Valley County Planning and Zoning

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STAFF REPORT:	C.U.P. 23-33 Ritter Solar Panels
HEARING DATE:	August 17, 2023
TO:	Planning and Zoning Commission
STAFF:	Cynda Herrick, AICP, CFM Planning and Zoning Director
APPLICANT:	Geneau Fernand, Payette Builders INC PO Box 1853, McCall, ID 83638
PROPERTY OWNER:	Jim and Susan Ritter / James H Ritter Trust PO Box 939, Eagle ID 83616
LOCATION:	760 Paddy Flat Road. Parcel RP17N04E210165 located in the N ½ Section 21, T.17N, R.4E, Boise Meridian, Valley County, Idaho
SIZE:	43 acres
REQUEST:	Ground-Mounted Solar Panels
EXISTING LAND USE:	Agricultural (Timber) with a Single-Family Residence Under Construction

Valley County Code 9-5G-1 states that conditional use permits are required for solar panels greater than eight (8) square-feet that are detached from the primary structure. This requirement was adopted in Ordinance 10-06 on August 23, 2010.

Payette Builders INC is requesting a conditional use permit for detached ground-mounted solar panel arrays for personal use.

Electrical power lines are not located nearby. The applicant stated that a generator would be used for the residence if the solar panels are not approved.

The 43-acre parcel is addressed at 760 Paddy Flat Road.

FINDINGS:

1. The application was submitted on June 8, 2023.

2. Legal notice was posted in the *Star News* on July 27, 2023, and August 3, 2023. Potentially affected agencies were notified on July 18, 2023. Property owners within 300 feet of the property line were notified by fact sheet sent on July 18, 2023. The application and notice

were posted online at www.co.valley.id.us on July 18, 2023. The sign was posted on July 25, 2023.

3. Agency comment received:

   Central District Health stated applicant will need to submit an accessory use application so that CDH can verify posts for solar panels will not impact the approved septic drainfield location. (July 19, 2023)

   Jess Ellis, Donnelly Fire Marshal, listed requirements. (July 24, 2023)

4. Public comment received: none

5. Physical characteristics of the site: Sloped topography; Heavily Treed. Two acres of site graded and driveway has been installed for building site.

6. The surrounding land use and zoning includes:
   North: Idaho Department of Lands

   South: Agricultural (Timber)

   East: Agricultural (Timber)

   West: Agricultural (Timber)

7. Valley County Code (Title 9): In Table 9-3-1, this proposal is categorized under:
   - 7. Alternative Energy Uses (b) Solar panels – detached from primary structure and > 8-feet in area

Review of Title 9 - Chapter 5 Conditional Uses should be done.

9-5G-1: SITE OR DEVELOPMENT STANDARDS
Alternative energy uses requiring a conditional use permit shall meet the following site or development standards:

A. Solar Panels Greater Than Eight Square Feet In Accumulated Area and Detached From Primary Structure:
   1. Must be a minimum of fifteen feet (15') from property lines.
   2. Glare shall not create a hazard to vehicular traffic.
   3. Cannot be over thirty feet (30') in height.
   4. Impact to neighbors will be a determining factor.

SUMMARY:

Staff's compatibility rating is a +28.

The Planning and Zoning Commission should do their own compatibility rating prior to the meeting (form with directions attached).

STAFF COMMENTS / QUESTIONS:

1. This site is within the Donnelly Fire District. It is not within a herd district nor an irrigation district.

2. Dimensions of the solar panel(s) are required.

ATTACHMENTS:

- Conditions of Approval
- Blank Compatibility Evaluation
- Staff's Compatibility Evaluation
- Vicinity Map
- Aerial View
- Pictures Taken July 25, 2023
- Site Plan
- Responses
- Septic System Handout

Conditions of Approval

1. The application, the staff report, and the provisions of the Land Use and Development Ordinance are all made a part of this permit as if written in full herein. Any violation of any portion of the permit will be subject to enforcement and penalties in accordance with Title 9-2-5; and, may include revocation or suspension of the conditional use permit.
2. Any change in the nature or scope of land use activities shall require an additional Conditional Use Permit.
3. The issuance of this permit and these conditions will not relieve the applicant from complying with applicable County, State, or Federal laws or regulations or be construed as permission to operate in violation of any statute or regulations. Violation of these laws, regulations or rules may be grounds for revocation of the Conditional Use Permit or grounds for suspension of the Conditional Use Permit.
4. The use shall be established within one year, or a permit extension will be required.
5. All exterior lights shall be fully shielded so that there is not upward or horizontal projection of lights.
6. Shall obtain a building permit for the solar panel structure.
7. All setback requirements must be met.
8. Central District Health approval required prior to submittal of building permit. Shall maintain septic systems and drainfields as required.
9. Shall meet requirements of Donnelly Fire Department.
10. All noxious weeds on the property must be controlled.

END OF STAFF REPORT

Compatibility Questions and Evaluation

Matrix Line # / Use: _____ Prepared by: _____

YES/NO		X		Response Value	*Use Matrix Values:*
(+2/-2)	____	X	4	_____	1. Is the proposed use compatible with the dominant adjacent land use?
(+2/-2)	____	X	2	_____	2. Is the proposed use compatible with the other adjacent land uses (total and average)?
(+2/-2)	____	X	1	_____	3. Is the proposed use generally compatible with the overall land use in the local vicinity?
					Site Specific Evaluation (Impacts and Proposed Mitigation)
(+2/-2)	____	X	3	_____	4. Is the property large enough, does the existence of wooded area, or does the lay of the land help to minimize any potential impacts the proposed use may have on adjacent uses?
(+2/-2)	____	X	1	_____	5. Is the size or scale of proposed lots and/or structures similar to adjacent ones?
(+2/-2)	____	X	2	_____	6. Is the traffic volume and character to be generated by the proposed use similar to the uses on properties that will be affected by proximity to parking lots, on-site roads, or access roads?
(+2/-2)	____	X	2	_____	7. Is the potential impact on adjacent properties due to the consuming or emission of any resource or substance compatible with that of existing uses?
(+2/-2)	____	X	2	_____	8. Is the proposed use compatible with the abilities of public agencies to provide service or of public facilities to accommodate the proposed use demands on utilities, fire and police protection, schools, roads, traffic control, parks, and open areas?
(+2/-2)	____	X	2	_____	9. Is the proposed use cost effective when comparing the cost for providing public services and improving public facilities to the increases in public revenue from the improved property?
Sub-Total		(+)		_____	
Sub-Total		(--)		_____	
Total Score				_____	

The resulting values for each questions shall be totaled so that each land use and development proposal receives a single final score.

9-11-1: APPENDIX A, COMPATIBILITY EVALUATION:

A. General: One of the primary functions of traditional zoning is to classify land uses so that those which are not fully compatible or congruous can be geographically separated from each other. The county has opted to substitute traditional zoning with a multiple use concept in which there is no separation of land uses. Proposed incompatible uses may adversely affect existing uses, people, or lands in numerous ways: noise, odors, creation of hazards, view, water contamination, loss of needed or desired resources, property values, or infringe on a desired lifestyle. To ensure that the county can continue to grow and develop without causing such land use problems and conflicts, a mechanism designed to identify and discourage land use proposals which will be incompatible at particular locations has been devised. The compatibility evaluation of all conditional uses also provides for evaluations in a manner which is both systematic and consistent.

B. Purpose; Use:

1. The compatibility rating is to be used as a tool to assist in the determination of compatibility. The compatibility rating is not the sole deciding factor in the approval or denial of any application.

2. Staff prepares a preliminary compatibility rating for conditional use permits, except for conditional use permits for PUDs. The commission reviews the compatibility rating and may change any value.

C. General Evaluation: Completing the compatibility questions and evaluation (form):

1. All evaluations shall be made as objectively as possible by assignment of points for each of a series of questions. Points shall be assigned as follows:

   Plus 2 - assigned for full compatibility (adjacency encouraged).

