



Gunnison County, CO
Community Development Office
221 N. Wisconsin St. Ste. D, Gunnison, CO 81230
Phone: (970) 641-0360 FAX: (970) 641-8585
Website: www.gunnisoncounty.org
Email: sfrias@gunnisoncounty.org

To: Environmental Health Board Committee Members

From: Shannon Frias, Administrative Assistant III

Date: January 28, 2022

**Included in your packet for the Gunnison County
Environmental Health Board Committee:**

February 3, 2022 Agenda
Draft of January 20, 2022 Minutes
Kuisle Public Hearing Packet OWTS-21-00325
Public comment – T. Walker 1/11/22
Public Comment – K. Niederhut 1/10/22

Gunnison County Environmental Health Board Agenda

February 3, 2022

Zoom meeting (see Teleconference Information below)

- 1:15 p.m.** Call to order; determine quorum
Approval of Minutes from 1-20-2022 meeting
Organizational business-approval of officers, meetings times
Unscheduled citizens
- 1:30 p.m.** Sally Kuisle, Public Hearing for a variance to the Gunnison County OWTS Regulations for an OWTS on a parcel less than one-acre at 132 Laurel Street in Tincup, OWTS-21-00325

Adjourn

Join Zoom Meeting

<https://us06web.zoom.us/j/85136730820?pwd=UkxvV1piWkVHVHkrcGhEejN4NzhWdz09>

Meeting ID: 851 3673 0820

Passcode: 303752

One tap mobile

+17207072699,,85136730820#,,,,*303752# US (Denver)

+12532158782,,85136730820#,,,,*303752# US (Tacoma)

Dial by your location

+1 720 707 2699 US (Denver)

+1 253 215 8782 US (Tacoma)

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+1 646 558 8656 US (New York)

+1 301 715 8592 US (Washington DC)

+1 312 626 6799 US (Chicago)

Meeting ID: 851 3673 0820

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Find your local number: <https://us06web.zoom.us/j/85136730820?pwd=UkxvV1piWkVHVHkrcGhEejN4NzhWdz09>

ADA ACCOMMODATIONS: Anyone needing special accommodations as determined by the *American Disabilities Act* may contact the Community Development Department prior to the day of the hearing.

**Gunnison County Environmental Health Board Minutes
January 20, 2022**

The January 20, 2022 Gunnison County Environmental Health Board meeting was conducted in the Gunnison County Blackstock Center 2nd floor meeting room, located at 221 N. Wisconsin #D, Gunnison, Co. 81230 and by ZOOM virtual online meeting.

Board Members Present:

Lucinda Lull, EH Board Member
Bill Barvitski, EH Board Member
Ashley Bembenek, EH Board Member
Shea Earley, EH Board Member
Lynn Cudlip, EH Board Member

Absent Board Members:

Eddie Balch, EH Board Member
Corey Brindal, EH Board Member

Staff Present:

Crystal Lambert, Building and EH Official
Beth Baker, Manager of Administrative Services

Other attendees as listed in text.

Call to order: A quorum was determined by Lull at 1:20 P.M.

Approval of Agenda: No changes to the agenda required.

Approval of Minutes: Moved by Bembenek seconded by Earley to approve the November 18, 2021 meeting minutes, as amended. The motion passed unanimously with Board members Earley, Bembenek, and Lull voting yes, and Board members Barvitski and Cudlip abstaining.

Unscheduled citizens: None present or on ZOOM

Theresa Kaiser (OWTS-21-00293): The Environmental Health Board conducted a public hearing to review the variance request to the Gunnison County On-site Waste Water Treatment System (OWTS) regulations for a second OWTS on a single parcel at 27711 County Road 12.

With a quorum present Chairperson Lull opened the public hearing.

Environmental Health Official (EH Official) Lambert confirmed adequate public notice. The notices were published in the CB News and the Gunnison Country Times. All property owners within 500 feet of the parcel boundaries were notified by certified mail of the public hearing. The agenda was posted at the new posting location, on the Gunnison County Community Development website. The applicant submitted the certified mailing receipts, photo and affidavit of posting.

Application Presentation:

Applicant Theresa Kaiser was present on ZOOM. She said she is requesting a second septic system on her parcel, for a proposed second residence.

Staff Comments:

EH Official Lambert explained there is an existing house and septic on another area of the 40-acre parcel. Kaiser has applied to build a second residence and second septic on the 40-acre parcel. Lambert and Planner Rachel Sabbato have conducted a site visit. Lambert noted Kaiser's original plan was to use an old existing septic system. Lambert determined the location of the new residence would involve extensive trenching over to the new residence. She advised against the use of the older septic system.

Applicant Kaiser agreed to apply for a second system; involving a new tank, new soil distribution area, and pump. Lambert affirmed all the setbacks and OWTS requirements are being met, as required by the OWTS regulations. Lambert explained because this is a request for second system on a single parcel a variance is required.

EH Official Lambert explained the new proposed development of a new single-family residence (SFR) is located right off of an access road, creating limited impacts. In-between the proposed dwelling and existing dwelling is a small island of wetlands.

EH Official Lambert confirmed the application when compared to the regulations does not trigger prohibition. The cabin will be located off the access road and away from the original residence.

EH Official Lambert said the configuration makes sense and staff is recommending approval of the application by the EH Board.

Public Comments and Responses: None

Review Body Comments:

Environmental Health Board Member (EHBM) Lynn Cudlip asked where the drinking water well is located. Kaiser said it close to the electric lines, about 25 ft. from the lines. It is up gradient and at least 100 ft. from the system. EHBM Cudlip and Earley asked if it the proposed system was also at least 100 ft. away from the neighbor's drinking water well.

EHBM Barvitski asked for confirmation the green structure on the site map is a garage; Lambert confirmed it is the garage. She added the actual house has measured to be approximately 400 ft. away.

EH Official Lambert said, if need be, the elements of the system could be moved closer to structure and at least 100 ft. away from the well and the neighboring well.

EHBM Bembenek noted a condition of approval should be added to ensure the system meets all the setbacks. Following a discussion, the Board members agreed to add the following finding. "Staff will confirm and verify that the horizontal setback distances from components of the OWTS to all drinking water wells is met with the system design and final installation." The additional condition will be added as number one in the staff decision document.

Moved by Cudlip seconded by Bembenek to close the public hearing. The motion carried unanimously, with EHBM Lull, Bembenek, Barvitski, Cudlip and Earley voting yes.

Lull read the staff recommendations and noted approval of the application and decision of approval required:

- Staff confirmation setbacks are met in the final design.
- All setbacks including from the well on the adjacent property will be met.
- Confirmation can be conducted at the time of the foundation inspection; as long as it does not get done prior to the inspection.
- Staff will confirm and verify that the horizontal setback distances from components of the OWTS to all drinking water wells is met with the system design and final installation.

Moved by Bembenek seconded by Earley to approve the application/decision for Theresa Kaiser (OWTS-21-0093): a second OWTS on a single parcel at 27711 County Road 12, before the Gunnison County Environmental Health Board (as amended.) The motion carried unanimously, with EHBM Barvitski, Earely, Bembenek, Cudlip and Lull all voting yes.

Lambert read the action form, into the record. The variance approval follows.

WHEREAS, Theresa Kaiser has applied for a variance from a standard of *Gunnison County On-site Wastewater Treatment System Regulations (OWTS), Section 3.A.10.* which states that no more than one OWTS shall be permitted for single undivided parcel. The parcel is at 27711 County Road 12, 39.176-acres in Tract 48, Section 11 13S89W, Gunnison County, Colorado; and

WHEREAS, the parcel has an existing dwelling that is served by an existing OWTS and the property owner is proposing a second OWTS to serve a second dwelling; and

WHEREAS, *Section 3.M.* of the *Gunnison County OWTS Regulations.* defines a process of review for requests for variance from this Section, and after the required conduct of a public hearing and a review of relevant facts related to the requested variance, the Gunnison County Environmental Health Board did, on January 20, 2022, approve with conditions the application for variance;

NOW, THEREFORE, the cited application for a variance is approved with the following Findings and Conditions as determined by the Environmental Health Board in that action:

FINDINGS:

Based on a review of all the information included with the OWTS application, the request for a variance, and staff reports for this project and consideration of any and all testimony and public input received relative to this application, the Gunnison County Environmental Health Board finds that:

1. Action on this request for a variance from the *Gunnison County OWTS Regulations* is property-specific and limited to the circumstances unique to this application.

2. The applicant has demonstrated that the requested variance from the *Gunnison County OWTS Regulations* is warranted by unique site-specific configuration and site size that make compliance with the Regulations technically infeasible.
3. The applicant has provided justification through specific conditions that exist which support a finding that approval of the requested variance will result in no greater risk than that associated with compliance with the requirements of the *Gunnison County OWTS Regulations*.
4. The applicant has demonstrated that approval of the requested variance will not be in violation of any minimum standards established in any other applicable federal or state rule or regulation.
5. The applicant has demonstrated that the proposed OWTS will not be a nuisance or injurious to public health, safety or welfare.
6. The applicant has demonstrated that no substantial injury will result from the granting of the requested variance.
7. This review and decision incorporate, but is not limited to, all the documentation submitted to the County and included within the Department file relative to this application; including all exhibits, references and documents.

DECISION:

The Gunnison County Environmental Health Board, having reviewed the proposed application and supporting documentation, site observations and public testimony does approve the requested variance to Section 3.A.10. of the *Gunnison County OWTS Regulations* for Theresa Kaiser at her parcel, 27711 County Road 12, 39.176-acres in Tract 48, Section 11 13S89W, under OWTS application 21-00293, with the following conditions:

1. Staff will confirm and verify that the horizontal setback distances from components of the OWTS to all drinking water wells is met with the system design and final installation.
2. The OWTS shall be designed and installed in accordance with the *Gunnison County OWTS Regulations* and the *Gunnison County Land Use Resolution*, including but not limited to setback requirements, design standards, requirements for system components and general technical standards.
3. This approval is founded on each individual requirement. Should the applicant successfully challenge any such finding or requirement, this approval is null and void.

4. This permit may be revoked or suspended if Gunnison County determines that any material fact set forth herein or represented by the applicant was false or misleading, or that the applicant failed to disclose facts necessary to make any such fact not misleading.
5. Approval of this use is based upon the facts presented and implies no approval of similar use in the same or different location and/or with different impacts on the environment and community. Any such future application shall be reviewed and evaluated, subject to its compliance with current regulations, and its impact to the County.

