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PEGGY FOY SULSER, Recorder
WASATCH COUNTY CORPORATION
For: MIDWAY SPRINGS LLC

WATTS REMUND FARMS SUBDIVISION DEVELOPMENT AGREEMENT (PHASE I)

THIS DEVELOPMENT AGREEMENT for Phase I of the Remund Farms Subdivision (the "Agreement") is entered into as of this 2 day of AUGUST, 2018, by and between MIDWAY SPRINGS, LLC (hereinafter called the "Developer") and the CITY OF MIDWAY, UTAH, a political subdivision of the State of Utah (hereinafter called the "City"). Developer and the City are, from time to time, hereinafter referred to individually as a "Party" and collectively as the "Parties." Unless otherwise noted herein, this Agreement supersedes and replaces any previous development agreements entered into by and between the Developer and the City involving the same Property (defined below) and is the entire, complete Agreement between the Parties.

RECITALS

A. The City, acting pursuant to its authority under Utah Code Ann. §10-9a-101, *et. seq.,* in compliance with the Midway City Land Use Ordinance, and in furtherance of its land use policies, goals, objectives, ordinances and regulations, has made certain determinations with respect to Phase I of the Remund Farm Subdivision (hereinafter call the "Project") and therefore has elected to approve and enter into this Agreement in order to advance the policies, goals and objectives of the City, and to promote the health, safety and general welfare of the public.

B. The Developer has a legal interest in certain real property located in the City, as described in Exhibit "A", (hereinafter referred to as the "Property") attached hereto and incorporated herein by this reference.

C. The Developer intends to develop the Property as a subdivision consisting of 96 building pads and one single family residential lot, and related appurtenances and improvements. This Project is commonly known as Phase I of the Remund Farm Subdivision. The subdivision is approximately 11.2 acres and is located in the R-1-15 zone.

D. Each Party acknowledges that it is entering into this Agreement voluntarily. The Developer consents to all the terms and conditions of this Agreement and acknowledges that they are valid conditions of the development. Unless otherwise specifically agreed to herein, the terms and conditions contained herein are in addition to any conditions or requirements of any other legally adopted ordinances, rules, or regulations governing the development of real property in the City of Midway.

NOW, THEREFORE, in consideration of the promises, covenants and provisions set forth herein, the receipt and sufficiency of which consideration is hereby acknowledged, the Parties agree as follows:

AGREEMENT

Section 1. Effective Date and Term. The term of this Agreement shall commence upon the signing of this Agreement (the "Effective Date") by both Parties, and shall continue for a period of twenty-five (25) years. Unless otherwise agreed between the City and the Developer, the Developer's vested interests and rights contained in this Agreement expire at the end of the Term, or upon termination of this Agreement. Upon termination of this Agreement, the obligations of the Parties to each other hereunder shall terminate, but none of the dedications, easements, licenses, building permits, or certificates of occupancy granted prior to the expiration of the term or termination of this Agreement shall be rescinded or limited in any manner.

Section 2. Definitions. Unless the context requires a different meaning, any term or phrase used in this Agreement that has its first letter capitalized shall have that meaning given to it by this Agreement. Certain terms and phrases are referenced below; others are defined where they appear in the text of this Agreement, including the Exhibits.

"Applicable Law" shall have that meaning set forth in Section 4.2 of this Agreement.

"Governing Body" shall mean the Midway City Council.

"City" shall mean the City of Midway, and shall include, unless otherwise provide, any and all of the City's agencies, departments, officials, employees or agents.

Section 3. Obligations of the Developer and the City.

A. Obligations of the Developer:
   i. General Obligations: The Parties acknowledge and agree that the City's agreement to perform and abide by the covenants and obligations of the City set forth herein is material consideration for the Developer's agreement to perform and abide by the covenants and obligations of the Developer set forth herein.
   ii. Conditions for Current Approvals. The Developer shall comply with all of the following Conditions:
      a) Payment of Fees: Developer agrees to pay all applicable Midway City fees as a condition of developing the Project on the Property, including all engineering and attorney fees and other outside consultant fees incurred by the City in relation to the Project. All fees, including outstanding fees for prior plan checks (whether or not such checks are currently valid) shall be paid current prior to the recording of any plat or the issuance of any building permit for the Project or any portion thereof.
      b) Water Rights: The required water rights for each phase of the Project shall be officially transferred to the City in writing before the recording of each plat

for the Project. The water rights provided by the Developer shall meet all City policies and Ordinances for culinary and irrigation use, respectively. The total quantity of water rights to be dedicated to the City for Phase I of the Project, for both culinary and irrigation use, is 50.93 acre feet.

c) Construction and/or Dedication of Project Improvements: The Developer agrees to construct and/or dedicate Project improvements as directed by the City, including but not limited to driveways, landscaping, trails, amenities, water, sewer, and other utilities as shown on the approved final plans (attached as Exhibit B) and in accordance with current City standards. The Developer shall satisfactorily complete construction of all Project improvements no later than two (2) years after the recording of the plat for the Project. The Developer also agrees to comply with the terms of the Midway City Staff report (attached as Exhibit C), approved and adopted by the Midway City Planning Commission and incorporated herein by this reference.

d) Building Pads: There are 38 pads proposed in this phase, of various sizes as established on the plat. All structural improvements must be located within the building pad for each dwelling including window wells, eave overhangs, bay window, pop outs, decks, pergolas, and other structural items.

e) Home Owners' Association: As part of the approval for Phase I, the Developer shall cause to be organized and legally formed, a Remund Farm Home Owners' Association. All of the Phases of the Remund Farm Project as shown in the approved Master Plan shall be part of the single HOA, and shall be subject to the terms and conditions of the declaration of CCRs, which shall be approved by the City and recorded against Phase I along with the official Plat.

f) Public Participation Meeting: The Developer held a public participation meeting on July 10, 2017 as required by the ordinance for master plan applications.

g) Density: The applicant is asking for approval for 97 dwellings in the total development. The density is based on the base density of 2.5 units per acre as allowed for a PUD in the R-1-15 zone. Wetlands and their associated buffer areas receive a density credit of one unit every ten acres. Also, the developer is asking for density credit of 2.26 units for the off-site open space that will be deeded to the City.

h) Weed Control/Overburden: The Developer and its successors and assigns shall eradicate, mow or trim weeds and vegetation at all times in all areas of the Project. This obligation to mow or trim weeds and vegetation does not apply to any areas of the Project that are wetlands. Wetlands areas are to remain undisturbed and native. As set forth in Exhibit D, dirt or overburden from any particular phase shall only be allowed in the designated dumping

areas within Phase II and Phase III. The overburden shall not exceed three feet in depth within the dumping areas, and Developer shall, within thirty days of dumping the overburden, shape, grade, and seed the overburden, in a manner acceptable to the City Engineer.

i) Open Space: The City Code requires that with each phase that is approved there is enough open space to comply with the requirements of the Code. For example, Phase I must have at least 50% open space for that particular phase. If Phase I has 75% open space, then Phase II or subsequent Phases only need to have 25% open space if both phases are equal in acreage. The proposed plan shows 9.22 acres (57.73%) of open space in Phase 1 which does meet the requirements of the Code.

j) Open Space Credit: The City Council hereby approves off-site open space for this proposal. Watts Enterprises owns much of the property around the River Road roundabout. The parcel is OMI-0563-0-026-034 and comprises 1.32 acres that will be deeded to the City. Watts Enterprises shall landscape the property and deed the required irrigation water to the City as it would if the open space is part of the open space within the proposed Remund Farms subdivision. The water for this open space has already been included in the calculation set forth in Section 4.A.(ii)(b). The Remund Farms HOA shall be required to maintain the entire 1.32 acres of open space in perpetuity, even though it is off-site, and an appropriate note explaining why the HOA is obligated to maintain the open space shall be placed on the Plat, and within the HOA CC&R's in order to avoid dispute with future property owners within Remund Farms Subdivision. It is expressly understood that the Developer received a density credit for 2.26 additional units within the Remund Farms subdivision in exchange for the dedication of the off-site open space, and the promise that the HOA would be obligated to maintain the open space in perpetuity just like any open space within its subdivision. Developer shall landscape the 1.32 acres no later than October 1, 2018.

k) Streets: The streets located within the area of the PUD will be private roads and will be maintained by the HOA. A public access easement shall be recorded on the Plat, which will allow access to all the streets in the PUD.

l) Construction Traffic: All construction traffic for all Project improvements will meet the requirements imposed by the Midway City Planning and Engineering Departments.

m) Warranty: Consistent with City standards, the Developer will provide a one-year warranty for the operation of all improvements.

n) Bonding: Developer agrees to post performance and other bonds in amounts and types established by the City related to the performance of the

Developer's construction obligations for the Project, pursuant to current City Ordinances and Regulations.

o) Access: Each phase of the subdivision must meet the access and cul-de-sac limitation requirements of the code. A cul-de-sac is limited to 500' in length, unless approved otherwise by the City Council. The phasing plan for Phase I and all street length and access requirements have been met as presented in the application.

p) Two Points of Access: The development shall have two points of access onto 600 North. The two points of access on 600 North do meet the City requirements regarding the two points of access ordinance.

q) Storm water control system: The Developer shall install, at its sole cost and according to plans and specifications approved by the City, a storm water control system. The ownership, maintenance, repair and replacement of the storm water system shall be the responsibility of the City.

r) Traffic Study/ Road Requirements: The Developer has submitted a traffic study to the City as part of the Master Plan. Horrocks Engineers has reviewed that study to determine what road improvements are required, and a copy of their recommendation is attached hereto as Exhibit E and incorporated herein by this reference. Developer agrees to be bound by the terms, conditions and road standards imposed by the City for each Phase. The City expressly agrees to allow the street cross-section within the Project to be reduced from 30 feet to 26 feet, as shown on the attached Exhibits and as approved by the City. All savings generated by this reduction in width shall be used by the Developer to extend the trail on 600 North. Prior to recording the plat for each phase, the actual costs and savings to the Developer will be calculated and the number of linear feet of trail to be installed by the Developer will be established. These numbers will be attached and adopted as Exhibit F. The linear feet of trail shall be installed on 600 North and/or other trails designated by the City, and shall be installed at the time the infrastructure is installed for each phase. Should the required number of linear feet be insufficient to finish the trail along 600 North, the City shall complete the remainder of the trail at its own cost.

s) Culinary Water and Sewer Service: The Project shall be connected to the City water and sewer lines as shown on the approved plans.

t) Secondary (Irrigation) Water: The secondary water (outside irrigation) shall be provided by Midway Irrigation Company. Developer shall connect to Midway Irrigation Company's secondary system, as shown on the approved plans, and shall comply with all applicable rules and regulations of Midway Irrigation Company. Secondary water laterals and meters shall be installed by

Developer for all irrigated acreage and for the single lot according to standards and specifications imposed by Midway Irrigation Company.

u) Trails: The Trails Master Plan and the Master Parks Plan calls for a linear park and trail to run north and south across the proposal. The City feels this is a very important community amenity that will benefit current residents and future residents for generations. The trail is of highest priority and careful review of the alignment and landscaping must happen to assure the trail will function and have the effect that it is envisioned to have. If the trail were built per phase then it could take several years, if not more, to complete. As such, the entire length of the trail shall be built at the time of the first phase. The portion of the trail within Phase 1 shall be a 6' wide paved public trail that will be constructed by the Developer. The remaining portion of the trail through Phase 2 and Phase 3 shall be 6' wide and will initially be covered in gravel, slag or other approved material by the City. Once Phase II begins development the trail through this portion shall be paved, with the same for Phase III. The trail plan also calls for a connection the Blackner property that is also part of the linear park trail system that will also be an 6' wide paved, boardwalk or slag (or similar material) trail, depending on the presence of wetlands and upon approval of the City. This trail will eventually connect to the Indian Summer subdivision with its part of the linear park trail system. The trail system requirements are more fully set forth in Exhibit G, which are incorporated herein by this reference.

v) In addition to the other requirements contained herein, the following specific conditions shall apply to the trails:

1. The trail on the Southwest side of the Project shall be paved, and shall run straight south from the boundary of the Project, through the Philpot property, and connect with the City road. The Developer shall obtain an easement from the Philpots for the installation of the trail at Developer's sole cost and expense. This trail shall be constructed and paved by the Developer as part of Phase I. The Developer shall also fence both sides of the easement through the Philpots, at Developer's sole cost and expense.

2. The eastern perimeter trail does not have to be paved. Instead, it shall be built using slag, or other similar material approved by the City.

w) Phase I Environmental Study and Water Study: The Developer has submitted the required Environmental Study and requested water study. Horrocks Engineers has reviewed both (see report attached as Exhibit H). The conditions contained therein are incorporated herein by this reference.

x) Sensitive Lands: The property does contain some wetlands that will not be disturbed through the development process. The wetlands will become part of the open space for the development and will be preserved. There is a

stream/ditch that runs through the property. It will be impacted by the roads crossing the development because of the culverts that will cover the ditch. Midway Irrigation Company owns an easement to the ditch area and has approved modifications made to the current ditch. Developer shall acknowledge Midway Irrigation Company's easement on the Plat. There is a warm spring on the property that will be preserved. There are also acres of wetlands on the property that are included in the open space areas of the development. A study has been submitted by the developer has been reviewed by three organizations that include The Army Corps of Engineers, Horrocks Engineers, and another third-party wetland expert that was decided by the City. There is concern by residents and of the area and the City regarding the location of wetlands and therefore the City has decided to have three entities review the study that has been submitted. The recommendations that result from those studies shall be incorporated herein and made conditions of this Agreement.

y) Staggered Setbacks for homes: Midway City Code Section 16.16.8.5.c requires variable or staggered setbacks of homes. The Code allows setbacks to start at 25 feet from the road. The City and Developer agree that in this Project, the setbacks shall start at 28 feet, and shall be staggered as required by the Code, from 28 feet to 35 feet as mutually agreed to by the Developer and the City. The purpose of the code and this agreement is to help mitigate the "wall effect" that dwellings with the same setback on a straight street creates. A plat is required for final approval and the units on the plat will need to comply with this requirement.

z) Environmental Study: The Developer has submitted the required Environmental Study and water study. Horrocks Engineers' recommendations are attached hereto as Exhibit I, incorporated herein by this reference, and made conditions hereof.

aa) Geotechnical Study: The Developer has submitted a geotechnical study to the City as part of the application. Horrocks Engineers has reviewed that that study to determine if any special requirements are needed for construction of the roads and future structures in the development. Horrocks Engineers' recommendations are attached hereto as Exhibit J, incorporated herein by this reference, and made conditions hereof.

