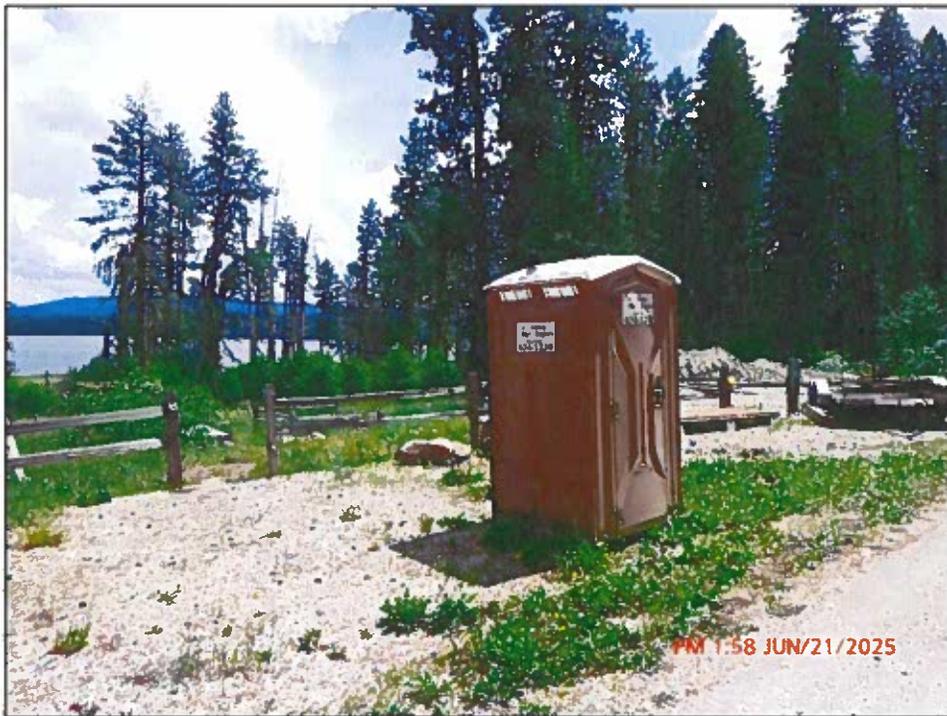


**South Lake Recreational Water and
Sewer District—West Mountain Area
Onsite Wastewater System Report
January 2026**



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Introduction

Lake Cascade, located in the Payette River Basin of southwestern Idaho's Valley County, has experienced significant development since the 1950s. In an effort to protect Lake Cascade and the surrounding area, the South Lake Recreational Water and Sewer District (SLRWSD or district) was established in 1995 through a public election. SLRWSD has undertaken a number of efforts to identify centralized sewer and treatment alternatives throughout SLRWSD. A 1997 district-wide Local Improvement District (LID) proposal to install centralized sewer was not approved, nor was a 1999 LID proposal to fund a centralized sewer system limited to the West Mountain area. A 2005 Facilities Planning Study of SLRWSD also failed to produce a centralized sewer system within the district. As a result, the south end of the lake continues to be without public sewer service. In contrast, the nearby City of Cascade and the north end of Lake Cascade are served by their respective centralized collection systems and wastewater treatment facilities.

Multiple studies have found that nutrient discharge from the onsite wastewater systems around Lake Cascade are contributing to toxic algae blooms in the lake (IDEQ, 2000). Additional nutrient sources include agricultural runoff and a leaking lagoon liner at Payette Lakes Recreational Water and Sewer District. This nutrient loading has degraded water quality and impaired the lake's designated uses, including fishing, swimming, and boating.

The U.S. Environmental Protection Agency (EPA), through the Closing America's Wastewater Access Gap Initiative, is providing technical assistance to support SLRWSD in identifying solutions for failing or inadequate onsite systems. The first phase of this effort is focused on the West Mountain area, which encompasses a number of subdivisions developed along the lake's southwest shore and is the most densely developed area within SLRWSD. To identify feasible infrastructure options for the West Mountain project area, it is essential to first determine current property uses and the types of onsite wastewater systems currently installed.

Report Purpose and Scope

The purpose of this report is to describe the land use characteristics in the West Mountain area. This information is essential for developing wastewater options for this part of SLRWSD. This report provides the following:

- **Project area description.** Describes site conditions and provides information on existing developments/subdivisions and demographics.
- **Central District Health (CDH) permit reviews.** Describes the steps the project team took to quantify and map the onsite systems in the West Mountain area, based on permits available from the CDH database.

Definitions

Alternative treatment system—Any system for which Idaho Department of Environmental Quality (IDEQ) has issued design guidelines or designates as a simple modification of a standard system. Alternative systems include extended treatment package systems and proprietary wastewater treatment systems (IDEQ, n.d.).

Drainfield—Shallow covered, excavation made in unsaturated soil into which pretreated wastewater is discharged through distribution piping for application onto soil infiltration surfaces through porous media or manufactured (gravelless) components placed in the excavations. The soil accepts, treats, and disperses wastewater as it percolates through the soil, ultimately discharging to groundwater (U.S. EPA, 2012).

Onsite wastewater treatment system—A system relying on natural processes and/or mechanical components to collect, treat, and disperse or reclaim wastewater from a single dwelling or building (U.S. EPA, 2012).

Pit privy—A pit privy is a building that contains a toilet facility located over an excavation in natural soil for the disposal of blackwaste (IDEQ, 2020).

Septic tank—A buried, watertight tank designed and constructed to receive and partially treat raw wastewater. The tank separates and retains settleable and floatable solids suspended in the wastewater and discharges the settled wastewater for further treatment and dispersal to the environment (U.S. EPA, 2012).

Vault privy—A vault privy is a sealed underground vault for the temporary storage of nonwater-carried sewage. The vault is pumped periodically by a permitted pumper and the sewage disposed of at an approved disposal site (IDEQ, 2020).

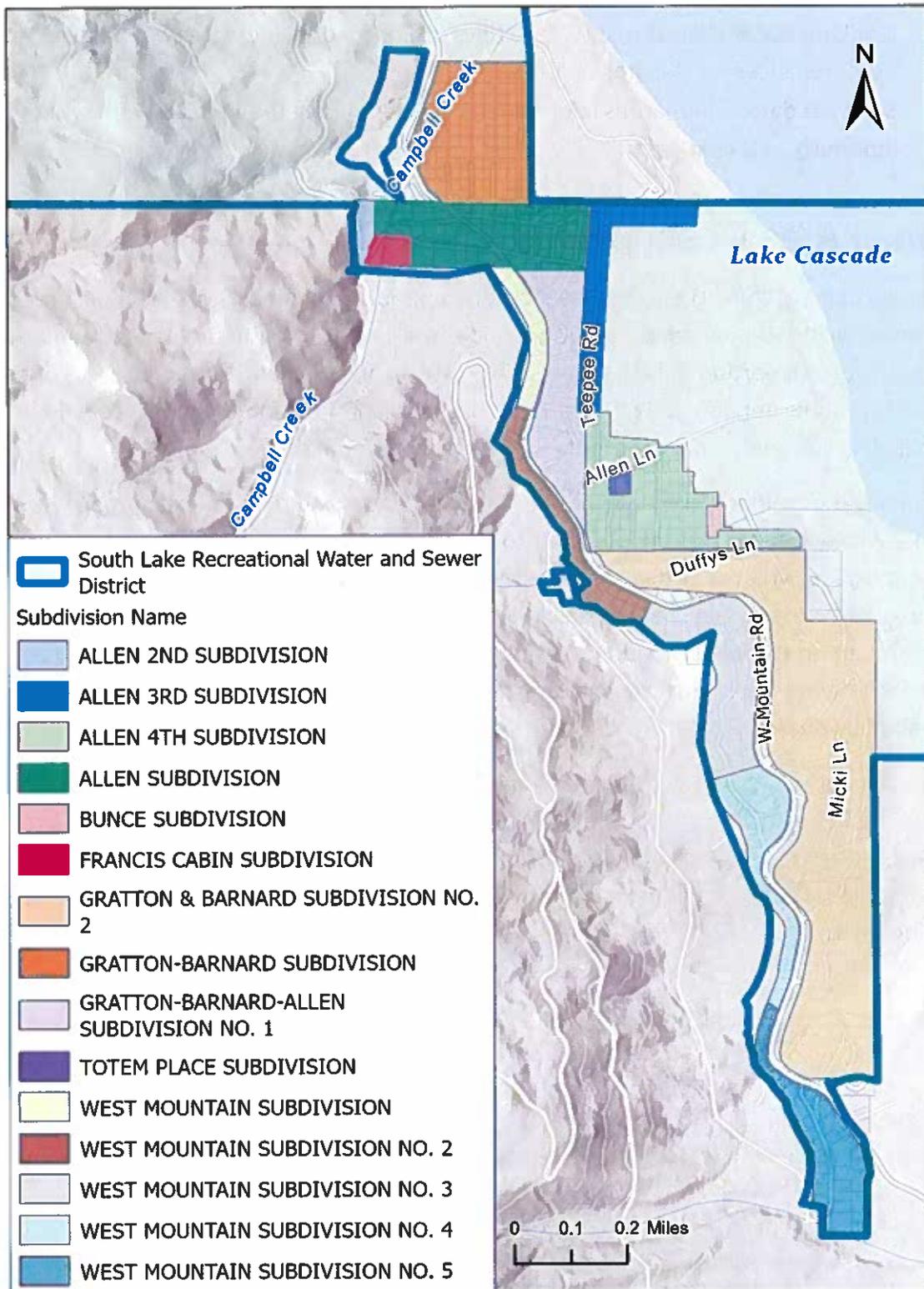
- **Drinking water characteristics.** Describes all known drinking water wells and appurtenances for the project area.
- **Site visit data.** Summarizes information collected during the June 2025 site visit.
- **Summary and next steps.**

Project Area Description

The project area (Figure 1) encompasses subdivisions located in the West Mountain area within the current SLRWSD boundary. This area includes the subdivisions situated directly adjacent to the southwestern portion of Lake Cascade. The project area is characterized by areas of high perched groundwater, primarily due to variations in soil profiles and the presence of low-permeability soil lenses that contribute to elevated water tables.