Lull closed the meeting of the Environmental Health Board at 2:30 PM

/S/ Beth Baker
Manager of Administrative Services
Gunnison County Community Development Department



**GUNNISON COUNTY, COLORADO
COMMUNITY DEVELOPMENT DEPARTMENT, ENVIRONMENTAL
HEALTH OFFICE STAFF REPORT**

Kuisle

Application No: OWTS-21-00325
 Date application scheduled with EH Board: February 3, 2022
 Prepared by: Crystal Lambert, Building & EH Official

APPLICANT/OWNER:	Sally Kuisle
PROJECT DESCRIPTION:	The applicant is proposing a variance for an OWTS on a parcel less than one acre to serve an existing dwelling.
CURRENT STATUS OF OWTS APPLICATION:	The OWTS application was denied by the Environmental Health Office because <i>Section 3.A.9. of the Gunnison County OWTS Regulations</i> states that an OWTS shall not be permitted to be installed on a parcel of land less than once acre in size.
ENVIRONMENTAL HEALTH BOARD ACTION REQUESTED:	A request for a Public Hearing with the Environmental Health Board for the consideration of a variance to <i>Section 3.A.9 of the Gunnison County OWTS Regulations</i> has been received.
PROPERTY LOCATION:	132 Laurel Street; Lots 18-24, Block 1, Tincup
AREA DESCRIPTION:	The parcel is 0.46 acre in the Townsite of Tincup. The Board of County Commissioners has approved a street vacation that would provide an additional 0.12 acre contingent upon variance approval from the EH Board.
ATTACHED EXHIBITS:	<ul style="list-style-type: none"> ▪ OWTS application ▪ Site plan and topo of parcel and surrounding parcels ▪ Proposed Design Report and Design

	<ul style="list-style-type: none"> ▪ Variance Request ▪ Site Visit Inspection ▪ Development Draft Action
<p>ENVIRONMENTAL BOARD TASKS AT PUBLIC HEARING:</p>	<ul style="list-style-type: none"> — Acknowledge receipt of application by applicant name, name of development (if applicable) and date of application — Confirmation of adequate public notice: <ul style="list-style-type: none"> • Posting of legal notice in the County’s official newspaper at least 20 days prior the hearing. • Posting of public hearing notice at the County posting locations. • Mailing of public hearing notice to all owners of properties who own surface rights within 500 feet of each boundary of the entire parcel at least 20 days prior to the hearing. • Posting of the public hearing notice in a conspicuous location at or near the parcel. — Hear applicant presentation — Hear staff comments — Ask questions, identify and consider issues — Hear applicant response and staff response — Continue public hearing or close public hearing.

Variance Request Submittal Analysis		
Variance request submittals shall include the following items:	Applicant Submittal Summary	Staff Comments
<p>Site-specific request identifying the specific criteria from which a variance is being requested. Section 3.M.1.b(1)</p>	<p>The variance is being requested for a replacement OWTS to be permitted to be installed on the referenced parcel which is less than one acre in size.</p>	<p>Per <i>Section 3.A.9 of the Gunnison County OWTS Regulations</i>, an OWTS shall not be permitted to be installed on a parcel of land less than one acre in size. This is a local County requirement above the State minimum. The State of Colorado OWTS Regulations do not contain a requirement for minimum parcel size. There is an aging OWTS that serves the parcel and is partially on the adjacent parcel and encroaching into</p>

		the setback to water wells.
Technical justification by a professional engineer or professional geologist, which indicates the specific conditions which exist and/or the measures which will be taken that support a finding that the variance shall result in no greater risk than that associated with compliance with the requirements of the OWTS Regulations. Section 3.M.1.b(2)	All the required setback distance requirements between components of the OWTS and wells, waterbodies, and physical features are proposed to be met.	The required setback distances between existing and proposed septic components and existing and proposed wells and property lines will be met with this plan.
A discussion of alternatives considered in lieu of the requested variance. Section 3.M.1.b.(3)	There are no practical alternatives available.	The alternative of doing nothing and living with the existing aging system that encroaches on neighboring wells is potentially dangerous to public and environmental health.
Technical documentation for selected alternative, which may include a testing program, which confirms that the variance does not increase the risk to public health and to the environment. Section 3.M.1.b.(4)	N/A	The proposed system meets the technical requirements of the OWTS Regulations.
A statement of the hardship that created the necessity for the variance. Section 3.M.1.b.(5)		The townsite of Tincup predates the Gunnison County Land Use and OWTS Regulations that require the minimum parcel size.

Section 3.M.2.: Prohibitions on the granting of variance requests

Prohibitions on the granting of variance requests:	Staff comments:
No variance shall be issued where the property can accommodate a conforming OWTS. Section 3.M.2.a.	The OWTS will conform to the technical, design and setback distance requirements of the OWTS Regulations. The variance request is for a system on a parcel less than one acre.
No variance shall be issued to mitigate an error in construction involving any element of property improvements. Section 3.M.2.b.	N/A
No variance shall be allowed on the grounds of cost of compliance. Section 3.M.2.c.	N/A
No variance shall be issued if it will result in a setback reduction to an offsite physical feature that does not conform to the minimum setbacks defined in Table 7-1 of this regulation without proof of compliance of Section 3.M.5. Section 3.M.2.d.	The minimum setbacks to on-site and off-site physical features appear to be met with the proposed development plan.
No variance shall be issued if it reduces the separation to ground water or bedrock based on the level of treatment in Table 7-2. Section 3.M.2.e.	N/A
No variance from the horizontal setback from a well shall be issued unless it also meets the variance requirements of the Board of Examiners of Water Well Construction and Pump Installation Contractors. Section 3.M.2.f.	N/A
No variance shall be issued for the installation of a higher level treatment system based on sizing or separation reductions without the Department having a maintenance and oversight program. Section 3.M.2.g.	N/A

Staff Recommendation on the application for a variance to the *Gunnison County OWTS Regulations*:

It appears that the proposed OWTS design meets the design criteria and setback distance requirements of the Gunnison County OWTS Regulations. Staff recommends approval of the Kuisle application for a variance to the Gunnison County OWTS Regulations, Section 3.A.9, to install the proposed replacement OWTS on at 132 Laurel Street in Tincup, Lots 18-24, Block 1. The proposed system replaces an aging system that is partially on the neighbors property, does not meet the minimum required setback distances to neighboring wells and has a rusting metal septic tank.



Gunnison County, CO
Community Development Department
 221 N. Wisconsin St. Ste. D, Gunnison, CO 81230
 Phone: (970) 641-0360
 Website: <https://www.gunnisoncounty.org/144/Community-and-Economic-Development>
 Email: planning@gunnisoncounty.org

**ON-SITE WASTEWATER TREATMENT SYSTEM (OWTS)
 PERMIT APPLICATION**

Application Fee- Residential New- Due at Submittal: \$870.00
 Application Fee- Commercial New or Replacement- Due at Submittal: \$975.00
 Application Fee- Residential Repair- Due at Submittal: \$335.00
 Application Fee- Residential and Commercial Tank Replacement Only- Due at Submittal: \$155.00
 Application Fee- System Alteration or Expansion- Due at Submittal: \$530.00

Application Received Date: _____
 Application Fee Paid: _____

SUBMIT ALL PERMIT PACKET INFORMATION TO PLANNING@GUNNISONCOUNTY.ORG

OWNER: Sally Spencer Kuisle, Trustee of The Revocable Trust of Sally S. Kuisle
MAILING ADDRESS: 4622 47th St., Boulder, Co. 80301
DAY PHONE: 303-829-2621 **CELL PHONE:** 303-829-2621
EMAIL ADDRESS: bigsal100@yahoo.com

LICENSED SEPTIC CONTRACTOR: Bill Parker
MAILING ADDRESS: 5469 Cty Road 43, Parlin, Co 81239
DAY PHONE: 505-699-0295 **CELL PHONE:** 505-699-0295
EMAIL ADDRESS: Bill65@q.com

PRIMARY PROJECT CONTACT PERSON: Sara Bergstrom of SCJ Alliance
DAY PHONE: 970-6412499 ext. 336 **CELL PHONE:** 719-331-3847

DESCRIPTION OF PARCEL (legal description, site address): Lots 18-24, Block 14, Tin Cup, Co.
132 Laurel St., Tin Cup/ Almont, Co. 81210

PARCEL SIZE: < 1 acres (175'x110') ACRES

HAVE YOU APPLIED FOR A LAND USE CHANGE PERMIT? yes, Lot Cluster in process

- Is this application for a secondary residence?
- Do you need a lot cluster? (Do you own adjacent lots that are less than one acre, if so you may need a lot cluster)

WHAT TYPE OF PERMIT ARE YOU REQUESTING?

- New
- Alteration
- Repair

Project Description (Please identify all existing buildings/development and all proposed buildings/development on the parcel.)

existing; 950 sq ft cabin and existing 247sq ft detached garage

Description of Proposed Development

- Single-Family Residence
- Multi-Family Residence
- Commercial; describe use: _____
- Other: _____

Number of Bedrooms: 2 Number of Baths: 1 Number of Kitchens: 1

For commercial note the square footage, number of seats if it is a food/bar establishment, number of rooms for hotel/motel/B-N-B facility, number of employees. _____

Type of System Proposed (For engineered systems, provide the design, stamped and signed by a Colorado Licensed Professional Engineer)

- Conventional Septic System Design
- Engineered System; Engineer Name: Sara Bergstrom, SCJ Alliance Phone: 970-641-2499
- Other: _____

Description of the Proposed and/or Exiting Water Source. Description of proposed/existing water source; if such proposed source is by well, copy of the well permit may be required to verify the location of the well; and, if such source is a central system, documentation from the operator of that system that water will be supplied: Well permit #84287 1976

THE FOLLOWING INFORMATION IS NEEDED FOR THE SUBMITTAL OF ALL OWTS APPLICATIONS:

- Report from Site and Soils Evaluation and Site Plan.** The report from the Site and Soil Evaluation in accordance with Section 5-110: *Report and Site Plan of the Gunnison County OWTS Regulations* (see page 9 for description).
- Vicinity Map.** General area map showing the location of the proposal on a typical U.S. Geological Survey map, U.S. Forest Service map or County parcel map, available from the Gunnison County Geographic Information Services Department or the Gunnison County Assessor's Office.
- System Design.** The system design document shall contain all plan details necessary for permitting, installation and maintenance and shall include a brief description of the facility and its proposed use, basis and calculations of design flow, and influent strength in accordance with Section 5-111: *Design Document of the Gunnison County OWTS Regulations* (see page 10 for description).
- A copy of the recorded **Warranty Deed** is required for proof of ownership. This may be obtained from the Recorder's Office, located on the first floor of the Blackstock's Government Center. The Recorder's Office can be reached by phone at 970-641-2038.
- Letter of Consent.** If applicable, a letter from the property owner acknowledging a person other than the owner may apply for permits.
- Copy of **Well Permit**, if applicable
- Application Fee. **Fees** are determined by type of OWTS permit and proposed use. *See fee schedule.

