

Midway City Council
4 December 2018
Regular Meeting

LaBarge Subdivision /
Preliminary Approval



CITY COUNCIL MEETING STAFF REPORT

DATE OF MEETING: December 4, 2018

NAME OF PROJECT: LaBarge Subdivision

NAME OF APPLICANT: Epic Engineering

NAME OF OWNER: Michael LaBarge

AGENDA ITEM: Preliminary Approval

LOCATION OF ITEM: 922 North Pine Canyon Road

ZONING DESIGNATION: R-1-15/R-1-22

ITEM: 5

Epic Engineering, agent for Michael LaBarge, is requesting approval of a large-scale subdivision. The proposal is for a four-lot subdivision that is 4.2 acres in size. The property is located at 922 North Pine Canyon Road and is partially in the R-1-15 zone and partially in the R-1-22 zone.

BACKGROUND:

This request is for preliminary approval of a large-scale subdivision on 4.2 acres and will contain four lots. All four of the proposed lots in the subdivision will obtain frontage by extending the stub road from Swiss Farms to create a cul-de-sac in the proposed subdivision. There will be a stub built into the new road to access the Brown's parcel that could be used to connect a road to Pine Canyon Road if the parcel is developed in the future. The property is in the R-1-15 and R-1-22 zoning districts and the lots do comply with the minimum requirements of frontage, width and acreage for lots in these zones.

LAND USE SUMMARY:

- 4.2-acre parcel
- R-1-15 & R-1-22 zoning
- Proposal contains four lots
- Frontage on Pine Canyon Road and Swiss Farm Way
- The lots will connect to the Midway Sanitation District sewer, Midway City's culinary water line, and Midway Irrigation Company's secondary water line

ANALYSIS:

Access – Primary access for all four of the proposed lots in the subdivision will obtain frontage by extending the stub road from Swiss Farms to create a cul-de-sac in the proposed subdivision. There will be a stub built into the new road to access the Brown's parcel that could be used to connect a road to Pine Canyon Road if the parcel is developed in the future. The applicant has mentioned to staff the ability to access Pine Canyon Road from the back of lot 1. City Council will need to specifically grant access for the lot owner to have this ability since the road is classified as a collector with limited access.

Density – The proposed density of the subdivision is less than the maximum amount allowed by the zoning. It appears that the maximum density of the property could be as great as eight lots. The developer is proposing a density of four which will help retain a more open feel for the area.

Swiss Farm Way cul-de-sac – The developer will construct a cul-de-sac on the stub road of Swiss Farm Way on the west side of Swiss Farm Subdivision. The cul-de-sac may be temporary if the Brown's parcel (OMI-0230-0-027-034) is developed and the cul-de-sac becomes part of a through road to Pine Canyon Road. A note should be included on the plat that explains this possibility of the road connection from Swiss Farm Subdivision to Pine Canyon Road. In order to build the cul-de-sac, the developer must obtain property from Larry Brown, property owner to the south. This property must be deeded to the City before the recording of the subdivision plat. Staff recommends an agreement between the developer and Mr. Brown is in place before preliminary approval is granted.

The proposed cul-de-sac length will be greater than the 500' standard as described in the City's construction standards. The current cul-de-sac in Swiss Farms is nonconforming and is about 750' in length. The proposed cul-de-sac would extend the length to 1,000'. Staff has discussed this issue with the applicant and a potential

solution has been developed that would allow support for the proposal if two conditions are met:

1. A stub is built into the cul-de-sac that would allow a future connecting road to Pine Canyon Road through the Brown property if that property is ever developed. This is similar to the current situation where there is a stub road exiting Swiss Farms into the LaBarge and Brown properties.
2. Lot 1 is deed restricted so that it can never be further subdivided. Without the deed restriction Lot 1 could be divided easily into four lots and possible five lots. With a higher density, the proposed cul-de-sac should be a through road from Swiss Farms to Pine Canyon through the proposed subdivision. Because of the proposed lower density, with accompanying deed restriction, staff feels the current proposal should be considered. The proposed design will help keep an open feel and rural atmosphere along Pine Canyon Road and is also the description of Midway found in the General Plan.

Water Connection – The lot will connect to the City’s water line located under Pine Canyon Road.

Sewer Connection – The lot will connect to Midway Sanitations District’s line located in the area.

Secondary Water Connection – The lots will connect to Midway Irrigation Company’s secondary which is already servicing the property. A lateral will be created for all four lots.

Midway Irrigation Company Easement – Midway Irrigation Company has a prescriptive easement, in which, a buried irrigation pipe that runs along the southern boundary of the property. This easement must be noted on the plat to protect the pipeline from encroachments and to grant access for maintenance. Midway Irrigation Company also owns a ditch along the west side of the property that runs parallel Pine Canyon Road. They are also asking for an easement along the ditch. Both easements should be 16’ 6” from the center line of the ditch and pipe on both sides for the areas of the easement that fall within the boundaries of the plat.

Wetlands – A wetlands study prepared by Wise Earth was submitted to the City that states “There are not wetlands or waterways on site.” This study is dated April 2018. The City has a copy of a December 18, 2006 study that is also from Wise Earth that showed the clear majority of the property as wetlands. The recent study explains that because of development in the area and the change from flood irrigation to pressurized irrigation has changed the site from wetlands to drier lands. The City has received a letter from the US Army Corps of Engineers that has approved the most recent wetlands study (please see attached).

Pine Canyon Road large-scale subdivision setback – The required setback on Pine Canyon Road for a small-scale subdivision is 100’ for all structures. The plat will note the 100’ setback requirement.

Pine Canyon Road Bike Lane – The master trail plan shows an attached 8’ attached asphalt bike trail along Pine Canyon Road. Staff is proposing that the funds to build the bike lane are added to the general trails fund and that the bike lane is completed in the future as part of a larger improvement project to complete the bike lane along the entirety of Pine Canyon Road.

WATER BOARD RECOMMENDATION:

The Water Board has recommended that 12.53 acre-feet of water are required for the proposed subdivision. They are also requesting that all easements, as previously described, and secondary water meters are installed for the four lots.

PLANNING COMMISSION RECOMMENDATION:

Motion: Commissioner Nicholas: I move that we conditionally approve the Labarge on the large-scale subdivision is for a four-lot subdivision that is 4.2 acres in size. The property is located at 922 North Pine Canyon Road and is partially in the R-1-15 zone and partially in the R-1-22 zone. The conditions are the conditions that are listed on page 5 on the staff report. The park strip should be maintained by using animal friendly plants, it is optimal to plant grass.

Seconded: Commissioner O’Toole

Chairman Kohler: Any discussion on the motion?

Natalie Streeter stated that the park strip should be maintained by using animal friendly plants, it is optimal to plant grass.

Chairman Kohler: All in favor.