This area was developed primarily for part-time residences and recreational purposes. In addition, many lots were developed prior to the adoption of state or local onsite wastewater regulations. Property use within the West Mountain area is diverse; most parcels are occupied by part-time residents but some are occupied by full-time residents. A variety of dwelling units exist throughout the West Mountain area to support the different types of occupancy and use. These include homes, cabins, and manufactured homes built on foundations, as well as recreational vehicles.

Lot sizes and dwelling unit densities vary significantly across the project area. Prior to 1982, there were no restrictions on lot size, resulting in numerous subdivisions with lots as small as 1/5 to 1/4 acre (Keller Associates, 2005). The West Mountain area consists primarily of 1/4-acre lots. In some instances, multiple lots are owned by the same individual to allow property development.



Sources: Esri, TomTom, Garmin, FAO, NASA, NGA, FEMA, NOAA, USGS, © OpenStreetMap Contributors, and the GIS User Community

Figure 1. Subdivisions within the SLRWSD.

Table 1 provides summary information about the subdivisions within the West Mountain area, including the year each was platted, the number of parcels, and the distribution of improved lots and unimproved lots. Per Valley County, “improvements” are buildings (house, garage, manufactured home, etc.), paving, or other structures that add value to land, regardless of when they were completed (Valley County, Idaho, n.d.). In total, there are currently 766 lots within the sewer district boundaries in the West Mountain area. Approximately 487 lots are designated as “improved” and 279 lots are designated as “unimproved.”

Table 1. Number of Platted Lots and Current Lots by Subdivision (as of December 2025)

Subdivision	Date Platted	Platted Lots	Existing Lots	Improved Lots	Unimproved Lots	
					Total	%
Allen	1956	82	69	37	32	46.4
Allen 2 nd	1957	12	8	1	7	87.5
Allen 3 rd	1957	58	51	23	28	54.9
Allen 4 th	1959	88	84	57	27	32.1
Bunce	1994	2	1	1	0	0
Francis Cabin	1995	1	1	1	0	0
Gratton & Barnard	1957	109	99	68	31	31.3
Gratton-Barnard-Allen No. 1	1958	109	62	43	19	30.6
Gratton & Barnard No. 2	1958	250	224	150	74	33.0
Totem Place	2018	1	1	1	0	0
West Mountain	1962	14	12	9	3	25
West Mountain No. 2	1970	43	31	16	15	48.4
West Mountain No. 3	1970	56	58	35	23	39.7
West Mountain No. 4	1970	34	32	25	7	21.9
West Mountain No. 5	1970	43	33	20	13	39.4
Total		902	766	487	279	

Source: Valley County Assessor’s Office

1989 West Mountain Privy Study

The West Mountain area has been studied before given its high density of development and land use. In 1989, CDH conducted a sanitation survey in the West Mountain area, covering the subdivisions examined in this report (Lappin & Turco, 1989). The study focused on the use of privies—non-flush toilet systems for human waste disposal—in recreational residential areas. Concerns about potential contamination of Lake Cascade and local drinking water aquifers prompted the survey, which evaluated the prevalence, construction, and sanitary compliance of privies. State and local regulations allow both pit and vaulted privies but the privies must meet minimum design standards and require permits. The privy study was initiated in response to growing environmental and public health concerns related to improperly installed or unregulated privies in the region.

CDH examined 385 of the 873 lots in the area at that time and found that most properties relied on individual wells and sewage systems. Of the surveyed lots, 135 (35 percent) had privies. Of the privies, 126 (94 percent) were pit privies, eight (6 percent) were vaulted privies, and one was of unknown type. CDH estimated approximately 303 privies across the entire West Mountain area—roughly one privy per 0.9 acres.

The study concluded that 98 of the 135 identified privies (73 percent) posed health risks and violated health codes, presenting an immediate threat due to their condition and proximity to surface waters. The density of privies—approximately one per 0.9 acres—indicated that most cabins or homes were located near an improperly installed system.

Central District Health Permits

CDH maintains records of onsite wastewater system permits dating back to 1971. Prior to 1971, virtually no regulations existed concerning the development of subdivisions or construction of buildings in Valley County. From 1971 to 1978, CDH operated on its initial set of regulations. Test pits and percolation tests were added to the requirements for drainfield installation beginning in 1978. In 1984, CDH implemented updated regulations that required more detailed evaluation of soil types in drainfield installations. Under these regulations, it was quite difficult to obtain an onsite wastewater permit in many parts of the project area due to unsuitable soils, high groundwater levels, and inability to meet the minimum separation/setback requirement for wells (100 feet minimum between domestic wells and drainfield).

In November 1982, Valley County adopted a new Land Use Planning Ordinance. The 1982 ordinance required lots with both a private well and onsite wastewater system to be large enough to support those systems, with a 1-acre minimum. Most platted parcels throughout the West Mountain area were platted prior to the adoption of CDH onsite regulations (1971) and

the Valley County Land Use Planning Ordinance (1982). Three subdivisions—Bunce, Francis Cabin, Totem Place—were platted after the adoption of the Valley County Land Use Planning Ordinance.

CDH Permit Review

CDH keeps records of all onsite system permit applications in their online Subdivision Records database (Idaho Central District Health, n.d.). For each set of files, the online database contains an information screen and a digital record of all documentation. To gather information about existing onsite systems in the project area, the project team reviewed and downloaded website information and digital records for each lot within the subdivisions of the project area. Permit applications were downloaded between August 2025 and November 2025 and are current as of November 2025. According to CDH staff, their online information is up to date, as CDH employees upload documentation within two days of application submission or inspection.

Note: CDH does not directly manage the website where permit information is stored—it is managed by a different department within the County. CDH staff state that the uploaded documents contain the most up-to-date information and that documents should be reviewed to determine the current conditions of an onsite system.

The project team reviewed the applications for onsite system permits from the CDH database to determine the current onsite system for each lot in the project area. To document the age of each onsite system, the project team assigned a “Date of System Install” to each lot that had an onsite system. In most cases, the “Date of System Install” is equal to the installation date; for onsite systems with no recorded installation date, “Date of System Install” is equal to the CDH inspection date.

Some lots in the project area are associated with multiple permit applications. For example, the records for a lot may include an expired onsite system application from the 1980s as well as documentation showing that the owners reapplied and installed an onsite system in the 2000s that is currently in use. The project team reviewed each lot’s information to determine the onsite system currently in the ground and the permit application associated with the system.

Permit applications were matched with Valley County GIS data to plot the location of onsite systems known by CDH within the project area. To match parcels with onsite system permit applications, the project team downloaded parcel, address point, and subdivision boundary layers from Valley County’s GIS portal.

The project team determined the current onsite system on each lot using the status of the permit application as well as as-built drawings, self-install forms (accepted in lieu of as-built

drawings for older systems), or privy/holding tank agreements. Examples of these documents are shown in Figure 2.

