

AITKIN COUNTY
CERTIFICATE OF INSTALLATION/~~NOTICE OF NONCOMPLIANCE~~

This certificate of installation/~~notice of noncompliance~~ has been issued this _____ day of _____, 20____ to certify compliance/~~noncompliance~~ with Aitkin County's Subsurface Sewage Treatment System Ordinance.

The premises covered by this certificate are legally described as: _____

Section _____ Township _____ Range _____ Lake _____
PERMIT NO. _____ Owner Name _____
Address _____
Installer Name _____
Type of System Inspected _____
Parcel Number _____

The certificate of installation/~~notice of noncompliance~~ was based on No ___ of the following:

- 1) Inspection of the installation or construction as in accordance with the above referenced permit and application design.

- 2) Review of as-built plans submitted in accordance with Subdivision 9.2 D of Aitkin County's Subsurface Sewage Treatment System Ordinance.

If the above permitted subsurface sewage treatment system is in noncompliance with Aitkin County's Subsurface Sewage Treatment System Ordinance, then the following shall serve as a Notice of Violation:

- 1) Statement of the findings of fact through inspections or investigations:

- 2) List of specific violations of Ordinance: _____

- 3) Requirements for correction or removal of violations: _____

- 4) Time schedule for compliance: _____

Failure to correct or remove the above violation(s) will result in this matter being turned over to the Aitkin County Attorney's Office for further legal action, which may result in revocation of licenses or registrations, fines and/or imprisonment.

INSPECTOR SIGNATURE _____

**SUBSURFACE SEWAGE TREATMENT SYSTEM INSPECTION FORM
AITKIN COUNTY, MINNESOTA**

Township Farm Island Date of Inspection 5/27/2020 I App. Number 44842
10/19/2020 F 2020-5425
 Owner Leron + Lillian Farrar Parcel Number 07-0-046110
 Project Address 41329 300th Ln. Installer Mark Ritter
 City Aitkin Zip Code 56431 TI 3BR 7B

New Repair DIST. or DROP BOX & TYPE PB

SETBACKS:
 Buildings to tank(s) 10' x 15'
 Buildings to drainfield 15' to garage
 Well(s) 50' or 100' DW^a
 Lake/Creek/Wetland _____

TRENCHES, BEDS, OR GRAVELLESS LEACHFIELD:
 Trench/Bed depth 25' to bottom RB
 Trench/Bed length 39'
 Trench/Bed bottom width 18'
 Trench spacing 6 Laterals
 Drainfield rock below pipe 9" of 12" total.
 Size of gravelless pipe _____
 Depth of backfill 12"
 Absorption area: square feet 589 sq. ft.
 lineal feet _____

SEPTIC TANKS: New Existing _____
 Number of tanks installed 3
 Liquid capacity and type 1 540 Infiltrator, 1 1650 Jac. Combo
 Type of baffle Plastic
 Inspection pipes _____
 Manholes size 24"
 Manhole to grade Yes No _____

MOUNDS:
 Percent slope _____
 Upslope sand width _____
 Downslope sand width _____
 Sideslope sand width _____
 Drainfield rock below pipe _____
 Depth of sand below rock _____
 Perforation size & spacing 7/32"/36" sp.
 Pipe size & spacing 1.5"/3' sp.
 Dimensions of rock bed _____
 Dimensions of sand base _____
 Final cover _____