   Plus 1 - assigned for partial compatibility (adjacency not necessarily encouraged).

   0 - assigned if not applicable or neutral.

   Minus 1 - assigned for minimal compatibility (adjacency not discouraged).

   Minus 2 - assigned for no compatibility (adjacency not acceptable).

2. Each response value shall be multiplied by some number, which indicates how important that particular response is relative to all the others. Multipliers shall be any of the following:

   x4 - indicates major relative importance.

   x3 - indicates above average relative importance.

   x2 - indicates below average relative importance.

   x1 - indicates minor relative importance.

D. Matrix - Questions 1 Through 3: The following matrix shall be utilized, wherever practical, to determine response values for questions one through three (3). Uses classified and listed in the left hand column and across the top of the matrix represent possible proposed, adjacent, or vicinity land uses. Each box indicates the extent of compatibility between any two (2) intersecting uses. These numbers should not be changed from proposal to proposal, except where distinctive uses arise which may present unique compatibility considerations. The commission shall determine whether or not there is a unique consideration.

E. Terms:

DOMINANT ADJACENT LAND USE: Any use which is within three hundred feet (300') of the use boundary being proposed; and

1. Comprises at least one-half (1/2) of the adjacent uses and one-fourth (1/4) of the total adjacent area; or

2. Where two (2) or more uses compete equally in number and are more frequent than all the other uses, the one with the greatest amount of acreage is the dominant land use; or

3. In all other situations, no dominant land use exists. When this occurs, the response value shall be zero.

LOCAL VICINITY: Land uses within a one to three (3) mile radius. The various uses therein should be identified and averaged to determine the overall use of the land.

F. Questions 4 Through 9:

1. In determining the response values for questions 4 through 9, the evaluators shall consider the information contained in the application, the goals and objectives of the comprehensive plan, the provisions of this title and related ordinances, information gained from an actual inspection of the site, and information gathered by the staff.

2. The evaluator or commission shall also consider proposed mitigation of the determined impacts. Adequacy of the mitigation will be a factor.

APPENDIX A

MATRIX FOR RATING

	QUESTIONS 1, 2, and 3	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
	1. AGRICULTURAL		+2	-1	-2	-2	-2	-2	+1	+1	+1	+1	+2	+1	+1	-1	-1	+2	-1	-2	-1	+1	+2	+2	1
RESIDENTIAL USES	2. RESIDENCE, S.F.	+2		+2	+1	+1	+1	+1	+1	+1	-1	+2	+1	-2	+1	-1	+1	+1	+1	-1	+1	+1	-2	-2	2
	3. SUBDIVISION, S.F.	-1	+2		+1	+1	+1	+1	+1	+1	-1	+2	+1	-2	+1	-1	+1	+2	+1	-1	+2	+1	-2	-2	3
	4. M.H. or R.V. PARK	-2	+1	+1		+1	+1	+1	+1	+1	-1	+2	+1	-2	+1	-1	+1	+1	+1	-1	+1	+1	-2	-2	4
	5. RESIDENCE, M.F.	-2	+1	+1	+1		+2	+2	+1	+1	-1	+2	+1	-2	+1	-1	+1	+1	+1	-1	+1	+1	-2	-2	5
	6. SUBDIVISION, M.F.	-2	+1	+1	+1	+2		+2	+1	+1	-1	+2	+1	-2	+1	-1	+1	+1	+1	-1	+1	+1	-2	-2	6
	7. P.U.D., RES.	-2	+1	+1	+1	+2	+2		+1	+1	-1	+2	+1	-2	+1	-1	+1	+1	+1	-1	+1	+1	-2	-2	7
CIVIC or COMMUNITY SERVICE USES	8. REL., EDUC & REHAB	+1	+2	+1	+1	+1	+1	+1		+1	+1	-1	+2	-2	-1	-1	+2	+2	+1	+1	-1	+1	-2	-1	8
	9. FRAT or GOV'T	+1	+1	+1	+1	+1	+1	+1	+1		+1	-1	+2	-2	-1	-1	+1	+1	+1	+1	-1	+1	-2	-2	9
	10 PUBLIC UTIL. (1A-3.1)	+1	-1	-1	-1	-1	-1	-1	+1	+1		+1	+	-1	+1	+1	+1	-1	+1	+1	+1	+1	+2	+2	10
	11. PUBLIC REC.	+1	+2	+2	+2	+2	+2	+2	-1	-1	+1		+2	-1	+1	+1	+1	+2	+1	+1	+1	+1	-1	+1	11
	12. CEMETERY	+2	+1	+1	+1	+1	+1	+1	+2	+2	+2	+2		+1	+1	+1	+1	+1	+1	+1	+1	+2	+1	+1	12
	13. LANDFILL or SWR. PLANT	+1	-2	-2	-2	-2	-2	-2	-2	-2	-1	-1	+1		-1	-1	-2	-2	-2	-2	-1	+2	+2	+2	13
	14. PRIV. REC. (PER)	+1	+1	+1	+1	+1	+1	+1	-1	-1	+1	+1	+1	-1		+1	+1	+1	+2	+1	+2	+2	-1	+1	14
	15. PRIV. REC. (CON)	-1	-1	-1	-1	-1	-1	-1	-1	-1	+1	+1	+1	-1	+1		-2	-2	-1	-2	-2	+2	-1	+1	15
COMMERCIAL USES	16. NEIGHBORHOOD BUS.	-1	+1	+1	+1	+1	+1	+1	+2	+1	+1	+1	+1	-2	+1	-2		+1	+2	+2	+1	+2	-1	-1	16
	17. RESIDENCE BUS.	+2	+2	+2	+1	+1	+1	+1	+2	+1	-1	+2	+1	-2	+1	-2	+1		+1	-1	+1	+1	-2	-2	17
	18. SERV. BUS.	-1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+2	+2	+2	+2	+2	+1		+2	+2		+1	+1	21
	19. AREA BUS.	-2	-1	-1	-1	-1	-1	-1	+1	+1	+1	+1	+1	-2	+1	-2	+2	-1	+2		+1	+2	-2	-2	19
	20. REC. BUS.	-2	+2	+2	+1	+1	+1	+1	-1	-1	+1	+1	+1	-1	+2	-2	+1	+1	+2	+1		+2	-2	+1	20
INDUST. USES	21. LIGHT IND.	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+2	+2	+2	+2	+2	+1	+2	+2	+2		+1	+1	21
	22. HEAVY IND.	+2	-2	-2	-2	-2	-2	-2	-2	-2	+2	-1	+1	+2	-1	-1	-1	-2	-1	-2	-2	+1		+2	22
	23. EXTR. IND.	+2	-2	-2	-2	-2	-2	-2	-1	-2	+2	+1	+1	+2	+1	+1	-1	-2	-1	-2	+1	+1	+2		23

