

APPENDIX C

Deed Restriction

WHEN RECORDED, RETURN TO:

David L. Thomas
Chief Civil Deputy
Summit County
60 N. Main St.
P.O. Box 128
Coalville, Utah 84017

DECLARATION AND NOTICE OF USE RESTRICTIONS
(Pace Meadows)

This DECLARATION AND NOTICE OF USE RESTRICTIONS (this “**Declaration and Notice**”), dated as of the ____ day of _____, 20__ (the “**Effective Date**”), is entered into and made by **SNYDERVILLE BASIN SPECIAL RECREATION DISTRICT**, a special service district of the State of Utah, located at 5715 Trailside Drive, Park City, Utah 84098 (the “**Declarant**”).

RECITALS

A. Declarant is the owner of certain parcels of real property located in Summit County, Utah, as more particularly described in attached **Exhibit “A”** (the “**Restricted Property**”).

B. The Restricted Property was acquired using funds from that certain Series 2015A Bonds, as set forth in that certain Summit County Resolution No. 2014-03, dated July 30, 2014, and Official Notice of Bond Sale and Preliminary Official Statement, Snyderville Basin Special Recreation District, Summit County, Utah, General Obligation Bonds, Series 2015A, and as such the Restricted Property may only be utilized as “recreational open space,” which includes the construction of “trails and trail-related improvements.”

C. The Restricted Property is located within what has been designated by the United States Environmental Protection Agency (“**EPA**”) as the Richardson Flat Tailings Site (the “**Site**”), specifically within Operable Unit 2 (“**OU2**”) and Operable Unit 3 (“**OU3**”) of the Site.

D. The Restricted Property has significant wildlife habitat, ecological, aesthetic and recreational open space conservation values. The Restricted Property constitutes a valuable element of the natural habitat of the Silver Creek watershed and ecosystem and the ecosystem’s ecological, aesthetic, recreational, and recreational open space values, including flora, fauna, and soils. Further, the Restricted Property provides significant wildlife habitat, and the maintenance of such natural habitat helps support wildlife populations in the Silver Creek ecosystem. The Declarant and Benefited Parties (defined below) acknowledge the value of the natural habitats

and other values on the Restricted Property. All of these natural habitat, ecological, wildlife, aesthetic, water resource, recreational, and open space values (collectively, the “**Conservation Values**”) are worthy of conservation and of great importance to Declarant and the Benefited Parties.

E. The Declarant desires and intends that the Conservation Values of the Restricted Property be conserved and maintained by the continuation, initiation, or introduction of activities on the Restricted Property that will not compromise the Conservation Values, including the use of the Restricted Property for fishing, quality recreational open space, including wildlife corridors, public trail systems and trailheads for hiking, cross country running, mountain biking, biking on other types of bicycles (including electric bikes, which shall not be deemed motorized), equestrian activities, Nordic skiing, picnicking, wildlife observation (including observation blinds and towers), restrooms and associated public facilities to serve Restricted Property users, cattle guards or other fencing as may reasonably be required to preserve the Restricted Property in a condition herein contemplated (collectively the “**Primary Uses**”).

F. Declarant also intends to cooperate with EPA in taking action on the Restricted Property under the Comprehensive Environmental Response, Compensation and Liability Act at 42 U.S.C. § 9628 (“**CERCLA**”). Any action will address hazardous substances that may be present on the Restricted Property. Declarant intends to maintain the integrity of response actions conducted by EPA and intends to record an environmental covenant upon EPA’s request (the “**Environmental Covenant**”). Declarant intends this Declaration and Notice to be subordinate to such Environmental Covenant regardless of the order of recording.

G. Declarant further intends to allow the Trustees (defined below) to address natural resources damages on the Restricted Property. Declarant recognizes that there is injury to natural resources within OU2 and OU3, including the Restricted Property, and that those natural resources may remain injured following response actions conducted under CERCLA. Declarant understands that the U.S. Fish and Wildlife Service, the Executive Director of the Utah Department of Environmental Quality, and the Director of the Utah Department of Natural Resources are designated natural resources trustees under CERCLA. The Trustees are authorized to use any damages recovered from responsible parties to restore, replace, or acquire the equivalent resources. Declarant recognizes that during or after EPA’s response action, the Trustees may utilize recovered damages to restore natural resources within OU2 and OU3, including the Restricted Property. Declarant acknowledges its intent to protect such restoration.

H. As and to the extent specified herein, Declarant desires that the Restricted Property shall be held, conveyed, encumbered, leased, used, occupied, and improved subject to the restrictions, rights, conditions, and covenants set forth in this Declaration and Notice, for the benefit of: Summit County, a political subdivision of the State of Utah (“**County**”); the EPA; and the Natural Resource Trustees consisting of the U.S. Fish and Wildlife Service, the Executive Director of the Utah Department of Environmental Quality, and the Executive Director of the Utah Department of Natural Resources (collectively, the “**Trustees**”) (together, the “**Benefited Parties**”).

I. This Declaration and Notice is made for and in consideration of, pursuant to, and in furtherance of the terms and conditions of that certain Purchase Agreement by and between the

Florence J. Gillmor Foundation, a nonprofit foundation organized under the laws of the State of Utah (“**Foundation**”), the Estate of Florence J. Gillmor (“**Estate**”) and Declarant, dated as of February 7, 2018 (the “**Agreement**”) and that certain Administrative Settlement Agreement and Order on Consent, U.S EPA Region 8, CERCLA Docket No. _____, in the matter of Richardson Flat Tailings Site, Operable Units 2 and 3, Park City, Utah, Florence J. Gillmor Foundation, Estate of Florence H. Gillmor, Summit County, a political subdivision of the State of Utah, and the Snyderville Basin Special Recreation District, a special district of the State of Utah, dated _____, 2019 (the “**AOC**”).

TERMS

NOW, THEREFORE, for and in consideration of the covenants and promises set forth in the Agreement, AOC and this Declaration and Notice, together with the mutual benefits to be derived herefrom and therefrom, Declarant hereby covenants and declares that the Restricted Property, and every part or interest therein, is now held and shall hereafter be held, conveyed, encumbered, leased, used, occupied and improved subject to the restrictions, rights, conditions and covenants herein set forth, each and all of which is and are for, and shall inure to the benefit of and pass with, the Restricted Property, and every part or interest therein, and shall apply to every owner and occupant thereof, and their successors and assigns, with the effect that all restrictions, rights, conditions and covenants in this Declaration shall run with and burden the Restricted Property and shall be binding on the Restricted Property and all other persons having or acquiring any interest in the Restricted Property, for the benefit of the Benefited Parties.

1. **Prohibited Uses.** Declarant desires to protect, maintain, conserve and enhance the Restricted Property for the purpose of natural wildlife habitat, recreational open space and scenic qualities, and to restrict the use of the Restricted Property to recreational and other uses that are consistent with the foregoing. In that connection, any activity on or use of the Restricted Property inconsistent with the purposes of this Declaration and Notice and which is likely to cause material damage to the Conservation Values is expressly prohibited. Declarant and the Benefited Parties agree that the following uses of the Restricted Property and/or practices or activities upon the Restricted Property, though not an exhaustive recital of inconsistent uses, practices and activities, are expressly prohibited in perpetuity (collectively, the “**Use Restrictions**”):

(a) Construction or location of any structure or other improvement on the Restricted Property except for structures or improvements that are reasonably consistent with the Conservation Values, Primary Uses, Expressly Permitted Uses (defined below), and Approved Uses (defined below) of the Restricted Property.

(b) Exploration and drilling for and extraction of oil and gas from any site on the Restricted Property;

(c) Dumping or storing of ashes, trash, garbage or junk on the Restricted Property;

(d) Quarrying, mining, excavating, depositing or the extracting of sand, gravel, soil and rocks and/or, without limitation, any mineral or similar materials from the Restricted Property, except as provided in Section 2(a);

(e) Dumping, depositing, discharging, releasing or abandoning any solid or hazardous wastes, hazardous substance or material, pollutant or debris in, on or under the Restricted Property or into the surface or groundwater on or under the Restricted Property, except as provided in Section 2(a);

(f) Burning of any materials on the Restricted Property, unless burning is deemed necessary to control invasive species or is necessary to help preserve or restore habitat or as needed for fire mitigation on the Restricted Property;

(g) Hunting or trapping on the Restricted Property, except as provided in Section 2(d);

(h) Establishment or maintenance of any livestock feedlots on the Restricted Property;

(i) Any industrial use of the Restricted Property not expressly permitted;

(j) The placement or maintenance of commercial signs, billboards or any other outdoor advertising of any kind or nature on the Restricted Property except for signs relating to the use or limitations on use applicable to the Restricted Property, directional and regulatory signs relating to the Restricted Property and signs of an informational or educational nature relating to the Restricted Property and the preservation of the Restricted Property as recreational open space; and

(k) All other uses and practices inconsistent with and significantly detrimental to the Conservation Values and preservation of the Restricted Property as recreational open space.

2. **Expressly Permitted Uses.** The following uses and practices, though not an exhaustive recital of consistent uses and practices, are consistent with the preservation of the Conservation Values of the Restricted Property and its use as recreational open space, and are hereby expressly permitted, provided that each such use or practice is effected in a manner that is not inconsistent with the purpose of the Use Restrictions and that each such use or practice shall not result in significant injury to or the destruction of the recreational open space or Conservation Values of the Restricted Property (collectively, the “**Expressly Permitted Uses**”). The uses and practices described in this Section 2 may not be precluded or prevented by the Use Restrictions:

(a) Consistent with the AOC, EPA may use all or a portion of the Restricted Property for the permanent importation, consolidation, and capping of contaminated soils or mine waste from areas both within and outside the Restricted Property, but within OU2 or OU3 under CERCLA and the Trustees may install, maintain, monitor and close groundwater monitoring wells within the Restricted Property;

- (b) All Primary Uses on the Restricted Property;
- (c) Planting and maintaining native and desirable trees and bushes and grasses, and performing other habitat restoration activities to protect, preserve and enhance the natural resource, aesthetic and recreational open space values of the Restricted Property;
- (d) Fishing, in accordance with Utah law. Hunting or trapping of animals, and controlling predatory or problem animals by the use of selective control measures and techniques authorized by the Utah Division of Wildlife Resources;
- (e) Removal of such trees and other noxious or nonnative flora as are determined by the Declarant to be hazardous to the uses and practices herein reserved;
- (f) Conducting remedial actions consistent with CERCLA, the Administrative Settlement Agreement and Order on Consent for EE/CA Investigation and Removal Action, CERCLA 08-2014-0003 (March 6, 2014), EPA actions taken under Sections 104 or 106 of CERCLA, 42 U.S.C. §§ 9604, 9606, and the Trustees' restoration plan(s);
- (g) Maintaining and repairing existing observation blinds and towers, cattle guards or other fencing reasonably appropriate for wildlife and agricultural protection purposes, and for the protection of natural and planted vegetation, as may reasonably be required to preserve the Restricted Property as herein contemplated;
- (h) Engaging in responsible grazing practices and other agricultural activities as allowed by management plans for such developed for the Restricted Property in coordination with the Trustees;
- (i) Using the Restricted Property for educational and recreational purposes consistent with the preservation of the Conservation Values on the Restricted Property and for purposes of recreational open space, including the installation, maintenance, and operation of structures or improvements that are reasonably consistent with the Primary Uses;
- (j) Using the Restricted Property for commercial or noncommercial photography consistent with the preservation of the Conservation Values and the Restricted Property as recreational open space;
- (k) Maintaining and repairing buried existing utility lines and such above grade existing ancillary facilities as may be reasonably necessary and are running through the Restricted Property, and the incidental use of vehicles required to maintain the Restricted Property and such utility lines;
- (l) Installing signs relating to the use or limitations on use applicable to the Restricted Property, directional and regulatory signs relating to the Restricted Property and signs of an informational or educational nature relating to the Restricted Property and the preservation of the Conservation Values and the Restricted Property as recreational open space;

(m) Performing the requirements, if any, of the Post-Removal Site Control Work Plan (as defined in the AOC) under the AOC, which may include post-removal site controls to preserve the environmental measures required by EPA and the Trustees. This Declaration and Notice shall be subordinate to the Environmental Covenant that may be required by EPA and the Trustees. The Environmental Covenant will comply with the Utah Environmental Covenants Act. Post-removal controls as used herein shall mean (i) maintenance of zoning restrictions which limit commercial, industrial and residential development, (ii) prohibition on non-recreational development within jurisdictional wetlands and floodplain areas, and (iii) maintenance of any soils cap from erosion or excavation activities so as to maintain the effectiveness of Removal Actions (as defined in the AOC) that may be taken by EPA and Restoration Actions (as defined in the AOC) that may be taken by the Trustees on the Restricted Property; and

(n) Construction of trails, boardwalks, observation blinds and towers, cattle guards or other fencing reasonably appropriate for wildlife and agricultural protection purposes, and for the protection of natural and planted vegetation, utility lines, and public roads, that are shown on the Restricted Property Maps attached as Exhibit B or are identified in the Baseline Data (defined below).

3. **Approved Uses.** The following uses and practices may be permitted when consistent with this Declaration and Notice, and with the preservation of the Conservation Values and the Restricted Property as recreational open space, provided that each such use or practice is effectuated in a manner that is not inconsistent with the purpose of the Use Restrictions, and that each such use or practice shall neither significantly impair nor, in general, result in significant injury to or the destruction of the Conservation Values of the Restricted Property (the “**Approved Uses**”). Accordingly, the following uses and practices, while not an exhaustive recital of actions requiring prior approval, may be permitted or permitted with conditions upon the prior approval of the Trustees:

(a) Construction, use and maintenance of natural and man-made ponds, and restoration of existing streams;

(b) Any use that is not an Expressly Permitted Use and that will require a substantial initial excavation or construction effort that will temporarily impact one or more Conservation Values or recreational open space uses of the Restricted Property;

(c) Building new observation blinds and towers for wildlife observation, or building cattle guards or other fencing that do not appear on Exhibit B and are not identified in the Baseline Data and are reasonably appropriate for wildlife and agricultural protection purposes, and for the protection of natural and planted vegetation, as may reasonably be required to preserve the Restricted Property as herein contemplated.

(d) Constructing and burying new utility lines and such above grade new ancillary facilities that do not appear on Exhibit B and are not identified in the Baseline Data and may be reasonably necessary to run through the Restricted Property, and the incidental use of vehicles required to maintain the Restricted Property and such utility lines.

(e) Construction of public roads and trails, where such roads and trails do not appear on Exhibit B and are not identified in the Baseline Data; and

(f) Any other use or activity that is not an Expressly Permitted Use, but that can be implemented with conditions such that it will protect the Conservation Values and the Restricted Property as recreational open space.

4. Approval Process. If any provision of this Declaration and Notice requires Declarant to obtain Trustees' approval prior to performing any act or undertaking any enterprise, Declarant shall not perform that act or undertake that enterprise until the notice and approval provisions of this Section have been fully satisfied. Nothing in this Section shall in any way prohibit or limit the Trustees' ability to obtain writs or injunctive relief relating to any violation of this Declaration and Notice.

(a) Declarant's Written Notice. Prior to the commencement of any activity, use or enterprise that requires the Trustees' approval, Declarant will first notify the Trustees in writing of the proposed activity, use or enterprise. The notice must fully inform the Trustees of all material aspects of the proposed activity, use or enterprise. Declarant will send such notices to the Trustees by registered or certified mail, return receipt requested, addressed to the Trustees at the following addresses, or to such other address as the Trustees may designate in writing:

As to the State Natural Resource Lead Trustee

Executive Director
Utah Department of Environmental Quality
195 North 1950 West
Salt Lake City, UT 84116
Phone: (801) 536-0095
Email: amatheson@utah.gov

With a copy to:

Kimberlee McEwan
Assistant Attorney General
P.O. Box 140873
Salt Lake City, Utah 84114-0873
Phone: (801) 536-4114
Email: kmcewan@agutah.gov

With a copy to:

Doug Bacon
Project Manager
Richardson Flat OU2 & 3
DERR P.O. Box 144840
Salt Lake City, Utah 84114-4840
Phone: (801) 536-4282

Email: dbacon@utah.gov

As to the State Natural Resource Co-Trustee

Executive Director
Utah Department of Natural Resources
1594 West North Temple
PO Box 145610
Salt Lake City, Utah 84114-5610
801-538-7200
801-538-7315 (fax)
Email: mikestyler@Utah.gov

With a copy to:

Martin Bushman
Utah Attorney General's Office
1594 West North Temple, Suite 300
Salt Lake City, Utah 84114
Phone: (801) 538-7273
Email: martinbushman@agutah.gov

(b) Trustees' Response. After Trustees receive the notice described above in Subsection 4(a), the Declarant and Trustee(s) shall meet (either in person or telephonically) to discuss the material provided about the proposed activity, use or enterprise. If the Trustees and Declarant determine the proposed activity, use or enterprise is minor in nature, the Trustees shall have thirty (30) days from the meeting to review the proposed activity, use, or enterprise and to notify Declarant of any objections they or any one of them may have to the activity, use, or enterprise. The objections, if any, shall be based upon the Trustees' opinion that the proposed activity, use or enterprise is likely to cause material damage to the Conservation Values of the Restricted Property or is otherwise materially inconsistent with the purpose and/or provisions of this Declaration and Notice and must be supported by written findings. If, in the Trustees' judgment, the proposal presented by Declarant can be modified to avoid material damage to the Conservation Values and otherwise comply with the purpose and provisions of this Declaration and Notice, then the response shall inform Declarant how the proposed activity, use or enterprise may be modified to conform with this Declaration and Notice. If the Declarant and Trustees determine that the proposed activity requires additional discussion and time for review or constitutes a use or enterprise which is major in nature, the Declarant and Trustees shall mutually agree upon an acceptable time frame for consideration of the proposal. If the Declarant and Trustees cannot agree upon an acceptable timeframe, the Dispute Resolution provisions in the AOC shall govern. Except as provided in Subsection 4(c) of this Section, Declarant may commence the proposed activity, use, or enterprise only after it receives the Trustees' express written approval, and only in the manner explicitly proposed by the Declarant and approved by the Trustees. The Trustees will send such response to Declarant by registered or certified mail, return receipt requested, addressed to Declarant at 5715 Trailside Drive, Park City, Utah 84098, or to such other address as Declarant may designate in writing. In the event that the Trustees are not responsive to the Declarant's Written Notice as set forth in the time deadlines set forth in this

Subsection 4(b), the Declarant shall have the right to utilize the Dispute Resolution provisions in the AOC to resolve the matter.

(c) Force Majeure. Declarant will not be obligated to send a notice to the Trustees, and the Trustees will not be entitled to bring an action against Declarant for undertaking any prudent activity in a bona fide emergency situation to prevent, abate, or mitigate the immediate threat of significant damage to the Restricted Property resulting from causes beyond Declarant's control, including fire, flood, storm, and earth movement. Declarant will promptly notify the Trustees of any injury to the Restricted Property caused by such events or the efforts to prevent, abate, or mitigate any damage caused by such events.

(d) State and Federal Trustee Costs. Declarant will reimburse the State and FWS in full for all activities contemplated in this Declaration and Notice which require review, inspection, involvement, or otherwise incur costs for the State and FWS on behalf of the State and Federal Trustees. Costs will be determined and billed in accordance with the fee schedule approved by the legislature and DOI practice.

5. Remedies.

(a) Where any of the Benefited Parties become aware of a violation or potential violation of any Use Restriction or become aware of any damage or potential damage to the Conservation Values associated with the Restricted Property, whether precipitated by Declarant or by a third party, the Benefited Party shall notify Declarant in writing of such violation, potential violation, damage or potential damage. Upon Declarant's receipt of such notice, Declarant agrees to immediately take action to prevent or stop the activity which violates or will imminently violate the terms or intent of this Declaration and Notice.

(b) Declarant shall have thirty (30) days after receipt of such notice, or such time as reasonably necessary and agreed to by the Benefited Party(ies), to undertake actions, including restoration of the Restricted Property, that are reasonably calculated to swiftly correct the conditions caused by such violation.

(c) With the agreement and understanding that, in the event the Use Restrictions shall, in any respect, as reasonably determined by any of the Benefited Parties, fail to be performed or complied with, the Benefited Parties may not have an adequate remedy at law for the breach or threatened breach thereof, the Benefited Parties may (i) take or cause to be taken such actions as may be necessary or appropriate to satisfy any such covenants, agreements, conditions, and/or obligations, and/or (ii) file a suit in equity to enjoin the breach or threatened breach of the Use Restrictions, as the case may be, and/or for specific performance thereof, or to require restoration of that portion of the Restricted Property affected by such activity to a similar or equivalent condition that existed prior to the unauthorized activity. To the extent consistent with this Declaration and Notice, such restoration may include, but is not limited to, restoring soils, replanting suitable native vegetation, and/or taking such other action as a court of competent jurisdiction deems necessary to achieve restoration; provided however, that such action shall be limited to restoration of damage resulting from Declarant's violation.

(d) In no event shall a remedy for breach of a Use Restriction or other violation of this Declaration and Notice include the termination, revocation, reformation or rescission of this Declaration and Notice.

(e) The Benefited Parties' remedies set forth in this Declaration and Notice are cumulative. Any or all of the remedies may be invoked by the Benefited Parties if there is an actual or threatened violation of this Declaration and Notice.

6. **Baseline Data.**

(a) Declarant and the Trustees acknowledge that an inventory of baseline data (the "**Baseline Data**") relating to the Restricted Property has been completed by competent professionals familiar with the Restricted Property and furnished to the Trustees by Declarant. A copy of the Baseline Data is included as **Exhibit C** to this Declaration and Notice. The Declarant and the Trustees acknowledge that the Baseline Data contains an accurate representation of the Restricted Property's condition and natural resources as of the date of the execution of this Declaration and Notice in accordance with Treasury Regulation 1.170A-14(g)(5)(I).

(b) Notwithstanding the foregoing, should a future controversy arise over the biological and/or physical condition of the Restricted Property, the Declarant and the Trustees may use all relevant documents, surveys, reports and other information to assist in resolving the controversy.

(c) If range or habitat conditions significantly change on the Restricted Property in consequence of EPA's CERCLA actions, the Declarant shall prepare and update the Baseline Data to document the changed conditions. The updated Baseline Data must be approved in writing by the Trustees. Upon approval, the updated Baseline Data will be used as the baseline for future monitoring. Any such updated Baseline Data shall not modify or interfere with the Primary Uses, Expressly Permitted Uses or Approved Uses of the Restricted Property.

7. **Extinguishment of Development Rights.** Except as specifically reserved herein, Declarant hereby (a) acknowledges the extinguishment of all development rights associated with the Restricted Property and (b) agrees that all rights or interests in such development rights are terminated and extinguished and may not be used on or transferred to any portion of the Restricted Property as it now or hereafter may be described, or to any other adjacent property, nor used for the purpose of calculating permissible lot yield or density of the Restricted Property or any other property with regard to any land use or zoning which affects, or may affect, the Restricted Property.

8. **Perpetual Term; Subsequent Sale, Exchange or Involuntary Conversion.**

(a) This Declaration and Notice shall continue in full force and effect in perpetuity.

(b) Declarant agrees that reference to this Declaration and Notice will be made in any subsequent deed or other legal instrument by means of which any interest in the Restricted Property (including any leasehold interest) is conveyed, and that a copy of this Declaration and Notice will be attached thereto. Declarant will notify the Trustees in writing of any conveyance of

interest by sending written notice to the Trustees as provided in Section 4(a). Declarant agrees to provide notice of this Declaration and Notice to all successors in interest and to any potential purchasers or subsequent owners. In the event Declarant elects to sell the Restricted Property, Declarant agrees to provide notice of this Declaration and Notice in any sale or solicitation materials or information. Any failure to comply with the terms of this section shall in no manner render this Declaration and Notice or any provisions of this Declaration and Notice unenforceable.

(c) Nothing in this Declaration and Notice shall be construed to preclude Declarant from making a subsequent conveyance of rights in the Property to further protect its Conservation Values, provided, however, that any such subsequent conveyance shall not impair or supersede any Conservation Values protected by this Declaration and Notice or the restrictions therein designed to protect them, except with respect to an Environmental Covenant required by EPA, in accordance with the AOC and referenced in Paragraph F, above.

9. **Amendment.** This Declaration and Notice may be amended only by duly recording an instrument executed and acknowledged by the Benefited Parties and the Declarant or its successors and assigns as the owner(s) of the Restricted Property.

10. **Declaration and Notice to Run with the Land.**

(a) All restrictions, rights, conditions and covenants in this Declaration and Notice shall run with and bind the Restricted Property as covenants running with the land and shall inure with and burden the Restricted Property and shall be binding on the Restricted Property and any persons having or acquiring any interest in the Restricted Property. Further, this Declaration and Notice and the restrictions created hereby shall inure to and be binding upon all occupants, tenants, licensees and invitees of the Restricted Property, and upon any person acquiring the Restricted Property, or any part thereof or any interest therein, whether voluntarily, involuntarily, by operation of law or otherwise. The owner(s) of the Restricted Property, including, without limitation, any owner or lien holder, who acquires any interest in the Restricted Property, by foreclosure, trustee's sale or otherwise, shall be liable for all obligations arising under this Declaration and Notice with respect to the Restricted Property after the date of sale and conveyance of title.

(b) Any mortgage, trust deed, lien, judgement, or other financial interest executed or entered against the Restricted Property hereafter shall be subordinate to this Declaration and Notice and in no way enable the holder of such interest or their successor(s) in interest to breach the terms of this Declaration and Notice or otherwise compromise the Conservation Values protected thereby.

(c) This Declaration and Notice shall be subject to all existing encumbrances that are of record, or encumbrances that could be gleaned from either a survey or physical inspection of the Property.

11. **No Waiver.** Failure to enforce any provision of this Declaration and Notice does not waive the right to enforce that provision, or any other provision of this Declaration and Notice.

12. **Notices.** All notices given pursuant to this Declaration and Notice shall be in writing and shall be given by personal service (receipted), by United States mail or by United States express mail or other established express delivery service (such as Federal Express), postage or delivery charge prepaid, return receipt requested to the addresses set forth below or as otherwise directed in writing by the pertinent party.

As to EPA

Project Manager, Richardson Flat Superfund Site
EPR-SR
U.S. EPA Region 8
1595 Wynkoop St.
Denver, CO 80202

With a copy to:
Attorney, Richardson Flat Superfund Site
ENF-L
U.S. EPA Region 8
1595 Wynkoop St.
Denver, CO 80202

As to the State Natural Resource Lead Trustee

Executive Director
Utah Department of Environmental Quality
195 North 1950 West
Salt Lake City, UT 84116
Phone: (801) 536-0095
Email: amatheson@utah.gov

With a copy to:

Kimberlee McEwan
Assistant Attorney General
P.O. Box 140873
Salt Lake City, Utah 84114-0873
Phone: (801) 536-4114
Email: kmcewan@agutah.gov

With a copy to:

Doug Bacon
Project Manager
Richardson Flat OU2 & 3
DERR P.O. Box 144840

Salt Lake City, Utah 84114-4840
Phone: (801) 536-4282
Email: dbacon@utah.gov

As to the State Natural Resource Co-Trustee

Executive Director
Utah Department of Natural Resources
1594 West North Temple
PO Box 145610
Salt Lake City, Utah 84114-5610
801-538-7200
801-538-7315 (fax)
Email: mikestyler@Utah.gov

With a copy to:

Martin Bushman
Utah Attorney General's Office
1594 West North Temple, Suite 300
Salt Lake City, Utah 84114
Phone: (801) 538-7273
Email: martinbushman@agutah.gov

As to DOI

Field Supervisor
U.S. Fish and Wildlife Service Utah Ecological Services Field Office
2369 W. Orton Circle, Suite 50
West Valley City, UT 84119

As to the County

SUMMIT COUNTY MANAGER
P.O. Box 128
Coalville, Utah 84017

With a copy to:
SUMMIT COUNTY ATTORNEY'S OFFICE
P.O. Box 128
Coalville, Utah 84017

For the Declarant:

DISTRICT DIRECTOR
Snyderville Basin Special Recreation District
5715 Trailside Dr.
Park City, Utah 84098

With a copy to:
SUMMIT COUNTY ATTORNEY'S OFFICE
P.O. Box 128
Coalville, Utah 84017

13. **Severability.** The provisions of this Declaration and Notice are independent and severable. A determination of invalidity or partial invalidity or unenforceability of any one provision of this Declaration and Notice by a court of competent jurisdiction does not affect the validity or enforceability of any other provisions of this Declaration and Notice.

14. **Liberal Construction.** This Declaration and Notice shall be liberally construed in favor of maintaining the Conservation Values of the Restricted Property and its use as recreational open space.

15. **Liens.** The Use Restrictions specified herein shall be subject to any and all prior liens, rights, restrictions, encumbrances, or covenants of record. In the event that any liens, rights, restrictions, encumbrances, or covenants, other than an Environmental Covenant recorded in accordance with the AOC and referenced in Paragraph F, shall hereafter accrue against the Restricted Property, the same shall be subordinate to the Use Restrictions specified herein.

16. **Successors.** This Declaration and Notice is binding upon and will inure to the benefit of the Declarant's and the Benefited Parties' successors and assigns. All subsequent owners of the Restricted Property are bound to all provisions of this Declaration and Notice to the same extent as Declarant.

17. **Governing Law.** This Declaration and Notice will be interpreted and construed in accordance with applicable Utah and Federal laws.

18. **Standard for Agreement.** Wherever this Declaration and Notice requires an agreement or approval of a party, such agreement or approval shall not be unreasonably withheld or delayed.

19. **Entire Agreement.** This Declaration and Notice, together with the AOC, sets forth the entire agreement of the Declarant and the Benefited Parties. It is intended to supersede all prior discussions or understandings.

20. **Compliance with Law.** All uses and practices permitted by this Declaration and Notice, including the Primary Uses, shall comply with all applicable State of Utah and Federal laws.

21. **Change of Conditions.** The fact that any use of the Restricted Property expressly prohibited by this Declaration and Notice or otherwise determined inconsistent with the purpose of this Declaration and Notice may become significantly more valuable or economical than the uses permitted hereunder, or that neighboring properties may in the future be put entirely to uses inconsistent with this Declaration and Notice, has been considered by Declarant. It is Declarant's belief that any such changes will increase the benefit and interest in the continuation of this Declaration and Notice, and it is the intent of both Declarant and the Benefited Parties that any such changes not be considered circumstances sufficient to terminate this Declaration and Notice, in whole or in part.

22. **Wildlife Depredation.** Declarant agrees not to exercise or seek any available right to monetary compensation from the State of Utah for damage caused by wildlife to the Restricted Property, including but not limited to damage to irrigation equipment, ditches, water control structures, wells, farm equipment, fences, gates, buildings, crops, orchards, rangeland, trees, shrubs, landscaping, livestock feed, or stack yards. Nothing herein shall be construed as prohibiting Declarant from seeking available remedies from the State for predation damage caused to livestock by bear and cougar.

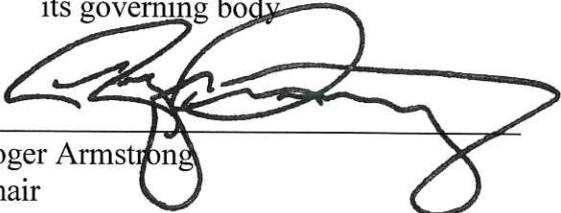
IN WITNESS WHEREOF, the Declarant has executed this Declaration and Notice this ____ day of _____, 20__.

[Signature page to follow]

SNYDERVILLE BASIN SPECIAL
RECREATION DISTRICT

SNYDERVILLE BASIN SPECIAL
RECREATION DISTRICT, a special service
district of the State of Utah

By: SUMMIT COUNTY COUNCIL,
its governing body

By: 
Roger Armstrong
Chair



ATTEST:

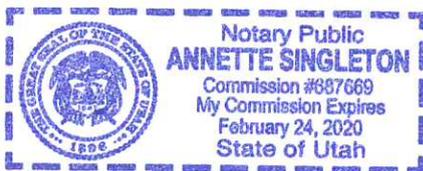

Kent Jones
County Clerk

APPROVED AS TO FORM:


David L. Thomas
Chief Civil Deputy

STATE OF UTAH)
 : ss.
COUNTY OF SUMMIT)

On this 17TH day of APRIL, 20 19, personally appeared before me Roger Armstrong, known or satisfactorily proved to me to be the Chair of the Governing Body of SNYDERVILLE BASIN SPECIAL RECREATION DISTRICT, who acknowledged to me that he signed the foregoing instrument in that capacity.




Notary Public for Utah

Exhibit A

Legal Description of the Restricted Property

Account 0476855

Location

Account Number 0476855
 Acres 40.67
 Situs
 Tax District 42 - SSSD A.J.K.T.U (C-C) (E-E)
 Parcel Number SS-56-A-1-A

Legal COM AT THE SE COR OF SEC 26, T1SR4E SLBM, AS SHOWN ON THAT CERTAIN ALTA SURVEY PREPARED BY THE JACK JOHNSON COMPANY, PROJECT NUMBER 453.019-01, FILED IN THE OFFICE OF THE RECORDER, COUNTY OF SUMMIT, STATE OF UTAH, FILE NUMBER S-3682, AND RUN TH N 00°02'36" W, ALG THE W SEC LINE OF SEC 26, A DIST OF 2290.16 FT, TO A PT THAT BEARS S 00°02'36" E, A DIST OF 370.59 FT FROM THE W 1/4 COR OF SEC 26; TH N 89°40'42" E, PARALLEL WITH THE EAST-WEST CENTER QUARTER LINE OF SEC 26, A DIST OF 1315.24 FT, TO A PT ON W LINE OF THE NE 1/4 OF THE SW 1/4 OF SAID SEC 26; TH N 00°03'46" W, ALG SAID WEST LINE, A DIST OF 238.92 FT, THE PT OF BEG FOR THIS DESC; TH N 00°03'46" W, ALG SAID W LINE, A DIST OF 131.67, TO THE SW COR OF THE SE 1/4 OF THE NW 1/4 OF SEC 26; TH N 00°00'36" E, ALG THE W LINE OF THE SE 1/4 OF THE NW 1/4 OF SEC 26, A DIST OF 1331.12 FT, TO THE NW COR OF THE SE 1/4 OF THE NW 1/4 OF SEC 26; TH N 89°33'51" E, ALG THE NORTH LINE OF THE SE 1/4 OF THE NW 1/4 OF SEC 26, A DIST OF 1312.99 FT, TO THE NE COR OF THE SE 1/4 OF THE NW 1/4 OF SEC 26; TH S 00°04'55" E, ALG THE NORTH-SOUTH CENTER QUARTER LINE OF SEC 26, A DIST OF 1333.73 FT, TO THE CENTER PT OF SEC 26; TH S 00°04'55" E, ALG SAID NORTH-SOUTH CENTER QUARTER LINE OF SEC 26, A DIST OF 131.67 FT; TH S 89°40'42" W, PARALLEL WITH THE EAST- WEST CENTER QUARTER LINE OF SEC 26, A DIST OF 1315.16 FT TO THE PT OF BEG. CONT 44.17 AC (LESS 3.5 AC M/L 527-47 SS-56-UP-X) BAL 40.67 AC M/L 2018-1862 2043-977 (2043-980) (REF 2253-1648) 2253-1651

Owner

Name FLORENCE J GILLMOR FOUNDATION
 C/O: JAMES B LEE
 201 SOUTH MAIN ST STE 1800
 SALT LAKE CITY, UT 84111

Value

Market (2017)
 Taxable
 Tax Area: 42 Tr
 0.009196
 Type Actual Asses
 Land \$258,015 \$6,

Account 0139729

<u>Location</u>	<u>Owner</u>	<u>Value</u>
Account Number 0139729	Name GILLMOR FLORENCE J	Market (2017) \$590,535
Acres 131.23	C/O: PARSONS, BEHLE & LATIMER	Taxable \$27,696
Situs .	Attention: DAVID R BIRD	Tax Area: 42 Tax Rate: 0.009196
Tax District 42 - SSSD A,J,K,T,U (C-C) (E-E)	201 S MAIN ST STE 1800	Type Actual Assessed Acres
Parcel Number SS-56	SALT LAKE CITY, UT 84111	Land \$590,535 \$27,696 131,230
Legal N1/2 NW 1/4, SW 1/4 NW 1/4; N 370,59 FTOF THE NW 1/4 SW 1/4 SEC 26 T1S R4E,SLBMCONT 131.23 ACRESUWD299 IQCH4 M75-1 M33-111 4AMI49 275-353		

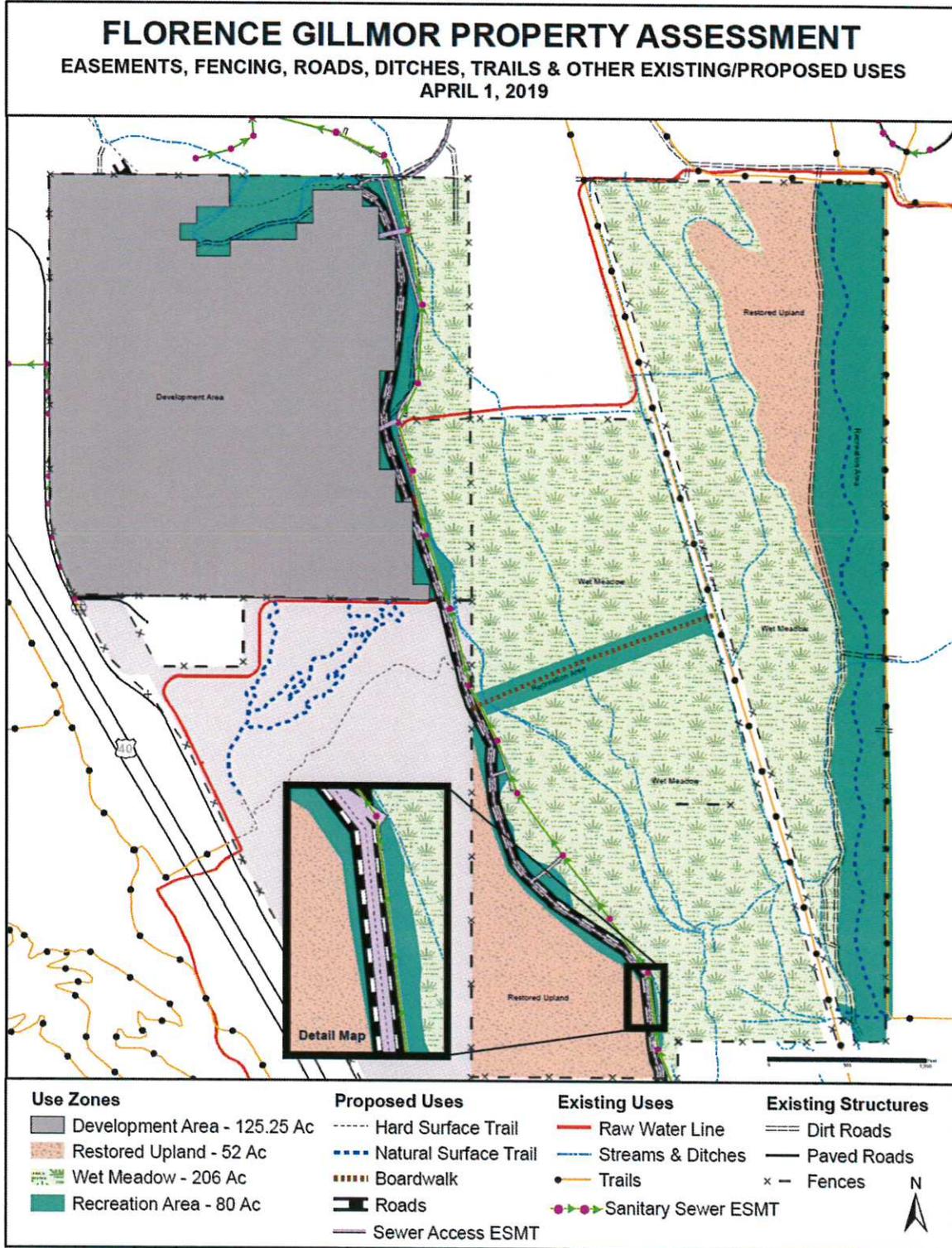
Account 0139695

<u>Location</u>	<u>Owner</u>	<u>Value</u>
Account Number 0139695	Name GILLMOR FLORENCE J	Market (2017) \$585,000
Acres 130.00	C/O: PARSONS, BEHLE & LATIMER	Taxable \$14,452
Situs .	Attention: DAVID R BIRD	Tax Area: 42 Tax Rate: 0.009196
Tax District 42 - SSSD A,J,K,T,U (C-C) (E-E)	201 S MAIN ST STE 1800	Type Actual Assessed Acres
Parcel Number SS-50	SALT LAKE CITY, UT 84111	Land \$585,000 \$14,452 130,000
Legal SW 1/4 SEC 23 T 1S R4E SLBM LESS 30 ACIN EXCEPTION M75-1		

All of Lot 2 of the FJ Gillmor Subdivision, recorded in the Office of the Summit County Recorder as Entry No. _____, Book _____, beginning at Page _____.