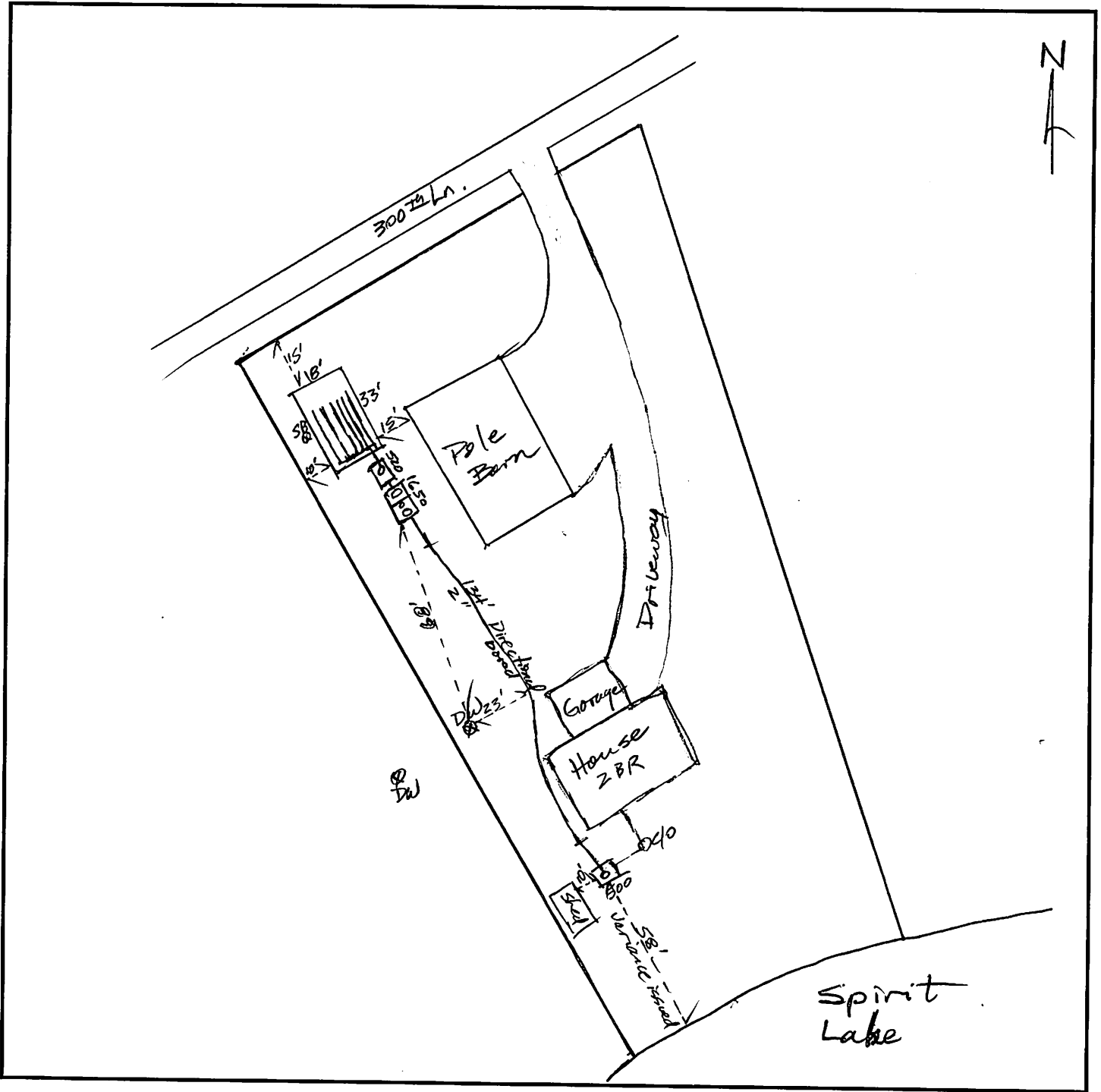
PUMPS: New Existing _____
 Tank capacity and type 520 Jac. Pump
 Pump manufacturer & model # Gould PES1
 Horsepower & GPM 1/2 HP 34 GPM
 Feet of head 16'
 Gallons per cycle 79 GPC
 Size of discharge line 1.5"
 Type & location of alarm Elec. on 2 tanks
 Water meter _____

DRAWING OF SYSTEM: (include soils)
see attached site plan

Inspector's Comments: 15' sb of df to pole shed covered by engineers report. Variance issued for tank sb to Spirit Lake
Gould WEOS11 1/2 HP pump used in 540 G. Infiltrator

Inspector's Signature Dylan Farrar Installer's Signature _____

Site Drawing



Soils

A	0-6"	10YR 3/2	LS	0-5% cf
Bw1	6-26"	7.5YR 4/3	S	0-5% cf
Bw2	26-37"	7.5YR 5/4	S	0-5% cf
C1	37-66"	7.5YR 5/4	S	0-5% cf
C2	66"+	7.5YR 4/4	L	0-5% cf
		Radon @ 66" 7.5YR 5/6		

Notes

There are bands in the Bw hor.
No mottling above the bands.