RATE THE SOLID SQUARES AS +2

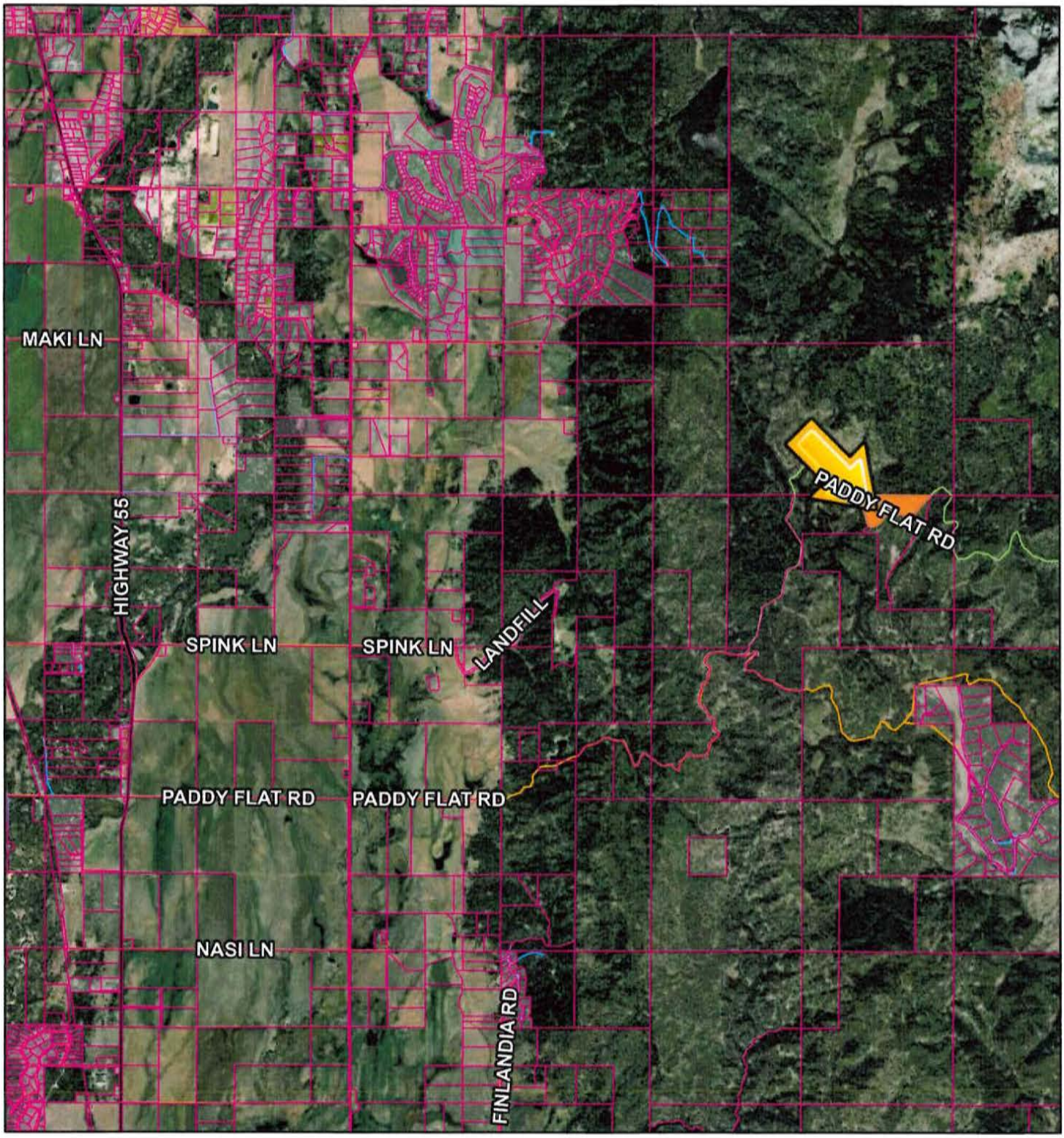
Compatibility Questions and Evaluation

Matrix Line # / Use: 21 Prepared by: CH

YES/NO		X		Response Value	*Use Matrix Values:*
(+2/-2)	+1	X	4	+4	1. Is the proposed use compatible with the dominant adjacent land use? Rural Ag Parcels - Timber
(+2/-2)	+1	X	2	+2	2. Is the proposed use compatible with the other adjacent land uses (total and average)? Lee 1
(+2/-2)	+1	X	1	+1	3. Is the proposed use generally compatible with the overall land use in the local vicinity? Lee 1
					Site Specific Evaluation (Impacts and Proposed Mitigation)
(+2/-2)	+2	X	3	+6	4. Is the property large enough, does the existence of wooded area, or does the lay of the land help to minimize any potential impacts the proposed use may have on adjacent uses? Yes - very large, lots of trees
(+2/-2)	-1	X	1	-1	5. Is the size or scale of proposed lots and/or structures similar to adjacent ones? No -
(+2/-2)	+2	X	2	+4	6. Is the traffic volume and character to be generated by the proposed use similar to the uses on properties that will be affected by proximity to parking lots, on-site roads, or access roads? No traffic
(+2/-2)	+2	X	2	+4	7. Is the potential impact on adjacent properties due to the consuming or emission of any resource or substance compatible with that of existing uses? None
(+2/-2)	+2	X	2	+4	8. Is the proposed use compatible with the abilities of public agencies to provide service or of public facilities to accommodate the proposed use demands on utilities, fire and police protection, schools, roads, traffic control, parks, and open areas? Yes
(+2/-2)	+2	X	2	+4	9. Is the proposed use cost effective when comparing the cost for providing public services and improving public facilities to the increases in public revenue from the improved property? off-grid
Sub-Total		(+)		29	
Sub-Total		(--)		1	
Total Score				+28	

The resulting values for each questions shall be totaled so that each land use and development proposal receives a single final score.