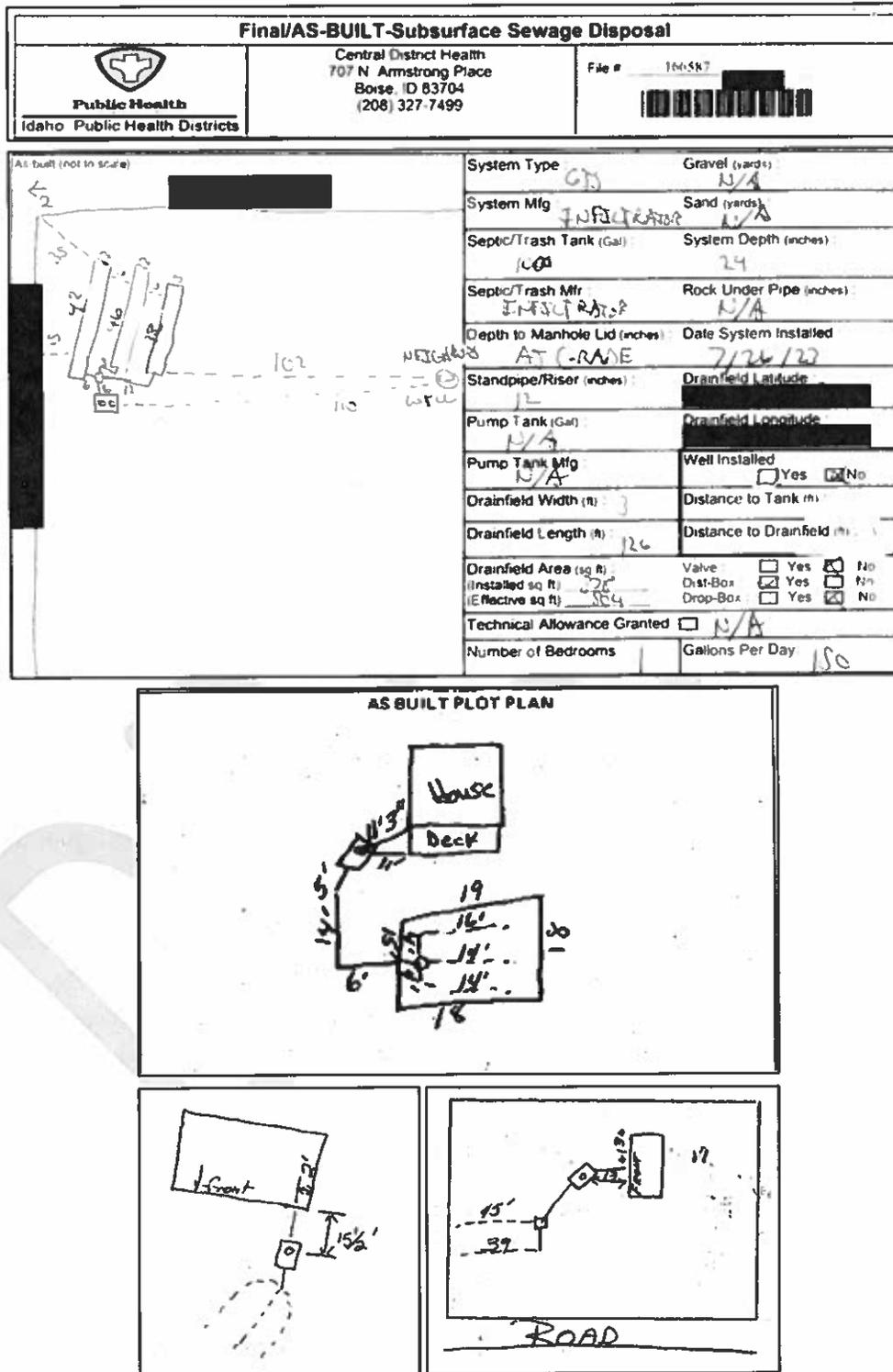


Figure 2. Examples of CDH as-builts from final onsite permits (personal identifying information redacted).

The project team categorized each onsite system documented in the CDH permit database by type. Figure 3 and Table 2 show the number of systems of each type. Note that the data on system types do not reflect all existing onsite systems throughout the study area, as many onsite systems were installed prior to CDH's permit process and are not captured in the database.

Permit Status and Onsite System Category

Below is a list of permit statuses and parcel designation of the onsite system for lots reviewed in the CDH database.

- **Final applications.** This status indicates that a system was installed per the approved design, has a final as-built on record, and has a final inspection approved by CDH. Final applications were grouped into the *onsite system* categories (i.e., privy, septic tank and drainfield, holding tank, or other onsite system type) based on the installed system.
- **Expired applications.** This status includes three categories:
 - **Denied.** CDH denied the onsite system application due to unsuitable onsite system conditions, high groundwater, or inability to meet setback requirements. These lots do not have an onsite system, according to CDH, and were grouped into the *application denied* category.
 - **Withdrawn.** The property owner withdrew the application for an onsite system due to circumstances unique to each application. These lots do not have an onsite system, according to CDH, and were grouped into the *application withdrawn* category.
 - **Expired.** The property owner did not follow up with the application within the CDH-allotted timeframe. The application was not denied by CDH or withdrawn by the property owner.
- **Potential future development.** This status includes the following types of CDH permit applications:
 - *Active applications* have a design awaiting final approval.
 - *Pending applications* have an approved design and construction has begun.
 - *Speculative final applications* have a completed site evaluation to determine onsite system suitability.¹

The status applies to lots that lack an existing onsite system, per CDH records, but that are expected to be developed in the near future with an onsite system (type unknown).

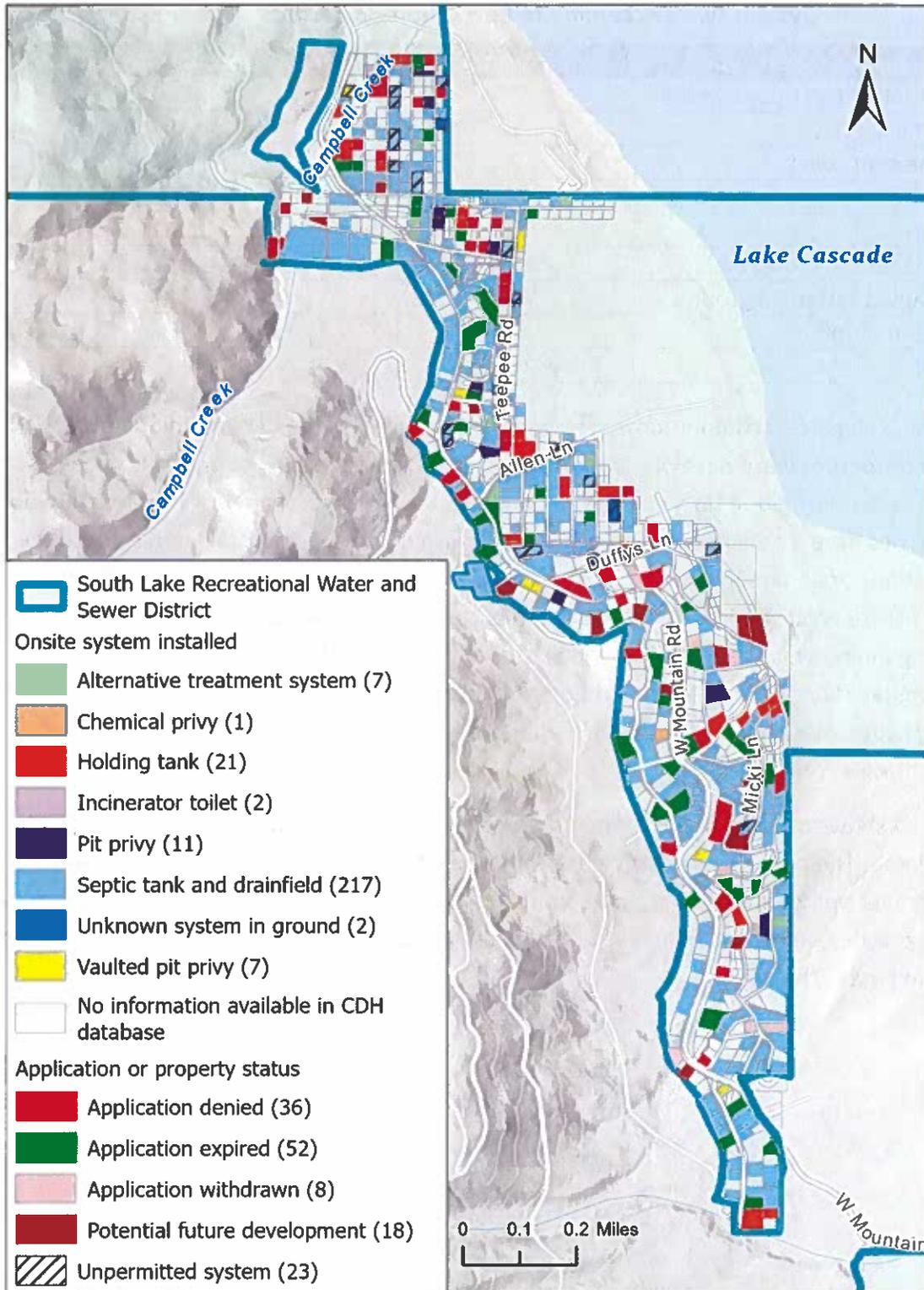
¹ CDH offers speculative site evaluations, where property owners can have a lot evaluated for onsite system suitability for a portion of the onsite application fee. If the site is deemed suitable for an onsite system, the property owner can pay the remainder of the fee and move forward with an onsite system application.

- **Unpermitted systems.** This status indicates that a system exists on the lot, but the system was installed without an onsite system permit. Unpermitted systems were either installed prior to the 1971 onsite system regulations or installed after 1971 without a final permit. Some lots have associated Accessory Use permits. Accessory Use permits are issued for modifications that will not affect the lot’s drinking water or wastewater system (e.g., building a shed that has no plumbing). In some instances, the only documents associated with a lot were Accessory Use permits mentioning an onsite system, with no record of a previous onsite system application. In these cases, the lots were identified as “unpermitted.”
- **Unknown systems.** This status indicates evidence of a system in the ground but no CDH final permit with system type designation is available. For some parcels, there was evidence in the CDH records of an onsite system in the ground (e.g., reports of surfacing sewage) but no details on the type of system. These lots were labeled with “unknown system in ground” and require more information to determine system specifics. These properties are tracked separately from unpermitted systems.

