



SUMMIT COUNTY HEALTH DEPARTMENT

Summit County Board of Health

January 3, 2019

Gary Resnick, Chair
Marc Watterson, Past Chair
Kim Carson, County Council member
Dorothy Adams, member
Heidi Jaeger, member
Ilyssa Golding, member
Chris Ure, member

Subject: Appeal of Health Department decision to not permit individual onsite wastewater systems in the Trail Ridge Master Planned Development Subdivision

Dear Summit County Board of Health Members,

Contained in this packet is information specific to the appeal of the Summit County Health Department's decision to not permit individual onsite wastewater systems (OSWSs) in the Trail Ridge Master Planned Development subdivision. This appeal hearing is being held at the next Summit County Board of Health meeting on January 7, 2018 at 4:30pm.

The information provided represents the basis for our decision to not permit OSWSs in the Trail Ridge Master Planned Development (MPD). The Health Department has requested using a community system with supporting infrastructure to serve the wastewater needs of the MPD, similar to what is being used by other large subdivisions in Summit County. Based on information provided by the SWCA wastewater study (2016), the Utah Department of Environmental Quality (DEQ) Total Maximum Daily Load (TMDL) study for Rockport Reservoir (2014), and current conditions/ concerns in other parts of the County, we feel this decision is the responsible approach to managing wastewater from the Trail Ridge MPD.

Additionally, a timeline of events leading up to today's hearing has been provided below. This will help you understand the progression of the appeal process and how we have arrived at this point.

Sincerely,

A handwritten signature in black ink, appearing to read "Phil Bondurant".

Phil Bondurant, MPH, LEHS, RS
Director of Environmental Health
Summit County Health Department

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85 North 50 East, PO Box 128
Coalville, UT 84017
435-336-3234
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Kamas, UT 84036
435-783-3161
Fax: 435-608-4434



Timeline for Trail Ridge Subdivision

- October 10, 2014 First round of percolation test- 10 percolation tests conducted
Lots 4, 6, 7, & 9 at or above 60 mpi- not suitable for conventional system.
(attached)
- August 20, 2018 Trailridge receives DEQ approval for community water system (48 lots)
(attached)
- August 30, 2018 Meeting with Mr. Sharry and Mr. Hollberg to discuss individual OSWSs and
community wastewater system. The Health Department advised applicants
that individual systems will not be permitted.
*Attendees: Phil Bondurant, Nathan Brooks, Brett Ovard, Gus Sharry, and
Brett Hollberg*
- October 30, 2018 Meeting between Health Department and Developers to discuss individual
OSWSs for Trail Ridge- Advised to make formal written letter of intent.
Attendees: Rich Bullough, Phil Bondurant, Gus Sharry, and Brett Hollberg
- November 7, 2018 Formal Master Planned Development (MPD) application received from County
Planning Department
- November 15, 2018 Mr. Sharry submits formal letter of intent to apply for individual OSWSs for
Trail Ridge MPD (attached)
- November 19, 2018 Individual OSWSs denied by Environmental Health Director
Formal denial letter provided by Environmental Health (attached)
- November 29, 2018 Appeal letter from Mr. Sharry delivered to Rich Bullough
(attached)
- December 17, 2018 Appeal for individual OSWSs in the Trail Ridge MPD denied by Rich Bullough
- January 7, 2019 Appeal hearing for the use of OSWSs in the Trail Ridge MPD by the Summit
County Board of Health

SOIL PROFILE AND
PERC TEST DATA

TRAIL RIDGE SUBDIVISION
SUMMIT COUNTY, UTAH

DATE: OCTOBER, 2014

PROJECT NO. 14025

PREPARED BY: **CANYON ENGINEERING**
PARK CITY, UTAH

SOIL TEST PIT LOG

CANYON ENGINEERING

PO Box 982131, PARK CITY, UT 84098

VOICE 435.640.7373

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Client: **Brett Hollberg**
 PLS Grid Location: **S21 T1N R5E**
 Tax ID No. **NS-227-D; NS-227-L-1**
 Property Address: **to be determined**
 Conducted By: **Gus Sharry, PE**
 Witness: **Brent Ovard; Rebecka Hullinger**
 Contractor / Equip: **Hollberg RTH**

Job No. **14025**
 Date: **10/9 - 10/10/14**
 Weather: **clear**

SOLUTIONS FOR LAND



No. & Location	Depth (IN)	Horizon	Texture	Color	Struc	Description
1014-1 (lot 1)	0-10	A	SL	10YR 4/3		grass/sage cover; some roots; DL-MFR;
	10-34	C1	SL	10YR 5/6	POC GR	MFR-DFR; roots to 24"; isolated P;
N 40.80943	34-80	C2	SiL	2.5Y 7/3	M	DFI-DVFI; < 5% angular P/C 6" LD;
W 111.38223						
	mottling	no		OGW	no	
	refusal	no		ESHW	no	
1014-2 (lot 6)	0-8	A	SL	10YR 3/3		grass/sage cover; some roots; DFR-MFR;
	8-24	C1	CL	10YR 3/4		MFR; roots to 12"; isolated P;
N 40.80965	24-66	C2	CL	10YR 5/4	M	DVFI-MVFI; isolated P;
W 111.38390						
	mottling	no		OGW	no	
	refusal	no		ESHW	no	
1014-3 (lot 7)	0-4	A	SL	10YR 3/3		grass/sage cover; some roots; DFR;
	4-16	B	L	10YR 3/3		DFR; roots to 16";
N 40.80874	16-36	C1	SiL	2.5Y 4/3	POC BL, GR	DFR-DFI; < 5% angular P/C 6" LD;
W 111.38414	36-56	C2	SiL	2.5Y 6/4	M	DVFI; < 5% angular P/C 6" LD;
	56-72	C3	SiL	10YR 6/4	M	DVFI; < 5% angular P/C 6" LD; POC cemented
	mottling	no		OGW	no	
	refusal	no		ESHW	no	
1014-4 (lot 8)	0-10	A	SL	10YR 3/3		grass/sage cover; some roots; DFR;
	10-30	C1	SiL	2.5Y 4/3	POC BL, GR	DFR; roots to 16";
N 40.80853	30-60	C2	SiL; POC SL	2.5Y 6/4	M	DFR-DFI; < 5% angular P/C 6" LD;
W 111.38464	60-84	C3	SiL	10YR 6/4	M	DFR-DFI; < 5% angular P/C 6" LD;
	mottling	no	iron ox lense 56-60	OGW	no	
	refusal	no		ESHW	no	

ABBREVIATIONS

RTH-rubber tire backhoe; EXC-track excavator; DEH-Dept of Environmental Health; ESHGW-estimated seasonal high groundwater; OGW-observed groundwater; GW-groundwater; BG-below grade; P-pebbles; C-cobbles; B-boulders; FR-fractured rock; LD-largest dimension; POC-pockets;

TEXTURE

S-sand; CS-coarse sand; LS-loamy sand; SL-sandy loam; MSL-medium sandy loam; FSL-fine sandy loam; L-loam; SiL-silt loam; FSC-fine sandy clay; CL-clay loam; C-clay;

STRUCTURE

M-massive; PL-platy; BL-blocky; PR-prismatic; GR-granular; RL-restrictive layer;

CONSISTENCE

LS-loose; SG-single grain; DH-dry, hard; DVFI-dry, very firm; DFI-dry, firm; DFR-dry, friable; MVFI-moist, very firm; MFI-moist, firm; MFR-moist, friable; CM-cemented; W-wet;

MOTTLES

abundance: F-few (<2% soil surface); C-common (2-20% soil surface); M-many (>20% soil surface)

size: F-fine (<5mm); M-medium (5-15mm); C-coarse (>15mm)

contrast: F-faint; D-distinct; P-prominent

SOIL TEST PIT LOG

CANYON ENGINEERING

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Client: **Brett Hollberg**
 PLS Grid Location: **S21 T1N R5E**
 Tax ID No. **NS-227-D; NS-227-L-1**
 Property Address: **to be determined**
 Conducted By: **Gus Sharry, PE**
 Witness: **Brent Ovard; Rebecka Hullinger**
 Contractor / Equip: **Hollberg RTH**

Job No. **14025**
 Date: **10/9 - 10/10/14**
 Weather: **clear**

SOLUTIONS FOR LAND



No. & Location	Depth (IN)	Horizon	Texture	Color	Struc	Description
1014-5 (lot 9)	0-12	A	SL	10YR 3/3		grass/sage cover; DL;
	12-26	C1	L		POC GR	MFR; sparse roots to 18"; isolated P;
N 40.80830	26-50	C2	SCL	7.5YR 4/6	M	DVFI; isolated P;
W 111.38573	50-70	C3	SL; SiL	2.5Y 6/4	M	DFI-DFR; isolated P;
	70-82	C4	LS	10YR 7/6		DFR; isolated P;
	mottling	74-82	C,C,D		OGW	no
	refusal	no			ESHGW	no
1014-6 (lot 10)	0-8	A	SL			grass/sage cover; DL;
	8-22	C1	L		POC GR	DFR-MFR; sparse roots to 18"; isolated P;
N 40.80902	22-74	C2	SCL	7.5YR 4/6	M	DVFI; isolated P;
W 111.38576	74-80	C3	VFSL	10YR 7/6		DFI; isolated P;
	mottling	76-80	C,C,D		OGW	no
	refusal	no			ESHGW	no
1014-7 (lot 5)	0-14	A	SL	7.5YR 3/3		grass/sage cover; DL;
	14-24	C1	SiL, VFSL		M	DFR-DFI; roots to 18";
N 40.80989	24-68	C2	SL	7.5YR 7/4		DFR; 35% rounded P/C 8" LD;
W 111.38575	68-80	C3	VFSL	10YR 6/6		MFR; isolated P;
	mottling	no			OGW	lenses of red medium sand;
	refusal	no			ESHGW	no
1014-8 (lot 4)	0-12	A	SL	7.5YR 2.5/2		grass/sage cover; DL-MFR;
	12-27	C1	CL	10YR 4/6	POC GR	DFR-DFI; roots to 14";
N 40.81117	27-78	C2	SCL	10YR 5/6	M	DVFI; isolated P;
W 111.38565						
	mottling	no			OGW	no
	refusal	no			ESHGW	no

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TEXTURE

S-sand; CS-coarse sand; LS-loamy sand; SL-sandy loam; MSL-medium sandy loam; FSL-fine sandy loam; L-loam; SiL-silt loam; FSC-fine sandy clay; CL-clay loam; C-clay;

STRUCTURE

M-massive; PL-platy; BL-blocky; PR-prismatic; GR-granular; RL-restrictive layer;

CONSISTENCE

LS-loose; SG-single grain; DH-dry, hard; DVFI-dry, very firm; DFI-dry, firm; DFR-dry, friable; MVFI-moist, very firm; MFI-moist, firm; MFR-moist, friable; CM-cemented; W-wet;

MOTTLES

abundance: F-few (<2% soil surface); C-common (2-20% soil surface); M-many (>20% soil surface)

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contrast: F-faint; D-distinct; P-prominent

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 Tax ID No. **NS-227-D; NS-227-L-1**
 Property Address: **to be determined**
 Conducted By: **Gus Sharry, PE**
 Witness: **Brent Ovard; Rebecka Hullinger**
 Contractor / Equip: **Hollberg**
RTH

Job No. **14025**
 Date: **10/9 - 10/10/14**
 Weather: **clear**

SOLUTIONS FOR LAND



No. & Location	Depth (IN)	Horizon	Texture	Color	Struc	Description
1014-9 (lot 3)	0-12	A	SL	7.5YR 2.5/2		grass/sage cover; DL-MFR;
	12-30	C1	CL	10YR 4/6	POC GR	DFR-DFI; roots to 14"; isolated P;
N 40.81135	30-78	C2	VFLS	7.5YR 6/8		DFR; 40% rounded P/C/B 16" LD
W 111.38451						
	mottling	no		OGW	no	
	refusal	no		ESHGW	no	
1014-10 (lot 2)	0-12	A	SL			grass/sage cover; DFR-MFR;
	12-42	C1	CL		POC GR	DFR-DFI; < 5% rounded P/C 4" LD;
N 40.81128	42-75	C2	SCL	10YR 5/6	M	DVFI; isolated P; less firm bottom 8"
W 111.38344						
	mottling	no		OGW	no	
	refusal	no		ESHGW	no	

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TEXTURE

S-sand; CS-coarse sand; LS-loamy sand; SL-sandy loam; MSL-medium sandy loam; FSL-fine sandy loam; L-loam; SiL-silt loam; FSC-fine sandy clay; CL-clay loam; C-clay;

STRUCTURE

M-massive; PL-platy; BL-blocky; PR-prismatic; GR-granular; RL-restrictive layer;

CONSISTENCE

LS-loose; SG-single grain; DH-dry, hard; DVFI-dry, very firm; DFI-dry, firm; DFR-dry, friable; MVFI-moist, very firm; MFI-moist, firm; MFR-moist, friable; CM-cemented; W-wet;

MOTTLES

abundance: F-few (<2% soil surface); C-common (2-20% soil surface); M-many (>20% soil surface)
 size: F-fine (<5mm); M-medium (5-15mm); C-coarse (>15mm)
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 Tax ID No. **NS-227-D; NS-227-L-1**
 Property Address: **to be determined**
 Conducted By: **Gus Sharry, PE**
 Witnessed By: **Brent Ovard; Rebecka Hullinger**
 Job No. **14025**
 Weather: **clear**

SOLUTIONS FOR LAND



No. & Location

1014-A (lot 1)

Bottom of perc to grade (IN) **26**

N 40.80943
 W 111.38223

Date **10/9/14**
 Time **0:00:00 1:51:30 3:32:00 3:33:00 3:53:00** first 12-inch drainout > 10 minutes;
 Depth **12 6 1 2/8 6 4 4/8** held water over gravel at least 4 hours;
 16 to 30-hour swell required

Date **10/10/14**

Time	0:08:00	0:38:00	1:08:00				
Depth	6	4 7/8	3 6/8				
Time							
Depth							

drop IN **1 1/8**
 time period MIN **30**

perc rate: 27 MPI



Certified in conformance with
 Utah Administrative Code section R317-4, Appendix D, and local Health Dept rules

ACCEPTABLE PERC RATE RANGES

conventional systems 1 to 60 MPI
 alternative systems 1 to 120 MPI

NOTES

[1] An acceptable perc rate does not guarantee buildability of land. On-site wastewater system designs must meet state and local code requirements for absorption area location, size and type, slope distance, depth to seasonal high groundwater and bedrock, depth of parent soil, setbacks to property lines and physical constraints, and other requirements. A site exhibiting a perc rate between 1 and 60 MPI may require an alternative system if other conventional system design requirements cannot be met.