B. Obligations of the City:

i. General Obligations: The Parties acknowledge and agree that the Developer's agreement to perform and abide by the covenants and obligations of the Developer set forth herein is material consideration for the City's agreement to perform and abide by the covenants and obligations of the City set forth herein.

ii. Conditions of Approval: The City shall not impose any further Conditions on Current Approvals other than those detailed in this Agreement, and on the Project Plats, unless agreed to in writing by the Parties. The Developer shall remain bound by all legally adopted Ordinances, Resolutions and policies of the City unless specifically agreed to otherwise herein.

iii. Acceptance of Improvements: The City agrees to accept all Project improvements constructed by the Developer, or the Developer's contractors, subcontractors, agents or employees, provided that 1) the Midway City Planning and Engineering Departments review and approve the plans for any Project improvements prior to construction; 2) the Developer permits Midway City Planning and Engineering representatives to inspect upon request any and all of said Project improvements during the course of construction; 3) the Project improvements are inspected by a licensed engineer who certifies that the Project improvements have been constructed in accordance with the approved plans and specifications; 4) the Developer has warranted the Project improvements as required by the Midway City Planning and Engineering Departments; and 5) the Project improvements pass a final inspection by the Midway City Planning and Engineering Departments.

Section 4. Vested Rights and Applicable Law.

A. Applicable Law. The rules, regulations, official policies, standards and specifications applicable to the development of the Property (the "Applicable Law") shall be in accordance with those set forth in this Agreement, and those rules, regulations, official policies, standards and specifications, including City Ordinances and Resolutions, in force and effect on the date the City Council granted preliminary approval to the Developer for the Project. The Developer expressly acknowledges and agrees that nothing in this Agreement shall be deemed to relieve the Developer from the obligation to comply with all applicable requirements of the City necessary for approval and recordation of subdivision plats, including the payment of fees and compliance with all other applicable Ordinances, Resolutions, regulations, policies and procedures of the City.

B. State and Federal Law. Notwithstanding any other provision of this Agreement, this Agreement shall not preclude the application of changes in laws, regulations, plans or policies, to the extent that such changes are specifically mandated and required by changes in State or Federal laws or regulations ("Changes in the Law") applicable to the Property. In the event the Changes in the Law prevent or preclude compliance with one or more of the provisions of this Agreement, such provisions of the Agreement shall be modified or suspended, or performance thereof delayed, as may be necessary, to comply with the Changes in the Law.

Section 5. Amendment. Unless otherwise stated in this Agreement, the Parties may amend this Agreement from time to time, in whole or in part, by mutual written consent. No amendment or modification to this Agreement shall require the consent or approval of any person or entity having any interest in any specific lot, unit or other portion of the Project. Each person or entity (other than the City and the Developer) that holds any beneficial, equitable, or other interests or encumbrances in all or any portion of the Project at any time hereby automatically, and without the need for any further documentation or consent, subjects and subordinates such interests and encumbrances to this Agreement and all amendments thereof that otherwise comply with this Section 5. Each such person or entity agrees to provide written evidence of that subjection and subordination within fifteen (15) days following a written request for the same from, and in a form reasonably satisfactory to, the City and/or the Developer.

Section 6. Cooperation and Implementation.

A. Processing of Subsequent Approvals. Upon submission by the Developer of all appropriate applications and processing fees for any Subsequent Approval to be granted by the City, the City shall promptly and diligently commence and complete all steps necessary to act on the Subsequent Approval application including, without limitation, 1) the notice and holding of all required public hearings, and 2) the granting of the Subsequent Approval as set forth herein.

The City's obligations under this Section 6 are conditioned on the Developer's provision to the City, in a timely manner, of all documents, applications, plans and other information necessary for the City to meet such obligations. It is the express intent of the Developer and the City to cooperate and work diligently and in good faith to obtain any and all Subsequent Approvals. The City may deny an application for a Subsequent Approval by the Developer only if the application is incomplete, does not comply with existing law, or violates a City Ordinance or Resolution. If the City denies an application for a Subsequent Approval by the Developer, the City must specify the modifications required to obtain such approval.

B. Other Governmental Permits.
   1. The Developer shall apply for such other permits and approvals as may be required by other governmental or quasi-governmental agencies in connection with the development of, or the provision of services to the Project.
   2. The City shall cooperate with the Developer in its efforts to obtain such permits and approvals, provided that such cooperation complies with Section 4.B of this Agreement. However, the City shall not be required by this Agreement to join, or become a party to any manner of litigation or administrative proceeding instituted to obtain a permit or approval from, or otherwise involving any other governmental or quasi-governmental agency.

Section 7. Default and Termination.

A. General Provisions.

1. Defaults by Developer. Any failure by either Party to perform any term or provision of this Agreement, which failure continues uncured for a period of thirty (30) days following written notice of such failure from the other Party, unless such period is extended by written mutual agreement, shall constitute a default under this Agreement. Any notice given pursuant to the preceding sentence shall specify the nature of the alleged failure and, where appropriate, the manner in which said failure may be satisfactorily cured. If the nature of the alleged failure is such that it cannot reasonably be cured within such thirty (30) day time period, then the commencement of the cure within such time period, and the diligent prosecution to completion of the cure thereafter, shall be deemed to be a cure within such thirty (30) day period. Upon the occurrence of an uncured default under this Agreement, the non-defaulting Party may institute legal proceedings to enforce the terms of this Agreement or, in the event of a material default, terminate this Agreement. If the default is cured, then no default shall exist and the noticing Party shall take no further action.
2. Termination. If the City elects to consider terminating this Agreement due to a material default of the Developer, then the City shall give to the Developer a written notice of intent to terminate this Agreement and the matter shall be scheduled for consideration and review by the City Council at a duly notice public meeting. The Developer shall have the right to offer written and oral evidence prior to or at the time of said public meeting. If the City Council determines that a material default has occurred and is continuing and elects to terminate this Agreement, the City Council shall send written notice of termination of this Agreement to the Developer by certified mail and this Agreement shall thereby be terminated thirty (30) days thereafter. In addition, the City may thereafter pursue any and all remedies at law or equity. By presenting evidence at such public meeting, the Developer does not waive any and all remedies available to the Developer at law or in equity.
3. Review by the City. The City may, at any time and in its sole discretion, request that the Developer demonstrate that the Developer is in full compliance with the terms and conditions of this Agreement. The Developer shall provide any and all information reasonably requested by the City within thirty (30) days of the request, or at a later date as agreed between the Parties.
4. Determination of Non-Compliance. If the City Council finds and determines that the Developer has not complied with the terms of this Agreement, and non-compliance may amount to a default if not cured, then the City may deliver a Default Notice pursuant to section 7.A of this Agreement. IF the default is not

cured in a timely manner by the Developer, the City may terminate this agreement as provided in Section 7 of this Agreement an as provided under Applicable Law.

B. Default by the City. In the event the City defaults under the terms of this Agreement, the Developer shall have all rights and remedies provided in Section 7 of this Agreement, and as provided under Applicable Law.

C. Enforced Delay; Extension of Time of Performance. Notwithstanding anything to the contrary contained herein, neither Party shall be deemed to be in default where delays in performance or failures to perform are due to, and a necessary outcome of, war, insurrection, strikes or other labor disturbances, walk-outs, riots, floods, earthquakes, fires, casualties, acts of God, restrictions imposed or mandated by other governmental entities, enactment of conflicting state or federal laws or regulations, new or supplemental environmental regulations, or similar basis for excused performance which is not within the reasonable control of the Party to be excused. Upon the request of either Party hereto, an extension of time for such cause shall be granted in writing for the period of the enforced delay, or longer as may be mutually agreed upon.

Section 8. Notice of Compliance.

A. Timing and Content. Within fifteen (15) days following any written request which the Developer may make from time to time, and to the extent that it is true, the City shall execute and deliver toe the Developer a written "Notice of Compliance," in recordable form, duly executed and acknowledge by the City, certifying that 1) this Agreement is unmodified and in full force and effect, or if there have been modifications hereto, that this Agreement is in full force and effect as modified and stating the date and nature of such modification; 2) there are no current uncured defaults under this Agreement or specifying the dates and nature of any such default; and 3) any other reasonable information requested by the Developer. The Developer shall be permitted to record the Notice of Compliance.

B. Failure to Deliver. Failure to deliver a Notice of Compliance, or a written refusal to deliver a Notice of Compliance if the Developer is not in compliance, within the time set forth in Section 8.A shall constitute a presumption that as of fifteen (15) days from the date of the Developer's written request: 1) this Agreement was in full force and effect without modification except as represented by the Developer; and 2) there were no uncured defaults in the performance of the Developer. Nothing in this Section, however, shall preclude the City from conducting a review under Section 7, or issuing a notice of default, notice of intent to terminate or notice of termination under Section 7 for defaults which commence prior to the presumption created under this Section 8, and which have continued uncured.

Section 9. Change in Developer, Assignment, Transfer and Required Notice. The rights of the Developer under this Agreement may be transferred or assigned, in whole or in part, with the

written consent of the City, which shall not be unreasonably withheld. The Developer shall give notice to the City of any proposed transfer or assignment at least thirty (30) days prior to the proposed date of the transfer or assignment.

Section 10. Miscellaneous Terms.

A. Incorporation of Recitals and Introductory Paragraph. The Recitals contained in this Agreement, and the introductory paragraph preceding the Recitals, are hereby incorporated into this Agreement as if fully set forth herein.

B. Severability. If any term or provision of this Agreement, or the application of any term or provision of this Agreement to a particular situation, is held by a court of competent jurisdiction to be invalid, void or unenforceable, the remaining terms and provisions of this Agreement, or the application of this Agreement to other situations, shall continue in full force and effect unless amended or modified by mutual written consent of the Parties. Notwithstanding the foregoing, if any material provision of this Agreement, or the application of such provision to a particular situation, is held to be invalid, void or unenforceable by the final order of a court of competent jurisdiction, either Party to this Agreement may, in its sole and absolute discretion, terminate this Agreement by providing written notice of such termination to the other Party.

C. Other Necessary Acts. Each Party shall execute and deliver to the other Party any further instruments and documents as may be reasonably necessary to carry out the objectives and intent of this Agreement, the Conditions of Current Approvals, and Subsequent Approvals and to provide and secure to the other Party the full and complete enjoyment of its rights and privileges hereunder.

D. Other Miscellaneous Terms. The singular shall be made plural; the masculine gender shall include the feminine; "shall" is mandatory; "may" is permissive.

E. Covenants Running With the Land and Manner of Enforcement. The provisions of this Agreement shall constitute real covenants, contract and properoty rights and equitable servitudes, which shall run with all of the land subject to this Agreement. The burdens and benefits of this Agreement shall bind and inure to the benefit of each of the Parties, and to their respective successors, heirs, assigns and transferees. Notwithstanding anything in this Agreement to the contrary, the owners of individual units or lots in the Project shall 1) only be subject to the burdens of this Agreement to the extent applicable to their particular unit or lot; and 2) have no right to bring any action under this Agreement as a third-party beneficiary. The City may look to the Developer, its successors and/or assigns, an owners' association governing any portion of the Project, or other like association, or individual lot or unit owners in the Project for performance of the provisions of this Agreement relative to the portions of the Projects owned or controlled by such party. The City may, but is not required to, perform any obligation of the Developer that the Developer fails adequately to

perform. Any cost incurred by the City to perform or secure performance of the provisions of this Agreement shall constitute a valid lien on the Project, including prorated portions to the individual lots or units in the Project.

F. Waiver. No action taken by any Party shall be deemed to constitute a waiver of compliance by such Party with respect to any representation, warranty, or condition contained in this Agreement. Any waiver by any Party of a breach or default of any condition of this Agreement shall not operate or be construed as a waiver by such Party of any subsequent breach or default.

G. Remedies. Either Party may institute an equitable action to cure, correct or remedy any default, enforce any covenant or agreement herein, enjoin any threatened or attempted violation thereof, enforce by specific performance the obligations and rights of the Parties hereto, or to obtain any remedies consistent with the foregoing and the purpose of this Agreement; provided, however, that no action for monetary damages may be maintained by either Party against the other Party for any act or failure to act relating to any subject covered by this Agreement (with the exception of actions secured by liens against real property), notwithstanding any other language contained elsewhere in this Agreement. In no event shall either Party be entitled to recover from the other Party either directly or indirectly, legal costs or attorney's fees in any action instituted to enforce the terms of this Agreement (with the exception of actions secured by liens against real property).

H. Utah Law. This Agreement shall be construed and enforced in accordance with the laws of the State of Utah.

I. Attorney's Fees. In the event of litigation or arbitration between the Parties regarding an alleged breach of this Agreement, neither Party shall be entitled to any award of attorney's fees.

J. Covenant of Good Faith and Fair Dealing. Each Party shall use its best efforts and take and employ all necessary actions in good faith consistent with this Agreement and Applicable Law to ensure that the rights secured to the other Party through this Agreement can be enjoyed.

K. Representations. Each Party hereby represents and warrants to each other Party tha the following statements are true, complete and not misleading as regards the representing and warrantying Party:

1. Such Party is duly organized, validly existing and in good standing under the laws of the state of its organization.
2. Such Party has full authority to enter into this Agreement and to perform all of its obligations hereunder. The individual(s) executing this Agreement on behalf of such Party do so with the full authority of the Party that those individuals represent.

3. This Agreement constitutes the legal, valid and binding obligation of such Party, enforceable in accordance with its terms, subject to the rules of bankruptcy, moratorium, and equitable principles.

L. No Third-Party Beneficiaries. This Agreement is between the City and the Developer. No other party shall be deemed a third-party beneficiary or have any rights under this Agreement.