Ayes: Commissioners: Streeter, Payne, Nicholas and O’Toole

Nays: None

Motion: Passed

POSSIBLE FINDINGS:

- The proposed lots meet the minimum requirements for the R-1-15 and R-1-22 zoning districts
- The proposal does meet the intent of the General Plan for the R-1-15 and R-1-22 zoning districts
- The subdivision will contribute to the master trails plan by either building the bike lane along the frontage of the project or adding funds the general trails fund that will be used to help complete the master trails plan

ALTERNATIVE ACTIONS:

1. Approval (conditional). This action can be taken if the City Council feels that conditions placed on the approval can resolve any outstanding issues.
 - a. Accept staff report
 - b. List accepted findings
 - c. Place condition(s)
2. Continuance. This action can be taken if the City Council feels that there are unresolved issues.
 - a. Accept staff report
 - b. List accepted findings
 - c. Reasons for continuance
 - i. Unresolved issues that must be addressed
 - d. Date when the item will be heard again
3. Denial. This action can be taken if the City Council feels that the request does not meet the intent of the ordinance.
 - a. Accept staff report
 - b. List accepted findings
 - c. Reasons for denial

RECOMMENDED CONDITIONS:

1. An agreement between the developer and Larry Brown is made before preliminary approval is granted.
2. Funds to build the bike lane along Pine Canyon Road are added to the general trails fund. Those funds will be used as part of a larger improvement project that will complete the bike lane along the entirety of Pine Canyon Road.
3. A stub from the proposed cul-de-sac is built to access the Brown property to the south that will be used for agricultural access, and if the property is developed in the future, for a road connection to Pine Canyon Road.
4. A deed restriction is recorded on lot 1 that in perpetuity restricts the lot from being further subdivided and note is included on the plat that explains this limitation for lot 1.
5. The owner of lot 1 will landscape and maintain the park strip along the south side of the road from lot 1 to the boundary of the Swiss Farms subdivision until the Brown parcel is developed.

November 13, 2018

Midway City
Attn: Michael Henke
75 North 100 West
Midway, Utah 84049

Subject: **LaBarge Subdivision –Preliminary Review**

Dear Michael:

Horrocks Engineers recently reviewed the Submitted Plan for the LaBarge Subdivision. The following issues should be addressed.

General Comments

- The subdivision is located at 922 North Pine Canyon Road. The development consists of four lots. The proposed development will connect to an existing road within the Swiss Farm Subdivision. The Swiss Farm Subdivision was plated in 1993.

Water

- An 8-inch water line will provide water to the subdivision. This water line will connect to the existing 8-inch water line within the Swiss Farm Subdivision.

Roads

- The subdivision is proposing to install a cul-de-sac connecting to the Swiss Farm Way stub road. To allow for future connectivity a road should be stubbed to the South.
- This subdivision is proposing to use the flat concrete ribbon curb matching the existing ribbon curb within the Swiss Farm Subdivision. Approval for the use of this cross-section must be **approved by the Planning Commission and the City Council.**
- A 5' sidewalk should be installed around the cul-de-sac and on each side of the proposed road, with a 5' park strip. Lot 1 should be responsible to provide maintenance to the south park strip until the property to the South is developed.
- The road within this subdivision will be a public road.

Trails:

- No trails are planned for the proposed subdivision.

Storm Drain

- Final plans will show the design of the storm drain system.

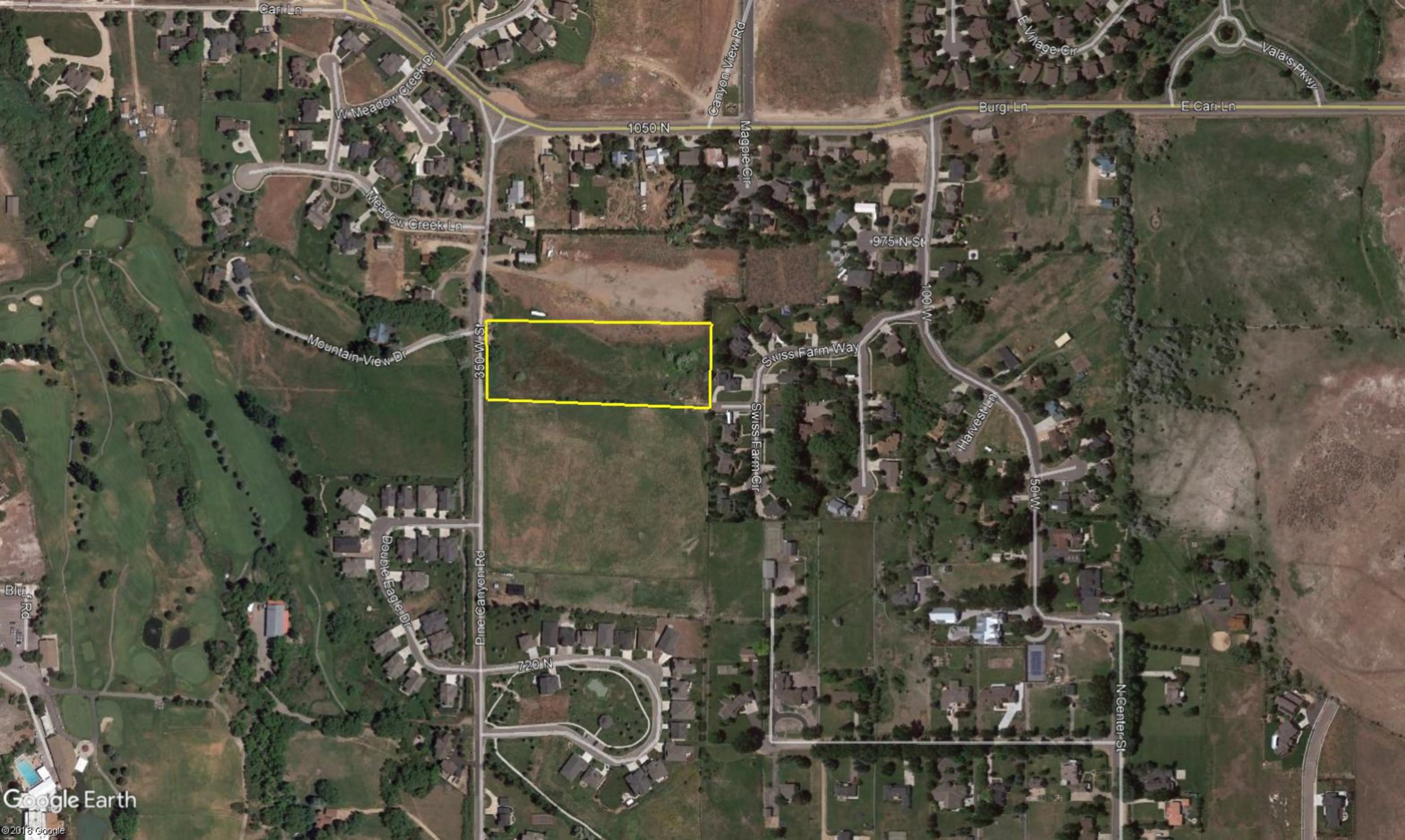
Please feel free to call our office with any questions.