[2] All depths in inches. All times are to the second.

ABBREVIATIONS

RTH-rubber tire backhoe; EXC-track excavator; BOH-Board of Health; ESHGW-estimated seasonal high groundwater; OGW-observed groundwater; GW-groundwater; BG-below grade; MPI-minutes per inch; IN-inches; MIN-minutes; RL-restrictive layer;

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Owner: **Brett Hollberg**
 PLS Grid Location: **S21 T1N R5E**
 Tax ID No. **NS-227-D; NS-227-L-1**
 Property Address: **to be determined**
 Conducted By: **Gus Sharry, PE**
 Witnessed By: **Brent Ovard; Rebecka Hullinger**
 Job No. **14025**
 Weather: **clear**

SOLUTIONS FOR LAND



No. & Location

1014-E (lot 2)

Bottom of perc to grade (IN) **25**

N 40.81128
 W 111.38344

Date **10/12/14**
 Time **0:01:10 0:07:15 1:14:00 1:14:45** first 12-inch drainout > 10 minutes;
 Depth **12 9 7/8 2 2/8 12** held water over gravel at least 4 hours;
 16 to 30-hour swell required

Date	10/13/14					
Time	0:01:00	0:31:00	0:37:00	1:07:00	1:09:00	1:39:00
Depth	6	2 5/8	6	4	6	4
Time						
Depth						

drop IN **2**
 time period MIN **30**

perc rate: **15** MPI



Certified in conformance with
 Utah Administrative Code section R317-4, Appendix D, and local Health Dept rules

ACCEPTABLE PERC RATE RANGES

conventional systems 1 to 60 MPI
 alternative systems 1 to 120 MPI

NOTES

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PERC TEST CERTIFICATE

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Owner: **Brett Hollberg**
 PLS Grid Location: **S21 T1N R5E**
 Tax ID No. **NS-227-D; NS-227-L-1**
 Property Address: **to be determined**
 Conducted By: **Gus Sharry, PE**
 Witnessed By: **Brent Ovard; Rebecka Hullinger**
 Job No. **14025**
 Weather: **clear**

SOLUTIONS FOR LAND



No. & Location

1014-F (lot 3)

Bottom of perc to grade (IN) **24**

N 40.81135
W 111.38451

Date **10/12/14**

Time	0:19:10	1:16:40	1:17:30	2:19:00	
Depth	12	4 2/8	11	8 1/8	

first 12-inch drainout > 10 minutes;
held water over gravel at least 4 hours;
16 to 30-hour swell required

Date **10/13/14**

Time	0:07:50	0:37:50	1:13:00	1:14:40	1:44:40	2:04:40	
Depth	6	4 4/8	3 4/8	6	5	4	
Time							
Depth							

drop IN **1**
time period MIN **30**

perc rate: **30** MPI



Certified in conformance with
Utah Administrative Code section R317-4, Appendix D, and local Health Dept rules

ACCEPTABLE PERC RATE RANGES

conventional systems 1 to 60 MPI
alternative systems 1 to 120 MPI

NOTES

[1] An acceptable perc rate does not guarantee buildability of land. On-site wastewater system designs must meet state and local code requirements for absorption area location, size and type, slope distance, depth to seasonal high groundwater and bedrock, depth of parent soil, setbacks to property lines and physical constraints, and other requirements. A site exhibiting a perc rate between 1 and 60 MPI may require an alternative system if other conventional system design requirements cannot be met.

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 Conducted By: **Gus Sharry, PE**
 Witnessed By: **Brent Ovard; Rebecka Hullinger**
 Job No. **14025**
 Weather: **clear**

SOLUTIONS FOR LAND



No. & Location

1014-G (lot 4)

Bottom of perc to grade (IN) **24**

N 40.81117
 W 111.38565

Date	10/12/14				
Time	0:40:20	1:19:40	1:21:00	2:22:10	first 12-inch drainout > 10 minutes;
Depth	12	8 6/8	12	10 1/8	held water over gravel at least 4 hours;
					16 to 30-hour swell required

Date	10/13/14				
Time	2:09:30	2:39:30	3:09:30	3:39:30	
Depth	6	5 3/8	5	4 5/8	
Time					
Depth					

drop IN **3/8**
 time period MIN **30**

perc rate: 80 MPI



ACCEPTABLE PERC RATE RANGES

conventional systems 1 to 60 MPI
 alternative systems 1 to 120 MPI

Certified in conformance with
 Utah Administrative Code section R317-4, Appendix D, and local Health Dept rules

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 Conducted By: **Gus Sharry, PE**
 Witnessed By: **Brent Ovard; Rebecka Hullinger**
 Job No. **14025**
 Weather: **clear**

SOLUTIONS FOR LAND



No. & Location

1014-H (lot 5)

Bottom of perc to grade (IN) **22**

N 40.80989
 W 111.38575

Date **10/12/14**
 Time **1:04:15 1:22:50 2:32:30**
 Depth **12 6 1/8 12**
 first 12-inch drainout > 10 minutes;
 held water over gravel at least 4 hours;
 16 to 30-hour swell required

Date	10/13/14					
Time	3:02:00	3:32:00	4:02:00	4:03:00	4:33:00	5:03:00
Depth	6	3 5/8	2 6/8	6	4 2/8	2 4/8
Time						
Depth						

drop IN **1 6/8**
 time period MIN **30**

perc rate: **17** MPI



Certified in conformance with
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ACCEPTABLE PERC RATE RANGES

conventional systems 1 to 60 MPI
 alternative systems 1 to 120 MPI

NOTES

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 Tax ID No. **NS-227-D; NS-227-L-1**
 Property Address: **to be determined**
 Conducted By: **Gus Sharry, PE**
 Witnessed By: **Brent Ovard; Rebecka Hullinger**
 Job No. **14025**
 Weather: **clear**

SOLUTIONS FOR LAND



No. & Location

1014-B (lot 6)

Bottom of perc to grade (IN) **25**

N 40.80965
 W 111.38390

Date **10/9/14**
 Time **0:57:10 1:55:00 3:27:20**
 Depth **12 8 6/8 7**
 first 12-inch drainout > 10 minutes;
 held water over gravel at least 4 hours;
 16 to 30-hour swell required

Date **10/10/14**
 Time **0:00:40 0:30:40 1:00:40**
 Depth **6 5 4/8 5**
 Time
 Depth

drop IN **4/8**
 time period MIN **30**

perc rate: **60** MPI



Certified in conformance with
 Utah Administrative Code section R317-4, Appendix D, and local Health Dept rules

ACCEPTABLE PERC RATE RANGES

conventional systems 1 to 60 MPI
 alternative systems 1 to 120 MPI

NOTES

[1] An acceptable perc rate does not guarantee buildability of land. On-site wastewater system designs must meet state and local code requirements for absorption area location, size and type, slope distance, depth to seasonal high groundwater and bedrock, depth of parent soil, setbacks to property lines and physical constraints, and other requirements. A site exhibiting a perc rate between 1 and 60 MPI may require an alternative system if other conventional system design requirements cannot be met.

[2] All depths in inches. All times are to the second.

ABBREVIATIONS

RTH-rubber tire backhoe; EXC-track excavator; BOH-Board of Health; ESHGW-estimated seasonal high groundwater; OGW-observed groundwater; GW-groundwater; BG-below grade; MPI-minutes per inch; IN-inches; MIN-minutes; RL-restrictive layer;

PERC TEST CERTIFICATE

CANYON ENGINEERING

PO Box 982131, PARK CITY, UT 84098

VOICE 435.640.7373

EMAIL GUS@CANYONENG.COM

WWW.CANYONENG.COM

Owner: **Brett Hollberg**
 PLS Grid Location: **S21 T1N R5E**
 Tax ID No. **NS-227-D; NS-227-L-1**
 Property Address: **to be determined**
 Conducted By: **Gus Sharry, PE**
 Witnessed By: **Brent Ovard; Rebecka Hullinger**
 Job No. **14025**
 Weather: **clear**

SOLUTIONS FOR LAND



No. & Location

1014-C (lot 7)

Bottom of perc to grade (IN) **27**

N 40.80874
 W 111.38414

Date **10/9/14**
 Time **1:41:20 3:22:00**
 Depth **12 9**
 first 12-inch drainout > 10 minutes;
 held water over gravel at least 4 hours;
 16 to 30-hour swell required

Date **10/10/14**
 Time **1:15:00 1:45:00 2:15:00 2:45:00**
 Depth **6 5 5/8 5 2/8 4 7/8**
 Time
 Depth

drop IN **3/8**
 time period MIN **30**

perc rate: **80** MPI



Certified in conformance with
 Utah Administrative Code section R317-4, Appendix D, and local Health Dept rules

ACCEPTABLE PERC RATE RANGES

conventional systems 1 to 60 MPI
 alternative systems 1 to 120 MPI

NOTES

[1] An acceptable perc rate does not guarantee buildability of land. On-site wastewater system designs must meet state and local code requirements for absorption area location, size and type, slope distance, depth to seasonal high groundwater and bedrock, depth of parent soil, setbacks to property lines and physical constraints, and other requirements. A site exhibiting a perc rate between 1 and 60 MPI may require an alternative system if other conventional system design requirements cannot be met.

[2] All depths in inches. All times are to the second.

ABBREVIATIONS

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PERC TEST CERTIFICATE

CANYON ENGINEERING

PO Box 982131, PARK CITY, UT 84098

VOICE 435.640.7373

EMAIL GUS@CANYONENG.COM

WWW.CANYONENG.COM

Owner: **Brett Hollberg**
 PLS Grid Location: **S21 T1N R5E**
 Tax ID No. **NS-227-D; NS-227-L-1**
 Property Address: **to be determined**
 Conducted By: **Gus Sharry, PE**
 Witnessed By: **Brent Ovard; Rebecka Hullinger**
 Job No. **14025**
 Weather: **clear**

SOLUTIONS FOR LAND



No. & Location

1014-D (lot 8)

Bottom of perc to grade (IN) **26**

N 40.80853
 W 111.38464

Date **10/9/14**
 Time **2:25:35 2:30:45 3:19:15 3:20:00** first 12-inch drainout > 10 minutes;
 Depth **12 9 6/8 2 3/8 11** held water over gravel at least 4 hours;
 16 to 30-hour swell required

Date	10/10/14					
Time	1:21:00	1:51:00	2:21:00	2:22:20	2:52:20	3:22:20
Depth	6	4 3/8	3 2/8	6	4 6/8	3 4/8
Time						
Depth						

drop IN **1 2/8**
 time period MIN **30**

perc rate: **24** MPI



Certified in conformance with
 Utah Administrative Code section R317-4, Appendix D, and local Health Dept rules

ACCEPTABLE PERC RATE RANGES

conventional systems 1 to 60 MPI
 alternative systems 1 to 120 MPI

NOTES

[1] An acceptable perc rate does not guarantee buildability of land. On-site wastewater system designs must meet state and local code requirements for absorption area location, size and type, slope distance, depth to seasonal high groundwater and bedrock, depth of parent soil, setbacks to property lines and physical constraints, and other requirements. A site exhibiting a perc rate between 1 and 60 MPI may require an alternative system if other conventional system design requirements cannot be met.

[2] All depths in inches. All times are to the second.