C.U.P. 23-33 Vicinity Map - 760 Paddy Flat Road



6/28/2023, 10:32:48 AM

1:82,713

0 0.5 1 2 mi

0 0.75 1.5 3 km

Parcel Boundaries

Roads

MAJOR

COLLECTOR

URBAN/RURAL

USFS

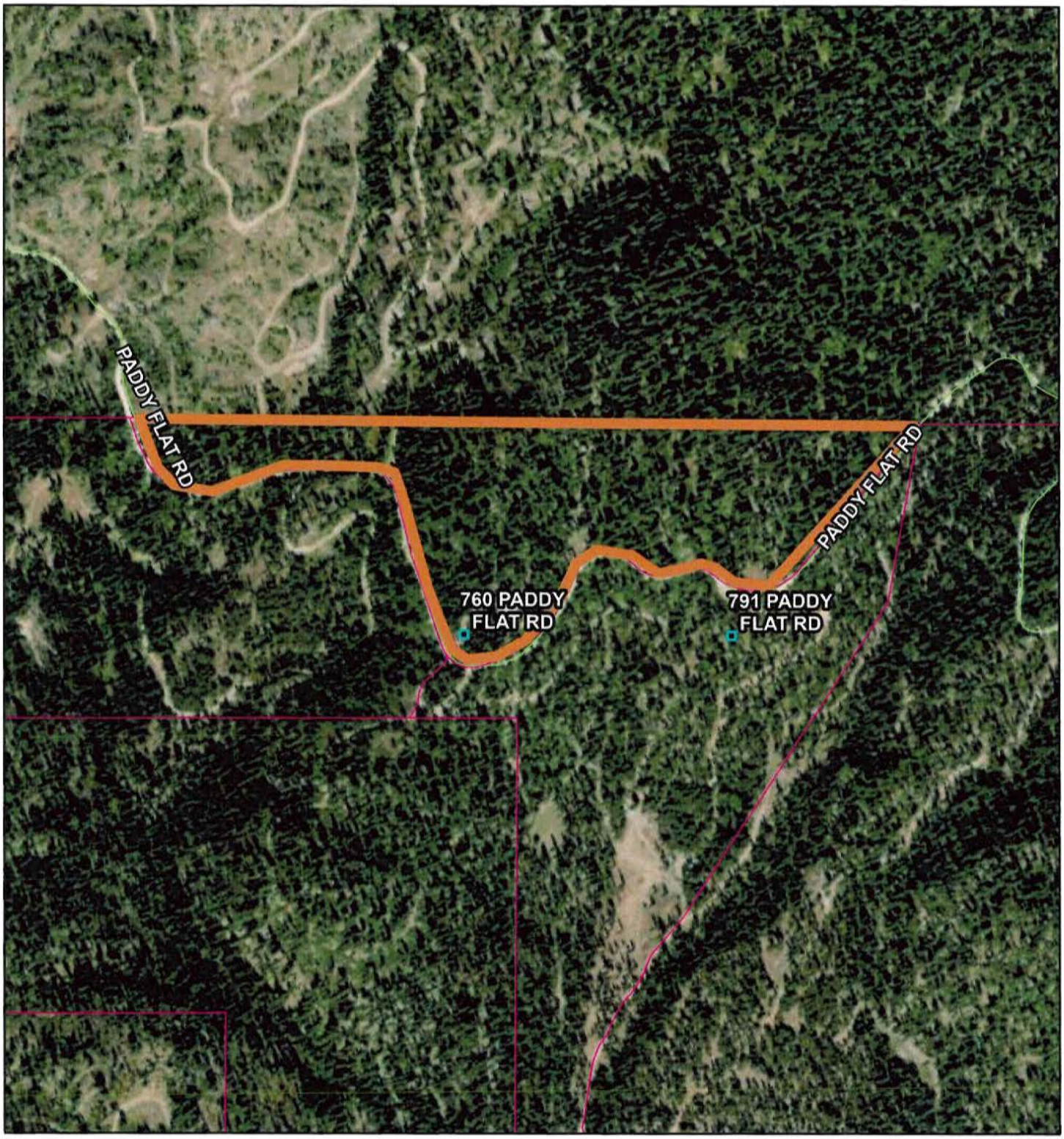
PRIVATE

OTHER

Earthstar Geographics

Created by Valley County

C.U.P. 23-33 Aerial Map



7/17/2023, 10:21:11 AM

1:10,720

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Address Points

Parcel Boundaries

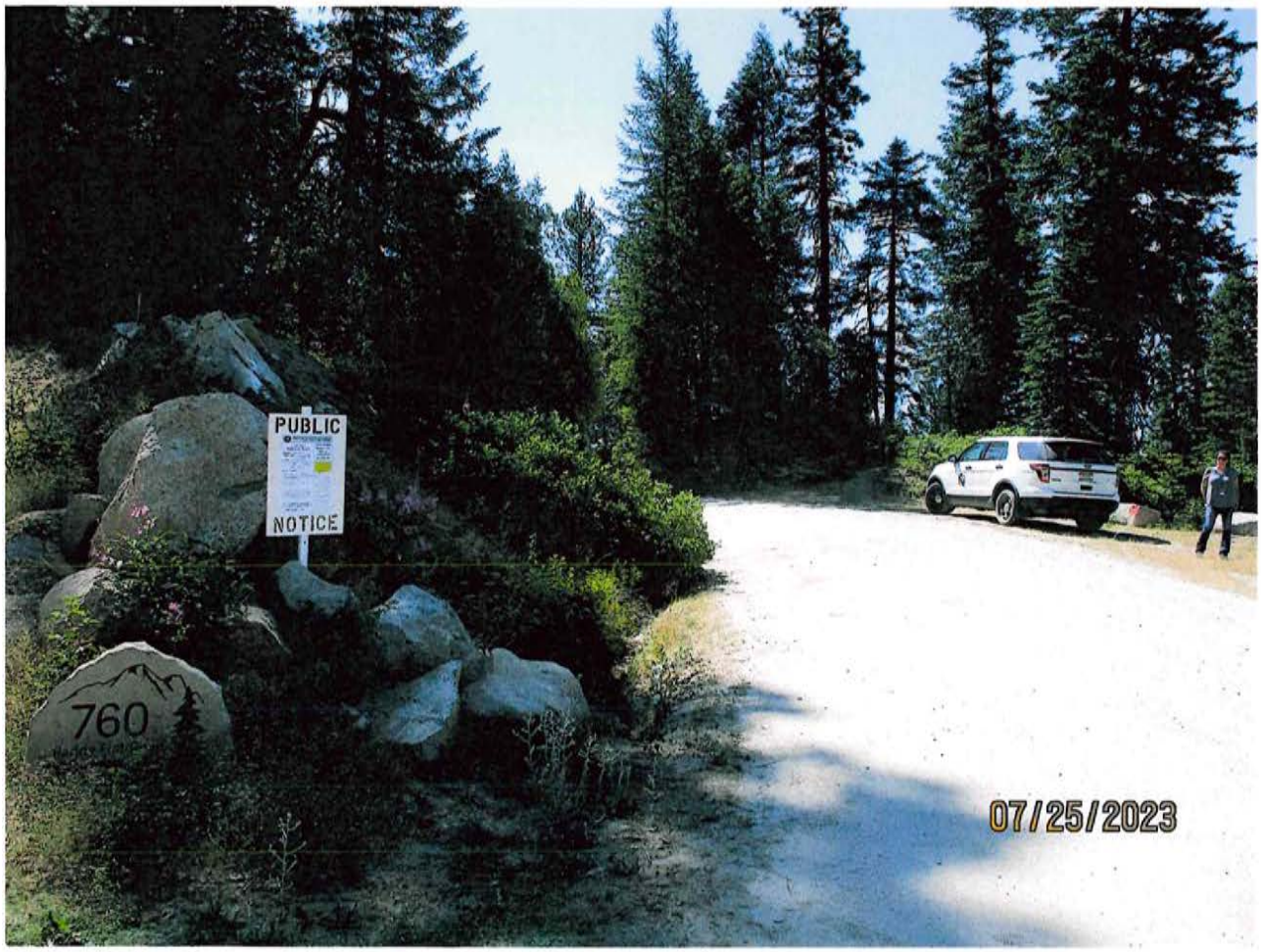
Roads

USFS

Maxar

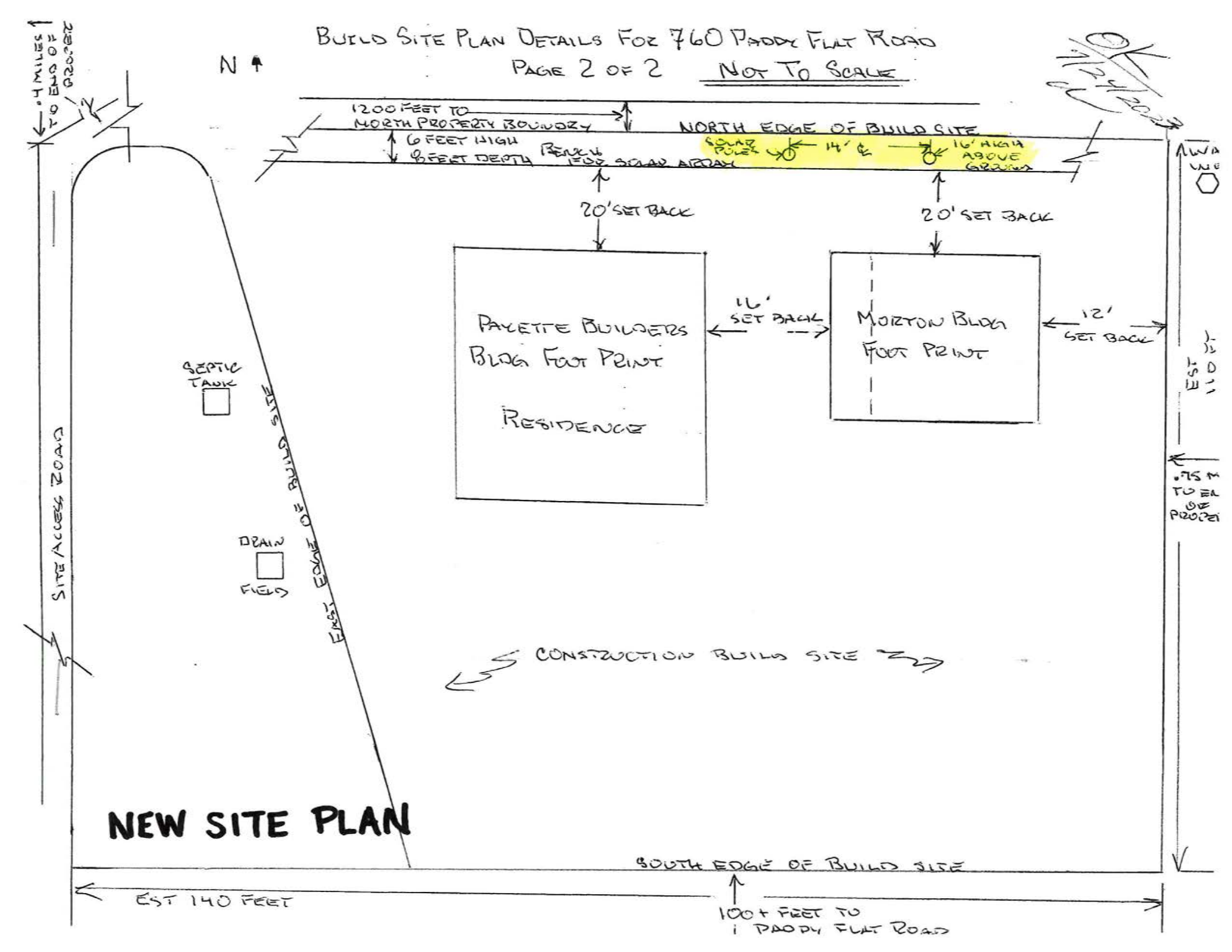
Created by Valley County


PUBLIC
NOTICE
760
07/25/2023


PUBLIC
NOTICE
760
07/25/2023


PUBLIC
NOTICE
760
07/25/2023


PUBLIC
Valley County Planning & Zoning Commission invites You to a PUBLIC HEARING
C.U.P. 23-33
Ritter Solar Panels
PUBLIC HEARING
August 17, 2023
6:00 p.m.
Courthouse Building
2nd Floor
219 North Main Street
Cascade, ID
More information, including the application, is posted online at:
www.co.valley.id.us
NOTICE
07/25/2023


BUILD SITE PLAN DETAILS FOR 760 PADDY FLAT ROAD
PAGE 2 OF 2
NOT TO SCALE
N
.4 MILES TO END OF PROPERTY
1200 FEET TO NORTH PROPERTY BOUNDRY
NORTH EDGE OF BUILD SITE
6 FEET HIGH
6 FEET DEPTH
FENCE FOR SOLAR ARRAY
SOLAR RULES
14' ℄
16' HIGH ABOVE GROUND
20' SET BACK
20' SET BACK
PAYETTE BUILDERS BLDG FOOT PRINT
RESIDENCE
16' SET BACK
MORTON BLDG FOOT PRINT
12' SET BACK
SEPTIC TANK
DRAIN FIELD
SITE ACCESS ROAD
EAST EDGE OF BUILD SITE
CONSTRUCTION BUILD SITE
NEW SITE PLAN
SOUTH EDGE OF BUILD SITE
EST 140 FEET
100+ FEET TO PADDY FLAT ROAD

CENTRAL DISTRICT HEALTH

Valley County Transmittal

Division of Community and Environmental Health

Return to:
- ☐ Cascade
- ☐ Donnelly
- ☐ McCall
- ☐ McCall Impact
- ☒ Valley County

Rezone # _____

Conditional Use # CUP 23-33

Preliminary / Final / Short Plat _____

Sec 21

760 Paddy Flat Rd

☐ 1. We have No Objections to this Proposal.

☐ 2. We recommend Denial of this Proposal.

☐ 3 Specific knowledge as to the exact type of use must be provided before we can comment on this Proposal.

☐ 4. We will require more data concerning soil conditions on this Proposal before we can comment.

☐ 5. Before we can comment concerning individual sewage disposal, we will require more data concerning the depth of:
- ☐ high seasonal ground water
- ☐ bedrock from original grade
- ☐ waste flow characteristics
- ☐ other _____

☐ 6. This office may require a study to assess the impact of nutrients and pathogens to receiving ground waters and surface waters.

☐ 7. This project shall be reviewed by the Idaho Department of Water Resources concerning well construction and water availability.

☐ 8. After written approvals from appropriate entities are submitted, we can approve this proposal for:
- ☐ central sewage
- ☐ interim sewage
- ☐ individual sewage
- ☐ community sewage system
- ☐ central water
- ☐ individual water
- ☐ community water well

☐ 9. The following plan(s) must be submitted to and approved by the Idaho Department of Environmental Quality:
- ☐ central sewage
- ☐ sewage dry lines
- ☐ community sewage system
- ☐ central water
- ☐ community water

☐ 10. Run-off is not to create a mosquito breeding problem

☐ 11. This Department would recommend deferral until high seasonal ground water can be determined if other considerations indicate approval.

☐ 12. If restroom facilities are to be installed, then a sewage system MUST be installed to meet Idaho State Sewage Regulations.

☐ 13. We will require plans be submitted for a plan review for any:
- ☐ food establishment
- ☐ beverage establishment
- ☐ swimming pools or spas
- ☐ grocery store
- ☐ child care center

☒ 14. Applicant will need to submit an Accessory Use Application so that CUH can verify posts for solar Panels will not impact the Approved septic drainfield location

Reviewed By: [signature]

Date: 7/19/23

Donnelly Rural Fire Protection District