**A STRUCTURAL ENGINEERING REPORT ON THE PROPOSED NEW
SEPTIC SYSTEM ADDITION TO THE FARRAR'S SPIRIT LAKE PROPERTY.**

Located in Aitkin County at
41329 300th. Lane
Aitkin, MN.. 56431

Prepared for
Mr. Jeff Brummer
Brummer Septic LLC.
Site Evaluations, Designs, Inspections
Brainerd, MN.

Prepared By

STUART ANDERSON PROFESSIONAL ENGINEERING SERVICE INC.

35840 Co. Rd. 238 Deer River, MN. Tel. 218/ 246-2396
Ref. Project C1945 Date: October 18, 2019

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I hereby certify that this report and
related calculations were prepared by me
and that I am a duly Licensed Engineer
under the laws of the State of Minnesota-



Stuart C. Anderson
Reg. No. 6721

Date 10/18/2019

A STRUCTURAL REPORT ON THE NEW SEPTIC SYSTEM ADDITION TO THE FARRAR'S SPIRIT LAKE PROPERTY IN RURAL AITKIN CO.

SUMMARY AND CONCLUSIONS:

A new septic system is being installed on the Farrar Property. As requested by Mr. Jeff Brummer of Brummer Septic Co., the property owner's Septic System installation contractor, we have reviewed the correspondence and telephone information submitted to us for the proposed septic system addition. The Loran Farrar property is on Spirit Lake in Aitkin County, located at 41329 300th. Lane, Aitkin, MN.

Mr. Brummer informed us that the proposed new pressure bed type 19 ft. by 31 ft. septic drain field will be located between the existing pole building at the north west corner of the Farrar property, and the westerly property line. **See the attached site plans of Appendix A, page A1 and A2.** The rock absorption bed of the new drain field will be only fifteen feet from the pole building structure, less than the 20 foot code clearance requirement.

The basic layout and design of the existing pole building, as well as the proposed new septic system design were performed by others. Our review is in regard to, *and limited to*, the effect of the existing pole building foundation structure onto the proposed new nearby septic field, and also regarding the effects of the adjacent new septic field onto the existing pole building's pole foundations. The new septic tanks are well beyond the ten foot limit from the pole building or other structures.

It is our understanding the owners require a certified engineering evaluation of the closeness of the structure to the septic field, in view of the code restrictions that require a clearance distance of 10 feet from any septic system tank and 20 feet from the drain field's rock bed. The zoning officer may have questions regarding the permit application concerning potential effects of the adjacent septic field on the nearby pole building foundation; and vice versa.

The existing pole building is founded on a series embedded poles, embedded five feet or more in depth in the soil, and placed eight to ten feet on center around the perimeter of the building; supporting the building roof. The floor of the building is a concrete slab on grade.

Our engineering evaluation (see the report body below) concludes that there is no adverse structural problem between the two adjacent facilities, beyond that, if not already present, we suggest that gutters may be installed on the pole building to divert rainwater from the adjacent new sand beds of the proposed septic system. **Based on these facts, we conclude the Plan as presented by Mr. Brummer is acceptable from a Structural Engineer's evaluation.**

PROBLEM ANALYSIS AND CALCULATIONS:

No calculations were performed to determine strength, load capacity or bearing values of the building structure. The rock bed is only 15 feet from the pole building, see Appendix A, page A1 & A2. Because of the fifteen foot minimum absorption bed clearance, this foundation loading will still be well outside the zone of influence that may impose any significant force onto the drain field. We see no adverse structural effect that the new septic field flowage can exert onto the distant pole building pole bases from the well-draining absorption bed and those well draining residual soils (see Appendix A, pages A3 & A4).

However, one caution we note is with the pole building eave line adjacent and parallel to the east edge of the drain field, we suggest that gutters may be installed on that segment of the pole building west eave line opposite the new pressure bed. The purpose is to divert rain water away from the new drain field pressure bed construction, to reduce the potential to drain into it or cause erosion of it.