Section 11. Notices.

Any notice or communication required hereunder between the City and the Developer must be in writing, and may be given either personally or by registered or certified mail, return receipt requested. If given by registered or certified mail, such notice or communication shall be deemed to have been given and received on the first to occur of (1) actual receipt by any of the addressees designated below as the Party to whom notices are to be sent, or (ii) five (5) days after a registered or certified letter containing such notice, properly addressed, with postage prepaid, is deposited in the United State mail. If personally delivered, a notice shall be deemed to have been given when delivered to the Party to whom it is addressed. Any Party may at any time, by giving ten (10) days written notice to the other Party, designate any other address to which notices or communications shall be given. Such notices or communications shall be given to the Parties at their addresses as set forth below:

If to the City of Midway:

Director
Planning Department
Midway City
P.O. Box 277
Midway, Utah 84049

With Copies to:

Corbin B. Gordon
Midway City Attorney
345 West 600 South
Heber City, Utah 84032

If to Developer:

Midway Springs, LLC
5200 South Highland Drive, Suite 101
Salt Lake City, Utah 84117
Attn: Russell K. Watts

Section 12. Entire Agreement, Counterparts and Exhibits. Unless otherwise noted herein, this Agreement, including its Exhibits, is the final and exclusive understanding and agreement of

the Parties and supersedes all negotiations or previous agreements between the Parties with respect to all or any part of the subject matter hereof. All waivers of the provisions of this Agreement must be in writing, and signed by the appropriate authorities of the City and of the Developer.

Section 13. Signing and Recordation of Agreement. Unless the City and the Developer mutually agree otherwise, this Agreement must be signed by both the Developer and the City no later than ninety (90) days after the Agreement is approved by a vote of the Midway City Council, or else the City's approval of the Project will be rescinded. The City Recorder shall cause to recorded, at the Developer's expense, a fully executed copy of this Agreement in the Official Records of the County of Wasatch no later than the date on which the first plat for the Project is recorded.

IN WITNESS HEREOF, this Agreement has been entered into by and between the Developer and the City as of the date and year first above written.

CITY OF MIDWAY

Celeste Johnson, Mayor

Attest:

Brad Wilson, City Recorder

STATE OF UTAH)
:ss
COUNTY OF WASATCH)

The foregoing instrument was acknowledged before me this 30 day of July, 2018, by Celeste Johnson, who executed the foregoing instrument in her capacity as the Mayor of Midway City, Utah, and by Brad Wilson, who executed the foregoing instrument in his capacity as Midway City Recorder.

JENNIFER SWEAT
Notary Public, State of Utah
Commission # 698252
My Commission Expires On
December 24, 2021

NOTARY PUBLIC

THE DEVELOPER OF PHASE I OF THE
REMUND FARM SUBDIVISION

Midway Springs, LLC

By: RUSSELL K. WATTS

Its: MAN.

STATE OF UTAH)
:ss
COUNTY OF WASATCH)

BB The foregoing instrument was acknowledged before me this 2nd day of Aug., 2018, by Russell K Watts, who executed the foregoing instrument in his capacity as the Manager of the Developer, Midway Springs, LLC.

Barbara Bale
NOTARY PUBLIC

BARBARA BALE
Notary Public State of Utah
My Commission Expires on:
January 19, 2021
Comm. Number: 693160

EXHIBIT A

EXHIBIT A Ent 456064 Bk 1233 Pg 1565

First American Title™	Title Insurance Commitment
	ISSUED BY **First American Title Insurance Company**
Schedule A	ATLAS TITLE INSURANCE AGENCY, INC. 490 West 100 South Heber City, UT 84032 Ph 435.657.1220 Fax 435.657.1225

Issued by: **Atlas Title Insurance Agency, Inc.** ***File No.:*** 32229
Addr: 490 West 100 South, Heber, UT 84032 ***Ph:*** (435) 657-1220 ***Fax:*** (435) 657-1225

Escrow Officer: Kim Smith ***Email:*** kims@atlastitle.com
Title Officer: Michael H. Brown ***Email:*** mbrown@atlastitle.com

1. Commitment Date: May 15, 2017 at 7:55 AM
2. Policy (or Policies) to be issued: POLICY AMOUNT

   a. ☐ ALTA Owner's Policy of Title Insurance

   ☐ ALTA Homeowner's Policy of Title Insurance

   Proposed Insured: RKW 2006, LLC

   b. ☐ ALTA Loan Policy of Title Insurance

   ☐ ALTA Expanded Coverage Residential Loan Policy

   Proposed Insured: Lender

   Endorsements 8.1-06 and 9 Premium: $50.00

3. Fee Simple interest in the land described in this Commitment is owned, at the Commitment Date, by

   Parcel 1 & 2:

   Remund Ranch, Inc., a Utah Corporation

   Parcel 3:

   Harold S. Remund and Vickie S. Remund, husband and wife as joint tenants

   Parcel 4:

   Harold Remund and Vickie Remund, as trustees of the Harold and Vickie Remund Family Trust, dated July 17th, 2013

   Parcel 5 & 6:

   Fitzwilliam Midway, LP

   Parcel 7:

   Fitzwilliam Five, LLC

   Parcel 8:

   Fitzwilliam One, LLC

4. The land referred to in this Commitment is described as follows: SEE EXHIBIT "A" ATTACHED HERETO

The following is shown for informational purposes only:
Property Address: Not Yet Assigned, Midway, UT 84049, 190 East 600 North, Midway, UT 84032, 210 East 600 North, Midway, UT 84049, Not Yet Assigned, Midway, UT 84049, 280 East 600 North, Midway, UT 84049, Not Yet Assigned, Midway, UT 84049, 260 East 600 North, Midway, UT 84049, and Not Yet Asisgned, Midway, UT 84049 ***Tax ID No.:*** OMI-0429, OMI-0420, OMI-0420-1, OMI-0420-2, OMI-0402, OMI-0403-1, OMI-0403, and OMI-0402-1

By: _____
Authorized Countersignature
(This Schedule A valid only when Schedule B is attached.)

First American Title™	Title Insurance Commitment
	ISSUED BY **First American Title Insurance Company**
Exhibit A	ATLAS TITLE INSURANCE AGENCY, INC. 490 West 100 South Heber City, UT 84032 Ph. 435.657.1220 Fax 435.657.1225

File No.: 32229

The Land referred to herein below is situated in the County of Wasatch, State of Utah, and is described as follows:

Parcel 1:

Beginning at a point 54 rods North and 18 rods East of the Southwest corner of the Northwest quarter of Section 35, Township 3 South, Range 4 East, Salt Lake Base and Meridian; thence North 30 rods; thence East 40 rods; thence South 40 rods; thence West 20 rods; thence North 10 rods; thence West 20 rods to the point of beginning.

Subject to the Fence Line Agreement recorded on 16 October 2003 as entry no. 264291, in book 659, at page 17, of Official Records.

Tax id no. OMI-0429

Parcel 2:

Beginning at a point 20.35 chains West of the Northeast corner of the Northwest quarter South of Section 35, Township 3 South, Range 4 East, Salt Lake Base and Meridian; thence West 4.45 chains; thence South 25' West 9 chains; thence West 5.55 chains; thence South 25' West 10 chains; thence East 10 chains; thence North 28' East 19 chains to the point of beginning.

Less the following parcels:

Commencing West 1468.92 feet from the North quarter corner of Section 35, Township 3 South, Range 5 East, Salt Lake Base and Meridian; and running thence South 0°23' West 129.12 feet; thence North 89°28' West 100 feet; thence North 0°23' East 128.18 feet; thence East 100 feet to the point of beginning.

And:

Commencing West 1468.92 feet and South 0°23' West 129.12 feet from the North quarter corner of Section 35, Township 3 South, Range 4 East, Salt Lake Base and Meridian; and running thence South 0°23' West 100 feet; thence North 89° 28' West 100 feet; thence North 0°23' East 100 feet; thence South 89°28' East 100 feet to the point of beginning.

Tax id no. OMI-0420

Parcel 3:

Commencing West 1468.92 feet from the North quarter corner of Section 35, Township 3 South, Range 4 East, Salt Lake Base and Meridian; and running thence South 0°23' West 129.12 feet; thence North 89°28' West 100 feet; thence North 0°23' East 128.18 feet; thence East 100 feet to the point of beginning.

Tax id no. OMI-0420-1

Parcel 4:

Commencing West 1468.92 feet and South 0°23' West 129.12 feet from the North quarter corner of Section 35, Township 3 South, Range 4 East, Salt Lake Base and Meridian; and running thence South 0°23' West 100 feet; thence North 89°28' West 100 feet; thence North 0°23' East 100 feet; thence South 89°28' East 100 feet to the point of beginning.

Tax id no. OMI-0420-2

Parcel 5:

Beginning West 363.0 feet and South 03°12' West 194.3 feet from the North quarter corner of Section 35, Township 3 South, Range 4 East, Salt Lake Base and Meridian; and running thence South 03°12' West 520.96 feet; thence North 69° 10'16" West 167.58 feet; thence North 89°03'28" West 371.65 feet; thence South 77°31'15" West 192.78 feet; thence North 0°25' East 690.13 feet; thence East 476.88 feet; thence South 194.0 feet; thence East 263.56 feet to the point of beginning.

Tax id no. OMI-0402

Parcel 6:

Beginning West 363 feet and South 03°12' West 715.26 feet from the North quarter corner of Section 35, Township 3 South, Range 4 East, Salt Lake Base and Meridian; thence South 03°12' West 32.74 feet; thence South 62°28' East 69.4 feet; thence South 551.4 feet; thence North 87° West 995.28 feet; thence North 00°25' East 1278.22 feet, more or less, to the North line of Section 35; thence East 318.1 feet, more or less, to the West line of the Remund Dairy, Inc. Property; thence South 00°25' West 690.13 feet; thence North 77°31'15" East 192.78 feet; thence South 89°03'28" East 371.65 feet; thence South 67°10'16" East 167.58 feet to the point of beginning.

Less and excepting therefrom:

Commencing at a point which is the North quarter corner of Section 35, Township 3 South, Range 4 East, Salt Lake Base and Meridian, set in 1995; thence West 1026.573 feet to the true point of beginning; and running thence East 245.00 feet; thence South 00°25'00" West 156.0 feet; thence West 180.00 feet; thence South 00°25'00" West 92.00 feet; thence West 65.00 feet; thence North 00°25'00" East 248.0 feet to and along a fence to the true point of beginning.

Also less and excepting therefrom:

Beginning at a point which is the North quarter corner of Section 35, Township 3 South, Range 4 East, Salt Lake Base and Meridian, set in 1995; thence West 1026.573 feet to the true point of beginning; and running thence South 00°25'00" West 934.00 feet; thence West 283.18 feet; thence North 00°25'00" East 694.00 feet; thence East 188.10 feet; thence North 00°25'00" East 240.00 feet along a fence; thence East 95.07 feet to the true point of beginning.

Tax id no. OMI-0403-1

Parcel 7:

Beginning at a point which is the North quarter corner of Section 35, Township 3 South, Range 4 East, Salt Lake Base and Meridian, set in 1995; thence West 1026.573 feet to the true point of beginning; and running thence South 00°25'00" West 934.00 feet; thence West 283.18 feet; thence North 00°25'00" East 694.00 feet; thence East 188.10 feet; thence North 00°25'00" East 240.00 feet along a fence; thence East 95.07 feet to the true point of beginning.

Tax id no. OMI-0403

Parcel 8:

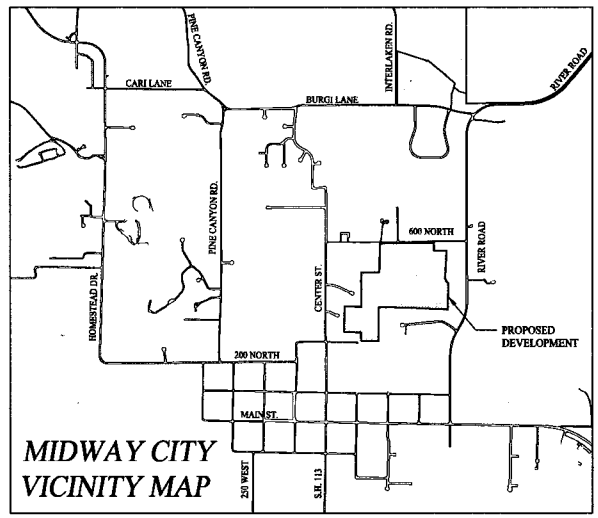
Commencing at a point which is the North quarter corner of Section 35, Township 3 South, Range 4 East, Salt Lake Base and Meridian, set in 1995; thence West 1026.573 feet to the true point of beginning; and running thence East 245.00 feet; thence South 00°25'00" West 156.0 feet; thence West 180.00 feet; thence South 00°25'00" West 92.00 feet; thence West 65.00 feet; thence North 00°25'00" East 248.00 feet to and along a fence to the true point of beginning.