Based on permit reviews, the West Mountain area has the following types of onsite systems within the project boundary:

- Alternative treatment systems (approved proprietary treatment systems, such as OSCAR or Presby treatment systems)
- Chemical privy (portable toilet)
- Holding tank
- Incinerator toilet
- Pit privy (not vaulted)
- Septic tank and drainfield
- Vaulted pit privy

Figure 3 shows the types and distribution of onsite systems included in the CDH database within the West Mountain project area. Table 2 shows quantities for each type of onsite system within the project area. Figure 3 also presents the CDH permit status information for properties. CDH does not have permit information about lots without color in Figure 3; there may be onsite systems on these lots that were installed prior to initiation of the CDH permitting process or without CDH’s knowledge.



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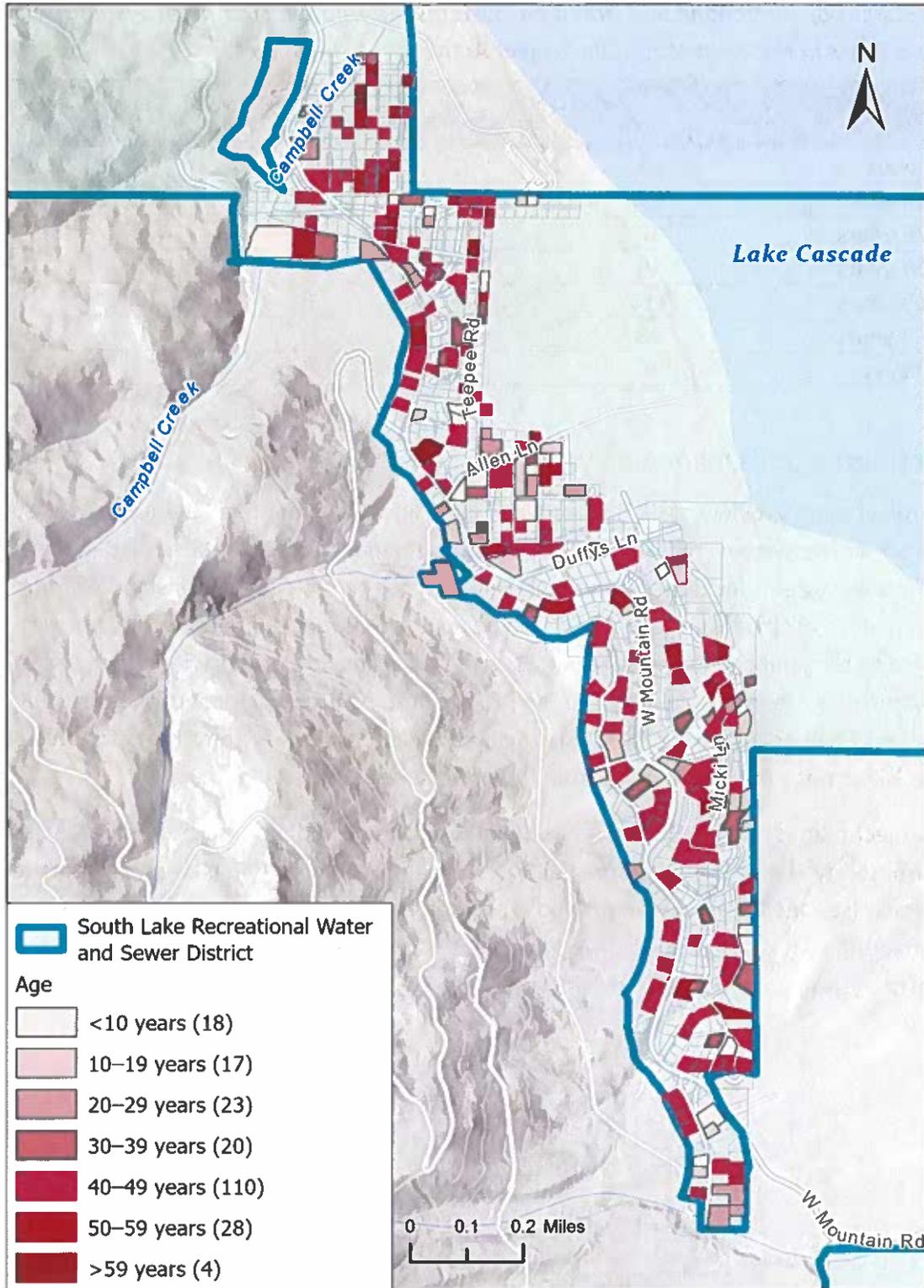
Figure 3. Onsite system types and application statuses across project area according to CDH database records.

Table 2. Onsite System Types According to CDH Database Records

Onsite System Type	Count	Percentage of Total Onsite Systems (%)
Alternative treatment system	7	2.6
Chemical privy	1	0.4
Incinerator toilet	2	0.7
Holding tank	21	7.8
Pit privy	11	4.1
Septic tank and drainfield	217	81
Unknown system in ground	2	0.7
Vaulted pit privy	7	2.6
Total	268	

In total, 268 parcels contain some form of onsite system per the CDH permit database. (Note: Many properties were developed prior to the initiation of the CDH permitting process, so the absence of information on a lot does not indicate the absence of an onsite system.) Two properties have an unknown system in place, which may indicate installation prior to the 1971 regulations or an unpermitted system installed without CDH's approval. Most systems (81 percent) are septic tank and drainfield configurations. Approximately 7.8 percent of systems are holding tanks, which are allowed in Idaho for emergency or temporary purposes. Some of the holding tanks are believed to have been permitted in the past with the assumption that construction of a centralized sewer for the area was imminent. Another 6.7 percent of systems are pit privies or vaulted pit privies.

Figure 4 shows the age distribution of the onsite systems for which a system age could be calculated. The onsite systems included in Figure 4 are limited to septic tanks and drainfields, alternative treatment systems, and holding tanks with a known install date. The average age of these onsite systems with a known install date was 36 years. A breakdown of these ages by system type is shown in Table 3.



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Figure 4. Age of septic tanks and drainfields, alternative treatment systems, and holding tanks according to CDH database records.

Table 3. Ages of Septic Tank and Drainfield Systems, Alternative Treatment Systems, and Holding Tanks in the West Mountain Project Area

System Age	Type of System		
	Septic Tank and Drainfield	Alternative Treatment System	Holding Tank
<10 years	13	4	1
10–19 years	17	0	0
20–29 years	6	0	17
30–39 years	19	1	0
40–49 years	110	0	0
50–59 years	28	0	0
>59 years	4	0	0

Unpermitted and Unknown Systems

The project team’s review of CDH permits for the study area identified 23 unpermitted systems, which are onsite systems that were installed without a final permit. As described earlier, unpermitted systems include systems installed prior to the 1971 regulations and systems installed after 1971 without a final permit. The actual number of unpermitted systems is believed to be significantly greater than 23, given that many other lots within the study area had an onsite system installed prior to the CDH permitting process. Most of these systems are septic tanks and drainfields. Table 4 lists the known unpermitted systems by system type, and Figure 3 illustrates their locations within the project area.

The project team designated two lots as unknown systems and are tracked separately from the unpermitted systems. One lot with an unknown system in the ground is a known short-term rental unit (see the Residency Status and Permitted Land Use Types section for more information), so it is assumed to have an onsite system; however, CDH does not have record of an onsite system application for this lot.

Table 4. Types of Unpermitted Onsite Systems Within the West Mountain Project Area

Onsite System Type	Count
Septic tank and drainfield	17
Pit privy	3
Vaulted pit privy	1
Total unpermitted systems	23

Denied Applications

A number of permit applications were denied by CDH due to site conditions that make lots unsuitable for onsite systems. CDH has denied onsite system permits in the project area due to high groundwater table, unsuitable soils, or inability to meet required setbacks from surface water or existing domestic wells. The small, platted lots in the project area present a significant challenge for installing onsite wastewater systems in a manner that meets the required setbacks, which include:

- Minimum of 100 feet between a domestic well and a drainfield.
- A minimum of 100 feet between permanent or intermittent surface water bodies and a drainfield, with up to 300 feet of separation for sandy soils.

