - BIO-SOLIDS (SLUDGES) REMOVAL**
DO DETERMINE WHEN A PUMP OUT OF YOUR TANK IS REQUIRED; A MAINTENANCE PROVIDER SHOULD MEASURE THE BIO-SOLIDS LEVELS (IN THE TANK) ON A REGULAR BASIS. PLEASE SEE THE SERVICE MANUAL FOR SPECIFIC PROCEDURES.
 - SEPTIC TANK OUTLET FILTER**
DO REGULARLY CHECK OR DEVELOP A CLEANING SCHEDULE TO MAINTAIN THE FUNCTIONALITY OF THE SEPTIC TANK OUTLET FILTER. COMMONLY THIS REQUIRES MORE FREQUENT CLEANINGS THAN THE SEPTIC TANK.

SEPTIC SYSTEM DO'S & DON'TS
TAKE CARE OF YOUR SEPTIC SYSTEM FOR YOUR HEALTH, FINANCES, AND THE ENVIRONMENT

2014 TRUDELL CONSULTING ENGINEERS LAST REVISED 04/21/14 SN-013

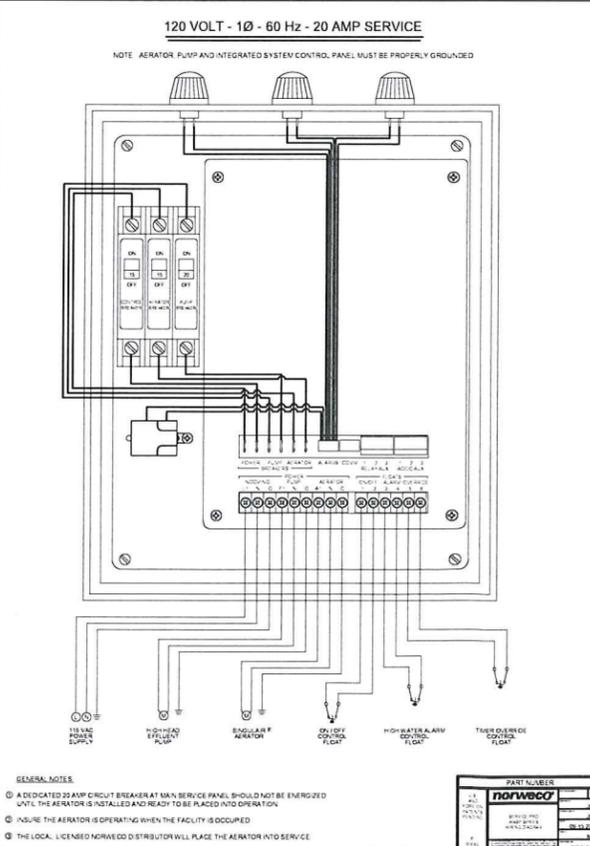
REFER TO THIS LIST TO HELP KEEP SYSTEM PERFORMING PROPERLY

- RECORD KEEPING**
KEEP COPIES OF ALL SYSTEM MANUALS, DRAWINGS, AND SITE PLANS, AS WELL AS OTHER INFORMATION ABOUT INSTALLED EQUIPMENT AND SERVICE/MAINTENANCE RECORDS WITH ALL OTHER HOME APPLIANCE DOCUMENTS. DO KEEP RECORDS ON ALL SYSTEMS AND SITE EVALUATIONS.
- LAUNDRY/WATER USAGE**
SPREAD WASH LOADS THROUGHOUT THE WEEK. INSTEAD OF LIQUID FABRIC SOFTENER, DRYER SHEETS SHOULD BE USED. USE A LOW-SUD, BIODEGRADABLE DETERGENT.
- LEAKY FIXTURES**
LARGE QUANTITIES OF WATER ARE ADDED TO YOUR WASTEWATER SYSTEM WHEN YOU HAVE LEAKING FIXTURES. TIMELY DETECTION AND REPAIR CAN HELP TO MAXIMIZE THE LIFE OF YOUR SYSTEM, ESPECIALLY THE DRAIN FIELD.
- WATER SOFTENERS**
IF ALLOWED BY YOUR LOCAL REGULATORY AUTHORITY, THE FAST A PROCESS MAY TO ERATE DISCHARGE FROM PROPERLY OPERATING SOFTENERS THAT BACKWASH (AS NEEDED) BASED ON WATER USAGE (D/R) VS. TIMER OPERATED SYSTEM. HOWEVER, PLEASE BE AWARE THAT THESE DISCHARGES CAN POSSIBLY DAMAGE OTHER PARTS OF THE SEPTIC SYSTEM.
- FOOD WASTES**
GARBAGE DISPOSAL WASTE IS ACCEPTABLE. IF ALLOWED BY YOUR LOCAL REGULATORY AUTHORITY AND THE SEPTIC TANK IS ADEQUATELY SIZED, HOWEVER, IT MAY LEAD TO MORE FREQUENT REMOVAL OF SOLIDS FROM YOUR SEPTIC TANK. FOR LARGE QUANTITIES OF FOOD, PLEASE DISPOSE OF IT IN THE GARBAGE.
- FATS, OILS, AND GREASE**
BE AWARE TO NOT FLUSH GREASE (I.E. ANIMAL FATS, VEGETABLE OILS, LARD, ETC) DOWN THE DRAIN. IT MAY OVERLOAD OR PREVENT THE BACTERIAL FROM FULLY BREAKING DOWN THE WASTE AND CAN CLOG THE SEPTIC TANK OUTLET FILTER OR DRAIN FIELD.
- DISINFECTANTS / CLEANERS**
USE CITRIC ACID, CHLORINE, AND/OR OTHER BIODEGRADABLE CLEANERS ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. PRODUCTS CONTAINING QUATERNARY AMMONIUM OR FINE OIL-BASED CLEANERS SHOULD NOT BE USED. USE DRAIN CLEANERS AS A LAST RESORT TO UNCLOG PIPES.
- MEDICINES**
DO NOT FLUSH THEM DOWN ANY DRAIN. ALL ANTIBIOTIC MEDICINES ARE HARMFUL TO TREATMENT QUALITY. UNUSED MEDICATIONS SHOULD BE RETURNED TO THE PHARMACY, DOCTOR, OR THROWN AWAY IN THE TRASH.