Exhibit B

Restricted Property Map



B

Exhibit C
Baseline Data

C

Gillmor Parcels Initial Baseline Data Summary November 30, 2018



Prepared for:

Snyderville Basin Special Recreation District
5715 Trailside Dr
Park City, UT 84098

Prepared By:

Sara Jo Dickens, PhD
Ecology Bridge LLC
570 Upper Evergreen Dr
Park City Utah, 84098

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Purpose of the baseline data summary document

This baseline data summary is a course scale description of the physical and biological conditions of the Gillmor Parcels developed to facilitate conservation and land management planning for these parcels. It is the protocol for the Snyderville Basin Special Recreation District (District) to conduct baseline descriptions for all designated open space fee title – owned properties. The Gillmor Parcels present a complex land management challenge due to historic disturbances directly and indirectly to the site. This preliminary baseline summary will serve to aid in the planning process and will be amended or replaced in the future with a full baseline assessment that will address site specific ecological issues such as the presence of lead and arsenic resulting from historic local mining activities.

Description of property

The project area is located along Silver Creek less than 5 miles northeast of Park City, Utah and east of highway 40. A location map can be found in appendix A-1.

Ownership and parcel descriptions: All parcels associated with the Gillmor Parcel Project area are owned by Florence Gillmor and the adjacent parcel referred to as the Triangle Parcel, which is often considered with the Gillmor Parcels for land management planning, is co-owned by Summit County and the District.

- SS-47: approximately 39 acres of the parcel
- SS-50: is a 130-acre parcel
- SS-56: is a 131-acre parcel
- SS-56-A-1-A: is a 40-acre parcel

Full survey with legal description can be found in appendix A-2.

Current and historic uses of the property:

Mining and transportation: The project area is dissected by the Historic Rail Trail. This trail was originally the railway used to transport livestock from just outside of Coalville, UT to Salt Lake, UT. It also transported mining products. In 1993, the railway was converted into a “rails- to-trails” that now acts as a means of non-motorized transportation and recreation. More recently, the adjacent Triangle Parcel was used during the 2002 Olympics as overflow event parking and reseeded with a grass species mixture the following year.

The Park City area became a major mining location around 1869. Ten different mills operated along Silver Creek and produced zinc, gold, silver and copper. The Big Four Mill was located north of the project area near the Pace Ranch buildings and all other mills were upstream of the project area. The Big Four Mill reported processing of 700 tons of ore per day and recovered 60% of the zinc, 40% of the lead and 35% of the gold and silver. Settling ponds and mine tailing stock piles were associated with the mill and located in the wet meadow/wetlands (floodplain) adjacent the mill and southward into the Gillmor Parcels

Grazing and farming: Other than stock piling of mine tailings, the primary use of the project area has historically and continues to be livestock grazing with flood irrigation. For over one hundred years, grazing species have been cattle and sheep except on the Triangle Parcel which was grazed by llamas for a short period of time by another family. Cattle grazing practices today are similar to those of the past. Sheep had been grazed on the project area periodically but now are only present one to two days in the fall when sheep are run down from adjacent lands and corralled for transport from the Gillmor Parcels. Currently 200 head of cattle are grazed for one and a half months annually in the fall and up to 1000 sheep will be run through and corralled for the one to two-day period. Given the property is approximately 340 acres and typical livestock stocking rates for cattle are approximately 1AMUs (a single cow for a month) per acre, the property could support 340 cattle for a month. A stocking rate of 200 cattle for one and a half months is appropriate for these parcels. Stocking rates, however, vary based on forage quality such that fewer cattle may be grazed, or grazing periods may be shorter in poor forage seasons (dry years). Grazing period is typically late September and October but seasonal variation in forage quality may shift grazing later into the fall and sometimes into December. Gillmor Ranching LLC holds the 2018 grazing lease on the Triangle Parcel which is an additional 111 acres of grazing land adjacent the Gillmor Parcels which Gillmor Ranching LLC also currently graze.

Flood irrigation is applied based on available water rights to maintain the grazing fields below the ditch (a full water rights description is in the Waters and Water Rights section below). The Dorrity-Pace irrigation ditch remains the main irrigation water supply along with stock access to Silver Creek. The irrigation season matches that of most in the region starting in May and ending around October 16th. Flood irrigation is applied for approximately 48 hours every seven days though the irrigation season. In addition to grazing, dry farming has occurred in very good years. Alfalfa is the main crop and was grown only on the upland portions of the floodplain. Alfalfa has not been grown for several years due to limited precipitation.

Description of adjacent lands: The lands adjacent to the Gillmor Parcels shared the mining and livestock grazing history of the Gillmor Parcels. After mining was discontinued, the primary use of the land became livestock grazing. The lands immediately to the northwest and south continue to be used for livestock grazing (cattle) today. To the north – northwest of the property are several businesses and residential developments. Large areas of protected open space are located within two miles of the project site with the closest area being Round Valley (See appendix A-3 for an Open Space and Conserved Lands map).

Ecology and physical description of the property

The Gillmor Parcels are composed of four soil units that span a gradient of loam to cobbly loam. Fewkes gravelly loam and Wanship-Kovich loams represent 78% of the soil composition and are considered Farmland of Statewide Importance. The upland components of the project area are composed of Ayoub cobbly loam, Fewkes gravelly loam and Wanship-Kovich loams while the lower wet meadow/wetland area is composed of Wanship-Kovich loam.

In addition to the natural composition of the soils, these parcels have experienced human disturbances in the form of mine and mill tailing disposal. These activities have led to contamination of the soils and waters with arsenic, zinc, cadmium and lead. This soil contamination has been identified in multiple Phase I analyses and an innovative assessment of soils (Full Reports in appendix A-5a-i). The sites have

Table: Soil Units as defined by the USDA-NRCS Web Soil Survey. Full report in appendix A-4.

Map Unit Symbol	Map Unit Name	Parent Material	A Horizon	B Horizon	Depth to Restrictive Layer (in)	Depth to Water Table (in)	Natural Drainage Class	Run-off Class	Acres in AOI	Percent of AOI
106	Ayoub cobbly loam, 2 to 15 percent slopes	Slope alluvium derived from andesite over residuum weathered from andesite	cobbly loam	gravely clay loam	20 to 40	80	Well Drained	Medium	82.5	18.00%
128	Fewkes gravely loam, 2 to 8 percent slopes	Slope alluvium derived from sandstone, quartzite and shale	gravely loam	clay loam	> 80	80	Well Drained	Medium	215.9	47.00%
144	Horrocks-Cutoff complex, 15 to 30 percent slopes	Slope alluvium and colluvium derived from sandstone, conglomerate and andesite	very cobbly loam	very cobbly loam	40 to 60	80	Well Drained	High	20	4.30%
179	Wanship-Kovich loams, 0 to 3 percent slopes	Alluvium derived from sandstone and conglomerate	loam	NA	> 80	20 to 30	Somewhat Poorly Drained	Very low	140.9	30.70%
Totals for Area of Interest									459.2	100.00%

been labeled with recognized environmental condition (REC). Grey colored sandy to gravely loam berms, mounds and bare ground patches can be seen within the project area and are remnants of old mine tailing stock piles. Where tailings are present, they can reach a thickness of one foot. Soil and water sampling as part of the Innovative Assessment and Silver Creek Total Maximum Daily Loads (TMDL) Reports indicate high levels of lead and arsenic throughout the project area with the most hazardous levels occurring in and adjacent the wet meadow/wetland areas (floodplain and irrigation ditches). Sampling of parcel SS-47 revealed soil lead levels between 735 mg/kg and 26,300 mg/kg and arsenic levels of 132.85 mg/kg to 1,629.87 mg/kg. Of the 47 soil samples tested, 17% exceeded EPA screening levels. Surface water samples found cadmium levels of 4.47 ug/l to 188 ug/L and zinc levels of 3.440 ug/L to 53,400 ug/L. Of the six surface water samples collected, all exceeded TMDLs and one exceeded state regulatory criteria. Additional soil analyses are underway to fully determine the extent of contamination and identify hot spots throughout all four Gillmor Parcels and the Triangle Parcel.

Vegetation and ecotone

Vegetation description: In general, the project site is composed of wet meadows/wetlands and mountain big sage sagebrush. The sagebrush habitats are in the upland areas of the project site and the wetland component is predominantly located in the center of the site in the lowlands along either side of the Historic Rail Trail.

There are four ecological sites identified within the Gillmor Parcels and all are considered rangeland according to the USDA-NRCS Ecological Site Description data.

- R047XA004UT – Interzonal Semiwet Fresh Meadow (Meadow sedge/Tufted hairgrass)
- R047XA406UT – Mountain Gravely Loam (Mountain big sagebrush)

- R047XA430UT – Mountain Loam (Mountain big sagebrush)
- R047XA461UT – Mountain Stony Loam (Mountain big Sagebrush)

Table 2: Ecological site description summary. Full report in appendix A-6.

Ecological Site Code	Elevation	Flooding Potential	Mean Annual Precip.	Expected % Cover Shrubs	Expected % Cover Grasses	Expected % Cover Forbs
R047XA004UT	5200-8000	Brief, higher elevations	18	5	70	10
R047XA406UT	5300-8800	Occasional, long duration, higher elevations	24	10	40	15
R047XA430UT	5100-8400	None	21	10	60	5
R047XA461UT	5500-8400	None	18	15	45	10

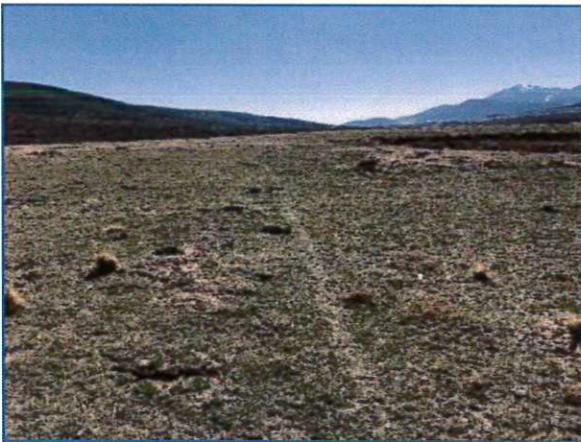
Prior to settlement, the sagebrush systems would have dominant cover of shrubs, native perennial bunch grasses, and native forbs. With human disturbance, a long history of heavy domestic grazing and the invasion of annual grasses, the site now has substantially reduced shrub cover and cheat grass (*Bromus tectorum*) has become a significant component of the upland sagebrush communities. Large upland areas of the Gillmor and adjacent Triangle Parcels have been purposefully altered from their natural sagebrush state for the purposes of agriculture and temporary human uses (parking areas) and are now agricultural grazing fields or unnatural grasslands dominated by a mix of native perennial and non-native perennial and annual grasses. The new normal for these habitats can be described as sagebrush (remnant sagebrush portions of which are fairly intact), disturbed sagebrush (areas that were previously sagebrush but have been converted to mixed grass grassland type with intermittent sage patches), agricultural (upland sage and lowland wet meadow areas that were converted to grass dominated fields for grazing) and wet meadow/ wetlands (the lowlands in which the two habitat types are braided and plant composition determined by duration and depth of inundation). See appendix A-7 for a map of the plant community types.



Remnant Sagebrush



Disturbed Sagebrush



Agricultural



Wet Meadow/ Wetlands

Table 3: Plant species expected in the sagebrush habitats. Of these expected species those that were observed on site in November of 2018 have been categorized by the habitat(s) they were found in as follows: S = sagebrush, DS= disturbed sagebrush and A = agricultural fields.

Shrub and Cactus Species

Common name	Scientific name	Common name	Scientific name
Alderleaf mountain mahogany	<i>Cercocarpus montanus</i>	Plains pricklypear ^S	<i>Opuntia polyacantha</i>
Antelope bitterbrush ^S	<i>Purshia tridentata</i>	Saskatoon serviceberry ^S	<i>Amelanchier alnifolia</i>
Broom snakeweed ^S	<i>Gutierrezia sarothrae</i>	Slender buckwheat ^S	<i>Eriogonum microthecum</i>
Creeping barberry ^S	<i>Mahonia repens</i>	Spineless horsebrush ^{S,DS}	<i>Tetradymia canescens</i>
Mountain big sagebrush ^S	<i>Artemisia tridentata</i>	Yellow rabbitbrush ^S	<i>Chrysothamnus viscidiflorus</i> var. <i>viscidiflorus</i>
Mountain snowberry	<i>Symphoricarpos oreophilus</i>		

Forb Species

Common name	Scientific name	Common name	Scientific name
American vetch	<i>Vicia americana</i>	Oneflower helianthella	<i>Helianthella uniflora</i>
Arrowleaf balsamroot ^{S,DS}	<i>Balsamorhiza sagittata</i>	Scouler's woollyweed	<i>Hieracium scouleri</i>
Bastard toadflax ^S	<i>Comandra umbellata</i>	Shortstem buckwheat	<i>Eriogonum brevicaulis</i>
Common yarrow ^{S,DS,A}	<i>Achillea millefolium</i>	Showy goldeneye	<i>Helimeris multiflora</i>
Eaton's fleabane ^{S,DA}	<i>Erigeron eatonii</i>	Silverleaf milkvetch	<i>Astragalus argophyllus</i>
Hairy false goldenaster ^S	<i>Heterotheca villosa</i>	Spiny phlox	<i>Phlox hoodii</i>
Littleleaf pussytoes ^S	<i>Antennaria microphylla</i>	Sticky purple geranium	<i>Geranium viscosissimum</i>
Lobeleaf groundsel	<i>Packera multilobata</i>	Tailcup lupine ^{S,DS,A}	<i>Lupinus caudatus</i> subsp. <i>caudatus</i>
Longleaf phlox	<i>Phlox longifolia</i>	Tapertip hawksbeard	<i>Crepis acuminata</i>
Low beardtongue	<i>Penstemon humilis</i>	Tapertip onion	<i>Allium acuminatum</i>
Meadow thistle	<i>Cirsium scariosum</i>	Tolmie's owl's-clover	<i>Orthocarpus tolmiei</i>
Mule-ears ^{S,DS}	<i>Wyethia amplexicaulis</i>	Western mountain aster	<i>Aster occidentalis</i>
Munro's globemallow	<i>Sphaeralcea munroana</i>	Western stoneseed	<i>Lithospermum ruderale</i>
Nevada pea	<i>Lathyrus lanszwertii</i>	White sagebrush ^{S,DS,A}	<i>Artemisia ludoviciana</i>
Northern bedstraw	<i>Galium boreale</i>	Wyoming Indian paintbrush	<i>Castilleja linariifolia</i>
Northwestern Indian paintbrush	<i>Castilleja angustifolia</i>	Yellow salsify ^A	<i>Tragopogon dubius</i>

Grass/Grasslike Species

Common name	Scientific name	Common name	Scientific name
Basin wildrye ^{S,DS,A}	<i>Leymus cinereus</i>	Nevada bluegrass	<i>Poa nevadensis</i>
Bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>	Oniongrass	<i>Melica bulbosa</i>
California brome	<i>Bromus carinatus</i>	Prairie junegrass	<i>Koeleria macrantha</i>
Columbia needlegrass	<i>Achnatherum nelsonii</i>	Sandberg bluegrass ^{S,DS,A}	<i>Poa secunda</i>
Geyer's sedge	<i>Carex geyeri</i>	Sheep fescue ^{S,SD,A}	<i>Festuca ovina</i>
Indian ricegrass	<i>Achnatherum hymenoides</i>	Slender wheatgrass ^{S,DS,A}	<i>Elymus trachycaulus</i>
Letterman's needlegrass	<i>Achnatherum lettermanii</i>	Spike fescue	<i>Leucopoa kingii</i>
Muttongrass ^{S,DS,A}	<i>Poa fendleriana</i>	Squirreltail ^{S,DS,A}	<i>Elymus elymoides</i>
Needle and thread ^{S,DS}	<i>Hesperostipa comata</i>	Western wheatgrass	<i>Pascopyrum smithii</i>

Table 4: Plant species expected in the wet meadow/ wetland habitats. Of these expected species those that were observed on site in November of 2018 have been identified with a superscript W.

Shrub Species

Common name	Scientific name	Common name	Scientific name
Shrubby cinquefoil	<i>Dasiphora fruticosa</i>	Woods' rose ^W	<i>Rosa woodsii</i>
Silver sagebrush	<i>Artemisia cana</i>		

Forb Species

Common name	Scientific name	Common name	Scientific name
Alpine clover	<i>Trifolium dasyphyllum</i>	Northern bedstraw	<i>Galium boreale</i>
Bull thistle	<i>Cirsium vulgare</i>	Rocky Mountain iris	<i>Iris missouriensis</i>
Common mullein	<i>Verbascum thapsus</i>	Sticky purple geranium	<i>Geranium viscosissimum</i>
Common yarrow ^W	<i>Achillea millefolium</i>	Streambank wild hollyhock	<i>Iliamna rivularis</i>
Feathery false lily of the valley	<i>Maianthemum racemosum</i>	Subalpine larkspur	<i>Delphinium barbeyi</i>
Field horsetail	<i>Equisetum arvense</i>	Thickleaf ragwort	<i>Senecio crassulus</i>
Hookedspur violet	<i>Viola adunca</i>	Tobacco root	<i>Valeriana edulis</i>
Nevada pea	<i>Lathyrus lanszwertii</i>		

Grass/Grasslike Species

Common name	Scientific name	Common name	Scientific name
Baltic rush ^W	<i>Juncus balticus var. montanus</i>	Nodding brome	<i>Bromus anomalus</i>
Basin wildrye ^W	<i>Leymus cinereus</i>	Sheep fescue ^W	<i>Festuca ovina</i>
California brome	<i>Bromus carinatus</i>	Slender wheatgrass ^W	<i>Elymus trachycaulus</i>
Columbia needlegrass	<i>Achnatherum nelsonii</i>	Timothy	<i>Phleum pratense</i>
Idaho bentgrass	<i>Agrostis idahoensis</i>	Tufted hairgrass	<i>Deschampsia cespitosa</i>
Meadow sedge	<i>Carex praticola</i>	Water foxtail	<i>Alopecurus geniculatus</i>
Muttongrass ^W	<i>Poa fendleriana</i>	Western wheatgrass	<i>Pascopyrum smithii</i>

Table 5: In addition to the species expected to be present at the site, the following species were also observed and categorized by the habitat type they were observed in using the following superscripts S = sagebrush, W = wet meadow/wetland, DS= disturbed sagebrush and A = agricultural fields.

Tree Species

Common name	Scientific name
Narrowleaf/Coyote willow ^{Ditch}	<i>Salix exigua</i>

Forb Species

Common name	Scientific name	Common name	Scientific name
Cheeseweed ^A	<i>Malva neglecta</i>	Prairie flax ^S	<i>Linum lewisii</i>
Chicory ^{DS,A}	<i>Cichorium intybus</i>	Prickly Russian thistle ^A	<i>Salsola tragus</i>
Clasping pepperweed ^{DS}	<i>Lepidium perfoliatum</i>	Prostrate vervain ^{DS}	<i>Verbena bracteata</i>
Common dandelion ^A	<i>Taraxacum officinale</i>	Red clover ^A	<i>Trifolium pratense</i>
Common mullein ^{S,DS,W,A}	<i>Verbascum thapsus</i>	Slender cinquefoil ^W	<i>Potentilla gracilis</i>
Curly cup gumweed ^{DS,A}	<i>Grindelia squarrosa</i>	Stinging nettle ^{W,Ditch}	<i>Urtica dioica</i>
Dock Spp ^{DS,W,A}	<i>Rumex spp</i>	Stork's bill filaree ^{DS,A}	<i>Erodium cicutarium</i>
Field pennycress ^{DS,A}	<i>Thlaspi arvense</i>	Tumble mustard ^{S,DS,A}	<i>Sisymbrium altissimum</i>
Mountain golden banner ^{W,A}	<i>Thermopsis montana</i>	Wavy leaf thistle ^{S,DS}	<i>Cirsium undulatum</i>
Povertyweed ^{DS,A}	<i>Iva axillaris</i>	Yellow sweet clover ^{DS,A}	<i>Melilotus officinalis</i>

Grass/Grasslike Species

Common name	Scientific name	Common name	Scientific name
Broadleaf cattail ^{W,A}	<i>Typha latifolia</i>	Kentucky bluegrass ^{S,DS,W,A}	<i>Poa pratensis</i>
Cheat grass ^{S,DS,A}	<i>Bromus tectorum</i>	Mountain brome ^{S,DS,A}	<i>Bromus marginatus</i>
Common spikerush ^W	<i>Eleocharis palustris</i>	Nebraska sedge ^{W,A}	<i>Carex nebrascensis</i>
Creeping bentgrass ^W	<i>Agrostis stolonifera</i>	Smooth brome ^{DS,A}	<i>Bromus inermis</i>
Crested wheatgrass ^{S,DS,A}	<i>Agropyron cristatum</i>	Thickspike wheatgrass ^{DS,A}	<i>Elymus lanceolatus</i>
Foxtail barley ^{S,DS,A}	<i>Hordeum jubatum</i>	Water sedge ^{W,A}	<i>Carex aquatilis</i>

Because the site was surveyed in late fall, it is unlikely the lists and tables above include all plant species as many will have gone dormant and grazing of the area prior to the survey removed much of the grass biomass. Additional vegetation surveys are advised if a more complete plant community description becomes necessary.

Noxious weeds: There are ten noxious weeds in the project area. These species include: Canada thistle (*Cirsium arvense*), common burdock (*Arctium minus*), Dyer's woad (*Isatis tinctorial*), Houndstongue (*Cynoglossum officinale*), musk thistle (*Carduus nutans*), perennial pepperweed (*Lepidium latifolium*), reed canary grass (*Phalaris arundinacea*), Russian knapweed (*Rhaponticum repens*), scotch thistle (*Onopordum acanthium*), and whitetop (*Cardaria draba*). Canada and musk thistle and reed canary grass are the most prevalent species; however, the more concerning species are perennial pepperweed and Russian knapweed as they are in low abundance in Summit County but have been spreading at a more rapid rate in the last couple of years. While not all noxious weed locations were identified in this early stage vegetation assessment, a map of the noxious weed populations found during site visits is in appendix A-8.

While not a noxious weed, Bull thistle (*Cirsium vulgare*) is present in the project area and can, at times, become invasive particularly where soils have been disturbed and left bare. Spotted Knapweed (*Centaurea stoebe*) is located just outside the north boundary of the project area. This is an aggressive invader and priority species for control within Summit County.

Waters and water rights

Water rights description: The Utah Division of Water Quality identifies the Gillmor Parcels as a place of use for the following water rights: 35-8820; 35-8968; 35-5706, a16060; 35-5828, a17205; 35-5842, a17320; 35-1007, a19202. Ownership and use descriptions are as follows (for full water Right Detail Reports, see appendix A-9a to A-9h).

35-8820

Owner: Park City Municipal Building Authority
Beneficial Use: Irrigation, Stock Water, Domestic Use
Water Quantity: 0.86 CFS or 205.83 Acre Feet
Source: Silver Creek, Dorrity & Pace Springs
Priority: 1861
Water Group Number: 200081 and 204144
Notes: Segregated from 35-8820 via Change Application a28638

35-8968

Owner: G-Bar Ventures, LLC (20% of 115 acres)
Charles F Jr and Nadine F Gillmor (25% of 115 acres)
Florence Gillmor (50% of 115 acres)
Florence Gillmor Foundation (5% of 115 acres)
Angus Pace (3.5/22 of 30.8 acres)
Dwayne Pace (5/22 of 30.8 acres)
Ella Pace (3.5/22 of 30.8 acres)
Gale Pace (2.5/22 of 30.8 acres)
Joan Pace (5/22 of 30.8 acres)
Kathleen Pace (2.5/22 of 30.8 acres)
Resort Center Associates, LLC (2.25 acres)
Silver Creek Irrigation Company
Beneficial Use: Irrigation (0.00001, Period of Use 04/01 to 10/31)
Water Quantity: 2.1 CFS or 444.15 Acre Feet
Source: Seepage Water
Priority: Unspecified
Water Group Number: 200081

35-5706, a16060

This water right change application was withdrawn and is now under the Change Application Number a21858 (35-1660, et al.) referenced above under 35-8820.

35-5828, a17205

Owner: Nadine Gillmor 100% interest

Beneficial Use: Irrigation (6 acres, Period of Use: 03/01 to 11/01), Stock Water (30 ELUs, Period of Use 01/01 to 12/31) and Domestic (0.5 EDUs, Period of Use 01/01 to 12/31)

Water Quantity: 0.28 CFS or 19.29 Acres Feet

Source: Silver Creek, Dorrrity & Pace Springs

Priority: 1861

Group Number: 209516

35-5842, a17320

Owner: Nadine Gillmor 100% interest

Beneficial Use: Irrigation (0.25 acres, Period of Use 03/01 to 11/01)

Water Quantity: 0.75 Acre Feet

Source: Silver Creek, Dorrrity & Pace Springs

Priority: 1861

Group Number: 206599

35-1007, a19202

Owner: FAE Holdings 390006R 85% interest and FAE Holdings 391733R 15% interest

Beneficial Use: Irrigation (0.25 acres, Period of Use 04/01 to 10/31), Stock Water (40 ELUs, Period of Use 04/01 to 11/01), Domestic (1 EDUs, Period of Use 01/01 to 12/31)

Water Quantity: 0.015 CFS

Source: Underground Water Well

Priority: 02/17/1958

Group Number: 200076

The largest proportion of water rights used in the parcels is from the 35-8820 water right which has a history linked to homesteading families. One half interest of the Dorrrity and Pace Springs and Silver Creek was owned by JC and Minnie Gleason until April 22, 1926 when they deeded it to FE Pace. The Gillmor Family obtained the water rights with property through a Quit Claim Deed from the Pace family on February 6, 1931. On September 8, 1992, the Gillmor's deeded the water rights with water right number 35-8802 to Park City which granted use of 12.36% of the irrigation and water rights under Award 820 of "The Weber River Decree". This particular right allowed for the diversion of water for the purpose of irrigating 78.5 acres of land.

Wetlands and ponds: The National Wetland Inventory (NWI) database identifies two wetland types, within the project area (See appendix A-10a for NWI map). Satellite imagery and the most recent wetland delineation conducted by Tera Tec in 2007 indicates substantially more acres of wetland that

make up a large proportion of the lowland areas of the Gillmor Parcels (See appendix A-10b, c). Within the wet meadow/wetland areas are several berms and what appear to be upland areas. These are likely remnant berms from the dredging of the creek and irrigation ditches that aided in maintaining water flow.

Rivers, creeks and streams: Silver Creek (HUC 16020101-020) is the only stream located within the project area and is the primary drainage to the Weber River downstream of the Wanship, UT Weber River Confluence. The creek is 303(d) listed for zinc and cadmium levels. The section of Silver Creek within the project area is categorized as having beneficial uses including: domestic water, stock watering, irrigation and recreational use and is listed for impairment of cold-water species of game fish and other cold-water aquatic life. The main contributing sources of water to Silver Creek include precipitation, snow melt, groundwater springs, the Prospector Drain and the Judge and Spiro Mine Tunnels. Upstream mining and on-site or adjacent lands stock piling of mine tailings have led to higher than normal concentrations of cadmium, zinc, arsenic, lead and mercury in the waters of Silver Creek and the waters and soils of the adjacent lands. As previously mentioned, surface water sampling on site showed levels of zinc and cadmium that exceed TMDLs.

Wildlife and habitat

The ecosystems present on the Gillmor Parcels are suitable for several wildlife species both terrestrial and aquatic. Based on ecological site descriptions alone, the project site is suitable habitat for ring-necked pheasant (*Phasianus colchicus*), cottontail rabbits (*Leporidae spp.*), snowshoe hare (*Lepus americanus*), songbirds, elk (*Cervus canadensis*), mule deer (*Odocoileus hemionus*), moose (*Alces alces*) and ruffed (*Bonasa umbellus*) and sage grouse (*Centrocercus urophasianus*). According to the Utah Division of Wildlife Resources, there are 10 species of concern for which the habitats within the project area are suitable. All of these species have a S-Rank which means they are rare, uncommon or threatened, but are not in immediate threat of extinction. These species have been observed within the Park City East Quadrant meaning they have been recorded in the area but not necessarily on the project parcels. A consult with the US Fish and Wildlife Service (USFWS) would confirm whether these species are known to be present within the project parcels.

The US Fish and Wildlife Service Threatened and Endangered Species Database lists two additional threatened species, Canada Lynx (*Lynx canadensis*) and the Yellow-billed Cuckoo (*Coccyzus americanus*), that could use the project area, however the project area is not within their critical habitat. In addition to these threatened species, the USFWS also identifies nine migratory species that may use the project area and are protected under the Migratory Bird Treaty Act of 1918 and the Bald and Golden Eagle Protection Act of 1940 (See IPaC Resource Report in appendix A-11).

Species that have been observed on the property include mule deer, elk, white tailed jack rabbits (*Lepus townsendii*), cottontail rabbits, ground squirrel (*Urocyon spp.*), chipmunk (*Neotamias spp.*), voles (*Microtus spp.*), red fox (*Vulpes vulpes*), coyote (*Canis latrans*) and several bird species. Elk have been known to migrate from the Round Valley Open Space across highway 40 into and through the project area. In June of 2015, a wildlife underpass was installed under highway 40 to reduce traffic related mule

deer and elk deaths. The open space in and adjacent the Gillmor and Triangle Parcels act as important migration corridors for these species.

Table 6: Threatened and endangered wildlife species with a history of observation within the Park City East Quadrant. Data acquired from the Utah Division of Wildlife Resources Maps on 11/7/2018 (<https://dwrcdc.nr.utah.gov/ucdc/Links/maps.htm>).

Common Name	Scientific Name	G-Rank	S-Rank	State Protection Status	Last Observation	Quad name
Bald Eagle	<i>Haliaeetus leucocephalus</i>	G5	S2B,S4N	SPC	1/10/2003	Park City East
Bobolink	<i>Dolichonyx oryzivorus</i>	G5	S2B	SPC	6/1/2005	Park City East
Bonneville cutthroat trout	<i>Oncorhynchus clarkii utah</i>	G4T4	S4	CS	2000	Park City East
Columbia spotted frog	<i>Rana luteiventris</i>	G4	S3	CS	1931-PRE	Park City East
Ferruginous hawk	<i>Buteo regalis</i>	G4	S3B	SPC	8/25/1988	Park City East
Greater sage-grouse	<i>Centrocercus urophasianus</i>	G3G4	S3	SPC	2008	Park City East
Lewis's woodpecker	<i>Melanerpes lewis</i>	G4	S3	SPC	6/7/1913	Park City East
Short-eared owl	<i>Asio flammeus</i>	G5	S4	SPC	5/21/2003	Park City East
Western pearlshell	<i>Margaritifera falcata</i>	G5	S1	SPC	1929-PRE	Park City East
Western toad	<i>Anaxyrus boreas</i>	G4	S3	SPC	1913, 1976	Park City East

Table 7: Migratory Birds that are identified by the USFWS as potentially using the project area.

Common Name	Scientific Name	Breeding Period	Probable Months of Habitat Use
Bald eagle	<i>Haliaeetus leucocephalus</i>	December 1 - August 31	January, March, November, December
Brewer's sparrow	<i>Spizella breweri</i>	May 15 - August 10	May - August 1
Golden eagle	<i>Aquila chrysaetos</i>	January 1 - August 31	January - May 1, September- January 1
Lesser yellowlegs	<i>Tringa flavipes</i>	Breeds elsewhere	April - June 1
Long-billed curlew	<i>Numenius americanus</i>	April 1 - July 31	April - June 1
Olive-sided flycatcher	<i>Contopus cooperi</i>	May 20 - August 31	September
Rufous hummingbird	<i>selasphorus rufus</i>	Breeds elsewhere	July - September 1
Virginia's warbler	<i>Vermivora virginiae</i>	May 1 - July 31	May, August
Willow flycatcher	<i>Empidonax traillii</i>	May 20 - August 31	May, June, August

Several bird species have been observed on the project site and on properties adjacent to the project which suggests they may also utilize the project area. The table below has been compiled from the Cornell eBird Observation Database and site visits by local ecologists and District staff members. Species with asterisks were observed during site visits associated with this baseline data summary.

Table 8: Bird species reported by the Cornell eBird Observation Database and observed during site visits.