EXHIBIT B

REMUND FARMS
PHASE 1 - CONSTRUCTION PLANS

Horrocks Engineers
Approved by
Date: 7-25-17

SHEET INDEX



MIDWAY CITY VICINITY MAP

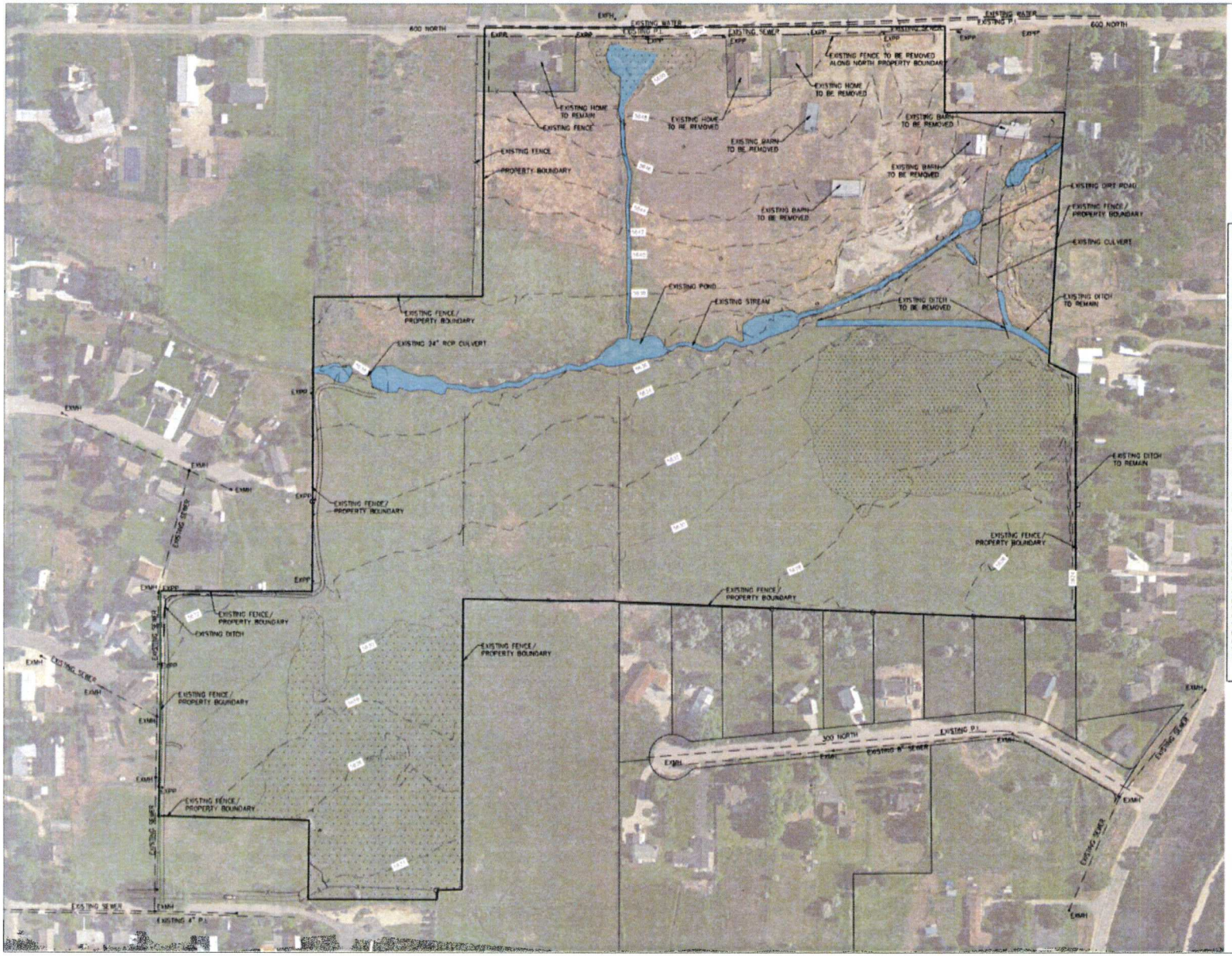
REMUND FARMS PHASE 1 CONSTRUCTION PLANS - 15 JUNE 2018

STATE OF UTAH
RYAN K. WARD
9237
15 JUNE 2018

WATTS ENTERPRISES
REMUND FARMS
COVER SHEET

BERG ENGINEERING
RESOURCE GROUP, P.C.
360 E Main St. Suite 204,
Midway, UT 84049
ph. (435) 657-9749

DESIGN BY: POB
DRAWN BY: CNB
DATE: 15 JUNE 2018
REV:
SHEET 0



Horrocks Engineers
Approved by

Date: 2-6-18

N

100' 0 100' 200'

Scale 1" = 100'

SCALE 1"=200' FOR 11"X17" PLAN

LEGEND

WETLANDS

EXISTING DITCH

SENSITIVE LANDS NOTES

HOT POTS
THERE ARE NO HOT POTS OR GEOTHERMAL DOMES ON THE PROPERTY.

SPRINGS
THE EXISTING HOT SPRINGS ON THE PROPERTY IS BEING PRESERVED AND IS INCLUDED IN THE DEVELOPMENTS OPEN SPACE.

STREAMS AND WATERWAYS
THE EXISTING STREAM AND WATERWAYS ON THE PROPERTY ARE BEING PRESERVED AND ARE INCLUDED IN THE DEVELOPMENTS OPEN SPACE AREAS.

FLOODPLAINS
THERE ARE NO FEMA 100 YEAR FLOODPLAINS ON THE PROPERTY.

SLOPES
THERE ARE NO HILL SIDES OR SLOPES GREATER THAN 25% ON THE PROPERTY.

RIDGELINES
THERE ARE NO RIDGELINES ON THE PROPERTY.

WETLANDS
WETLANDS ON THE PROPERTY HAVE BEEN DELINEATED BY ROBERT THOMAS, PROFESSIONAL WETLANDS SCIENTIST WITH BIO-WEST, INC. A PRELIMINARY JURISDICTIONAL DETERMINATION HAS BEEN ISSUED BY THE ARMY CORPS OF ENGINEERS (SPK-2016-00264) FOR THE EXISTING STREAM AND PROPERTY NORTH OF THE STREAM. CORPS OF ENGINEERS APPROVAL OF THE WETLANDS SOUTH OF THE STREAM IS PENDING. PLEASE REFER TO THE PRELIMINARY PLAN DOCUMENTS FOR THE WETLANDS DELINEATION REPORT.

GROUNDWATER
THIS PROPERTY HAS A HIGH GROUNDWATER TABLE. GROUNDWATER WAS TYPICALLY FOUND AT 1-3 FEET. THE GEOTECHNICAL ENGINEER HAS RECOMMENDED ALL FINISHED FLOOR ELEVATIONS BE 3 FEET ABOVE THE GROUNDWATER ELEVATION. PLEASE REFER TO THE PRELIMINARY PLAN DOCUMENTS FOR THE GEOTECH REPORT.

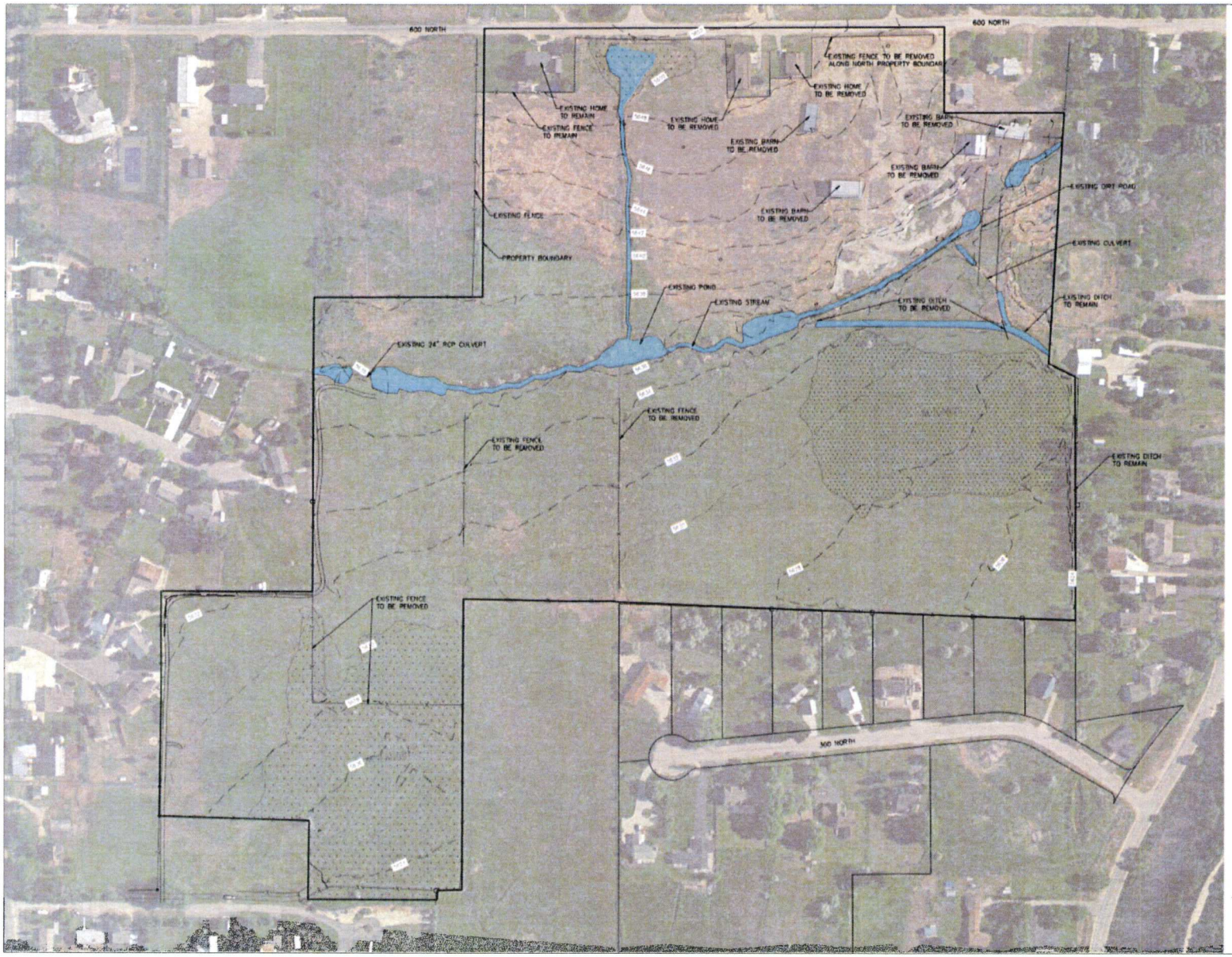
THREATENED, ENDANGERED AND SENSITIVE SPECIES SURVEY
WMR ENVIRONMENTAL CONDUCTED A LITERATURE REVIEW AND SITE VISIT AND CONSULTED WITH THE UTAH DIVISION OF WILDLIFE RESOURCES (UDWR) TO ASSESS GENERAL WILDLIFE HABITAT QUALITY AND TO DETERMINE THE PRESENCE OF SUITABLE HABITAT FOR STATE AND FEDERALLY-LISTED THREATENED, ENDANGERED AND SENSITIVE SPECIES ON THE PROPERTY. SUITABLE HABITAT IS NOT PRESENT AND/OR KNOWN DISTRIBUTIONS DO NOT COINCIDE WITH THE PROJECT AREA FOR THE THREE FEDERALLY-LISTED THREATENED AND ENDANGERED WILDLIFE SPECIES FOUND IN WASATCH COUNTY. ADDITIONALLY, SUITABLE HABITAT IS NOT PRESENT WITHIN THE PROJECT AREA FOR 18 OF THE 22 WASATCH COUNTY SPECIFIC STATE-LISTED WILDLIFE SPECIES OF CONCERN. THE FOUR STATE-LISTED SPECIES THAT MAY BE FOUND WITHIN THE PROJECT AREA INCLUDE BALD EAGLE (HALIAEETUS LEUCOCEPHALUS), BOBOLINK (DOLICHONYX ORYZIVORUS), SHORT-EARED OWL (ASIO FLAMMEUS), AND SMOOTH GREEN SNAKE (OPHEODRYS VERNALIS). PLEASE REFER TO THE PRELIMINARY PLAN DOCUMENTS FOR THE SPECIES REPORT.

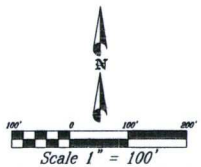
STATE OF UTAH
PAUL D. BERG
PROFESSIONAL ENGINEER
15 JUNE 2018

WATTS ENTERPRISES
REMUND FARMS
EXISTING CONDITIONS / SENSITIVE LANDS MAP

BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204,
Midway, Ut 84049
ph. (435) 657-9749

DESIGN BY: PDB
DRAWN BY: CNR
DATE: 15 JUNE 2018
REV:
SHEET 1





LEGEND

WETLANDS

EXISTING DITCH

NOTES:
1. LOCATION OF EXISTING UTILITIES SHOWN ON PLAN ARE APPROXIMATE AND MAY BE INCOMPLETE. CONTRACTOR IS RESPONSIBLE FOR BLUE STAKING OF UTILITIES.

Horrocks Engineers
Approved by

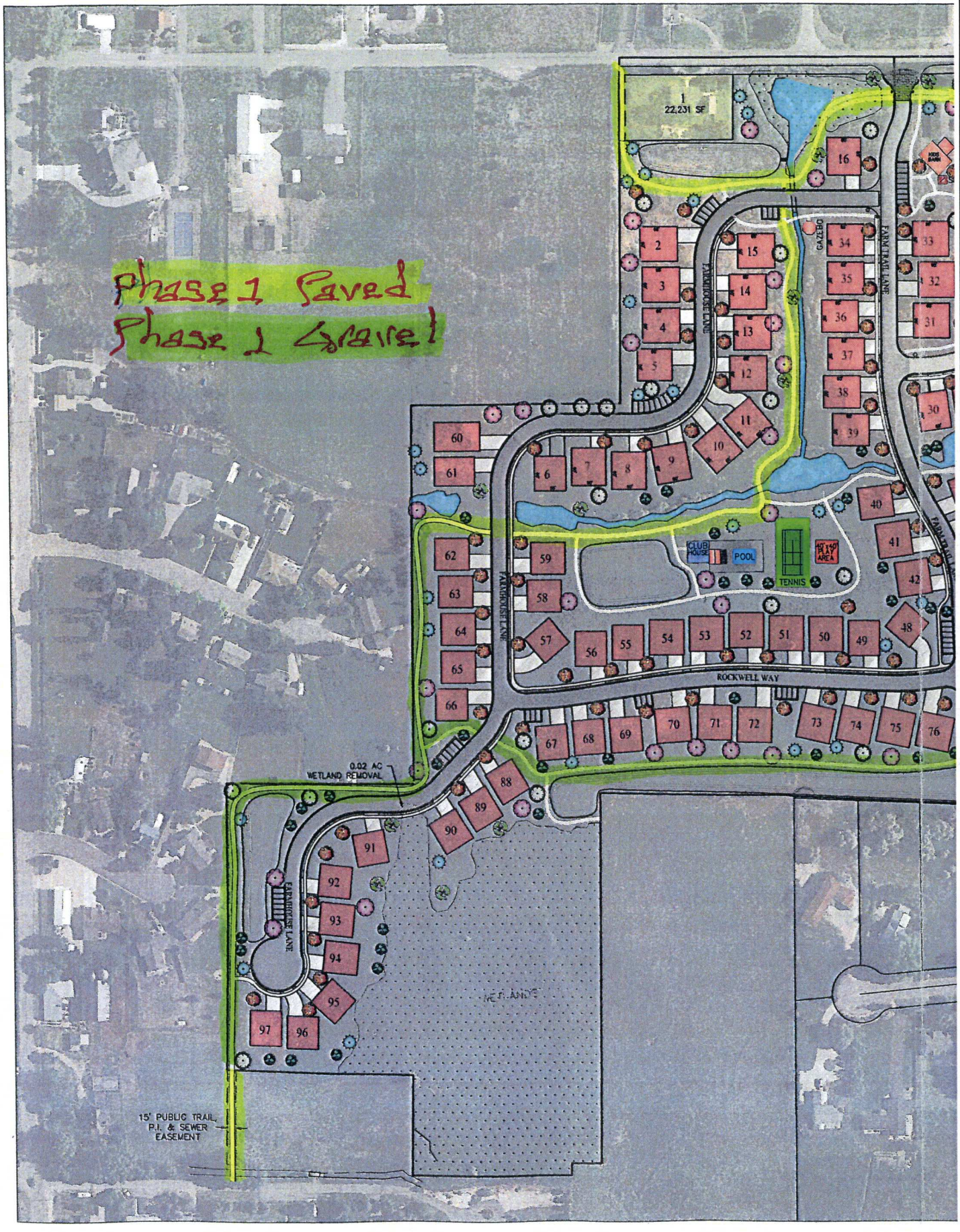
Date:

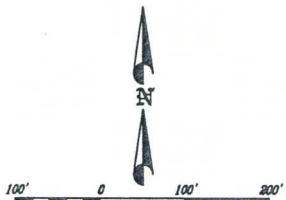
WATTS ENTERPRISES
REMUND FARMS

SITE DEMOLITION PLAN

BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204,
Midway, Ut 84049
ph. (435) 657-9749

DESIGN BY: PDB DRAWN BY: CNR	DATE: 15 JUNE 2018 REV:	SHEET 2


Phase 1 Paved
Phase 1 Gravel
1
22,231 SF
FARMHOUSE LANE
FARM TRAIL LANE
GAZEBO
CLUB HOUSE
POOL
TENNIS
40'x60' PLAY AREA
ROCKWELL WAY
0.02 AC WETLAND REMOVAL
WETLANDS
15' PUBLIC TRAIL, P.I. & SEWER EASEMENT



Scale 1" = 100'

SCALE 1"=200' FOR 11"X17" PLANS

LEGEND

WETLANDS

TRAIL

IMPROVED DITCH

LAND USE SUMMARY

ZONE	R-1-15
TOTAL AREA	50.87 AC
PUD AREA	50.36 AC
SUBDIVISION AREA	0.51 AC
SUBDIVISION LOTS	1 LOT (REMUND EX. HOME)
PUD UNITS	96 UNITS
TOTAL UNITS	97 TOTAL UNITS

DENSITY	1.91 PER ACRE
ONSITE OPEN SPACE	28.36 AC (55.75% OF ENTIRE)
OFFSITE OPEN SPACE	1.32 AC (02.59%)
TOTAL OPEN SPACE	29.68 AC (58.34% OF ENTIRE) (50% REQUIRED)

PUD UNIT FRONT SETBACK NOTE:
16.16.8.5.C. THE CITY COUNCIL MAY WAIVE THIS REQUIRMENT (STAGGERED SETBACKS) WHEN A CURVILINEAR STREET DESIGN IS USED AND SHOWN TO CREATED THE SAME VARYING SETBACK EFFECT.

PUD DENSITY CALCULATIONS

TOTAL PUD AREA	50.36 ACRES
WETLAND AND 25' BUFFER	13.39 ACRES
DENSITY FOR R-1-15 ZONE:	2.50 UNITS/ACRE
DENSITY FOR WETLANDS AND 25' BUFFER:	0.10 UNITS/ACRE

2.50(50.36-13.39) + 13.39(0.10) = 93.74

ALLOWED PUD UNITS FOR THE PROPERTY	93.74
UNITS FOR OFFSITE OPEN SPACE TRANSFER	2.26
TOTAL PUD UNITS ALLOWED FOR PROJECT	96.00

*SEE OFFSITE OPEN SPACE TRANSFER APPROVAL FROM MIDWAY CITY COUNCIL. MAXIMUM OF 97 UNITS ALLOWED FOR THE DEVELOPMENT.

MIDWAY CITY CODE EXCEPTIONS NOTE:
THIS PLAN IS BASED ON THE FOLLOWING EXCPETIONS ALLOWED IN CITY CODE.
-CUL-DE-SAC LONGER THAN 500 FEET WITH CITY COUNCIL APPROVAL
-WETLAND SETBACKS WITH CITY ENGINEER APPROVAL

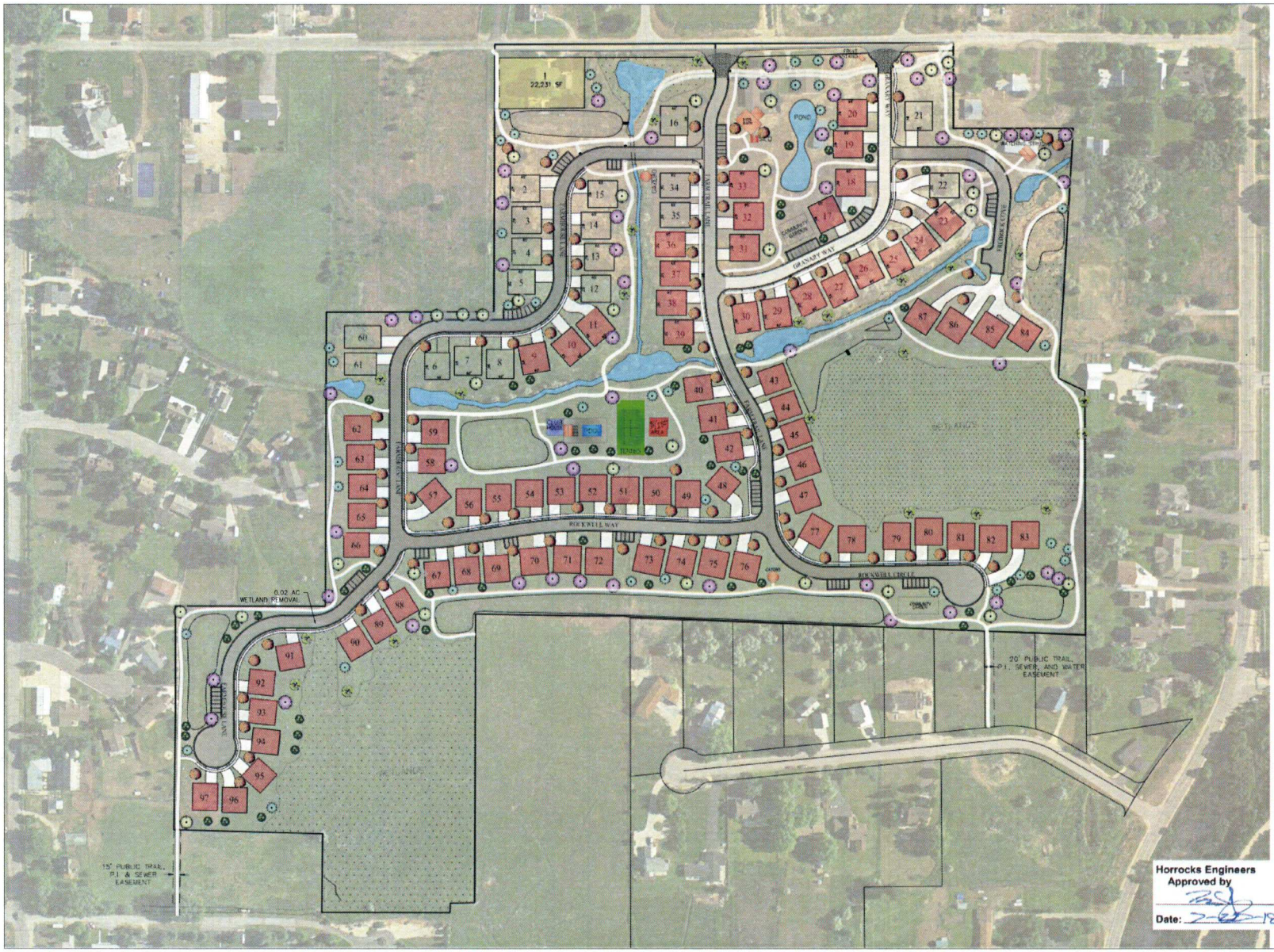
WATTS ENTERPRISES

REMUND FARMS

SITE MASTER PLAN

BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204,
Midway, Ut 84049
ph. (435) 657-9749

DESIGN BY: PDB DRAWN BY: CNB	DATE: 15 JUNE 2018 REV:	SHEET 3



N

100' 0 100' 200'

Scale 1" = 100'

SCALE: 1"=200' FOR 11"X17" PLANS

LEGEND

- WETLANDS
- TRAIL
- IMPROVED DITCH

LAND USE SUMMARY

ZONE	R-1-15
TOTAL AREA	50.87 AC
PUD AREA	50.36 AC
SUBDIVISION AREA	0.51 AC
SUBDIVISION LOTS	1 LOT (REMUND EX. HOME)
PUD UNITS	96 UNITS
TOTAL UNITS	97 TOTAL UNITS

DENSITY 1.91 PER ACRE
ONSITE OPEN SPACE 28.36 AC (55.75% OF ENTIRE)
OFFSITE OPEN SPACE 1.32 AC (02.59%)
TOTAL OPEN SPACE 29.68 AC (58.34% OF ENTIRE)
(50% REQUIRED)

PUD UNIT FRONT SETBACK NOTE:
16.16.R.5.C. THE CITY COUNCIL MAY WAIVE THIS REQUIRMENT (STAGGERED SETBACKS) WHEN A CURVILINEAR STREET DESIGN IS USED AND SHOWN TO CREATED THE SAME VARYING SETBACK EFFECT.

PUD DENSITY CALCULATIONS

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MIDWAY CITY CODE EXCEPTIONS NOTE:
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-CUL-DE-SAC LONGER THAN 500 FEET WITH CITY COUNCIL APPROVAL
-WETLAND SETBACKS WITH CITY ENGINEER APPROVAL

STATE OF UTAH
PAUL D. BERG
PROFESSIONAL ENGINEER
15 June 2018

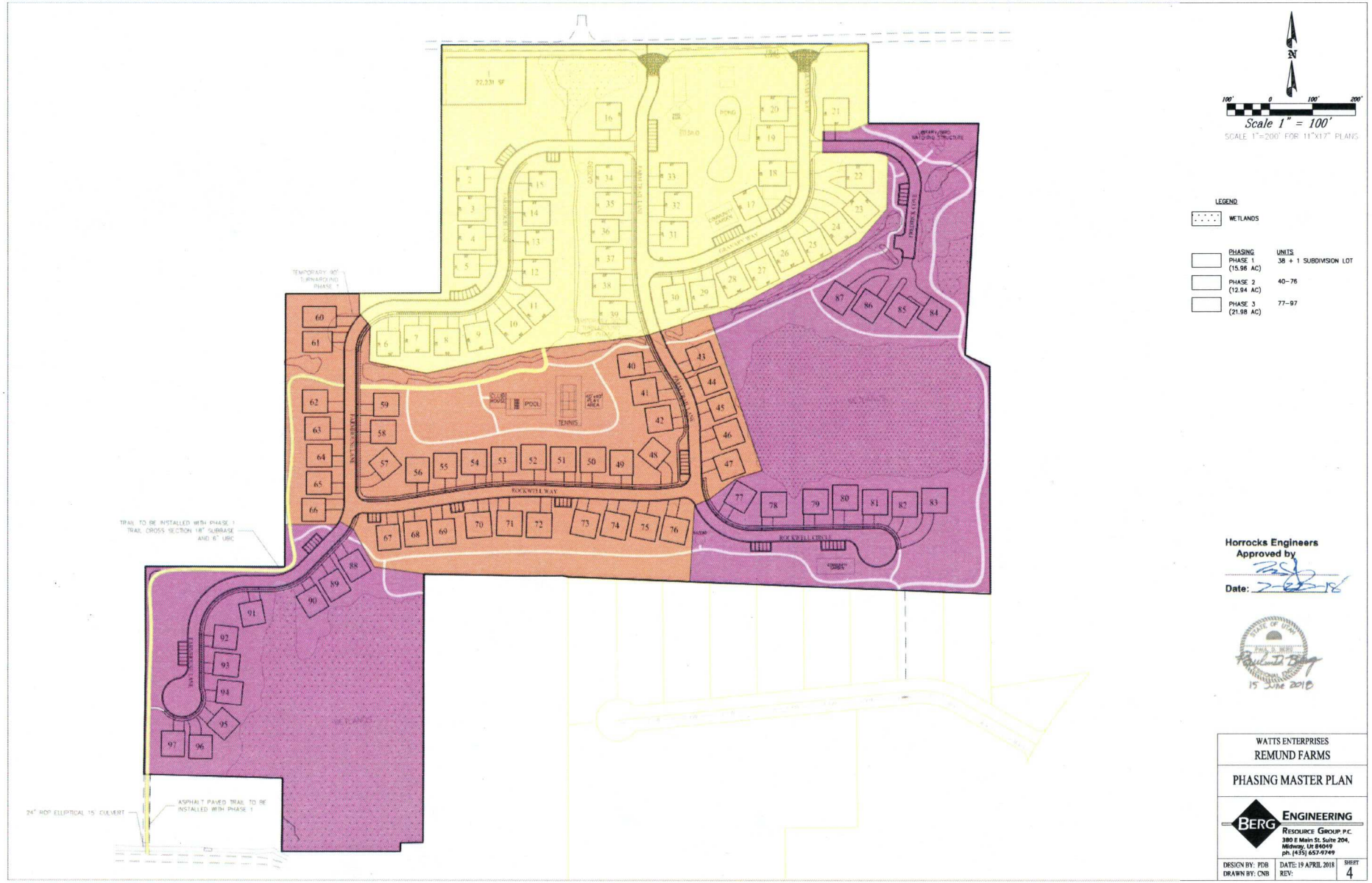
Horrocks Engineers
Approved by
Date: 7-6-18