P.O. Box 1178 Donnelly, Idaho 83615
208-325-8619 Fax 208-325-5081

July 24, 2023

Valley County Planning & Zoning Commission
P.O. Box 1350
Cascade, Idaho 83611

RE: C.U.P. 23-33 Ritter Solar Panels

After review, the Donnelly Rural Fire Protection District will require the following.

- **Section 1204.1 IFC 2018** Solar photovoltaic systems shall be installed in accordance with Sections 1204.2 through 1204.5, and the International Building Code or International Residential Code. The electrical portion of solar PV systems shall be installed in accordance with NFPA 70
- **Section 1204.4 IFC 2018** Ground-mounted photovoltaic panel systems shall comply with Section 1204.1 and this section. Setback requirements shall not apply to ground-mounted, free standing photovoltaic arrays. A clear brush-free area of 10 feet shall be required for ground mounted photovoltaic arrays
- **Section 1204.5 IFC 2018** Buildings with rapid shut down solar photovoltaic systems shall have permanent labels in accordance with Section 1204.5.1 through 1204.5.3
- **Section 1204.5.1 IFC 2018** Rapid shutdown type. The type of solar photovoltaic system rapid shutdown shall be labeled with one of the following: 1. For solar photovoltaic systems that shut down the array and the conductors leaving the array, a label shall be provided. The first two lines of the label shall be uppercase characters with a minimum height of 3/8 inch (10 mm) in black on a yellow background. The remaining characters shall be uppercase with a minimum height of 3/16 inch (5 mm) in black on a white background. The label shall be in accordance with Figure 1204.5.1(1) and state the following:

  SOLAR PV SYSTEM EQUIPPED WITH
  RAPID SHUTDOWN. TURN RAPID
  SHUTDOWN SWITCH TO THE "OFF"
  POSITION TO SHUT DOWN PV SYSTEM
  AND REDUCE SHOCK HAZARD IN
  ARRAY

- 2. For photovoltaic systems that only shut down conductors leaving the array, a label shall be provided. The first two lines of the label shall be uppercase characters with a minimum height of 3/8 inch (10 mm) in white on a red background and the remaining characters shall be capitalized with a minimum

height of 3/16 inch (5 mm) in black on a white back- ground. The label shall be in accordance with Figure 1204.5.1(2) and state the following:

THIS SOLAR PV SYSTEM EQUIPPED
WITH RAPID SHUTDOWN. TURN RAPID
SHUTDOWN SWITCH TO THE "OFF"
POSITION TO SHUT DOWN CONDUCTORS
OUTSIDE THE ARRAY. CONDUCTORS
WITHIN ARRAY REMAIN
ENERGIZED IN SUNLIGHT

- **Section 1204.5.1.1 IFC 2018** Diagram. The labels in Section 1204.5.1 shall include a simple diagram of a building with a roof. Diagram sections in red signify sections of the solar photovoltaic system that are not shut down when the rapid shutdown switch is turned off.
- **Section 1204.5.1.2 IFC 2018** Location. The rapid shutdown label in Section 1204.5.1 shall be located not greater than 3 feet (914 mm) from the service disconnecting means to which the photovoltaic systems are connected and shall indicate the location of all identified rapid shutdown switches if not at the same location.
- **Section1204.5.2 IFC 2018** Buildings with more than one rapid shutdown type. Solar photovoltaic systems that contain rapid shutdown in accordance with both Items 1 and 2 of Section 1204.5.1 or solar photovoltaic systems where only portions of the systems on the building contain rapid shutdown, shall provide a detailed plan diagram view of the roof showing each different photovoltaic system and a dotted line around areas that remain energized after the rapid shutdown switch is operated.
- **Section 1204.5.3 IFC 2018** Rapid shutdown switch. A rapid shutdown switch shall have a label located not greater than 3 feet (914 mm) from the switch that states the following:

RAPID SHUTDOWN SWITCH
FOR SOLAR PV SYSTEM

All labels not pictured will be with unit.