Common Name	Scientific Name	Neotropical Migratory	Common Name	Scientific Name	Neotropical Migratory
American kestrel	<i>Falco sparverius</i>	Y	Mountain bluebird*	<i>Sialia currucoides</i>	Y
American robin*	<i>Turdus migratorius</i>	Y	Northern harrier*	<i>Circus cyaneus</i>	Y
Barn swallow	<i>Hirundo rustica</i>	Y	Northern Pintail	<i>Anas acuta</i>	Y
Black-billed magpie*	<i>Pica hudsonia</i>	N	Osprey*	<i>Pandion haliaetus</i>	Y
Black-capped chickadee	<i>Poecile atricapillus</i>	N	Passerine sp.		-
Brewer's blackbird	<i>Euphagus cyanocephalus</i>	Y	Red-tailed hawk*	<i>Buteo jamaicensis</i>	Y
Brewer's sparrow	<i>Spizella breweri</i>	Y	Red-winged blackbird	<i>Agelaius phoeniceus</i>	Y
Brown-headed cowbird	<i>Molothrus ater</i>	Y	Rock pigeon	<i>Columba livia</i>	N
Burrowing owl	<i>Athene cunicularia</i>	Y	Sandhill crane	<i>Grus canadensis</i>	Y
Canada goose*	<i>Branta canadensis</i>	Y	Savannah sparrow	<i>Passerculus sandwichensis</i>	Y
Cinnamon teal	<i>Anas cyanoptera</i>	N	Say's phoebe	<i>Sayornis saya</i>	Y
Cliff swallow	<i>Petrochelidon pyrrhonota</i>	Y	Song sparrow*	<i>Melospiza melodia</i>	Y
Common raven*	<i>Corvus corax</i>	N	Sora	<i>Porzana carolina</i>	Y
Common yellowthroat	<i>Geothlypis trichas</i>	Y	Spotted towhee	<i>Pipilo maculatus</i>	Y
Dabbling duck sp.		-	Tree swallow	<i>Tachycineta bicolor</i>	Y
Eurasian collared-dove*	<i>Streptopelia decaocto</i>	N	Turkey vulture*	<i>Cathartes aura</i>	Y
European starling*	<i>Sturnus vulgaris</i>	N	Vesper sparrow	<i>Poocetes gramineus</i>	Y
Gray partridge	<i>Perdix perdix</i>	N	Western meadowlark	<i>Sturnella neglecta</i>	Y
Great-tailed grackle	<i>Quiscalus mexicanus</i>	N	Western tanager	<i>Piranga ludoviciana</i>	Y
Green-tailed towhee	<i>Pipilo chlorurus</i>	Y	White-crowned sparrow	<i>Zonotrichia leucophrys</i>	Y
Green-winged teal	<i>Anas crecca</i>	Y	White-faced ibis	<i>Plegadis chihi</i>	Y
House finch	<i>Haemorhous mexicanus</i>	N	Wilson's phalarope	<i>Phalaropus tricolor</i>	Y
Killdeer	<i>Charadrius vociferus</i>	Y	Wilson's snipe	<i>Gallinago delicata</i>	Y
Mallard*	<i>Anas platyrhynchos</i>	Y	Yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>	Y

Existing structures and infrastructure

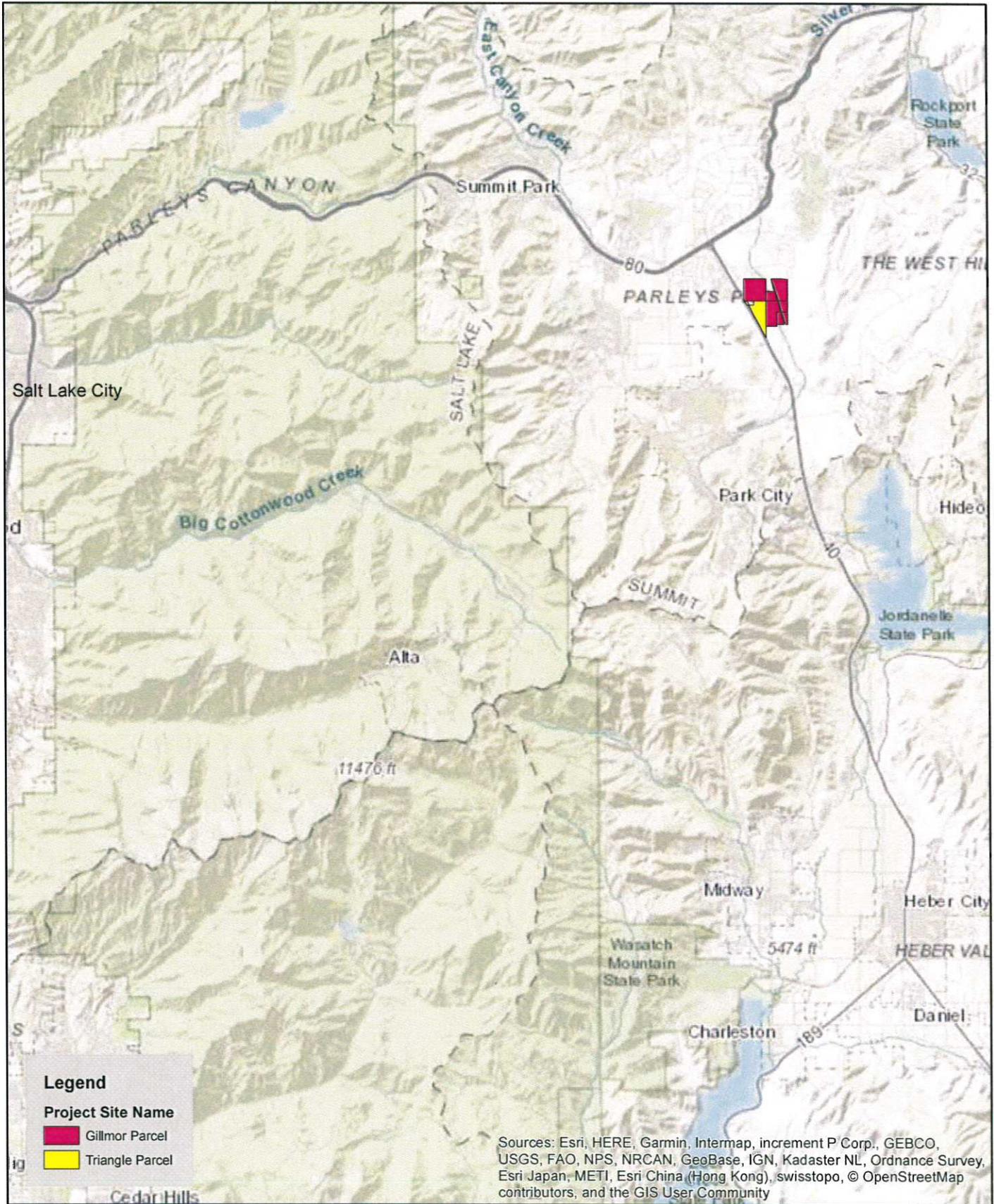
Most of the parcels remain open space, however there are limited roads and irrigation ditches throughout the property. Fencing encloses all parcels and divides the project area into five areas (six if the adjacent Triangle Parcel is included). There are two types of fences including a net fence with two top wires and a five stranded barbed wire fence. The net fence stands 42 inches total with the first wire eleven inches from the next and the top wire six inches from the second wire. The five stranded barbed wire fence has distances starting from the ground between wires at eight, eight, eight, nine and ten inches for a total fence height of 43 inches. The distance between wires on both fences may vary slightly due to aging of the fences. There is a total of nine gates, four of which are rangeland gates. There are at least nine culverts on the property and several piles of debris (primarily old pipe and fencing). An underground sewer line with manholes runs through Gillmor Parcels SS-56 and SS-47, as well as, the Triangle Parcel, SS-57-1-B-X. Maps of the transportation, irrigation and other structures are in appendix A-12. Photos of general site conditions and structures are in appendix A-13a-b.

Appendix A

Maps

1a: Location Map

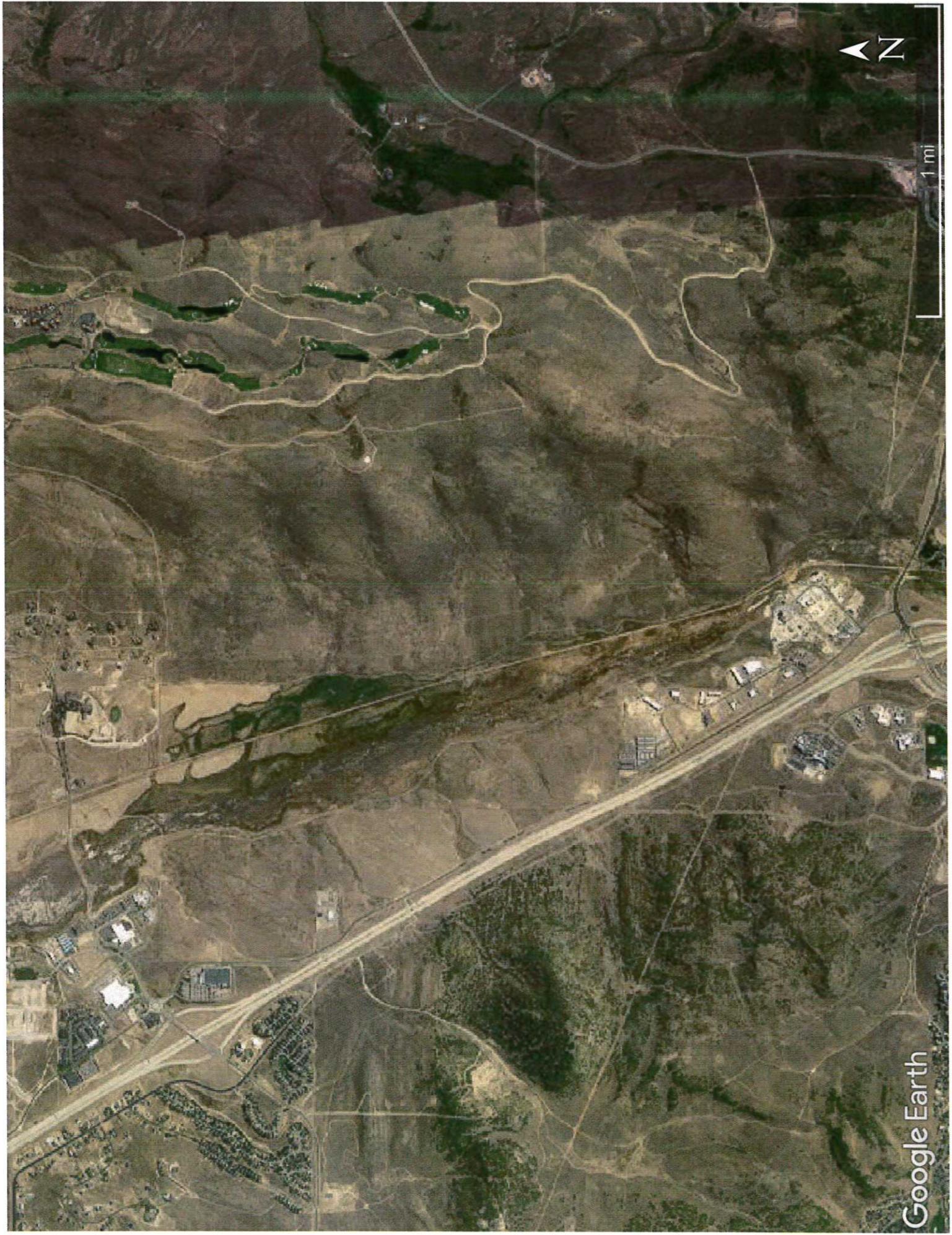
1b: Gillmor and Triangle Parcels Aerial Photo



Gillmor and Tringle Parcels Location Map

The Gillmor and Triangle Parcels are located approximately 5 miles northeast of Park City, UT. The sites can be accessed from Old Highway 40 (highway 40 frontage road) or Silver Creek Drive using the Silver Creek Drive or County Road 248 exits from highway 40.

Prepared on November 12, 2018
 Prepared by Sara Jo Dickens; Ecology Bridge LLC



Google Earth

1 mi



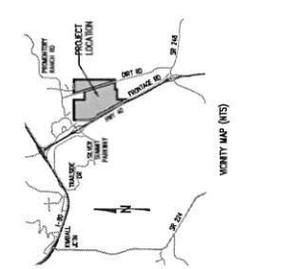
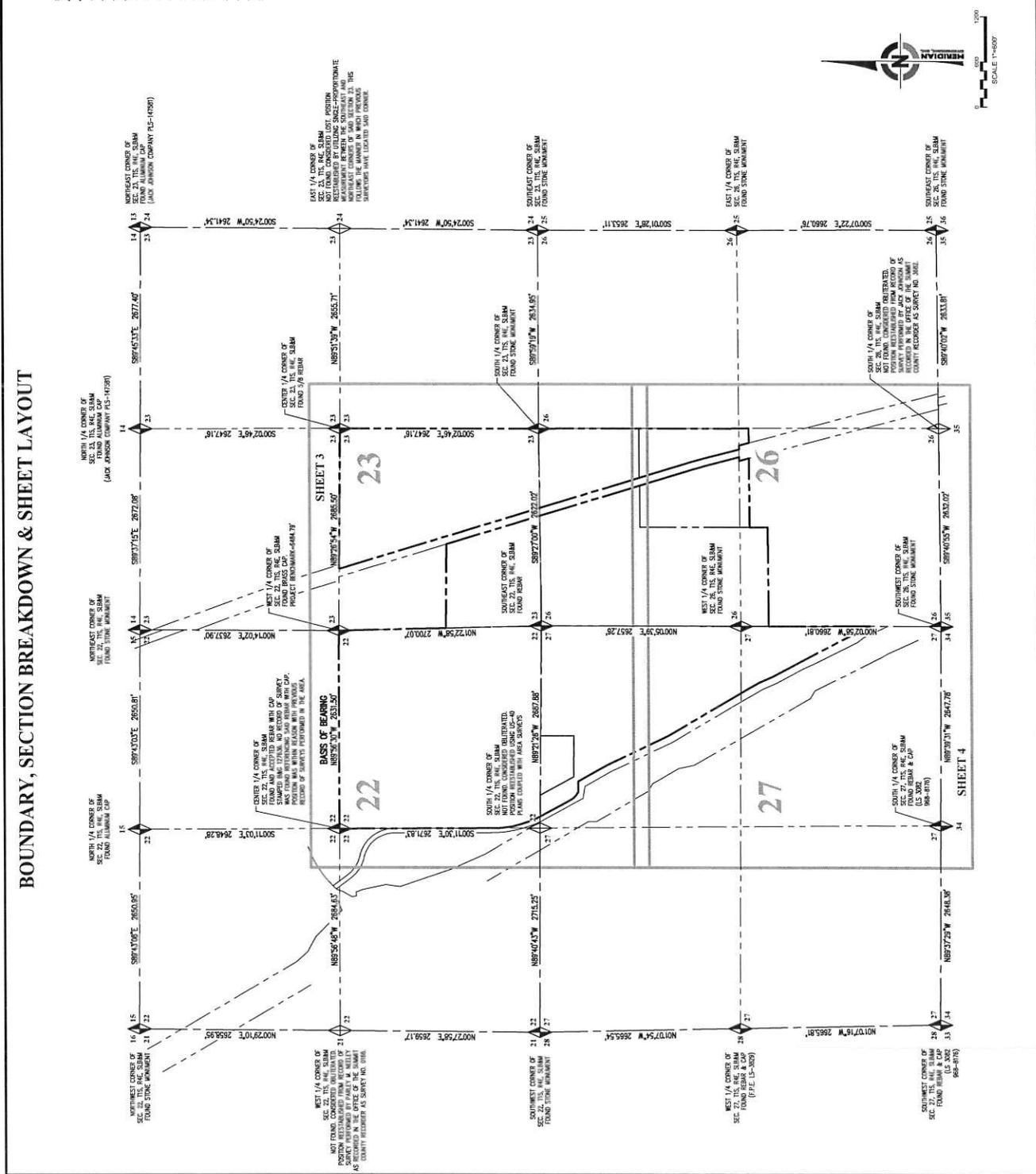
Appendix A-2

Property Survey - Gillmor Alta Survey June 2002

BOUNDARY, SECTION BREAKDOWN & SHEET LAYOUT

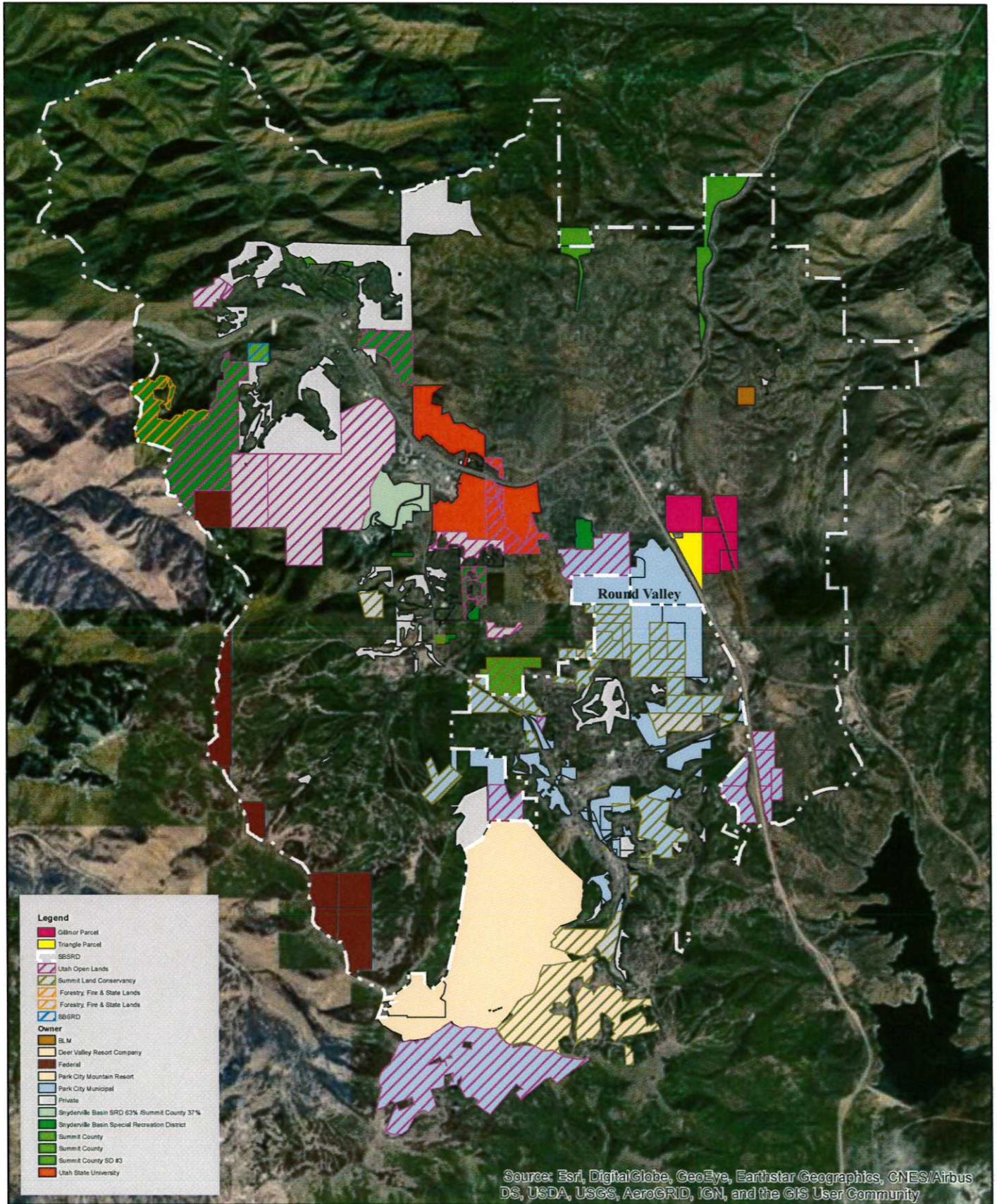
	SUMMIT COUNTY 60 NORTH MAIN STREET COALVILLE, UTAH 84017	ALTA/NSPS LAND TITLE SURVEY PARK CITY, UTAH (SUMMIT COUNTY, UTAH) SITUATE IN SE 1/4 OF SEC. 22, SW 1/4 OF SEC. 23, W 1/2 SEC. 26 & E 1/2 SEC. 27, T15, R1E, S18&M	COMP. FILE 17143_A1TA PROJECT NO. 17143-01 SHEET NO. 2 OF 12
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DATE	DRAWN	CHECKED	BY	DATE	DRAWN	CHECKED	BY	DATE



Appendix A-3

Open Space and Conserved Lands Map



Open Space and Conservation Easements Map

The Gillmor Parcels are less than 2 miles from the nearest permanently conserved open space, Round Valley and less than miles of several additional conserved open space lands both public and private within the Snyderville Basin Special Recreation District.



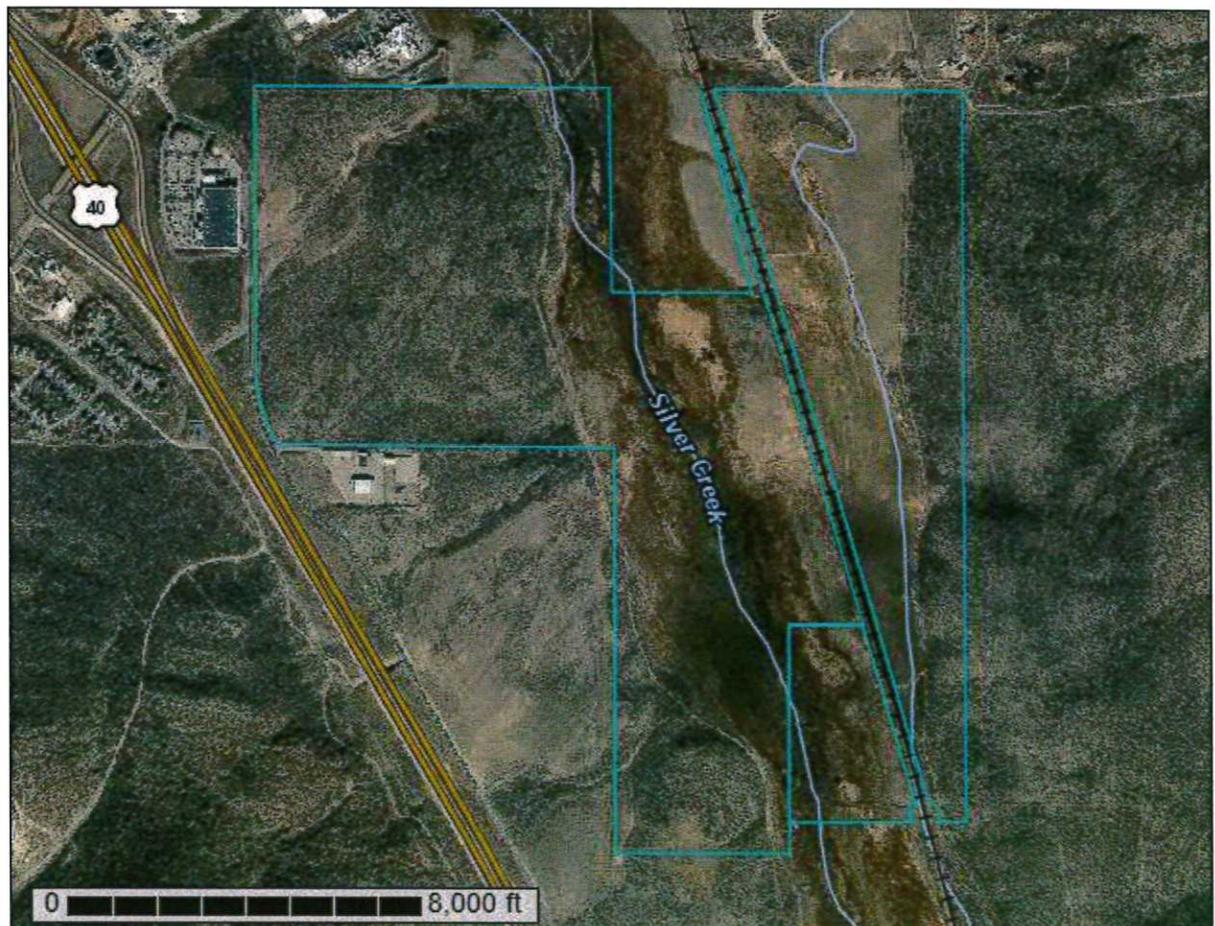
Appendix A-4
NRCS Soil Survey Report



A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Summit Area, Utah, Parts of Summit, Salt Lake and Wasatch Counties

Gillmor_Parcel



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

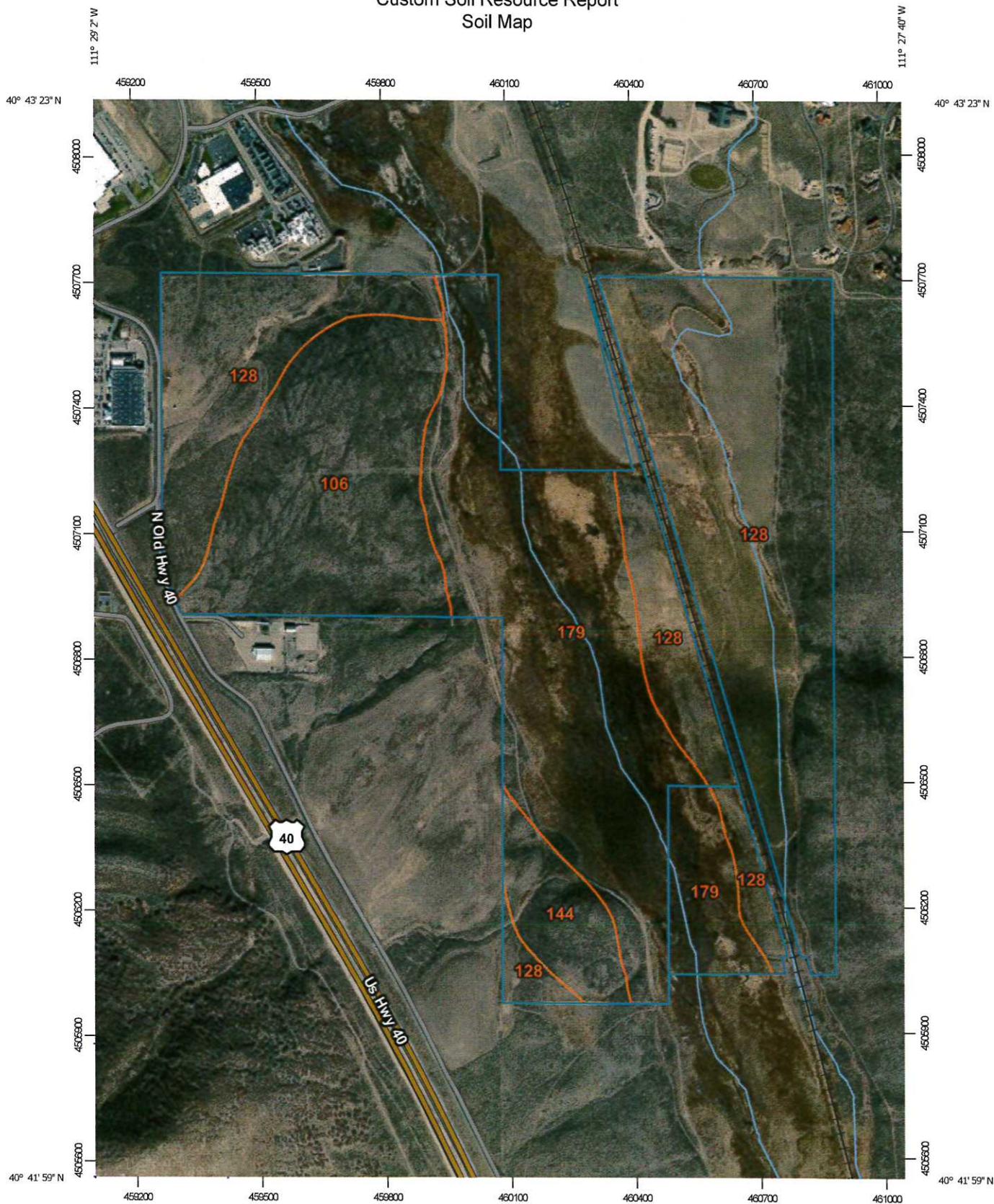
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identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Map Scale: 1:12,600 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84

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MAP LEGEND

Area of Interest (AOI)		 Spoil Area	
 Area of Interest (AOI)		 Stony Spot	
Soils		 Very Stony Spot	
 Soil Map Unit Polygons		 Wet Spot	
 Soil Map Unit Lines		 Other	
 Soil Map Unit Points		 Special Line Features	
Special Point Features		Water Features	
 Blowout		 Streams and Canals	
 Borrow Pit		Transportation	
 Clay Spot		 Rails	
 Closed Depression		 Interstate Highways	
 Gravel Pit		 US Routes	
 Gravelly Spot		 Major Roads	
 Landfill		 Local Roads	
 Lava Flow		Background	
 Marsh or swamp		 Aerial Photography	
 Mine or Quarry			
 Miscellaneous Water			
 Perennial Water			
 Rock Outcrop			
 Saline Spot			
 Sandy Spot			
 Severely Eroded Spot			
 Sinkhole			
 Slide or Slip			
 Sodic Spot			

MAP INFORMATION

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

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: Summit Area, Utah, Parts of Summit, Salt Lake and Wasatch Counties
 Survey Area Data: Version 10, Sep 11, 2018

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

Date(s) aerial images were photographed: Jun 14, 2016—Nov 8, 2017

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
106	Ayoub cobbly loam, 2 to 15 percent slopes	82.5	18.0%
128	Fewkes gravelly loam, 2 to 8 percent slopes	215.9	47.0%
144	Horrocks-Cutoff complex, 15 to 30 percent slopes	20.0	4.3%
179	Wanship-Kovich loams, 0 to 3 percent slopes	140.9	30.7%
Totals for Area of Interest		459.2	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

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The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Summit Area, Utah, Parts of Summit, Salt Lake and Wasatch Counties

106—Ayoub cobbly loam, 2 to 15 percent slopes

Map Unit Setting

National map unit symbol: k1rt
Elevation: 5,800 to 8,000 feet
Mean annual precipitation: 16 to 22 inches
Mean annual air temperature: 40 to 45 degrees F
Frost-free period: 60 to 90 days
Farmland classification: Not prime farmland

Map Unit Composition

Ayoub and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ayoub

Setting

Landform: Mountain slopes
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Slope alluvium derived from andesite over residuum weathered from andesite

Typical profile

A - 0 to 6 inches: cobbly loam
Bt1 - 6 to 12 inches: gravelly clay loam
Bt2 - 12 to 18 inches: gravelly clay loam
Bt3 - 18 to 23 inches: gravelly clay loam
C - 23 to 35 inches: very cobbly loam
R - 35 to 45 inches: bedrock

Properties and qualities

Slope: 2 to 15 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to low (0.00 to 0.01 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: Mountain Gravelly Loam (Mountain Big Sagebrush)
(R047XA406UT)
Hydric soil rating: No

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Minor Components

Ant flat

Percent of map unit: 5 percent
Landform: Fan remnants
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: Mountain Loam (Mountain Big Sagebrush) (R047XA430UT)
Hydric soil rating: No

Dunford

Percent of map unit: 5 percent
Landform: Mountain slopes
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: Mountain Gravelly Loam (Oak) (R047XA410UT)
Hydric soil rating: No

Melling

Percent of map unit: 5 percent
Landform: Mountain slopes
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: Mountain Shallow Loam (Mountain Big Sagebrush)
(R047XA446UT)
Hydric soil rating: No

128—Fewkes gravelly loam, 2 to 8 percent slopes

Map Unit Setting

National map unit symbol: k1sq
Elevation: 5,600 to 6,800 feet
Mean annual precipitation: 16 to 22 inches
Mean annual air temperature: 40 to 45 degrees F
Frost-free period: 60 to 90 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Fewkes and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fewkes

Setting

Landform: Fan remnants
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Slope alluvium derived from sandstone, quartzite and shale

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Typical profile

A - 0 to 12 inches: gravelly loam
Bt1 - 12 to 17 inches: clay loam
Bt2 - 17 to 22 inches: clay loam
Btk1 - 22 to 28 inches: clay loam
Btk2 - 28 to 40 inches: clay loam
Bk1 - 40 to 50 inches: clay loam
Bk2 - 50 to 60 inches: clay loam

Properties and qualities

Slope: 2 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 40 percent
Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water storage in profile: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: Mountain Loam (Mountain Big Sagebrush) (R047XA430UT)
Hydric soil rating: No

Minor Components

Ant flat

Percent of map unit: 5 percent
Landform: Fan remnants
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: Mountain Loam (Mountain Big Sagebrush) (R047XA430UT)
Hydric soil rating: No

Hades

Percent of map unit: 4 percent
Landform: Mountain slopes
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: Mountain Loam (Oak) (R047XA432UT)
Hydric soil rating: No

Lucky star

Percent of map unit: 3 percent
Landform: Mountain slopes
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: High Mountain Stony Loam (Aspen) (R047XA531UT)
Hydric soil rating: No

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Yeates hollow

Percent of map unit: 3 percent

Landform: Mountain slopes

Down-slope shape: Linear

Across-slope shape: Convex

Ecological site: Mountain Stony Loam (Mountain Big Sagebrush) (R047XA461UT)

Hydric soil rating: No

144—Horrocks-Cutoff complex, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: k1t7

Elevation: 5,400 to 7,000 feet

Mean annual precipitation: 14 to 22 inches

Mean annual air temperature: 40 to 45 degrees F

Frost-free period: 60 to 100 days

Farmland classification: Not prime farmland

Map Unit Composition

Horrocks and similar soils: 60 percent

Cutoff and similar soils: 25 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Horrocks

Setting

Landform: Mountain slopes

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Slope alluvium and colluvium derived from sandstone, conglomerate and andesite

Typical profile

A - 0 to 10 inches: very cobbly loam

Bt1 - 10 to 19 inches: very cobbly clay loam

Bt2 - 19 to 32 inches: very cobbly clay loam

Bt3 - 32 to 40 inches: very cobbly clay loam

BC - 40 to 59 inches: very gravelly loam

R - 59 to 60 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent

Depth to restrictive feature: 40 to 60 inches to lithic bedrock

Natural drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

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Frequency of ponding: None

Available water storage in profile: Low (about 5.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

Ecological site: Mountain Stony Loam (Mountain Big Sagebrush) (R047XA461UT)

Hydric soil rating: No

Description of Cutoff

Setting

Landform: Mountain slopes

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Slope alluvium and colluvium derived from sandstone, quartzite and conglomerate

Typical profile

A1 - 0 to 1 inches: very gravelly loam

A2 - 1 to 9 inches: very gravelly loam

Bk1 - 9 to 16 inches: very gravelly loam

Bk2 - 16 to 29 inches: very gravelly loam

Bk3 - 29 to 38 inches: very gravelly loam

R - 38 to 48 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Natural drainage class: Well drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum in profile: 40 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Available water storage in profile: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

Ecological site: Upland Stony Loam (Mountain Big Sagebrush) (R047XA334UT)

Other vegetative classification: Upland Stony Loam (Mountain Big Sagebrush) (047AY334UT)

Hydric soil rating: No

Minor Components

Hades

Percent of map unit: 5 percent

Landform: Mountain slopes

Down-slope shape: Linear

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Across-slope shape: Convex
Ecological site: Mountain Loam (Oak) (R047XA432UT)
Hydric soil rating: No

Harter

Percent of map unit: 5 percent
Landform: Mountain slopes
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: Mountain Loam (Mountain Big Sagebrush) (R047XA430UT)
Hydric soil rating: No

Heiners

Percent of map unit: 5 percent
Landform: Ridges on mountain slopes
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: Upland Shallow Loam (Wyoming Big Sagebrush) (R047XA320UT)
Other vegetative classification: Upland Shallow Loam (Mountain Big Sagebrush)
(047XA320UT_1)
Hydric soil rating: No

179—Wanship-Kovich loams, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: k1v8
Elevation: 5,200 to 8,000 feet
Mean annual precipitation: 16 to 22 inches
Mean annual air temperature: 40 to 45 degrees F
Frost-free period: 60 to 90 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Wanship and similar soils: 55 percent
Kovich and similar soils: 30 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wanship

Setting

Landform: Stream terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sandstone and conglomerate

Typical profile

A1 - 0 to 8 inches: loam
A2 - 8 to 14 inches: loam

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A3 - 14 to 24 inches: loam
2C1 - 24 to 26 inches: extremely cobbly loamy sand
2C2 - 26 to 60 inches: extremely cobbly loamy sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: About 20 to 30 inches
Frequency of flooding: Rare
Frequency of ponding: None
Available water storage in profile: Low (about 4.9 inches)

Interpretive groups

Land capability classification (irrigated): 4w
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: B
Ecological site: Interzonal Cold Semiwet Fresh Meadow (Meadow Sedge/Tufted Hairgrass) (R047XA004UT)
Hydric soil rating: No

Description of Kovich

Setting

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Alluvium derived from sandstone, quartzite and shale

Typical profile

A1 - 0 to 9 inches: loam
A2 - 9 to 22 inches: clay loam
A3 - 22 to 29 inches: clay loam
2C - 29 to 44 inches: fine sandy loam
3C - 44 to 60 inches: very gravelly loamy fine sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: About 12 to 24 inches
Frequency of flooding: Occasional
Frequency of ponding: None
Available water storage in profile: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): 6w
Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: C/D
Ecological site: Interzonal Wet Fresh Meadow (Sedge) (R047XA008UT)
Hydric soil rating: Yes

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Minor Components

Toddspan

Percent of map unit: 6 percent

Landform: Valley floors, flood plains

Down-slope shape: Linear

Across-slope shape: Convex, concave

Ecological site: Interzonal Wet Fresh Meadow (Sedge) (R047XA008UT)

Hydric soil rating: Yes

Snyderville

Percent of map unit: 5 percent

Landform: Stream terraces, outwash terraces

Down-slope shape: Linear

Across-slope shape: Convex

Ecological site: Mountain Gravelly Loam (Mountain Big Sagebrush)
(R047XA406UT)

Hydric soil rating: No

Dastrup

Percent of map unit: 4 percent

Landform: Fan remnants

Down-slope shape: Linear

Across-slope shape: Convex

Ecological site: Upland Loam (Basin Big Sagebrush) (R047XA308UT)

Other vegetative classification: Upland Loam (Mountain Big Sagebrush)
(047XA308UT_2)