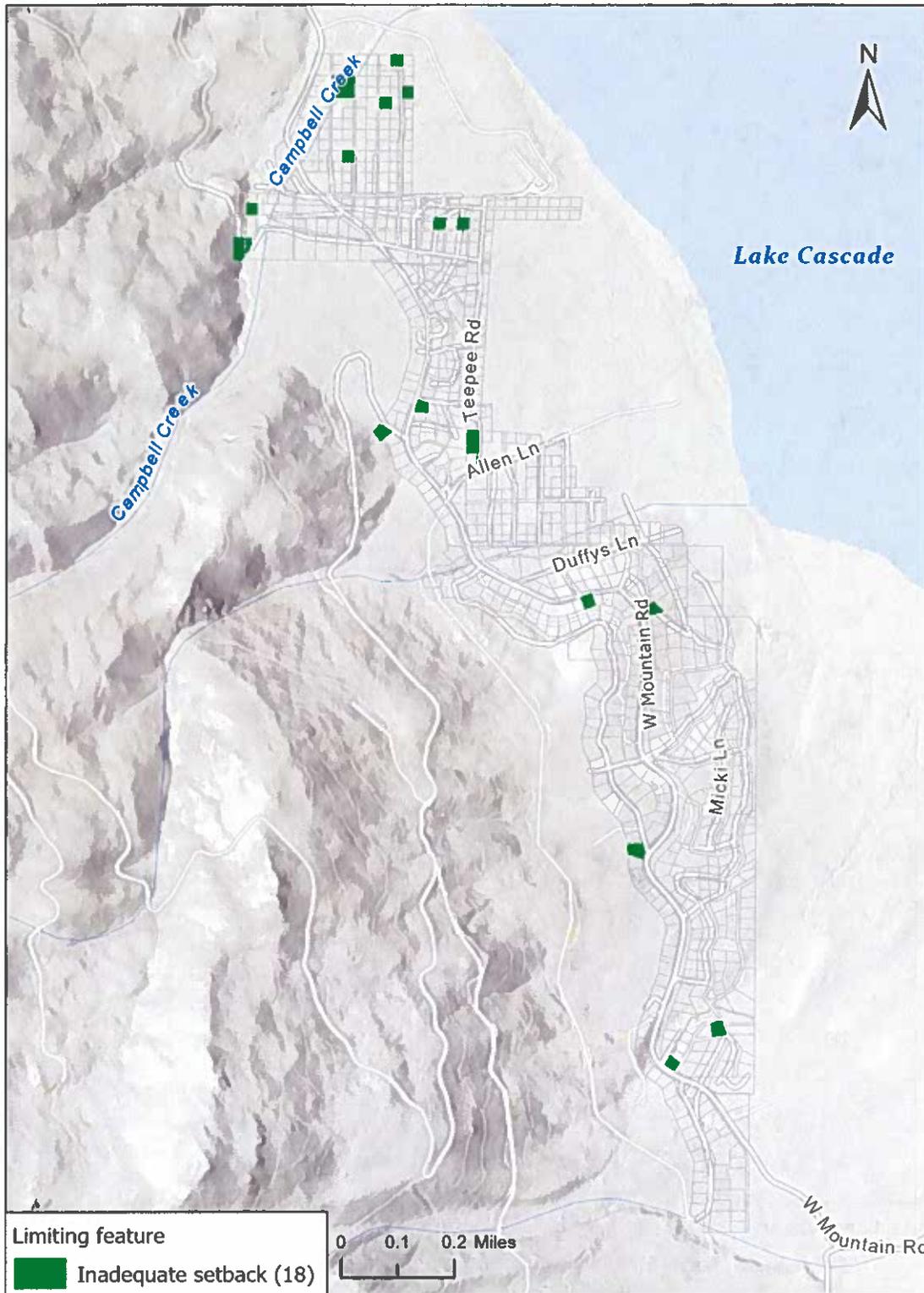
CDH regulations require a detailed evaluation of soil types for drainfield installations, and soils on some lots did not pass the required percolation tests. In one documented case from 1994, the decision to deny a permit cited “an effort to organize a sewer and water district to serve [the] area” and recommended that property owner consult with SLRWSD board members.

In total, 35 parcels (excludes the one previously referenced permit denied on the premise a centralized wastewater system is under development) had onsite system permit applications denied due to unsuitable site conditions. Figures 5 through 8 illustrate the locations of parcels that had permit applications denied for issues including high groundwater tables, unsuitable soils, inadequate setbacks from wells or surface waters, and insufficient space for system installation. Some parcels had multiple reasons for denial (e.g., unsuitable soils and inadequate setbacks from surface water) and therefore are shown on multiple maps. Because of this, the total number of parcels included in the four maps exceeds the number of parcels with denied applications due to site limitations (35). Lots with a denied application do not currently have an onsite system.



Sources: Esri, TomTom, Garmin, FAO, NASA, NGA, FEMA, NOAA, USGS, © OpenStreetMap Contributors, and the GIS User Community

Figure 5. Onsite systems denied due to high groundwater table.



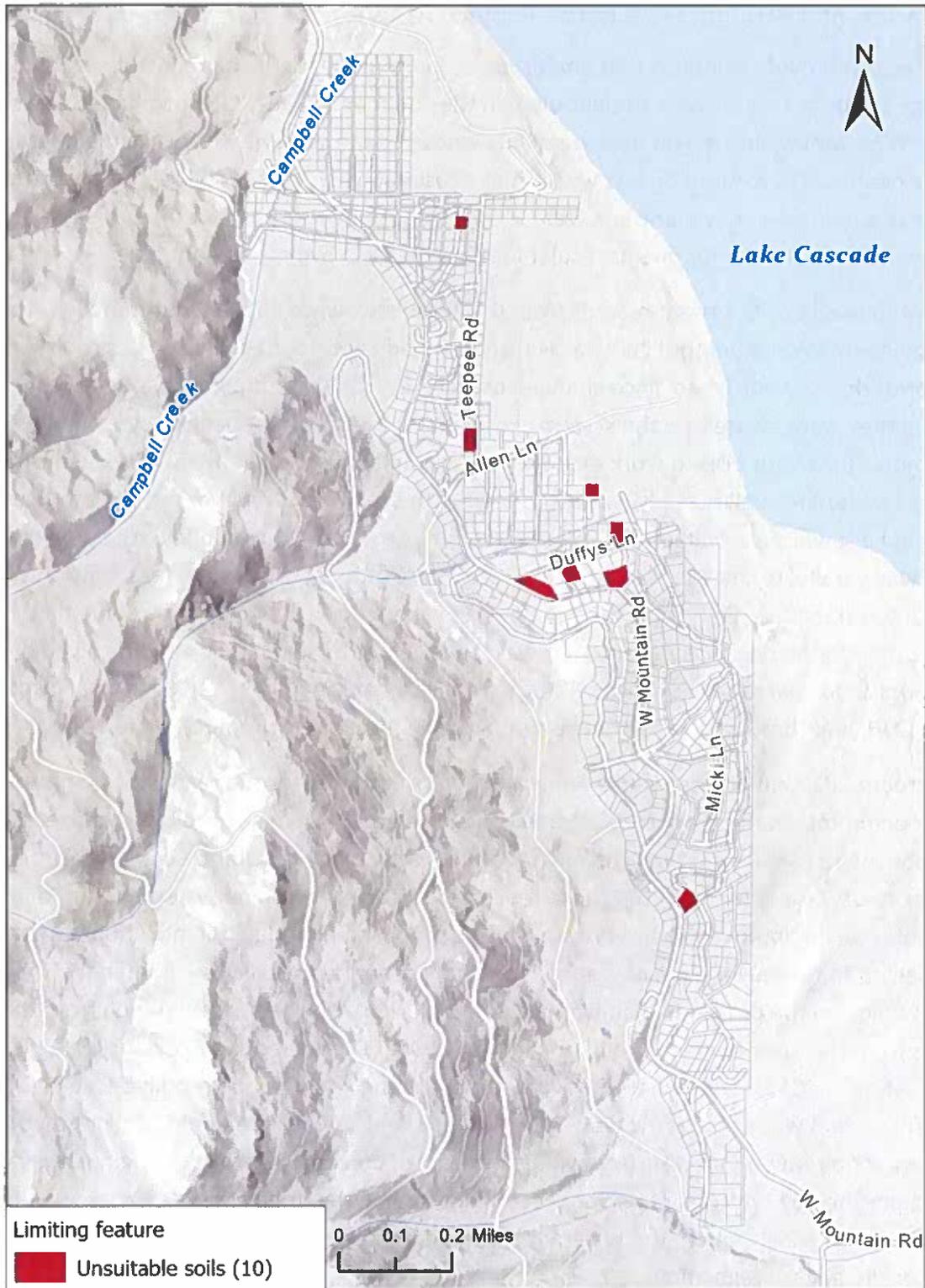
Sources: Esri, TomTom, Garmin, FAO, NASA, NGA, FEMA, NOAA, USGS, © OpenStreetMap Contributors, and the GIS User Community

Figure 6. Onsite systems denied due to inadequate setbacks.



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Figure 7. Onsite systems denied due to inadequate space.



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Figure 8. Onsite systems denied due to unsuitable soils.

Evidence of a Straight Pipe in the Project Area

CDH records provide evidence that one property in the project area has a history of discharging sewage to surface water via a straight pipe. In the summer of 1997, CDH conducted site surveys in the West Mountain area on developed lots whose onsite systems were potential threats to public health. CDH focused on lots with a high seasonal water table and lots close to surface water. It is unknown how many lots were identified during this effort but the project team discovered information for one particular lot identified as having a straight pipe.

CDH requested onsite system records from this property owner in 1997, but there was no immediate follow-up. In April 2000, a “Notice of Failed Septic System” letter was sent to the owner of this lot, which had since changed ownership. The current property owner responded, stating they were aware that the system likely did not meet current health codes, and began communicating with CDH to work on an onsite system application. In May 2000, an onsite sewage system feasibility study was completed at this lot. The as-built of the onsite system revealed a sewer pipe that left the house but did not connect to a drainfield; the pipe on the as-built was parallel to the stream on the property. During the onsite system feasibility study, it was determined that the property conditions allowed for a holding tank. The same day, an application for an onsite sewage permit was created for the holding tank and received by CDH. The application eventually expired without installation of the holding tank or a final inspection from CDH, and there was no further communication from these property owners.