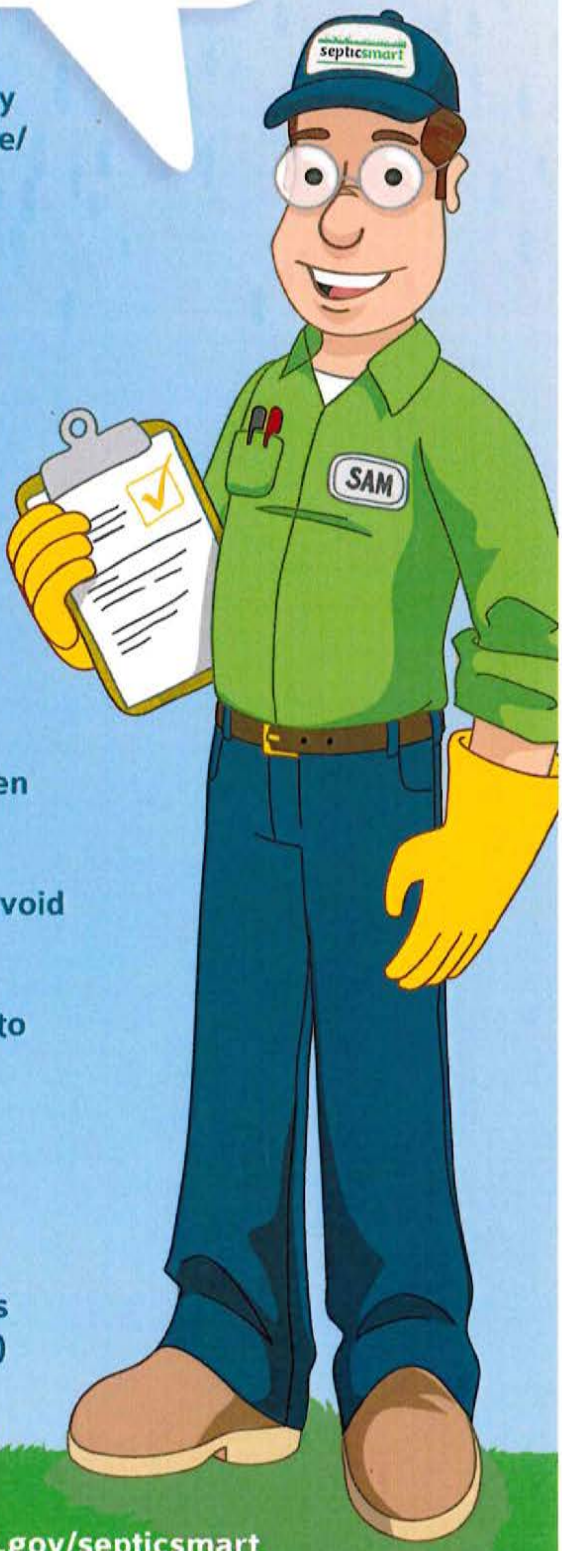
Please call 208-325-8619 with any questions.

Jess Ellis

Fire Marshal
Donnelly Fire Department

Top 10 Ways to Be a Good Septic Owner

- Have your system inspected every three years by a qualified professional or according to your state/ local health department's recommendations
- Have your septic tank pumped, when necessary, generally every three to five years
- Avoid pouring harsh products (e.g., oils, grease, chemicals, paint, medications) down the drain
- Discard non-degradable products in the trash (e.g., floss, disposable wipes, cat litter) instead of flushing them
- Keep cars and heavy vehicles parked away from the drainfield and tank
- Follow the system manufacturer's directions when using septic tank cleaners and additives
- Repair leaks and use water efficient fixtures to avoid overloading the system
- Maintain plants and vegetation near the system to ensure roots do not block drains
- Use soaps and detergents that are low-suds, biodegradable, and low- or phosphate-free
- Prevent system freezing during cold weather by inspecting and insulating vulnerable system parts (e.g., the inspection pipe and soil treatment area)



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For more SepticSmart tips, visit **www.epa.gov/septicsmart**

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A Homeowner's Guide to Septic Systems

Idaho Department of Environmental Quality
1410 N. Hilton
Boise, ID 83706

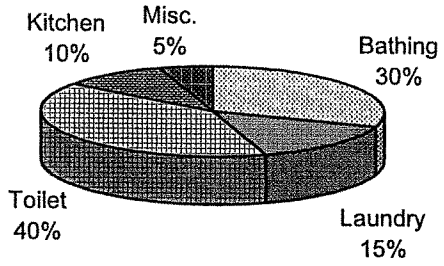
January 2001

Do you have a home septic system? As an Idaho resident, there is a good chance you do—thirty-six percent of Idaho's homes, or about 210,000 residences, use septic systems to treat their sewage. These systems discharge more than 53 million gallons of wastewater into Idaho's soils annually, and this figure grows each year. In 1999, Idaho's seven health districts issued over 6,100 permits for new septic systems.

Septic systems dispose of household sewage, or wastewater, generated from toilet use, bathing, laundry, and kitchen and cleaning activities. Because septic systems are underground and seldom require daily care, many homeowners rarely think about routine operations and maintenance. However, if a septic system is not properly designed, located, constructed, and maintained, groundwater may become contaminated.

Household Wastewater

Households that are not served by public sewers depend on septic tank systems to treat and dispose of wastewater. Household wastewater carries with it all wastes that go down the drains in our homes, including human waste, dirt, food, toilet paper, soap, detergents, and cleaning products. It contains dissolved nutrients, household chemicals, grease, oil, microorganisms (including some that cause disease), and solid particles. If not properly treated by your septic system, chemicals and microorganisms in wastewater can travel through the soil to groundwater and pose a health hazard.



The average person uses between 50 and 75 gallons of water per day; mostly in the bathroom. Reducing your water use will help your septic system to work more efficiently.

Your Septic System

A conventional septic system has three working parts: a septic tank, a drainfield, and surrounding soil.

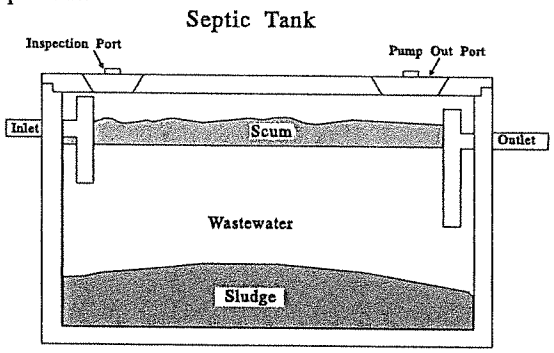
Septic Tank

Septic tanks can be made of concrete, fiberglass, or plastic and must be approved by the state. Minimum sizes of tanks have been established for residences based on the number of bedrooms in the dwelling. In Idaho, a 1,000-gallon septic tank is required for homes with three or four bedrooms. Larger tanks are required for larger homes. Local district health departments issue permits for septic systems and specify the minimum size tank. Some systems installed before the current rules and regulations may have smaller septic tanks.