Sincerely,
HORROCKS ENGINEERS



Wesley Johnson, P.E.
City Engineer

cc: Epic Engineering



Cari Ln

W Meadow Creek Dr

Meadow Creek Ln

Mountain View Dr

Double Eagle Dr

350 W St

Pine Canyon Rd

720 N

1050 N

Canyon View Rd

Maggie Cir

Swiss Farm Way

Swiss Farm Cir

975 N St

100 W

Harvest Ln

50 W

N Center St

Burgi Ln

E Village Cir

E Cari Ln

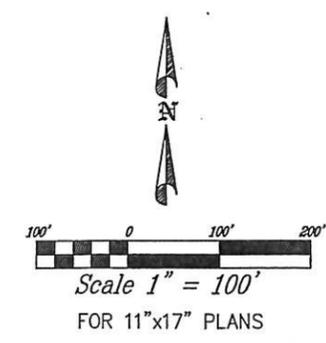
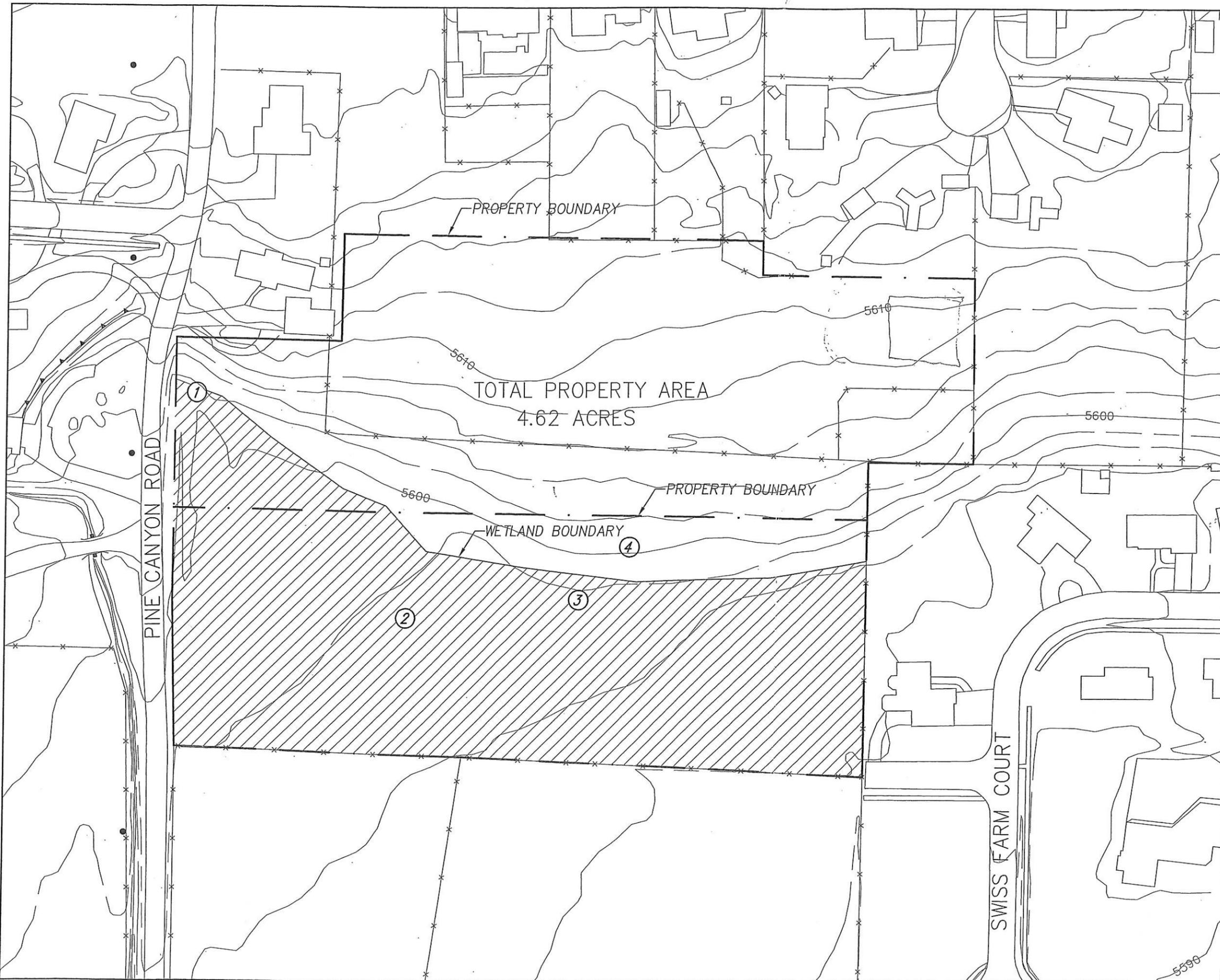
Valais Pkwy











December 18, 2006

LEGEND

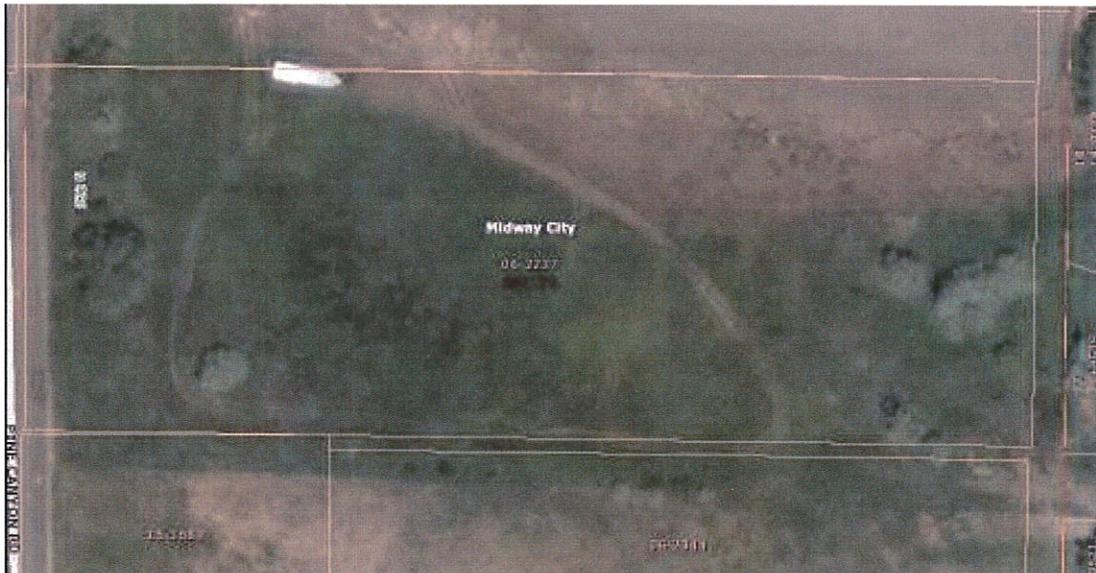
- ① DATA POINT
- WETLANDS (3.87 ACRES)

WETLANDS & WATERS DELINEATION
Delineation of Aquatic Resources
Corps File SPK-2017-00305-UO

922 Pine Canyon Road
Midway, Utah

SE ¼ Section 27 T3S. R4E.