ABBREVIATIONS

RTH-rubber tire backhoe; EXC-track excavator; BOH-Board of Health; ESHGW-estimated seasonal high groundwater; OGW-observed groundwater; GW-groundwater; BG-below grade; MPI-minutes per inch; IN-inches; MIN-minutes; RL-restrictive layer;

PERC TEST CERTIFICATE

CANYON ENGINEERING

PO Box 982131, PARK CITY, UT 84098

VOICE 435.640.7373

EMAIL GUS@CANYONENG.COM

WWW.CANYONENG.COM

Owner: **Brett Hollberg**
 PLS Grid Location: **S21 T1N R5E**
 Tax ID No. **NS-227-D; NS-227-L-1**
 Property Address: **to be determined**
 Conducted By: **Gus Sharry, PE**
 Witnessed By: **Brent Ovard; Rebecka Hullinger**
 Job No. **14025**
 Weather: **clear**

SOLUTIONS FOR LAND



No. & Location

1014-I (lot 9)

Bottom of perc to grade (IN) **23**

N 40.80830
 W 111.38573

Date **10/14/14**
 Time **0:00:00 0:45:00 1:35:40**
 Depth **12 10 5/8 9 7/8**
 first 12-inch drainout > 10 minutes;
 held water over gravel at least 4 hours;
 16 to 30-hour swell required

Date **10/15/14**
 Time **0:00:00 0:30:00 1:00:00**
 Depth **6 5 6/8 5 4/8**
 Time
 Depth

drop IN **2/8**
 time period MIN **30**

perc rate: 120 MPI



Certified in conformance with
 Utah Administrative Code section R317-4, Appendix D, and local Health Dept rules

ACCEPTABLE PERC RATE RANGES

conventional systems 1 to 60 MPI
 alternative systems 1 to 120 MPI

NOTES

[1] An acceptable perc rate does not guarantee buildability of land. On-site wastewater system designs must meet state and local code requirements for absorption area location, size and type, slope distance, depth to seasonal high groundwater and bedrock, depth of parent soil, setbacks to property lines and physical constraints, and other requirements. A site exhibiting a perc rate between 1 and 60 MPI may require an alternative system if other conventional system design requirements cannot be met.

[2] All depths in inches. All times are to the second.

ABBREVIATIONS

RTH-rubber tire backhoe; EXC-track excavator; BOH-Board of Health; ESHGW-estimated seasonal high groundwater; OGW-observed groundwater; GW-groundwater; BG-below grade; MPI-minutes per inch; IN-inches; MIN-minutes; RL-restrictive layer;

PERC TEST CERTIFICATE

CANYON ENGINEERING

PO Box 982131, PARK CITY, UT 84098

VOICE 435.640.7373

EMAIL GUS@CANYONENG.COM

WWW.CANYONENG.COM

Owner: **Brett Hollberg**
 PLS Grid Location: **S21 T1N R5E**
 Tax ID No. **NS-227-D; NS-227-L-1**
 Property Address: **to be determined**
 Conducted By: **Gus Sharry, PE**
 Witnessed By: **Brent Ovard; Rebecka Hullinger**
 Job No. **14025**
 Weather: **clear**

SOLUTIONS FOR LAND



No. & Location

1014-J (lot 10)

Bottom of perc to grade (IN) **20**

N 40.80902
 W 111.38576

Date **10/14/14**
 Time **0:24:50 0:50:00 1:08:00 1:28:00 1:30:00** first 12-inch drainout > 10 minutes;
 Depth **12 8 5/8 7 4/8 6 6/8 9** held water over gravel at least 4 hours;
 16 to 30-hour swell required

Date	10/15/14						
Time	0:06:00	0:36:00	1:06:00	1:36:00	2:06:00		
Depth	6	5 2/8	4 6/8	4	3 2/8		
Time							
Depth							

drop IN **6/8**
 time period MIN **30**

perc rate: **40** MPI



Certified in conformance with
 Utah Administrative Code section R317-4, Appendix D, and local Health Dept rules

ACCEPTABLE PERC RATE RANGES

conventional systems 1 to 60 MPI
 alternative systems 1 to 120 MPI

NOTES

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RTH-rubber tire backhoe; EXC-track excavator; BOH-Board of Health; ESHGW-estimated seasonal high groundwater; OGW-observed groundwater; GW-groundwater; BG-below grade; MPI-minutes per inch; IN-inches; MIN-minutes; RL-restrictive layer;



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of
Environmental Quality

Alan Matheson
Executive Director

DIVISION OF DRINKING WATER
Marie E. Owens, P.E.
Director

August 20, 2018

Brett Hollberg
Trail Ridge Public Water Supply System
PO Box 171003
Salt Lake City, Utah 84117

Subject: **Plan Approval**, Well Drilling, System Well 1 (WS001);
Trail Ridge Public Water Supply System, System #22151, File #11257

Dear Mr. Hollberg:

The Division of Drinking Water (the Division) received the plans and specifications for the Well Drilling of System Well 1 from your consultant, Richard Emerson of Cascade Water Resources on July 19, 2018. Written review comments were sent on August 1, 2018; revised plans and a Division of Water Rights Start Card were provided August 14, 2018. System Well 1 is identified as WS001 in the Division's database.

We understand that this project consists of a new water source that will be drilled using conventional mud and dual rotary methods. **The well will serve as a primary water source for 48 recreational homes in the Trail Ridge Subdivision in the Cherry Creek Canyon Area east of Wanship in Summit County.**

The well will be started with a minimum 10-inch diameter casing to at least 110 feet below ground surface which will allow for a 6-inch casing and annular space for an appropriate sanitary seal. The remainder of the well will be case driven using dual rotary method or continued with a 10-inch minimum borehole allowing for a 6-inch screen. The target geology for water production will be sandstone and siltstone of the Hams Fork member of the Evanston Formation located approximately 150 to 250 feet below ground surface.

We have received the following information for the Well Drilling of System Well 1:

1. Plans and specifications for borehole and well drilling.
2. Preliminary Evaluation Report.
3. Valid Start Card from the Division of Water Rights.

Brett Hollberg
Page 2 of 3
August 20, 2018

We have completed our review of the plans and specifications, stamped and signed by Richard Emerson, P.G., and dated July 19, 2018, and found they basically comply with the applicable portions of *Utah's Administrative Rules for Public Drinking Water Systems*. On this basis, **the plans for drilling System Well 1 are hereby approved**. This approval pertains to well drilling, development, aquifer testing, and disinfection of System Well 1 only. Please be aware that discharge permits may be required by Utah Division of Water Quality for discharges generated during well drilling and aquifer drawdown testing.

The Utah Division of Water Rights (State Engineer's Office) regulates the drilling of water wells. **Before the drilling of a well commences, the well driller must receive a start card from the State Engineer's Office**. Please be aware that, for public drinking water supply wells, in addition to the Division of Drinking Water's *R309-515* rule, the Division of Water Rights' rule *R655-4* also applies and shall be followed.

After drilling is completed, you are required to submit additional information outlined in *R309-515-6(5)(b)* and *(c)* for review, and **obtain an approval from the Director for equipping this well and constructing discharge piping and infrastructure necessary for introducing the well water into the distribution system**. After obtaining the well equipping approval, you'll then be required to obtain an Operating Permit before System Well 1 may be put in service. A checklist outlining the well approval process, including the items required for well equipping and an Operating Permit, is enclosed for your information.

Please label the well water sample collected for new source chemical analysis with your water system number **UTAH22151** and **WS001** (for both the facility ID and sample point ID) on all laboratory forms for each individual source. This will ensure proper identification and entry of the new source chemical analysis results in our database.

Approvals or permits from the local authority or county may be necessary before beginning construction of this project. As the project proceeds, notice of any changes in the approved design, as well as any change affecting the quantity or quality of the delivered water, must be submitted to the Division. We may also conduct interim and final inspections of this project. Please notify us when actual construction begins so that these inspections can be scheduled.

This approval must be renewed if construction has not begun or if substantial materials have not been ordered within one year of the date of this letter.

Drinking Water Source Protection Requirement

We have also reviewed your submission of the Preliminary Evaluation Report (PER) for the Trail Ridge Well 1 provided by your consultant, Richard Emerson of Cascade Water Resources. The Division of Drinking Water concurs with this report. This PER must be refined and a complete Drinking Water Source Protection (DWSP) Plan submitted within one year of the date of this letter. Refer to *R309-600-13(6)* and *R309-600-7(1)*. You must submit copies of land use agreements that have been recorded with Summit County or proof that the delineation has been submitted to Summit County to be covered under the Summit County Source Protection

Brett Hollberg
Page 3 of 3
August 20, 2018

Ordinance before the well can receive an operating permit. The recorded land use agreements or proof of coverage under the ordinance may be submitted to the Division before the DWSP Plan is due.

If you have any questions regarding this approval, please contact Sam Grenlie, of this office, at (801) 536-4280, or Nathan Lunstad, Engineering Manager, at (385) 239-5974.

Sincerely,



Nathan Lunstad, P.E.
Engineering Manager

SG/nl/LL/hb

Enclosure: Well Approval Checklist

cc: Phillip Bondurant, Summit County Public Health Department, pbondurant@summitcounty.org
Brett Hollberg, Trail Ridge Public Water Supply System, brettthollberg@me.com
Richard Emerson, Cascade Water Resources, rich.geomapper@gmail.com
John Files, Cascade Water Resources, john@cascadewaterresource.com
Sam Grenlie, Division of Drinking Water, sgrenlie@utah.gov
Melissa Noble, Division of Drinking Water, mnoble@utah.gov

DDW-2018-008691

Division of Drinking Water
Checklist for New Public Drinking Water Wells
(per Utah Administrative Code, Rule R309-515-6)

System Name: Trail Ridge System Number: 22151

Well Name & Description: Well 1 (WS001)

1. Approval to Drill the Well

- Project Notification Form (PNF)
- Preliminary Evaluation Report (PER) concurrence
- Well drilling specifications and plans
- Valid Start Card or authorization to drill letter from the Division of Water Rights

2. Approval to Equip the Well

- PNF (if the well drilling and well equipping are designed by different consultants)
- Well location data
- Certification of well seal
- Well driller's report (well log)
- Aquifer drawdown test results (step drawdown test & constant-rate test) for well yield determination
- Chemical analyses of the well water
- Plans and specifications for equipping the well
 - Pump information (e.g., pump specifications, pump curve & operating point, motor information, etc.)
 - Well head discharge piping
 - Well house design

3. Operating Permit to Introduce the Well Water

- Documentation of valid water right(s)
- Recorded land use agreements, or documentation that the requirements for coverage under the City/County source protection ordinance have been met
- Design engineer's certification of conformance with plan approval conditions
- Design engineer's certification of rule conformance for any deviation from approved plans
- As-built or record drawings
- Evidence of O&M manual delivery to system owner
- Satisfactory bacteriological results as evidence of proper flushing and disinfection

Philip Bondurant

From: Amir Caus
Sent: Wednesday, November 7, 2018 5:07 PM
To: captainat23@gmail.com; DNR Wildland Fire; Brandon C. Brady; Michael L. Kendell; Derrick Radke; Julie Woolstenhulme; Jeff Ward; Kraetsch, Ashley M CIV USARMY CESP (US); markfarmer@utah.gov; pharding@utah.gov; sbenvegn@utah.gov; Division of Water Quality; michaeldrake@utah.gov; matthoward@utah.gov; rpark@utah.gov; Philip Bondurant; Justin Martinez; David Bingham; Tim Loveday; Rocky Lewis (Questar - 5); Christoffersen, Cindy
Subject: Trail Ridge Subdivision – Master Planned Development (MPD) - 25 Lots
Attachments: MPD Narrative Final.pdf; slope map w proposed home sites 11 06 18.pdf; soil eval status 11 06 18.pdf; report soil testing TRAIL RIDGE SUBDIV.PDF; Water Preliminary Evaluation Report.pdf; Water Testing 1.pdf; Water Testing 2.pdf; DDW Concurrence.pdf; Proposed Plat.pdf; Title Report.pdf; TRS Density Calculation.pdf; MPD Language.pdf

November 7, 2018

Re: Trail Ridge Subdivision – Master Planned Development (MPD) - 25 Lots

Dear Service Provider,

The Summit County Community Development Department has received a Final Subdivision Plat and a Village Overlay application for 25 Lots in the Cherry Canyon area in Summit County, UT. The applicant is requesting an MPD and Final Subdivision Plat review for a 25 Lot Subdivision located on ~337 acres (Parcels: NS-227-D, NS-227-L-1, NS-227-L-2, NS-230, NS-230-I, NS-230-G, NS-230-H, and NS-230-H-1). The development improvements would be limited to Parcels NS-227-D and NS-227-L-1. NOTE: Parcel NS-230-G has an existing single family residence on it which is in the AG-10 Zone. The applicant is proposing to carve out a 10 acre parcel outside of the proposed subdivision.

I've attached an exhibit package for your review. I've also attached a copy of the Master Planned Development (MPD) language for your reference. I am happy to provide any additional information. Summit County Code requires applicable service providers and agencies to review the project and respond with any comments, conditions, and/or standards.

Please respond by November 21, 2018.

If you have any questions, please contact me at (435) 336-3117, or by e-mail acaus@summitcounty.org.

Thanks!