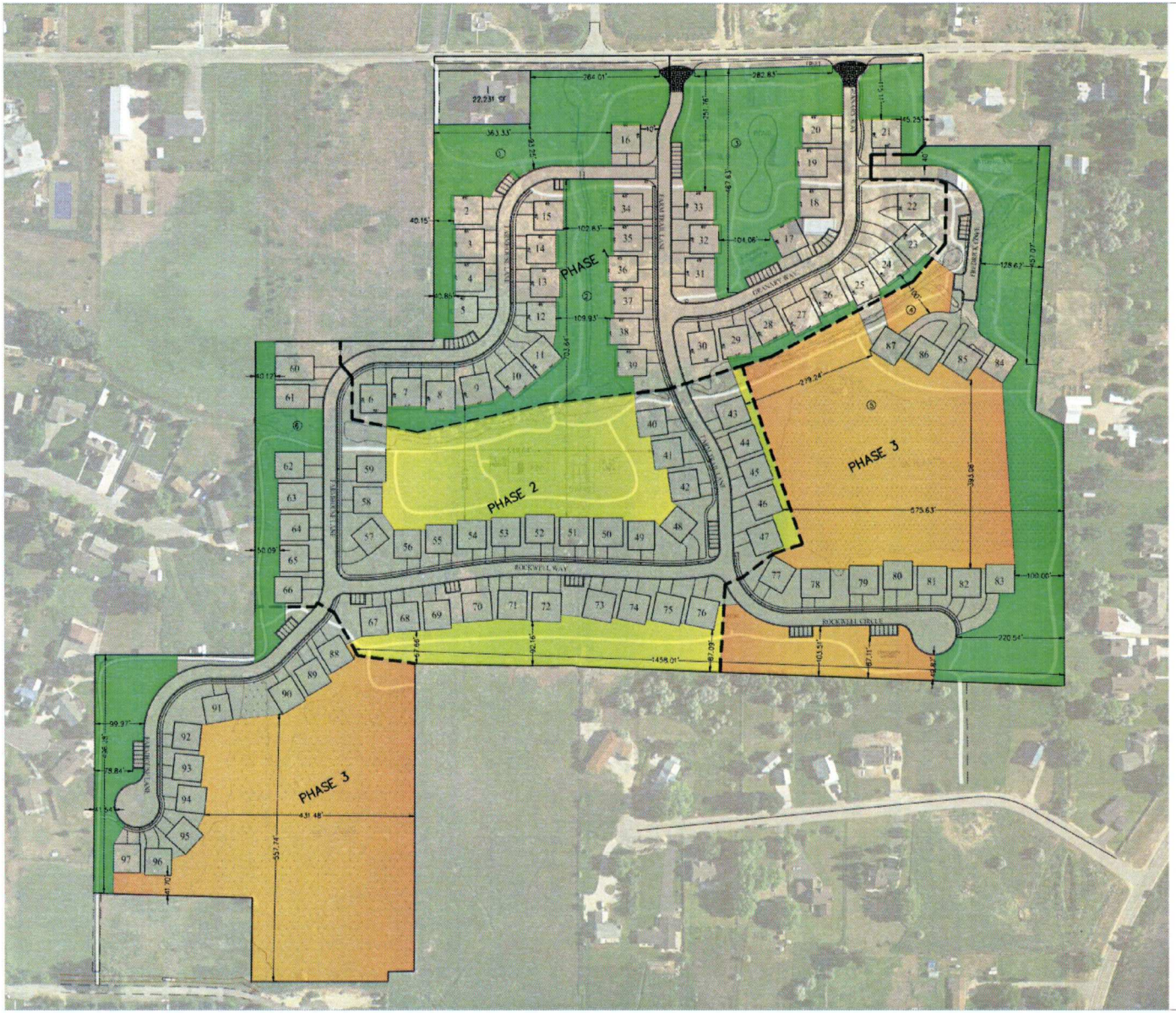
WATTS ENTERPRISES
REMUND FARMS

SITE MASTER PLAN

BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204,
Midway, UT 84049
ph. (435) 657-9749

DESIGN BY: PDB	DATE: 15 JUNE 2018	SHEET 3
DRAWN BY: CNB	REV:	





N

100' 0 100' 200'

Scale 1" = 100'

SCALE 1"=200' FOR 11"X17" PLANS

LEGEND

WETLANDS (10.00 AC)

OPEN SPACE PERIPHERY – 40' MINIMUM
INTERIOR – 100' MINIMUM
ONSITE 27.38 AC (53.95%)
OFFSITE 1.32 AC (02.60%)
TOTAL 28.70 AC (56.55%) (50% REQUIRED)

OPEN SPACE DEDICATION BY PHASE

PHASE	AREA	OPEN SPACE PER PHASE	TOTAL PROJECT AREA	TOTAL PROJECT OPEN SPACE
1	15.96 AC	11.69 AC (73.20%)	15.96 AC	11.69 AC (73.20%)
2	12.94 AC	4.57 AC (35.32%)	28.90 AC	16.26 AC (56.26%)
3	21.84 AC	12.10 AC (55.45%)	50.87 AC	28.36 AC (55.75%)
ADDITIONAL OFFSITE OPEN SPACE DEDICATED WITH PHASE 1		1.32 AC		29.68 AC (58.34%)

OPEN SPACE AREAS

① 1.95 ACRES
② 4.45 ACRES
③ 2.25 ACRES
④ 0.36 ACRES
⑤ 18.47 ACRES
⑥ 0.88 ACRES

OPEN SPACE NOTES:

TOTAL AREA: 50.87 ACRES
PUD AREA: 50.36 ACRES
TOTAL OPEN SPACE: 28.36 A ACRES (55.49%) OF ENTIRE DEVELOPMENT

OPEN SPACE IN A SINGLE OPEN SPACE AREA
AREA 5 = 18.47 ACRES (65.13%)

SECTION 16.16.11.C REQUIRES ONE-HALF OF ALL OPEN SPACE TO BE RETAINED IN A SINGLE OPEN SPACE AREA. OPEN SPACE PARCEL 5 MEETS THIS PUD REQUIREMENT.

Horrocks Engineers
Approved by

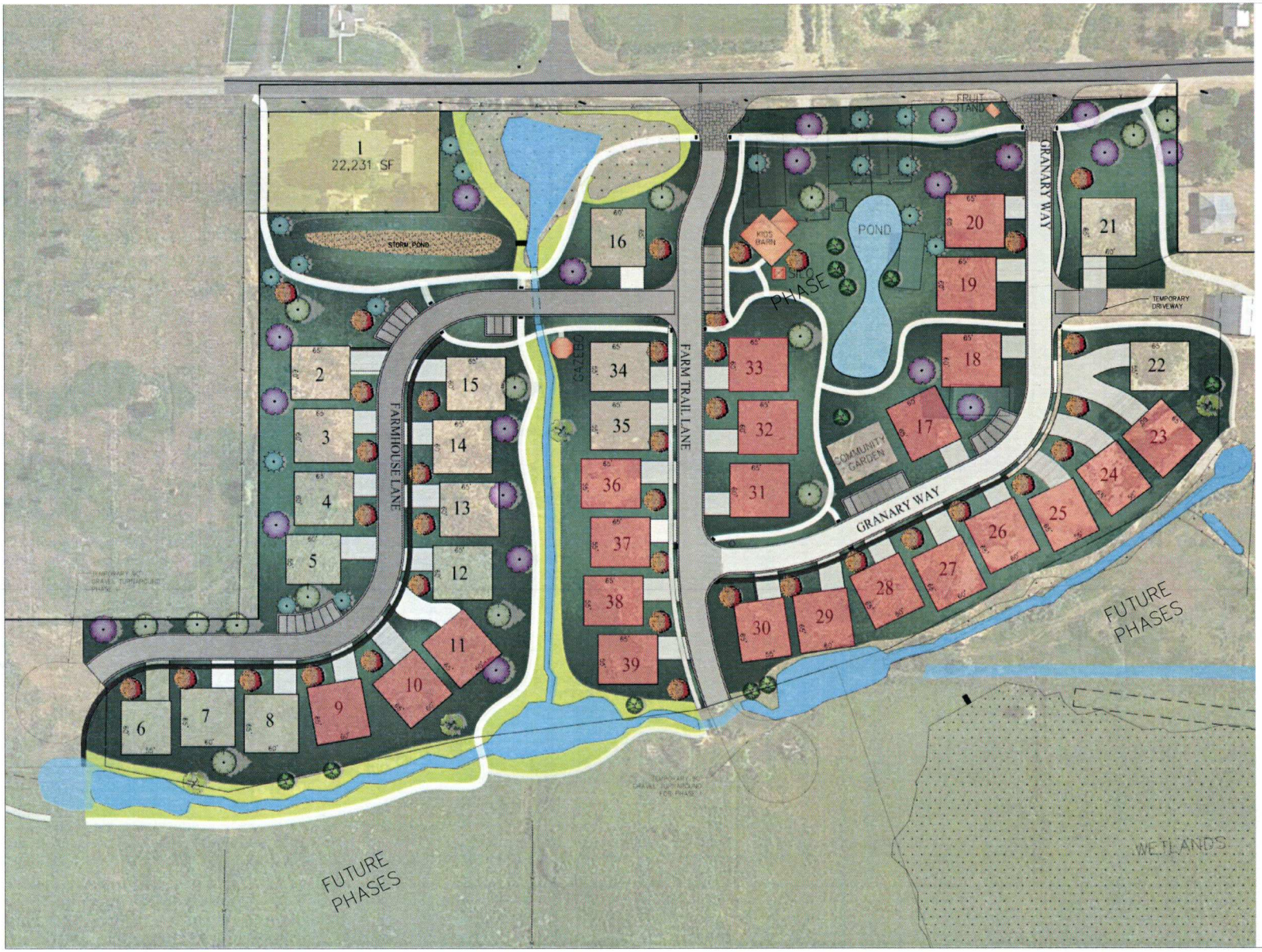
Date: 2-6-18

STATE OF UTAH
PAUL D. BERG
PROFESSIONAL ENGINEER
15 June 2018

WATTS ENTERPRISES
REMUND FARMS
OPEN SPACE
MASTER PLAN

BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204,
Midway, Ut 84049
ph. (435) 657-9749

DESIGN BY: PDB	DATE: 15 JUNE 2018	SHEET
DRAWN BY: CNB	REV:	5



N

50' 0 50' 100'

Scale 1" = 50'

SCALE 1"=100' FOR 11"X17" PLANS

LEGEND

- WETLANDS
- TRAIL
- IMPROVED DITCH OR POND
- LANDSCAPING (KENTUCKY BLUE GRASS)
- LANDSCAPING (NATIVE GRASS)

PUD UNIT FRONT SETBACK NOTE:
16.16.8.5.C. THE CITY COUNCIL MAY WAIVE THIS REQUIRMENT (STAGGERED SETBACKS) WHEN A CURVILINEAR STREET DESIGN IS USED AND SHOWN TO CREATED THE SAME VARYING SETBACK EFFECT.

Horrocks Engineers
Approved by

Date: 3-6-18

MIDWAY CITY CODE EXCEPTIONS NOTE:
THIS PLAN IS BASED ON THE FOLLOWING EXCPETIONS ALLOWED IN CITY CODE.
- CUL-DE-SAC LONGER THAN 500 FEET WITH CITY COUNCIL APPROVAL
- WETLAND SETBACKS WITH CITY ENGINEER APPROVAL

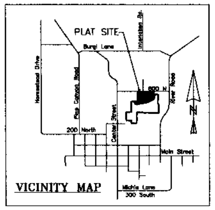
STATE OF UTAH
PAUL D. BERG
REGISTERED ENGINEER
15 June 2018

WATTS ENTERPRISES
REMUND FARMS
PHASE 1
SITE PLAN

BERG ENGINEERING
RESOURCE GROUP P.C.
380 E Main St. Suite 204,
Midway, Ut 84049
ph. (435) 657-9749

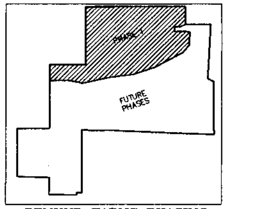
DESIGN BY: PDB	DATE: 15 JUNE 2018	SHEET
DRAWN BY: CNB	REV:	6

Ent 456064 Bk 1233 Pg 1580



VICINITY MAP

LOCATED IN THE NW QUARTER OF SECTION 35, T3S, R4E, SLB&M



REMUND FARMS PHASING

LINE TABLE		
LINE	LENGTH	BEARING
L1	30.00'	SOUTH
L2	85.92'	N01°16'16"E
L3	39.00'	N40°51'35"W
L4	47.60'	N00°11'57"W
L5	23.06'	N22°39'43"E
L6	15.00'	NORTH
L7	15.00'	NORTH

CURVE TABLE					
CURVE	RADIUS	LENGTH	DELTA	BEARING	CHORD
C1	[illegible]	47.08'	29°00'07"	S75°29'57"E	46.57'
C2	110.00'	172.78'	90°00'00"	N45°00'00"E	155.56'
C3	110.00'	172.78'	90°00'00"	N45°00'00"E	155.56'
C4	110.00'	172.78'	90°00'00"	N45°00'00"E	155.56'
C5	110.00'	43.51'	22°39'43"	N11°19'52"E	43.23'
C6	110.00'	43.51'	22°39'43"	N11°19'52"E	43.23'
C7	498.00'	13.56'	01°33'38"	S00°46'49"E	13.56'
C8	498.00'	159.95'	18°24'11"	S10°45'44"E	159.27'
C9	248.00'	105.41'	24°21'09"	N78°01'59"E	104.62'
C10	110.00'	122.60'	63°51'24"	N31°55'42"E	116.35'

LEGEND

- COMMON AREA (11.14 AC)
- LIMITED COMMON (0.70 AC)
- PRIVATE AREA (3.05 AC)
- RIGHT-OF-WAY DEDICATION TO MIDWAY CITY (0.49 AC)
- WETLANDS
- •SM SURVEY MONUMENT

BOUNDARY DESCRIPTION

BEGINNING AT A POINT WHICH IS SOUTH 102.15 FEET AND EAST 964.05 FEET FROM THE FOUND 1976 WASATCH COUNTY SURVEYORS MONUMENT FOR THE NORTHWEST CORNER OF SECTION 34, TOWNSHIP 3 SOUTH, RANGE 4 EAST, SALT LAKE BASE AND MERIDIAN TO A POINT ON THE PROPERTY LINE.