Hydric soil rating: No

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Appendix A-5

Phase I and Innovative Assessment Reports and Associated Documents

5a: Draft Ltr_Samples_SS-47_3-23-2018_Fig_Tble

5b: Phasel_ESA_SS-47_03-29-2018_Complete

A-5c: Phasel_ESA_SS-47 Attachment

5d: Phasel_ESA_SS-50-3-30-2018_Complete

5e: Phasel_ESA_SS-56-3-30-2018_Complete

5f: Phasel_ESA_SS-56A1A_3-29-2018_Complete

5g: Phasel_ESA_SS-571BX_03-30-2018_Complete

5h: Innovative Assessment (2002)

5i: Led and arsenic map _1829606 Redacted Lower Silver Creek Data Summary Report-3

Appendix A-6

NRCS Ecological Site Description Report

All Ecological Sites -- Rangeland—Summit Area, Utah, Parts of Summit, Salt Lake and Wasatch Counties
(Gillmor_Parcels)



Map Scale: 1:12,600 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84



All Ecological Sites -- Rangeland—Summit Area, Utah, Parts of Summit, Salt Lake and Wasatch Counties
(Gillmor_Parcels)

MAP LEGEND	MAP INFORMATION
<p>Area of Interest (AOI)</p> <p> Area of Interest (AOI)</p> <p>Soils</p> <p>Soil Rating Polygons</p> <p> R047XA004UT</p> <p> R047XA406UT</p> <p> R047XA430UT</p> <p> R047XA461UT</p> <p> Not rated or not available</p> <p>Soil Rating Lines</p> <p> R047XA004UT</p> <p> R047XA406UT</p> <p> R047XA430UT</p> <p> R047XA461UT</p> <p> Not rated or not available</p> <p>Soil Rating Points</p> <p> R047XA004UT</p> <p> R047XA406UT</p> <p> R047XA430UT</p> <p> R047XA461UT</p> <p> Not rated or not available</p> <p>Water Features</p> <p> Streams and Canals</p> <p>Transportation</p> <p> Rails</p> <p> Interstate Highways</p>	<p>Background</p> <p> Aerial Photography</p> <p> US Routes</p> <p> Major Roads</p> <p> Local Roads</p>
	<p>The soil surveys that comprise your AOI were mapped at 1:24,000.</p> <p>Please rely on the bar scale on each map sheet for map measurements.</p> <p>Source of Map: Natural Resources Conservation Service Web Soil Survey URL: Coordinate System: Web Mercator (EPSG:3857)</p> <p>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.</p> <p>This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.</p> <p>Soil Survey Area: Summit Area, Utah, Parts of Summit, Salt Lake and Wasatch Counties Survey Area Data: Version 10, Sep 11, 2018</p> <p>Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.</p> <p>Date(s) aerial images were photographed: Jun 14, 2016—Nov 8, 2017</p> <p>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.</p>

All Ecological Sites — Rangeland

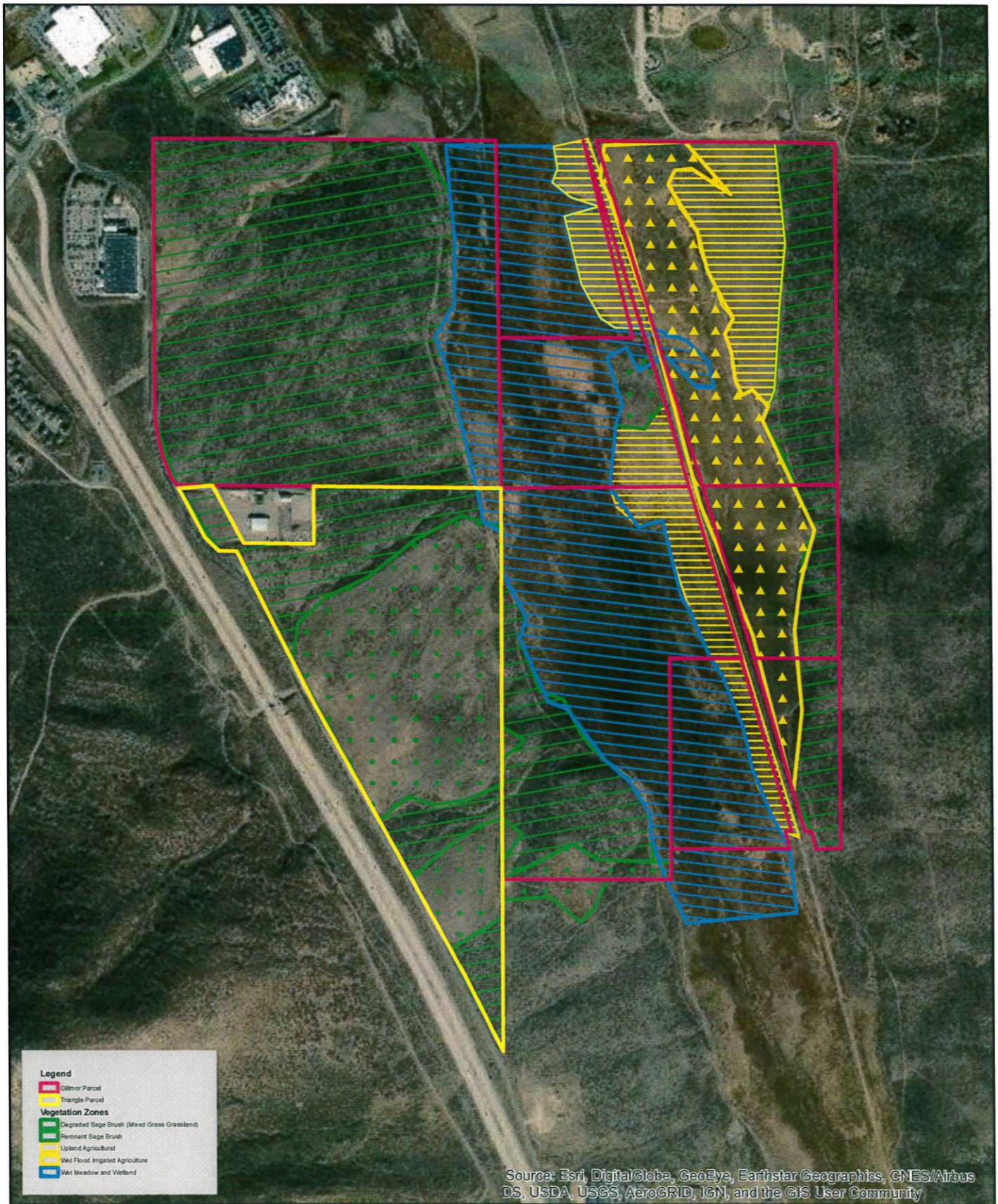
Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
106	Ayoub cobbly loam, 2 to 15 percent slopes	Ayoub (85%)	R047XA406UT — Mountain Gravelly Loam (Mountain Big Sagebrush)	82.5	18.0%
		Ant Flat (5%)	R047XA430UT — Mountain Loam (Mountain Big Sagebrush)		
		Dunford (5%)	R047XA410UT — Mountain Gravelly Loam (Oak)		
		Melling (5%)	R047XA446UT — Mountain Shallow Loam (Mountain Big Sagebrush)		
128	Fewkes gravelly loam, 2 to 8 percent slopes	Fewkes (85%)	R047XA430UT — Mountain Loam (Mountain Big Sagebrush)	215.9	47.0%
		Ant Flat (5%)	R047XA430UT — Mountain Loam (Mountain Big Sagebrush)		
		Hades (4%)	R047XA432UT — Mountain Loam (Oak)		
		Lucky Star (3%)	R047XA531UT — High Mountain Stony Loam (Aspen)		
		Yeates Hollow (3%)	R047XA461UT — Mountain Stony Loam (Mountain Big Sagebrush)		
144	Horrocks-Cutoff complex, 15 to 30 percent slopes	Horrocks (60%)	R047XA461UT — Mountain Stony Loam (Mountain Big Sagebrush)	20.0	4.3%
		Cutoff (25%)	R047XA334UT — Upland Stony Loam (Mountain Big Sagebrush)		
		Hades (5%)	R047XA432UT — Mountain Loam (Oak)		

Map unit symbol	Map unit name	Component name (percent)	Ecological site	Acres in AOI	Percent of AOI
		Harter (5%)	R047XA430UT — Mountain Loam (Mountain Big Sagebrush)		
		Heiners (5%)	R047XA320UT — Upland Shallow Loam (Wyoming Big Sagebrush)		
179	Wanship-Kovich loams, 0 to 3 percent slopes	Wanship (55%)	R047XA004UT — Interzonal Cold Semiwet Fresh Meadow (Meadow Sedge/ Tufted Hairgrass)	140.9	30.7%
		Kovich (30%)	R047XA008UT — Interzonal Wet Fresh Meadow (Sedge)		
		Toddspan (6%)	R047XA008UT — Interzonal Wet Fresh Meadow (Sedge)		
		Snyderville (5%)	R047XA406UT — Mountain Gravelly Loam (Mountain Big Sagebrush)		
		Dastrup (4%)	R047XA308UT — Upland Loam (Basin Big Sagebrush)		
Totals for Area of Interest				459.2	100.0%



Appendix A-7

Gillmor Baseline Plant Community Type Map

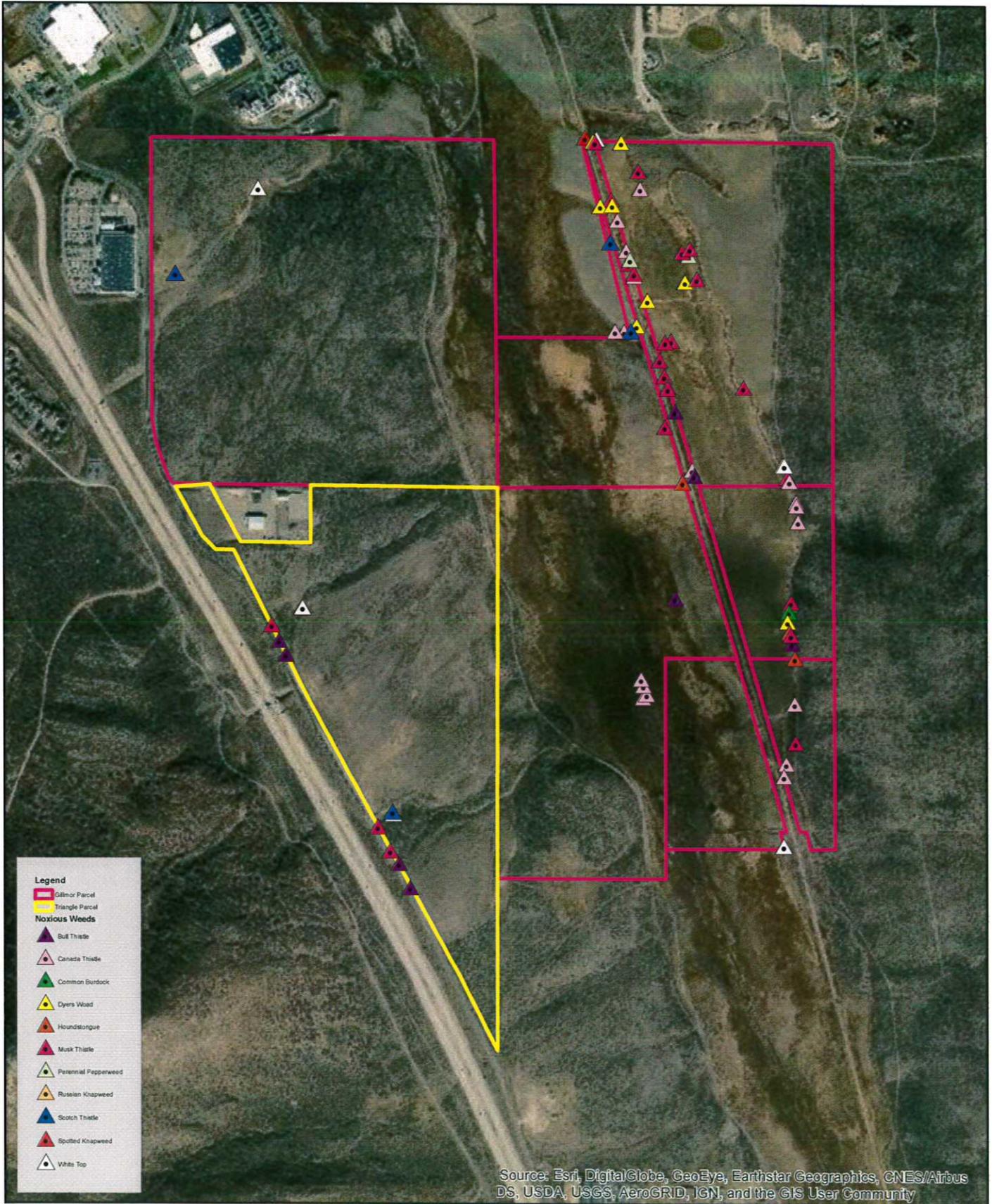


Plant Community Types Map

The Gillmor and Triangle Parcels were originally comprised of three variations of sage brush habitat and a wet meadow/wetland complex. A history of human disturbance and heavy grazing has altered the plant community creating four distinct plant community types: remnant sage brush, degraded sage brush (more of a mixed grass grassland), upland and wet agricultural fields and wet meadow/wetland complex.



Appendix A-8
Noxious Weed Population Map



Noxious Weed Populations Map

The Gillmor and Triangle Parcels have relatively small noxious weed populations, however perennial pepperweed, Russian knapweed and spotted knapweed (just outside the north boundary) are species of high concern due to low abundance within the county and a recent increase in spread.

Appendix A-9

Water Rights

9a: Flood Irrigation Associated Water Right

9b: Water Right Details for 35_8820

9c: Water Right Details for Change Application a21858

9d: Water Right Details for 35-5706

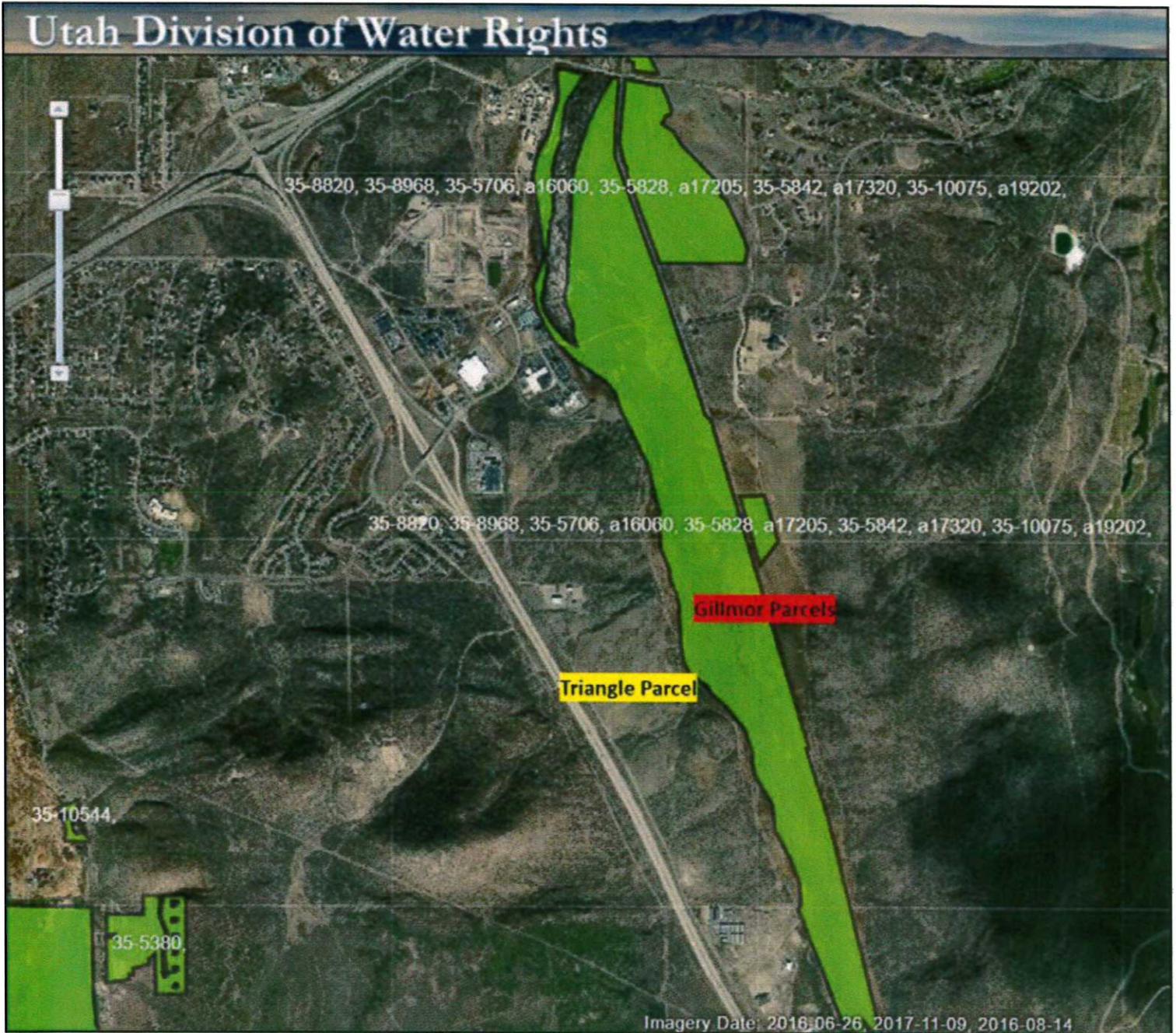
9e: Water Rights Details for 35_8968

9f: Water Right Details for 35_5828

9g: Water Right Details for 35_5842

9h: Water Right Details for 35_1007

Appendix A91a: Flood Irrigation Associated Water Right



The Utah Division of Water Rights lists the following water rights associated with the flood irrigation on the Gillmor Parcels: 35-8820; 35-8968; 35-5706, a16060; 35-5828, a17205; 35-5842, a17320; 35-1007, a19202 (Accessed 11/30/2018, <https://maps.waterrights.utah.gov/EsrIMap/map.asp>).

View New Water Right Webpage Design

Select Related Information

(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 12/04/2018

WATER RIGHT: 35-8820 APPLICATION/CLAIM NO.: CERT. NO.:
CHANGES: a17669 (Filed: 11/05/1993) Withdrawn
a21858 (Filed: 01/23/1998) Amended by Subsequent Change
a28638 (Filed: 02/09/2004) Approved

OWNERSHIP*****

NAME: Park City Municipal Building Authority
ADDR: Attn: Thomas A. Daley, Deputy City Attorney
P.O. Box 1480
Park City UT 84060
REMARKS: 78.5 acres

DATES, ETC.*****

LAND OWNED BY APPLICANT? Yes COUNTY TAX ID#:
FILED: PRIORITY: / 1861 PUB BEGAN: PUB ENDED: NEWSPAPER:
ProtestEnd: [PROTESTED: [No] HEARNG HLD:] ActionDate:] PROOF DUE:
EXTENSION: [ELEC/PROOF: [] ELEC/PROOF:] CERT/WUC:] LAP, ETC:] LAPS LETTER:
RUSH LETTR: [RENOVATE: [] RECON REQ:] TYPE: []
PD BOOK: [35-] MAP: [20-27] PUB DATE:

TYPE -- DOCUMENT -- STATUS-----
Type of Right: Decree Source of Info: Proposed Determination Status:
Related Distribution System: 72-WEBER RIVER

LOCATION OF WATER RIGHT*** (Points of Diversion: Click on Location to access PLAT Program.)*****MAP VIEW*****

FLOW: 0.86 cfs OR 205.83 acre-feet
SOURCE: Silver Creek, Dorrity & Pace Springs
COUNTY: Summit COMMON DESCRIPTION: Snyderville Basin

POINTS OF DIVERSION -- SURFACE:

- (1) N 500 ft W 625 ft from SE cor, Sec 35, T 1S, R 4E, SLBM
Diverting Works: G.M. Pace Ditch Source: Silver Creek
(2) N 1850 ft W 125 ft from S4 cor, Sec 35, T 1S, R 4E, SLBM
Diverting Works: Pace Spring Ditch Source: Pace Spring
(3) N 330 ft E 1320 ft from SW cor, Sec 03, T 2S, R 4E, SLBM
Diverting Works: Pace and Homer Ditch Source: Silver Creek

Stream Alt Required?: No

USES OF WATER RIGHT***** ELU -- Equivalent Livestock Unit (cow, horse, etc.) ***** EDU -- Equivalent Domestic Unit or 1 Family
(The Beneficial Use Amount is the quantity of Use that this Water Right contributes to the Group Total.)

WATER USE GROUP NO.: 200081. Water Rights Appurtenant to the following use(s):
35-8820(DEC), 8968(DEC), 10074(DEC), 12946(DEC)

IRRIGATION: Beneficial Use Amt: UNEVALUATED acres Group Total: 10.52 PERIOD OF USE: 04/01 TO 10/31

Table with 4 columns: PLACE OF USE, NORTH WEST QUARTER, NORTH EAST QUARTER, SOUTH WEST QUARTER, SOUTH EAST QUARTER. Rows include Sec 15 T 1S R 4E SLBM and Sec 22 T 1S R 4E SLBM.

WATER USE GROUP NO.: 204144. Water Rights Appurtenant to the following use(s):

- 35-1660(DIL), 2708(UGWC), 2709(UGWC), 2710(UGWC), 2711(UGWC),
2712(UGWC), 2713(UGWC), 2714(UGWC), 3340(UGWC), 4244(DIL),
4704(CERT), 5307(REJ), 5353(DIL), 5354(DIL), 5355(DIL),
5356(DIL), 5357(DIL), 5361(DEC), 5463(CERT), 5701(DEC),
5706(DEC), 8430(DEC), 8431(DEC), 8456(DEC), 8457(DEC),
8477(DEC), 8491(CERT), 8820(DEC), 8826(DEC), 9915(DEC),
10280(UGWC), 10281(UGWC), 10285(UGWC), 10286(UGWC), 10497(DIL),
10525(DEC), 10628(DEC), 10629(DEC), 10630(DEC), 11544(SHAR),
11855(DEC), 11982(DEC), 55-12433(UGWC), 8458(UGWC), E1218(LAP),
E1039(LAP), E2717(APP), E2718(LAP), E2390(WD), E598(LAP)

Even though the change to municipal use under 35-8820 has not been certificated, it is included in this group for administrative and distribution purposes.

MUNICIPAL: Park City PERIOD OF USE: 01/01 TO 12/31

Acre Feet Contributed by this Right for this Use: 205.83
Within the service area of Park City.

WATER USE GROUP NO.: 209516. Water Rights Appurtenant to the following use(s):

- 35-5828(DEC), 8820(DEC), 11980(DEC), 11981(DEC), 13194(DEC),
13202(DEC)

IRRIGATION: Beneficial Use Amt: 52.11 acres of the Group Total of 149.76 PERIOD OF USE: 03/01 TO 11/01

STOCKWATER: Beneficial Use Amt: 0.0 ELUs of the Group Total of 124.0000 PERIOD OF USE: 01/01 TO 12/31

DOMESTIC: Beneficial Use Amt: 0.0 EDUs of the Group Total of 1.00 PERIOD OF USE: 01/01 TO 12/31

###PLACE OF USE:	*-----NORTH WEST QUARTER-----*				*-----NORTH EAST QUARTER-----*				*-----SOUTH WEST QUARTER-----*				*-----SOUTH EAST QUARTER-----*			
	NW	NE	SW	SE												
Sec 10 T 15 R 4E SLBM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Sec 14 T 15 R 4E SLBM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Sec 15 T 15 R 4E SLBM	*	*	*	*	*X	X	X	X	*	*	*	*	*X	X	X	X
Sec 22 T 15 R 4E SLBM	*	*	*	*	*X	X	X	X	*	*	*	*	*X	X	X	X
Sec 23 T 15 R 4E SLBM	*X	X	X	X	*	*	*	*	*X	X	X	X	*	*	*	*
Sec 26 T 15 R 4E SLBM	*X	X	X	X	*	*	*	*	*X	X	X	X	*X	X	X	X
Sec 35 T 15 R 4E SLBM	*	*	*	*	*X	X	X	X	*	*	*	*	*	*	*	*
Sec 02 T 25 R 4E SLBM	*X	X	X	X	*X	X	X	X	*	*	*	*	*	*	*	*

This Right (35-8820) has an evaluated sole-supply total for irrigation of 52.1100 acres.

This Right (35-8820) is a member of 3 supplemental water right groups with irrigated acreage totaling 160.2800 acres.

PLACE OF USE for STOCKWATERING*****

	NORTH-WEST%				NORTH-EAST%				SOUTH-WEST%				SOUTH-EAST%			
	NW	NE	SW	SE												
Sec 10 T 15 R 4E SLBM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	X*
Sec 14 T 15 R 4E SLBM	*	*	*	*	*	*	*	*	X	X	X	X*	*	*	*	*
Sec 15 T 15 R 4E SLBM	*	*	*	*	*X	X	X	X*	*	*	*	*	*X	X	X	X*
Sec 22 T 15 R 4E SLBM	*	*	*	*	*X	X	X	X*	*	*	*	*	*X	X	X	X*
Sec 23 T 15 R 4E SLBM	*X	X	X	X*	*	*	*	*	*X	X	X	X*	*	*	*	*
Sec 26 T 15 R 4E SLBM	*X	X	X	X*	*	*	*	*	*X	X	X	X*	*X	X	X	*
Sec 35 T 15 R 4E SLBM	*	*	*	*	*X	X	X	X*	*	*	*	*	*	*	*	*
Sec 02 T 25 R 4E SLBM	*X	X	X	X*	*X	X	X	X*	*	*	*	*	*	*	*	*

OTHER COMMENTS*****

Weber River Decree No. 820 PDET No 147 a,b,c,d,e,f Page 44
 Silver Creek Irrigation Co., Mutual Assoc: Chas F. & Edward L. Gilmore 339 ac;
 Alma & J.E. Pace 276.0 acres; Cecil W. Stanley 20 ac; Total 635 acres.
 See Right 968 for Seepage right.
 Diverted from Silver Creek, Dorrity Spring; Pace Spring and Lower Pace Springs
 also domestic and stock water from the Pace Spring and Lower Pace Springs to
 be used from January 1 to December 31.

SEGREGATION HISTORY*****

This Right was Segregated from 35-8820, with Appl#: , Approval Date: / / under which Proof is to be submitted.
 This Right as originally filed:

FLOW IN	QUANTITY IN		*-----W A T E R U S E S-----*					
CFS	ACRE-FEET	IRRIGATED	STOCK	DOMESTIC	MUNICIPAL	MINING	POWER	OTHER
		ACREAGE	(ELUs)	(FAMILIES)*		ACRE-FEET		
7.94	1913.1	635.0	225.0	4.0				

The following Water Rights have been Segregated from 35-8820:

- (1) WRNUM: 35-5842 [0.75] [0.25]
 APPL#:
 NAME: Gilmore, Charles F. and Nadine
 FILED: / / 0
 see change a17320
- (2) WRNUM: 35-5706 [1.648] [397.21] [131.87] [41.0] [1.0]
 APPL#:
 NAME: Municipal Building Authority of Park City
 FILED: 04/01/1991
 This represents 20.77% of WRD Award 820
- (3) WRNUM: 35-5828 [0.075] OR [19.29] [6.0] [30.0] [0.5]
 APPL#:
 NAME: Gillmor, Charles F. and Nadine
 FILED: 08/ /1992
 See a17205 [admin seg], amended 11/15/2016 due to title documents
- (4) WRNUM: 35-10074 [3.96] [1.32]
 APPL#:
 NAME: Silver Creek Investors
 FILED: 08/21/1995
- (5) WRNUM: 35-10075 [0.418] [104.1] [34.7] [13.0]
 APPL#:
 NAME: Silver Creek Investors
 FILED: 08/21/1995
 see change a19202 and a21031; See change a25258
- (6) WRNUM: 35-10525 [1.6388] OR [393.3] [131.1] [2.0]
 APPL#:
 NAME: Park City Water Service District
 FILED: / /2000
- (7) WRNUM: 35-11804 [2.1188] OR [510.18] [169.5] [60.0] [1.0]
 APPL#:
 NAME: Gillmor, Florence
 FILED: 05/19/2005
 100% of Florence Gillmore interest, (169.5 / 635) 225 = 60 elu + 169.5 acres
- (8) WRNUM: 35-11980 [1.06] OR [255.09] [84.75] [30.0] [0.5]
 APPL#: A
 NAME: Gillmor, Edward L.
 FILED: 04/04/2006
 [cfs prorated and entry made in database in 2017 - not originally entered when created in 2006]
- (9) WRNUM: 35-11981 [22.522] [6.9] [49.0] [1.0]



Select Related Information

(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 11/30/2018 Page 1

CHANGE: a21858 WATER RIGHT: 35-1660 CERT. NO.: AMENDATORY? No COUNTY TAX ID#:

- BASE WATER RIGHTS: 35-1660, 35-2709, 35-2714, 35-3340, 35-4704, 35-5463, 35-5701, 35-5706, 35-8820, 35-9323

RIGHT EVIDENCED BY: 35-1660,-2709,-2714,-3340,-4704,-5463,-5701,-5706,-8820, &-9323 (E2717). (Silver Creek Drainage Water Rights)

CHANGES: Point of Diversion [X], Place of Use [X], Nature of Use [X], Reservoir Storage [].

NAME: Park City Corporation
ADDR: c/o Frederick C. Duberow, PE
3995 S. 700 E. Suite 300
Salt Lake City UT 84107
REMARKS:

NAME: Park City Municipal Building Authority
ADDR: PO Box 1480
Park City UT 84060
REMARKS:

NAME: Park City Municipal Corporation
ADDR: PO Box 1480
Park City UT 84060
REMARKS:

NAME: Park City Water Service District
ADDR: P.O. Box 1480
Park City UT 84060
REMARKS:

NAME: United Park City Mines Company
ADDR: P.O. Box 1450
Park City, Utah 84060
INTEREST: %
REMARKS:

DATES, ETC.

FILED: 01/23/1998|PRIORITY: 02/23/1998|ADV BEGAN: 03/11/1998|ADV ENDED: 03/18/1998|NEWSPAPER: The Park Record

ImpairDesig[NO]|IMP NOTICE:

Water Rights which the State Engineer has Identified may Experience Quantity Impairment:

ProtestEnd:04/07/1998|PROTESTED: [Hear Hel]|HEARNG HLD: |SE ACTION: [Approved]|ActionDate:05/19/2000|PROOF DUE:
EXTENSION: |ELEC/PROOF:[]|ELEC/PROOF: |CERT/WUC: |LAP, ETC: |LAPS LETTER:
RUSH LETTR: |RENOVATE: |RECON REQ: |TYPE: []

*STATUS LINE

Status: Amended by Subsequent Change

***** HERETOFORE ***** HERE A F T E R *****

Table with 2 columns: Flow (6004.0 acre-feet vs 5823.89 acre-feet), Source (wells, springs, tunnels), County (Weber vs Summit), and Extension of Time details.

Extension of Time Within Which to Resume Use (667) was filed 04/17/87. Lis Pendens Suit filed 12/11/90.

35-5701 is segregated from 35-8827 Weber River Decree. Quantity segregated is 40 acres from a total of 70 acres of irrigation in award 827. Change application a16061 filed by Park City Corporation proposes to change point of diversion to the Treasure Mountain Middle School well and used within the corporate boundaries of Park City for municipal purposes. Included in this change is all of award 826

serviced by these entities.

The purpose of this change application is to consolidate existing Park City owned rights tributary to the Silver Creek drainage to allow diversion from any, each or all of the Park City municipal sources within this drainage. The quantity of water remains the same. This change application is being requested to simplify administration of these rights by the city. Park City understands that they will be limited to divert on an annual basis the acre-ft quantity shown in paragraph #4 of this application. However, they wish to reserve the right to divert from any, each and all of their sources as required to meet the peak day and annual demands of their users.

POINT(S) OF DIVERSION -----> MAP VIEW ****	CHANGED AS FOLLOWS: (Click Location link for WRPLAT)
Point Surface: (1) N 500 ft W 625 ft from SE cor, Sec 35, T 1S, R 4E, SLBM Dvrting Wks: G.M. Pace Ditch Source: Silver Creek	Point Surface: (1) S 630 ft E 2310 ft from W4 cor, Sec 03, T 2S, R 4E, SLBM Dvrting Wks: Golf Course Pond Source: Pond #4 (Silver Creek)
(2) N 1850 ft W 125 ft from S4 cor, Sec 35, T 1S, R 4E, SLBM Dvrting Wks: Pace Spring Ditch Source: Pace Spring	(2) S 890 ft E 1530 ft from W4 cor, Sec 03, T 2S, R 4E, SLBM Dvrting Wks: Golf Course Pond Source: Pond #5 (Silver Creek)
(3) N 330 ft E 1320 ft from SW cor, Sec 03, T 2S, R 4E, SLBM Dvrting Wks: Pace & Home Ditch Source: Silver Creek	(3) N 550 ft E 2020 ft from W4 cor, Sec 03, T 2S, R 4E, SLBM Dvrting Wks: Golf Course Pond Source: Pond #6 (Silver Creek)
(4) N 925 ft W 1585 ft from SE cor, Sec 04, T 2S, R 4E, SLBM Dvrting Wks: Dorrity No. 122 Ditch Source: Dorrity Spring	(4) N 1190 ft W 2380 ft from E4 cor, Sec 04, T 2S, R 4E, SLBM Dvrting Wks: Golf Course Pond Source: Pond #7 (Silver Creek)
(5) S 2708 ft E 191 ft from N4 cor, Sec 29, T 2S, R 4E, SLBM Dvrting Wks: earth dam Source: Lady Morgan Spring	(5) N 1135 ft W 2130 ft from E4 cor, Sec 04, T 2S, R 4E, SLBM Dvrting Wks: Golf Course Pond Source: Pond #8 (Silver Creek)
	(6) N 760 ft W 2060 ft from E4 cor, Sec 04, T 2S, R 4E, SLBM Dvrting Wks: Golf Course Pond Source: Pond #9 (Silver Creek)
	(7) N 345 ft W 1820 ft from E4 cor, Sec 04, T 2S, R 4E, SLBM Dvrting Wks: Golf Course Pond Source: Pond #10 (Silver Creek)
	(8) S 265 ft E 2440 ft from W4 cor, Sec 04, T 2S, R 4E, SLBM Dvrting Wks: Creek Diversion Source: Silver Creek
	(9) N 10 ft E 10 ft from SW cor, Sec 04, T 2S, R 4E, SLBM Dvrting Wks: Creek diversion Source: East Canyon Creek
	(10) S 30 ft W 300 ft from E4 cor, Sec 04, T 2S, R 4E, SLBM Dvrting Wks: Golf Course Pond Source: Pond #1 (Silver Creek)
	(11) S 1350 ft W 1710 ft from E4 cor, Sec 04, T 2S, R 4E, SLBM Dvrting Wks: Golf Course Pond Source: Pond #2 (Silver Creek)
	(12) S 370 ft W 2390 ft from E4 cor, Sec 04, T 2S, R 4E, SLBM Dvrting Wks: Golf Course Pond Source: Pond #3 (Silver Creek)
	(13) S 2110 ft 0 ft from NE cor, Sec 08, T 2S, R 4E, SLBM Dvrting Wks: Earthen ditch Source: East Canyon Creek to Bates, Snyder & Dorrity Ditch
	(14) N 40 ft W 450 ft from S4 cor, Sec 20, T 2S, R 4E, SLBM Dvrting Wks: Hannauer Spring & Tunnel Source:
	(15) S 584 ft W 456 ft from NE cor, Sec 23, T 2S, R 4E, SLBM Dvrting Wks: Source: Keetley Spring
	(16) S 2708 ft E 191 ft from N4 cor, Sec 29, T 2S, R 4E, SLBM Dvrting Wks: Source: Lady Morgan Spring
	(17) N 618 ft E 213 ft from E4 cor, Sec 31, T 2S, R 4E, SLBM Dvrting Wks: Dams & Ditches Source: Blood's or Judge Lake
	Stream Alt?: No
Point Underground:	UNDERGROUND: (Click Link for PLAT data, Well ID# link for data.)
(1) N 1520 ft E 520 ft from S4 cor, Sec 03, T 2S, R 4E, SLBM Diameter: ins. Depth: to ft. WELL ID#: 000000 COMMENT: Osguthorpe Well	(1) N 1000 ft W 700 ft from SE cor, Sec 34, T 1S, R 4E, SLBM Diameter: 8 ins. Depth: 1000 to ft. WELL ID#: COMMENT: Keetley Well
(2) N 648 ft W 180 ft from SE cor, Sec 04, T 2S, R 4E, SLBM Diameter: ins. Depth: to ft. WELL ID#: 000000	(2) N 648 ft W 180 ft from SE cor, Sec 04, T 2S, R 4E, SLBM Diameter: 14 ins. Depth: 327 to ft. WELL ID#: 2002
(3) S 70 ft W 30 ft from NE cor, Sec 08, T 2S, R 4E, SLBM Diameter: ins. Depth: to ft. WELL ID#: 000000 COMMENT: Park Meadows Well	(3) N 1670 ft E 18 ft from SW cor, Sec 04, T 2S, R 4E, SLBM Diameter: ins. Depth: to ft. WELL ID#: COMMENT: Existing well
(4) N 40 ft W 450 ft from S4 cor, Sec 20, T 2S, R 4E, SLBM Diameter: ins. Depth: to ft. WELL ID#: 000000	(4) S 70 ft W 30 ft from NE cor, Sec 08, T 2S, R 4E, SLBM Diameter: 10 ins. Depth: 300 to ft. WELL ID#: 2455
(5) N 1070 ft E 1270 ft from SW cor, Sec 21, T 2S, R 4E, SLBM Diameter: ins. Depth: to ft. WELL ID#: 000000 COMMENT:	(5) N 1070 ft E 1270 ft from SW cor, Sec 21, T 2S, R 4E, SLBM Diameter: ins. Depth: to ft. WELL ID#: COMMENT: Alliance Tunnel
(6) N 288 ft W 3294 ft from SE cor, Sec 21, T 2S, R 4E, SLBM	(6) N 288 ft W 3294 ft from SW cor, Sec 22, T 2S, R 4E, SLBM