Sincerely,

Amir Caus, AICP

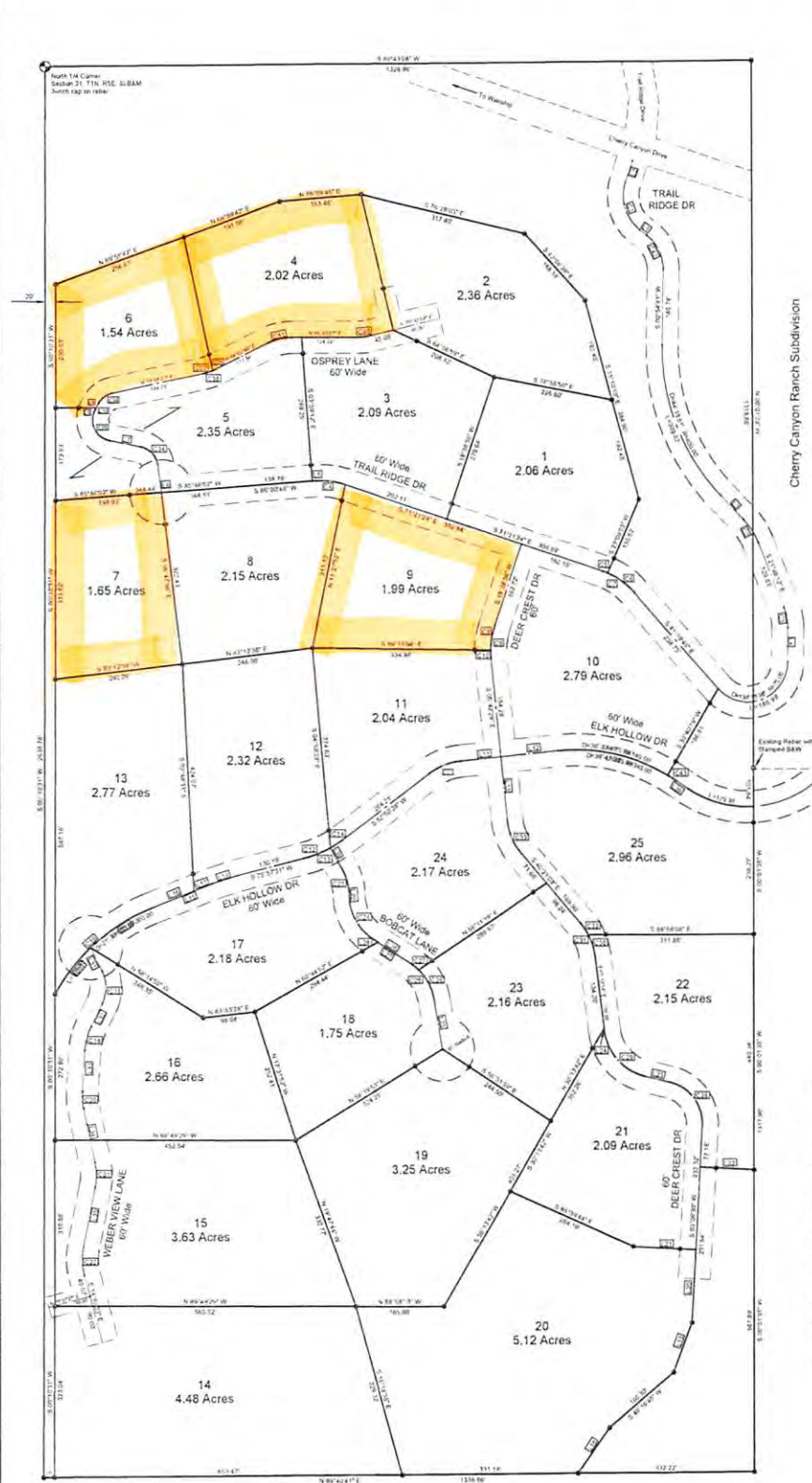
County Planner
Summit County Community Development
P.O. Box 128
60 North Main
Coalville, UT 84017
(435)336-3117
(435)608-4398 fax
acaus@summitcounty.org



Please consider the environment before printing this e-mail.

TRAIL RIDGE SUBDIVISION

Located in the Sections 21 & 22, Township 1 North, Range 5 East,
Salt Lake Base & Meridian Wanship, Summit County, Utah



Curve Table

Curve	Station	Radius	Length	Area	Chord	Offset
C1	10+38.04	140.00	84.00	32.57	174.57	E
C2	21+38.50	140.00	52.74	52.42	113.33	E
C3	22+32.47	100.00	36.71	28.47	76.50	W
C4	22+37.47	140.00	55.29	54.84	142.40	W
C5	24+30.27	140.00	11.01	11.01	149.60	W
C6	25+31.11	140.00	82.36	41.84	154.32	W
C7	30+31.01	140.00	73.37	72.57	146.20	W
C8	37+32.47	140.00	43.73	43.57	109.41	W
C9	44+31.04	140.00	54.50	54.05	136.20	W
C10	51+32.22	140.00	15.78	15.77	122.24	E
C11	51+27.54	120.00	61.87	61.05	148.50	W
C12	51+23.89	200.00	53.10	52.84	148.21	E
C13	51+20.31	200.00	62.72	62.52	148.24	E
C14	57+14.24	200.00	27.07	27.59	156.47	E
C15	57+10.12	300.00	136.85	135.14	337.62	W
C16	59+07.24	300.00	245.82	241.07	549.22	W
C17	61+29.32	300.00	136.85	136.84	337.62	W
C18	63+07.24	300.00	27.07	27.59	156.47	W
C19	63+03.12	200.00	62.72	62.52	148.24	E
C20	63+00.54	120.00	31.62	31.57	104.95	E
C21	62+48.50	120.00	47.14	47.49	134.62	W
C22	59+58.54	120.00	54.40	53.94	121.51	E
C23	59+54.51	100.00	44.50	44.19	106.28	W
C24	53+41.17	100.00	93.70	90.31	193.15	E
C25	47+52.11	100.00	83.64	81.22	183.24	W
C26	39+59.12	100.00	82.81	81.78	172.21	W
C27	31+50.59	100.00	25.45	25.78	143.21	W
C28	23+54.56	80.00	111.83	102.79	136.51	W
C29	15+50.59	100.00	121.54	114.22	142.52	W
C30	07+48.50	120.00	43.53	43.29	117.14	W
C31	39+50.59	120.00	68.42	68.40	123.80	W
C32	12+51.51	120.00	25.80	25.81	104.10	W
C33	04+50.59	100.00	72.50	72.84	123.80	W
C34	05+54.51	80.00	49.40	48.37	143.04	W
C35	108+30.54	40.00	74.40	74.40	125.52	W
C36	49+48.52	40.00	34.78	33.65	63.15	W
C37	107+30.51	100.00	19.18	19.15	77.25	W
C38	13+53.54	100.00	24.20	24.19	107.39	W
C39	02+52.50	100.00	5.08	5.08	107.39	W
C40	12+22.20	100.00	23.34	23.29	143.14	E
C41	29+52.50	100.00	43.10	44.78	176.50	W
C42	53+11.33	80.00	74.27	73.61	142.41	W
C43	02+18.27	340.00	18.41	18.61	212.62	E

Line Table

Line	Bearing	Distance
L1	S 81° 18' 31" W	41.87
L2	S 11° 22' 18" W	41.87
L3	S 81° 18' 31" W	63.72
L4	S 80° 24' 05" W	63.72
L5	S 4° 30' 54" W	7.41
L6	N 87° 33' 09" W	51.74
L7	N 87° 33' 09" W	80.30
L8	S 28° 37' 50" W	11.84
L9	S 28° 37' 50" W	7.84
L10	S 20° 07' 50" W	4.38
L11	S 20° 07' 50" W	75.71
L12	N 68° 17' 12" E	104.12
L13	S 61° 42' 58" E	114.41
L14	N 72° 28' 08" E	58.90
L15	S 48° 05' 09" W	122.32
L16	S 48° 05' 09" W	54.77
L17	S 48° 05' 09" W	95.65
L18	N 54° 37' 05" E	104.72
L19	N 29° 04' 05" E	89.87
L20	S 03° 06' 30" W	134.50
L21	S 03° 06' 30" W	114.09
L22	N 86° 53' 30" W	101.29
L23	S 03° 06' 30" W	43.17
L24	S 57° 12' 14" E	1.78
L25	S 57° 12' 14" E	84.81
L26	N 52° 24' 30" W	81.01
L27	S 21° 44' 30" W	76.30
L28	S 51° 24' 30" E	9.19
L29	S 51° 24' 30" E	11.72
L30	N 20° 11' 08" W	41.52
L31	S 20° 11' 08" W	44.44
L32	N 62° 13' 00" E	78.13
L33	N 62° 13' 00" E	125.41
L34	N 11° 42' 14" W	125.41
L35	N 11° 42' 14" W	113.79
L36	S 78° 04' 30" W	200.00

Address Table

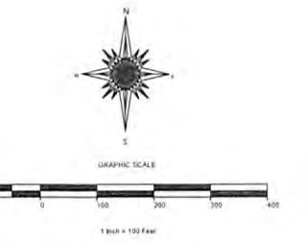
LOT NO. 1
LOT NO. 2
LOT NO. 3
LOT NO. 4
LOT NO. 5
LOT NO. 6
LOT NO. 7
LOT NO. 8
LOT NO. 9
LOT NO. 10
LOT NO. 11
LOT NO. 12
LOT NO. 13
LOT NO. 14
LOT NO. 15
LOT NO. 16
LOT NO. 17
LOT NO. 18
LOT NO. 19
LOT NO. 20
LOT NO. 21
LOT NO. 22
LOT NO. 23
LOT NO. 24
LOT NO. 25

Road & Lot Notes:
 All roads are 60 feet wide.
 All interior lot lines contain a 10-foot Public Utility Easement.
 Road improvements and Public Utility Easements showing shaded lines are to be located within the 60-foot road easement.

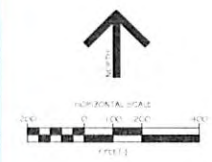
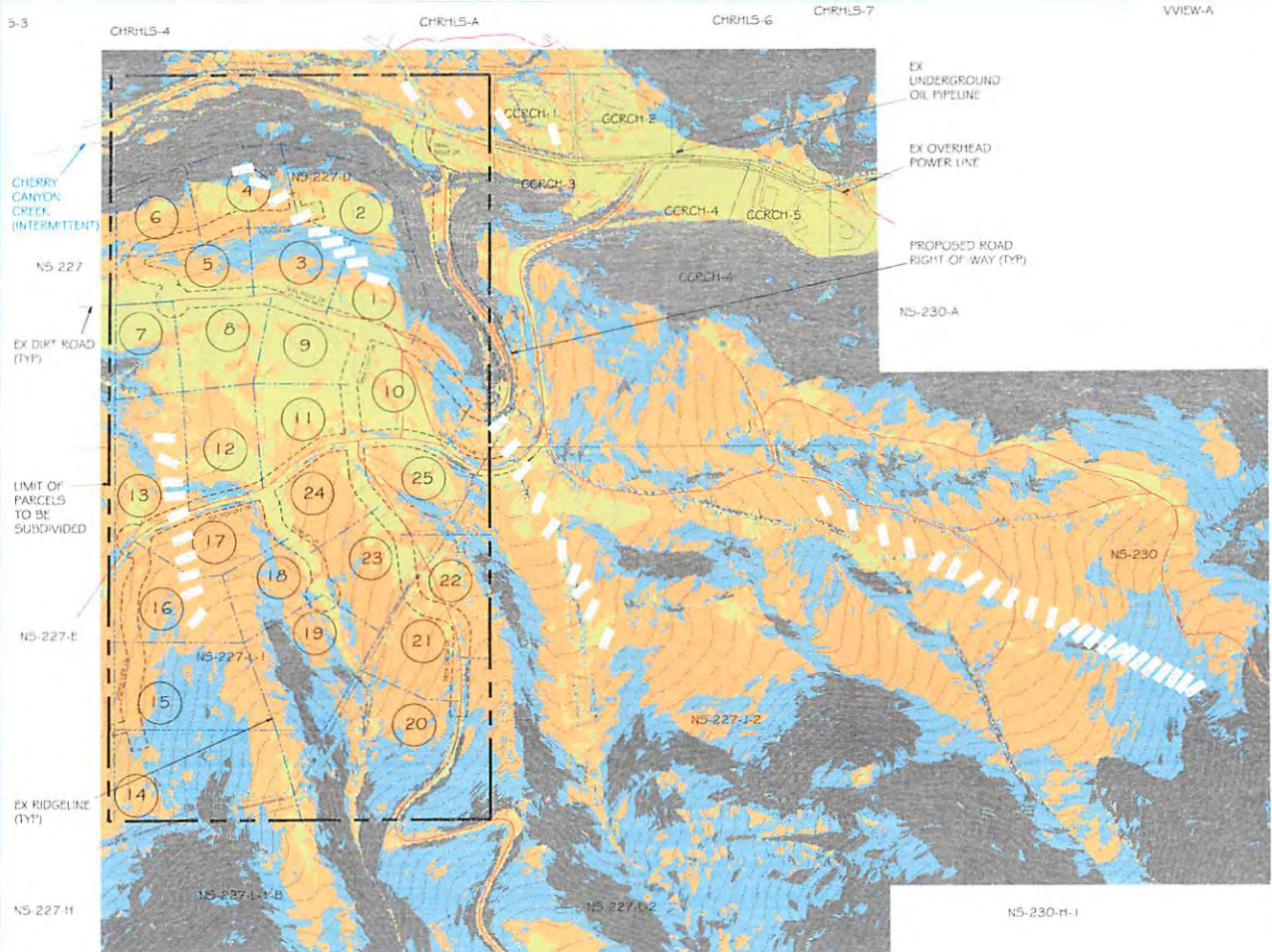
LEGEND

- 60' Right-of-Way
- Set 50-foot Easement with 10-foot Stamped High Mountain 1:25 Scale

- NOTES**
- All lots within the proposed subdivision are subdivided into further subdivisions of each lot, whether by deed, stamped document, or other recorded instrument and shall remain as a subdivision for use of the same. All subdivisions shall be approved in accordance with the Eastern Summit County Development Code.
 - The owners of property within the Eastern Summit County recognize the importance of agricultural lands and operations and small rural business enterprises. It is recognized that agricultural lands and operations and small rural business enterprises have unique operating characteristics that must be recognized. Owners of such lots shall be permitted to use the lots for the purposes intended by the lot owner. The lot owner shall be permitted to use the lots for the purposes intended by the lot owner. The lot owner shall be permitted to use the lots for the purposes intended by the lot owner. The lot owner shall be permitted to use the lots for the purposes intended by the lot owner.
 - Utilities shall have the right to install, maintain, and operate their equipment above and below ground and all other related facilities within the Public Utility Easements contained on this plan, as may be necessary or desirable in providing utility service within and without the lots identified herein. Including the right of access to such facilities and the right to require bonding of any structures including, but not limited to, trees and vegetation that may be placed within the PUE. The utility may require the lot owner to remove all structures within the PUE at the lot owner's expense and the utility may remove such structures at the lot owner's expense. At no time may any permanent structures be placed within the PUE or any other obstruction which interferes with the use of the PUE or any other structure within the PUE.
 - All lots within this subdivision must meet all building permit requirements at the time of building permit issuance.
 - Owner acknowledges the plat liability for the purpose of confirming that the plat contains public utility easements. Owner may release or waive the plat liability for the purpose of confirming that the plat contains public utility easements. This approval does not constitute approval or waiver of any other existing rights, obligations, or liabilities of any kind. This approval is given for the purpose of confirming that the plat contains public utility easements. This approval is given for the purpose of confirming that the plat contains public utility easements. This approval is given for the purpose of confirming that the plat contains public utility easements.
 - All buildings shall meet the requirements of the current International Fire Code and the 2001 or later Wildland-Urban Interface Code at the time of building permit issuance.