In October 2017, an Accessory Use application was submitted for the reconstruction of a two-bedroom home on the property; the previous house had been destroyed by fallen trees, and the home was torn down. Now, looking to rebuild, a property restoration company submitted an Accessory Use application to CDH to reuse the existing sewer pipe system, noting that the lot did not have an approved onsite system. On the proposed plot plan, the new home was to be connected to the sewer pipe, identified in the application as an existing “drainfield.” This “drainfield” on the proposed plan was in the same orientation as the sewer pipe from the as-builts from the onsite system evaluation in May 2000. CDH denied the Accessory Use application in 2017, stating that the two-bedroom home could not be rebuilt because (1) the current system was not approved by CDH originally, and (2) the “drainfield” did not meet setback requirements from surface water. The year of construction for the original house was 1970, per the 2017 Accessory Use application. Assuming the original onsite system was installed at the time of construction, the system is assumed to have been constructed prior to the 1971 CDH onsite system regulations.

As of 2025, no home exists on this lot; according to satellite imagery, the lot is vacant. This onsite system is assumed to have operated in some capacity from 1970 to approximately 2017, when the house was destroyed. Based on as-built drawings from 2000 and 2017, this onsite

system did not have a tank of any kind and was not a privy. The project team assumes that sewage was leaving the house via a straight pipe and discharging either directly to surface water or to an area where sewage could enter the nearby surface water. The as-builts from 2017 place the house approximately 13 feet from the surface water body adjacent to the property.

Residency Status and Permitted Land Use Types

The SLRWSD is primarily populated by part-time or seasonal residents who use their properties during the summer months. The 1989 West Mountain Area Privy Sanitation Survey conducted by CDH found that each recreational cabin typically accommodates three to four people.

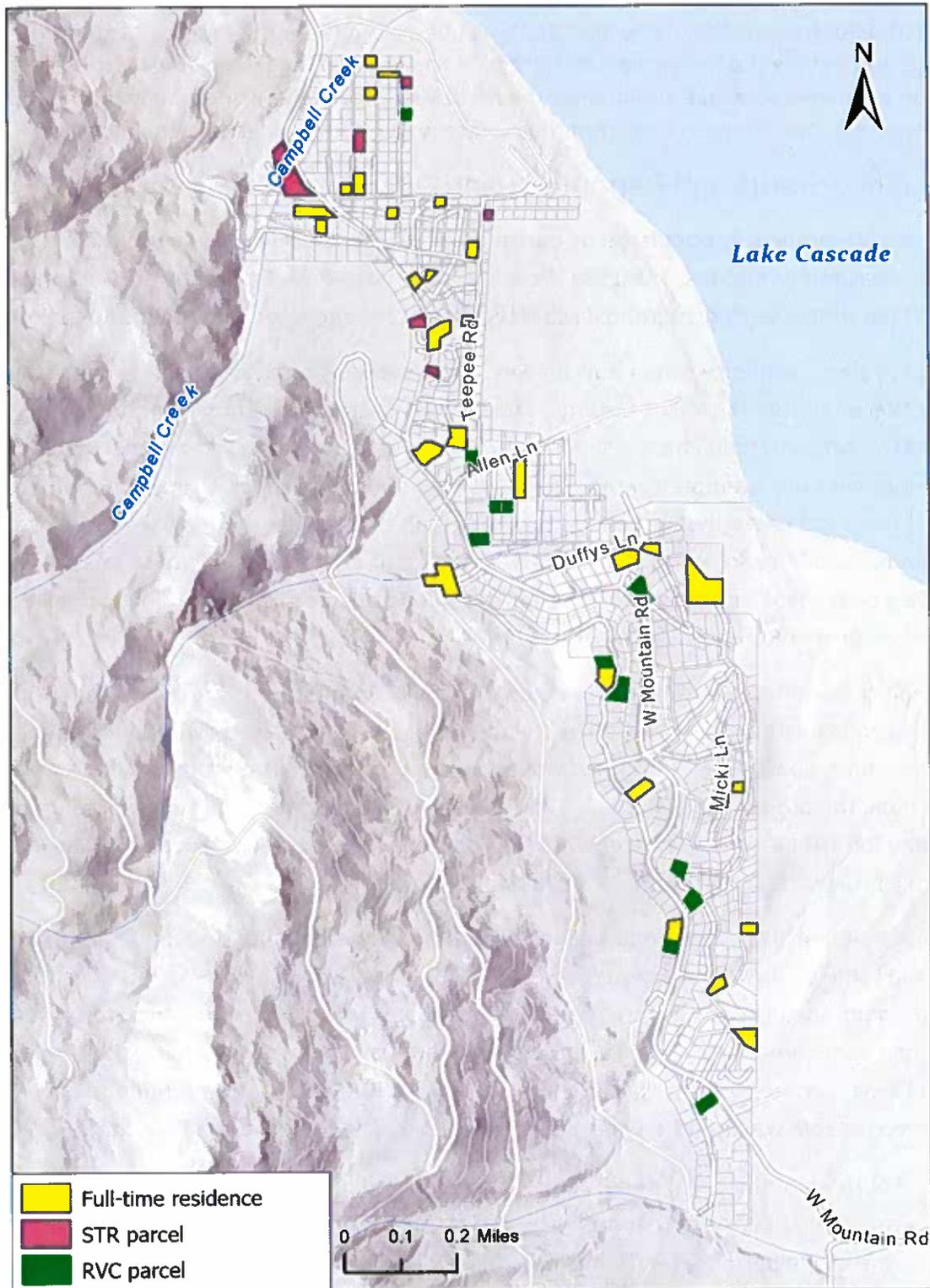
For this project, residency status (full-time vs. part-time) was estimated using homeowner exemption data from the Valley County parcel database. In Idaho, a homeowner's exemption applies to owner-occupied homes and manufactured homes that serve as primary residences. Properties with this exemption were classified as full-time residences. Using this approach, the project team estimated that approximately 40 parcels in the West Mountain area are occupied by full-time residents, representing about 5.2 percent of existing lots. All these lots are assumed to have a septic tank and drainfield system. This total is an approximation, since not all eligible property owners may apply for the exemption.

The project team obtained known short-term rental (STR) applications from the Valley County Planning and Zoning Department. STRs include furnished living spaces rented for brief periods, such as rooms, apartments, or entire homes listed on platforms like Airbnb or VRBO. Using these data, the project team identified 20 parcels (2.6 percent) as having living accommodations available for STR in the project area. All STR properties are assumed to have a working onsite system consisting of a septic tank and drainfield.

The project team also obtained available Recreational Vehicle Campground (RVC) applications from the same county department; these applications have only been required since 2021 for sites accommodating two or more recreational vehicles. Using these data, the project team identified approximately 15 parcels (1.9 percent) that have been designated as RVCs in the project area. Per the permit application, the permitted RVC parcels are required to have CDH-approved potable water and sewage disposal facilities. The project team found that:

- Fourteen of the permitted RVC sites are approved for recreational vehicles with self-contained holding tanks or portable toilets on the property.
- One of the permitted RVC sites has an onsite system consisting of a holding tank, per the RVC permit. A corresponding CDH permit for this site could not be found.

Figure 9 displays the locations of all known full-time residences, STR units, and RVCs. Table 5 provides summary counts of each residency type.



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Figure 9. Parcels designated as full-time residents, STRs, and RVCs.

Table 5. Parcel Counts and Percentages for Residency and Permitted Land Use Types

Residency or Land Use Type	Number of Parcels	% of Total Parcels (766 Total)
Full-time/permanent residences	40	5.2
STR units	20	2.6
RVCs	15	1.9

West Mountain Drinking Water Characteristics

The project team identified private domestic well locations in the study area using information from three sources: data from the Idaho Department of Water Resources (IDWR), observations made during the June 2025 site visit, and discussions with property owners. The project team documented well locations during the site visit by observing properties from adjacent roads and speaking with owners when possible; the team only entered private property with homeowner permission. In all, 104 lots were observed during the site visit, and not all properties within the West Mountain study area were visited.