**GUNNISON COUNTY PUBLIC WORKS
ACCESS DETERMINATION**

SIGNATURE OF OWNER OR CONTRACTOR: Sally Spencer Kinsli,
DATE: 9/22/21 Trustee

STATE OF COLORADO MINIMUM SETBACK REQUIREMENTS:

Table 7-1: Minimum Horizontal Distances in Feet Between Components of an OWTS and Water, Physical and Health Impact Features

	Spring, Well, Suction Line, Potable Water Supply Cistern ¹	Potable Water Supply Line ²	Structure with basement, crawl space or footing drains	Structure without basement, crawl space or footing drains	Property Line, Piped or Lined Irrigation Ditch, upslope curtain drain	Subsurface Drain, Intermittent Lateral, Drywell, Stormwater Structure	Lake, Water Course, Irrigation Ditch, Stream, Wetland	Dry Gulch, Cut Bank, Fill Area (from Crest)	Septic Tank, Higher level treatment Unit, Dosing Tank, Vault Privy
Septic Tank, Higher Level Treatment Unit, Dosing Tank, Vault Privy	50 ²	10 ²	5	5	10	10	100(state is 50)	10	--
Building Sewer or Effluent Lines	50 ²	5 ⁶	0	0	10 ²	10 ²	50 ²	10 ²	--
STA Trench or Bed, Un-lined Sand Filter, Sub-surface Dispersal System, Lined Sand Filter	100 ³	25 ²	20	10	10	25	100 ² (state is 50 ²)	25	5
Lined Evapotranspiration Field	60	10 ²	15	10	10	10	100 ² (state is 25)	10	5
Unlined Sand Filter in Soil with a Percolation Rate < 60 MPI, Unlined or Partially Lined Evapotranspiration System not relying on STA for Treatment other than Aerial	100	25 ²	15	15	10	25	100 ² (state is 25)	15	10
Pit Privy	100	50 ²	25	25	25	25	100	25	N/A
System not relying on STA for dispersal	100 ³	10 ²	125	125 ⁵	10	0	100 ² (state is 25 ²)	10	10

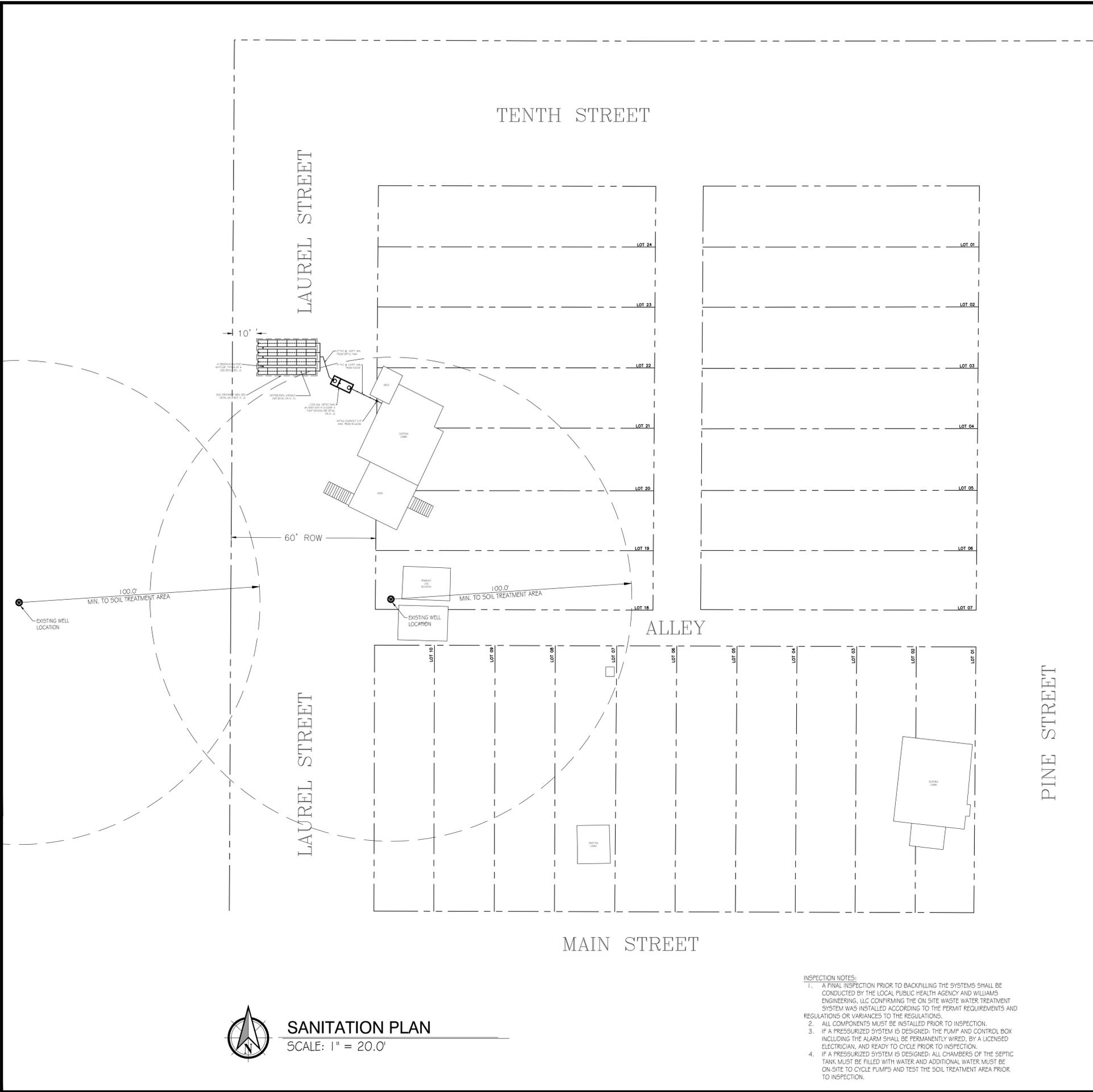
NOTE: The minimum distances shown above shall be maintained between the OWTS components and the features described. Where soil, geological or other conditions warrant, greater distances may be required by the local board of health or by the Water Quality Control Commission pursuant to C.R.S. §25-6-209 and applicable regulations. For repair or upgrading of existing OWTS where the size of lot precludes adherence to these distances, a repaired OWTS shall not be closer to setback features than the existing OWTS, as reviewed and approved by the Department. Components that are not watertight should not extend into areas of the root system of nearby trees.

- Includes potable wells, irrigation wells and monitoring wells set within a potable aquifer and infiltration galleries permitted as wells by the Division of Water Resources.
- Crossings or encroachments may be permitted at the points as noted above provided that the water or wastewater conveyance pipe is enclosed for the minimum setback distance on each side of the crossing. A length of pipe with a minimum Schedule 40 rating of sufficient diameter to easily slide over and completely enclose the conveyance shall be used. Rigid end caps of at least Schedule 40 rating shall be glued or secured in a watertight fashion to the ends of the enclosure pipe. A hole of sufficient size to accommodate the pipe shall be drilled in the lowest section of the rigid cap so that the conveyance pipe rests on the bottom of the enclosure pipe. The area in which the pipe passes through the end caps shall be sealed with an approved underground sealant compatible with the piping used. Other methods of encasement that provide equal protection are allowed. These methods shall be reviewed and approved by the local public health agency.
- Add eight feet additional distance for each 100 gallons per day of design flows between 1,000 and 2,000 gallons per day, unless it can be demonstrated by a professional engineer or geologist by a hydrologic analysis or the use of a barrier, consisting of a minimum 30 mil PVC liner or equivalent, that contamination will be minimized. Flows greater than 2,000 gallons per day shall be hydrologically analyzed for flow, velocity, hydraulic head, and other pertinent characteristics as means of estimating distances required to minimize contamination as part of the Division site application and permitting process.
- All horizontal setbacks to a potable water supply cistern shall be met unless a variance by the Board of Examiners of Water Well Construction and Pump Installation Contractors is granted per section 15-2 of the Water Well Construction Rules, 2 CCR 402-2. Setback requirements which may necessitate a variance are found within section 10.2 or 11.4 of the Water Well Construction Rules, as applicable. The minimum horizontal setback that may be granted through a variance is to 25 feet. If the structure is not used as a habitable unit, the setback may be reduced by the local board of health to no less than 50 feet.
- Building sewer installations shall meet the design requirements of the Colorado Plumbing Code.