3-3



LEGEND

- EXISTING SHARED RIGHT OF WAY
- EXISTING UNDERGROUND OIL PIPELINE
- EXISTING OVERHEAD POWER LINE
- PROPOSED ROAD RIGHT-OF-WAY (TYP)
- PROPOSED ROAD
- PROPOSED LOT LINE



ELEVATION DATUM

NAVD 88

EXISTING CONDITIONS

SUBJECT PROPERTY: TAX ID NOS. NS-227-D, NS-227-L-1

1. THERE ARE NO PERMANENT STREAMS, LAGOONS, OR POND SYSTEMS WITHIN THE SUBJECT PROPERTY.
2. THE SURFACE PROPERTY IS NOT LOCATED WITHIN A FLOOD WATERSHED AREA. SEE FLOOD INSURANCE RATE MAP FOR FLOOD ZONING INFORMATION.
3. THERE ARE NO REGULATED WETLANDS WITHIN THE SUBJECT PROPERTY.
4. THERE ARE NO REGULATED OR REGULATED WETLANDS WITHIN THE SUBJECT PROPERTY.

SLOPE KEY

- 0 TO 10%
- 10 TO 20%
- 20 TO 30%
- OVER 30%

CONTOUR INTERVAL = 10 FEET

ABBREVIATIONS

- ACR ADJUSTED CONCRETE PAVEMENT
- BLD BUILDING
- CB CONCRETE BRIDGE
- CD CONCRETE DRIVE
- CE CONCRETE ELEVATOR
- CH CONCRETE HATCH
- CI CONCRETE INLET
- CL CONCRETE CURB
- CM CONCRETE MASONRY
- CO CONCRETE OVERLAY
- CS CONCRETE SLAB
- CT CONCRETE TYPING
- CU CONCRETE UNDERLAYMENT
- CV CONCRETE VENT
- DC DRIVE CURB
- DE DRIVE ELEVATOR
- DF DRIVE FINISH
- DI DRIVE INLET
- DL DRIVE LANE
- DM DRIVE MASONRY
- DN DRIVE NEST
- DO DRIVE OVERLAY
- DP DRIVE PAVEMENT
- DR DRIVE RAMP
- DS DRIVE SURFACE
- DT DRIVE TYPING
- DU DRIVE UNDERLAYMENT
- EV ELEVATOR
- EX EXISTING
- FL FLOOR
- FR FLOOR FINISH
- FS FLOOR SLAB
- FT FLOOR TYPING
- GA GARAGE
- GC GARAGE CURB
- GD GARAGE DRIVE
- GE GARAGE ELEVATOR
- GF GARAGE FINISH
- GG GARAGE GROUND
- GH GARAGE HATCH
- GI GARAGE INLET
- GL GARAGE LANE
- GM GARAGE MASONRY
- GN GARAGE NEST
- GO GARAGE OVERLAY
- GP GARAGE PAVEMENT
- GR GARAGE RAMP
- GS GARAGE SURFACE
- GT GARAGE TYPING
- GU GARAGE UNDERLAYMENT
- HA HANDRAIL
- HB HANDRAIL BRACKET
- HC HANDRAIL CURB
- HD HANDRAIL DRIVE
- HE HANDRAIL ELEVATOR
- HF HANDRAIL FINISH
- HG HANDRAIL GROUND
- HH HANDRAIL HATCH
- HI HANDRAIL INLET
- HL HANDRAIL LANE
- HM HANDRAIL MASONRY
- HN HANDRAIL NEST
- HO HANDRAIL OVERLAY
- HP HANDRAIL PAVEMENT
- HR HANDRAIL RAMP
- HS HANDRAIL SURFACE
- HT HANDRAIL TYPING
- HU HANDRAIL UNDERLAYMENT
- IA INTERIOR ACCESS
- IB INTERIOR BRIDGE
- IC INTERIOR CURB
- ID INTERIOR DRIVE
- IE INTERIOR ELEVATOR
- IF INTERIOR FINISH
- IG INTERIOR GROUND
- IH INTERIOR HATCH
- II INTERIOR INLET
- IL INTERIOR LANE
- IM INTERIOR MASONRY
- IN INTERIOR NEST
- IO INTERIOR OVERLAY
- IP INTERIOR PAVEMENT
- IR INTERIOR RAMP
- IS INTERIOR SURFACE
- IT INTERIOR TYPING
- IU INTERIOR UNDERLAYMENT
- JA JAIL
- JB JAIL BRIDGE
- JC JAIL CURB
- JD JAIL DRIVE
- JE JAIL ELEVATOR
- JF JAIL FINISH
- JG JAIL GROUND
- JH JAIL HATCH
- JI JAIL INLET
- JL JAIL LANE
- JM JAIL MASONRY
- JN JAIL NEST
- JO JAIL OVERLAY
- JP JAIL PAVEMENT
- JR JAIL RAMP
- JS JAIL SURFACE
- JT JAIL TYPING
- JU JAIL UNDERLAYMENT
- KA KITCHEN ACCESS
- KB KITCHEN BRIDGE
- KC KITCHEN CURB
- KD KITCHEN DRIVE
- KE KITCHEN ELEVATOR
- KF KITCHEN FINISH
- KG KITCHEN GROUND
- KH KITCHEN HATCH
- KI KITCHEN INLET
- KL KITCHEN LANE
- KM KITCHEN MASONRY
- KN KITCHEN NEST
- KO KITCHEN OVERLAY
- KP KITCHEN PAVEMENT
- KR KITCHEN RAMP
- KS KITCHEN SURFACE
- KT KITCHEN TYPING
- KU KITCHEN UNDERLAYMENT
- LA LANDSCAPE
- LB LANDSCAPE BRIDGE
- LC LANDSCAPE CURB
- LD LANDSCAPE DRIVE
- LE LANDSCAPE ELEVATOR
- LF LANDSCAPE FINISH
- LG LANDSCAPE GROUND
- LH LANDSCAPE HATCH
- LI LANDSCAPE INLET
- LL LANDSCAPE LANE
- LM LANDSCAPE MASONRY
- LN LANDSCAPE NEST
- LO LANDSCAPE OVERLAY
- LP LANDSCAPE PAVEMENT
- LR LANDSCAPE RAMP
- LS LANDSCAPE SURFACE
- LT LANDSCAPE TYPING
- LU LANDSCAPE UNDERLAYMENT
- MA MAIN ACCESS
- MB MAIN BRIDGE
- MC MAIN CURB
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- ME MAIN ELEVATOR
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- MM MAIN MASONRY
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- MS MAIN SURFACE
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- NA NORTH ACCESS
- NB NORTH BRIDGE
- NC NORTH CURB
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- NE NORTH ELEVATOR
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- NN NORTH NEST
- NO NORTH OVERLAY
- NP NORTH PAVEMENT
- NR NORTH RAMP
- NS NORTH SURFACE
- NT NORTH TYPING
- NU NORTH UNDERLAYMENT
- OA OVERLAY ACCESS
- OB OVERLAY BRIDGE
- OC OVERLAY CURB
- OD OVERLAY DRIVE
- OE OVERLAY ELEVATOR
- OF OVERLAY FINISH
- OG OVERLAY GROUND
- OH OVERLAY HATCH
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- OM OVERLAY MASONRY
- ON OVERLAY NEST
- OO OVERLAY OVERLAY
- OP OVERLAY PAVEMENT
- OR OVERLAY RAMP
- OS OVERLAY SURFACE
- OT OVERLAY TYPING
- OU OVERLAY UNDERLAYMENT
- PA PARK ACCESS
- PB PARK BRIDGE
- PC PARK CURB
- PD PARK DRIVE
- PE PARK ELEVATOR
- PF PARK FINISH
- PG PARK GROUND
- PH PARK HATCH
- PI PARK INLET
- PL PARK LANE
- PM PARK MASONRY
- PN PARK NEST
- PO PARK OVERLAY
- PP PARK PAVEMENT
- PR PARK RAMP
- PS PARK SURFACE
- PT PARK TYPING
- PU PARK UNDERLAYMENT
- RA ROAD ACCESS
- RB ROAD BRIDGE
- RC ROAD CURB
- RD ROAD DRIVE
- RE ROAD ELEVATOR
- RF ROAD FINISH
- RG ROAD GROUND
- RH ROAD HATCH
- RI ROAD INLET
- RL ROAD LANE
- RM ROAD MASONRY
- RN ROAD NEST
- RO ROAD OVERLAY
- RP ROAD PAVEMENT
- RR ROAD RAMP
- RS ROAD SURFACE
- RT ROAD TYPING
- RU ROAD UNDERLAYMENT
- SA SAND ACCESS
- SB SAND BRIDGE
- SC SAND CURB
- SD SAND DRIVE
- SE SAND ELEVATOR
- SF SAND FINISH
- SG SAND GROUND
- SH SAND HATCH
- SI SAND INLET
- SL SAND LANE
- SM SAND MASONRY
- SN SAND NEST
- SO SAND OVERLAY
- SP SAND PAVEMENT
- SR SAND RAMP
- SS SAND SURFACE
- ST SAND TYPING
- SU SAND UNDERLAYMENT
- TA TANK ACCESS
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- TU TANK UNDERLAYMENT
- VA VENT ACCESS
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- VT VENT TYPING
- VU VENT UNDERLAYMENT
- WA WATER ACCESS
- WB WATER BRIDGE
- WC WATER CURB
- WD WATER DRIVE
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- WF WATER FINISH
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- WI WATER INLET
- WL WATER LANE
- WM WATER MASONRY
- WN WATER NEST
- WO WATER OVERLAY
- WP WATER PAVEMENT
- WR WATER RAMP
- WS WATER SURFACE
- WT WATER TYPING
- WU WATER UNDERLAYMENT
- XA X-RAY ACCESS
- XB X-RAY BRIDGE
- XC X-RAY CURB
- XD X-RAY DRIVE
- XE X-RAY ELEVATOR
- XF X-RAY FINISH
- XG X-RAY GROUND
- XH X-RAY HATCH
- XI X-RAY INLET
- XL X-RAY LANE
- XM X-RAY MASONRY
- XN X-RAY NEST
- XO X-RAY OVERLAY
- XP X-RAY PAVEMENT
- XR X-RAY RAMP
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- YA YARD ACCESS
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- ZT ZONE TYPING
- ZU ZONE UNDERLAYMENT

ABBREVIATIONS - AGENCY

- ADJ ADJUTANT GENERAL
- AGS AGRICULTURE
- ALB ALBANY
- ALC ALCOHOL
- ALD ALDERMAN
- ALM ALMIGHTY
- ALN ALDERMAN
- ALP ALDERMAN
- ALR ALDERMAN
- ALV ALDERMAN
- ALW ALDERMAN
- ALX ALDERMAN
- ALY ALDERMAN
- ALZ ALDERMAN
- AMA AMERICAN
- AMB AMBASSADOR
- AME AMERICAN
- AMG AMERICAN
- AMH AMERICAN
- AMI AMERICAN
- AMJ AMERICAN
- AMK AMERICAN
- AML AMERICAN
- AMN AMERICAN
- AMO AMERICAN
- AMP AMERICAN
- AMQ AMERICAN
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- AZY ANAHEIM
- AZZ ANAHEIM

REFERENCES

- 1. UTM COORDINATE SYSTEM
- 2. UTM COORDINATE SYSTEM
- 3. UTM COORDINATE SYSTEM

DRAWING ISSUED FOR

- PLANNING
- CONSTRUCTION
- PERMIT
- CONSTRUCTION



CANYON ENGINEERING SOLUTIONS FOR LAND

1000 N. 1000 W. SUITE 1000
 P.O. BOX 1000
 SALT LAKE CITY, UT 84143
 TEL: 313.888.8888
 FAX: 313.888.8888
 WWW: WWW.CANYONENGINEERING.COM

TRAIL RIDGE SUBDIVISION

SLOPE MAP

TAX ID NOS. NS-227-D, NS-227-L-1, NS-227-J-2, NS-230, CCRCH-4
 SUMMIT COUNTY, UTAH

PREPARED BY: [Name] DATE: [Date]
 CHECKED BY: [Name] DATE: [Date]

Master Planned Development Site Design Narrative



The Trail Ridge Subdivision

1. *Neighborhood Connectivity*

The *Trail Ridge Subdivision (TRS)* is located in Cherry Canyon, and is approximately one mile from the Old Lincoln Highway, a County maintained road just East of Wanship. Cherry Canyon Drive, the private road that will provide access to the *TRS*, also serves four other existing subdivisions with a total of 20 residential lots. Cherry Canyon Drive is only 1.4 miles from the Wanship entrance to Interstate 80, giving residents of the *TRS* excellent access to the Coalville, Park City and Salt Lake City areas. Nearly all of the homes in Cherry Canyon are full time residents, which provides a nice community feel to the area.