NOTE: AS THE HUMAN BODY ABSORBS ~90% OF THESE MEDICATIONS, PLEASE NOTIFY YOUR SERVICE PROVIDER OF MEDICATIONS IN THE HOUSE. THIS COULD REDUCE TROUBLESHOOTING EFFORT AND POSSIBLE YOUR MAINTENANCE BILL.

- FLOOR DRAINS FROM GARAGE AND WORKROOMS**
SHOULD BE DIVERTED AWAY FROM YOUR SEPTIC SYSTEM. ITEMS LIKE PETROLEUM-BASED OILS, GAS, AND SAW DUST SHOULD NEVER ENTER THE SYSTEM.
- SEPTIC TANK ADDITIVES / ENZYMES**
THE WASTEWATER IN THE SYSTEM CONTAINS ALL THE REQUIRED BACTERIA FOR PROPER OPERATION. ADDITIVES ARE UNNECESSARY AND MAY DO MORE HARM THAN GOOD.
- PAPER PRODUCTS**
USE SINGLE- OR DOUBLE-PLY, NON-QUILTED, WHITE TOILET PAPER PRODUCTS. SOME COLOR DYES IN THE PAPER CANNOT BE EATEN BY NATURAL BACTERIA. NON-BLEACHED PAPER (BROWN IN COLOR) TAKES LONGER TO BREAK DOWN AND CAN THEREFORE INCREASE YOUR BIO-SOLIDS PUMP OUT FREQUENCY. AVOID FLUSHING PAPER TOWELS, NAPKINS, WIPES, OR OTHER THICKER PAPER MATERIAL.

SERVICE PROVIDER:



Revisions	No.	Description	Date	By

TAX ID:
Use of these Drawings
1. Unless otherwise noted, these Drawings are intended for preliminary planning, coordination with other disciplines or utilities, and/or approval from the regulatory authorities. They are not intended as construction drawings unless noted as such or marked approved by a regulatory authority.
2. By use of these drawings for construction of the Project, the Owner represents that they have reviewed, approved, and accepted the drawings, obtained all necessary permits, and have met with all applicable parties/disciplines, including but not limited to, the Engineer and the Architect, to ensure these plans are properly coordinated including, but not limited to, contract documents, specifications, owner/contractor agreements, building and mechanical plans, private and public utilities, and other pertinent permits for construction.
3. Owner and Architect, are responsible for final design and location of buildings shown, including an area measured a minimum five (5) feet around any building and coordinating final utility connections shown on these plans.
4. Prior to using these plans for construction layout, the user shall contact TCE to ensure the plan contains the most current revisions.
5. These Drawings are specific to the Project and are not transferable. As instruments of service, these drawings, and copies thereof, furnished by TCE are its exclusive property. Changes to the drawings may only be made by TCE. If errors or omissions are discovered, they shall be brought to the attention of TCE immediately.
6. It is the User's responsibility to ensure this copy contains the most current revisions. If unsure, please contact TCE.



Project Title
Barry Wasafewater
5697 Ethan Allen Highway
Charlotte, Vermont

Sheet Title	Sanitary Notes
Date:	8/03/2018
Scale:	AS SHOWN
Project Number:	18-128
Drawn By:	NPC
Project Engineer:	AW
Approved By:	JPP
Field Book:	

C8-02