ELIEN GSF A42 INSTALLATION GUIDELINES (COLORADO AS OF JAN. 2017):

- INSURE ALL COMPONENTS LEADING TO GSF SYSTEM ARE INSTALLED PROPERLY. SEPTIC TANK EFFLUENT FILTERS (OR SCREENED EFFLUENT PUMPS) ARE REQUIRED WITH THE GSF SYSTEM.
- DETERMINE THE NUMBER OF GSF MODULES REQUIRED PER DESIGN.
- PREPARE SITE. DO NOT INSTALL A SYSTEM IN SATURATED GROUND OR WET SOILS THAT ARE SMEARED.
- DURING EXCAVATION, KEEP MACHINERY OFF INFILTRATIVE AREAS.
- PLAN ALL DRAINAGE REQUIREMENTS ABOVE (UP-SLOPE) OF THE SYSTEM. SET SOIL GRADES TO ENSURE THAT STORM WATER DRAINAGE AND GROUND WATER IS DIVERTED AWAY FROM THE ABSORPTION AREA ONCE THE SYSTEM IS COMPLETE.
- EXCAVATE THE BED ABSORPTION AREA: SCARIFY THE RECEIVING LAYER TO MAXIMIZE THE INTERFACE BETWEEN THE NATIVE SOIL AND SPECIFIED SAND.
- MINIMIZE WALKING IN THE ABSORPTION AREA PRIOR TO PLACEMENT OF THE SPECIFIED SAND TO AVOID SOIL COMPACTION.
- PLACE SPECIFIED SAND IN SIX (6) INCH LIFTS, STABILIZE BY FOOT, A HAND HELD TAMPING TOOL OR A PORTABLE VIBRATING COMPACTOR. THE STABILIZED HEIGHT BELOW THE GSF MODULE MUST BE LEVEL.
- PLACE GSF MODULES WITH PAINTED STRIPE FACING UP, END TO END ON TOP OF THE SPECIFIED SAND ALONG THEIR 4 FOOT LENGTH.
- A STANDARD 4-INCH PERFORATED PIPE, SDR 35 OR EQUAL, IS CENTERED ALONG THE MODULES 4-FOOT LENGTH. ORIFICES ARE SET AT THE 4 & 8 O'CLOCK POSITION.
- ALL 4-INCH PIPES ARE SECURED WITH MANUFACTURERS SUPPLIED WIRE CLAMPS, ONE PER MODULE.
- (PRESSURE DISTRIBUTION SYSTEMS ONLY) INSERT A PRESSURE PIPE (SIZE AND ORIFICES PER DESIGN) INTO THE STANDARD 4-INCH PERFORATED PIPE. THE PRESSURE PIPE ORIFICES ARE SET AT THE 12 O'CLOCK POSITION AS SHOWN ON THE PLANS. EACH PRESSURE LATERAL WILL HAVE A DRAIN HOLE AT THE 6 O'CLOCK POSITION. EACH PRESSURE LATERAL SHALL HAVE A CLEAN OUT AT THE END OF EACH MODULE.
- COVER FABRIC SUBSTITUTIONS IS NOT ALLOWED. THE INSTALLER SHOULD LAY THE ELIEN PROVIDED GEOTEXTILE COVER FABRIC LENGTHWISE DOWN THE ROW, WITH THE FABRIC FITTED TO THE PERFORATED PIPE ON TOP OF THE GSF MODULES. FABRIC SHOULD BE NEITHER TOO LOOSE, NOR TOO TIGHT. THE CORRECT TENSION OF THE COVER FABRIC IS SET BY:
 - SPREADING THE COVER FABRIC OVER THE TOP OF THE MODULE AND DOWN BOTH SIDES OF THE MODULE WITH THE COVER FABRIC TENTED OVER THE TOP OF THE PERFORATED DISTRIBUTION PIPE.
 - PLACE OCCASIONAL SHOVELFULS OF SPECIFIED SAND DIRECTLY OVER THE PIPE AREA ALLOWING THE COVER FABRIC TO FORM A MOSTLY VERTICAL ORIENTATION ALONG THE SIDE OF THE PIPE. REPEAT THIS STEP MOVING DOWN THE PIPE.
- PLACE 6-INCHES OF SPECIFIED SAND ALONG THE SIDES OF THE MODULE EDGE, A MINIMUM OF 6-INCHES OF SPECIFIED SAND IS PLACED AT THE BEGINNING AND END OF EACH ROW. A MINIMUM OF 1 1/2-INCHES OF SPECIFIED SAND IS PLACED BETWEEN MODULE ROWS.
- CALL TO SCHEDULE THE REQUIRED INSPECTIONS.
- COMPLETE BACKFILL WITH A MINIMUM OF 12-INCHES OF CLEAN POROUS FILL MEASURED FROM THE TOP OF THE MODULES. BACKFILL EXCEEDING 18-INCHES REQUIRES VENTING AT THE FAR END OF THE BED. USE WELL GRADED NATIVE SOIL FILL THAT IS CLEAN, POROUS AND DEVOID OF LARGE ROCKS. DO NOT USE WHEELED EQUIPMENT OVER THE SYSTEM.
- DIVERT SURFACE RUNOFF FROM THE SYSTEM. FINISH GRADE TO PREVENT SURFACE PONDING. TOPSOIL AND SEED SYSTEM AREA TO PROTECT FROM EROSION.

- GENERAL NOTES:
- THE TOWN/OOWNER OR CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO MAKING ANY CHANGES TO PLANS.
 - SEWAGE TREATMENT SYSTEM TO BE INSTALLED IN ACCORDANCE WITH GUNNISON COUNTY REGULATIONS.
 - COUNTY SHALL BE NOTIFIED FOR INSPECTION PRIOR TO COVERING LATERALS AND WITH ALL SYSTEM COMPONENTS IN PLACE.
 - CONTRACTOR SHALL PRECLUDE ALL VEHICULAR TRAFFIC AND MATERIALS STORAGE ON THE SOIL TREATMENT AREA.
 - PVC SEWER PIPE IS TO BE SDR 35 MEETING ASTM SPECIFICATION D3034.
 - PREPARE TRENCHES BOTTOM AND SIDES BY CAREFULLY LEVELING, RAKING, AND SCARIFYING INFILTRATIVE SURFACES. AVOID COMPACTING TRENCH BOTTOM BY OPERATING HEAVY EQUIPMENT IN THE TRENCHES.
 - INSTALL ALL SEWER LINES AT A MINIMUM SLOPE OF 1/4" DROP PER FOOT.
 - GEGRID SHALL BE TRIAX TX140 GEGRID OR EQUAL.
 - NOTIFY ENGINEER IF SOILS TYPES AND CHARACTERISTICS CHANGE IN SOIL TREATMENT AREA.
 - FILTER FABRIC SHALL BE ELIEN COVER FABRIC.
 - PROVIDE ADEQUATE DRAINAGE IN ALL DIRECTIONS OVER SOIL TREATMENT AREA AND PLANT WITH NATIVE PRODUCTS.
 - ALL SUBSTITUTIONS SHALL BE APPROVED BY THE ENGINEER.
 - DO NOT PROVIDE MORE THAN 2 TO 3 FEET OF FILL OVER SEPTIC TANK.
 - IT IS THE SOLE RESPONSIBILITY OF THE SYSTEM INSTALLER TO VERIFY AND CONFIRM THE REQUIRED HORIZONTAL SETBACK DISTANCES ARE MET PRIOR TO EXCAVATION. IF THE DESIGNED PLANS DO NOT REFLECT THE FIELD CONDITIONS THE ENGINEER MUST BE NOTIFIED PRIOR TO PLACEMENT OF ANY ON SITE WASTE WATER TREATMENT SYSTEM COMPONENTS.
 - SEPTIC TANK & PUMP SUPPLIER IS VALLEY PRECAST, INC., 25105 COUNTY ROAD, BUENA VISTA, CO 81211 PHONE # (719) 395-6764, OR GRAND JUNCTION PIPE & SUPPLY.



SANITATION PLAN
SCALE: 1" = 20.0'

- INSPECTION NOTES:
- A FINAL INSPECTION PRIOR TO BACKFILLING THE SYSTEMS SHALL BE CONDUCTED BY THE LOCAL PUBLIC HEALTH AGENCY AND WILLIAMS ENGINEERING, LLC CONFIRMING THE ON SITE WASTE WATER TREATMENT SYSTEM WAS INSTALLED ACCORDING TO THE PERMIT REQUIREMENTS AND REGULATIONS OR VARIANCES TO THE REGULATIONS.
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 - IF A PRESSURIZED SYSTEM IS DESIGNED: ALL CHAMBERS OF THE SEPTIC TANK MUST BE FILLED WITH WATER AND ADDITIONAL WATER MUST BE ON-SITE TO CYCLE PUMPS AND TEST THE SOIL TREATMENT AREA PRIOR TO INSPECTION.



3/16/21

DESIGNED FOR OWTS FRONT

SCJ ALLIANCE CONSULTING SERVICES
400 NORTH MAIN STREET, GUNNISON, CO 81230
SCJALLIANCE.COM

ON-SITE WASTEWATER TREATMENT SYSTEM

KUISLE, SALLY
TOWN OF TINCUP
182 LAUREL ST., TINCUP
LOT 18-24, BLOCK 140.46 ACRES
PARCEL #3427-074-13-002 ACCT. R007759
GUNNISON COUNTY, COLORADO

DRAWN BY: MWM
CHECKED BY: RLW
SCALE: AS NOTED
MOST CURRENT DATE: 9/16/21
JOB NO. 21-000502
SHEET:

S 1.1

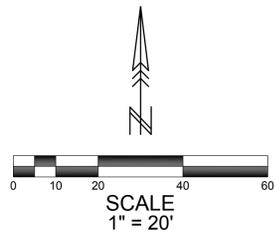
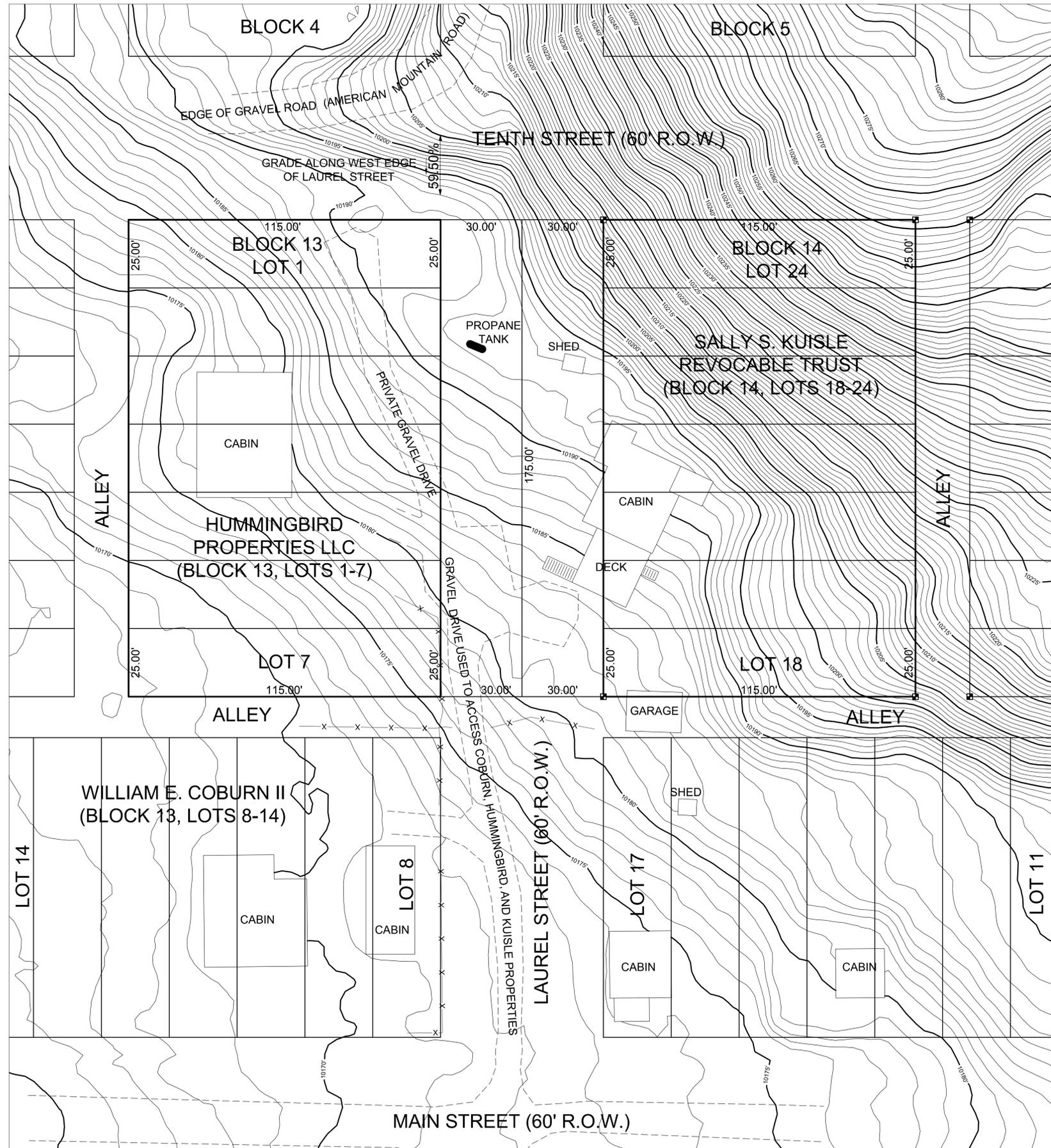
ENGINEER'S STAMP
ROBERT L. WILLIAMS
REGISTERED PROFESSIONAL ENGINEER
STATE OF COLORADO
13276
9/16/21

TOPOGRAPHIC BOUNDARY MAP

FOR A PORTION OF
BLOCKS 13 & 14, TOWN OF TIN CUP
A PORTION OF
SECTION 7, T. 15 S., R. 81 W., 6TH P.M.
GUNNISON COUNTY, COLORADO



THIS MAP



LEGEND	
	PROPERTY BOUNDARY
	LOT LINE/ADJACENT PROPERTY BOUNDARY
	EDGE OF GRAVEL ROAD
	5' TOPOGRAPHIC CONTOUR
	1' TOPOGRAPHIC CONTOUR
	FOUND #5 REBAR WITH WASHER STAMPED "6753"

NOTES:

- 1) The boundaries shown hereon are based on record bearings and distances as shown on the Plat of the Town of Tin Cup recorded at Gunnison County Reception #54310.
- 2) Lot lines are assumed to follow cardinal bearings (e.g. - North, South, East, and West), as platted.
- 3) This map does not show setbacks or easements and does not purport to be a title search by North Valley Mapping.
- 4) Contour interval is 1'.
- 5) Contours were developed from a combination of Lidar data and ground survey measurements.
- 6) Elevation values are referenced to the North American Vertical Datum of 1988 (NAVD88).
- 7) Contours are provided for planning purposes and should not be relied upon for construction.

SHEET 1 OF 1

NORTH VALLEY MAPPING
P.O. BOX 193
SAGUACHE, CO 81149

PHONE: 719-345-8242
northvalleymapping@gmail.com

DATE:	DRAWN BY:	DRAFT:	JOB NO.
11/16/2021	DMM	A	047-21001

TOPOGRAPHIC BOUNDARY MAP
FOR A PORTION OF
BLOCKS 13 & 14, TOWN OF TIN CUP
GUNNISON COUNTY, COLORADO



OWTS Design Report

For: Kuisle, Sally
132 Laurel Street, Tincup
Lots 18-24, Blk 14, Tincup
Gunnison County, Colorado

Ref: SCJ Alliance Job No. 21-000502

Prepared By: SCJ Alliance
400 North Main Street
Gunnison, Co. 81230
970-641-2499

Date: September 16, 2021

I. Design Conditions:

This design is in accordance with the applicable regulations of Gunnison County's On-Site Wastewater Treatment System Regulations. This OWTS design provides a system replacement design for an existing residence on the property, and sets forth a viable design that will greatly improve upon the existing aged system.

The Owner is currently working with the Gunnison County Road and Bridge department to request a street vacation approval, as this was the only viable area to install a new system and meet the County required setbacks, especially meeting the 100' setback from the existing well. Hillsides to the north and east prohibited system installations on these sides.

Soils:

A soils Profile hole was conducted on July 24, 2021. Visually, the soil profile exhibited 0-6" organic layer underlain to 5.0' with a sandy loam/silt loam and blocky rock. No groundwater was encountered in the 5.0' deep profile hole. The soil is classified as a type R-1. Option 1 soil with the soil component of Type 1.

Dispersal of the effluent to the surface of the Sand Filter must be by a pressurized distribution system for equal distribution.

Design Factors:

See table below:

Table 6-1 Single-Family Residential Design Flows

# Bedrooms	Occupancy (# of persons)	Wastewater flow per person (gal/day)	Design flow (gal/day)
2	4	75	300
3	6	75	450
4	7	75	525
5	8	75	600
6	9	75	675

A. 2-bedroom residence

- **Total Design Flows (Q): = 300 GPD (Per Table 6.1)**

B. Septic Tank Size: Table 9-1 (pg.64)

For 2-bedroom Use 1000-gallon, 2 compartment tank, Valley Precast Item No. 1000T-2CP-HH.

C. System Sizing: Soil Type R-1 option 1, Pressure Dosed Bed, using 2' X 4' Eljen A42 Modules

Q = 300 GPD

Treatment Level selected shall be Treatment Level 1.

Soil Type 2, Treatment Level 1, hydraulic loading rate = 0.80 gal/day (LTAR applied for secondary sand media)

$300 \text{ gpd} / 0.80 = 375 \text{ gpd}$

Table 10.2 and 10-3: This size adjustment factors cannot be applied for rock classified soils.

- **Number of Eljen A42 Modules:** $375 \text{ Sq. Ft.} / 16 \text{ Sq. Ft. per chamber} = 23.44$ (use 24 Eljen A 42 modules, in a 4-lateral bed)

D. Pump Station & Distribution Laterals, Orenco PF3005 Effluent pump:

- Draw down per inch (2nd chamber of 1000 gal. tank) = 6.59 gallons
- Pump rate = 40.7 g.p.m.
- 16" draw down = 105.44 gallons
- Pump time @ 40.7 g.p.m. = 2.59 minutes
- Average pump cycles per day = 300 g.p.d / 105.44 gal. = 2.84
- See attached orifice calculation and pump curve
 - Orifice size = 3/16"
 - Orifice Spacing = 2.0' (2'-0")
- Distal (Residual) head pressure = 3'-2"

Design: 24 Eljen Module A42 modules (24" wide X 48" long) installed in a single bed.

An additional 24" of sand shall be installed for the unlined sand filter for treatment level 1 (Table 10.-1A).

		secondary sand media"						
R-1; option 1	Soil type ⁷ 2-5, >35-65% rock (>2mm); w/≥50% of the rock <20mm (3/4")	Use TL1 LTAR from table 10-1 for the soil type corresponding to the soil matrix, w/ a max LTAR of 0.80	Pressure distribution ⁸	Minimum 2-foot deep unlined sand filter	Minimum 1-foot deep unlined sand filter	Minimum 1-foot deep unlined sand filter	Sand media not required	Sand media not required
R-1;	Soil type ⁷ 2	The allowable	Pressure	remove.	remove.	remove.	remove.	remove.

A minimum of 6" of sand must be installed between the edge of each A42 module and the sidewall of excavation. A minimum of 24" of sand shall be installed between the edges of parallel A42 modules. Pumped system with 4 laterals at 24.0' long (see construction drawings). Install a 1000T- 2CP-HH tank (Valley Precast Item #IM-1000T-2CP-HH), with an effluent filter.

II. Construction Drawing:

Enclosed herewith is a drawing titled Onsite Wastewater Treatment System for the Kuisle residence, dated September 16, 2021, which sets forth the details for construction of the system.

Pump Selection for a Pressurized System - Single Family Residence Project

Kuisle

Parameters

Discharge Assembly Size	2.00	inches
Transport Length	54.3776	feet
Transport Pipe Class	40	
Transport Line Size	2.00	inches
Distributing Valve Model	None	
Max Elevation Lift	5	feet
Manifold Length	9	feet
Manifold Pipe Class	40	
Manifold Pipe Size	2.00	inches
Number of Laterals per Cell	4	
Lateral Length	24	feet
Lateral Pipe Class	40	
Lateral Pipe Size	1.25	inches
Orifice Size	3/16	inches
Orifice Spacing	2	feet
Residual Head	3.2	feet
Flow Meter	None	inches
'Add-on' Friction Losses	0	feet

Calculations

Minimum Flow Rate per Orifice	0.78	gpm
Number of Orifices per Zone	52	
Total Flow Rate per Zone	40.7	gpm
Number of Laterals per Zone	4	
% Flow Differential 1st/Last Orifice	1.9	%
Transport Velocity	3.9	fps