Vehicles will enter the *TRS* from Cherry Canyon Drive via Trail Ridge Drive. A secondary access will be provided on Elk Hollow Drive, with emergency access to East Wanship Road. A complete map of existing and proposed roads is attached to this application.

A single track non-motorized trail system will parallel the roads in the *TRS*, and will connect to an existing trail system in Cherry Canyon that provides access to the Old Lincoln Highway. From there it is only a half-mile to the Weber River and the Rail Trail, which runs from Park City to Coalville.

2. Availability of Neighborhood Facilities and Services

As is typical in a rural area like Eastern Summit County, most residents expect to drive some distance to get to retail centers, schools and other public facilities. The small town feel of the Wanship area is a major draw many of its residents. The TRS at Cherry Canyon is ideally located near the Wanship entrance to I-80, providing quick access to public schools and shopping in Coalville, as well as an exceptional variety of retail and recreational opportunities just 12 minutes away in the Silver Creek and Kimballs Junction areas. In addition, the North Summit School District provides school bus service to the entrance of Cherry Canyon. The Cherry Canyon trail system provides easy access to the Rail Trail.

3. Meeting Housing Needs

The proposed TRS consists of 25 single-family residential lots, ranging in size from just over 1.5 acres to more than five acres. This mix of lot size and location will offer a range of lot pricing beginning at under \$200,000. The average lot size is 2.4 acres.

4. Design Character

The TRS will include CC&R's that require exterior colors and building materials that will blend in with the natural surroundings. White exteriors and fencing will not be permitted. Exterior lighting must be shielded so as to minimize glare and illumination of adjacent property. Based upon market research, the developer anticipates building two to three homes per year in the TRS, providing a measured growth to the community.



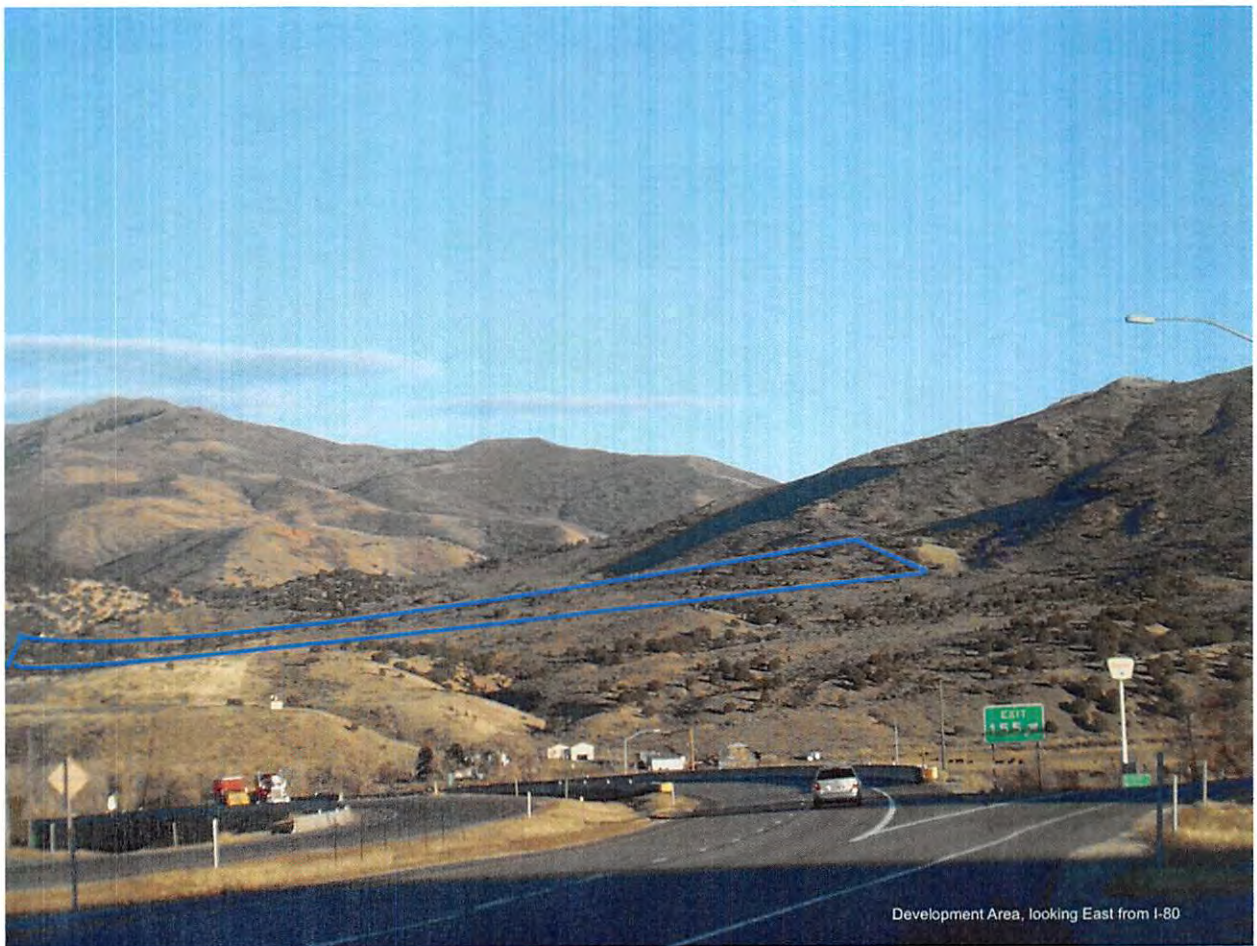
5. Site Design



The road system in the TRS is laid out so as to follow natural grades and contours as much as possible. Most of the subdivision roads will follow existing dirt roads, which will minimize the amount of new cut and fill required for the development. The development area avoids all sensitive areas, including ridgelines, wetlands, floodplains and steep slopes. The lots are set back on the East Wanship bench, thus providing a buffer between the pastures and river bottom in the Weber River valley below.

The Owners Association will be responsible for road maintenance and snow removal for the area. A public water system has been organized to provide water for culinary and fire suppression. Secondary water will be provided by a system receiving water from the North Summit Pressurized Irrigation Company. Both systems will be metered at each lot, and will have a tiered rate schedule to encourage water conservation.

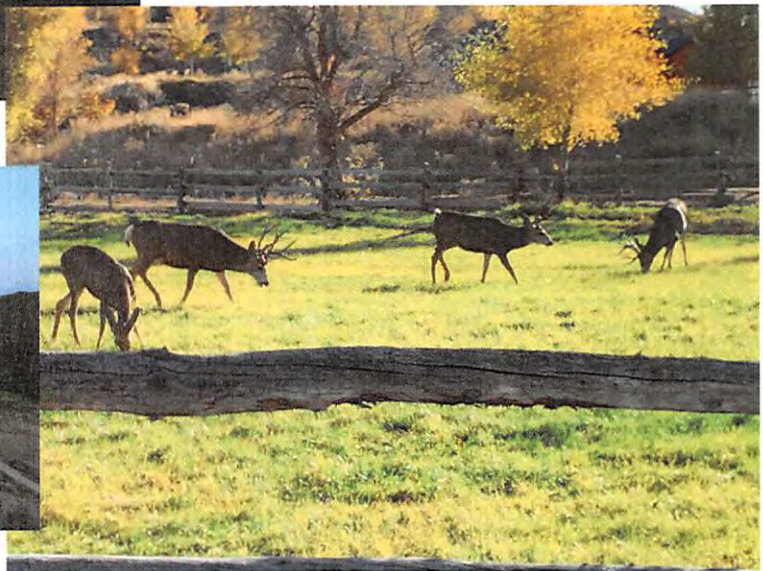
The TRS location is well suited for individual septic systems for each lot. Soil testing has provided good results for effluent percolation, and the large lot sizes allow multiple locations to place a septic system on each lot. There are no wetland or groundwater issues that would restrict septic systems in the development area. In addition, the Owners Association will be responsible for contracting for professional septic system inspection and maintenance on a regularly scheduled basis. In anticipation of the potential long-term development of a sewer system in the valley from Wanship to Coalville, the utility easements for the development have been designed and sized to accommodate connecting the *TRS* to a future sewer system.



Development Area, looking East from I-80

6. Public and Private Outdoor Spaces

The TRS is adjacent to the Cherry Canyon Ranch, which is an active agricultural operation. The Ranch allows Cherry Canyon homeowners access to trails on the property for hiking and horseback riding. The TRS also has excellent access to the Rail Trail, Rockport and Echo Reservoirs, and numerous other recreational activities in the surrounding area.



November 15, 2018

Summit County Environmental Health
Attn: Mr. Phil Bondurant
650 Round Valley Drive
Park City, UT 84060

**Subject: Trail Ridge Subdivision
Soil Testing to Support Individual On-site Wastewater Systems**

Dear Phil:

With reference to Utah Administrative Code, R317-4, and the Summit County Health Department Wastewater Policy, we hereby formally request your presence as witness to the subject soil testing. We hope this more formal request will allow us to move forward in keeping with direction received at our initial meeting with your staff on June 13, 2018, at which time your office indicated a willingness to proceed as described herein.

As you know, we have already completed soil testing on some of the lots. Anticipating review comments relating to the just filed Final Plat (MPD), we want to proceed with soil testing on the balance of the proposed lots so we'll be positioned to knowledgeably address any inquiries as to viability of on-site wastewater systems concurrently with plat review. As with any subdivision in a country setting, lot layout should be finalized only after investigations sufficient to confirm soils adequate to support on-site wastewater systems have been completed.

Attached is a copy of the current subdivision layout under review via the Final Plat MDP process (PDF name "slope map w proposed home sites 11 06 18"). The proposal includes a public water supply (no wells on individual lots) and a generous average lot size of 2.5 acres. Also enclosed are:

1. Summary of Proposed Lots and Wastewater Code Requirements (PDF name "osws reqts summary 11 15 17");
2. Summary of Proposed Lots and Wastewater Code Requirements [detail] (PDF name "lot size & osws reqts detail 11 15 18");
3. Soil Evaluation Status Map, 11 06 18;
4. Soil Testing Report, November, 2009;
5. Soil Testing Report, October, 2014;
6. Summit County Health Department Wastewater Policy, 11 15 18.

We look forward to continuing our work with you and your staff. If we can provide any additional information, please let me know.

Thanks,

Canyon Engineering
Gus Sharry, PE, President

encl:

cc: file; Rich Bullough, Director; Brett Hollberg





SUMMIT COUNTY HEALTH DEPARTMENT

Phil Bondurant, Director of Environmental Health

Gus Sharry, PE, President
Canyon Engineering
PO Box 982131
Park City, Utah 84098

November 19, 2018

Re: Trail Ridge Subdivision and Individual On-site Wastewater Systems

Dear Mr. Sharry,

Thank you for your letter regarding your intent to apply for 25 individual on-site wastewater systems in the Trail Ridge subdivision. Based on the discussions in our meetings on August 30, 2018 and November 5, 2018, and information provided by recent studies and situations within the County, the Summit County Health Department, Environmental Health Division believes individual on-site wastewater systems are not in the best interest of public health or of the County when used in high densities for planned developments. Therefore, they will not be allowed in the Trail Ridge subdivision master planned development.

Evidence provided by a study conducted in Summit County in 2016, identified subdivisions in Summit County that present a risk to groundwater. Each of the areas identified are large subdivisions that use individual wastewater systems. Over time, these systems have failed or the technology has become outdated, creating a risk to our natural resources. This has left the County in a position to find solutions to the problem. Efforts to bring sanitary sewer to these areas are difficult due to cost and lack of infrastructure. Had sanitary sewer or a community system been required at the time of development, the challenges faced by the County and the Health Department today would have been eliminated. However, now the County is left trying to find solutions and ways to fund such projects.

Based on the findings of the third party study, the Health Department believes master planned developments (MPD), such as the proposed Trail Ridge subdivision where sanitary sewer is not available, is best served by a community wastewater system. A community system provides the necessary infrastructure to allow for a future sanitary sewer connection and eliminates the concerns of cost and logistics for future sewer opportunities. Additionally, this method has proven effective in protecting groundwater, which is important in our County. The decision to require a large community system for the Trail Ridge subdivision is consistent with the requirements placed on other large subdivisions in Summit County where sewer or community wastewater systems were required.