11/30/2018

CHPRINT (a21858)

Diameter: ins. Depth: to ft. WELL ID#: 000000 COMMENT: (7) N 650 ft W 3500 ft from SW cor, Sec 22, T 2S, R 4E, SLBM	Diameter: ins. Depth: to ft. WELL ID#: 000000 COMMENT: Anchor (Judge) Tunnel (7) N 1520 ft E 520 ft from S4 cor, Sec 35, T 2S, R 4E, SLBM
Diameter: ins. Depth: to ft. WELL ID#: 000000 COMMENT: (8) N 288 ft W 3294 ft from SW cor, Sec 22, T 2S, R 4E, SLBM	Diameter: 12 ins. Depth: 200 to 1000 ft. WELL ID#: 000000 COMMENT: Osguthorpe
Diameter: ins. Depth: to ft. WELL ID#: 000000	
Point Rediversion: (1) N 2736 ft E 1601 ft from S4 cor, Sec 29, T 2S, R 4E, SLBM	
Dvrtng Wks: Source:	

PLACE OF USE ----->	CHANGED as follows:
<pre> --NW%-- --NE%-- --SW%-- --SE%-- N N S S N N S S N N S S N N S S W E W E W E W E W E W E W E W E Sec 10 T 15 R 4E SLBM * : : : * : : : * : : : * : : : * Sec 15 T 15 R 4E SLBM * : : : * : X : : * : : : * : : : * Sec 26 T 15 R 4E SLBM *X:X:X:X*X*X:X:X*X*X:X:X*X*X*X:X*X* Sec 29 T 15 R 4E SLBM * : : : * : : : * : : : * : : : X : * Sec 30 T 15 R 4E SLBM * : : : * : : : * : : : * : : : X : X : * Sec 35 T 15 R 4E SLBM *X:X:X:X*X*X:X:X*X*X:X:X*X*X*X:X*X* Sec 15 T 15 R 5E SLBM *X:X:X:X*X*X:X:X*X*X:X:X*X*X*X:X*X* Sec 23 T 15 R 5E SLBM *X:X:X:X*X*X:X:X*X*X:X:X*X*X*X:X*X* Sec 26 T 15 R 5E SLBM *X:X:X:X*X*X:X:X*X*X:X:X*X*X*X:X*X* Sec 35 T 15 R 5E SLBM *X:X:X:X*X*X:X:X*X*X:X:X*X*X*X:X*X* Sec 02 T 25 R 4E SLBM *X:X:X:X*X*X:X:X*X*X:X:X*X*X*X:X*X* Sec 03 T 25 R 4E SLBM *X:X:X:X*X*X:X:X*X*X:X:X*X*X*X:X*X* Sec 04 T 25 R 4E SLBM * : : : * : : : * : : : * : : : X : X : * Sec 05 T 25 R 4E SLBM * : : : * : : : * : : : * : : : X : * Sec 08 T 25 R 4E SLBM * : : : * : : : X : X * : : : * : : : * Sec 21 T 25 R 4E SLBM *X:X:X:X*X*X:X:X*X*X:X:X*X*X*X:X*X* </pre>	<pre> --NW%-- --NE%-- --SW%-- --SE%-- N N S S N N S S N N S S N N S S W E W E W E W E W E W E W E W E </pre>

NATURE OF USE ----->	CHANGED as follows:
<p>IRR = values are in acres. STK = values are in ELUs meaning Cattle or Equivalent. DOM = values are in EDUs meaning Equivalent Domestic Units (or Families).</p>	
SUPPLEMENTAL to Other Water Rights: No	SUPPLEMENTAL to Other Water Rights: No
IRR: 171.8700 USED 03/01 - 11/01	
STK: 41.0000 USED 01/01 - 12/31	
DOM: 33.0000 USED 01/01 - 12/31	
MUN: Park City USED 01/01 - 12/31	MUN: Park City USED 01/01 - 12/31
MIN: District: Uinta & Snake Creek USED 01/01 - 12/31 Name: Daly West Ores: silver, lead & zinc	
MIN: District: Uinta & Snake Creek USED 01/01 - 12/31 Name: UPC and Silver King Ores: silver, lead & zinc	

SEGREGATION HISTORY*****

a21858 was originally filed for:

	FLOW IN CFS	QUANTITY IN ACRE-FEET	*-----W A T E R U S E S-----*
		5328.890	IRRIGATED STOCK DOMESTIC ACREAGE (ELUs) (FAMILIES)

OTHER: Municipal

PROTESTANTS*****

NAME: William and Herbert Armstrong ADDR: c/o Robert Felton, Attorney 39 Exchange Place, Suite 200 Salt Lake City UT 84111	NAME: Stephen A. Osguthorpe ADDR: 1700 White Pine Canyon Road Park City UT 84060
TYPE: APPL RCVD: RCVD:	TYPE: APPL
NAME: Snyderville Basin Sewer Improvement District ADDR: c/o Jeffrey W. Appel and Benjamin T. Wilson 36 South State Street, Ste. 1400 Salt Lake City UT 84111	NAME: State of Utah Division of Wildlife Resources ADDR: c/o John Kimball (Protest Withdrawn) 1594 West North Temple, Suite 2110 P O Box 146301 Salt Lake City UT 84114-6301

11/30/2018

CHPRINT (a21858)

TYPE: APPL

TYPE: APPL

RCVD: RCVD:

NAME: Summit Water Distribution Company
ADDR: c/o John S. Flitton, Attorney
1850 Beneficial Life Tower
Salt Lake City UT 84111

NAME: United Park City Mines Co.
ADDR: c/o Rosemary J. Beless, Attorney (withdrawn)
215 S. State Street, 12th Floor, Box 510210
Salt Lake City UT 84151

TYPE: RCVD:
RCVD: RCVD:

TYPE:

NAME: US Department of the Interior
ADDR: Bureau of Reclamation
302 East 1860 South
Provo UT 84606-7317

NAME: Weber Basin Water Conservancy District
ADDR: c/o Ivan W. Flint
2837 East Highway 193
Layton UT 84040

TYPE: RCVD:
RCVD: RCVD:

TYPE:

EXTENSIONS OF TIME WITHIN WHICH TO FILE PROOF*****

FILED: 05/28/2003 | PUB BEGAN: | PUB ENDED: | NEWSPAPER: No Adv Required
ProtestEnd: | PROTESTED: [Yes] | HEARNG HLD: | SE ACTION: [Approved] | ActionDate:06/17/2003 | PROOF DUE: 05/31/2008

***** E N D O F D A T A *****

View New Water Right Webpage Design

Select Related Information

(WARNING: Water Rights makes NO claims as to the accuracy of this data.) RUN DATE: 12/04/2018

WATER RIGHT: 35-5706 APPLICATION/CLAIM NO.: CERT. NO.:
CHANGES: a16060 (Filed: 03/11/1991) Withdrawn
a21858 (Filed: 01/23/1998) Amended by Subsequent Change
t24419 (Filed: 04/27/2000) Lapsed
t26885 (Filed: 04/27/2000) Lapsed
t25785 (Filed: 07/10/2001) Withdrawn
a28638 (Filed: 02/09/2004) Approved

OWNERSHIP*****

NAME: Municipal Building Authority of Park City
ADDR: Attn: Thomas A. Daley, Deputy City Attorney
P.O. Box 1480
Park City UT 84060

INTEREST: 100%

DATES, ETC.*****

LAND OWNED BY APPLICANT? COUNTY TAX ID#:
FILED: 04/01/1991 PRIORITY: 01/01/1861 PUB BEGAN:
ProtestEnd: [PROTESTED: [No] HEARNG HLD:] NEWSPAPER:
EXTENSION: [ELEC/PROOF:[] ELEC/PROOF:] SE ACTION: [] ActionDate:] PROOF DUE:
RUSH LETTR: [RENOVATE:] RECON REQ:] TYPE: [] LAP, ETC:] LAPS LETTER:
PD BOOK: [35-] MAP: [] PUB DATE:

TYPE -- DOCUMENT -- STATUS-----
Type of Right: Decree Source of Info: Ownership Segregation Status:

LOCATION OF WATER RIGHT*** (Points of Diversion: Click on Location to access PLAT Program.)*****MAP VIEW*****

FLOW: 397.21 acre-feet
SOURCE: Silver Crk.Dorrity Spg.Pace & L.Pace
COUNTY: Weber COMMON DESCRIPTION:

POINTS OF DIVERSION -- SURFACE:

- (1) N 500 ft W 625 ft from SE cor, Sec 35, T 1S, R 4E, SLBM
Diverting Works: G.M. Pace Ditch Source: Silver Creek
(2) N 1850 ft W 125 ft from S4 cor, Sec 35, T 1S, R 4E, SLBM
Diverting Works: Pace Spring Ditch Source: Pace Spring
(3) N 330 ft E 1320 ft from SW cor, Sec 03, T 2S, R 4E, SLBM
Diverting Works: Pace & Home Ditch Source: Silver Creek

Stream Alt Required?: No

USES OF WATER RIGHT***** ELU -- Equivalent Livestock Unit (cow, horse, etc.) ***** EDU -- Equivalent Domestic Unit or 1 Family
(The Beneficial Use Amount is the quantity of Use that this Water Right contributes to the Group Total.)

WATER USE GROUP NO.: 204144. Water Rights Appurtenant to the following use(s):

- 35-1660(DIL), 2708(UGWC), 2709(UGWC), 2710(UGWC), 2711(UGWC),
2712(UGWC), 2713(UGWC), 2714(UGWC), 3340(UGWC), 4244(DIL),
4704(CERT), 5307(REJ), 5353(DIL), 5354(DIL), 5355(DIL),
5356(DIL), 5357(DIL), 5361(DEC), 5463(CERT), 5701(DEC),
5706(DEC), 8430(DEC), 8431(DEC), 8456(DEC), 8457(DEC),
8477(DEC), 8491(CERT), 8820(DEC), 8826(DEC), 9915(DEC),
10280(UGWC), 10281(UGWC), 10285(UGWC), 10286(UGWC), 10497(DIL),
10525(DEC), 10628(DEC), 10629(DEC), 10630(DEC), 11544(SHAR),
11855(DEC), 11982(DEC), 55-12433(UGWC), 8458(UGWC), E1218(LAP),
E1039(LAP), E2717(APP), E2718(LAP), E2390(WD), E598(LAP)

Even though the change to municipal use under 35-5706 has not been certificated, it is included in this group for administrative and distribution purposes.

MUNICIPAL: Park City
Acre Feet Contributed by this Right for this Use: 395.61 PERIOD OF USE: 01/01 TO 12/31
Within the service area of Park City.

WATER USE GROUP NO.: 206469.
35-5706(DEC)

IRRIGATION: 131.87 acres PERIOD OF USE: 03/01 TO 11/01
STOCKWATER: 41.0000 Stock Units PERIOD OF USE: 01/01 TO 12/31
DOMESTIC: 1.0000 EDUs PERIOD OF USE: 01/01 TO 12/31

Table with columns for PLACE OF USE and quarters (NORTH WEST, NORTH EAST, SOUTH WEST, SOUTH EAST) and rows for sections (Sec 10, 11, 14, 15, 22, 23).

12/4/2018

WRPRINT (35-5706)

Sec 26 T 1S R 4E SLBM *X	X	X	X	*												
Sec 35 T 1S R 4E SLBM *X	X	X	X	*												
Sec 15 T 1S R 5E SLBM *X	X	X	X	*												
Sec 23 T 1S R 5E SLBM *X	X	X	X	*												
Sec 26 T 1S R 5E SLBM *X	X	X	X	*												
Sec 35 T 1S R 5E SLBM *X	X	X	X	*												
Sec 02 T 2S R 4E SLBM *X	X	X	X	*												

PLACE OF USE for STOCKWATERING*****

	NORTH-WEST%				NORTH-EAST%				SOUTH-WEST%				SOUTH-EAST%				
	NW	NE	SW	SE													
Sec 10 T 1S R 4E SLBM	*	:	:	:	*	:	:	:	*	:	:	:	*	:	:	:	X*
Sec 10 T 1S R 4E SLBM	*	:	:	:	*	:	:	:	*	:	:	:	*	:	:	:	*
Sec 11 T 1S R 4E SLBM	*	:	:	:	*	:	:	:	*	:	:	:	*	:	:	:	*
Sec 14 T 1S R 4E SLBM	*	:	:	:	*	:	:	:	*	:	:	:	*	:	:	:	*
Sec 15 T 1S R 4E SLBM	*	:	:	:	*	:	:	:	*	:	:	:	*	:	:	:	*
Sec 15 T 1S R 4E SLBM	*	:	:	:	*	:	:	:	*	:	:	:	*	:	:	:	*
Sec 22 T 1S R 4E SLBM	*	:	:	:	*	:	:	:	*	:	:	:	*	:	:	:	*
Sec 23 T 1S R 4E SLBM	*	:	:	:	*	:	:	:	*	:	:	:	*	:	:	:	*
Sec 26 T 1S R 4E SLBM	*	:	:	:	*	:	:	:	*	:	:	:	*	:	:	:	*
Sec 26 T 1S R 4E SLBM	* X:	X:	X:	X*	* X:	X:	X:	X*	* X:	X:	X:	X*	* X:	X:	X:	X*	X*
Sec 35 T 1S R 4E SLBM	*	:	:	:	*	:	:	:	*	:	:	:	*	:	:	:	*
Sec 35 T 1S R 4E SLBM	* X:	X:	X:	X*	* X:	X:	X:	X*	* X:	X:	X:	X*	* X:	X:	X:	X*	X*
Sec 15 T 1S R 5E SLBM	* X:	X:	X:	X*	* X:	X:	X:	X*	* X:	X:	X:	X*	* X:	X:	X:	X*	X*
Sec 23 T 1S R 5E SLBM	* X:	X:	X:	X*	* X:	X:	X:	X*	* X:	X:	X:	X*	* X:	X:	X:	X*	X*
Sec 26 T 1S R 5E SLBM	* X:	X:	X:	X*	* X:	X:	X:	X*	* X:	X:	X:	X*	* X:	X:	X:	X*	X*
Sec 35 T 1S R 5E SLBM	* X:	X:	X:	X*	* X:	X:	X:	X*	* X:	X:	X:	X*	* X:	X:	X:	X*	X*
Sec 02 T 2S R 4E SLBM	* X:	X:	X:	X*	* X:	X:	X:	X*	* X:	X:	X:	X*	* X:	X:	X:	X*	X*
Sec 02 T 2S R 4E SLBM	*	:	:	:	*	:	:	:	*	:	:	:	*	:	:	:	*

SEGREGATION HISTORY*****

This Right was Segregated from 35-8820, with Appl#: , Approval Date: / / under which Proof is to be submitted.
This Right as originally filed:

FLOW IN	QUANTITY IN	WATER USES						
CFS	ACRE-FEET	IRRIGATED	STOCK	DOMESTIC	MUNICIPAL	MINING	POWER	OTHER
		ACREAGE	(ELUS)	(FAMILIES)		ACRE-FEET		
	397.21	131.87	41.0	1.0				

*****END OF DATA*****

Water Right Details for 35-8968

Utah Division of Water Rights

11/30/2018 1:36 PM

(WARNING: Water Rights makes NO claims as to the accuracy of this data.)

Water Right: 35-8968

Application/Claim:

Certificate:

Owners:

Name: G-Bar Ventures, LLC Address: 3819 South 2000 East Salt Lake City UT 84109	Interest:
Remarks: 20% of 115 acres	
Name: Charles F Jr and Nadine F Gillmor Address: UT	Interest:
Remarks: 25% of 115 acres	
Name: Florence Gillmor Address: c/o James B. Lee, Personal Representative 201 South Main #1800 Salt Lake City UT 84111	Interest:
Remarks: 50% of 115 acres	
Name: Florence J. Gillmor Foundation Address: James B. Lee, President 201 South Main #1800 Salt Lake City UT 84111	Interest:
Remarks: 5% of 115 acres	
Name: Angus Pace Address: UT	Interest:
Remarks: 3.5/22 of 30.8 acres	
Name: Dwayne Pace Address: UT	Interest:
Remarks: 5/22 of 30.8 acres	
Name: Ella Pace Address: UT	Interest:
Remarks: 3.5/22 of 30.8 acres	
Name: Gale Pace Address: UT	Interest:
Remarks: 2.5/22 of 30.8 acres	

Owners:

Name: Joan Pace
Address: UT

Interest:

Remarks: 5/22 of 30.8 acres

Name: Kathleen Pace
Address: UT

Interest:

Remarks: 2.5/22 of 30.8 acres

Name: Resort Center Associates, LLC
Address: 90 South 400 West, Suite 360
Salt Lake City, UT 84101

Interest:

Remarks: 2.25 acres

Name: Silver Creek Irrigation Company
Address: UT

Interest:

Remarks: mutual association; see following entries

General:

Type of Right: Decree Source of Info.: Decree Status:

Quantity of Water: 2.1 cfs OR 444.15 ACFT

Source: Seepage Water

County: Summit

Common Description: East of Park City

Proposed Det. Book: 35-

Map: 20-27

Pub. Date:

Land Owned by Appl.: Yes

County Tax Id#:

Distribution System:

Dates:

Filing:

Filed:

Priority:

Advertising:

Publication Began:

Publication End:

Newspaper:

Protest End Date:

Protested: Not Protested

Hearing Held:

Approval:

State Eng. Action:

Action Date:

Recon. Req. Date:

Recon. Req Action:

Certification:

Proof Due Date:

Extension Filed Date:

Election or Proof:

Election/Proof Date:

Certificate Date:

Lapsed, Etc. Date:

Lapsed Letter

Wells:

Prov. Well Date:

Well Renov. Date:

Points of Diversion:

Points of Diversion - Surface:

Stream Alteration Required:

(1) 0 ft. 0 ft. from corner, Sec 10 T 1S R 4E SLBM	Diverting Works:	Source:
Elevation:		UTM:
(2) 0 ft. 0 ft. from corner, Sec 14 T 1S R 4E SLBM	Diverting Works:	Source:
Elevation:		UTM:
(3) 0 ft. 0 ft. from corner, Sec 15 T 1S R 4E SLBM	Diverting Works:	Source:
Elevation:		UTM:
(4) 0 ft. 0 ft. from corner, Sec 22 T 1S R 4E SLBM	Diverting Works:	Source:
Elevation:		UTM:
(5) 0 ft. 0 ft. from corner, Sec 23 T 1S R 4E SLBM	Diverting Works:	Source:
Elevation:		UTM:
(6) 0 ft. 0 ft. from corner, Sec 26 T 1S R 4E SLBM	Diverting Works:	Source:
Elevation:		UTM:
(7) 0 ft. 0 ft. from corner, Sec 35 T 1S R 4E SLBM	Diverting Works:	Source:
Elevation:		UTM:
(8) 0 ft. 0 ft. from corner, Sec 02 T 2S R 4E SLBM	Diverting Works:	Source:
Elevation:		UTM:

Water Uses:

Water Uses - Group Number: 200081

Water Rights Appurtenant to the following use(s):

35-8820(DEC), 35-8968(DEC), 35-10074(DEC), 35-12946(DEC),

Water Use Types:

Irrigation-Beneficial Use Amount: 0.00001 Group Total: 10.52 Period of Use: 04/01 to 10/31

Comments:

Place Of Use:	North West				North East				South West				South East				Section Totals
	NW	NE	SW	SE													
Sec 15 T 1S R 4E SLBM					X	X	X	X									
Sec 22 T 1S R 4E SLBM					X	X	X	X									
Group Acreage Total :																	

Water Uses - Group Number: 209628

Water Rights Appurtenant to the following use(s):

35-8968(DEC),

Water Use Types:

Irrigation-Beneficial Use Amount: 148.05 acres Group Total: 148.05 Period of Use: 03/01 to 11/01
 Comments:

Place Of Use:	North West				North East				South West				South East				Section Totals
	NW	NE	SW	SE													
Sec 10 T 1S R 4E SLBM																X	
Sec 11 T 1S R 4E SLBM											X						
Sec 14 T 1S R 4E SLBM									X	X	X	X					
Sec 15 T 1S R 4E SLBM					X	X	X	X					X	X	X	X	
Sec 22 T 1S R 4E SLBM					X	X	X	X					X	X	X	X	
Sec 23 T 1S R 4E SLBM	X	X	X	X					X	X	X	X					
Sec 26 T 1S R 4E SLBM	X	X	X	X					X	X		X			X		
Sec 35 T 1S R 4E SLBM		X		X	X		X							X		X	
Sec 02 T 2S R 4E SLBM		X		X	X	X	X			X							
Group Acreage Total :																	

Use Totals:

Irrigation sole-supply total: 148.05 acres for a group total of: 158.57 acres

Other Comments:

Weber River Decree No. 968
 Priority date nor point of diversion shown in W.R. Decree
 115 acres in Secs 22,23,26,35 T1S R4E and Sec 2 T2S R4E owned by Gillmor,
 Chas.F. & Edward L. 45 acres in Secs. 10,14,15 T1S R4E, owned by Pace, Alma.
 40 acres in Secs 10,15,22 T1S R4E, owned by Pace, J.E.
 Isn't this decreed right supplemental to 820, 821, 822 and 823?

Segregation History:

This Right was Segregated from: 35-8968, with Appl.#., Approval Date: / / under which Proof is to be submitted.

as originally filed:	Flow in CFS	AND/OR/BLANK	Quantity in Acre-Feet	Water Uses						
				Irrigated Acreage	Stock (ELUs)	Domestic (EDUs)	Acre-Feet			
							Municipal	Mining	Power	Other
	2.22		600.0	200.0						

The following Water Rights have been Segregated from 35-8968:

(1) WrNum: 35-10074	[0.12]		[27.6]	[9.2]						
AppNum:										
Name: Atkinson Special Service District										
Filed: 08/21/1995										
Commena19201 (originally 10.52 acres, but 1.32 acres were from 35-8820)										
(2) WrNum: 35-10525			[128.25]	[42.75]						
AppNum:										
Name: Park City										
Filed: 11/12/1997										
Commena21683										

Segregation History:

This Right was Segregated from: 35-8968, with Appl.#., Approval Date: / / under which Proof is to be submitted.

as originally filed:	Flow in CFS	AND/ OR/ BLANK	Quantity in Acre-Feet	Water Uses						
				Irrigated Acreage	Stock (ELUs)	Domestic (EDUs)	Acre-Feet			
							Municipal	Mining	Power	Other
	2.22		600.0	200.0						

The following Water Rights have been Segregated from 35-8968:

This Right as currently calculated:	Flow in CFS		Quantity in Acre-Feet	Water Uses						
				Irrigate Acreage	Stock (ELUs)	Domestic (EDUs)	Acre-Feet			
							Municipal	Mining	Power	Other
	2.1		444.15	148.05						

Water Right Details for 35-5828

Utah Division of Water Rights

11/29/2018 5:06 PM

(WARNING: Water Rights makes NO claims as to the accuracy of this data.)

Water Right: 35-5828

Application/Claim:

Certificate:

Changes:

a17205 (Filed: 08/06/1992) Withdrawn

Owners:

Name: Nadine F. Gillmor
Address: P O Box 130
2359 East Weber Canyon Road
Oakley UT 84055 Interest: 100%
Remarks:

General:

Type of Right: Decree Source of Info.: Ownership Segregation Status:
Quantity of Water: 0.28 cfs OR 19.29 ACFT
Source: Silver Creek, Dorrity & Pace Springs
County: Summit
Common Description:
Proposed Det. Book: 35- Map: 20-27 Pub. Date:
Land Owned by Appl.: Yes County Tax Id#:
Distribution System:

Dates:

Filing:
Filed: Priority: / /1861
Advertising:
Publication Began: Publication End: Newspaper:
Protest End Date: Protested: Not Protested Hearing Held:
Approval:
State Eng. Action: Action Date:
Recon. Req. Date: Recon. Req Action:
Certification:
Proof Due Date: Extension Filed Date:
Election or Proof: Election/Proof Date:
Certificate Date: Lapsed, Etc. Date: Lapsed Letter
Wells:
Prov. Well Date: Well Renov. Date:

Points of Diversion:

Points of Diversion - Surface:
Stream Alteration Required: No
(1) N 330 ft. E 1320 ft. from SW corner, Sec 03 T 2S R 4E SLBM
Diverting Works: Pace and Homer Ditch Source: Silver Creek
Elevation: UTM: 458818.909, 4502163.743

Water Uses:

Water Uses - Group Number: 209516

Water Rights Appurtenant to the following use(s):

35-5828(DEC), 35-8820(DEC), 35-11980(DEC), 35-11981(DEC), 35-13194(DEC),
35-13202(DEC),

Water Use Types:

Irrigation-Beneficial Use Amount: 6 acres Group Total: 149.76 Period of Use: 03/01 to 11/01
Comments:

Stock Water-Beneficial Use Amount: 30 ELUs Group Total: 124 Period of Use: 01/01 to 12/31
Comments:

Domestic-Beneficial Use Amount: 0.5 EDUs Group Total: 1 Period of Use: 01/01 to 12/31
Comments:

Place Of Use:	North West				North East				South West				South East				Section Totals
	NW	NE	SW	SE													
Sec 10 T 1S R 4E SLBM																X	
Sec 14 T 1S R 4E SLBM									X	X	X	X					
Sec 15 T 1S R 4E SLBM					X	X	X	X					X	X	X	X	
Sec 22 T 1S R 4E SLBM					X	X	X	X					X	X	X	X	
Sec 23 T 1S R 4E SLBM	X	X	X	X					X	X	X	X					
Sec 26 T 1S R 4E SLBM	X	X	X	X					X	X	X	X	X		X		
Sec 35 T 1S R 4E SLBM					X	X	X	X									
Sec 02 T 2S R 4E SLBM	X	X	X	X	X	X	X	X									
Group Acreage Total :																	

Use Totals:

Irrigation sole-supply total: 6 acres	for a group total of: 149.76 acres
Stock Water sole-supply total: 30 ELUs	for a group total of: 124 ELUs
Domestic sole-supply total: 0.5 EDUs	for a group total of: 1 EDUs

Other Comments:

Weber River Decree No. 820 PDET No 147 a,b,c,d,e,f Page 44
Silver Creek Irrigation Co., Mutual Assoc: Chas F. & Edward L. Gilmor 339 ac;
Alma & J.E. Pace 276.0 acres; Cecil W. Stanley 20 ac; Total 635 acres.
See Right 968 for Seepage right. Diverted from Silver Creek, Dorrity Spring;
Pace Spring and Lower Pace Springs also domestic and stock water from the Pace
Spring and Lower Pace Springs to be used from January 1 to December 31.

Segregation History:

This Right was Segregated from: 35-8820, with Appl.#., Approval Date: / / under which Proof is to be submitted.

as originally filed:	Flow in CFS	AND/ OR/ BLANK	Quantity in Acre-Feet	Water Uses						
				Irrigated Acreage	Stock (ELUs)	Domestic (EDUs)	Acre-Feet			
							Municipal	Mining	Power	Other
This Right as currently calculated:	Flow in CFS		Quantity in Acre-Feet	Water Uses						
				Irrigate Acreage	Stock (ELUs)	Domestic (EDUs)	Acre-Feet			
							Municipal	Mining	Power	Other

Water Right Details for 35-5842

Utah Division of Water Rights

11/29/2018 5:14 PM

(WARNING: Water Rights makes NO claims as to the accuracy of this data.)

Water Right: 35-5842

Application/Claim:

Certificate:

Changes:

a17320 (Filed: 04/13/1993) Withdrawn

Owners:

Name: Nadine F Gillmor
Address: PO Box 130
Oakley UT 84055

Interest: 100%

Remarks:

General:

Type of Right: Decree Source of Info.: Proposed Determination Status:

Quantity of Water: 0.75 ACFT

Source: Silver Creek, Dorrity & Pace Springs

County: Summit

Common Description:

Proposed Det. Book: 35-

Map: 20-27

Pub. Date:

Land Owned by Appl.: Yes

County Tax Id#:

Distribution System:

Dates:

Filing:

Filed:

Priority: / /1861

Advertising:

Publication Began:

Publication End:

Newspaper:

Protest End Date:

Protested: Not Protested

Hearing Held:

Approval:

State Eng. Action:

Action Date:

Recon. Req. Date:

Recon. Req Action:

Certification:

Proof Due Date:

Extension Filed Date:

Election or Proof:

Election/Proof Date:

Certificate Date:

Lapsed, Etc. Date:

Lapsed Letter

Wells:

Prov. Well Date:

Well Renov. Date:

Points of Diversion:

Points of Diversion - Surface:

Stream Alteration Required:

(1) N 330 ft. E 1320 ft. from SW corner, Sec 03 T 2S R 4E SLBM

Diverting Works: Pace and Homer Ditch

Source: Silver Creek

Elevation:

UTM: 458818.909, 4502163.743

Water Uses:

Water Uses - Group Number: 206599

Water Rights Appurtenant to the following use(s):

35-5842(DEC),

Water Use Types:

Irrigation-Beneficial Use Amount: 0.25 acres Group Total: 0.25 Period of Use: 03/01 to 11/01

Comments:

Place Of Use:	North West				North East				South West				South East				Section Totals
	NW	NE	SW	SE													
Sec 02 T 2S R 4E SLBM		X		X	X	X	X			X							
Group Acreage Total :																	

Use Totals:

Irrigation sole-supply total: 0.25 acres for a group total of: 0.25 acres

Segregation History:

This Right was Segregated from: 35-8820, with Appl.#., Approval Date: / / under which Proof is to be submitted.

as originally filed:	Flow in CFS	AND/OR/BLANK	Quantity in Acre-Feet	Water Uses						
				Irrigated Acreage	Stock (ELUs)	Domestic (EDUs)	Acre-Feet			
				Municipal	Mining	Power	Other			

This Right as currently calculated:	Flow in CFS		Quantity in Acre-Feet	Water Uses						
				Irrigate Acreage	Stock (ELUs)	Domestic (EDUs)	Acre-Feet			
				Municipal	Mining	Power	Other			

Water Right Details for 35-1007

Utah Division of Water Rights

11/29/2018 5:14 PM

(WARNING: Water Rights makes NO claims as to the accuracy of this data.)

Water Right: 35-1007

Application/Claim: A29723

Certificate:

Owners:

Name: FAE Holdings 390006R Address: 2750 East Creek Crossing Lane Salt Lake City, UT 84121 Interest: 85%
Remarks:
Name: FAE Holdings 391733R Address: 2750 East Creek Crossing Lane Salt Lake City, UT 84121 Interest: 15%
Remarks:

General:

Type of Right: Application To Appropriate Quantity of Water: 0.015 CFS	Source of Info.: Application to Appropriate	Status: No Proof Required
Source: Underground Water Well County: Summit		
Common Description: Proposed Det. Book: 35-	Map:	Pub. Date:
Land Owned by Appl.:	County Tax Id#:	
Distribution System:		

Dates:

Filing: Filed: 02/17/1958 Priority: 02/17/1958		
Advertising: Publication Began: Protest End Date:	Publication End: Protested: Not Protested	Newspaper: Hearing Held:
Approval: State Eng. Action: Approved Recon. Req. Date:	Action Date: 02/28/1958 Recon. Req Action:	
Certification: Proof Due Date: Election or Proof: Certificate Date:	Extension Filed Date: Election/Proof Date: Lapsed, Etc. Date:	Lapsed Letter
Wells: Prov. Well Date:	Well Renov. Date: 11/21/2007	

Points of Diversion:

Points of Diversion - Underground:

(1) N 283 ft. W 497 ft. from SE corner, Sec 27 T 3N R 6E SLBM
 Well Diameter: 6 in. Depth: 45 to ft. Year Drilled: Well Log: Well Id#: Elevation: UTM: 479039.945, 4534242.835 (NAD83)
 Source/Cmnt: OLD N308 W645 SE S27 T3N R6E BSL

Points of Diversion - Abandoned:

(1) N 308 ft. W 645 ft. from SE corner, Sec 27 T 3N R 6E SLBM
 Well Diameter: 6 in. Depth: 45 to ft. Year Drilled: Well Log: Well Id#: Elevation: UTM: 478994.835, 4534250.455 (NAD83)
 Source/Cmnt: NEW N283 W497 SE S27 T3N R6E BSL

Water Uses:

Water Uses - Group Number: 200076

Water Rights Appurtenant to the following use(s):

35-1007(NPR),

Water Use Types:

Irrigation-Beneficial Use Amount: 0.25 acres Group Total: 0.25 Period of Use: 04/01 to 10/31
 Comments:

Stock Water-Beneficial Use Amount: 40 ELUs Group Total: 40 Period of Use: 04/01 to 11/01
 Comments:

Domestic-Beneficial Use Amount: 1 EDUs Group Total: 1 Period of Use: 01/01 to 12/31
 Comments:

Place Of Use:	North West				North East				South West				South East				Section Totals
	NW	NE	SW	SE													
Sec 27 T 3N R 6E SLBM																0.25	0.25
Group Acreage Total :																0.25	

Place of Use Stock:

	North West				North East				South West				South East				
	NW	NE	SW	SE													
Sec 27 T 3N R 6E SLBM																	X

Use Totals:

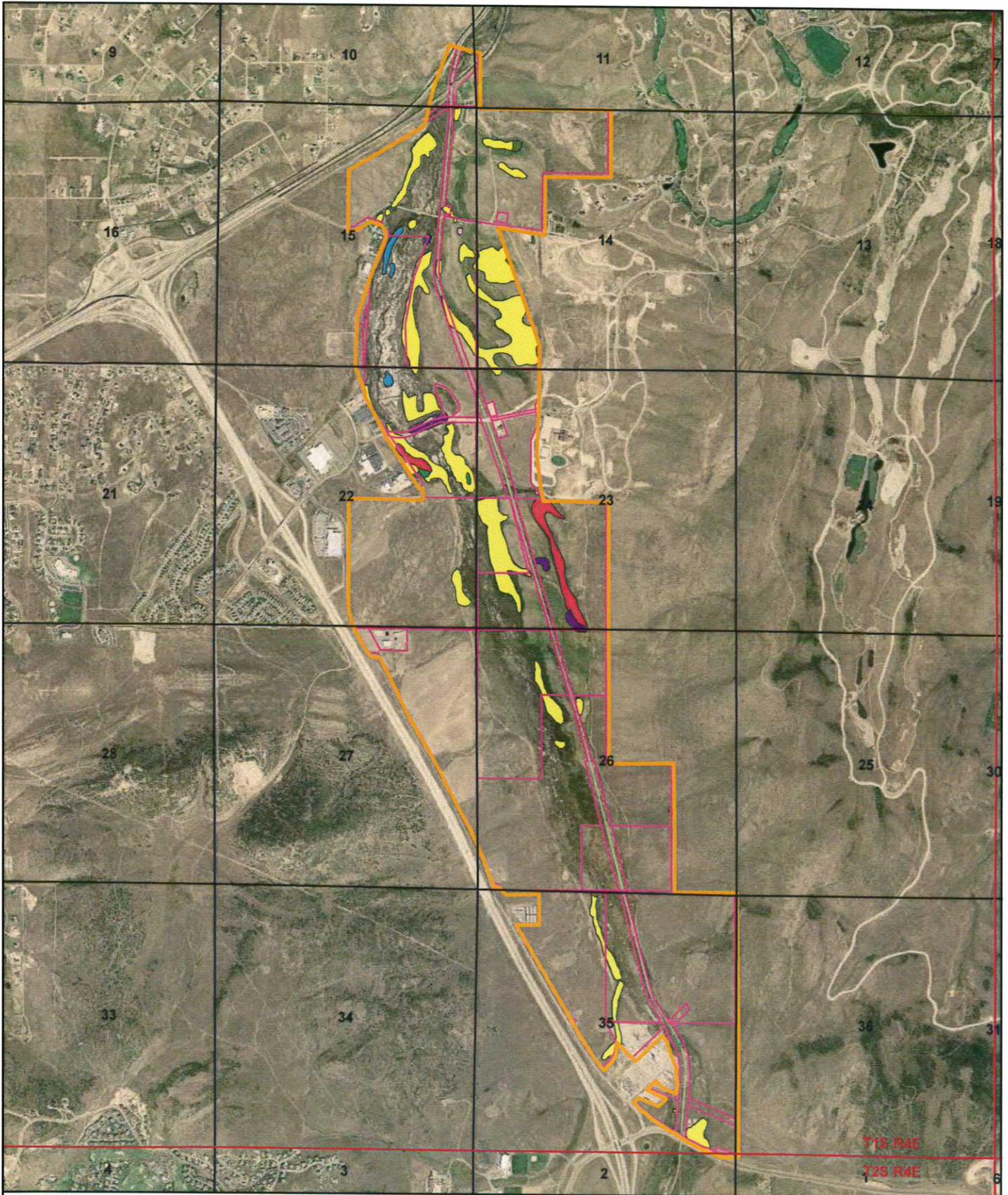
Irrigation sole-supply total: 0.25 acres	for a group total of: 0.25 acres
Stock Water sole-supply total: 40 ELUs	for a group total of: 40 ELUs
Domestic sole-supply total: 1 EDUs	for a group total of: 1 EDUs

Appendix A-10

10a: Fig3 _1829606 Redacted Lower Silver Creek Data Summary Report

10b: LSC_Draft_Wetland_Delineation

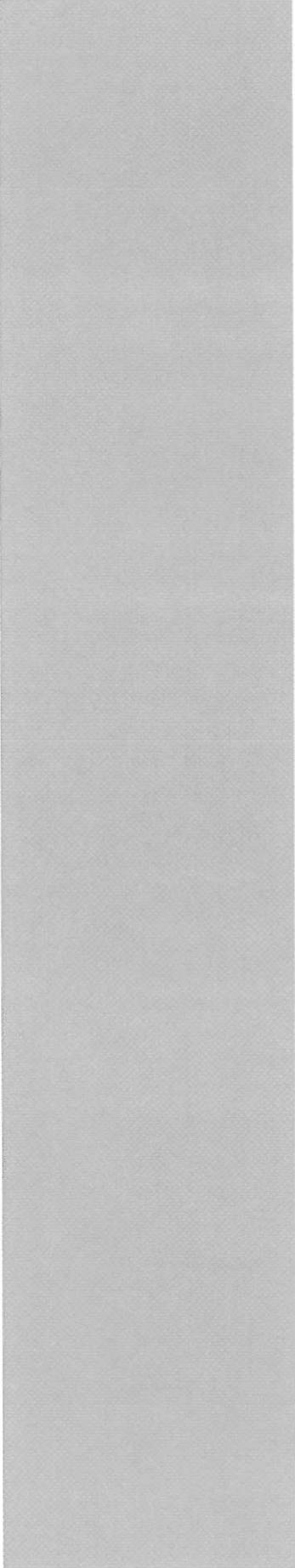
10c: Fig8__1829606 Redacted Lower Silver Creek Data Summary Report-2



- Legend**
- Project Area Boundary
 - Parcels
 - Townships
 - Sections
 - PAB/EMF
 - PABFh
 - PABFx
 - PEMA
 - PEMC
 - PEMCh
 - PUSA
 - PUSAh
 - U
 - PEMF



Project: LOWER SILVER CREEK			
Source: AGRC Image Server >>> Image.state.ut.us National Wetlands Inventory and Tt Field Efforts			
County: Summit	State: Utah	Location: T. 18&2 S., R. 4 E.	Date: 12/20/2007
PRJ: NAD83 State Plane UT N 4301 FT			
FIGURE 3 NWI Wetlands			
TETRA TECH, INC.			