Frictional Head Losses

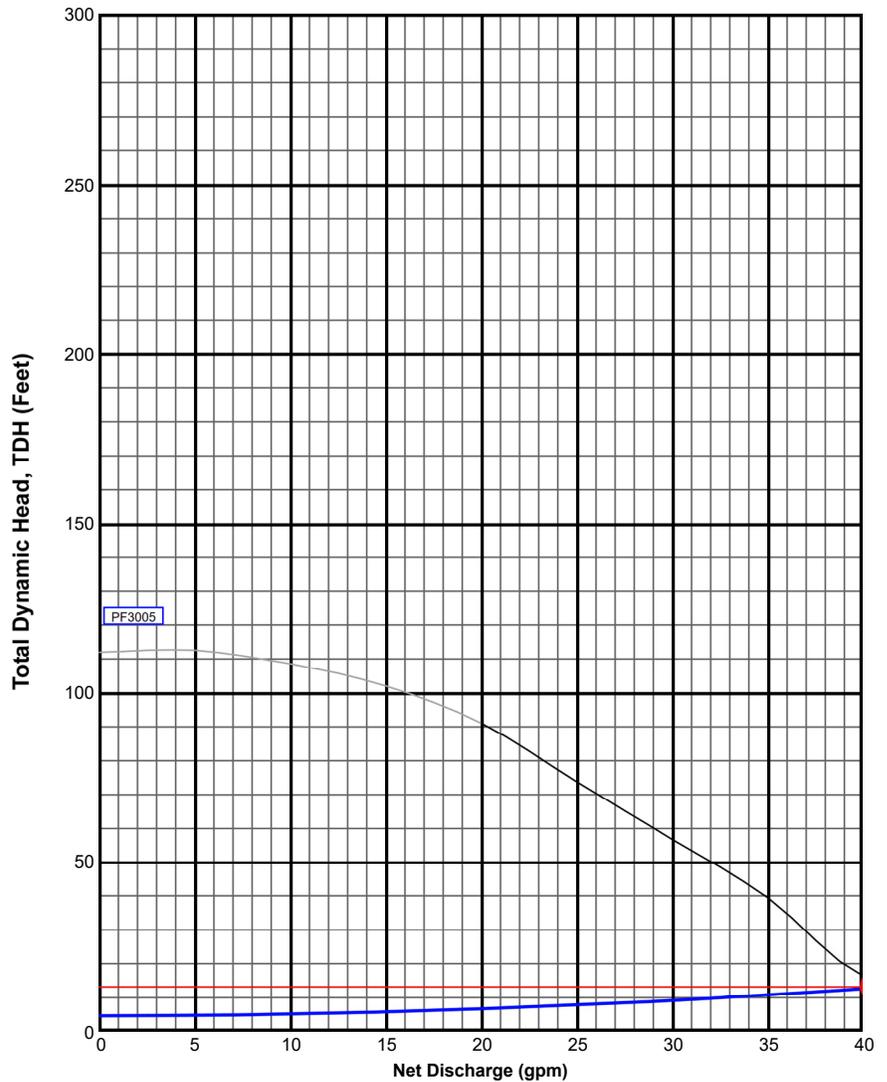
Loss through Discharge	3.3	feet
Loss in Transport	1.5	feet
Loss through Valve	0.0	feet
Loss in Manifold	0.1	feet
Loss in Laterals	0.2	feet
Loss through Flowmeter	0.0	feet
'Add-on' Friction Losses	0.0	feet

Pipe Volumes

Vol of Transport Line	9.5	gals
Vol of Manifold	1.6	gals
Vol of Laterals per Zone	7.5	gals
Total Volume	18.5	gals

Minimum Pump Requirements

Design Flow Rate	40.7	gpm
Total Dynamic Head	13.2	feet



PumpData

PF3005 High Head Effluent Pump
 30 GPM, 1/2HP
 115/230V 1Ø 60Hz, 200V 3Ø 60Hz

Legend

System Curve:	
Pump Curve:	
Pump Optimal Range:	
Operating Point:	
Design Point:	



1000 Gallon Top Seam - 2CP with High Head Pump

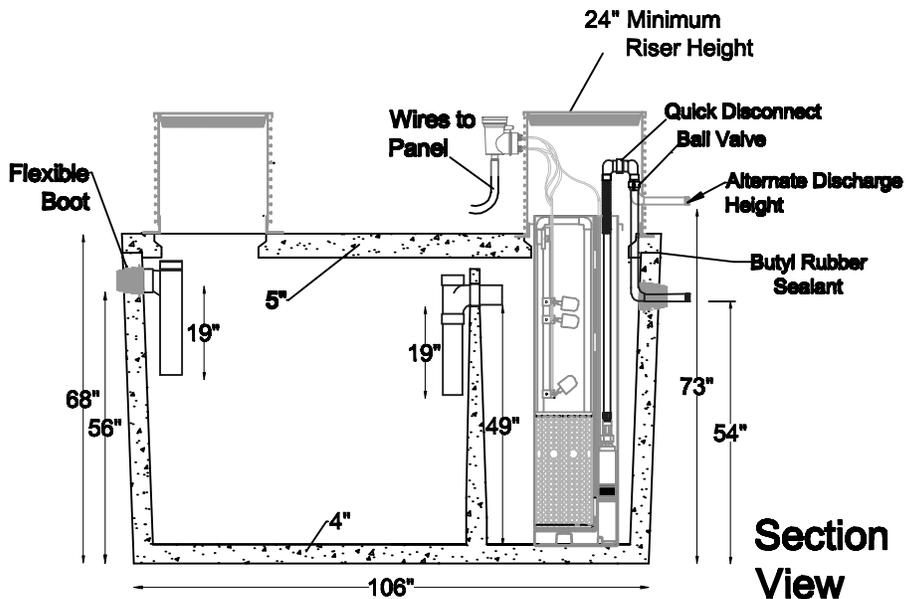
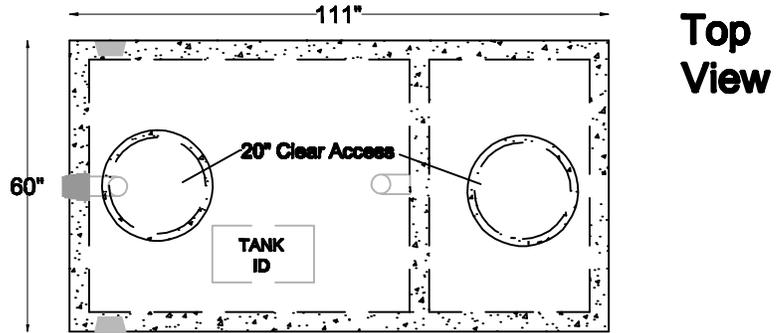
Item #
1000T-2CP-HH

DESIGN NOTES

- Design per performance test per ASTM C1227
- Top surface area 46.25 ft²
- f'c @ 28 days; concrete = 6,000 PSI Min.

Installation:

- Tank to be set on 5" min. sand bed or pea gravel
- Tank to be backfilled uniformly on all sides in lifts less than 24" and mechanically compacted
- Excavated material may be used for backfill, provided large stones are removed
- Excavation should be dewatered and tank filled with water prior to being put in service for installation with water table less than 2' below grade
- Meets C1644-06 for resilient connectors
- Inlet and Outlet identified above pipe
- Delivered complete with internal piping
- Control Panel to be mounted in sight line of tank
- 4' Maximum bury depth



ALLOWABLE BURY (Based on Water Table)	
WATER TABLE	ALLOWABLE EARTH FILL
0' - 0"	2' - 0"
1' - 0"	3' - 0"
2' - 0"	3' - 0"
3' - 0"	4' - 0"
DRY	4' - 0"

Service contracts available for maintenance

Pump:

- Lowers TSS and improves effluent quality to field
- Complete installation (wiring, panel, mounting and start-up procedures)
- Complete warranty

Digging Specs	Invert		Dimensions			Net Capacity			Net Weight		
	Inlet	Outlet	Length	Width	Min. Height	Inlet Side	Outlet	Total	Lid	Tank	Total
11' Long x 7' Wide											
56" below inlet	56"	54" or 73"	111"	60"	92"	687 gal	323 gal	1010 gal	2620 lbs	9380 lbs	12200 lbs



Phone: 719-395-6764
Fax: 719-395-3727
Website: www.valleyprecast.com
Email: frontdesk@valleyprecast.com

STATE OF COLORADO MINIMUM SETBACK REQUIREMENTS:

Table 7-1: Minimum Horizontal Distances in Feet Between Components of an OWTS and Water, Physical and Health Impact Features

	Spring, Well, Suction Line, Potable Water Supply Cistern ¹	Potable Water Supply Line ²	Structure with basement, crawl space or footing drains	Structure without basement, crawl space or footing drains	Property Line, Piped or Lined Irrigation Ditch, upslope curtain drain	Subsurface Drain, Intermittent Lateral, Drywell, Stormwater Structure	Lake, Water Course, Irrigation Ditch, Stream, Wetland	Dry Gulch, Cut Bank, Fill Area (from Crest)	Septic Tank, Higher level treatment Unit, Dosing Tank, Vault Privy
Septic Tank, Higher Level Treatment Unit, Dosing Tank, Vault Privy	50 ²	10 ²	5	5	10	10	100(state is 50)	10	--
Building Sewer or Effluent Lines	50 ²	5 ⁶	0	0	10 ²	10 ²	50 ²	10 ²	--
STA Trench or Bed, Un-lined Sand Filter, Sub-surface Dispersal System, Lined Sand Filter	100 ³	25 ²	20	10	10	25	100 ² (state is 50 ²)	25	5
Lined Evapotranspiration Field	60	10 ²	15	10	10	10	100 ² (state is 25)	10	5
Unlined Sand Filter in Soil with a Percolation Rate < 60 MPI, Unlined or Partially Lined Evapotranspiration System not relying on STA for Treatment other than Aerial	100	25 ²	15	15	10	25	100 ² (state is 25)	15	10
Pit Privy	100	50 ²	25	25	25	25	100	25	N/A
System not relying on STA for dispersal	100 ³	10 ²	125	125 ⁵	10	0	100 ² (state is 25 ²)	10	10

NOTE: The minimum distances shown above shall be maintained between the OWTS components and the features described. Where soil, geological or other conditions warrant, greater distances may be required by the local board of health or by the Water Quality Control Commission pursuant to C.R.S. §25-6-209 and applicable regulations. For repair or upgrading of existing OWTS where the size of lot precludes adherence to these distances, a repaired OWTS shall not be closer to setback features than the existing OWTS, as reviewed and approved by the Department. Components that are not watertight should not extend into areas of the root system of nearby trees.