While Environmental Health is an advocate of individual wastewater systems, there are times when more environmentally, socially responsible options exist. The study highlighted mistakes that have been made in the past by Summit County with regards to individual wastewater systems. As a result of these findings, we have been tasked with ensuring these mistakes are not repeated. The decision to not allow individual wastewater systems in the Trail Ridge MPD aligns with the County's effort to ensure responsible development that provides the necessary infrastructure for managing wastewater in a socially and environmentally responsible way.

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SUMMIT COUNTY HEALTH DEPARTMENT

Phil Bondurant, Director of Environmental Health

By using the findings of the 2016 study, we ensure our decisions are supported by the history and science specific to the conditions that exist in Summit County. This approach also ensures our efforts to responsibly regulate wastewater in our jurisdiction align with the authorities granted in Utah Administrative Code R317-4-1.4(a). This decision is in the best interest of protecting public health through improved water quality while ensuring responsible development that eliminates problems with lacking infrastructure and additional costs to the County at a later time.

Should you feel this decision was made in error, you are provided the option to appeal to the Summit County Health Officer. This process is found in section i-1-9 of the Health Code. It is your responsibility to review this section of the code and become familiar with the appeal process, supplying all the necessary documentation to the Summit County Health Officer within the established time frames. A copy of the Summit County Board of Health- Health Code has been provided to you as an attachment in the email that contained this letter.

Sincerely,

A handwritten signature in black ink, appearing to read "Phil Bondurant".

Phil Bondurant, MPH, LEHS
Director of Environmental Health
Summit County Health Department
(435) 333-1584

cc: Rich Bullough, Summit County Health Officer
Brett Hollberg
File

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November 29, 2018

this letter (5 pages) via hand and email

Summit County Health Department
Attn: Mr. Richard Bullough
650 Round Valley Drive
Park City, UT 84060

**Subject: Trail Ridge Subdivision
Individual On-site Wastewater Systems
Appeal of Decision by Environmental Health Director, 11.19.2018**

Dear Richard:

We hereby appeal the decision of your Environmental Health Director (EHD), Phil Bondurant, described in his letter dated 11.19.2018.

In his decision, the EHD stated that individual on-site wastewater systems (OSWS) will not be allowed, and that a "community wastewater system" would be more appropriate. However, the page-and-a-half EHD decision did not include any backup as to why. A copy of the Summit County Code of Health (SCCH) was provided to us with the EHD decision. The term "community wastewater system" does not appear in the SCCH, nor are there any requirements for such a system included therein.

SANITARY SEWER INFRASTRUCTURE

Section 1-3-8-B of the SCCH sets out requirements for tie-in of subdivisions to existing sanitary sewer systems, based on distance from project site to the nearest allowable sewer connection. Using the formula provided, sewer would have to be within 3.58 miles of the site to require tie-in. The EHD decision asserts that "a community system provides the necessary infrastructure to allow for a future sanitary sewer connection and eliminates the concerns of costs and logistics for future sewer opportunities", but fails to mention that the nearest sewer is more than seven miles from the site.

Clearly, it will be decades, if ever, before sewer is extended up the Weber River Valley to the project vicinity. Such a sewer, on the order of 24-30 inches in diameter, would have to be run along the Weber River bottom land under the permanent groundwater table for miles. Side canyon interceptors sized 12 to 18 inches in diameter would add several more miles to the job. All this to collect wastewater from ground east of I-80. West of the interstate, the process would be repeated.

Even if sewer were located 3.58 miles from the site, we would argue that the local code formula should be revisited. This because a 25-lot subdivision carrying with it a requirement for 3.58 miles of off-site sanitary sewer infrastructure is without question economically untenable. Further, this formula forces sewer infrastructure through large expanses of undeveloped land, bringing into play the wishes of the citizens of Summit County, the General Plan, and current / future zoning everywhere along and upstream of the sewer alignment. Sewers are for cities. Nowhere in the General Plan is it written that the citizens have clamored for a city such as "Coalwanshipville"...quite the contrary.

Sanitary sewer is not in the cards here. The issue at hand is whether we pipe all the residential wastewater to one area, and pound on this one clod of soil without cessation for the foreseeable future, or we decentralize effluent disposal, thereby utilizing an area many times larger for treatment, with large swaths of virgin soil being preserved between disposal footprints.



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November 29, 2018
Summit County Health Department
Attn: Mr. Richard Bullough
page 2 of 5

SUMMIT COUNTY WATER QUALITY STUDY

Regarding risk to groundwater quality posed by subdivisions, the EHD decision cites "evidence provided by a study", but does not provide a reference as to author or title. Assuming the intent here was to reference Attachment 7 included herewith, the SWCA study is preliminary and very limited in scope, using water quality testing at surface water locations near suspected point source discharges to provide "background" data. Based on this data, SWCA does not and cannot present proof that any one subdivision or portion of a subdivision is polluting the groundwater. The data set is simply too small, while the path from drain field to groundwater, then to surface water, is infinitely complex. The study simply presents preliminary data with the caveat that more study will be necessary. Further, the study does not address the impact of agriculture (manure and fertilizers), golf courses and lawns (fertilizers), roadways (petroleum products, manure from livestock haulers), or commercial development (parking areas) on surface water quality.

The study culminates with an assessment of landform suitability for septic systems (OSWS) based on USDA soils mapping, slope mapping, and watercourse / floodplain locations. Of course, based on these considerations, Trail Ridge Subdivision is located in the area deemed "most suitable" for individual OSWS. See Figure 11 included in the SWCA study.

SWCA recommends that the "Septic Suitability Model" (Figure 11) be used "as a tool for government administrators and local stakeholders alike, and will allow for informed evaluation of potential development sites". We agree...Figure 11 clearly demonstrates that there are hundreds of square miles of ground in Summit County that are "most suitable" for individual OSWS. Trail Ridge is one such area.

MISTAKES IN THE PAST

The EHD decision cites "mistakes that have been made in the past by Summit County with regards to individual wastewater systems". The EHD then jumps directly to a decision "to not allow individual wastewater systems in the Trail Ridge MPD".

Just one minute...instead of rejecting out-of-hand a proven method of wastewater disposal that's been around since before the light bulb, Summit County Health must continue to formulate a program to ensure they are not repeated. Why? Because Summit County Health is committed to this method of disposal (Attachments 5, 6), and is charged not only with witnessing soil evaluations and reviewing designs for new construction, but also addressing existing systems that are serving thousands of residents.

It is not in the public interest to reject the individual OSWS approach in favor of much more sprawl-inducing, expensive, complicated, and environmentally destructive infrastructure, just because individual OSWS technology was never properly employed in the first place. We can do much better than this.

What are the principal causes of OSWS failure? Why are multiple failures showing up in places like Hidden Cove and Highland Estates? Why do the vast majority of systems function effectively? As with any system failure where multiple components are involved, a failed septic system is virtually always a result of the combination of "mistakes". Such missteps most often include two or more of the following:



November 29, 2018
Summit County Health Department
Attn: Mr. Richard Bullough
page 3 of 5

1. undersized lots due to inadequate coordination between planning and health departments;
2. undersized lots due to inadequate understanding of viable lot size as it relates to OSWS design;
3. undersized lots due to inadequate local code requirements;
4. inadequate or no soil evaluation / perc test / texture analysis;
5. inadequate "back-of-envelope" and / or "cartoon" OSWS design plans, approved by health department;
6. plan reviewers who cannot read engineering drawings;
7. no interviewing, testing, or licensing requirement for OSWS installers;
8. installer ingoring the approved design to suit his budget (bid formulated without design plan review);
9. little or no construction oversight;
10. no requirement for as-built plans;
11. no OSWS user education;

Considering Hidden Cove, average lots size is just over 0.5 acres, with some on steeply sloping terrain. Further, there are watercourses, water bodies, wetlands, and high groundwater constraints over a significant portion of the site. There are even some existing private drinking water wells here. Regardless of soil type, this is a recipe for disaster, and that's just the physical side of things. Add to that the regulatory side (items 1-7, 9-11 above), and it's no wonder why there are problems. Undoubtedly, Hidden Cove never should have been approved without sanitary sewer. From a septic system perspective, this development is the definition of a "high density" subdivision.

TRAIL RIDGE

Conversely, Trail Ridge is not "high density". Why not? Because the proposed average lot size is 2.5 acres, or 5.0 times the Summit County required minimum (Attachments 6, 8) and 5.5 times the Utah required minimum (Attachments 8, 9). In the land planning arena, "high density residential development" is typically characterized as development density greater than one residential unit per acre.

The EHD decision states that master planned developments (MPD) be served by community wastewater systems. In Eastern Summit County, that's any development of four (4) lots or more. Is the "MPD" tag alone intended to force a community system on a development? The answer here should be "of course not".

The Trail Ridge proposal includes a public water supply (no wells on individual lots) and a generous average lot size of 2.5 acres. Further, proposed home / OSWS sites are hundreds of feet from intermittent surface water, while soils of appreciable depth are in the range of Type 2 to Type 5. These soils provide the best balance between hydraulic conductivity and removal of pathogens (Attachments 2, 3, 4).

Lot widths have been designed well in excess of the minimum, providing additional horizontal separation between drain fields. To date, we have excavated twenty (20) soil evaluation pits to an average depth of seven (7) feet at locations bracketing the better portion of the site. Groundwater has not been observed in any of the test pits.

All proposed lots include more than ample area for conventional OSWS drain fields on slopes less than 25%, with the majority of these areas sloping at less than 15%.



November 29, 2018
Summit County Health Department
Attn: Mr. Richard Bullough
page 4 of 5

SUGGESTED MINIMUM LOT SIZE

The Summit County Code of Health (Attachment 6, Section 1-3-9) and Utah Administrative Code, R317-4, Table 1-1 (Attachment 9) both stipulate minimum lot size for a single family dwelling served by an individual OSWS.

The County code sets minimum lot area (with public water supply) at 0.5 acres, regardless of soil type. The Utah code sets minimum lot area (with public water supply) at 0.28 to 0.46 acres, depending on soil type. Importantly, one shortcoming in both the effective Utah and County codes is that required minimum lot size does not vary with bedroom count (i.e. does not vary with required design flow / size of drain field). With today's larger homes, this is a fatal flaw, as drain field size is directly proportional to bedroom count. That is, a 6-bedroom drain field is required to be twice the size of a 3-bedroom field. In our opinion, lot size should follow suit because larger homes many times include additional site amenities such as swimming pools and accessory units.

In accordance with R317-4-1.4.A, the local authority may adopt more stringent requirements applicable to its jurisdiction. Based on decades of OSWS design experience in this and other jurisdictions, we suggest that the Summit County Health Department consider adopting a more stringent minimum lot size requirement where OSWS is employed.

Attachment 10, Suggested Minimum Lot Size, provides a comparison of the currently effective Utah code requirements with suggested sizes. On review, it can be seen that, in our professional opinion, the currently effective minimum lot sizes are much too small.

*

We request that the Summit County Health Department decide in favor of individual OSWS, on the condition that the Trail Ridge MDP conform with the minimum lot sizes suggested on Attachment 10.

Understanding that you may require additional documentation on this far reaching topic, we look forward to working closely with you and your staff as we process the MPD currently under consideration at Summit County Planning.

Respectfully,

Canyon Engineering
Gus Sharry, PE, President

encl:

cc: file; Brett Hollberg;
Phil Bondurant, Environmental Health Director;
Pat Putt, Community Development Director;



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November 29, 2018
Summit County Health Department
Attn: Mr. Richard Bullough
page 5 of 5

ATTACHMENTS (sent via email)

1. Letter of Decision by Summit County Environmental Health Director, 11.19.2018
2. Soil Testing Report, November, 2009
Canyon Engineering
3. Soil Testing Report, October, 2014
Canyon Engineering
4. Soil Evaluation Status Map, 11.6.2018
Canyon Engineering
5. Summit County Wastewater Policy, downloaded 11.15.2018
6. Summit County Code of Health, February, 2018
7. Septic Development in Summit County: An Evaluation of the Past in the Face of Future Development,
November 30, 2016
SWCA Environmental Consultants
8. Summary of Proposed Lots and Wastewater Code Requirements, 11.15.2018
Canyon Engineering
9. R317-4, Tables 1.1 and 1.2, 1.1.2016
Utah Administrative Code
10. Suggested Minimum Lot Size, 11.28.2018
Canyon Engineering



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SUMMIT COUNTY HEALTH DEPARTMENT

Richard C. Bullough, Ph.D., Director

December 17, 2018

Gus Sharry, PE
Canyon Engineering
Park City, Utah

Dear Mr. Sharry,

Thank you for providing the appeal of denial for individual wastewater systems, for the proposed Trail Ridge Subdivision, near Wanship, Utah. The denial of a proposed 26 individual systems within the current plan for Trail Ridge was dated November 19, 2018.

In your appeal, you provide arguments that individual wastewater systems (conventional septic systems) may be appropriate for the site. Specifically, you note:

- There is no nearby sewer treatment plant
- Individual conventional septic systems have “been around since before the light bulb”
- The proposed lots are relatively large
- Areas in which historic failures are observed have small lots (Hidden Cove)

There will be no drinking water wells on individual lots

You speculate, “It will be decades, if ever, before sewer is extended up the Weber Valley.” This may be true. However, our intent through this denial is, in part, to allow for connection into a future central treatment facility, with minimal impact and expense to the homeowners and County, if and when that becomes possible. Given the projected rapid growth of eastern Summit County, it seems reasonable to speculate that there will be a day when that does occur.

