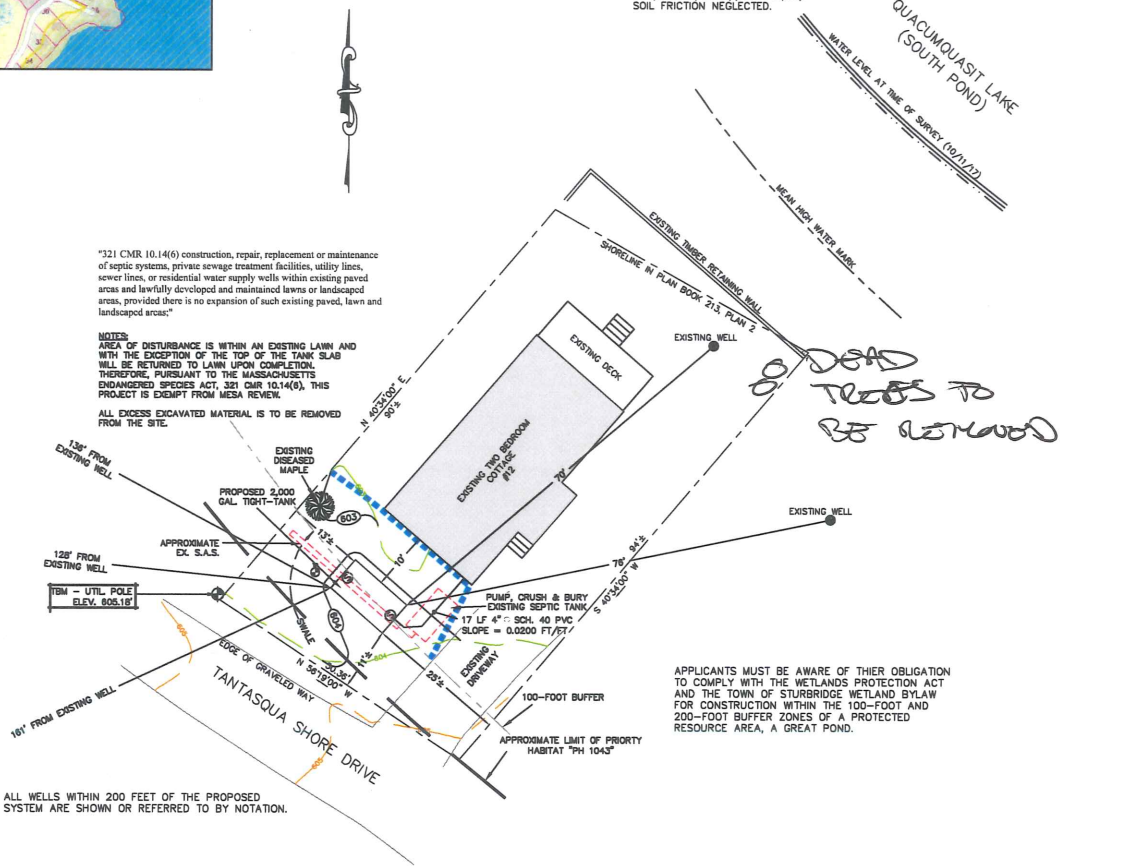


SITE PLAN & DETAILS

UPSET CALCULATIONS
 WEIGHT OF TANK: 16,170 lbs FROM MANUFACTURER
 TANK DISPLACEMENT:
 $12' \times 6.5' \times 3.79' = 295.6 \text{ cu.ft.}$
 UPLIFT:
 $295.6 \text{ cu.ft.} \times 62.4 \text{ lbs/cu.ft.} = 18,445 \text{ lbs}$
 BALLAST REQUIRED: $18,445 \text{ lbs} (1.5 \text{ SAFETY FACTOR}) = 27,668 \text{ lbs.}$
 BALLAST PROVIDED:
 SELF WEIGHT = 16,170 lbs.
 $3" \text{ IN TANK} = (0.25')(11.33')(5.83')(150 \text{ lbs/cu.ft.}) = 2,477 \text{ lbs}$
 REQ'D. SLAB ON TOP OF TANK = $27,668 \text{ lbs} - (16,170 \text{ lbs} + 2,477 \text{ lbs}) = 9,021 \text{ lbs}$
 AREA OF SLAB = $(12')(6.5') - (2 \text{ COVERS}) = 71.72 \text{ sq.ft.}$
 $d = \frac{(9,021 \text{ lbs})(12')}{(71.72)} = 10"$
 $(150 \text{ lbs/cu.ft.})(71.72 \text{ sq.ft.}) = 10"$
 SOIL FRICTION NEGLECTED.