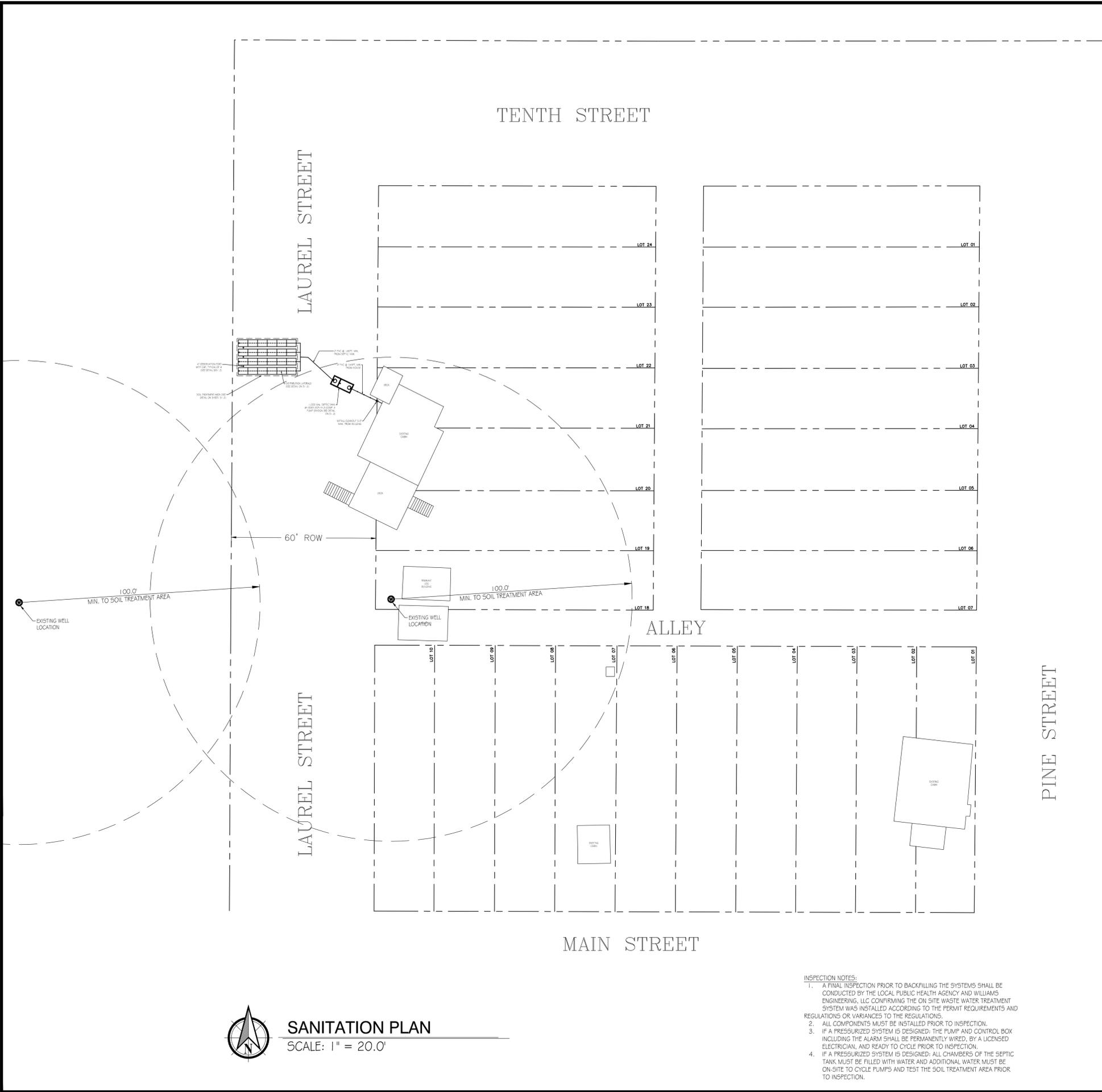
- Includes potable wells, irrigation wells and monitoring wells set within a potable aquifer and infiltration galleries permitted as wells by the Division of Water Resources.
- Crossings or encroachments may be permitted at the points as noted above provided that the water or wastewater conveyance pipe is enclosed for the minimum setback distance on each side of the crossing. A length of pipe with a minimum Schedule 40 rating of sufficient diameter to easily slide over and completely enclose the conveyance shall lift used. Rigid end caps of at least Schedule 40 rating shall be glued or secured in a watertight fashion to the ends of the enclosure pipe. A hole of equal size to accommodate the pipe shall be drilled in the lowest section of the rigid cap so that the conveyance pipe rests on the bottom of the enclosure pipe. The area in which the pipe passes through the end caps shall be sealed with an approved underground sealant compatible with the piping used. Other methods of encasement that provide equal protection are allowed. These methods shall be reviewed and approved by the local public health agency.
- Add eight feet additional distance for each 100 gallons per day of design flows between 1,000 and 2,000 gallons per day, unless it can be demonstrated by a professional engineer or geologist by a hydrologic analysis or the use of a barrier, consisting of a minimum 30 mil PVC liner or equivalent, that contamination will be minimized. Flows greater than 2,000 gallons per day shall be hydrologically analyzed for flow, velocity, hydraulic head, and other pertinent characteristics as means of estimating distances required to minimize contamination as part of the Division site application and permitting process.
- All horizontal setbacks to a potable water supply cistern shall be met unless a variance by the Board of Examiners of Water Well Construction and Pump Installation Contractors is granted per section 15-2 of the Water Well Construction Rules, 2 CCR 402-2. Setback requirements which may necessitate a variance are found within section 10.2 or 11.4 of the Water Well Construction Rules, as applicable. The minimum horizontal setback that may be granted through a variance is to 25 feet.
- If the structure is not used as a habitable unit, the setback may be reduced by the local board of health to no less than 50 feet.
- Building sewer installations shall meet the design requirements of the Colorado Plumbing Code.

ELIEN GSF A42 INSTALLATION GUIDELINES (COLORADO AS OF JAN. 2017):

- INSURE ALL COMPONENTS LEADING TO GSF SYSTEM ARE INSTALLED PROPERLY. SEPTIC TANK EFFLUENT FILTERS (OR SCREENED EFFLUENT PUMPS) ARE REQUIRED WITH THE GSF SYSTEM.
- DETERMINE THE NUMBER OF GSF MODULES REQUIRED PER DESIGN.
- PREPARE SITE. DO NOT INSTALL A SYSTEM IN SATURATED GROUND OR WET SOILS THAT ARE SMEARED.
- DURING EXCAVATION, KEEP MACHINERY OFF INFILTRATIVE AREAS.
- PLAN ALL DRAINAGE REQUIREMENTS ABOVE (UP-SLOPE) OF THE SYSTEM. SET SOIL GRADES TO ENSURE THAT STORM WATER DRAINAGE AND GROUND WATER IS DIVERTED AWAY FROM THE ABSORPTION AREA ONCE THE SYSTEM IS COMPLETE.
- EXCAVATE THE BED ABSORPTION AREA: SCARIFY THE RECEIVING LAYER TO MAXIMIZE THE INTERFACE BETWEEN THE NATIVE SOIL AND SPECIFIED SAND.
- MINIMIZE WALKING IN THE ABSORPTION AREA PRIOR TO PLACEMENT OF THE SPECIFIED SAND TO AVOID SOIL COMPACTION.
- PLACE SPECIFIED SAND IN SIX (6) INCH LIFTS, STABILIZE BY FOOT, A HAND HELD TAMPING TOOL OR A PORTABLE VIBRATING COMPACTOR. THE STABILIZED HEIGHT BELOW THE GSF MODULE MUST BE LEVEL.
- PLACE GSF MODULES WITH PAINTED STRIPE FACING UP, END TO END ON TOP OF THE SPECIFIED SAND ALONG THEIR 4 FOOT LENGTH.
- A STANDARD 4-INCH PERFORATED PIPE, SDR 35 OR EQUAL, IS CENTERED ALONG THE MODULES 4-FOOT LENGTH. ORIFICES ARE SET AT THE 4 & 8 O'CLOCK POSITION.
- ALL 4-INCH PIPES ARE SECURED WITH MANUFACTURERS SUPPLIED WIRE CLAMPS, ONE PER MODULE.
- (PRESSURE DISTRIBUTION SYSTEMS ONLY) INSERT A PRESSURE PIPE (SIZE AND ORIFICES PER DESIGN) INTO THE STANDARD 4-INCH PERFORATED PIPE. THE PRESSURE PIPE ORIFICES ARE SET AT THE 12 O'CLOCK POSITION AS SHOWN ON THE PLANS. EACH PRESSURE LATERAL WILL HAVE A DRAIN HOLE AT THE 6 O'CLOCK POSITION. EACH PRESSURE LATERAL SHALL HAVE A CLEAN OUT AT THE END OF EACH MODULE.
- COVER FABRIC SUBSTITUTIONS IS NOT ALLOWED. THE INSTALLER SHOULD LAY THE ELIEN PROVIDED GEOTEXTILE COVER FABRIC LENGTHWISE DOWN THE ROW, WITH THE FABRIC FITTED TO THE PERFORATED PIPE ON TOP OF THE GSF MODULES. FABRIC SHOULD BE NEITHER TOO LOOSE, NOR TOO TIGHT. THE CORRECT TENSION OF THE COVER FABRIC IS SET BY:
 - SPREADING THE COVER FABRIC OVER THE TOP OF THE MODULE AND DOWN BOTH SIDES OF THE MODULE WITH THE COVER FABRIC TENTED OVER THE TOP OF THE PERFORATED DISTRIBUTION PIPE.
 - PLACE OCCASIONAL SHOVELFULS OF SPECIFIED SAND DIRECTLY OVER THE PIPE AREA ALLOWING THE COVER FABRIC TO FORM A MOSTLY VERTICAL ORIENTATION ALONG THE SIDE OF THE PIPE. REPEAT THIS STEP MOVING DOWN THE PIPE.
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SANITATION PLAN
SCALE: 1" = 20.0'

INSPECTION NOTES:
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3/16/21									
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SCJ ALLIANCE
CONSULTING SERVICES
400 NORTH MAIN STREET, GUNNISON, CO 81230
SCJALLIANCE.COM

ON-SITE WASTEWATER TREATMENT SYSTEM

KUISLE, SALLY
TOWN OF TINCUP
182 LAUREL ST., TINCUP
LOT 18-24, BLOCK 140.46 ACRES
PARCEL #3427-074-13-002 ACCT. R007759
GUNNISON COUNTY, COLORADO

DRAWN BY: MWM
CHECKED BY: RLW
SCALE: AS NOTED
MOST CURRENT DATE: 9/16/21
JOB NO. 21-000502
SHEET:

S 1.1

ENGINEER'S STAMP
ROBERT L. WILLIAMS
REGISTERED PROFESSIONAL ENGINEER
STATE OF COLORADO
13276
9/16/21

November 16, 2021

Gunnison County Environmental Health Board

Request for Variance on OWTS permit, OWTS-21-00325

1. Site specific request-

I am Sally Kuisle and I own 132 Laurel St., Tin Cup, Colorado. We bought this cabin in 1988 from Hap and Narcissa Channell. The cabin was built in the 1950's. The need for a new OWTS became apparent when my neighbor, Tom Carroll, had his septic tank replaced in 2020.