It is correct that septic systems have been around a long time. But, I’m not certain this is justification for their use. The impacts on water of these systems are indisputable. Nation-wide, there are examples of neighborhoods and homeowners impacted by failing systems. As you know, we have several neighborhoods impacted locally, and there are numerous examples across the state. Very close to the proposed project, the recently conducted Rockport Reservoir TMDL estimated that 19% of the nitrogen load, and a smaller portion of phosphorus, to Rockport Reservoir comes from septic systems in the watershed. The Watershed Implementation Plan for the Rockport Reservoir TMDL identifies septic systems as a concern in the area. Also, Rockport Reservoir experienced a Harmful Algal Bloom in summer 2018 with the potential to impact public health. These blooms are generally considered to be a result of high nutrient loads.

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SUMMIT COUNTY HEALTH DEPARTMENT

Richard C. Bullough, Ph.D., Director

Lot size is, of course, an important factor in determining the viability of individual septic systems. In Hidden Cove, as you note, lot size is a limiting factor as homeowners try to mitigate failing systems. These systems, however, have generally functioned well for a period of 20 to 30 years. Like all conventional septic systems, they have begun to fail as they age. This will also occur with the proposed systems at Trail Ridge Subdivision, and the large lots will not prevent that. Snyderville Basin subdivisions with larger lots, such as Moose Hollow, The Preserve, and Highland Estates, are experiencing system failures. Because of lot size, however, they are able to relocate the drain fields, and this would also be the case at Trail Ridge.

It is correct that having a central drinking water system does alleviate the issue of locating onsite wastewater treatment on individual lots, relative to the location of drinking water wells. This is certainly in favor of your proposal.

Gus, I want to assure you and Mr. Brett Hollberg, property owner and applicant, that I've seriously considered your appeal. You do make some compelling points. However, I believe that to preserve the possibility of eventual connection to sewer without extreme expense and disruption to the future homeowners and County, and to assure protection of this critical watershed, the best wastewater solution remains installation of a community wastewater system. This system should also include treatment for nitrates, and provide a level of management that would be impossible to achieve with individual systems. **Therefore, I am denying your appeal for the 26 individual onsite wastewater systems in the proposed Trail Ridge Subdivision, near Wanship, Utah.**

As you know, the appeal process includes the opportunity to hold an administrative hearing with the Summit County Board of Health. Assuming you will accept this opportunity, I'm scheduling a hearing with the Board.

Date: January 7, 2019

Time: 4:30 PM

Location: Summit County Health Department, 650 Round Valley Drive, Park City, UT

Please confirm that you do want an administrative hearing. Assuming you do, the hearing will be public and you may invite individuals to speak in your behalf if you like. Please do let me know if you'll have people coming, so I may alert the front desk.

As always, please feel free to contact me at any time if you have questions or concerns.

Sincerely,

Richard Bullough, PhD
Health Director
Summit County Health Department
435-333-1592
rbullough@summitcounty.org

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Philip Bondurant

From: gus <gus@canyoneng.com>
Sent: Wednesday, September 12, 2018 10:02 AM
To: Richard Bullough
Cc: Philip Bondurant; 'Brett Hollberg'
Subject: RE: Trail Ridge Subdivision; soil evaluation, perc testing, design of individual on-site wastewater systems
Attachments: lot size & watercourse offset summary 09 12 18.pdf; osws reqts summary 09 12 18.pdf

Rich,

I just finished compiling a summary for our discussion...copies attached. As you can see, one would be hard pressed to find a site more suitable for decentralized wastewater treatment.

We'll see you at 2 PM today.

Thanks,

Gus

From: Richard Bullough [mailto:rbullough@summitcounty.org]
Sent: Wednesday, September 05, 2018 3:09 PM
To: Philip Bondurant
Cc: gus@canyoneng.com
Subject: Re: Trail Ridge Subdivision; soil evaluation, perc testing, design of individual on-site wastewater systems

Hi Gus,

I don't know why I didn't receive your email but Phil just forwarded it. It looks like you have the right address and it's not in my junk folder. Strange.

I just sent a meeting appointment for Wednesday the 12th at 2:00 at the Health Department. Hopefully that works for you.

Thanks, Rich

Richard C. Bullough, PhD
Director & Health Officer
Summit County Health Department
650 Round Valley Drive
Park City, Utah 84060
Phone: 435-333-1582
Fax: 435-333-1580
rbullough@summitcounty.org

From: Philip Bondurant
Sent: Wednesday, September 5, 2018 2:50 PM
To: Richard Bullough
Subject: FW: Trail Ridge Subdivision; soil evaluation, perc testing, design of individual on-site wastewater systems

Phil Bondurant MPH, LEHS
Director of Environmental Health
Summit County Health Department

From: gus [mailto:gus@canyoneng.com]
Sent: Tuesday, September 4, 2018 12:41 PM
To: Richard Bullough <rbullough@summitcounty.org>
Cc: Philip Bondurant <pbondurant@summitcounty.org>; Brent Ovard <bovard@summitcounty.org>; Nathan Brooks <nbrooks@summitcounty.org>; Rocky Pace <rpace@summitcounty.org>; 'Brett Hollberg' <bretthollberg@me.com>
Subject: Trail Ridge Subdivision; soil evaluation, perc testing, design of individual on-site wastewater systems

Richard,

In two recent meetings with your staff, we have received a broad spectrum of conflicting feedback as to how to proceed with the subject work. In our meeting last week, Phil suggested we meet with you to determine the path forward. I've attached a copy of the current subdivision concept for convenience. The proposal includes a public water supply (no wells on individual lots) and a generous average lot size of 2.4 acres.

As we told your staff, we want to proceed with soil testing on all lots so we can address any inquiries as to viability of on-site wastewater systems early on. As with any subdivision in a country setting, lot layout should be finalized only after investigations sufficient to confirm soils adequate to support on-site wastewater systems have been completed.

How's your schedule look?

Thanks,

Gus

Canyon Engineering
Gus Sharry, PE, President
Voice: 435.640.7373
www.canyoneng.com

Philip Bondurant

From: Richard Bullough
Sent: Tuesday, November 20, 2018 4:04 PM
To: Brett Hollberg
Cc: Philip Bondurant; gus
Subject: Re: Trail Ridge Subdivision – Master Planned Development (MPD) - 25 Lots

Hi Brett,

Thank you for your email, which will serve as notice of your appeal.

As we discussed in our meeting, you have the opportunity to provide information you deem important to your appeal. This should include a cover letter, stating the specific reason for appeal, and any evidence you may have supporting the appeal.

You are welcome to deliver these materials in person or by email. Either way, please address them directly to me.

If you have any questions please let me know.

Thank you, Rich

Richard C. Bullough, PhD
Director & Health Officer
Summit County Health Department
650 Round Valley Drive
Park City, Utah 84060
Phone: 435-333-1582
Fax: 435-333-1580
rbullough@summitcounty.org

From: Brett Hollberg <bretthollberg@me.com>
Sent: Tuesday, November 20, 2018 10:20 AM
To: Richard Bullough
Cc: Philip Bondurant; gus
Subject: Fwd: Trail Ridge Subdivision – Master Planned Development (MPD) - 25 Lots

Richard,

We have received the letter of denial from Phil regarding individual septic systems for the Trail Ridge Subdivision. We are hereby giving you notice that we would like to appeal that decision to you, as previously

discussed. Is there a formal appeal application or other documentation that we will need to provide, in addition to documentation of data supporting our proposal?

Thank you,

Brett Hollberg

Begin forwarded message:

From: Philip Bondurant <pbondurant@summitcounty.org>
Subject: RE: Trail Ridge Subdivision – Master Planned Development (MPD) - 25 Lots
Date: November 19, 2018 at 12:36:29 PM MST
To: gus <gus@canyoneng.com>
Cc: Richard Bullough <rbullough@summitcounty.org>, 'Brett Hollberg' <bretthollberg@me.com>

Good Afternoon Gus-
Please see the attached letter in response to your recent letter of intent.

Thank you.

Phil Bondurant MPH, LEHS
Director of Environmental Health
Summit County Health Department

From: gus [<mailto:gus@canyoneng.com>]
Sent: Thursday, November 15, 2018 1:56 PM
To: Philip Bondurant <pbondurant@summitcounty.org>
Cc: Richard Bullough <rbullough@summitcounty.org>; 'Brett Hollberg' <bretthollberg@me.com>
Subject: RE: Trail Ridge Subdivision – Master Planned Development (MPD) - 25 Lots

Thanks Phil.

Our letter is attached, together with referenced enclosures.

Gus

From: Philip Bondurant [<mailto:pbondurant@summitcounty.org>]
Sent: Thursday, November 15, 2018 11:21 AM
To: gus
Cc: Richard Bullough; 'Brett Hollberg'
Subject: RE: Trail Ridge Subdivision – Master Planned Development (MPD) - 25 Lots

Hi Gus-

As we chatted about in Rich's office, a letter of intent will suffice to get the process started. It would be best if that letter could provide a brief narrative of what you want to do and what is being proposed. It doesn't need to be long, just long enough to get the point across and provide evidence as to why you

feel this system is in the best interest of public health. I will respond to that letter with evidence for my decision. Once you receive my response, you can then appeal the decision to Rich.

Hopefully, that clears things up.

Phil Bondurant MPH, LEHS
Director of Environmental Health
Summit County Health Department

From: gus [<mailto:gus@canyoneng.com>]
Sent: Thursday, November 15, 2018 10:51 AM
To: Philip Bondurant <pbondurant@summitcounty.org>
Cc: Richard Bullough <rbullough@summitcounty.org>; 'Brett Hollberg' <bretthollberg@me.com>
Subject: RE: Trail Ridge Subdivision – Master Planned Development (MPD) - 25 Lots

Phil,

As to the “formal application” you’ve suggested below, is there a particular form we need to fill out?

Thanks,

Gus

From: Philip Bondurant
Sent: Tuesday, November 13, 2018 9:59 AM
To: Amir Caus
Cc: Richard Bullough; Dave Thomas
Subject: RE: Trail Ridge Subdivision – Master Planned Development (MPD) - 25 Lots

AC-

At this time, the health department will not approve the installation of individual wastewater systems for the Trail Ridge subdivision. A community wastewater system serving each lot will be required.

We are working through this process, specific to wastewater, with the developer and engineer. At this time, we are awaiting a formal application or letter of intent from the applicant. At which time the application will be denied by environmental health and the formal requirement for a community system wastewater system will be made. At that time, if an appeal is made, it will proceed according to the process outlined in the health code.

Thank you.

Phil Bondurant MPH, LEHS
Director of Environmental Health
Summit County Health Department

From: Amir Caus
Sent: Wednesday, November 7, 2018 5:07 PM
To: captainat23@gmail.com; DNR Wildland Fire <bryceboyer@utah.gov>; Brandon C. Brady <bbrady@summitcounty.org>; Michael L. Kendell <mkendell@summitcounty.org>; Derrick Radke <dradke@summitcounty.org>; Julie Woolstenhulme <jwoolstenhulme@summitcounty.org>; Jeff Ward <jward@summitcounty.org>; Kraetsch, Ashley M CIV USARMY CESP (US)

<Ashley.M.Kraetsch@usace.army.mil>; markfarmer@utah.gov; pharding@utah.gov; sbenvegn@utah.gov; Division of Water Quality
<hcampbell@utah.gov>; michaeldrake@utah.gov; matthoward@utah.gov; rpark@utah.gov; Philip Bondurant <pbondurant@summitcounty.org>; Justin Martinez <jmartinez@summitcounty.org>; David Bingham <dbingham@summitcounty.org>; Tim Loveday <tloveday@summitcounty.org>; Rocky Lewis (Questar - 5) <rocky.lewis@dominionenergy.com>; Christoffersen, Cindy <Cindy.Christoffersen@rockymountainpower.net>

Subject: Trail Ridge Subdivision – Master Planned Development (MPD) - 25 Lots

November 7, 2018

Re: Trail Ridge Subdivision – Master Planned Development (MPD) - 25 Lots

Dear Service Provider,

The Summit County Community Development Department has received a Final Subdivision Plat and a Village Overlay application for 25 Lots in the Cherry Canyon area in Summit County, UT. The applicant is requesting an MPD and Final Subdivision Plat review for a 25 Lot Subdivision located on ~337 acres (Parcels: NS-227-D, NS-227-L-1, NS-227-L-2, NS-230, NS-230-I, NS-230-G, NS-230-H, and NS-230-H-1). The development improvements would be limited to Parcels NS-227-D and NS-227-L-1. NOTE: Parcel NS-230-G has an existing single family residence on it which is in the AG-10 Zone. The applicant is proposing to carve out a 10 acre parcel outside of the proposed subdivision.

I've attached an exhibit package for your review. I've also attached a copy of the Master Planned Development (MPD) language for your reference. I am happy to provide any additional information. Summit County Code requires applicable service providers and agencies to review the project and respond with any comments, conditions, and/or standards. **Please respond by November 21, 2018.**

If you have any questions, please contact me at [\(435\) 336-3117](tel:4353363117), or by e-mail acaus@summitcounty.org.

Thanks!

Sincerely,

Amir Caus, AICP

County Planner
Summit County Community Development
P.O. Box 128
60 North Main
Coalville, UT 84017
[\(435\)336-3117](tel:4353363117)
[\(435\)608-4398](tel:4356084398) fax
acaus@summitcounty.org



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