ASSESSORS REFERENCE:
 MAP 1, S.C. 833, PARCEL 12



*321 CMR 10.14(6) construction, repair, replacement or maintenance of septic systems, private sewage treatment facilities, utility lines, sewer lines, or residential water supply wells within existing paved areas and lawfully developed and maintained lawns or landscaped areas, provided there is no expansion of such existing paved, lawn and landscaped areas"

NOTES:
 AREA OF DISTURBANCE IS WITHIN AN EXISTING LAWN AND WITH THE EXCEPTION OF THE TOP OF THE TANK SLAB WILL BE RETURNED TO LAWN UPON COMPLETION. THEREFORE, PURSUANT TO THE MASSACHUSETTS ENDANGERED SPECIES ACT, 321 CMR 10.14(6), THIS PROJECT IS EXEMPT FROM MESA REVIEW.
 ALL EXCESS EXCAVATED MATERIAL IS TO BE REMOVED FROM THE SITE.

APPLICANTS MUST BE AWARE OF THEIR OBLIGATION TO COMPLY WITH THE WETLANDS PROTECTION ACT AND THE TOWN OF STURBRIDGE WETLAND BYLAW FOR CONSTRUCTION WITHIN THE 100-FOOT AND 200-FOOT BUFFER ZONES OF A PROTECTED RESOURCE AREA, A GREAT POND.

ORIGINAL	REVISIONS			PROPERTY INFO.		
Date	Rev	Date	Description	Made	Check	App.
10/18/17						
Designed	SMB					
Checked	LSJ					
Drawn	SMB					
Reviewed	MLJ					
Revised						
Approved						

NOTES	CERTIFICATION
SEPTIC TANK TO BE PRECAST CONCRETE AS PER MASS. STATE CODE TITLE 5	I HEREBY CERTIFY THAT NO OTHER METHODS OF SEWERAGE DISPOSAL ARE POSSIBLE.
OWNER: WILLIAM M. KITCH P.O. BOX 104 PALMER, MA 01069	 LEONARD S. WALBERT P.E.
WORCESTER (SOUTH) DEED BOOK 32544, P. 29 PLAN BOOK 213, P. 2	

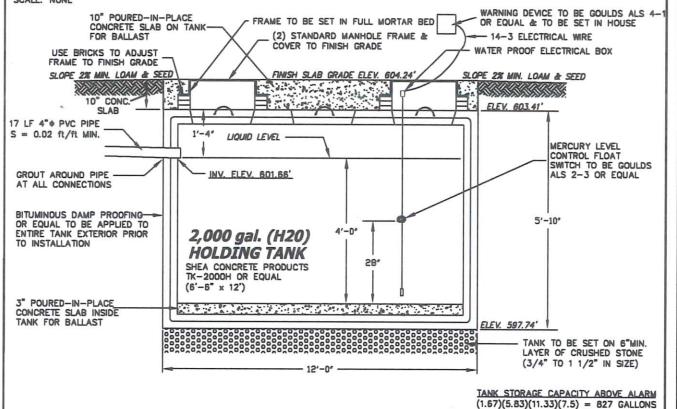
JALBERT ENGINEERING, INC.
 CIVIL ENGINEERS & SURVEYORS
 54 Main Street
 Sturbridge, Massachusetts 01566-1344
 Telephone: (508) 347-5136 • Toll Free: 1-800-339-5136
 Fax: (508) 347-7962

Proposed "Tight-Tank Design"
 Located At 12 TANTASQUA SHORE DRIVE
 STURBRIDGE, MA
 For: STEPHEN & CATHERINE SANTANGELO
 Owner: William M. Kitch