Lower Silver Creek Draft Wetland Delineation

Park City, Utah

Prepared for:

US Environmental Protection Agency

*U.S. EPA Region 8 (EPR-SR)
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Tetra Tech Project No. 1157520046*

March 18, 2008

Executive Summary

This report summarizes the Lower Silver Creek wetland delineation performed by Tetra Tech for the US Environmental Protection Agency from August through September, 2007. Determination of the extent of wetland communities within the Lower Silver Creek drainage was necessary in order to assess US Army Corps of Engineers (USACE) permitting requirements with respect to clean-up actions aimed at removing mine tailings accumulations.

The Lower Silver Creek project area encompasses 1,875 acres. It is located southeast of Park City, Utah, between Interstate 80 and Highways 40 and 278. The area is divided into numerous privately owned parcels. The Rail Trail State Park traverses the valley from south to north. Now a highly used recreational trail, it was once the site of a Union Pacific rail bed. Historically, tailings mills were located in the Lower Silver Creek floodplain.

Prior to and during the delineation effort, baseline data sources were reviewed. Climate and precipitation records, soil survey data, previous delineations, and information on land ownership and associated water rights were compiled to assist with field data interpretations.

Delineation protocol followed the USACE Routine Wetland Determination. A total of 50 sample plots were placed throughout the project area to test for the occurrence of wetland hydrology, hydrophytic vegetation, and hydric soils. If all three of these wetland indicators were found, the area was classified as a wetland and the boundaries were marked with pin flags and recorded with a GPS device. Numerous informal test pits were also used to connect wetland community boundaries.

Waters of the US (WUS) were also delineated. In addition to the Lower Silver Creek channel, irrigation ditches were investigated for whether their source of hydrology would qualify them for a WUS classification. Culverts and points of diversions were marked throughout the extensive irrigation system to document connectivity.

In total, 493.6 acres of wetlands were delineated, amounting to 26 percent of the Lower Silver Creek project area. Delineations encompassed most of the valley bottom west of the Rail Trail, as well as portions of the eastern side of the project area. Wetland communities found in the valley bottom were dominated by Baltic rush (*Juncus balticus*). Species compositions changed moving eastward to include other dominant wetland indicator species such as blue-joint reed grass (*Calamagrostis canadensis*), redtop (*Agrostis stolonifera*), clustered field grass (*Carex praegracilis*), and Nebraska sedge (*Carex nebrascensis*). Waters of the U.S. totaled 15.8 miles. An additional 4.1 miles of Non-wetland waters of the U.S. were also identified.

This draft wetland delineation report will be submitted to the USACE for their review and final jurisdictional determination.

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1.0 INTRODUCTION

Tetra Tech, Inc. has been tasked with delineating the boundaries of wetland communities within the Lower Silver Creek project area on behalf of the United States Environmental Protection Agency (EPA). This report documents findings of the wetland survey effort.

1.1 Project Description

The Lower Silver Creek drainage is currently under review by the EPA to determine possible clean-up actions aimed at addressing metal contamination resulting from historic mining practices. A secondary objective of this EPA review was to identify the jurisdictional wetlands and waters of the U.S. (WUS) within the Lower Silver Creek project area. As this area is known to have high wetland potential, comprehensive wetland delineation was required in order to assess wetland considerations associated with clean-up actions. Silver Creek is a tributary to the Weber River, which flows to the Great Salt Lake. This connectivity denotes Silver Creek and the associated wetlands as jurisdictional.

Subsequent to US Army Corps of Engineers (USACE) jurisdictional verification, this report will be used in assessing the extent of potential impacts to wetlands resulting from clean-up actions, and to determine USACE permitting requirements associated with specific clean-up procedures. Land ownership in lower Silver Creek is divided amongst several private entities, thus, the wetland delineation results are presented for the Lower Silver Creek drainage as a whole and by ownership parcel. Access agreements were compiled prior to the start of field work.

At one time re-named Poison Creek by Park City residents, Silver Creek has long been known for its association with historic mining operations. The Big Four Mill, once located west of the existing Promontory Trailhead, began processing tailings of zinc, lead, and silver in 1916. The Union Pacific Railway stop of Atkinson grew into a town, housing workers from the tailings mills and railways located in the Lower Silver Creek valley. It was reported that 1,000,000 tons of tailings had accumulated along Lower Silver Creek, stretching for 3.5 miles and averaging 30 inches deep (Elliot 1995). It is primarily the consequences of these historic tailings operations and mining activities upstream that warrant this environmental clean-up analysis.

1.2 Project Area

Silver Creek begins in the Wasatch Mountains above the town of Park City, Utah, and lies within the Weber River Basin. The Lower Silver Creek project area is situated east of Highway 40, bounded by Highway 248 on its southern end and Interstate 80 to the north (**Figure 1**). It is located in Township 1 South Range 4 East, in Sections 10, 11, 15, 14, 22, 23, 27, 26, and 35, with approximately 500 feet occurring in Section 2 of Township 2 South Range 4 East. The study area ranges in width from 2,100 feet wide at the southern boundary to 3,800 feet wide near Pivotal Promontory Road, encompassing approximately three square miles or 1,875 acres.

Topographically, the floodplain containing the creek is relatively flat. The eastern side gradually rises in the form of grassy meadow benches and sagebrush toe-slopes. Sagebrush dominated toe-slopes also rise along the western edge. The Rail Trail State Park runs north-south, paralleling the valley bottom between the floodplain and eastern rise. It was once the Union Pacific Railroad rail bed.

1.3 Definitions and Applicable Statutes and Regulations

The definitions of wetlands and waters of the U.S. considered in this analysis are provided below. State of Utah regulations governing stream alterations are also discussed. Note that activities on a CERCLA (Comprehensive Environmental Response, Compensation and Liability Act of 1980) site do not require permitting under Section 404 or Section 10 if activities are under the direction of the EPA.

Wetlands are defined as:

Those areas that are inundated or saturated by surface or ground water 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. Wetlands generally include swamps, marshes, bogs, and similar areas (Federal Register 1982).

As defined in 33 CFR Part 328, waters of the U.S. are navigable and/or interstate waterways or tributaries to them, including adjacent wetlands. Section 404 permits are required when discharges of dredged or fill material would be placed in these waters. The Clean Water Act was enacted to protect the Nation's waters; within the Act, Section 404 addresses unregulated discharges of dredged or fill material. Under this Section, the USACE reviews proposed projects with respect to their potential impacts to wetlands and may issue permits allowing the regulated discharge of dredged or fill material into wetlands and waters of the U.S. with stipulations regarding required mitigation and reclamation.

Section 10 of the Rivers and Harbors act of 1899 also requires permitting for any work in or over navigable waters of the US which may affect the course, location, condition, or capacity of such waters. Activities under Section 10 include excavation.

Regulatory Branch Memorandum 2004-03 (February 13, 2004) provides guidance regarding "leaky ditch" wetlands, in that wetlands created exclusively by leakage from irrigation ditches excavated in areas otherwise classified as upland are not jurisdictional. As well, these irrigation ditches would also not qualify as waters of the U.S.

Regulatory Branch Memorandum 2007-01, dated March 13, 2007, provides jurisdictional guidance regarding irrigated wetlands. Following field review of the three wetland criteria, if an area under the influence of irrigation appears to be a wetland, the first method for verification would be discontinuing the application of irrigation water. If the area is solely sustained as a wetland by irrigation, the area would not be considered jurisdictional. Cessation may be required to occur for at least two growing seasons. If this method is not practical, a review of NRCS land classification and soil surveys could reveal whether the area is a prior converted wetland or a farmed wetland pasture, or whether hydric soils have been mapped for the area in question. Also, a review of aerial photos, previous delineations, federal and state agency records, irrigation districts, or other pertinent data would be used for decision purposes. If the three wetland indicators of soils, vegetation, and hydrology have been documented, and a source of natural hydrology is identifiable, then the irrigated area would be considered a wetland. However, if it is difficult to determine the relative contribution of irrigation versus natural hydrology, then "normal circumstances" are considered. This final determination depends on whether site conditions, such as topography, appear to support circumstances where a wetland would likely occur; a jurisdictional decision would be based on this evidence.

The Utah State Engineer's Office also regulates activities with the potential to affect natural streams under the Stream Alteration Program. Individual Stream Alteration Permits are issued by the State engineer following review of a project's potential to impact water rights, recreation use, aquatic wildlife, and the stream's ability to conduct high flows. A Stream Alteration Permit has an open comment period of 20 days.

2.0 PRE-FIELD DATA REVIEW

Prior to and during field work, existing sources of information relevant to the project area were reviewed. Sources included aerial photographs, topographic maps, Summit County Soil Survey data, National Wetland Inventory (NWI) maps, previous wetland delineations, precipitation and climatic records (WETS tables), irrigation use, and historic and current water rights.

2.1 Climate and Precipitation

Silver Creek is a tributary of the Weber River, and is located within the Upper Weber River Subbasin of the larger Weber-Ogden River Basin. In the semi-arid climate of this region, evapotranspiration exceeds precipitation throughout the year except in winter months (Stonely 2004). Precipitation in the basin fluctuates widely both seasonally and from year-to-year, and as a consequence total amounts rarely equal the average (Stonely 2004).

In order to characterize the existing hydrologic conditions at the study site, Tetra Tech acquired historic climate records (years 1971 to 2000) in the form of a WETS table published by the Natural Resources Conservation Service (NRCS). WETS refers to the program used to compile data from approximately 8,000 climate stations in the National Weather Service network. The data is typically used in wetland studies to define the normal range of monthly precipitation and the normal range for the growing season for a given area over a given time. The table was acquired from the Wanship Dam climate station, located approximately 7.5 kilometers (3.7 miles) northeast of the study site (**Appendix A**). In addition, recent climate records for Wanship Dam (years 2002 to 2007) were acquired from the Utah Climate Center (<http://climate.usurf.usu.edu/>) (**Appendix B**).

2.1.1 Historic Annual Precipitation

Average temperatures (1971 to 2000) at the Wanship Dam station range from 23.5° Fahrenheit (F) in January to 66.5° F in July and the typical growing season spans from May through September. Average annual precipitation (1971 to 2000) at this station is 16.53 inches, with sixty percent of that typically falling in winter months (October through April). Annual precipitation for the three years preceding this delineation totaled 18.54 inches (2004), 17.43 inches (2005), and 18.49 inches (2006). These values were within the normal annual range as reported in the WETS table (14.47 to 18.63 inches). From January through September of 2007 the precipitation at this station totaled 9.81 inches, which was 81 percent of the normal 12.17 inches for this nine month period.

2.1.2 Historic Monthly Precipitation

At the Wanship Dam station, normal monthly precipitation (1971 to 2000) for the three months prior to and during the months of the field investigation averaged:

- June, 1.01 inches
- July, 1.07 inches
- August, 1.03 inches
- September, 1.48 inches.

Precipitation for these months in 2007 totaled:

- June, 0.75 inches
- July, 1.20 inches

- August, 1.22 inches
- September, 2.58 inches

The totals for three of these months, as reported in the WETS table, were within the normal ranges of:

- 0.44-1.44 inches (June),
- 0.57-1.43 inches (July),
- 0.42-1.40 inches (August).

The exception was the month of September 2007, during which total precipitation was greater than the normal range of 0.80 to 1.91 inches.

Silver Creek stream flow levels were acquired for the USGS gaging station (number 10129900) (labeled as water right diversion station 8803 on **Figure 4**, in the northeast quarter section of 15). The station is located at the north end of the project area and thus measures stream flow exiting the site. Stream flow values averaged over a five year period (October 2001 through September 2006) indicate that average monthly water levels (in cubic feet per second) were greatest in:

- March (12 ft³/s),
- April (15 ft³/s), and
- May (10 ft³/s)

And lowest in:

- July (2.2 ft³/s),
- August (2.1 ft³/s), and
- September (2.1 ft³/s).

Field investigations were conducted in months when stream flow is typically lowest at this gaging station (August-September). Provisional data from the station indicated that stream flow preceding and during the months of the 2007 field investigations were lower than the five year average (July 1.2 ft³/s, August 2.0 ft³/s, September 1.4 ft³/s). Brooks et al. (1998) suggested that the peak flow in March and April is a result of low-elevation snowmelt, and the smaller peak in May is a result of high elevation snowmelt. Note that the water flow at this gaging station is affected by discharges from a water treatment facility upstream, although peak discharges apparently are concurrent with the peak of low elevation snowmelt (Brooks et al. 1998).

2.1.3 Drought Conditions

At broader spatial and temporal scales, this region of Utah has recently experienced drought conditions. A long-term drought occurred across the state of Utah from 1999 to 2004 (UDWR 2007a). During this drought period, precipitation in the Weber-Ogden River Basin ranged from approximately 73 percent (2001) to 100 percent (1999) of average (UDWRb 2007).

In 2005, the basin was wetter than average by 115 percent and was 95 percent of normal in 2006. For the 2007 year, the year-to-date precipitation (as of September 13, 2007) was 77 percent of average (NRCS 2007).

The Palmer Drought Index estimated by the National Oceanic and Atmospheric Administration (NOAA), on September 14, 2007 (<http://www.drought.unl.edu/dm/monitor.html>) classified the

northern mountains division of Utah with values of -3.0 to -3.9, which indicated severe drought conditions.

2.2 Soil Survey

Soil mapping data was obtained from the USDA NRCS website (<http://soildatamart.nrcs.usda.gov/>). Map unit descriptions were also obtained from Soil Survey and Interpretations Parleys Park Portion of Soil Survey of Summit Valley Summit County, Utah (USDA SCS 1977). A description of the mapping units known to occur within the project area is included below. Mapping unit names and acreages represented in the project area are shown in **Table 1**.

All soils within Lower Silver Creek are generally classified as occurring in areas with an average annual precipitation between 16 and 22 inches, a mean annual air temperature of 40 to 45 °F, and a frost-free season averaging 60 to 90 days. Map unit types found in the project area are displayed in **Figure 2** and described below.

The **Fewkes gravelly loam**, occurs on 2 to 8, and 8 to 15 percent slopes (map unit code 128), and is classified as fine-loamy, mixed, superactive, frigid Calcic Argixerolls. Fewkes gravelly loam is associated with NRCS Rangeland Site – Mountain Loam, with a dominant vegetation type of Mountain Big Sagebrush. This is a well-drained soil with a typical profile of gravelly loam and clay loam. It is formed from sandstone, quartzite, and shale alluvium material.

Wanship-Kovich loams, occur on 0 to 3 percent slopes (map unit code 179), and is defined as very deep, containing somewhat poor to poorly drained soils, known to occur within the floodplain of Lower Silver Creek. Soils contain a mix of sand-textured mine tailings that have been distributed over a dark silty clay loam (USDA SCS 1977). The texture in the upper two feet of a typical Wanship soil profile is loam. Taxonomic classification is fine-loamy over sandy or sandy-skeletal, mixed, superactive, frigid Aquic Cumulic Haploxerolls. The Kovich soil contains more clay, and is taxonomically classified as fine-loamy, mixed superactive, frigid lithic Endoaquolls.

The **Ayoub cobbly loam** occurs on 2 to 15 percent slopes (map unit code 106) and is a fine-loam, mixed, superactive, frigid typic Argixerolls. Ayoub cobbly loam is associated with the NRCS Rangeland Site – Mountain Gravelly Loam, which occurs in Mountain Big Sagebrush vegetation communities. This soil is associated with slope alluvium derived from andesite over weathered residuum on mountain slopes. It is considered well-drained, with a typical profile consisting of cobbly loam over gravelly clay loam.

The **Ayoub-Dunford-Melling** complex occurs on 15 to 30 (map unit code 107) and 30 to 60 (map unit code 108) percent slopes. This map unit is composed of 45 percent Ayoub (see taxonomy above), 20 percent Dunford (Fine-loamy, mixed, superactive, frigid, Pachic Argixerolls), and 20 percent Melling (Loamy-skeletal, mixed, superactive, frigid Lithic Argixerolls). Soils occur on mountain slopes and are derived from colluvium and alluvium, andesitic material. The typical Ayoub profile is the same as described above, the Dunford and Melling profiles are a cobbly loam over gravelly clay loam, differing in horizon thickness. However, the Dunford component is associated with NRCS Rangeland Site – Mountain Gravelly Loam (Oak). The Melling soil is associated with the NRCS Rangeland Site – Mountain Shallow Loam (Mountain Big Sagebrush).

The **Horrocks-Cutoff complex** occurs on 15 to 30 percent slopes (map unit 144) and consists of 60 percent Horrocks and similar soils, and 30 percent Cutoff and similar soils. This map unit is associated with the NRCS Rangeland Sites – Mountain Stony Loam and Upland Stony Loam, which are dominated by the vegetation community type Mountain Big Sagebrush. The Horrocks-Cutoff complex occurs on alluvial fans of all aspects and is considered well drained. Soils within the mapping unit vary by the amount and size of rock fragments. Textures in the Horrocks component are classified as very cobbly loam, whereas, the Cutoff soil is dominated by very gravelly loam.

Minor soil components of the project area include six acres of Melling-Ayoub-Rock outcrop complex on 10 to 30 percent slopes (map unit 158) in the northeast corner by the golf course, and Ant Flat loam, 2 to 8 percent slopes (map unit 102) comprises less than one acre in the northwest corner by the highway.

2.3 Local and National Wetland Inventories

Approximately 168.7 acres or nine percent of the Lower Silver Creek project area was previously delineated by the National Wetland Inventory (NWI) conducted by the US Fish and Wildlife Service (USFWS). Note that this inventory system does not represent a complete delineation of the entire project area. Acreages by wetland type are exhibited in **Figure 3** NWI Wetland Map and **Table 2**. This data was created by the Automated Graphic Reference Center (AGRC), Salt Lake City, UT January 2001. Ten different wetland codes were delineated in the NWI classification. These codes are presented in order of diminishing acreage.

PEMC, or palustrine, emergent, and seasonally flooded, was the most abundant type mapped in the project area in the NWI, totaling 138.7 acres. Code components of system, class, regime, and special categories from Table 2 are defined from the NWI Code Descriptions website as follows:

- *Palustrine (P)* “includes all non-tidal wetlands dominated by trees, shrubs, emergents, mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean derived salts is below 0.5 parts per trillion (ppt). Wetlands lacking such vegetation are also included if they exhibit all of the following characteristics: are less than 8 hectares (20 acres); do not have an active wave-formed or bedrock shoreline feature; low water at a depth less than 2 meters (6.6 feet) in the deepest part of the basin; or have a salinity due to ocean-derived salts of less than 0.5 ppt.
- *Emergent (EM)* is characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens. This vegetation is present for most of the growing season in most years. These wetlands are usually dominated by perennial plants.
- *Seasonally Flooded (C)* is defined as surface water presence for extended periods especially early in the growing season, but is absent by the end of the growing season in most years. The water table after flooding ceases is variable, extending from saturated to the surface to a water table well below the ground surface.”

The *Upland (U)* type was found in 15 acres mapped in the NWI. Uplands are defined by NWI as “All areas not defined as wetland or deepwater habitats.”

The *PEMCH* type, or palustrine, emergent, seasonally flooded, and diked/impounded, is only represented in six acres of the area delineated in the NWI. (P)(EM)(C) is as described above.

Diked / Impounded (h) is defined by NWI as, “created or modified by a man-made barrier or dam which obstructs the inflow or outflow of water.”

The *PUSA* type, or palustrine, unconsolidated shore, temporarily flooded, was delineated in NWI in only four acres near the water treatment facility. (P) is defined above. *Unconsolidated Shore (US)* is defined to “include all wetland habitats having three characteristics: (1) unconsolidated substrates with less than 75 percent area cover of stones, boulders, or bedrock; (2) less than 30 percent aerial cover of vegetation other than pioneering plants; and (3) any of the following water regimes: irregularly exposed, regularly flooded, irregularly flooded, seasonally flooded, temporarily flooded, intermittently flooded, saturated, seasonal-tidal, temporary-tidal, or artificially flooded. Intermittent or intertidal channels of the Riverine System or intertidal channels of the Estuarine System are classified as Streambed. Landforms such as beaches, bars, and flats are included in the Unconsolidated Shore class.” *Temporarily Flooded (A)* is defined as “surface water presence for brief periods during growing season, but the water table usually lies well below the soil surface. Plants that grow both in uplands and wetlands may be characteristic of this water regime.” *Semi permanently Flooded (F)* is defined as surface water that persists throughout the growing season in most years. When surface water is absent, the water table is usually at or very near the land's surface.

The PABFH PAB/EMF, PEMA, PABFX, PUSAH, PEMF types equal approximately one acre or less under the NWI delineation and are too minimal to be entirely defined.

When the 15.2 acres of upland is subtracted from the total NWI amount, 153.5 wetland acres were delineated in the NWI. Much of the Silver Creek floodplain was not included in the NWI inventory. Based on the NWI documented wetlands within the project area some generalizations are apparent. Close to Lower Silver Creek below the diversion ditch, areas are delineated by the NWI as PEMC. Along the eastern side, some areas adjacent to the ditch are defined as U, and a few locations are identified as wetlands formed by impoundments (PEMCH) (Figure 3).

2.4 Land Ownership

The 82 ownership parcels and the associated land owners are listed in **Table 3**. This report presents results for those parcels for which permission was granted to perform delineation.

2.5 Water Rights

Water rights were researched using historic hydrographic maps, points of use (POU), points of diversion stations (WRDVRT), water right diversions (WRPOD), and water right database sheets in order to assess the effect irrigation practices have had on wetlands in the project area. Also relevant are whether diversion patterns have contributed to soil contamination and which water rights may be affected during cleanup efforts. Details about locations, quantities, sources, ownership and uses are disclosed. Water rights information was obtained from the internet (<http://www.waterrights.utah.gov>) by querying property owners. Water right numbers were obtained from the water rights GIS shapefiles. **Appendix C through F** and **Figures 4 and 5** include water rights data.

2.5.1 Hydrographic Maps

Historic adjudication hydrographic maps were obtained from the State of Utah Water Rights website (<http://www.waterrights.utah.gov>) for approximately half of the sections in the project area. They include Sections 15, 22, 23, 26, and 35 (**Appendix C**) which cover the floodplain of the project area. Arrows primarily indicate northerly hydrologic flow. A date of 11-21-35 is found on the map displaying Section 15. Important details to note include:

- Silver Creek enters the project area on the eastern side of the railroad bed, crossing it northeast of the Union Lime and Stone Company and continues north through the middle of the project area to the western side of the floodplain in Section 22. Silver Creek then crosses back to the middle of the floodplain where it exits the project area in Section 15.
- The G. M. Pace Ditch runs along the eastern side of the project area. Multiple channels, labeled as seepage ditches distribute water to the north and northwest.
- The Pace and Homer Ditch enters the project area in the southwest part of the project area in section 35, just north of the Union Lime and Stone Company, where it is channeled across the floodplain into the G.M. Pace Ditch.
- Pace Spring Ditch enters just parallel to and north of the Pace and Homer Ditch and moves water north into Spring Ditch, which flows west of Silver Creek.
- In the middle of the northeast section of 15, a darkened area was distinguished as springs.

2.5.2 Water Rights Points of Use

Water right points of use (WRPOU) are the areas of irrigated acreage drawn as polygons from digitized hydrologic survey maps. Water right points of use were found in 583.5 acres or 31 percent of the Lower Silver Creek project area (**Table 4**). Polygons 1 through 6 are represented by six water right numbers 35-8820, 35-8968, 35-5706(a16060), 35-5828(a17205), 35-5842(a17320), and 35-10075(a19202), respectively. Polygon 7 at the southwest end is represented by water right 35-8818. Points of use are shown in **Figure 4** as color-coded and numbered polygons. The water right information derived from the State of Utah database associated with these areas is located in **Appendix E1**.

Water right number 35-8968 obtains 2.1 ft³/s or 444.2 acre-feet from seeps. Surface points of use and points of diversion associated with this right occur in every section of the project area except 27. Originally 2.22 ft³/s or 600 acre-feet were used to irrigate 200 acres of land. Water right number 35-10075 was segregated in 1995 for 0.12 ft³/s (27.6 acre-feet) on 9.2 acres. Further segregation occurred in 1997 when water right 35-10525 acquired 128.25 acre-feet for 42.75 acres.

Water right 35-8820 obtains 2.1 ft³/s (205.83 acre-feet) from Silver Creek and the Dorrity and Pace Springs, maintaining a priority date of 1861. A diversion point occurs immediately outside the project area in Section 35. Municipal Building Authority of Park City withdrew water right number 35-5706 (change number a16060) of 397 acre-feet from Silver Creek and Pace Spring and 363 acre-feet from a well. This water right was originally owned by J.E. Pace as a member of the Silver Creek Irrigation Company with a priority date of 1861. Park City seeks to change the water right associated with the well from irrigation to municipal uses. Water rights 35-5828 (a17205), 35-5842 (a17320), and 35-10075 (a19202) are listed as unapproved.

Water right points of use are located in approximately one-third of the project area. Much of these water rights are dated back to 1861. Irrigation ditches using water from Silver Creek and other tributary springs have historically altered natural hydrology and wetland communities in the project area.

2.5.3 Water Right Diversion Stations

Water right diversion stations (WRDVRT) are physical structures used for the control of water for irrigation purposes. The diversion information provided in this report was obtained during field visits by the Utah Division of Water Resources staff. There are 16 diversion stations in the project area (**Figure 4**). Photos are included as **Appendix D** and copies from the State of Utah Water Rights webpage are in **Appendix E1 & E2**. Based on field observations and water rights database photos, the more significant are Station ID #8886-1115-Mountain Regional Well 10, #8781-0248-Homer Spring, #8802-0269-Pond, #8803-0270-USGS Gage, #8806-0273-Treatment Plant Discharge, and #8813-0280-Pond (presently dry).

2.5.4 Water Right Points of Diversion

The water rights points of diversions are generated from basic information in the tabular database. Locations in the coverage have been computed from information submitted with water right applications. There are 38 water rights points of diversion within the project area (**Table 6** and **Figure 4**).

Twelve water rights are listed as approved (a) or perfected (p: proof filed, right certificated), the remaining 27 have a terminated status. Printouts of the 12 active water rights are included in **Appendix E2**, are shown at the top of **Table 6**, and have been highlighted in red in **Figure 4**. There are three categories of water rights listed in the project area; spring, surface, and underground. Spring is defined as a “concentrated discharge of ground water coming out at the surface as flowing water.” Surface points of diversion are classified as “streams, rivers, creeks, and any water above ground.” Underground is specified as “wells, tunnels, sumps, and underground drains.”

Water right number 35-10074, Section 15, lists Silver Creek and Pace Springs as sources with priority dating back to 1861. Its 0.12 ft³/s (31.6 acre-feet) is used for irrigation. It is affected by five different surface points of diversions.

Number 35-8829, located in Section 35, is owned by the State of Utah Division of Parks and Recreation and delivers 0.03 ft³/s from the Homer Pace Spring. The water is listed as used for domestic, irrigation, and other purposes. Water right 35-9586, owned by Gilbert Western Corporation is located in Section 15 below the Silver Creek Water Treatment Plant. It delivered 70 acre-feet from Silver Creek to a place of use during Highway 40 construction from 1992-1993.

The remaining eight water rights are derived from underground sources and are described below. Two in particular supply significant amounts of water to the project area. Water right number 35-10075, originally water right number 35-8820, is found in Section 22 and is derived from wells for municipal purposes. Number 35-11015, located in Section 22, is owned by Mountain Region Water Special Service District. It provides 372 acre-feet from Wanship Reservoir via the Weber River.

2.5.5 Adjacent Water Rights

Adjacent water rights are those occurring outside of the project area, but which may still influence water available in the project area. The adjacent water rights are detailed below. Water rights point of use polygons 1, 6, and 7 extend outside the project area. There are 11 water rights diversion stations that control flow of water into the project area.

Current adjacent water right points of diversion that were within 1,000 feet of the project area boundary and that have higher flow rates, ranging from 7,000 to 200 ft³/s, are listed in descending order of flow: 35-11587, 35-11804, 35-10447, 35-5706, 35-10525, 35-11015, 35-11980, 35-10075 and 35-8820 (**Figure 5**). Adjacent water rights are also listed in **Appendix E3**. Some of these water right numbers may also pertain to rights inside the project area and are therefore also found in **Appendix E1** or **E2**. Other water rights beyond the 1,000-foot buffer that also influence flows in the project area may exist, but are not included in this analysis.

The following water rights, although outside of the project area boundary, were found by searching the State of Utah Water Rights database by land ownership names located within the project area. They include numbers 35-11805 and 35-9397.

Water rights number 35-11805 with priority from 1861 equals 0.25 ft³/s (60 acre-feet). Water from Silver Creek is diverted via the G.M. Pace Ditch from 500 feet north and 625 feet west of the southeast corner of Section 35. Water from the Dorrity and Pace Spring is diverted via the Pace Spring Ditch at 1,850 feet north and 125 feet west of the southern quarter corner of Section 35. Associated places of use are found in Sections 10, 14, 15, 22, 23, 26, and 35 of T1S R4E and Section 2 of T2S R4E. This right was segregated from water right number 35-11804 in 2005.

Water right number 35-11804 contributes 1.86 ft³/s (450.18 acre-feet). The diversion points are identical to water right number 35-11805. Irrigation for 150 acres and drinking water for 60 stock units is provided in Sections 10, 14, 15, 22, 23, 26, 35 and Section 2. This water right was segregated from 35-8820.

Water right 35-9397, which uses 30.0 acre-feet from wells, requested a change of use for one well from cattle watering to horse and domestic use associated with the equestrian facility. Several underground points of diversion are associated with this right.

Water right number 35-11980 (255.09 acre-feet) is diverted at the same locations as 35-11805 and 35-11804. Silver Creek and Dorrity and Pace Springs are listed as its source.

Historic and current water right ownership and use is relevant with respect to the influence of hydrology on wetland conditions. Irrigation has been a major component in vegetation and soil development with respect to wetlands. Water distribution has been altered from its original course, thereby changing areas that may have been wetlands before settlement and creating irrigation-induced wetlands in others. Alterations to the hydrology of Lower Silver Creek are evidenced by the multitude of diversions throughout the project area. The associated maps and tables are meant to assist in making jurisdictional determinations of the wetland delineation presented in this report and aid in developing cleanup options in Lower Silver Creek.

3.0 SITE DESCRIPTION

The following is a generalized description of the project area including hydrology, vegetation, soils, and land use history.

3.1 Hydrology

Primary hydrologic sources within the project area include Silver Creek in-stream flow, overland flow, and groundwater discharge through springs and seeps (**Figure 6**). As mentioned, extensive irrigation systems of ditches and diversions have altered original hydrologic flows. Silver Creek is diverted into a large irrigation ditch called the G. M. Pace ditch at the southern end of the project area that carries water through the project area along the eastern side.

Calculations from the State of Utah AGRC Geographic Information Database (SGID) shape file layer indicated there are 61,773 feet or 11.7 miles of streams in the project area. The original channel of Silver Creek within the project area measures 25,895 feet or 4.9 miles, and flows from south to north.

South of Promontory Road, hydrologic inflows are derived from several wells on the west side of the project area, and Homer Spring located on the east side of the Rail Trail. A spring-fed drainage northwest of the Geneva Rock Products facility enters the project area via a culvert in the southwest corner. This is the historic location of the Union Lime and Stone Company in Section 35. Of note, water exiting this culvert contained impurities of thick cloudy, white sediment and frothy foam.

Mr. Stan Pace approached field crew members on August 24, 2007. He told us he was born in the Lower Silver Creek drainage and that his family had owned land from the time it was settled. He told us the floodplain historically contained no defined channels and that much of the area consisted of unvegetated sand flats. He witnessed the development of channel formation in the wetland over time. He spoke of the past when the water table was much higher and they were able to ice skate throughout the floodplain. Many of the channels are now demonstrably entrenched and occur throughout much of the length and width of the floodplain. The entrenched channels appear to move water out of the area, contributing to the lowering of the groundwater table throughout much of the main floodplain and an associated reduction in the extent of wetlands. Mr. Pace also informed field crew members that a pond was once filled by way of truck using Silver Creek water to irrigate their pastures. This pond, located near the eastern edge of the project area, is currently dry and appears to have not been used for several seasons.

3.2 Vegetation

Baltic rush (*Juncus balticus*), commonly called wiregrass, dominates the valley bottom of Lower Silver Creek. This rhizomatous rush attains up to 100 percent cover. As the topography gradually begins to rise along the sides of the valley bottom, the dominance by rush changes to include redbtop (*Agrostis stolonifera*), sedges (*Carex* spp.) and reed-grass (*Calamagrostis* spp.). Vegetation then begins to include species such as foxtail (*Hordeum* spp.), and eventually gradates to upland grass and shrub species such as wheatgrass (*Agropyron trachycaulum*) and sagebrush (*Artemisia tridentata*). Livestock grazing and the preference for more palatable vegetation have selectively led to the dominance of Baltic rush in some of the wetland areas. A list of vegetation species recorded in the project area is included in **Appendix I**.

3.3 Soils

Soil units found within the project area are displayed in **Figure 2**. Mapping unit names and acreages represented in the project area are shown in **Table 1**. Soil mapping data was obtained from the USDA NRCS website (<http://soildatamart.nrcs.usda.gov/>). Map unit descriptions were also obtained from Soil Survey and Interpretations Parleys Park Portion of Soil Survey of Summit Valley Summit County, Utah (USDA SCS 1977).

All soils within Lower Silver Creek are generally classified as occurring in areas with an average annual precipitation between 16 and 22 inches, a mean annual air temperature of 40 to 45 °F, and a frost-free season averaging 60 to 90 days. As described in section 2.2, the map unit types found in the project area are displayed in **Figure 2** and listed below.

- The Fewkes gravelly loam soil type is the most abundant in the project area, covering 878 acres, and is located in five upland polygons along the eastern and western sides of the floodplain in the project area. Agricultural uses dominate this soil type.
- The Kovich soil is included on the Hydric Soils of Utah list. There are 523 acres of Wanship-Kovich loam mapped in the project area.
- Ayoub cobbly loam occurs in the northern portion and in other upland areas on the western side of the project area and totals 281 acres.
- The Ayoub-Dunford-Melling complex is found in the southeast corner of the project area and equals 119 acres.
- The Horrock-Cutoff Complex is located in the southwest corner of the project area along the floodplain and totals 65 acres.
- Minor soil components of the project area include six acres of Melling-Ayoub-Rock outcrop complex on 10 to 30 percent slopes (map unit 158) in the northeast corner, and Ant Flat loam, 2 to 8 percent slopes (map unit 102), comprises less than one acre in the northwest corner by the highway.

3.4 Land Use (Irrigation History and Land Use)

Irrigation practices have been used extensively throughout the Lower Silver Creek drainage to support livestock grazing, resulting in changes to the landscape, particularly on the eastern side of the creek in Sections 14, 15, 23, and 26. Through the network of ditches, these practices have resulted in some wetlands that appear to be irrigation-induced; categorized as an atypical situation according to the 1987 Manual (USACE 1987). Final jurisdictional determination will be made following USACE review of this report.