April 2018



Prepared by:
Wise Earth Concepts Inc.
PO Box 980994
Park City, Utah 84098

Prepared for:
Michael LaBarge
12532 Carmel Way
Santa Ana, CA 92705

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APPENDICES

Appendix A	Maps & Illustrations
Sheet 1	Location Map
Sheet 2	Delineation Map of Wetlands and Waters (none present)
	NRCS Soil Map
	NWI Map
 Appendix B	 Data Forms

Summary

Applicant – Michael LaBarge 12532 Carmel Way, Santa Ana, CA 92705

Property owner – Michael LaBarge

Project area – Vacant parcel 4.37 acres.

Location – 922 Pine Canyon Road, Midway, Utah

Directions – From Salt Lake take I-80 east to Highway 40. At the first light when entering Heber Valley turn right on River Road. Proceed straight through the roundabout to Bergi Lane. Proceed 0.9 miles and turn left on Pine Canyon Road. The site is 0.1 mile down on the left.

Delineation method - The delineation was conducted in accordance with the guidelines and procedures outlined in the US Army Corps of Engineers' *Wetlands Delineation Manual* (Technical Report Y-87-1) and the *2010 Western Mountains Regional Supplement*.

Field work date(s) and existing field conditions – Field work was conducted April 11-12, 2018. The site is formerly irrigated grassland slightly sloping down from north to south with a travertine hillslope in the northeast corner. Site conditions have been drying over the past several years as development has occurred in the surrounding area and irrigation has been discontinued.

Vegetation – Dominant vegetation across the site is primarily what would be considered invasive opportunistic species. These are likely invading where species needing more water are dying because irrigation has been discontinued. The most common species present are Gypsy-Flower (*Cynoglossum officinale*) Tall Hedge-Mustard (*Sisymbrium altissimum*) Canadian Thistle (*Cirsium arvense*) and Baltic Rush (*Juncus balticus*). The Baltic Rush is the only species common to healthy wetlands and is also well known to be able to survive long after a wetland has dried up.

Soils – Soils colors are 5YR 2.5/1 generally to at least 6 inches over slightly lighter 7.5YR 3/1. In the area that has Juncus the 5YR 2.5/1 color extends to 20 inches and lacks hydric soil indicators. Texture ranges from sandy loam to sandy clay loam. The Natural Resources Conservation Service (NRCS) classifies lowland soil as Cudahy silt loam (Cv) and hillslope soil as Rock land, Travertine. The Cudahy soil is listed as a hydric soil series.

Hydrology – Site conditions have been drying over the past several years as development has occurred in the surrounding area and irrigation has been discontinued. This is evident on the National Wetlands Inventory (NWI) map which shows much of this site as palustrine wetland (PEMC1C) and also shows a ditch supplying surface water. However, the aerial photo background of the map shows homes have been constructed where the ditch once was. Site observations and spring season hydrology at data points on site confirm there is no ditch and depth to groundwater does not qualify for wetland hydrology. All of the data points were dry.

Wetland boundary justification – There are no wetlands or waterways on site.

Potential navigable water or commerce connection – NA

Wetlands demonstrated to be present solely due to irrigation – There are no wetlands on site.

Natural wetlands/waters that appear to be isolated – NA

1. INTRODUCTION

This wetland delineation was completed for Michael LaBarge on a 4.37-acre site located at 922 Pine Canyon Road, Midway, Utah. The project location is shown on the USGS 7.5' topographic map, Sheet 1 in Appendix A. The purpose of this project is to delineate potentially jurisdictional aquatic resources, wetlands and waters of the US as defined by Section 404 of the Clean Water Act (CWA). A wetland delineation was formerly completed on the site in 2017 by Mr. Rick Black, but it was not verified by the Corps apparently because the Corps requested report revisions or clarification which were not submitted. The 2017 delineation concluded there were no wetlands or water features on the site.

The US Army Corps of Engineers (Corps) and the US Environmental Protection Agency (EPA) define wetlands as areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Saturated soil conditions are further described as saturated to the surface at some time during the normal growing season.

2. SITE DESCRIPTION / EXISTING CONDITIONS

The site is formerly irrigated grassland slightly sloping down from north to south with a travertine hillslope in the northeast corner. Site conditions have been drying over the past several years as development has occurred in the surrounding area and irrigation has been discontinued. The site elevation ranges from 5662 at the lower southeast corner to 5670 on the hillslope at the north property line. The average elevation of the meadow area is approximately 5664 with only a few feet of variation.

3. DELINEATION METHOD

This delineation was conducted in accordance with the guidelines and procedures outlined in the US Army Corps of Engineers' *Wetland Delineation Manual* (USACE, 1987) and the *2010 Western Mountain Regional Supplement* (USACE, 2010). Where a determination of the ordinary high water mark (OHWM) is included, the assessment is conducted with use of the OHWM field guide. The examination for wetlands was based on three parameters: vegetation, soils, and hydrologic features. At each data point, each of these parameters must exhibit wetland characteristics for that point to be within the wetland boundary.

All areas that appeared to be potential wetlands were examined. Data was collected from wetland areas as necessary to generally characterize the wetland features. Dominant vegetation species were identified at each data point. Percent cover for dominant species in each strata was noted based on visual

estimation within a plot size representative of the data point. The sizes and shapes of plots can vary, as appropriate, to adapt to topography or other site conditions. They are typically a radius of 10 to 30 feet unless otherwise noted. The 50/20 dominance test was used by combining dominant species across strata and applying the dominance test to the combined list. Dominants are the most abundant species that individually or collectively account for more than 50 percent of the total coverage of vegetation in the stratum, plus any other species that, by itself accounts for at least 20 percent of the total. If two or more dominant species are equal in coverage they are all considered to be dominants. Each species was assigned a rating as to wetland status based on the National Wetland Plant List, 2016 Update of Wetland Ratings (*Lichvar et al., 2016*) and using the U.S. Army Corps of Engineers, Western Mountains Final Draft Ratings List, published June, 2012. If more than 50 percent of the dominant plant species had a wetland indicator status (obligate [OBL], facultative wetland [FACW], or facultative [FAC]) the sample point met the criteria for wetland vegetation based on dominance. Each dominant species is treated equally. Thus, a plant community with seven dominant species across all strata would need at least four dominant species that are OBL, FACW, or FAC to be considered hydrophytic by this indicator. If the vegetation dominance test failed to meet the criteria, but soil and hydrology criteria were met at the data point, then a test of prevalence of wetland vegetation was calculated. If this test met qualifying conditions (an end calculation equal to or less than 3), the criteria for wetland vegetation was met based on prevalence and recorded on the data sheet. Data point locations upland/wetland boundaries and/or water features if present, were GPS surveyed using equipment having sub-meter accuracy. Water features and contours are shown on the Wetlands and Waters Delineation/Aquatic Resources Map (Sheet 2, Appendix A). Vegetation at each data point, along with the estimation of cover for each species, is listed on the data forms included in Appendix B.

Soils were examined for hydric characteristics by digging a hole to approximately 18 inches (or as necessary to evaluate soil characteristics relevant to hydric conditions). Soil moisture, texture and color were observed, and any evidence of high organic content, redoximorphic features/mottles, gleyed matrix or other hydric indicators were noted. Soils were moistened and compared to *Munsell Color Charts* (Macbeth, 1990) for determination of value, chroma and hue. If soil characteristics fit those described as hydric indicators in the *Field Indicators of Hydric Soils in the US, Version 8.1 (NRCS, 2016)* the criteria for hydric soils was met and recorded on the data sheet.