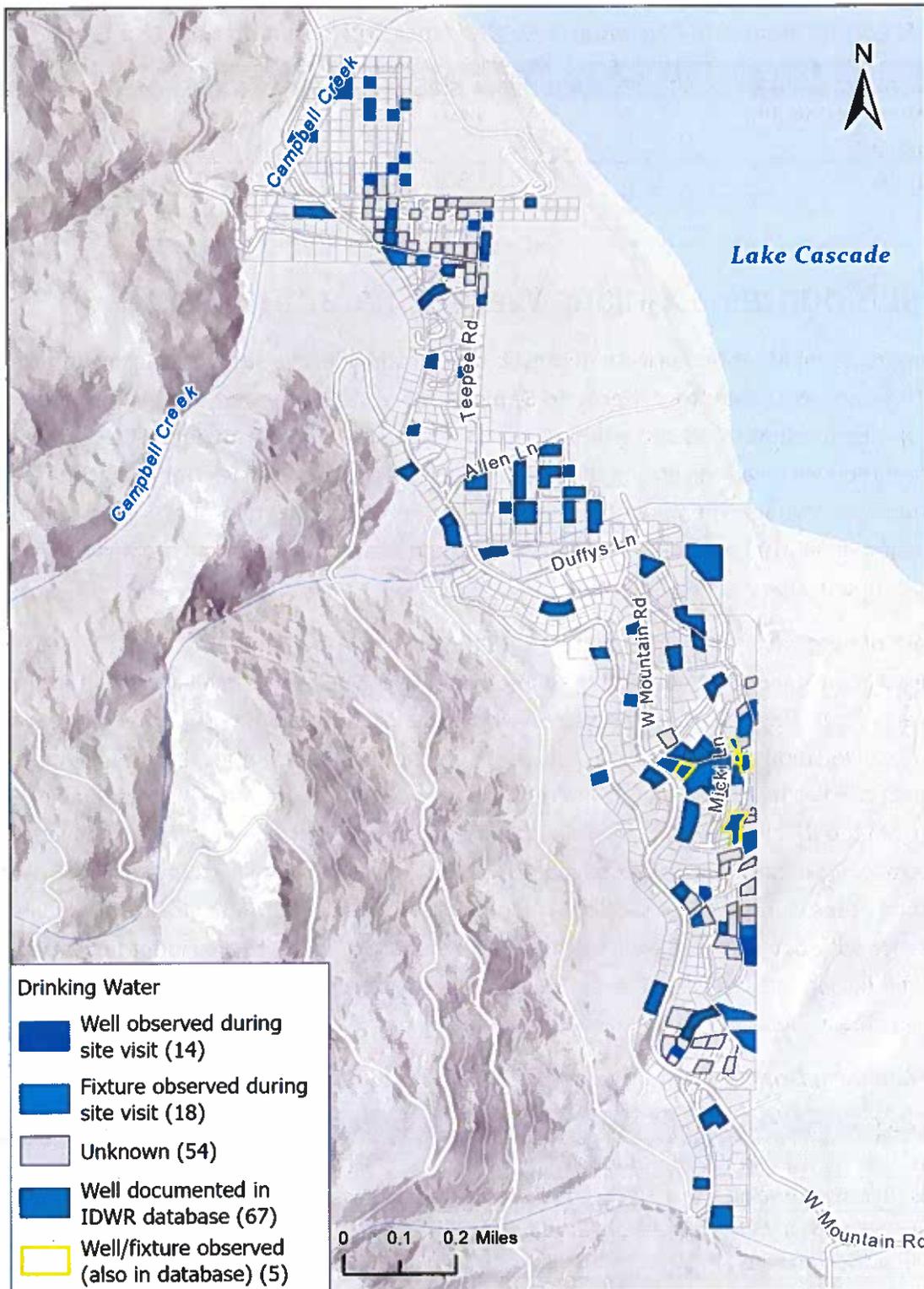
The task of determining the total number of drinking water facilities in the project area is complicated by uncertainty regarding shared water use. Due to the small lot sizes and the required setbacks between onsite systems and domestic wells, some properties share wells. All known well locations are shown in Figure 10 and summarized in Table 6. In total, 94 properties were recorded as having water available through some type of source. This total includes 67 wells from the IDWR database, 14 wells documented during the site visit (two of which are registered with IDWR), and 18 properties observed as having water fixtures, such as frost-free hydrants, hoses, sprinklers, or outdoor spigots observed during the site visit (three of which are properties with documented wells in the IDWR database). Figure 10 also identifies properties observed during the site visit where a well or water fixture was not visible from the public roadway; these were categorized as “Unknown.”

Table 6. Known Drinking Water Facilities in West Mountain

Source Type	Count
Wells documented in IDWR database	67
Wells observed during site visit (not in IDWR database) ^a	12
Properties with a water fixture observed during site visit (not in IDWR database) ^b	15
Total	94

^a Number of wells observed during the site visit that were not in the IDWR database = 12. Total number of wells observed = 14.

^b Number of properties with a water fixture observed during the site visit that were not in the IDWR database = 15. Total number of properties with a water fixture observed = 18.



Sources: Esri, TomTom, Garmin, FAO, NASA, NGA, FEMA, NOAA, USGS, © OpenStreetMap Contributors, and the GIS User Community

Figure 10. Known drinking water facilities in West Mountain.

Site Visit Data

On June 20, 2025, the project team conducted a site visit to homes in the West Mountain area. The project team inspected approximately 104 properties within the West Mountain area. Observations made from the public right-of-way focused on visible structures plus onsite wastewater and drinking water facilities (summarized in the previous section) at each property. For wastewater systems, the project team noted whether septic systems or holding tanks were identifiable by risers or clean-outs and whether a privy or portable toilet was present. Drinking water observations included the presence of visible wells or other indicators of water availability, such as frost-free hydrants or irrigation sprinklers observed on the property.

The project team also documented the type of occupancy structure on each property or whether there was no structure at all. Eighty properties had structures on permanent foundations, such as houses or cabins. Seventeen lots with recreational vehicles were also noted across the area. This count likely underrepresents seasonal occupancy because the site visit occurred during unseasonably cold weather before peak season, when many part-time residents were likely absent. Consequently, some properties that appeared vacant may have been temporarily unoccupied. The project team also observed seven undeveloped lots, though this number may be an underestimate, as the locations of lot lines were difficult to discern during the site visit. Three of the seven undeveloped lots appeared to be under development based on the presence of construction equipment and activity observed. The property types observed during the site visit are summarized in Table 7.

Table 7. Property Types in Site Visit Area

Property Type	Count (%)
House/cabin (structure on foundation)	80 (77%)
Recreational vehicle	17 (16%)
Undeveloped lot	7 (7%)
Total	104

Of the 104 properties visited, the project team was unable to verify parcel numbers or precise locations for 18 properties at the level of accuracy required for GIS mapping. In many cases, addresses were not visible from the public right-of-way. In other instances, the coordinates collected during site observations for multiple properties in close proximity corresponded to a single parcel on the Valley County Assessor’s map. Additionally, the project team noted discrepancies between addresses observed onsite, those listed in Google Maps, and those recorded in the Assessor’s parcel database. As a result, the usable dataset was narrowed to 86 properties, which are displayed in Figure 11. Table 8 summarizes occupancy structures observed on the property with associated onsite information, categorized by statuses: CDH permit in

database, wastewater feature observed during site visit but no final CDH permit found, confirmed by the property owner, and unknown.

The following list provides summary information about the onsite systems documented on the 86 properties with confirmed locations. These systems were identified via the CDH database, site visit observations, or discussions with property owners.

- Forty-four properties have systems documented in the CDH database.
 - Thirty-three properties have permitted septic tank and drainfield systems.
 - Two properties have permitted pit privies.
 - Two properties have permitted holding tanks.
 - Two properties have permitted alternative treatment systems.
 - One property has a permitted portable toilet.
 - One property has a vaulted pit privy listed in the database, but the homeowner reported having a septic tank and drainfield system instead.
 - Three properties have unpermitted onsite systems. The project team confirmed the presence of septic tank and drainfield systems on these properties by reviewing Accessory Use permits submitted by the owners to CDH. However, CDH records show no documentation of system installation, indicating that these systems were never formally permitted.
- The onsite systems for 23 properties could not be verified from CDH records; however, the project team observed features indicating an onsite system is present on each of these properties.
 - Four properties have visible risers, indicating the presence of a septic tank or holding tank.
 - Eight properties have pit privies. For three of these properties, CDH records show that owners previously applied for an onsite system permit, but their application either expired or was denied. Because pit privies were observed and no septic systems were approved, it is reasonable to assume these pit privies remain in use.
 - Four properties have portable toilets.
 - Seven properties have a record in the CDH database showing an application for a septic tank and drainfield permit; however, all applications either expired or were denied. This means CDH never approved the installation of any onsite system for these properties. During field observations, the project team did not find visible signs of a system on these properties. These seven properties are categorized as “undetermined” for an onsite system.

- For two properties that have no records in the CDH database, the owners directly confirmed the presence of onsite systems: one septic tank and drainfield and one pit privy.
- For 17 properties, no information was available regarding onsite systems, either through visual observations during the site visit or from the CDH database. Of these, 13 properties have a structure on a permanent foundation, while four have a recreational vehicle present.

Overall, the data reflect a mix of permitted, unpermitted, and undocumented systems.