I saw his old rusted metal septic tank exit on a flatbed and knew mine was of the same era.

The tank is under my west deck in a crawl space, so I can see it is metal and rusted. The current system was installed in the 1970's by Hap Channell and Roy Cranor.

I contacted Sara Bergstrom of Williams Engineering to evaluate and design a new OWTS. On her first visit to my property she brought Bill Parker, a licensed Gunnison County OWTS installer, to dig the hole for soil evaluation. He "witched" the current one pipe leach field all the way across Laurel St. where it ended underneath my neighbor's deck. This location was confirmed later in the day when Hap Channell happened to be walking by. To say my neighbors, the Riegers, and I were surprised is an understatement. The end of my leach pipe is within 53 feet of 2 Rieger water wells.

As you can see from my recent survey, my cabin at 132 Laurel St. extends a bit across my west property line. There is a 60% grade hillside to the north and a similar one to the east. My water well is to the south. West is the only available direction for the new OWTS.

After 2 Gunnison County Commissioners Meetings, I have permission to vacate 175 feet of Laurel St. due west of my 7 lots. Luckily this part of Laurel St. is a dead end into the 60% grade hillside.

My neighbors, the Riegers of Hummingbird Properties, LLC, and I will split the 60 ft.- gaining 30ft each. They are going to give me easement to use their new 30' of Laurel St. for part of my new leach field. The Riegers and I are both very motivated to make my septic system compliant and end the environmental hazard to their wells.

The Laurel St. vacation and my lot Clustering are both contingent on getting this variance for my new OWTS.

Thanks, Sally Kuisle

2. From Sara Bergstrom of SCJ Alliance-

The proposed system is in compliance with all the minimum standards established in federal, state, and local rules or regulations. The applicable federal regulations that impact OWTS are generally limited to wetlands, riparian areas, flood plains, and endangered species. The location of proposed system is not in close proximity to wetlands and it is not in a riparian area or in a 100-year flood plain. There are no endangered species on the lot. As for the Colorado statues, CRS, Article 10, Title 25, Site Wastewater Treatment Systems Act and "Regulation 43" are the only applicable state regulations. The parcel is not located in geological hazard area or Sage Grouse habitat. It is located in an area classified as a "low impact" wildfire zone. The system designed is in compliance with the Regulations.

This variance request will result in no greater risk than that associated with the compliance of the horizontal set back requirement. As indicated on the site plan, all the surrounding potable water wells will meet the required horizontal setback distance of 100 feet, between the newly proposed Soil Treatment Area and all these wells.

3. There are no alternatives

4. NA

5. The hardship is the environmental hazard my current leach field has created- the risk to public health and to the environment- because my leach field is within 53' of the Rieger's 2 water wells.

6. My current property sq. footage is 20,125 (7 lots at 25' x 115').

Added sq. footage from street vacation +5,250 Totals = 25,375 sq. ft

One acre is 43,560 sq ft.

OWTS Site Inspection

Application #: OWTS-21-00325

Date: 11-12-2021

Owner: **Sally Kuisle**

Installer:

Site Address: 132 Laurel Street in Tincup

- _OK___ Lot corners staked and labeled, or defined if parcel is large
- _Existing___ Location of proposed structure staked and labeled
- _apparent___ Proposed system components staked and labeled (tank, STA, etc.)
- _OK___ Well and/or other potable water sources staked and labeled
- _OK___ Other pertinent physical features staked and labeled
- _OK___ Site conditions concur with the findings of the Site and Soil Evaluation
- _OK___ Site adequate as are required by LUR & OWTS Regs
 - _N/A___ Flood hazards (check for floodplain if not mapped)
 - _OK___ Ground slope in excess of twenty percent requires engineer
 - _OK___ Probability of high groundwater or shallow bedrock in area
 - _OK___ Geologic hazards (avalanche, rockfall, soil creep, etc.)
 - _OK___ Water quality--check for setbacks to water bodies including wetlands, ponds, irrigation ditches, gulches, etc.
 - _N/A___ Check for visibility on ridgelines from County Roads
- _Res___ Proposed use of site verified-Residential, Commercial, Agricultural, etc.
- _OK___ Other water sources verified-walking the site within 200' of the proposed system
- _OK___ Pertinent physical and environmental features verified

Additional Comments: Existing system needs to be replaced. It is aging and partially on the neighbor's property and encroaching on their water wells. BOCC has approved a street vacation which gives enough room for the replacement system but is conditional on the EH Boards approval.

Inspector and findings: Crystal Lambert and Rebecca Ricord

Photos below-



Area of proposed replacement field in foreground and neighboring property where existing old field is located adjacent to house under deck.



At edge of Laurel Street to potentially be vacated and room provided for replacement system. Driveway in distance where red truck is parked.



Steep hillside behind house is not a suitable location for replacement system.

DRAFT-ENVIRONMENTAL HEALTH BOARD VARIANCE REQUEST ACTION

APPLICANT: Sally Kuisle

DATE: February 3, 2022

SITE LOCATION: 132 Laurel Street, Lots 18-24, Block 1, Tincup

ACTION: Request for a variance to the Gunnison County OWTS Regulations for an OWTS on a parcel less than one-acre

PREPARED BY: Crystal Lambert, Building and Environmental Health Official

PROPOSED PROJECT:

The applicant is requesting a variance to the Gunnison County OWTS Regulations for a replacement OWTS on a parcel less than one acre to serve an existing dwelling.

GUNNISON COUNTY ENVIRONMENTAL HEALTH OFFICE ACTION:

The application and proposed design plans have been reviewed by the Environmental Health Office for compliance with the OWTS Regulations and the land use requirements of the County. The proposed septic design meets the design criteria of the Gunnison County OWTS Regulations and the minimum horizontal distance requirements from water features, pertinent physical features and property lines are met.

The OWTS application was denied by the Environmental Health Office because *Section 3.A.9. of the Gunnison County OWTS Regulations* states that an OWTS shall not be permitted to be installed on a parcel of land less than once acre in size.

APPLICANT'S REQUEST FOR A VARIANCE:

A request for a Public Hearing with the Environmental Health Board for the consideration of a variance to *Section 3.A.9 of the Gunnison County OWTS Regulations* has been received.

PUBLIC HEARING:

On February 3, 2022, the Gunnison County Environmental Health Board conducted a Public Hearing on this request for a variance.

FINDINGS:

Based on a review of all the information included with the OWTS application, the request for a variance, and staff reports for this project and consideration of any and all

testimony and public input received relative to this application, the Gunnison County Environmental Health Board finds that:

1. Action on this request for a variance from the *Gunnison County OWTS Regulations* is property-specific and limited to the circumstances unique to this application.
2. The applicant has demonstrated that the requested variance from the *Gunnison County OWTS Regulations* is warranted by unique and existing site-specific configuration and site size that make compliance with the Regulations technically infeasible.
3. The applicant has provided justification through specific conditions that exist which support a finding that approval of the requested variance will result in no greater risk than that associated with compliance with the requirements of the *Gunnison County OWTS Regulations*.
4. The applicant has demonstrated that approval of the requested variance will not be in violation of any minimum standards established in any other applicable federal or state rule or regulation.
5. The applicant has demonstrated that the proposed OWTS will not be a nuisance or injurious to public health, safety or welfare. The proposed OWTS meets minimum horizontal distance requirements from water features, pertinent physical features and property lines. The existing aging system that the proposed OWTS will be replacing is partially on the neighboring parcel, does not meet the required setback distances to water wells and has a rusting metal tank.
6. The applicant has demonstrated that no substantial injury will result from the granting of the requested variance.
7. This review and decision incorporates, but is not limited to, all the documentation submitted to the County and included within the Department file relative to this application; including all exhibits, references and documents.

DECISION:

The Gunnison County Environmental Health Board, having reviewed the proposed application and supporting documentation, site observations and public testimony does approve the requested variance to Section 3.A.9 of the *Gunnison County OWTS Regulations* for Sally Kuisle at her parcel, 132 Laurel Street, Lots 18-24, Block 1, Tincup, under OWTS application 21-00325, with the following conditions:

1. The OWTS shall be designed and installed in accordance with the *Gunnison County OWTS Regulations* and the *Gunnison County Land Use Resolution*,

including but not limited to setback requirements, design standards, requirements for system components and general technical standards.

2. This approval is founded on each individual requirement. Should the applicant successfully challenge any such finding or requirement, this approval is null and void.
3. This permit may be revoked or suspended if Gunnison County determines that any material fact set forth herein or represented by the applicant was false or misleading, or that the applicant failed to disclose facts necessary to make any such fact not misleading.
4. Approval of this use is based upon the facts presented and implies no approval of similar use in the same or different location and/or with different impacts on the environment and community. Any such future application shall be reviewed and evaluated, subject to its compliance with current regulations, and its impact to the County.

From: [T.Walk](#)
To: [Planning](#)
Subject: Kuisle Tin Cup Septic
Date: Tuesday, January 11, 2022 5:21:04 PM

[EXTERNAL SENDER - USE CAUTION]

By way of introduction I am an adjacent landowner in Tin Cup. I fully support Sally Kuisle's intention of rectifying the incorrect septic system in place, and I appreciate the County permitting this upgrade. There are many old systems In Tin Cup and other mountain towns and any landowner who is willing to invest the time and money into an upgrade deserves our support and thanks.

Ted Walker
303-941-1172
owner of 107 Main St
Almont (Tin Cup)

From: [KRISTINA NIEDERHUT](#)
To: [Planning](#)
Subject: Sally Kuisle's request for septic.
Date: Monday, January 10, 2022 9:21:58 PM

[EXTERNAL SENDER - USE CAUTION]

As a close neighbor of Sally's on Laurel street in Tincup, we support Sally Kuisle's request for a septic system. A new system will have environmental benefits for our small town.

Kristina Niederhut, representative of the Niederhut Trust.

Sent from my iPhone