Depth to groundwater and saturated soil were documented at the time of the field survey after waiting an appropriate time to allow groundwater to reach a static level. These two features were considered the most significant indicators of the hydrologic condition taking into account irrigation and seasonal influences. If these features failed to indicate wetland hydrology (defined as seasonally or permanently saturated within the upper 12 inches) additional primary and secondary indicators were considered (sediment deposits, water marks, drainage patterns, etc.). If at least one primary, or two secondary, indicators were observed, the criteria for wetland hydrology was met and recorded on the data sheet.

Data points meeting all three parameters for classification as a wetland were mapped within the wetland boundary. The boundary line typically is positioned around areas with vegetation similar to the representative wetland data points. In some cases obvious and distinct changes in vegetation and/or topography are present and the wetland boundary follows these changes. In areas where these changes are not distinct, the wetland boundary is generally placed within an area where certain plant species drop out of the mix or certain species become more prevalent.

This wetland delineation requires verification by the Corps prior to providing a letter of confirmation regarding their concurrence with the locations of wetlands and waters depicted herein. The Corps letter provides a Preliminary Jurisdictional Determination (PJD) identifying all potentially jurisdictional waters of the US on the site. Confirmation of Corps jurisdictional versus non-jurisdictional wetlands and waters may also be obtained when requested.

4. FIELD SURVEY RESULTS

Field work was conducted April 11-12, 2018. Data was collected from three locations and an existing test pit was also observed for depth to groundwater. Data points are shown on Sheet 2 in Appendix A. All other data are recorded on attached data forms in Appendix B. Boundaries of wetlands and/or waters were determined based on general observations as well as specific vegetation, soils and hydrology data from each sample location. In this case, there are no wetland on the site nor any water features.

4.1. Vegetation

Dominant vegetation across the site is primarily what would be considered invasive opportunistic species. These are likely invading where species needing more water are dying because irrigation has been discontinued. The most common species present are Gypsy-Flower (*Cynoglossum officinale*) Tall Hedge-Mustard (*Sisymbrium altissimum*) Canadian Thistle (*Cirsium arvense*) and Baltic Rush (*Juncus balticus*). The Baltic Rush is the only species common to healthy wetlands and is also well known to be able to survive long after a wetland has dried up. Plant species found on site and their wetland status are listed in Table 1 and specific locations of dominant plants are recorded on the data sheets in Appendix 2.

Table 1 Plant Species and Wetland Indicator (2016 Western Mountain List)		
Scientific Name	Common Name	Indicator Status*
Wetland Species		
<i>Cirsium arvense</i>	Canadian Thistle	FAC
<i>Elymus repens</i>	Creeping Wild Rye	FAC
<i>Juncus balticus</i>	Baltic Rush	FACW
<i>Poa pratensis</i>	Kentucky Bluegrass	FAC
<i>Phalaris arundinacea</i>	Reed Canary Grass	FACW
Upland Species		
<i>Cynoglossum officinale</i>	Gypsy-Flower	FACU
<i>Descurainia sophia</i>	Tansy Mustard	NA
<i>Marrubium vulgare</i>	White Horehound	FACU
<i>Onopordum acanthium</i>	Scotch Thistle	NA
<i>Pastinaca sativa</i>	Wild Parsnip	NA
<i>Sisymbrium altissimum</i>	Tall Hedge-Mustard	FACU
<i>Sonchus oleraceus</i>	Common Sow-Thistle	UPL
<i>Taraxacum officinale</i>	Common Dandelion	FACU

* Wetland indicator status – National Wetland Plant List, 2016
 OBL – plants that always occur in standing water or in saturated soil
 FACW – plants that nearly always occur in areas of prolonged flooding or require standing water or saturate soils but may, on rare occasions, occur in non-wetlands
 FAC – plants that occur in a variety of habitats, including wetland and mesic to xeric non-wetland habitats but often occur in standing water or saturated soils.
 FACU – plants that typically occur in xeric or mesic non-wetland habitats but may frequently occur in standing water or saturated soils
 UPL – plants that almost never occur in water or saturated soils
 NA – not listed

4.2. Soils

Soils colors are 5YR 2.5/1 generally to at least 6 inches over slightly lighter 7.5YR 3/1. In the area that has Juncus the 5YR 2.5/1 color extends to 20 inches and lacks hydric soil indicators. Texture ranges from sandy loam to sandy clay loam. The Natural Resources Conservation Service (NRCS) classifies lowland soil as Cudahy silt loam (Cv) and hillslope soil as Rock land, Travertine. The Cudahy soil is listed as a hydric soil series. The NRCS soil map is included in Appendix A.

4.3. Hydrology

Site conditions have been drying over the past several years as development has occurred in the surrounding area and irrigation has been discontinued. This is evident on the National Wetlands Inventory (NWI) map which shows much of this site as palustrine wetland (PEMC1C) and also shows a ditch supplying surface water. However, the aerial photo background of the map shows homes have been constructed where the ditch once was. Site observations and spring season hydrology at data points on site confirm there is no ditch and depth to groundwater does not qualify for wetland hydrology. All of the data points were dry.

5 CONCLUSIONS

Wetland boundary justification – There are no wetlands or waterways on site.

Potential navigable water or commerce connection – NA.

Wetland vegetation demonstrated to be present solely due to irrigation – NA

Natural wetlands/waters that appear to be isolated – NA

6 REFERENCES

Black, Rick, 2017. *Delineation Report of the Waters of the U.S. Including Wetlands, Pine Canyon Road Property, Midway, Wasatch County, Utah.*

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016.
The National Wetland Plant List: 2016 wetland ratings.
Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X

Macbeth, 1990. *Munsell Soil Color Charts.* Munsell Color, Gretag Macbeth, New Windsor, NY. 1990.

NRCS, 2015. *National Hydric Soil List.* URL: www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/

NRCS, 2016. Natural Resources Conservation Service (NRCS). Field Indicators of Hydric Soils in the United States, Version 8.0 (and 2017 update 8.1). L.M. Vasilas, G.W. Hurt, and J.F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