A septic tank has three main functions:

- to remove as many solids as possible from household wastewater before sending the liquid, called "effluent," to a drainfield;
- to decompose solids in the tank; and
- to store solids that do not decompose.

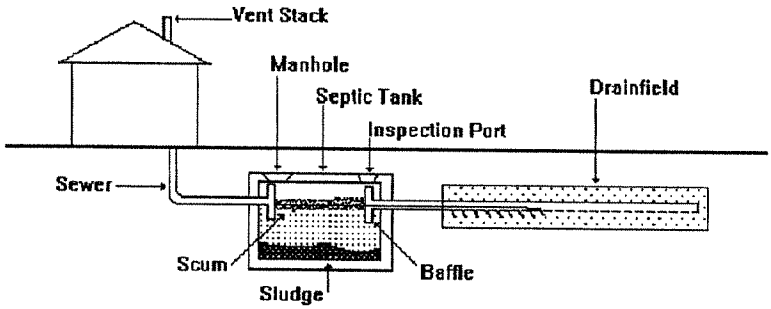
When raw wastewater enters the tank, heavy solids sink to the bottom of the tank as sludge. Light solids, such as grease and paper, float to the surface as scum. During the wastewater storage period, bacteria digest organic material in the wastewater. During this process, the solid material is reduced in volume and composition. Solids that do not decompose accumulate in the tank and eventually must be pumped out.



Tees, or baffles, are provided at the tank's inlet and outlet pipes. The inlet tee slows the incoming wastes and reduces disturbance of the settled sludge. The outlet tee keeps the solids and scum in the tank. As new wastewater enters the tank through the inlet tee, an equal amount of wastewater is pushed out of the tank through the outlet tee. The effluent that leaves the tank has been partially treated but still contains disease-causing bacteria and other pollutants.

Drainfield

Each time raw wastewater enters the tank it forces an equal amount of effluent into a drainfield. A standard drainfield is composed of a series of perforated pipes buried in gravel-filled trenches in the soil. The effluent seeps out of the perforated pipes and percolates through the gravel to the soil.



Soil

The soil below the drainfield provides the final treatment and disposal of the septic tank effluent. After the effluent has passed into the soil, most of it percolates downward and outward, eventually entering the groundwater. Soils are critical to the treatment of septic tank wastewater.

A system that is not functioning properly will release nutrient-rich and bacterial-laden wastewater into the groundwater and/or surface water. These contaminated waters pose a significant public health threat to people that come into contact with them. Wastewater that moves with groundwater can transport bacteria considerable distances. This can result in a threat to public health and adversely affect the quality of ground and surface waters.

Caring for Your Septic System

Installing Your System

In order to have a septic system installed on your property, you must first obtain a permit. Permit applications are available from your local district health department. Next, you must have a site evaluation performed. Make arrangements for this with your district health department and with a licensed septic system installer. Note that not all property is suitable for septic systems, so some permits may be denied. It is recommended that you have a site evaluation performed before you purchase property. Finally, have your system installed by a licensed installer and inspected by your local health district. Provide regular, preventative, maintenance to keep your system running smoothly.

Inspecting Your System

When too much sludge and scum are allowed to accumulate in your tank, the incoming sewage will not have enough time in the septic tank for solids to settle. Solids may flow to the drainfield and clog the pipes, causing the sewage to overflow to the ground surface, where it exposes humans and animals to disease-causing organisms. To prevent this from happening, it is very important to inspect your tank regularly and have it serviced when needed. All tanks have accessible manholes for inspecting and pumping. Some excavation work may be needed to uncover the manhole.

Properly designed tanks should have enough capacity for three to eight years of use before needing service. This is dependent upon the amount of wastewater generated. It is recommended that an average family of four have its septic tank pumped out every three to five years. Don't wait for signs of system failure to have your tank pumped. Your tank should be checked annually to measure sludge and scum levels. A licensed septic tank pumper can provide a septic tank inspection and recommend when the tank should be pumped. A tank inspection should include measuring the depth of scum and sludge and inspecting the tees in the septic tank.

If you do the inspection yourself, it is important to understand that septic tanks always appear full because both the inlet and the outlet are at the top of the tank. What you will need to know is how much of the tank's volume is being taken up by scum and sludge. When sludge and scum take up more than 35 percent of the tank volume, these solids need to be removed by pumping. A pole wrapped in a course weave cloth can be used to check the sludge depth. An extension on the pole can be used to measure the scum depth. Record these measurements as part of your pumping records. To check the tees, uncover the inspection ports.

Never allow anyone to enter your septic tank. Dangerous gases and the lack of oxygen can kill in minutes.

While it is impractical to inspect the pipes in your drainfield, it is important to watch for drainfield failure or overuse. See "Warning Signs of System Failure" in this booklet for information.

Maintaining Your System

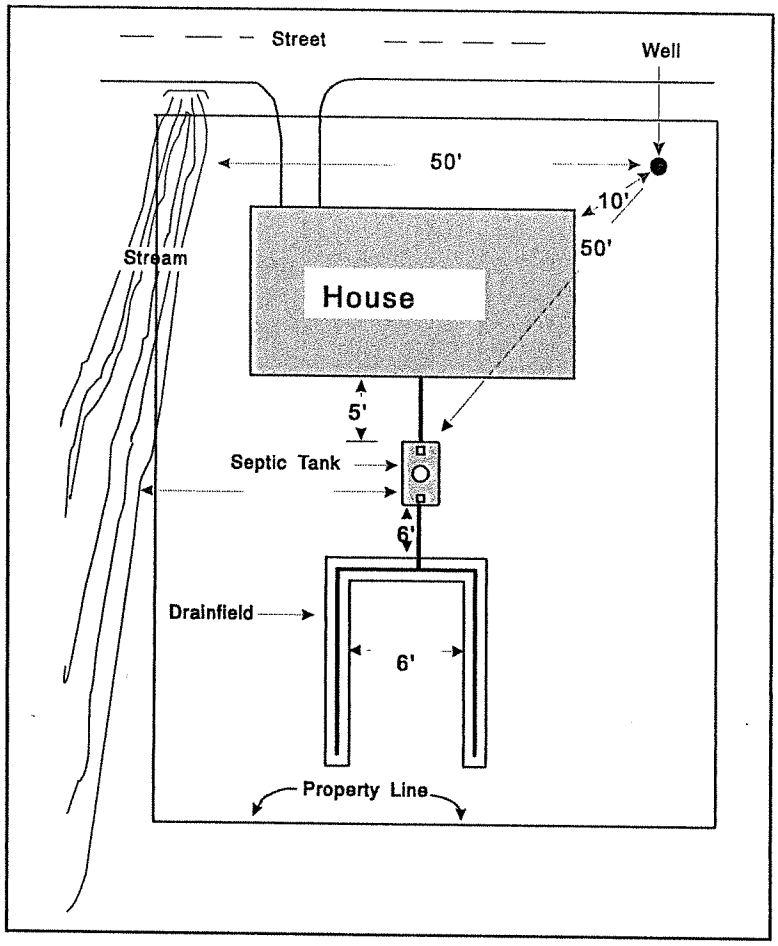
Pumping your septic tank every three years (or as determined by your inspections) will remove accumulations of solids, help keep the drainfield from becoming clogged, and help prevent you from experiencing sewage backups or septic system failure. An accumulation of sludge exceeding 35% of the total water depth in the septic tank could cause solids to enter the drainfield and clog the system. Hire a licensed septic tank pumper to pump your tank for you.