THENCE NORTH 89°36'38" EAST 197.12 FEET; THENCE NORTH 00°36'20" EAST 142.23 FEET; THENCE NORTH 89°48'47" EAST 805.44 FEET; THENCE SOUTH 231.05 FEET; THENCE WEST 107.34 FEET; THENCE SOUTH 30.00 FEET; THENCE EAST 108.82 FEET; THENCE ALONG THE ARC OF A 93.00 FOOT RADIUS CURVE TO THE RIGHT 47.08 FEET (CENTRAL ANGLE OF 29°00'07" AND A CHORD BEARING SOUTH 75°29'57" EAST 46.57 FEET); THENCE SOUTH 01°08'46' WEST 124.72 FEET; THENCE SOUTH 39°54'43" WEST 103.83 FEET; THENCE SOUTH 61°50'15" WEST 330.32 FEET; THENCE SOUTH 72°07'29" WEST 223.58 FEET; THENCE SOUTH 82°52'37" WEST 250.71 FEET; THENCE SOUTH 77°21'24" WEST 270.72 FEET; THENCE NORTH 78°05'41" WEST 137.97 FEET; THENCE NORTH 01°16'16" EAST 85.92 FEET; THENCE NORTH 40°51'35 WEST 39.00 FEET; THENCE NORTH 00°11'57" WEST 47.60 FEET; THENCE NORTH 89°48'03" EAST 192.43 FEET; THENCE NORTH 00°13'03" EAST 451.08 FEET TO THE POINT OF BEGINNING.

CONTAINING: 16.02 ACRES

SURVEYOR'S CERTIFICATE

IN ACCORDANCE WITH SECTION 10-9a-603 OF THE UTAH CODE, I, TROY L TAYLOR, DO HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR HOLDING LICENSE NUMBER 6854112 IN ACCORDANCE WITH TITLE 58, CHAPTER 22, OF THE PROFESSIONAL ENGINEERS AND PROFESSIONAL LAND SURVEYORS LICENSING ACT.

I FURTHER CERTIFY THAT I HAVE COMPLETED A SURVEY OF THE PROPERTY DESCRIBED ON THE PLAT IN ACCORDANCE WITH SECTION 17-23-17 OF THE UTAH CODE, AND HAVE VERIFIED ALL MEASUREMENTS, AND HAVE PLACED MONUMENTS AS REPRESENTED ON THE PLAT.

SURVEYOR (SEE SEAL BELOW) DATE

BASIS OF BEARING

BASIS OF BEARING IS NORTH 00°21'42" WEST 2646.68 FEET (MEASURED) BETWEEN THE NORTHWEST CORNER OF SECTION 35, TOWNSHIP 3 SOUTH, RANGE 4 EAST, SALT LAKE BASE AND MERIDIAN AND THE WEST QUARTER CORNER OF SAID SECTION.

RESERVATION OF COMMON AREA

THE OWNER, HAS DESIGNATED HEREIN CERTAIN COMMON AREAS INTENDED FOR THE USE BY THE OWNERS, THEIR GUESTS, AND INVITEES, AND ARE HEREBY RESERVED FOR THEIR COMMON USE AND ENJOYMENT AS PROVIDED IN THE DECLARATION OF COVENANTS AND RESTRICTIONS OF THE REMUND FARMS P.U.D.

OWNER'S DEDICATION

KNOW ALL MEN BY THESE PRESENTS THAT, THE UNDERSIGNED OWNER(S) OF THE PROPERTY DESCRIBED HEREON, HAVE CAUSED THE SAME TO BE SUBDIVIDED INTO PADS, PRIVATE STREETS AND DRIVEWAYS, EASEMENTS, LIMITED COMMON, AND COMMON AREA AND IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE DECLARATION HEREBY DEDICATE THOSE AREAS LABELED AS PRIVATE STREETS AND DRIVES, EASEMENTS, LIMITED COMMON, AND COMMON AREA, FOR THE CONSTRUCTION AND MAINTENANCE OF PUBLIC UTILITIES AND EMERGENCY VEHICLE ACCESS.

DATED THIS ____________ DAY OF ____________________, A.D. 20___

BY: ______________________________
MIDWAY SPRINGS LLC SERIES I - MANAGER

BY: ______________________________
MIDWAY SPRINGS LLC SERIES II - MANAGER

ACKNOWLEDGMENT

STATE OF UTAH
COUNTY OF WASATCH } S.S.

ON THE _____ DAY OF ____________, A.D. 20___ PERSONALLY APPEARED BEFORE ME, ____________, ____________, WHO DULY ACKNOWLEDGED TO ME THAT HE/SHE DID EXECUTE THE SAME IN THE CAPACITY INDICATED.

MY COMMISSION EXPIRES ____________ ____________ NOTARY PUBLIC

ACCEPTANCE BY MIDWAY CITY

THE CITY COUNCIL OF MIDWAY CITY, WASATCH COUNTY, STATE OF UTAH, HEREBY APPROVES THIS PLANNED UNIT DEVELOPMENT AND ACCEPTS THE DEDICATION OF EASEMENTS AND PUBLIC RIGHTS-OF-WAY HEREON SHOWN.

THIS ________ DAY OF ____________________, A.D. 20___

APPROVED ____________ MAYOR ATTEST ____________ CLERK-RECORDER (SEE SEAL BELOW)

APPROVED ____________ CITY ATTORNEY ATTEST ____________ CITY ENGINEER (SEE SEAL BELOW)

PLANNING COMMISSION APPROVAL

APPROVED THIS ________ DAY OF ____________, A.D. 20___ BY THE MIDWAY CITY PLANNING COMMISSION

PLANNING DIRECTOR ____________ CHAIRMAN, PLANNING COMMISSION

REMUND FARMS PUD
PHASE 1

PLANNED UNIT DEVELOPMENT, MIDWAY CITY, WASATCH COUNTY, STATE OF UTAH

SCALE: 1" = 60 FEET

COUNTY SURVEYOR'S CERTIFICATE

APPROVED AS TO FORM ON THIS DAY OF ____________, 20___

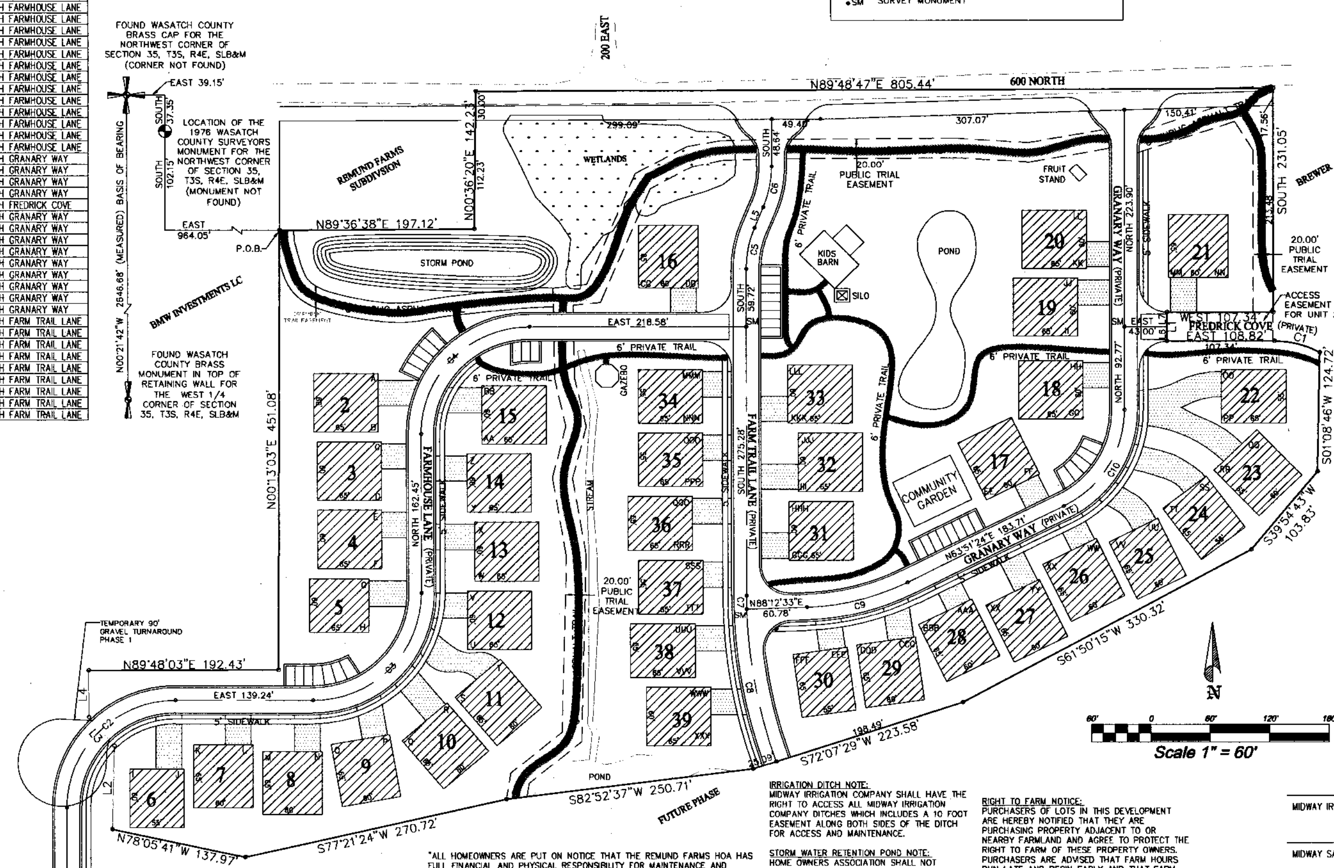
ROS# ____________

COUNTY SURVEYOR

SURVEYOR'S SEAL	NOTARY PUBLIC SEAL	CITY ENGINEER SEAL	CLERK-RECORDER SEAL

ADDRESS TABLE

2	XXX SOUTH FARMHOUSE LANE
3	XXX SOUTH FARMHOUSE LANE
4	XXX SOUTH FARMHOUSE LANE
5	XXX SOUTH FARMHOUSE LANE
6	XXX SOUTH FARMHOUSE LANE
7	XXX SOUTH FARMHOUSE LANE
8	XXX SOUTH FARMHOUSE LANE
9	XXX SOUTH FARMHOUSE LANE
10	XXX SOUTH FARMHOUSE LANE
11	XXX SOUTH FARMHOUSE LANE
12	XXX SOUTH FARMHOUSE LANE
13	XXX SOUTH FARMHOUSE LANE
14	XXX SOUTH FARMHOUSE LANE
15	XXX SOUTH FARMHOUSE LANE
16	XXX SOUTH FARMHOUSE LANE
17	XXX SOUTH GRANARY WAY
18	XXX SOUTH GRANARY WAY
19	XXX SOUTH GRANARY WAY
20	XXX SOUTH GRANARY WAY
21	XXX SOUTH FREDRICK COVE
22	XXX SOUTH GRANARY WAY
23	XXX SOUTH GRANARY WAY
24	XXX SOUTH GRANARY WAY
25	XXX SOUTH GRANARY WAY
26	XXX SOUTH GRANARY WAY
27	XXX SOUTH GRANARY WAY
28	XXX SOUTH GRANARY WAY
29	XXX SOUTH GRANARY WAY
30	XXX SOUTH GRANARY WAY
31	XXX SOUTH FARM TRAIL LANE
32	XXX SOUTH FARM TRAIL LANE
33	XXX SOUTH FARM TRAIL LANE
34	XXX SOUTH FARM TRAIL LANE
35	XXX SOUTH FARM TRAIL LANE
36	XXX SOUTH FARM TRAIL LANE
37	XXX SOUTH FARM TRAIL LANE
38	XXX SOUTH FARM TRAIL LANE
39	XXX SOUTH FARM TRAIL LANE