4.0 METHODS

This section outlines methodology used to perform the Lower Silver Creek wetland delineation. Field methods and the function and values analyses are explained below.

4.1 Field Methodology

The Routine Wetland Delineation Protocol, in accordance with the 1987 US Army Corps of Engineers Wetland Delineation Manual, was used for data collection purposes. Two 2-person crews began the field effort on August 20, 2007, working through to August 28, 2007. Additional field days carried the preliminary delineation field work through September 14, 2007.

The presence of standard indicators of wetland hydrology, hydric soils, and hydrophytic vegetation were used to determine the extent of wetland habitat. Evidence of all three indicators is required by USACE standards in order to classify an area as a wetland.

Global positioning system (GPS) Trimble XT units with sub-meter accuracy were used to collect feature location data such as wetland and WUS boundaries, plot locations, and important hydrologic features. The GPS data was differentially corrected and then verified for accuracy. Delineation boundaries were also marked in the field with pink “Wetland Delineation” pin flags.

A total of 40 routine sample plots were placed in the project area. The sample plots were used to define characteristics of the site’s soil, vegetation, and hydrology. Plots were located throughout the project area as changes in vegetation or topography were encountered in order to capture samples in all representative communities. Numerous informal test pits were also dug during the survey effort to assist in boundary determinations.

4.1.1 Hydrology

Hydrologic indicators are listed as either “Primary” or “Secondary” on the routine form. Either one primary or more than one secondary indicator is required in order to satisfy the hydrology criterion for a wetland definition.

- Primary indicators may include inundated or saturated soil, drainage patterns, or sediment deposits.
- Secondary indicators include examples such as oxidized root channels or local soil survey data that documents the presence of hydric soils.

Sources of hydrology in the Lower Silver Creek project area include overland flow, seeps, and springs. The east- side ditch carries water from the diversion structure on the southern end of the project area to several parcels located throughout the center. Water also enters the project area via spring-fed ditches and seeps.

Due to the late-season timing of the wetland delineation and the relatively low precipitation of the current year, evaluation of hydrology for the wetland determination using primary indicators was not always possible. Determination of wetland hydrology was assumed at some locations based on the dominance by hydrophytic vegetation and hydric soil characteristics.

Information on water rights and irrigation practices was also used to support determinations of wetland hydrology. During field visits hydrologic connectivity was recorded by following ditches, marking culverts with GPS points, and noting whether ditches appeared wet or dry based on the presence of wetland vegetation. This information was also used to delineate and map waters of

the U.S. Aerial photography maps were also used to digitize drainage patterns, inflow points, and connectivity of ditches (**Figures 4 & 5, Tables 4-6, and Appendix D-F**).

4.1.2 Vegetation

The Region 8 list of hydrophytic vegetation (from USFWS National List of Plant Species that Occur in Wetlands) was used to categorize the wetland indicator status of each species observed in the project area. Hydrophytes are those plants specifically adapted to live in saturated soils. The indicator status categorizes wetland and upland species into two groups: hydrophytes and non-hydrophytes.

Hydrophytes are further defined based on the frequency of occurrence in identified wetlands. These groups include obligate wetland species, facultative wetland species, facultative species, facultative upland species, and obligate upland species. The obligate plants define each end of the habitat spectrum relative to available water in the soil (wetland or upland), while the facultative plants exist to varying degrees in each habitat.

- Obligate wetland plants (OBL) are those that occur almost always (estimated probability > 99 percent) in wetlands under natural conditions.
- Facultative wetland plants (FACW) have an estimated probability of occurring in wetlands >67 percent to 99 percent, but also occur 1 to 33 percent in non-wetlands.
- Facultative plants (FAC) occur in both wetlands and non-wetlands with an estimated probability of 33 to 67 percent.
- Facultative upland plants (FACU) occur more often in non-wetlands with an estimated probability of >67 to 99 percent and occur in wetlands only 1 to <33 percent of the time.
- Obligate upland plants (UPL) occur in drier soils and rarely in wetlands at a rate of <1 percent.

The facultative categories also include a positive (+) or negative (-) sign to further distinguish species' wetland preference. The (+) sign indicates wetter conditions, while the (-) sign indicates a frequency toward the drier end of the category.

- Hydrophytic vegetation includes all plant species categorized as obligate wetland (OBL), facultative wetland (FACW+, FACW, FACW-) and facultative (FAC+ and FAC), and
- Non-hydrophytic vegetation includes plant species classified as facultative (FAC-), facultative upland (FACU+, FACU, FACU-) and obligate upland (UPL).

Categorizing an area as a wetland is then based on the percent coverage of each plant type. If vegetative cover consists of at least 50 percent obligate, facultative wetland, and facultative species then the site satisfies the wetland criterion for vegetation.

4.1.3 Soils

Soils were characterized in the field by digging a soil pit 20 inches deep and identifying the horizons. Horizon thickness, soil color, texture, and structure, and the abundance and size of mottles, if present, were recorded. The map unit name, soil taxonomy, and drainage class were obtained from the soil website www.nrcs.gov.

4.2 UDOT Wetland Functional Assessment Method

The Utah Department of Transportation (UDOT) Wetland Functional Assessment Method, UDOT Report No.UT-06.12 (Johnson 2006), defines a protocol to evaluate and quantify the inherent properties of a wetland and results in a ranking of wetland functions and values. It intends to identify areas of higher functional value in order to facilitate their avoidance with respect to disturbance activities.

The UDOT Wetland Functional Assessment Method was determined to be an appropriate methodology for the Lower Silver Creek wetland function and value evaluation. Although originally designed for application to highway and other linear projects, the method incorporates characteristics specific to Utah, such as wetland types, wildlife species, and other State-specific issues such as water quality.

Wetland functions are inherent wetland properties that may be categorized as either biological or hydrological. Examples of wetland functions include providing habitat for special-status species and flood attenuation. Wetland values measure society's view of a functions' worth, and include examples such as recreational opportunities provided by a wetland or its aesthetics.

The UDOT Wetland Functional Assessment method first classifies a given wetland into one of the five classes described below (see **Appendix G** for the excerpt from *UDOT Report No.UT-06.12 Selecting a Wetland Classification*, which defines these five types). The five wetland classes found in Utah include:

- Riverine
- Slope
- Depressional
- Mineral Flat
- Lacustrine

Each class has a unique assessment form that is then used to further describe the assessment area (AA) and its inherent functions and values. Each of the eleven functions is put in a descriptive category of low, moderate, or high, which is associated with a weighted point value. Point values on a scale of 0.1 (lowest) to 1 (highest) are tallied and accumulated, resulting in a final score measured as the percent total functional points (the two value categories, visual quality and recreation/educational potential, are not included in the scoring). Functional points are added and expressed as a percentage of the total, which is then used to place the wetland into one of the following five categories. The categories begin with whether special status species habitat is provided, and then proceed in a decreasing order of relative importance given the factors considered in this method.

- Red Flag Category – for AAs containing special status species or habitat.
- Category I – the highest overall ranking. These wetlands are of exceptionally high quality and are generally rare or uncommon, or are important from a regulatory standpoint.
- Category II – wetlands that are more common than Category I wetlands. They are identified as providing habitat for sensitive species of plants and animals, or are unique in a given region.

- Category III – wetlands that are more common, generally less diverse, and often smaller and more isolated than Category I and II wetlands.
- Category IV – wetlands that are generally small, isolated, and lacking vegetative diversity. They are usually directly or indirectly disturbed.

Separate data forms may be used for each wetland, or AA, or areas may be combined on one form based on similarities such as size, species compositions, and exposure to disturbance. A sample of the functions and values assessment forms for each of the wetland classes identified in the project area (Riverine and Slope) are also included in **Appendix G**. Data collected at each wetland sample plot was used to evaluate functions and values of the project area on the assessment forms.

5.0 RESULTS AND DISCUSSION

This section provides a draft map of the wetlands delineated within the project area based on the methodology detailed in Section 4. Information collected from various agencies outlined in Section 3 was also used in the delineation effort. Parcels identified on maps as delineation not performed were not included due to lack of property access. The Draft Wetland Delineation Map (**Figure 17**) is not considered to be the jurisdictional determination until it is confirmed by the USACE.

For discussion purposes, the draft wetland delineation has been shown on a series of maps, displayed in **Figures 10-16**, with a mapbook index shown in **Figure 9**. Within each figure, ownership parcels are identified. Draft wetland delineation acreages for each parcel are reported in **Table 8**. **Appendix J** contains sample plot photos. The sample plot field forms entitled “Data Form Routine Wetland Determinations” are presented in **Appendix K**.

5.1 Draft Wetland Delineation

A total of 493.6 acres of wetlands were delineated within the project area during the draft delineation effort using the USACE Routine Wetland Delineation Method. This amounts to 26 percent of the total project area. A final determination of jurisdictional status will rely on further review by the USACE, which may require some areas to be revisited in the spring of 2008 depending on ability to confirm the hydrologic influence.

One large wetland area was delineated that encompasses the entire Lower Silver Creek floodplain within the project area from north to south, with small exclusions for roads, the Rail Trail, and remaining tailings piles. Here, the valley bottom is dominated by Baltic rush, which obtains 100 percent cover throughout the majority of this area. This draft wetland delineation characterizes the floodplain of Lower Silver Creek as a palustrine emergent, persistent to non-persistent semi-permanently to seasonally flooded wetland community (Cowardin 1979).

Some areas within the Lower Silver Creek floodplain that occur near existing tailings piles were not delineated as wetlands. Although the dominant wetland species, Baltic rush, is well established in many of these areas, hydric soil development was often not evident. These areas were often slightly higher topographically than surrounding areas that showed evidence of hydric soils. The presence of oxidized and compacted tailings waste in the soil profile affected the determination of soil characteristics. The deposition of the mine tailings, often heavy in iron, made evaluation of natural soil development problematic. Evaluation of hydric soil indicators, specifically iron oxidation, was misleading at times; as it was difficult to differentiate between iron oxidation resulting from anaerobic conditions or that resulting from the presence of mine tailings. Furthermore, much of the natural stratification of the soil profile has been disrupted and contained visible depositional layering.

These conditions and the associated tailings occurred primarily in the middle-southern section of the project area (**Figures 10, 11, and 12**). Gray sandy tailings accumulations also occurred throughout the northern half of the Lower Silver Creek project area, both as buried and surficial depositions. Tailings piles found on the surface were marked by GPS in the field and clipped out of the draft wetland delineation maps. Tailings accumulations found in the soil profile did not qualify the site as meeting the criteria for a wetland determination.

Grazing impacts confounded wetland boundary determinations further. Some areas were difficult to delineate due to a lack of vegetative stalks or seed heads used in species

identification. The associated compaction of soils also made digging to a required depth difficult. Recently grazed areas were found in the main floodplain to the north of the industrial area. Remnants of tailings piles and concentrations of orange soil were also evident in the profile. Effects of grazing were also seen throughout the north-east side of the project area. Wetland boundary assessments in these areas often relied on the dominance of sedges, identified by the remaining bases of plants, a thick undecomposed organic horizon, and drainage patterns.

The draft wetland delineation along the east side of the project area includes spring and seep fed drainages and meadows mixed with upland communities. Determining the hydrologic source for these inclusions proved challenging, as some areas appeared to derive a primary water source from irrigation canals or seepage linked to the G.M. Pace Ditch. The majority of Lower Silver Creek flow is diverted into this ditch from a diversion structure at the southernmost end of the project area. Draft wetland delineation determinations relied on the presence of hydric soil indicators, hydrophytic vegetation, and connectivity to Lower Silver Creek. Further discussion of specific areas is found below in the section describing results by ownership parcels.

5.2 Waters of the US/state

Total estimated waters of the US equaled 15.8 miles or 80,604 feet. Non-wetland waters of the US equaled 4.1 miles or 13,846 feet (**Table 9**). Determinations were made using existing vegetation, entrenchment, and connectivity.

5.3 Function and Values Assessment

Wetland characteristics of two wetland classifications were found in the Lower Silver Creek project area, riverine and slope. The function and values assessment classified 402.7 acres as riverine wetlands and 83.3 as slope wetlands (**Figure 7** and **Table 10**). The slope and riverine wetlands of the Lower Silver Creek drainage were found to be Category III wetlands.

5.4 Discussion of Delineation Considerations

Issues encountered during field work associated with marking wetland boundaries were discussed during a September site visit with Mr. Hollis Jenks, a USACE representative. These issues included:

- Source of hydrology – irrigation induced versus naturally occurring wet meadows
- Extent of Baltic rush as a primary wetland indicator along community edges
- Sites with grazed vegetation and compacted soils where majority of flow has been diverted
- Remnants of tailings accumulations in soil profile
- Existing tailings piles
- Seasonality of delineation and dryer annual conditions

Locations visited included some pastures along the eastern side of the project area, which may obtain a hydrologic source from anthropogenic means. Also discussed was the possibility of encroachment of Baltic Rush beyond wetland edges, possibly influenced by grazing, and the difficulty in identifying hydric soil indicators in compacted or tailings-influenced soils. Informal soil pits were dug in several locations during the site visit to investigate depths of horizons with high amounts of undecomposed organic matter, and the appearance of mottles versus tailings accumulations.

5.4.1 Hydrology

Irrigation use in the project area (**Figure 17**) has altered the natural hydrologic flow and has also likely altered the associated vegetation and soils. The primary diversion structure of Lower Silver Creek occurs immediately up stream of a clump of dead willows along the southern edge of the project area next to Highway 248. Water diversions have changed both surface flow and water table levels in the valley bottom. Also, irrigation practices themselves have changed recently, altogether ceasing in some areas. Detecting hydrologic indicators in the field was also challenging due to recent regional precipitation patterns and the seasonality of the delineation event, resulting in dryer than average conditions.

Data regarding water rights and points of use were included in this report to assist in making determinations in areas influenced by irrigation practices. It appeared that irrigation practices are not as extensively used as they once were in the project area. This reduced and/or discontinued use of the irrigation system presents two problems across the project area with respect to this delineation. First, it likely returns a significant portion of flow to the Silver Creek wetland complex, which was not necessarily evident at the time of the delineation. Second, the irrigation ditches supported many upslope seep wetlands.

It can be assumed that the vegetation and soils would adjust accordingly to these changes in hydrology over a few years. However, evaluating the current status of the changes to wetland adaptation only one or a few seasons after alterations in management practices is difficult. Hydrophytic vegetation has often persisted, while hydric soil indicators have become less apparent. Throughout the project area, presence of wetland hydrology was primarily indicated by drainage patterns, and occasionally seen by the occurrence of oxidized root channels in the upper 12 inches of the soil profile.

Hydrologic sources tied to irrigation practices pose a challenge to deciphering wetland boundaries. Lower Silver Creek is diverted at the southern end of the project area boundary along the east-side into the Pace ditch. Further north, it is also fed by Homer Spring, another perennial source. Factors affecting whether this ditch qualifies as a jurisdictional water of the US include the amount of diverted flow carried, its origin, and whether the excavated area through which the ditch passes naturally exists as an upland. Although concentrated areas of hydrophytic-dominated vegetation occur in these pastures, hydric soil characteristics are often weak or lacking. Determining sources of wetland hydrology may require further investigation during spring snowmelt and precipitation events, and the initiation of the subsequent irrigation season. The placement of piezometers consistent with USACE standards was also discussed with the USACE representative during the September field visit as a means to obtain additional information to help determine the primary hydrologic source. This remains an option should jurisdictional determinations in specific areas require further support. Our final delineations presented here were based on dominance of obligate and facultative wetland vegetation, topographic position and drainage characteristics, hydric soil indicators where possible, and professional experience.

5.4.2 Vegetation

The majority of the wetland plots were dominated by facultative wetland species (FACW) such as Baltic rush; however, some obligate species were recorded as well. Obligate species recorded in plots included blue-joint reed-grass (*Calamagrostis canadensis*), sandbar willow (*Salix exigua*), clustered field sedge (*Carex praegracilis*), Nebraska sedge (*Carex nebrascensis*), water sedge (*Carex aquatilis*), least spikerush (*Eleocharis acicularis*), large-leaf avens (*Geum macrophyllum*), common canary grass (*Phalaris arundinacea*), silverweed

(*Potentilla anserina*), arrowleaf groundsel (*Senecio triangularis*), seaside arrow-grass (*Triglochin maritimum*), and broad-leaf cattail (*Typha latifolia*).

Weeds, including noxious and/or invasive species, within the project area included musk thistle, (*Carduus nutans*), corn chamomile (*Anthemis arvensis*), yellow toadflax, (*Linaria vulgaris*), poison hemlock (*Conium maculatum*), isolated bindweed (*Convolvulus arvensis*), prickly lettuce (*Lactuca serriola*), Canada thistle (*Cirsium arvensis*), bull thistle (*Cirsium vulgare*), and cheat grass (*Bromus tectorum*). Other weed species observed but generally not as invasive included yellow sweetclover (*Melilotus officinalis*), woolly mullein (*Verbascum thapsus*), common dandelion (*Taraxacum officinale*), common sow thistle (*Sonchus oleraceus*), and curly dock (*Rumex crispus*).

A list of plant species documented within the project area is included in **Appendix I**.

Challenges were found in areas comprised of a mixture of wet meadow plants, such as sedge species, and upland grasses. Likely due to seasonal irrigation practices, this mosaic of hydrophytic and non-hydrophytic vegetation made absolute demarcations difficult. Field crews relied on support by soils, evidence of hydrology, and professional judgment in these areas.

Baltic rush, a generalist wetland species that is relatively drought tolerant, has persisted and even proliferated through phreatophytic, rhizomatous growth. As a result, with respect to the USACE wetland delineation methodology, some wetland areas exhibit hydrophytic vegetation occurring within soils that may have historically been hydric, and may currently exhibit residual hydric soil indicators, but which no longer receive the hydrologic regime necessary for qualification as a jurisdictional wetland. These conditions are complicated further due to the late season timing of the wetland delineation, and the low precipitation of the current year.

5.4.3 Soils

Although the Kovich component of the Wanship-Kovich loams map unit is listed as a hydric soil of Utah, soil profiles within Wanship-Kovich soils did not meet the taxonomic description of this component. However, descriptions did follow those for the Wanship type. Soil profiles recorded in sample plots were often not textbook examples of wetland soils. A primary wetland indicator of a non-sandy soil requires greater than 50 percent by volume of the upper 32 inches of soil to be composed of organic soil material, or the existence of a histic epipedon (USACE 1987). Upper organic horizons were seen to vary in depth, not always reaching the defined minimum depth of eight inches to qualify as a histic epipedon. This could be attributed to the agricultural history, irrigation diversion practices, and seasonally dry climate of the area.

Profiles viewed and determined to qualify as a wetland soil typically contained a thick epipedon of undecomposed organic material. Other determining factors included low-chroma colors and/or the presence of mottles. Differentiating mottles from residual tailings deposits or those resulting solely from flood irrigation was often difficult. Also, soils along the main channel, especially in the wetlands north of and immediately south of Promontory Road, included pockets of sandy tailings deposits with no profile development. Evidence of reduced soil conditions were tested on the first day of field work using the alpha-alpha dipyrindyl test. It was periodically used throughout the field sampling effort, however, it was not relied on for making final determinations, as either the solution itself became inactive, or site conditions were not conducive to its use.

Soils sampled in the project area typically fit descriptions given for the soil map unit. **Table 7** lists plot numbers found in each mapped soil type.

5.5 Draft Delineated Wetland Areas by Ownership Parcel

Draft wetland delineation results are reported by land ownership parcel. Acreages and descriptions are given beginning at the southern end of the project area and moving north (see **Figures 10-16**). A mapbook index is provided in **Figure 9**. Final delineation to be determined following review by the USACE.

5.5.1 Map 1

SS-65-A-6 (RDB LLC. R.D. Burbidge) – Boundaries of the 6.72 acres of wetlands identified in this parcel are clearly defined by vegetation, soils, and the presence of standing water. The wetland area is bounded by the main irrigation ditch along the east side and spans westward to the Rail Trail. The primary diversion of Lower Silver Creek is adjacent to this property's southern side. Wetland sample plots 7 and 8 were located within this parcel. Vegetation in Plot 7 included 100 percent dominance by common canary grass, a wetland obligate species. Soils included a thick surface layer of undecomposed organics with gleying and mottling occurring deeper in the profile.

Vegetation differs in Plot 8, but is still dominated by hydrophytes. Baltic rush, poison hemlock, and Nebraska sedge comprise 95 percent of vegetative cover. Hydric soil characteristics included low-chroma colors and a thick layer of undecomposed organics below the surface.

Approximately 1,150 feet of waters of the US were mapped in this parcel. Other wetland species found in this parcel included water sedge and sandbar willow.

SS-65-1 (Utah Power & Light) – This parcel contains 1.4 acres of wetlands and approximately 133 feet of waters of the US. It is a continuation of the same wetland community as in the adjacent parcel SS-65-A-6. The main irrigation ditch borders the east side between the wetland and the upland.

SS-65-A-5 (RDB LLC. R.D. Burbidge) – This parcel contains 9.4 acres of wetlands, and includes Plot 6. Vegetation is a mix of Baltic rush, red top, sandbar willow, common canary grass, and showy milkweed (*Asclepias speciosa*). The soil profile felt damp and contained large amounts of undecomposed, fine roots and slight gleying. Orange patches of tailings deposits were mixed throughout. Waters of the US were mapped as totaling 2,360.1 feet.

SS-65-A-7 (Lacy Limited Liability Co) – This parcel includes a tributary drainage that originates from a spring on the west side of US Hwy. 40. It includes 0.6 acre of wetlands. Soils here were saturated and marked with hummocks at the time of field work.

SS-64-1000-UP-X (UDNR/ Parks) – This parcel extends along both sides of the Rail Trail and continues onto Map 2 (**Figure 11**). It is mapped as containing 12.3 acres of wetlands and 2,869 feet of waters of the US. Irrigation ditches, which either contained water during the delineation effort or showed signs of recently carrying water, occur along both sides of this portion of the Rail Trail. Plot 11 captures typical characteristics of the parcel. Hydrophytic vegetation species included Baltic rush, large-leaf avens, field mint, Hooker's evening primrose, and western pulegium. The soil profile contained a thick surface horizon of undecomposed organics and a low chroma color. Mottles and gleying were found in the deeper clay layers. Also, the soil was wet during sampling.

Sample plot 10 is located on the parcel boundary between SS-64-1000-UP-X and SS-65-1. Although dominated by Baltic rush, this area appeared dryer and topographically higher than surrounding wetland communities. Also, disturbance associated with the power line or adjacent industrial area activities has altered the site. The soil pit revealed fill material. It also seemed to lack hydrology. The dominance by Baltic rush, but the lack of strong indicators of soils or hydrology is typical of the western boundary throughout this portion of the project area.

SS-65-A-3 (Stoly Associates, LLC.) – This parcel includes 1.8 acres of wetlands. Vegetation was dense throughout this southwest corner of the project area. Plot 9 recorded up to 50 percent cover by Baltic rush, and 15 percent cover of both large-leaf avens and poison hemlock. The soil test pit contained upper horizons with high concentrations of undecomposed fine roots, oxidized root channels, and low-chroma colors.

SS-65-A-3-1 (Forestdale Investments, LLC.) – This long, slender-shaped property occurs between the adjacent west-side upland and the lower-lying floodplain of Lower Silver Creek. It has been mapped as containing 0.67 acres of wetlands.

SS-65-B (Geneva Rock Products) – This parcel contains 0.5 acre of wetlands in its eastern-most corner. The boundary was placed by using knowledge of the similar adjacent area and existing vegetation.

5.5.2 Map 2

SS-64-A Fausett Trustee (Alain Balmanno, Esq.) – This is a large parcel shown across both Maps 1 (**Figure 10**) and 2 (**Figure 11**). It includes 25.4 acres of delineated wetlands, and 3,468 feet of waters of the US. Homer Spring is located on this property. The near-by water rights point of diversion, 35-8829 owned by Utah State Parks and Recreation, uses water from this spring for domestic, irrigation, and other purposes. The central portion of this parcel lying west of the Rail Trail contains several tailings piles. This was one of the challenging areas with respect to deciphering wetland characteristics, as it had been heavily grazed, resulting in compaction and loss of identifiable vegetation, in addition, the soil profile contained iron inclusions from tailings deposits. The original Lower Silver Creek channel has been diverted by the east side irrigation system, leaving residual topography of the dry creek bed. Seasonal ponding and saturation likely still occur in this area, however, water is also directed artificially and delivered through irrigation ditches as needed following spring run-off. This was one area discussed during the site visit by Tetra Tech biologists and the USACE representative. It was agreed during this meeting that primary delineation determinants would include the presence of a thick upper horizon of undecomposed organic material and low-chroma colors in the soil profile, and the dominance of hydrophytic vegetation. These factors resulted in the delineation presented on **Figures 10** and **11**. A transect of sample plots was placed across this parcel to discern upland and wetland communities (plots 23-28).

Placing sample plots from east to west, biologists identified a strip of wetland area adjacent to the Rail Trail (plot 23), but the next successive sample plot (Plot 24) did not support wetland characteristics. While vegetation was dominated by hydrophytes, the soil profile lacked sufficient development to meet hydric criteria. The area also appeared slightly higher topographically than land to the east and further west. The soil profile in Plot 25 revealed high concentrations of organic material, low chroma color, and slight mottling. Plots 26 and 27 included tailings in the soil profile and topographic remnants of the stream channel. Both plots were dominated by Baltic rush with some redtop. Plot 28 continued to meet all three wetland criteria. The vegetation was dominated by Baltic rush, redtop, and Nebraska sedge, drainage

patterns were evident, and the soil profile included low chroma colors and signs of reducing conditions. The western boundary was delineated based on a loss of these characteristics.

Also within this parcel on the west side is a tributary to Lower Silver Creek that originates outside of the project area from a spring. The upper section of this tributary is included in the project area as parcel SS-65-A-7. Several small seeps contribute to this wetland within parcel SS-64-A, and the ground was saturated at the time of field work. Boundaries were delineated based on abrupt visual differences in hydrophytic and upland vegetation and the presence of saturated soil.

Along the east side of the southern end of this parcel, a thin strip of wetlands has been mapped between the Rail Trail and the confining toe-slope of the adjacent upland. Plot 37 marks the eastern-most edge. Vegetation here is dominated by the facultative wetland species Baltic rush and foul bluegrass. The soil profile included organic matter and low chroma colors. Homer Spring is located to the south.

The eastern-side wetlands between the Rail Trail and the Pace canal within this parcel and to the north, were also discussed with the USACE. This area contains a mix of wetlands and irrigated pastures, some of which originally existed as wetlands and some of which appear to be irrigation-induced. However, given that the Pace Ditch carries the majority of Silver Creek, and that hydrophytic vegetation is dominant, wetland areas have been delineated. It is important to note that hydric soil characteristics are weak in areas. Typical conditions in these east-side wetlands include a vegetation composition of both wetland and upland species, and soils which often do not appear to be hydric.

SS-56-A (Nadine Gillmor) – A total of 11.7 acres of wetlands were delineated in this parcel. The majority of this acreage occurs west of the Rail Trail in the valley bottom. A long, thin polygon occurs along the eastern side, which connects with similar wetlands delineated in the adjacent SS-64-A parcel. A total of 1,170 feet of waters of the US have been mapped in this parcel, consisting of the Pace Ditch.

This parcel had been heavily grazed at the time of field work, however; the site contained 80 percent cover by Baltic rush and the characteristic bright green remnants of Nebraska sedge, thus meeting the wetland criteria for vegetation. Hydrologic drainage patterns, mottles, and low chroma color satisfied the soils criteria.

Further north within this parcel, Plots 39 and 40 did not meet all three criteria for a wetland. Although vegetation in Plot 39 was dominated by Baltic rush, both hydrology and soils were lacking. Horizons showed low chroma colors, but a thick O-horizon was not found, nor was the presence of mottles. This area was noted as heavily grazed. Plot 40 had more hydrophytic vegetation, a 50-50 mix of Baltic rush and Nebraska sedge, and also showed hydrologic signs of drainage patterns. However, the O-horizon was only two inches thick. Mottles were not found, and a trial of the alpha-alpha dipyriddy test was negative (however, reliability of the solution at this time was not certain). Wetland boundaries were placed by following the line of hydrophytic vegetation and also digging several informal test pit to examine soil properties.

Across the Rail Trail within this same parcel, Plot 38 was placed in an area dominated by Baltic rush. However, hydrology and soils did not support wetland criteria. This area is an example where the Baltic rush, which is not preferred by livestock, may gain dominance through selective grazing and its phreatophytic nature to spread rhizomatously. This east side contains both naturally occurring wetlands in low-lying areas mixed with irrigated pastures on alluvial fans

stemming from failures and outlets in the large, east-side irrigation ditch. Please refer to the general wetlands results discussion at the beginning of this section for further information concerning the delineations made along the eastern side of the project area.

5.5.3 Map 3

SS-56-A-1 (*E. L. Gillmor*) – This parcel contains 43.9 acres of wetlands throughout the valley bottom; bounded on the west side by the break in Baltic rush, and on the east by the Rail Trail and inclusions of sagebrush-dominated upland. The parcel also contains 4,902 feet of waters of the US, including the continuation of the east-side main irrigation ditch. Plot 49 exhibits another area with a questionable hydrologic source located adjacent to the east-side ditch. Vegetation is a mix dominated by clustered field sedge and Nebraska sedge, both wetland obligates, meadow barley (*Hordeum brachyantherum*), a facultative wetland species, and timothy grass (*Phleum pretense*) and trailing fleabane (*Erigeron flagellaris*), both upland species. Hydrologic patterns are evident in that a pattern of bright green vegetation, dominated by hydrophytes, extends outward from the ditch in an alluvial fan formation. Also, mottles are present in the soil profile. However, the site appeared dryer than normal to support the hydrophytes. It was questioned whether irrigation practices or a leaking ditch has induced wetland conditions. If so, have these practices recently changed, leading the site to revert back to upland characteristics, or is it simply related to the time of year. Wetland delineations followed the visible change in vegetation between strong hydrophytes such as sedges and upland species such as slender wheatgrass (*Agropyron trachycaulum*). Determinations in this area may require the site to be revisited during wetter, spring conditions.

SS-56-UP-X (*UDNR/ Parks*) – This parcel encompasses the Rail Trail and includes 3.9 acres of wetlands and 3,329 feet of waters of the US. Several ditches, culverts, and points of diversion exist along this raised rail bed and are shown in **Figure 17**.

5.5.4 Map 4

SS-56 {*F.J. Gillmor (Lindsay Ford, Esq.)*} – Extending from Map 3 through Map 4, 57.1 acres of wetlands and 7,211 feet of waters of the US are contained in this parcel.

SS-50 {*F. Gillmor (Lindsay Ford, Esq.)*} – A total of 40.4 acres of wetlands and 7,723 feet of waters of the US have been mapped in this parcel (Map 4, **Figure 13**). Two primary wetland areas exist; the valley bottom dominated by Baltic rush, and the east-side pastures. A comparison of Plot 31 and Plot 32 captures the subtle differences found along this eastern slope, where a mosaic of wetland vegetation and upland grasses co-occur. Vegetation in sample plot 31, located in adjacent parcel SS-56, was dominated by Baltic rush and clustered field sedge. Soils showed definite hydric characteristics, with a thick upper horizon of organic material, low chroma colors, oxidized root channels, and common, distinct mottles. Plot 32, included vegetation dominated by Nebraska sedge, but lacked the strong hydric soil development. Although exhibiting low chroma colors, an organic layer was not well-developed, and redoximorphic features were not detected. The main east-side ditch traverses both of these parcels. Based on soil development, it appears that Plot 31 exhibits a naturally occurring wetland, but plot 32 reflects irrigation- induced conditions.

SS-51-UP-X (*UDNR/ Parks*) – A total of 1.2 acres of wetlands and 1,886 feet of waters of the US occur along this Rail Trail parcel. Wetlands occur surrounding culverts and in low-lying areas between the rail bed and adjacent pastures.

SS-47 (*Lindsay Ford, Esq.*) – This parcel includes 17.1 acres of wetlands, delineated along the west side of the project area by a break in the Baltic rush dominated, low-lying land and the upland toe-slopes. Several shallow, soil test pits were sampled along this edge to note where characteristics such as a thick, dark organic horizon changed to a dryer, lighter A-horizon. Approximately 578 feet of waters of the US, and 4,199 feet of non-wetland waters of the US were mapped in this parcel.

SS-49 (*Angus and Ella Pace*) – A total of 21.6 acres of wetlands, dominated by Baltic rush, redtop, and blue-joint reed grass were mapped in this parcel. A dry ditch along the Rail Trail resulted in approximately 66 feet of non-wetland waters of the US.

5.5.5 Map 5

SS-44 (*Pace Family Investments, LLC*) – Extending across Promontory Road throughout the Lower Silver Creek floodplain, this parcel contains 67.3 acres of wetlands and 8,461 feet of waters of the US. As shown in **Figure 14**, some large tailings piles were excluded from the acreage estimate. Plots 45, 46, and 47 were taken in this parcel. The main Lower Silver Creek floodplain here is dominated by Baltic rush, with abundant mottles in the soil profile. Although residual tailings likely contribute to the amount of oxidation seen, the soil was moist at four inches below the surface. Plot 46 exhibits conditions of the tailings piles; void of vegetation, hydrologic indicators, and a profile of sand to a depth of greater than 20 inches. Topographically, the plot is equal to surrounding wetlands, however, the soils are dramatically different and the area does not appear to function as a playa or dried vernal pool. Towards the edges of the valley bottom, vegetation gradually changes to a mix of Baltic rush, redtop, and blue-joint reed grass.

SS-45-UP-X (*State of Utah*) – This parcel along the Rail Trail does not include any wetlands. Irrigation ditches along the rail bed that supported hydrophytic vegetation were mapped as waters of the US, totaling 254 feet. Where the vegetation within the ditch changed to upland species, non-wetland waters of the US were mapped, totaling 227 feet. It was assumed that those ditches which showed signs of recently or regularly carrying water, and that were connected to the larger, main irrigation ditch or another hydrologic source were considered waters of the U.S.

SS-51-A (*Angus and Ella Pace*) – This parcel contains 4.2 acres of wetland, continuing from that delineated in SS-49 to the south and SS-51-C-2-X across the Rail Trail to the east.

SS-51-C-2-X (*South Summit School District*) – This parcel is comprised of two areas separated by the Promontory Road. The piece that extends south from the road to the east side of the firehouse encompasses a relatively large drainage in its southernmost end that connects under the Rail Trail to the Lower Silver Creek valley bottom.

North of Promontory Road, a culvert connects the east-side ditch to this naturally occurring low-lying area. In this parcel, the vegetation is a mixture of sagebrush-dominated upland surrounding a mosaic of obligate, facultative wetland, and facultative upland species. At Plot 34, boundaries were established by following the change in species composition, in particular, following the demarcation between a mix of Baltic rush, Nebraska sedge, and pullup muhly (*Muhlenbergia filiformis*), and the topographically higher positioned sagebrush (*Artemisia* sp.). After testing for hydric soil characteristics at this plot, the soils did not support the existence of saturated conditions. This could be attributed to insufficient duration of saturated conditions. A combination of micro-topography, hydrophytic vegetation, and a relatively deep layer of organic

material was primarily used to delineate wetland areas associated with this small drainage channel that passes through this parcel and connects to the wetter palustrine emergent meadow to the north. The connection to the hydrologic source could be questionable, as the east-side ditch occurs within an upland community south of Promontory Road. Jurisdictional determination of the ditch will affect this area's current delineation. Although drainage patterns satisfy the criterion of hydrology, whether this ditch is considered a waters of the US will affect whether the connection would qualify this area as a wetland, or whether it would be considered an isolated wetland. External to the project area, Pond 8797 (**Figure 4**) may contribute additional flow.

Wetlands mapped in both pieces of this parcel total 5.3 acres, with 3,371 feet of waters of the US and 189 feet of non-wetland waters of the US.

SS-51-C (Pivotal Promontory LLC) – A small piece of wetlands (0.11 acre) occurs in the southern tip of this parcel, with 171 feet of waters of the US.

SS-57-1 Property Reserve, Inc. (E.Christensen) – A small piece of wetlands (0.04) occurs in this west-side parcel.

5.5.6 Map 6

SS-28-A-X (Municipal Building Authority of Park City) – This parcel encompasses the majority of the Lower Silver Creek valley bottom north of the Promontory Road. It includes 50.3 acres of wetlands, primarily dominated by Baltic rush. This parcel also contains 6,952 feet of waters of the US, primarily comprised of the stream channel. Isolated tailing piles occur in this parcel.

SS-29-B-X (Snyderville Basin Water Reclamation District) – Situated along the west edge of the project area, this parcel contains 0.15 acre of wetlands dominated by Baltic rush.

SS-30-A (Silver Creek – Robert Larsen Investors) – Only 0.01 acre of wetland is contained in this west-side parcel.

SS-44-A-1(Pivotal Promontory LLC) – This parcel contains the Promontory Road easement and contains 1.6 acres of wetlands.

SCO-C-AM-6 – This thin parcel along the west side contains 0.5 acres of wetlands.

SCO-C-AM-6-A-X (Summit County A Municipal Corp) – This parcel exists along the west side and contains 0.5 acres of wetlands.