NRCS Web Soil Survey, www.websoilsurvey.nrcs.usda.gov

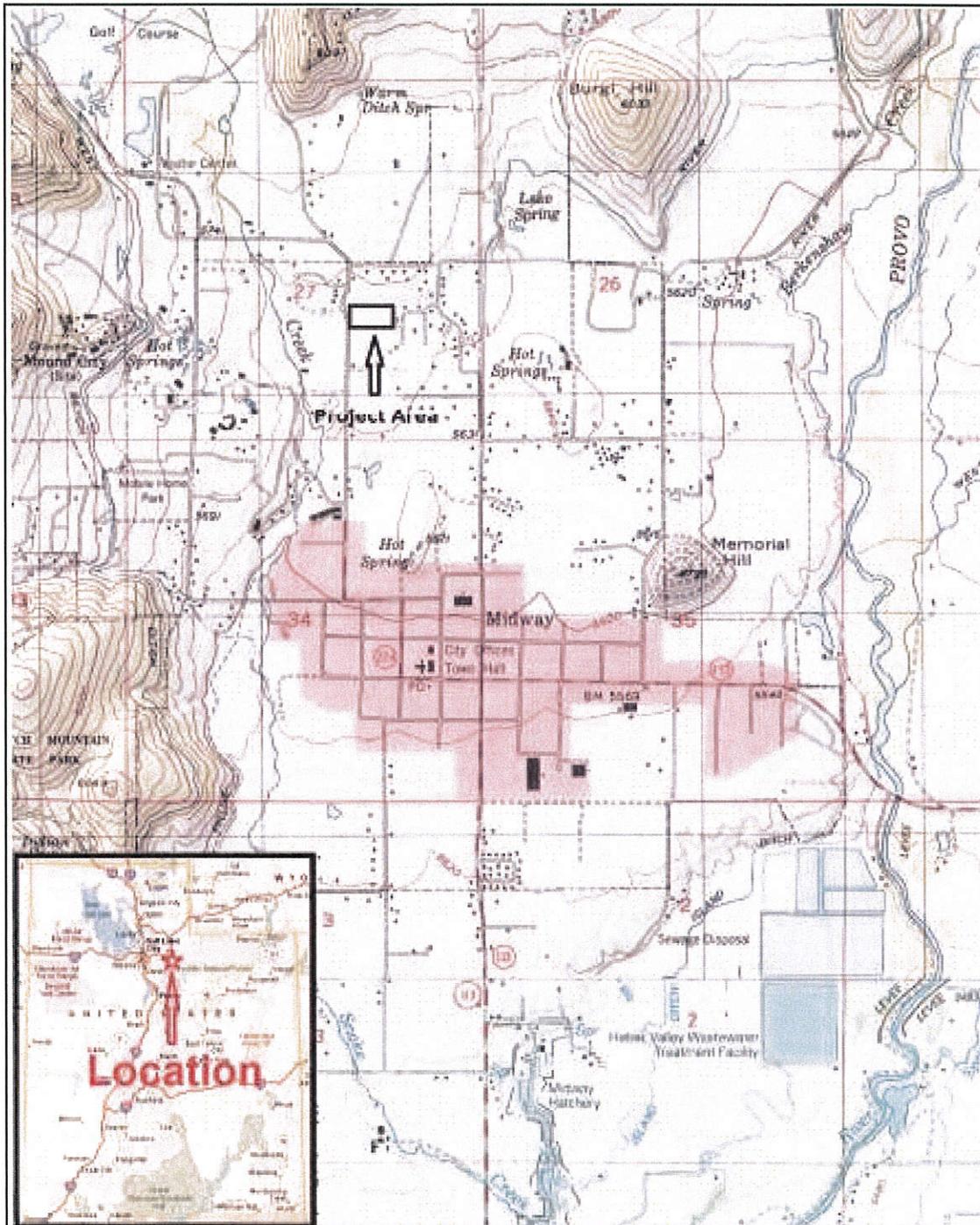
USACE, 1987. U.S. Army Corps of Engineers (USACE) Environmental Laboratory. *Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.* Available URL: <http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/index.html>

USACE, 2010. *Regional Supplement to the Corps of Engineers, Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region, (Version 2.0),* Environmental Laboratory, September, 2010.

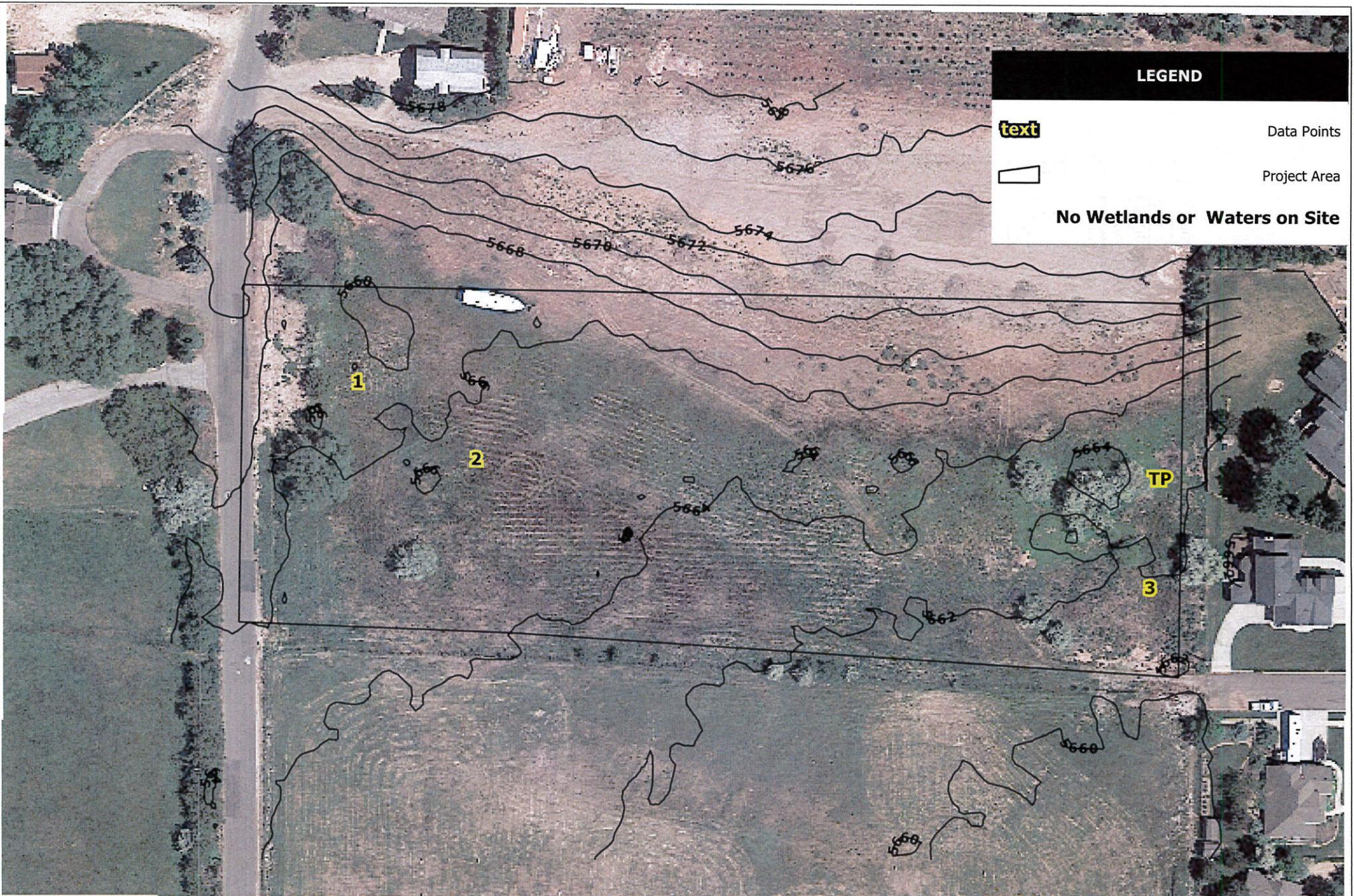
Appendix A
Maps



Wise Earth
Wetlands & Soil Science



Wise Earth	922 Pine Canyon Road	Location Map	Sheet
PO Box 980994	Midway, Utah	USGS 7.5' Topo	1
Park City, Utah	Parcel 062237	Heber City	
WiseEarth@msn.com	Wasatch County, Utah	SE ¼ Section 27 T3S R4E	4/27/2018