A STRUCTURAL REPORT ON THE NEW SEPTIC SYSTEM ADDITION TO THE FARRAR'S SPIRIT LAKE PROPERTY IN RURAL AITKIN CO.

REVIEW AND RECOMMENDATIONS:

We reviewed the new septic system drain field, as described by Mr. Brummer, which is closer than the code required minimum twenty foot clearance from the absorption rock bed of the pressure bed system. We performed a Structural Engineering Review of the proposed adjacent location effects, regarding the existing structure's influence on the proposed waste disposal system (or vice versa) in regard to the information given given to us.

In conclusion, it is our Professional Opinion that the new septic system's drain field absorption bed may be located as defined on the attached site plans of Appendix A, to be only fifteen feet clear of the existing pole building wall and supporting poles, without significant adverse structural effects. Those subsurface septic tanks, as shown on the Appendix A plot plans are well beyond the ten foot clearance limit to the pole building or other structures.

We understand that current code clearance requirements are 10 feet to a septic containment tank and 20 feet to the drain field. The basic reason for limiting the distance criteria between a building structure and a septic system tank and drain field is to prevent contamination of habitable spaces such as subsurface basements, and to reduce the risk to structural foundations from erosion or a wash out in the event of a failure of the tank or development of a "piping" channel in the soil from the drain field. Another purpose for the distance is to prevent the construction work from undermining and disturbing nearby foundations. The soil and installation layout described to us, plus the depth and location of the adjacent footings should not be subject to these types of adverse action.

The conclusions of this report represent our professional opinions. They are based on the limitations of observable items regarding the materials and procedures to be used in the construction. Our conclusions are also based on our research, experience, assumptions and judgment regarding comparable material and conditions of the construction.

The civil, structural and foundation engineering services performed for this project have been conducted in a manner consistent with that level of skill and care ordinarily exercised by other members of the profession currently practicing in this area under similar budgetary and time constraints. No other warrantee, express or implied, is made.

This report represents our completion of this project, based on our understanding of the scope of services requested. It is presented for the exclusive use of Brummer Septic Co., the owner's contractor, and Mr. Loran Farrar, the property owner.

END OF REPORT

Pitter Surer
4-22-20

JACOBSON PRECAST CONCRETE, LLC

TANK INSTALLATION INSTRUCTIONS

Model # 1650SP^{#4} Date Built: 8.7.19 Gallons: 1650 Bury Depth 1 1/2
Model # 520P Date Built: 8.16.18 Gallons: 520 Bury Depth 2

SITE CONDITION:

The site must be accessible to large, heavy trucks. Free of items like trees, stumps, overhead wires, etc. That could interfere with delivery or installation and allows trucks to within 3 to 5 ft of placement excavation.

EXCAVATION:

Excavation should be approximately 12" minimum larger than tank size to allow for adequate back fill. This may vary with soil conditions. Excavation shall have a level bottom so the weight bears on the outside walls of the tank.

BEDDING:

Each tank should be placed on about 6" of proper bedding material leveled, and should be compacted to minimum 95% compaction if tested, to ensure the life of the tank structure. Bedding must be capable of bearing the weight of the tank. Bedding material shall have the ability of 100% to pass through a 1/2" screen.

WATER TABLE:

When tanks are being placed where water levels can potentially be higher than the elevation of the tank cover, an alternate location should be considered. If water table is high installer must also consider the tank may float, if this is a possibility tank must be tied down before backfilling.

BACKFILL MATERIAL:

Sidewall of tanks require dry backfill materials that have the ability of 100% to be able to pass through a 2" screen and a minimum of 12" on all sides from the bottom to top of tank. Backfill material shall be placed to avoid impact loads on sidewall of the tank.

COVER MATERIAL:

Cover material shall be dry soil, material that has the ability of 100% to be able to pass through a 2" screen. Cover material shall be mounded over tank and around risers to direct run-off away from both.

INLET & OUTLET:

Pipe not to exceed 1" past the interior wall of tank where a baffle is used.

BURIAL DEPTH: Tanks to be installed according to model's maximum bury recommendations:



2020/05/27



2020/05/27



2020/05/27



2020/05/27



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2020/06/04



2020/06/18



2020/06/18