SS-28-A-1-X (Park City) – This parcel and the adjacent one labeled as “Multiple” ownership exist as a large complex of slope wetlands along the eastern side of the project area. A system of irrigation ditches occurs throughout and most of the area is used as cow pasture. The wet, low lying area immediately south of the secondary access road had cows in it at the time of the survey. The pasture in the southern end of this parcel includes a low-lying, seep-fed wetland meadow that drains under the Rail Trail via culverts and connects to Lower Silver Creek through parcel SS-29. A total of 14.2 acres of wetlands, 4,262 feet of waters of the US, and 914 feet of non-wetland waters of the US have been mapped.

Multiple – This parcel is owned by several entities, and includes 26.7 acres of wetlands, 7,464 feet of waters of the US, and 973 feet of non-wetland waters of the US. Several shallow,

informal soil test pits were dug along transitional areas to determine where hydric soil indicators weakened. Delineations followed this as well as visual changes in vegetation composition.

SS-28-UP-X (UDNR/ Parks) – This Rail Trail parcel includes 4.6 acres of wetlands, and 41 feet of waters of the US. A pond occurs along the west side of the rail bed (number 8802, **Figure 4**). Plot 1 was placed within this parcel along the east side of the trail.

SS-29 (Angus and Ella Pace) – This parcel includes a small drainage entering from the east, which passes under the Rail Trail via a culvert, as well as a large portion of the main valley bottom of Lower Silver Creek. Wetland vegetation includes areas with 100 percent dominance by Baltic rush, as well as mixtures of Baltic rush, redtop, and blue-joint reed grass. Delineated acreage totals 56 acres, with 9,176 feet of waters of the US, and 1,618 feet of non-wetland waters of the US. Sample plots include 42, 43, 44 and 48.

The drainage entering from the east side is fed by several seeps occurring in parcel SS-28-A-1-X. The large portion within the valley bottom spans a secondary access road and includes outflow from the Snyderville Basin Water Treatment Facility.

5.5.7 Map 7

SS-29-X (State Road Commission) – This parcel is situated at the northern end of the main Lower Silver Creek valley bottom. It has been mapped as containing 1.09 acres of wetlands and 361.2 feet of waters of the US.

SS-21-UP-X (State of Utah) – This is the northern-most parcel along the Rail Trail. It includes 1.5 acres of wetlands and 673 feet of waters of the US.

Easements for US Interstate 80, Highway 40, and Highway 248 are included as separate parcels. Associate wetland acreage includes: I-80 (3 parcels: 0.95, 2.1, and 0.03 acres; and, 388, 45 feet WUS); Highway 40 (2 parcels: 0.0, 0.05 acres).

6.0 CONCLUSION

This draft wetland delineation of the Lower Silver Creek project area mapped 493.6 acres of wetlands. Wetland communities consisted of palustrine emergent meadows and a spring-fed tributary drainage. This acreage amounts to approximately 26 percent of the Lower Silver Creek project area. A total of 80,604 feet, or approximately 15 miles of waters of the US were mapped, comprised of Lower Silver Creek and associated irrigation ditches.

Delineations were based on the presence of the three wetland criteria: hydrophytic vegetation, hydric soils, and hydrology. Wetlands found within the valley bottom typically showed strong characteristics in all three categories; however, in some areas, hydric soils and/or the source of hydrology was questionable. Historic and current irrigation practices have influenced the wetland communities present today. The diversion of Lower Silver Creek has altered the hydrologic regime and hydric soil indicators, particularly in the south-central portion of the project area. Concentrations of tailings in the soil horizons also made deciphering hydric soil indicators challenging.

As previously mentioned, several irrigation diversions depart from the wetland at various locations, mostly restricted to the southern end of the complex. With the exception of the main east-side ditch, most irrigation ditches were not running at the time of the delineation. There were many instances across the Silver Creek complex where wetlands occurring in association with the irrigation harbored both obligate wetland plant species and upland species. It may be assumed that in some areas the obligate species are residual and the upland are newly established.

While hydrology was difficult to evaluate, many of the soils proved to be atypical and equally difficult. As previously mentioned it is believed that many of the soils are demonstrating residual and/or irrigation-induced hydric soil indicators, evidenced by their subtle and minor occurrences. A thick epipedon of undecomposed organic material set hydric soils apart from those primarily influenced by an irrigation source of hydrology.

Much of the Silver Creek wetland complex was historically disturbed by mining activities. Tailings piles were not included in the delineated areas. Mechanical removal of these piles, which occur in low-lying areas of the floodplain, may change the topography enough to enhance wetland development.

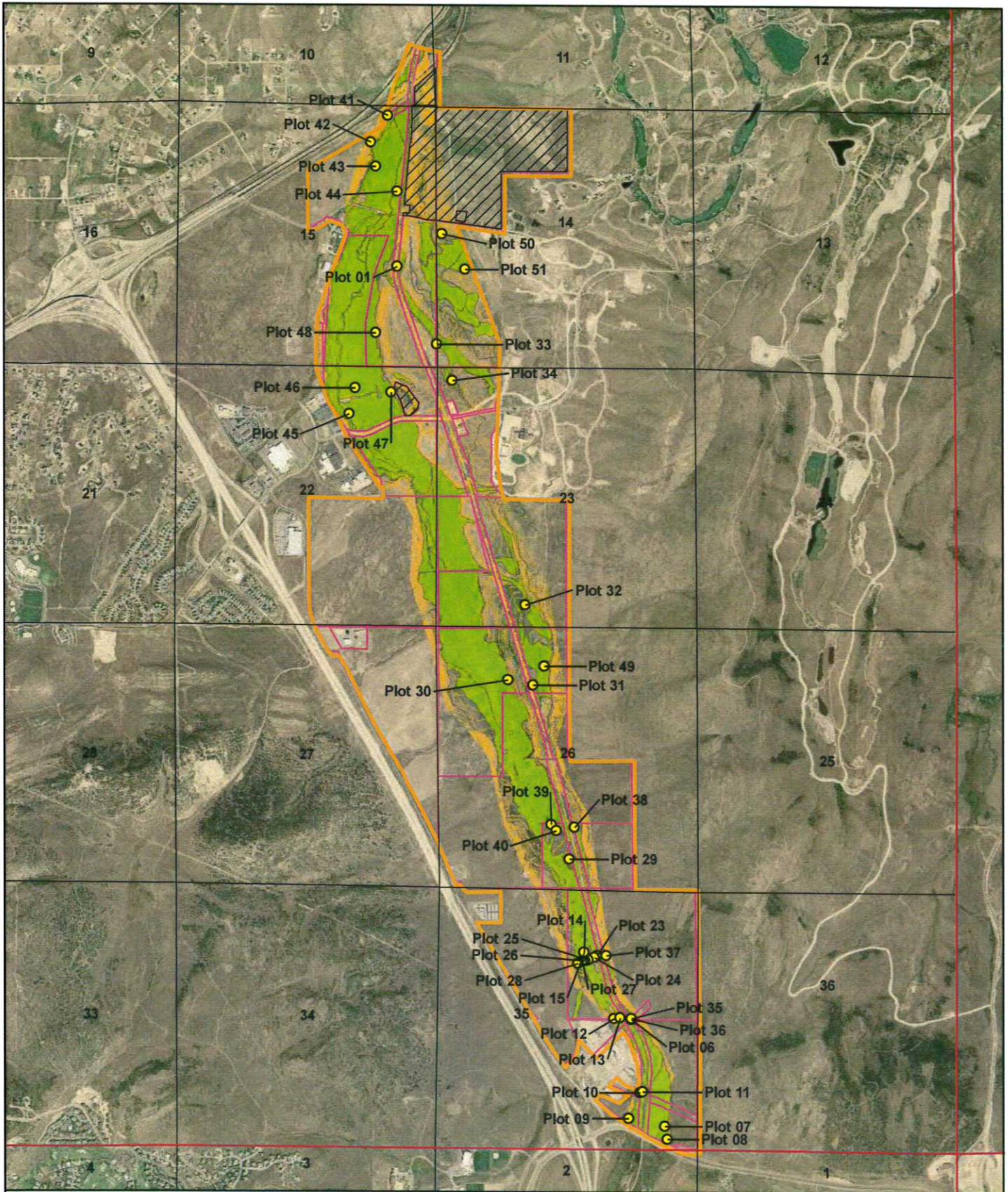
Additions of irrigation water along the east side have likely both enhanced naturally occurring wet meadows in these pastures, as well as possibly formed concentrations of hydrophytic vegetation in non-hydric soils. This has resulted in a mosaic of upland and wetland communities separated by gradual boundaries. Hydrology in these areas is provided by springs, seeps, and the diverted portion of Lower Silver Creek. Thus, they may likely still meet the hydrologic criteria for jurisdictional determinations.

Based on the UDOT Wetland Functional Assessment Method, the riverine and slope wetlands of Lower Silver Creek were identified as Category III. Although assessment forms show some areas where a Category II rating could have been considered, the high level of anthropogenic influence in the project area resulted in a slightly lower rating. The method allows for use of the "evaluator's best professional opinion" in interpreting how functions are represented on the assessment forms. Factors contributing to this rating include the influence of irrigation, grazing, and historic uses of the project area.

The delineations presented here were based on dominance of obligate and facultative wetland vegetation, topographic position and drainage characteristics, hydric soil indicators where possible, and professional experience. A final determination of jurisdictional status will rely on further review by the USACE, which may require some areas to be revisited in the spring of 2008.

REFERENCES

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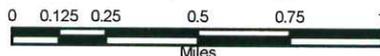


Legend

- Sample Plot Location
- Project Area Boundary
- contours
- ▭ Parcels
- ▭ Wetland Delineation
- ▭ Delineation Not Performed
- ▭ Townships
- ▭ Sections



1 inch equals 0.5 miles



Draft

Project: LOWER SILVER CREEK
 Source: AGRC Image Server >>> image.state.ut.us
 State Geographic Information Database and Tt Field Efforts
 County: Summit | State: Utah | Location: T. 182 S., R. 4 E.
 PRJ: NAD83 State Plane UT N 4301 FT | Date: 12/20/2007

FIGURE 8
 Wetland Plot Locations



Appendix A-11

IPaC NFWS TES Species Report

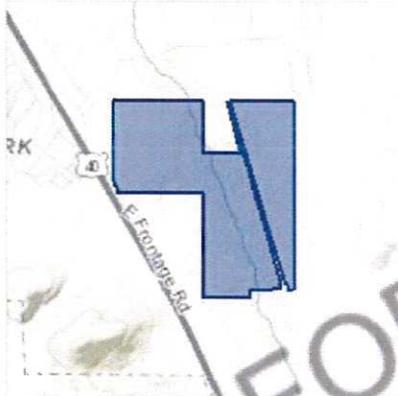
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Summit County, Utah



Local office

Utah Ecological Services Field Office

(801) 975-3330

(801) 975-3331

2369 West Orton Circle, Suite 50
West Valley City, UT 84119-7603

<http://www.fws.gov>

<http://www.fws.gov/utahfieldoffice/>

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration ([NOAA Fisheries](#)²).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Canada Lynx <i>Lynx canadensis</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/3652	Threatened

Birds

NAME	STATUS
Yellow-billed Cuckoo <i>Coccyzus americanus</i> There is proposed critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)

<p>Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626</p>	Breeds Dec 1 to Aug 31
<p>Brewer's Sparrow <i>Spizella breweri</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9291</p>	Breeds May 15 to Aug 10
<p>Golden Eagle <i>Aquila chrysaetos</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/1680</p>	Breeds Jan 1 to Aug 31
<p>Lesser Yellowlegs <i>Tringa flavipes</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679</p>	Breeds elsewhere
<p>Long-billed Curlew <i>Numenius americanus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5511</p>	Breeds Apr 1 to Jul 31
<p>Olive-sided Flycatcher <i>Contopus cooperi</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914</p>	Breeds May 20 to Aug 31
<p>Rufous Hummingbird <i>selasphorus rufus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002</p>	Breeds elsewhere
<p>Virginia's Warbler <i>Vermivora virginiae</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9441</p>	Breeds May 1 to Jul 31
<p>Willow Flycatcher <i>Empidonax traillii</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/3482</p>	Breeds May 20 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [E-bird Explore Data Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern \(BCC\)](#) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

[PEM1C](#)
[PEM1Cx](#)
[PEM1Ch](#)

RIVERINE

[R4SBC](#)
[R5UBH](#)

A full description for each wetland code can be found at the [National Wetlands Inventory website](#)

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the

intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

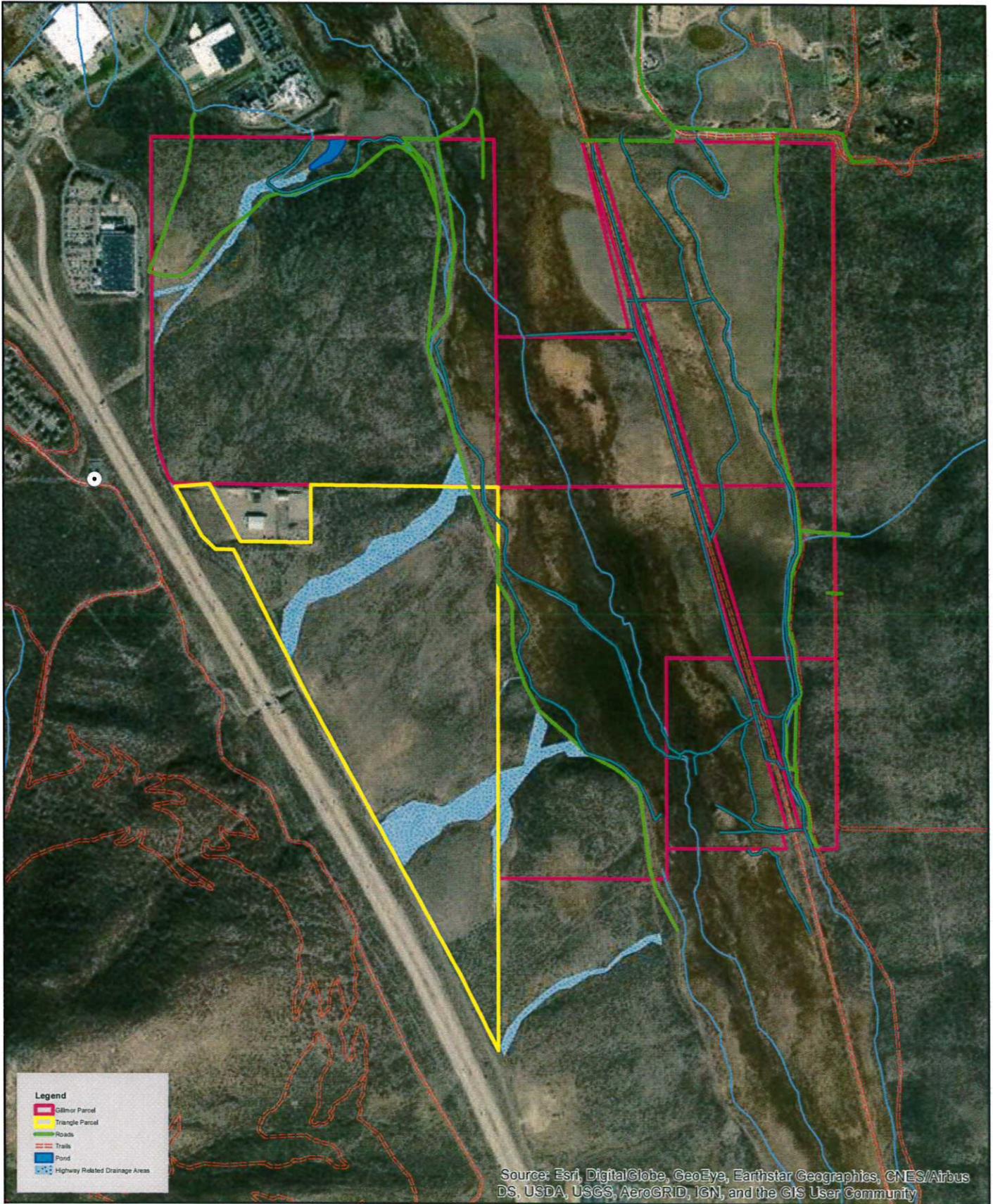
Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

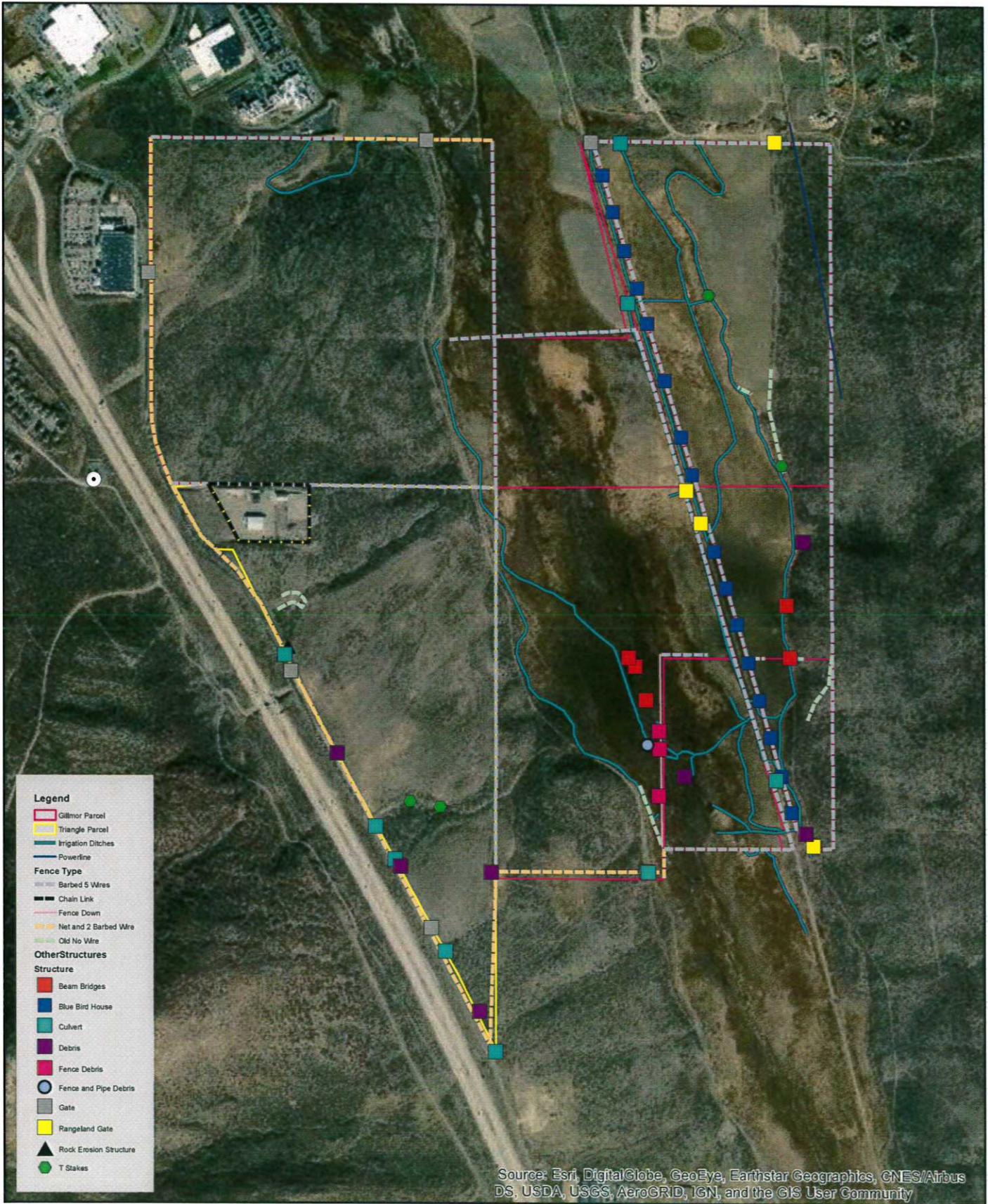
Appendix A-12

Gillmor Baseline Water, Transportation Structures and Sewer Maps



Water and Transportation Map

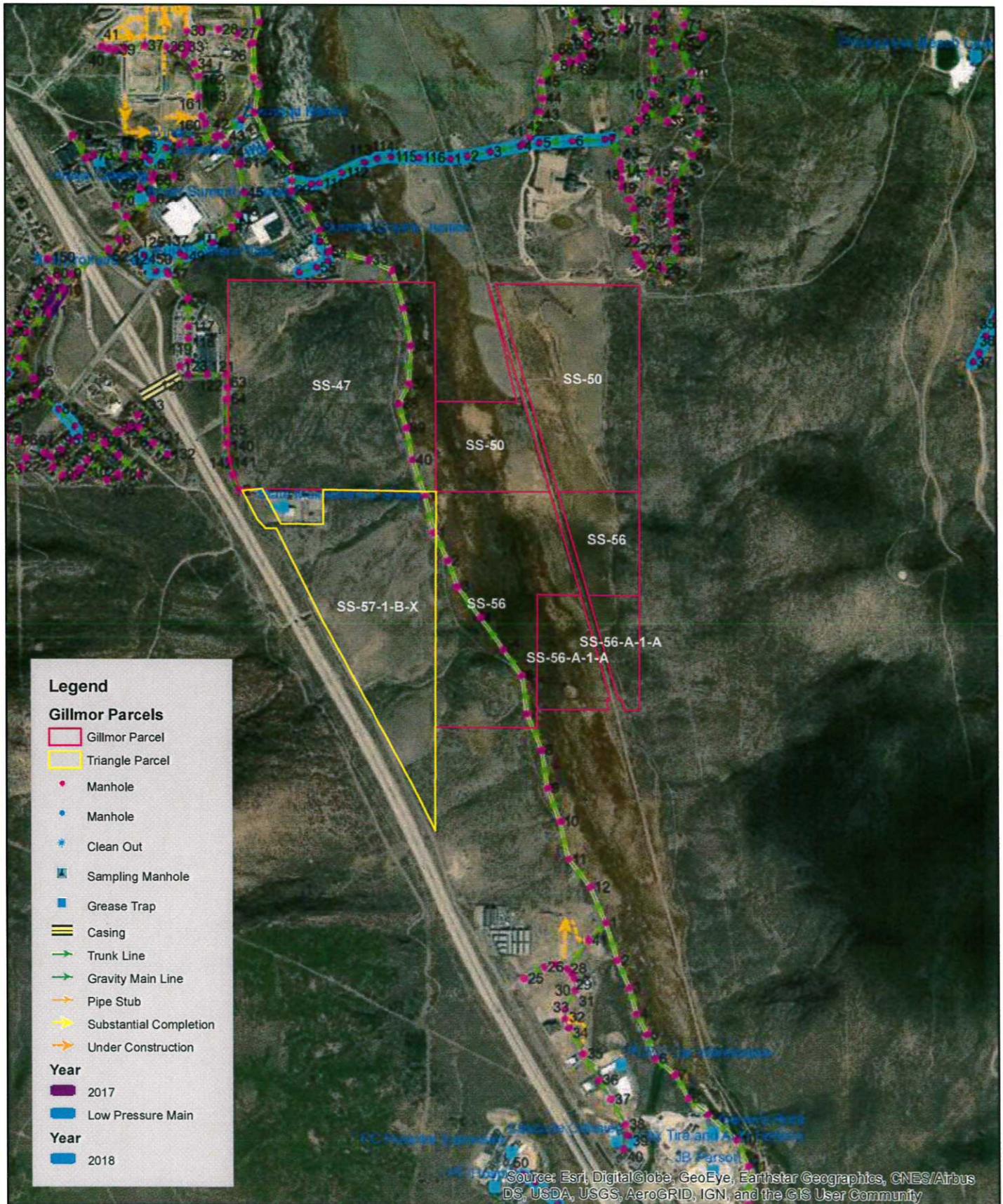
There are several useable roads and unusable historic roads throughout the Gillmor Parcels. Additionally there are flood irrigation ditches that draw from Silver Creek. Inflow of water has been heavy from the drainages originating along old highway 40 and have lead to substantial erosion.



Structures with in the Gillmor and Triangle Parcels

Many of the structures within the project area are related to the movement of water and fences. A more recent addition to the area are a row of mountain blue bird houses that run along the Historic Rail Trail just outside the fences of the Gillmor Parcels east of the trail.





Sewer System within the Gillmor and Triangle Parcels

0 0.075 0.15 0.3 0.45 0.6 Miles



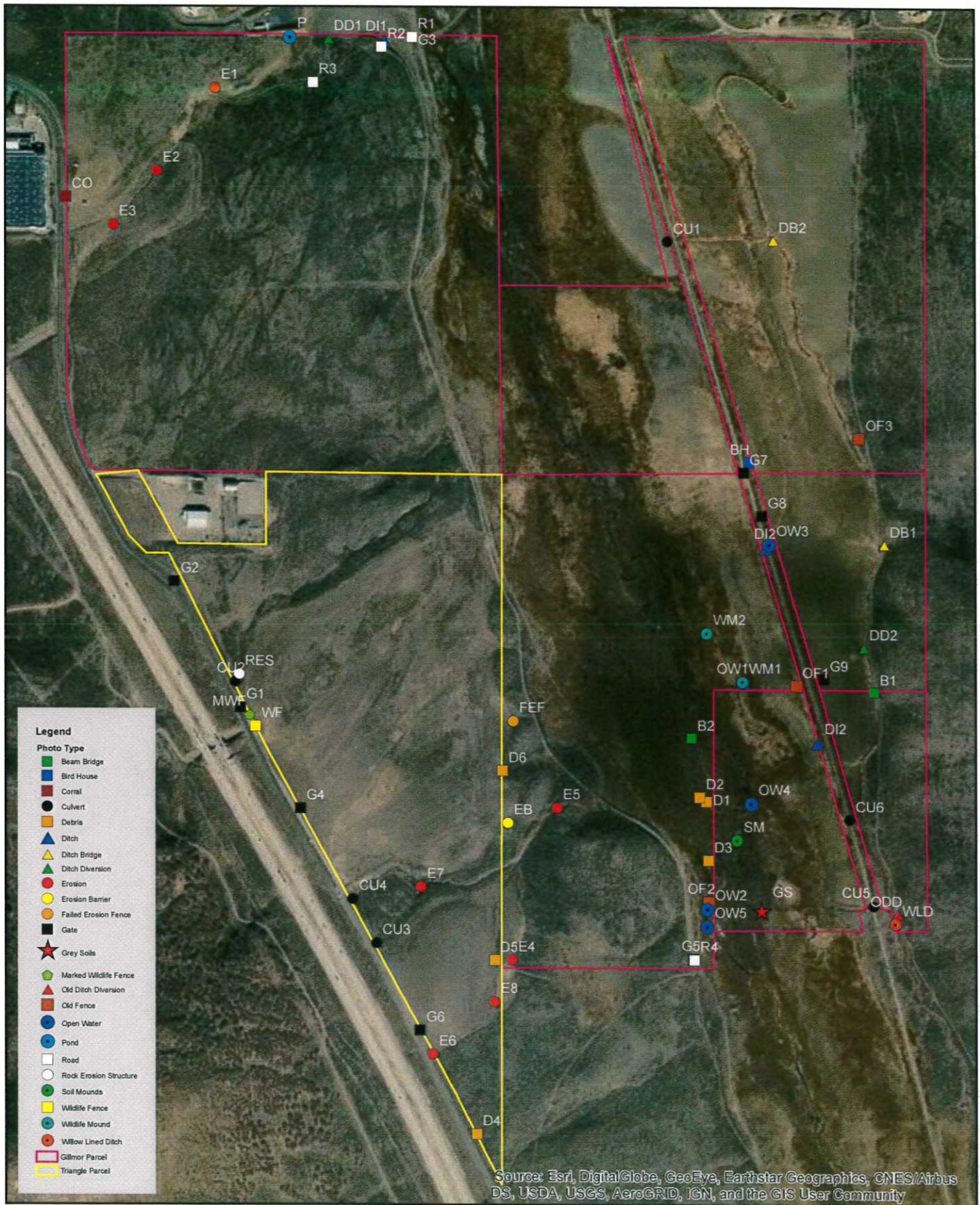
The sanitary sewer line runs underground through two Gillmor Parcels and the Triangle Parcel. From the southwest corner of parcel SS-56, the sewer line extends northwest along the edge of the floodplain into and across the northeast corner of the Triangle Parcel and then north through the eastern portion of Parcel SS-47 still along the floodplain and nearly parallel to the fenceline.

Appendix A-13

Baseline Photo Points

13a: Gillmor Baseline Photo Points Map

13b: Gillmor Baseline Data Summary Photo Point Photos



Gillmor Baseline Photo Points

Many of the structures within the project area are related to the movement of water and fences. A more recent addition to the area are a row of mountain blue bird houses that run along the Historic Rail Trail just outside the fences of the Gillmor Parcels east of the trail.



Gillmor Baseline Data Summary Photo Points

The follow photos were taken November 6-9, 2018 on the Gillmor and Triangle Parcels to provide a visual representation of site conditions and structures.

Gates



G1: Northeast facing photo of gate.



G2: East Facing photo of gate.



G3: East Facing photo of gate.



G4: Southwest facing photo of gate.



G5: South facing photo of gate.



G6: Northeast facing photo of gate.



G7: West facing photo of a rangeland gate.



G8: East facing photo of rangeland gate.



G9: East facing photo of a rangeland gate.

Fences



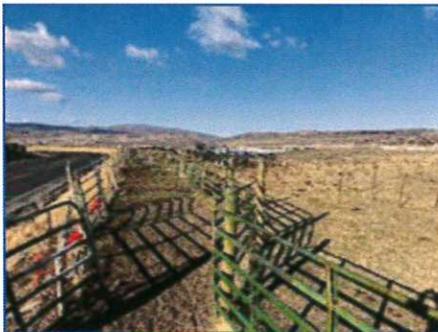
OF1:North facing photo of old gate.



OF2: North facing photo of old fence.



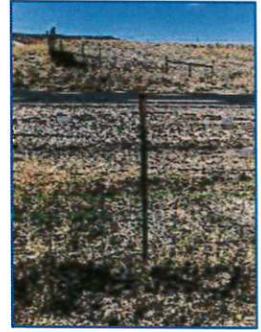
OF3:South facing photo of old fence.



CO: East facing photo of the cattle corral.



WF: Southwest facing photo of the marking wildlife fence.



MWF: South facing photo of used for wildlife safety.

Roads:



R1:West facing photo of the road heading



R2: South facing photo of a drivable road.

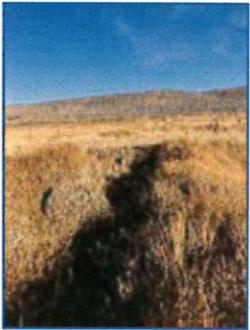


R3: North facing photo of a drivable road.



R4: North facing photo of a drivable road between the upland sage brush and wet meadow/wetland.

Culverts



CU1: East facing photo of culvert.



CU2: Southwest facing photo of typical culvert.



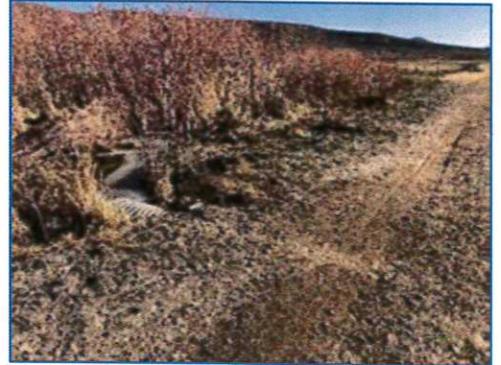
CU3: Southwest facing photo of typical culvert.



CU4: Southwest facing photo of culvert.



CU5: West facing photo of a culvert diverting irrigation ditch under the trail.



CU6: Southeast facing photo of culvert diverting ditch under the trail.

Ditches



D1: East facing photo of an irrigation ditch.



D2: North facing photo of an irrigation ditch.



D3: Northeast facing photo of an irrigation ditch.

Ditch Bridges:



DB 1: North facing photo of culverted across the irrigation ditch.



DB 2: Southeast facing photo of a plastic culverted ditch bridge crossing.

Ditch Diversions:



DD1: East facing photo of a wooden ditch diversion.



DD2: North facing photo of a tarp and wood ditch diversion.



ODD: Northwest facing photo of an old cement ditch diversion.

Wooden Beam Bridges

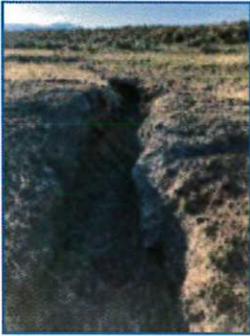


BB1: West facing photo of a beam bridge across the irrigation ditch.



BB2: West facing photo of a beam bridge across the channel.

Erosion



E1: Southwest facing photo of a moderately eroded drainage.



E2: Southwest facing photo of a highly eroded drainage.



E3: Southwest facing photo of highly eroded drainage.



E4: North facing photo of drainage erosion.



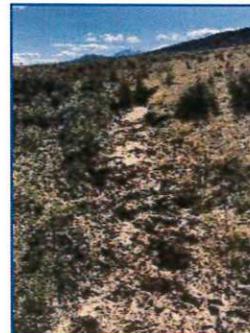
E5: Northeast facing photo of drainage erosion.



E6: Northeast facing photo of drainage erosion.



E7: Northwest facing photo of a highly eroded drainage.



E8: Southwest facing photo of a minorly eroded drainage.

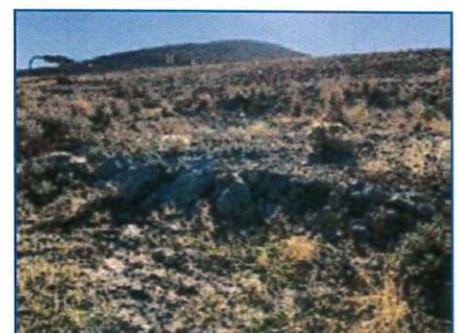
Erosion Structures:



EB: Northeast facing photo of erosion barrier.



FEF: West facing photo of a failed erosion fence.

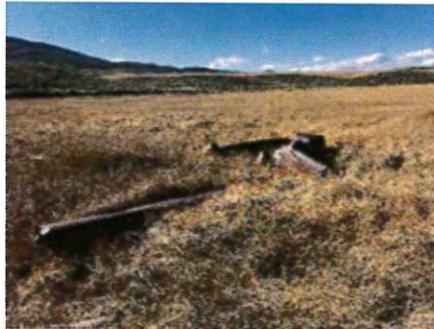


RES: Southwest facing photo of erosion structure.

Debris:



D1: South facing photo of fencing.



D2: Northwest facing photo of old pipes.



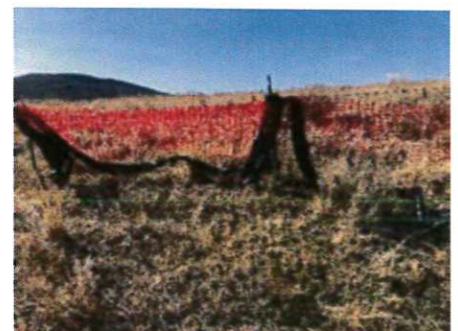
D3: South facing photo of fencing materials.



D4: East facing photo of an old tire.



D5: Northeast facing photo of fence materials.

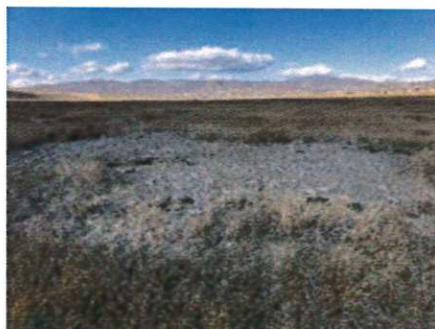


D6: West facing photo of old erosion fence.

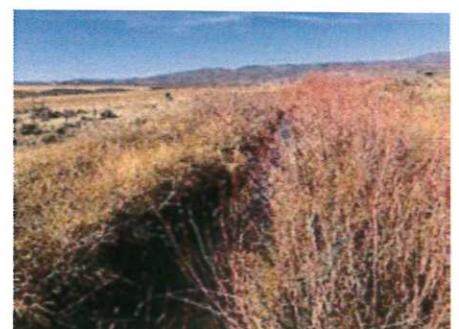
Vegetation and Soils:



SM: Southwest facing photo of soil mounds that may be mine tailings of ditch dredge.



GS: North facing photo of bare, grey soils that may be mine tailings.



WLD: Northwest facing photo of willow along the ditch.

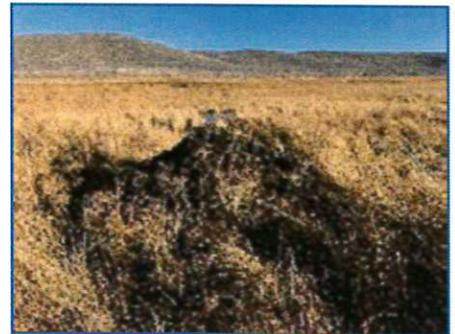
Wildlife Habitat:



MBBH: West facing photo of a mountain blue bird house.



WM1: West facing photo of a wildlife mound.



WM2: Southeast facing photo of a wildlife mound.

Open Water:



P: East facing photo of the pond behind the Justice Center.



OW1: West facing photo of open water in the wetland.



PW2: South facing photo of open water in the wetland.



OW3: Southwest facing photo of open water along the Rail Trail.



OW4: Northeast facing photo of Cattails and open water in the wetland.



OW5: East facing photo of open water at the southern boundary of the Gillmor Parcels.