LEGEND

text Data Points

 Project Area

No Wetlands or Waters on Site

Wise Earth
 Wetlands & Soil Science
 PO Box 980994
 Park City, Utah 84098
 435-901-1079
 WiseEarth@msn.com

WETLANDS AND WATERS
 LaBarge Property
 922 Pine Canyon Road
 Midway, Utah

0 200 ft

Universal Transverse Mercator - Zone 12 (N)
 Lon: 111°28'42" W
 Lat: 40°31'37" N
 Printed at: 5/7/2018

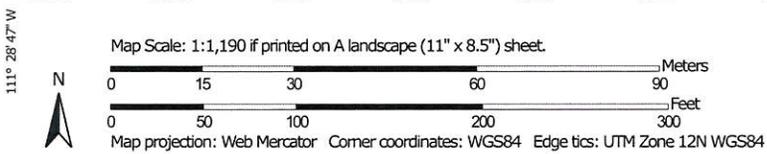
SHEET 2

N

Soil Map—Heber Valley Area, Utah - Parts of Wasatch and Utah Counties



Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Heber Valley Area, Utah - Parts of Wasatch and Utah Counties
Survey Area Data: Version 8, Sep 7, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 13, 2016—Sep 9, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Cv	Cudahy silt loam, cold variant	3.6	80.8%
Rp	Rock land, travertine	0.9	19.2%
Totals for Area of Interest		4.5	100.0%



April 29, 2018

Wetlands

-  Estuarine and Marine Deepwater
-  Estuarine and Marine Wetland

-  Freshwater Emergent Wetland
-  Freshwater Forested/Shrub Wetland
-  Freshwater Pond

-  Lake
-  Other
-  Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Appendix B

Data Forms

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: 922 Pine Canyon Rd. City/County: Midway, Wasatch Sampling Date: 4/11/2018
 Applicant/Owner: Michael LaBarge State: Utah Sampling Point: DP- 1
 Investigator(s): Dave Gardner Section, Township, Range: SE ¼ Sec 27 T2S R4E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 1
 Subregion (LRR): E Rocky Mountain Lat: 40.5272 Long: -111.4792 Datum: WGS84
 Soil Map Unit Name: Cudahy Silt Loam, cold variant NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area Within a Wetland? Yes _____ No <u>X</u>
Remarks:	

VEGETATION – Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status		
Tree Stratum (Plot size: _____)					
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)	
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
_____ =Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____	
Sapling/Shrub Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
_____ =Total Cover				Hydrophytic Vegetation Indicators: ___ 1 – Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Herb Stratum (Plot size: 25' diameter)					
1. <u>Cynoglossum officinale</u>	<u>30</u>	<u>Y</u>	<u>FACU</u>		
2. <u>Sisymbrium altissimum</u>	<u>20</u>	<u>Y</u>	<u>FACU</u>		
3. <u>Pastinaca sativa</u>	<u>15</u>	<u>Y</u>	<u>NL</u>		
4. <u>Phalaris arundinacea</u>	<u>10</u>	<u>N</u>	<u>FACW</u>		
5. <u>Marrubium vulgare</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
6. <u>Descurainia sophia</u>	<u>5</u>	<u>N</u>	<u>NL</u>		
7. <u>Taraxacum officinale</u>	<u>5</u>	<u>N</u>	<u>FACU</u>		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
_____ =Total Cover					
Woody Vine Stratum (Plot size _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
_____ =Total Cover					
% Bare Ground in Herb Stratum <u>10</u>					
Remarks:					

Hydrophytic Vegetation Present? Yes _____ No X

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: 922 Pine Canyon Rd. City/County: Midway, Wasatch Sampling Date: 4/12/2018
 Applicant/Owner: Michael LaBarge State: Utah Sampling Point: DP- 2
 Investigator(s): Dave Gardner Section, Township, Range: SE ¼ Sec 27 T2S R4E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 1
 Subregion (LRR): E Rocky Mountain Lat: 40.5271 Long: -111.4789 Datum: WGS84
 Soil Map Unit Name: Cudahy Silt Loam, cold variant NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area Within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks:	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
=Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species <u>50</u> x 2 = <u>100</u> FAC species <u>25</u> x 3 = <u>75</u> FACU species <u>14</u> x 4 = <u>56</u> UPL species _____ x 5 = _____ Column Totals: <u>89</u> (A) <u>231</u> (B) Prevalence Index = B/A = <u>2.59</u>
=Total Cover				
=Total Cover				
=Total Cover				
Herb Stratum (Plot size: 25' diameter)				
1. <u>Juncus balticus</u>	<u>50</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: ___ 1 – Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Cirsium arvense</u>	<u>15</u>	<u>Y</u>	<u>FAC</u>	
3. <u>Poa pratensis</u>	<u>7</u>	<u>N</u>	<u>FAC</u>	
4. <u>Sonchus oleraceus</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	
5. <u>Cynoglossum officianale</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	
6. <u>Descurainia sophia</u>	<u>5</u>	<u>N</u>	<u>NL</u>	
7. <u>Sisymbrium altissimum</u>	<u>4</u>	<u>N</u>	<u>FACU</u>	
8. <u>Elymus repens</u>	<u>3</u>	<u>N</u>	<u>FAC</u>	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
=Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
=Total Cover				
Woody Vine Stratum (Plot size _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____	_____	_____	_____	
=Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
=Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: Although this data point shows positive for a wetland plant community it appears that the site is experiencing a drying trend due to the loss of irrigation. It appears as well that FAC and FACW species are being replaced by UPL, FACU and unlisted species throughout the property.				