Mapping Your System

In order to take proper care of your septic system, you must know the location of the septic tank and drainfield. The location of your septic tank can be determined from plot plans, septic system inspection records, architectural or landscape drawings, or from observations of the house plumbing. If you do not have access to drawings, find where the sewer pipe leaves your house. Some installers mark the location where the waste pipe comes out of the house with an "S" on the foundation. You may want to do this as well. Probe in the ground 10 to 15 feet directly out from the location where the pipe leaves your house to find your tank.

Once the septic tank has been located, make several plot plan diagrams (with measurements) that include a rough sketch of your house, septic tank cover, drainfield area, well, and any other permanent reference points (such as trees or large rocks) and place them with your important papers. You'll find a sample system diagram on the next page, and a place to draw your own inside the front cover of this booklet. You may also want to hang a diagram in your garage and provide one to your local district health office.

Maintain a permanent record of any septic system maintenance, repair, sludge and scum levels, pumping, drainfield condition, household backups, and operations notes.



Create a septic system diagram, similar to this one, for your system.

Warning Signs of System Failure

While proper use, inspections, and maintenance should prevent most septic tank problems, it is still important to be aware of changes in your septic system and to act immediately if you suspect a system failure. There are many signs of septic system failure:

- surfacing sewage or wet spots in the drainfield area;
- plumbing or septic tank backups;
- slow draining fixtures;
- gurgling sounds in the plumbing system;
- sewage odors in the house or yard (note that the house plumbing vent on the roof will emit sewage odors and this is normal); and
- tests showing the presence of bacteria in well water.

If you notice any of these signs, or if you suspect your septic tank system may be having problems, contact a licensed septic system professional or your local district health agency for assistance.

Septic System Dos and Don'ts

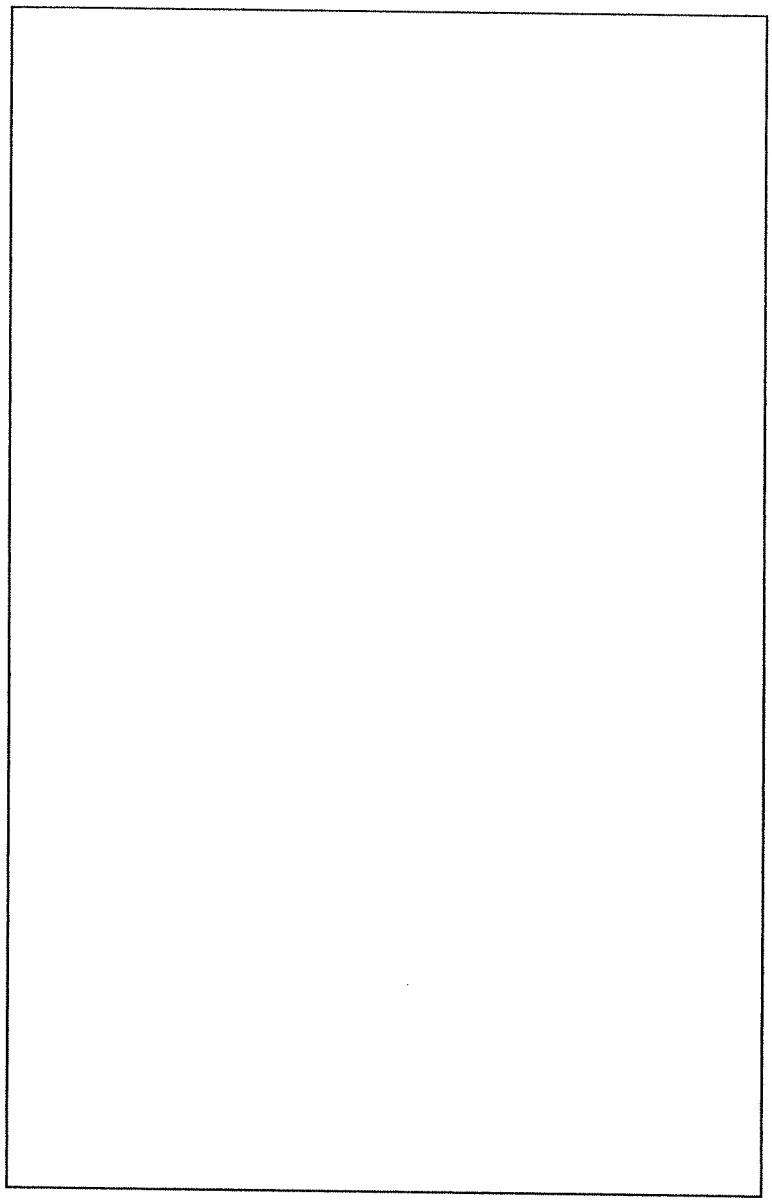
Proper operation of a septic system can prevent costly repairs or replacement. Observing the following guidelines will help to keep your system running efficiently.

Do

- ...practice water conservation. The more wastewater you produce, the more wastewater your system must treat and dispose. By reducing and balancing your use, you can extend the life of your system and avoid costly repairs.
    - Use water saving devices such as low flow showerheads.
    - Repair leaky faucets and plumbing fixtures immediately.
    - Reduce toilet reservoir volume or flow.
    - Take short showers.
    - Take baths with a partially filled tub.
    - Wash only full loads of dishes and laundry.
    - Shut off the water while shaving or brushing your teeth.
    - Balance your water use (e.g., avoid washing several loads of laundry in one day).
- ...keep accurate records. Know where your septic tank is, keep a diagram of its location using the space provided in this booklet, and keep a record of system maintenance.
- ...inspect your system annually. Check the sludge and scum levels inside the tank and periodically check the drainfield for odors, wet spots, or surfacing sewage.
- ...pump your system routinely. Pumping your septic tank is probably the single most important thing you can do to protect your system.
- ...keep all runoff away from your system. Water from roofs and driveways should be diverted away from the septic tank and drainfield area. Soil over your system should be mounded slightly to encourage runoff.
- ...protect your system from damage. Keep vehicles and livestock off your drainfield. The pressure can compact the soil or damage the pipes. Before you dig for any reason, check the location of your system and drainfield area.
- ...landscape your system properly. Plant grass over the drainfield area. Don't plant trees or shrubs or place impermeable materials, such as concrete or plastic, over the drainfield.
- ...use cleaning chemicals in moderation and only according to manufacturer's directions.

Don't

- ...flood irrigate over your system or drainfield area. The best way to irrigate these areas is with sprinklers.
- ...use caustic drain openers for clogged drains. Use boiling water or a drain snake to clean out clogs.
- ...enter a septic tank. Poisonous gases or a lack of oxygen can be fatal.
- ...use septic tank additives. They are not necessary for the proper functioning of your tank and they do not reduce the need for pumping. In fact, some additives can even harm your system.
- ...flush harmful materials into your tank. Grease, cooking oil, coffee grounds, sanitary napkins, and cigarettes do not easily decompose in septic tanks. Chemicals, such as solvents, oils, paints, and pesticides, are harmful to your systems operation and may pollute groundwater.
- ...use a garbage disposal. Using a garbage disposal will increase the amount of solids entering the septic tank and will result in the need for more frequent pumping.



Map your septic system here

For More Information

If you need to obtain a permit for a new or replacement septic system, or if you have questions about septic systems and their operation and maintenance, please contact your local health district.

Panhandle District Health Department
8500 N. Atlas Road
Hayden, ID 83835
208-415-5100

North Central District Health Department
215 10th Street
Lewiston, ID 83501
208-799-0353

Southwest District Health Department
920 Main Street
Caldwell, ID 83605
208-455-5400

Central District Health Department
707 N. Armstrong Place
Boise, ID 83704
208-327-7499

South Central District Health Department
1020 Washington Street North
Twin Falls, ID 83303
208-734-5900

Southeastern District Health Department
1901 Alvin Ricken Drive
Pocatello, ID 83201
208-239-5270

District 7 Health Department
254 "E" Street
Idaho Falls, ID 83402
208-523-5382