Table 8. Onsite Systems and Property Types for Confirmed Addresses

Onsite Status	Wastewater System Type	House/Cabin	Recreational Vehicle	No Structure	Total
CDH permit in database	Alternative treatment system	2	0	0	2
	Septic tank and drainfield	30	2	1	33
	Unpermitted septic tank and drainfield	2	0	1	3
	Holding tank	2	0	0	2
	Pit privy	2	0	0	2
	Portable toilet	0	1	0	1
	Vaulted pit privy	1	0	0	1
	Total	39	3	2	44
Feature observed, no final CDH permit found	Septic tank and drainfield OR holding tank	4	0	0	4
	Pit privy	5	2	1	8
	Portable toilet	3	1	0	4
	Undetermined	6	1	0	7
	Total	18	4	1	23
Confirmed by property owner	Septic tank and drainfield	1	0	0	1
	Pit privy	1	0	0	1
	Total	2	0	0	2
No information available	No system type documented during site visit or available in CDH database	13	4	0	17
Total		72	11	3	86

Based on drinking water observations during the site visit, the project team categorized 14 properties as having confirmed, visibly identifiable wells. An additional 18 properties showed indicators of water availability, such as frost-free hydrants, irrigation hoses, or houses built on permanent foundations with visible electricity lines on the property. These counts are summarized in Table 9. Overall, the observations suggest that while not all properties have visible wells, many may access water through other means.

Table 9. Drinking Water Facilities in Site Visit Area

Drinking Water Facility	Count (%)
Visible well	14
Water on property (frost-free hydrant, irrigation hose, or house/cabin on property)	18
Total	32

Figure 11 provides a summary of both onsite wastewater systems and drinking water facilities noted during the site visit. Figure 11 does not include locations for the “undetermined” onsite wastewater systems.

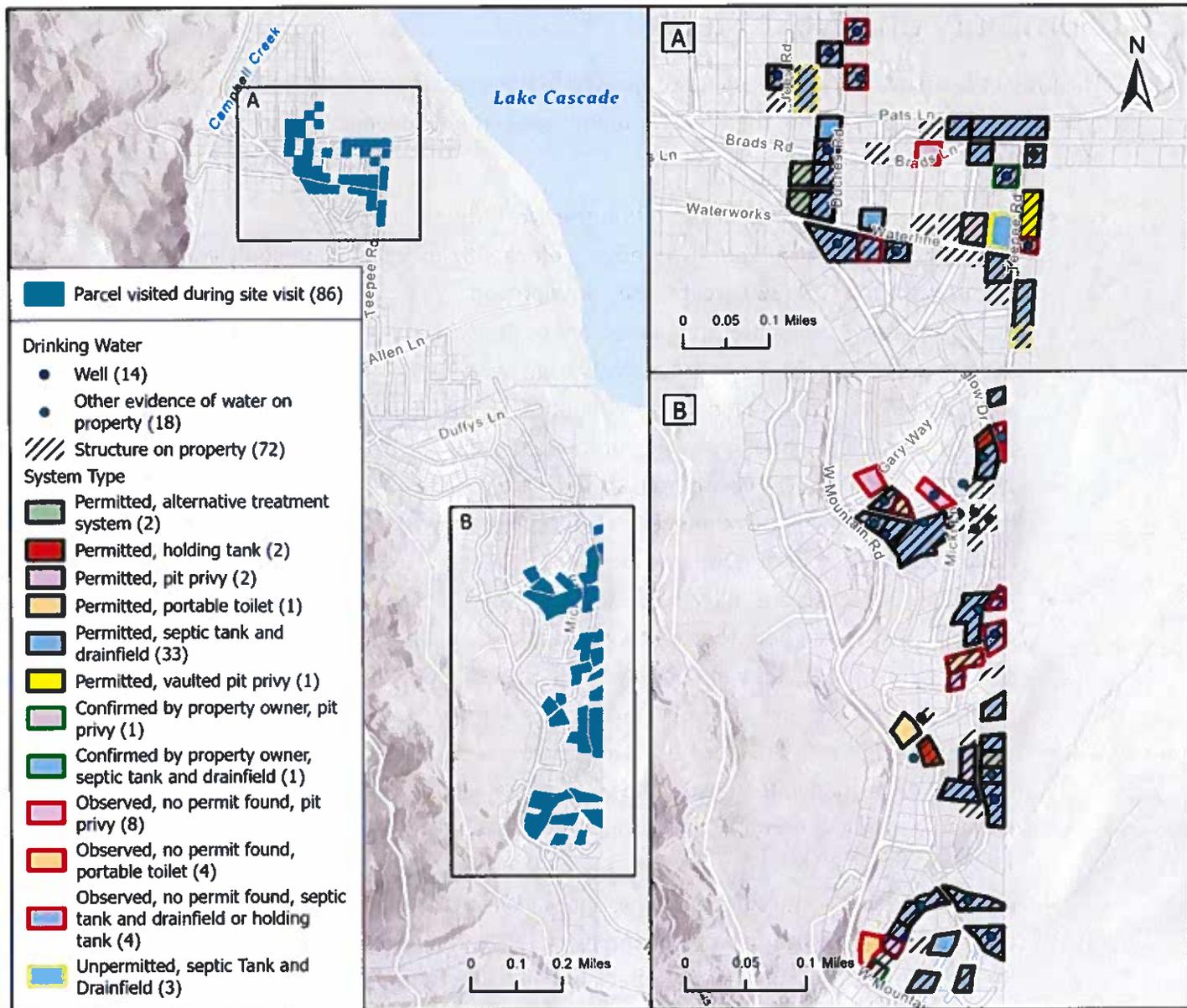
Summary and Next Steps

The project team evaluated many data sources to better characterize existing land uses and types of onsite systems within the West Mountain area. The following are key findings from this effort:

- Approximately 766 parcels exist within the West Mountain area.
- According to the Valley County Assessor's office, 487 parcels (64 percent) are "improved" and 279 (36 percent) are "unimproved."
- Approximately 5 percent of the parcels are occupied by full-time residents.
- Based on the CDH database, 266 parcels have permitted onsite systems. (Note that many systems were installed prior to initiation of the CDH onsite permitting process, and some may have been installed without a permit.)
- The vast majority of CDH-permitted systems are septic tanks and drainfields (217). Of the 197 septic tank and drainfield systems where system age could be calculated, 142 (72 percent) are at least 40 years old.
- A number of parcels are still served by privies. Eleven CDH-permitted pit privies (not vaulted) exist throughout the West Mountain area. In addition, during the June 2025 site visit, nine pit privies were observed that lacked a CDH permit. One property owner confirmed that their pit privy is still used.
- A number of parcels (35) are not developable based on inability to obtain a CDH permit due to high groundwater, unsuitable soils, or inability to meet required setbacks. The project team assumes these parcels are unusable for any type of decentralized onsite system.
- A number of domestic wells exist throughout West Mountain area. The presence of these wells may make installation of new or replacement onsite systems difficult, given the requirement for a 100-foot setback between a well and a drainfield.
- Based on the June 2025 site visit, a number of parcels currently have a house, cabin, or recreational vehicle but no CDH permit. Some of these parcels do have an onsite system in use, based on observations or discussions with the property owner.

The information in this report will inform evaluation of alternatives, including:

- **Decentralized or clustered onsite systems.** The information in this report on undeveloped lots or lots with limiting factors (such as high groundwater or unsuitable soils) will be critical in this evaluation.
- **Centralized collection and treatment system located within or near the West Mountain area.** The information on current locations of developed lots and the concentration of



Sources: Esri, TomTom, Garmin, FAO, NASA, NGA, FEMA, NOAA, USGS, © OpenStreetMap Contributors, and the GIS User Community

Figure 11. Onsite system characteristics for properties with confirmed addresses (undetermined onsite wastewater systems are not identified on this map).

known onsite systems can help with identifying priority areas to sewer first. It can also help with quantifying anticipated flows for sizing infrastructure.

In addition, the information in this report can help facilitate conversations around forming a LID (an idea studied in the past for the West Mountain area) as alternatives are further evaluated. It can also be used to identify domestic wells for contaminant sampling.

DRAFT

References

- Idaho Central District Health. (n.d.). *Septic systems search*. Retrieved December 23, 2025, from <https://cdh.idaho.gov/environmental-health/water-wastewater-septic/septic-system-and-septic-system-search/>
- IDEQ (Idaho Department of Environmental Quality). (n.d.). *Septic and septage*. <https://www.deq.idaho.gov/water-quality/wastewater/septic-and-septage/>
- IDEQ (Idaho Department of Environmental Quality). (2000). *Implementation plan for the Cascade Reservoir Phase II Watershed Management Plan*. <https://valleyswcd.org/wp-content/uploads/2024/12/2000implementation-plan-cascade-reservoir-watershed-management-plan.pdf>
- IDEQ (Idaho Department of Environmental Quality). (2020). *Technical guidance manual: Individual and subsurface sewage disposal systems*. <https://idahopublichealth.com/environmental/septicsystems/Technical-Guidance-Manual-November.pdf>
- Keller Associates. (2005). *Valley County South Lake sewer facilities planning study* (102081).
- Lappin, J., & Turco, T. (1989). *Privy sanitation survey—“West Mountain” Area, Valley County, Idaho*. Idaho Central District Health Department.
- U.S. EPA (U.S. Environmental Protection Agency). (2012). *Septic systems glossary*. https://sor.epa.gov/sor_internet/registry/termreg/searchandretrieve/glossariesandkeywordlists/search.do?details&glossaryName=Septic+Systems+Glossary
- Valley County, Idaho. (n.d.). *Assessor FAQ*. <https://www.co.valley.id.us/AssessorFAQ>