10/18/17
 PLAN NUMBER
 17189

Scale 1"=10' DATES OCTOBER 18, 2017

DETAIL OF HOLDING SYSTEM



PUMPING INFORMATION	DESIGN CRITERIA
LICENSED PUMPING CONTRACTOR SUN'S & BERTHAUME SEWER SERVICE 5108 STAFFORD STREET, CHARLTON, MA (508) 248-2085 APPROVED DISPOSAL FACILITY STURBRIDGE SEWER TREATMENT PLANT OFF MAIN STREET, STURBRIDGE, MA (508) 347-2514	TYPE OF ESTABLISHMENT: 2 BEDROOM HOUSE DESIGN FLOW: 220 OPD REQUIRED SEPTIC TANK CAPACITY: 1100 GALLONS REQUIRED PROVIDED SEPTIC TANK CAPACITY: 2000 GALLONS MIN. REQ'D.

LEGEND	SCHEDULE OF ELEVATIONS	GENERAL NOTES
<ul style="list-style-type: none"> TIGHT-TANK EXISTING CONTOURS PROPOSED CONTOURS WATER LINE DEAN LINE BENCHMARK TEST PIT PERC TEST 	FLOOR ELEV. 805.5' INV. AT HOUSE 802.0' ± (VERIFY) INV. AT HOLDING TANK 801.98' ELEV. TOP OF TANK 803.57' ELEV. AT BOTTOM TANK 587.74' ELEV. GROUND WATER 801.53'	<ol style="list-style-type: none"> ALL WORK TO BE CONCEALED MUST BE INSPECTED BY THE BOARD OF HEALTH OR ITS AGENT AND THE DESIGN ENGINEER PRIOR TO BEING BACKFILLED. THE BUILDING SEWER (THE PIPE FROM 10' OUTSIDE THE BUILDING TO THE TIGHT-TANK) MUST BE CONSTRUCTED OF SCHEDULE 40 PVC PIPE AND MUST BE WATER-TIGHT. TIGHT-TANK TO BE PRECAST CONCRETE AS PER THE MASSACHUSETTS STATE CODE, TITLE 5. TIGHT-TANK TO BE SET ON A LEVEL STABLE BASE AND MUST BE WATER-TIGHT. ALL LIFT HOLES (IF ANY) MUST BE PLUGGED AND THE TIGHT-TANK TO BE PRESSURE TESTED TO ENSURE IT IS WATER-TIGHT. THE FINISH GRADE ADJACENT TO THE TIGHT-TANK SHALL SLOPE AT LEAST 2% TO PREVENT THE ACCUMULATION OF SURFACE WATER. ALL DISTURBED AREAS TO BE LOAMED (3" MIN.), FINED RAKED AND SEEDED.

DEEP HOLE OBSERVATIONS	SOIL EVALUATION DATA
DEEP OBSERVATION HOLE # 1 DEPTH 0' - A0 10YR 3/2 SANDY LOAM DEPTH 3' - B 7.5YR 4/4 LOAMY SAND DEPTH 26' - C 10Z0 SAMPIC & MERIC MATERIALS DEPTH 80' - NO PERCOLATION TEST PERFORMEDS DUE TO DEPTH AND TYPE OF MATERIAL, WITNESS AND EXISTING WELL LOCATIONS.	SOIL EVALUATOR: DEVIN BENEDETTI WITNESSED BY: JANE TERRY DATE: 10/18/17 PERC 1: N/A PERC 2: N/A FIELD #/ID: N/A REGION #/ID: N/A SOIL CLASSIFICATION: N/A

ZONING	F.I.R.M. REFERENCE	SCOPE OF WORK
RURAL	COMMUNITY NO: 250332 PANEL NO: 02826 DATE: 3/28/03	THE CONTRACTORS SCOPE OF WORK INCLUDES BUT IS NOT LIMITED TO: <ol style="list-style-type: none"> ALL LABORS AND MATERIALS TO INSTALL THE SEWER DISPOSAL SHOWN, COMPLETE AND PLACED IN SERVICE. INSURING ALL PERMITS HAVE BEEN OBTAINED. PERFORMING ALL WORK IN ACCORDANCE WITH TITLE 5. ANY MEASURES TO PROTECT THE WETLAND, IF ANY. TIMELY EXECUTION OF THE WORK.