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	5YR 2.5/1						Loam	Root layer- 3" high organic content
8-18	7.5YR 2.5/1						SCL	
18-24	7.5YR 2.5/1						SiCL	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ² Location: PL=Pore Lining, M=Matrix.								
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)						Indicators for Problematic Hydric Soils³:		
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> 2 cm Muck (A10)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Red Parent Material (TF2)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA1)			<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Depleted Matrix (F3)			³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Redox Dark Surface (F6)					
<input type="checkbox"/> Sandy Mucky Mineral (S1)			<input type="checkbox"/> Depleted Dark Surface (F7)					
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Redox Depressions (F8)					
Restrictive Layer (if present):								
Type: _____								
Depth (inches): _____								
						Hydric Soil Present? Yes _____ No <u>X</u>		
Remarks:								

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		
Field Observations:		
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____		
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: 922 Pine Canyon Rd. City/County: Midway, Wasatch Sampling Date: 4/12/2018
 Applicant/Owner: Michael LaBarge State: Utah Sampling Point: DP- 3
 Investigator(s): Dave Gardner Section, Township, Range: SE ¼ Sec 27 T2S R4E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 1
 Subregion (LRR): E Rocky Mountain Lat: 40.5268 Long: -111.4770 Datum: WGS84
 Soil Map Unit Name: Cudahy Silt Loam, cold variant NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area Within a Wetland? Yes _____ No <u>X</u>
Remarks:	

VEGETATION – Use scientific names of plants

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
4. _____	_____	_____	_____	
=Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: _____)				Prevalence Index worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species _____ x 1 = _____
3. _____	_____	_____	_____	FACW species <u>60</u> x 2 = <u>120</u>
=Total Cover				FAC species _____ x 3 = _____
<u>Herb Stratum</u> (Plot size: <u>25' diameter</u>)				FACU species <u>1</u> x 4 = <u>4</u>
1. <u>Juncus balticus</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	UPL species <u>40</u> x 5 = <u>200</u>
2. <u>Onopordum acanthium</u>	<u>35</u>	<u>Y</u>	<u>NL</u>	Column Totals: <u>101</u> (A) <u>324</u> (B)
3. <u>Descurainia sophia</u>	<u>5</u>	<u>Y</u>	<u>NL</u>	Prevalence Index = B/A = <u>3.21</u>
4. <u>Cynoglossum officinale</u>	<u>1</u>	<u>N</u>	<u>FACU</u>	
5. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:
6. _____	_____	_____	_____	<input type="checkbox"/> 1 – Rapid Test for Hydrophytic Vegetation
7. _____	_____	_____	_____	<input type="checkbox"/> 2 - Dominance Test is >50%
8. _____	_____	_____	_____	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
9. _____	_____	_____	_____	<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
10. _____	_____	_____	_____	<input type="checkbox"/> 5 - Problematic Hydrophytic Vegetation ¹ (Explain)
11. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
=Total Cover				
<u>Woody Vine Stratum</u> (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
=Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: 922 Pine Canyon Rd. City/County: Midway, Wasatch Sampling Date: 4/12/2018
 Applicant/Owner: Michael LaBarge State: Utah Sampling Point: Existing Test Pit 1 (hydro only)
 Investigator(s): Dave Gardner Section, Township, Range: Sec 27 T2S R4E
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 1
 Subregion (LRR): E Rocky Mountain Lat: 40.5270 Long: -111.4770 Datum: WGS84
 Soil Map Unit Name: Cudahy Silt Loam, cold variant NWI classification: PEM1C

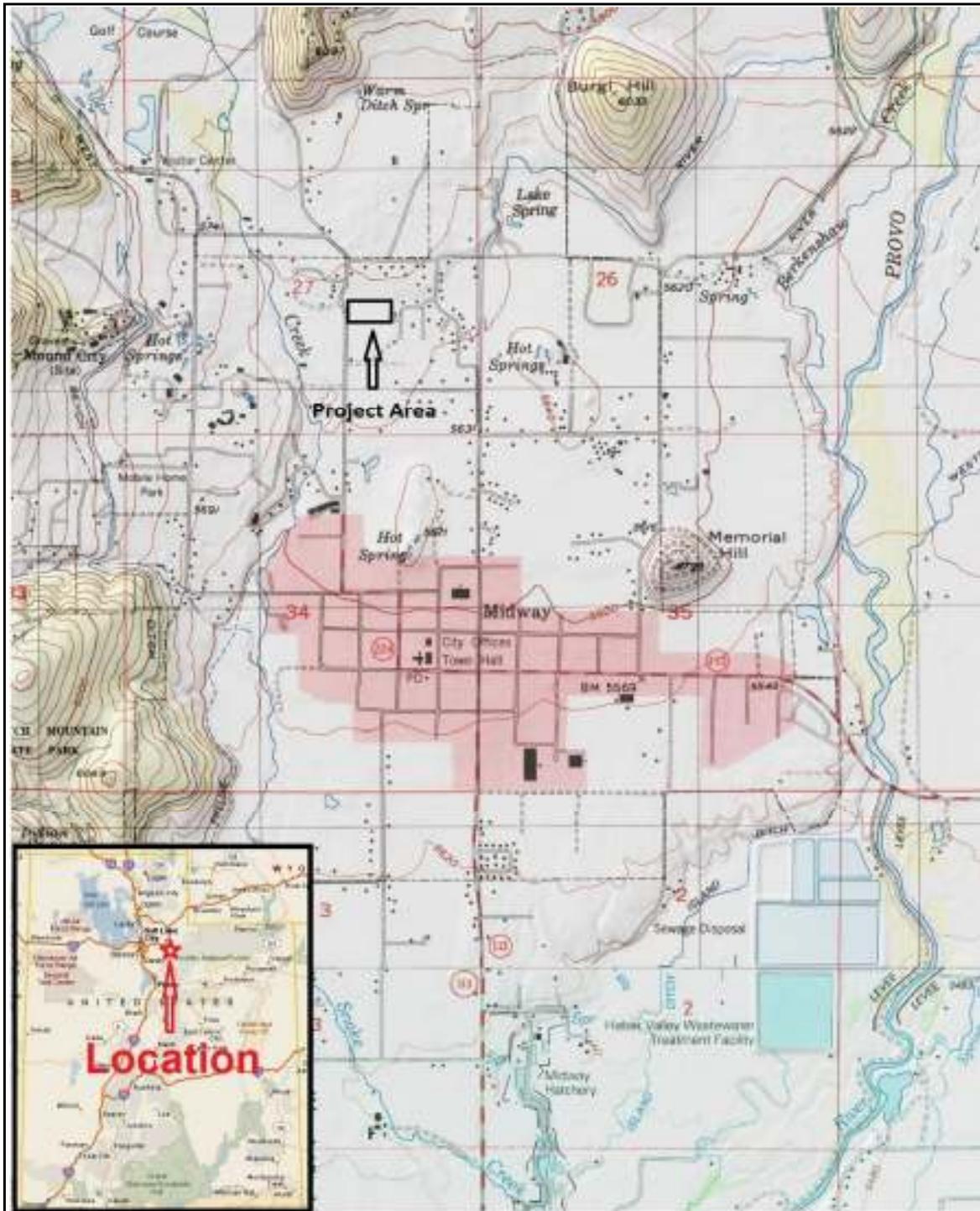
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes _____ No _____ Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area Within a Wetland? Yes _____ No <u>X</u>
Remarks: Topo high existing test pit 20 inches deep. This pit was used only to observe groundwater. The pit was dry.	

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
=Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)	_____	_____	_____	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ 1 – Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
=Total Cover				
Herb Stratum (Plot size: _____)	_____	_____	_____	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
=Total Cover				
Woody Vine Stratum (Plot size _____)	_____	_____	_____	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
=Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				



Wise Earth	922 Pine Canyon Road	Location Map	Sheet
PO Box 980994	Midway, Utah	USGS 7.5' Topo	1
Park City, Utah	Parcel 062237	Heber City	
WiseEarth@msn.com	Wasatch County, Utah	SE ¼ Section 27 T3S R4E	4/27/2018