BUILDING PAD COORDINATES		
POINT	NORTHING	EASTING
A	N 12322.11	E 11123.21
B	N 12262.11	E 11123.21
C	N 12252.11	E 11126.66
D	N 12192.11	E 11126.66
E	N 12182.11	E 11126.72
F	N 12122.11	E 11126.72
G	N 12112.11	E 11113.52
H	N 12057.11	E 11113.52
I	N 11916.96	E 10871.09
J	N 11916.96	E 10926.09
K	N 11942.12	E 10936.09
L	N 11942.12	E 10996.09
M	N 11935.12	E 11006.09
N	N 11935.12	E 11066.09
O	N 11942.35	E 11075.10
P	N 11952.75	E 11134.19
Q	N 11946.16	E 11146.97
R	N 11985.09	E 11192.64
S	N 11990.83	E 11200.88
T	N 12029.76	E 11246.54
U	N 12039.76	E 11213.48
V	N 12099.76	E 11213.48
W	N 12109.76	E 11220.98
X	N 12169.76	E 11220.98
Y	N 12179.76	E 11213.48
Z	N 12239.76	E 11213.48
AA	N 12249.76	E 11228.48
BB	N 12309.76	E 11228.48
CC	N 12410.03	E 11387.11
DD	N 12410.03	E 11447.11
EE	N 12192.32	E 11738.16
FF	N 12218.76	E 11792.02
GG	N 12275.30	E 11835.56
HH	N 12335.30	E 11835.55
II	N 12360.30	E 11830.37
JJ	N 12420.30	E 11830.36
KK	N 12430.29	E 11839.50
LL	N 12490.29	E 11839.49
MM	N 12420.78	E 11922.50
NN	N 12420.79	E 11982.50
OO	N 12325.98	E 11975.63
PP	N 12270.98	E 11975.63
QQ	N 12260.84	E 12007.70
RR	N 12222.66	E 11968.11
SS	N 12216.45	E 11960.27
TT	N 12183.47	E 11916.25
UU	N 12173.58	E 11911.12
VV	N 12149.35	E 11861.75
WW	N 12153.05	E 11848.79
XX	N 12126.61	E 11794.93
YY	N 12111.36	E 11791.28
ZZ	N 12084.92	E 11737.42
AAA	N 12091.36	E 11723.12
BBB	N 12064.92	E 11669.25
CCC	N 12052.60	E 11666.16
DDD	N 12044.27	E 11606.74
EEE	N 12042.01	E 11596.87
FFF	N 12034.38	E 11542.40
GGG	N 12130.98	E 11538.57
HHH	N 12190.98	E 11538.57
III	N 12200.98	E 11547.66
JJJ	N 12260.98	E 11547.66
KKK	N 12270.98	E 11537.51
LLL	N 12330.98	E 11537.51
MMM	N 12325.98	E 11451.30
NNN	N 12270.98	E 11451.30
OOO	N 12260.98	E 11451.30
PPP	N 12205.98	E 11451.30
QQQ	N 12195.98	E 11440.98
RRR	N 12140.98	E 11440.98
SSS	N 12130.98	E 11451.30
TTT	N 12075.98	E 11451.30
UUU	N 12065.98	E 11443.41
VVV	N 12010.98	E 11443.41
WWW	N 12000.98	E 11459.17
XXX	N 11945.98	E 11459.17

"ALL HOMEOWNERS ARE PUT ON NOTICE THAT THE REMUND FARMS HOA HAS FULL FINANCIAL AND PHYSICAL RESPONSIBILITY FOR MAINTENANCE AND UPKEEP OF THE TWO WESTERLY LANDSCAPE PENINSULAS LOCATED AT THE RIVER ROAD ROUNDABOUT IN PERPETUITY. ALL COSTS FOR ON-GOING CARE OF THESE PARCELS WILL BE INCLUDED IN HOA FEES. THESE LOTS WERE COUNTED AS OPEN SPACE IN REMUND FARMS SUBDIVISION AND AN ADDITIONAL 2.26 UNITS OF DENSITY WAS GRANTED BASED ON THIS OPEN SPACE. AS SUCH THE OPEN SPACE IS FULL OBLIGATION OF THE HOA. MIDWAY CITY HAS NO FINANCIAL OR MAINTENANCE OBLIGATIONS ASSOCIATED WITH THESE TWO PARCELS, AS SET FORTH IN THE DEVELOPMENT AGREEMENT RECORDED AT XXX"

IRRIGATION DITCH NOTE:
MIDWAY IRRIGATION COMPANY SHALL HAVE THE RIGHT TO ACCESS ALL MIDWAY IRRIGATION COMPANY DITCHES WHICH INCLUDES A 10 FOOT EASEMENT ALONG BOTH SIDES OF THE DITCH FOR ACCESS AND MAINTENANCE.

STORM WATER RETENTION POND NOTE:
HOME OWNERS ASSOCIATION SHALL NOT DISTURB, INTERFER OR CHANGE THE GRADING, ELEVATION OR LANDSCAPING IN THE STORM WATER RETENTION PONDS.

COMMON AREA AND LIMITED COMMON IS A PUBLIC UTILITY EASEMENT
ALL COMMON AREA AND LIMITED COMMON IS DEDICATED AS A PUBLIC UTILITY EASEMENT INCLUDING A STORM DRAIN EASEMENT FOR PIPELINES AND RETENTION PONDS.

RIGHT TO FARM NOTICE:
PURCHASERS OF LOTS IN THIS DEVELOPMENT ARE HEREBY NOTIFIED THAT THEY ARE PURCHASING PROPERTY ADJACENT TO OR NEARBY FARMLAND AND AGREE TO PROTECT THE RIGHT TO FARM OF THESE PROPERTY OWNERS. PURCHASERS ARE ADVISED THAT FARM HOURS RUN LATE AND BEGIN EARLY AND THAT FARM OPERATIONS AND ANIMALS CREATE NOISE AND ODORS WHICH MAY BE OBJECTIONABLE TO SOME PURCHASERS. EVEN THOUGH FARMERS MAY NOT DIRECTLY WATER YOUR PROPERTIES, YOU MAY EXPERIENCE GROUND WATER SEEPAGES AND/OR SPRINKLER OVERSPRAY FROM THEIR IRRIGATION. DUMPING GRASS CLIPPINGS OR ANY OTHER MATERIALS ONTO THE PROPERTY OF ANOTHER WITHOUT PERMISSION IS AN ILLEGAL TRESPASS.

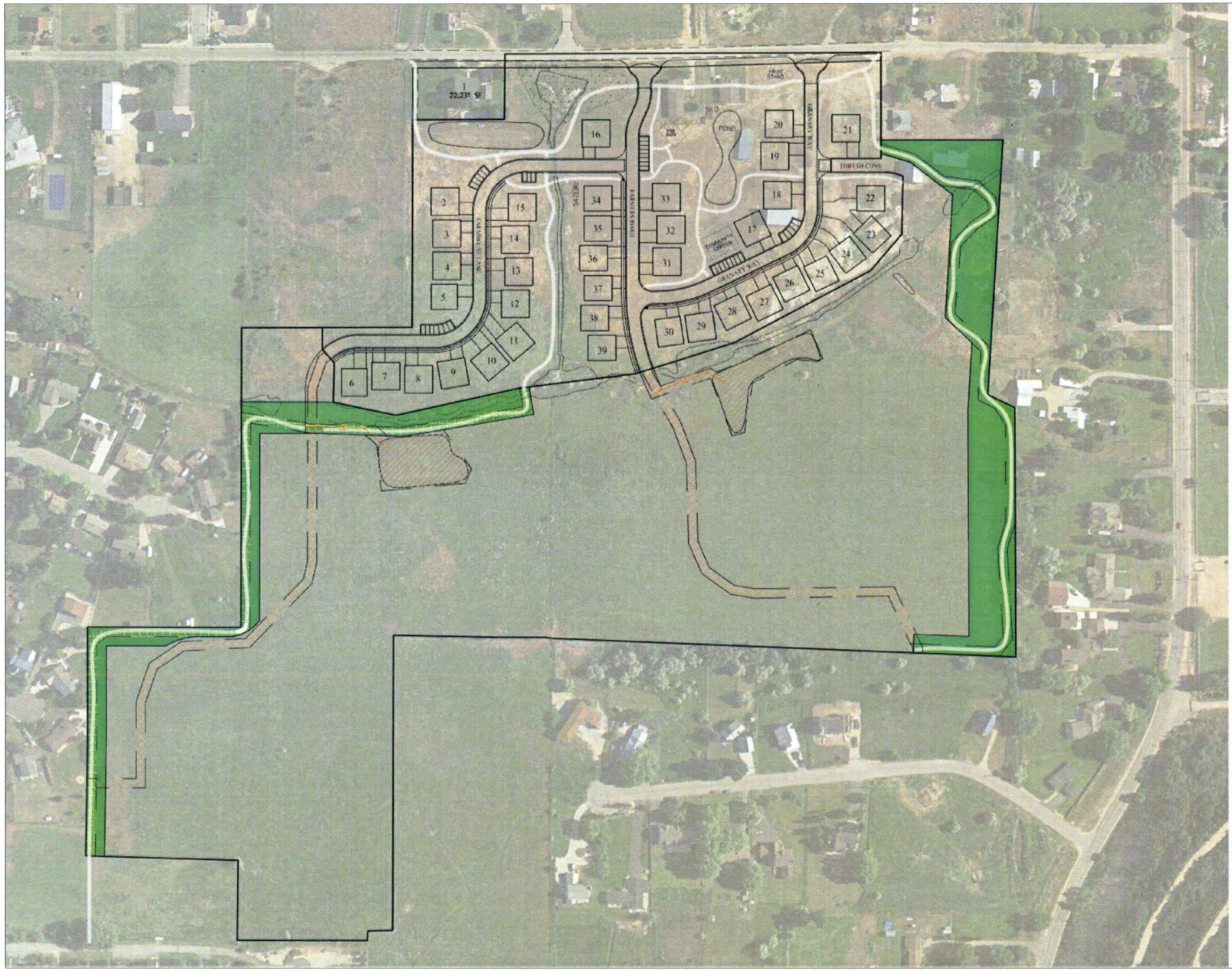
DATE: ____________
MIDWAY IRRIGATION COMPANY

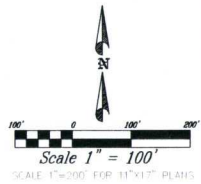
DATE: ____________
MIDWAY SANITATION DISTRICT

COUNTY RECORDER

SURVEYOR
TROY L. TAYLOR, PLS
COOK SANDERS ASSOCIATES
331 SOUTH RIO GRANDE AVE
SALT LAKE CITY, UT 84101
PHONE (801) 364-4051

DATE OF SURVEY: APRIL 2018





20' SEWER EASEMENT

STORM DRAIN EASEMENT

20' PUBLIC TRAIL EASEMENT

OPEN SPACE DEDICATION WITH PHASE 1

Horrocks Engineers
Approved by

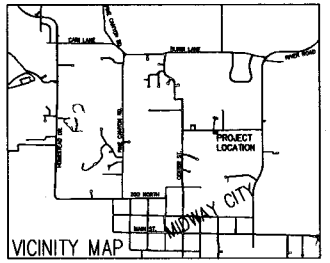
Date: 6-18

STATE OF UTAH
Paul D. Berg
15 June 2018

WATTS ENTERPRISES
REMUND FARMS
OPEN SPACE & EASEMENTS OUTSIDE PHASE 1

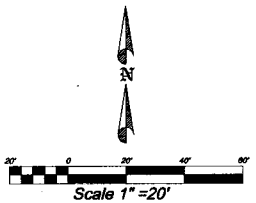
BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204,
Midway, Ut 84049
ph. (435) 657-9749

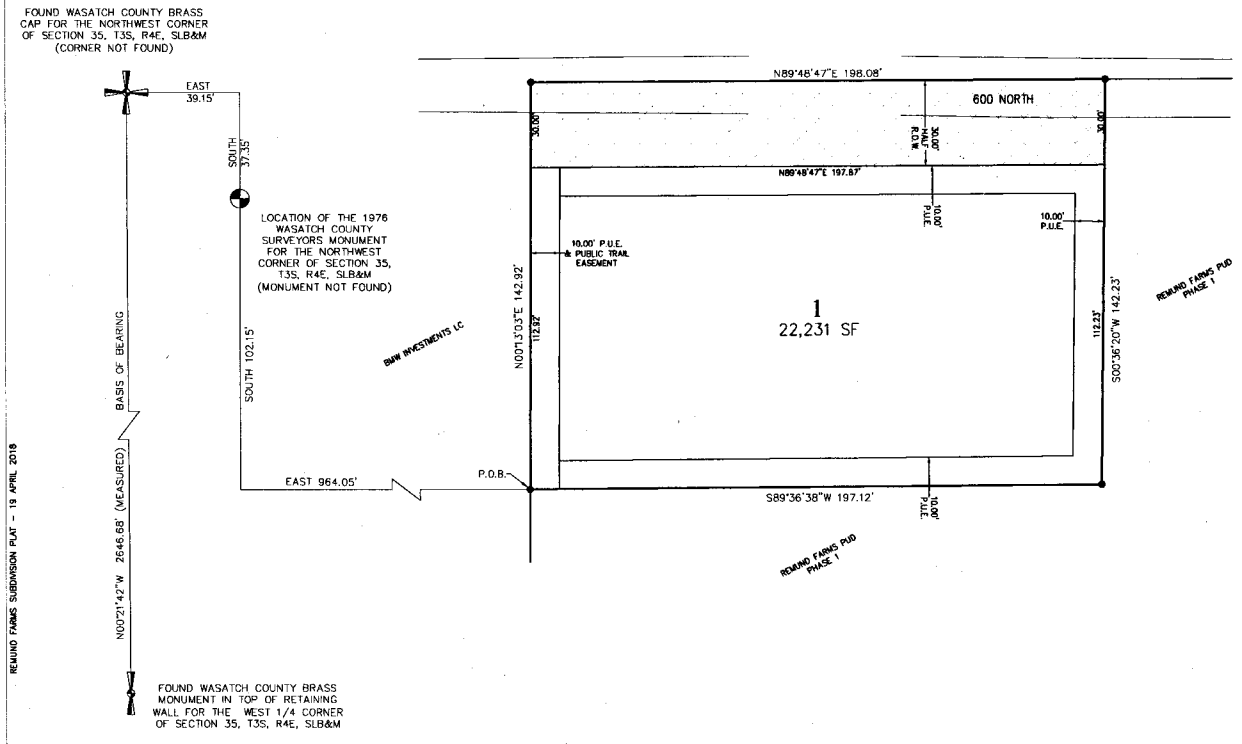
DESIGN BY: PDB	DATE: 15 JUNE 2018	SHEET
DRAWN BY: CNB	REV:	9



VICINITY MAP

LOCATED IN THE NORTHWEST QUARTER OF SECTION 35, TOWNSHIP 3 SOUTH, RANGE 4 EAST, SLB&M





ADDRESS TABLE

LOT	ADDRESS
1	210 EAST 600 NORTH

LEGEND

RIGHT-OF-WAY DEDICATION TO MIDWAY CITY (5,939 SF)

PUE PUBLIC UTILITY EASEMENT

DATE:
MIDWAY IRRIGATION COMPANY

DATE:
MIDWAY SANITATION DISTRICT

COUNTY RECORDER

COUNTY SURVEYOR'S CERTIFICATE

APPROVED AS TO FORM ON THIS _____ DAY OF _____, 20____.

ROS# _____

COUNTY SURVEYOR

SURVEYOR'S CERTIFICATE

IN ACCORDANCE WITH SECTION 10-9a-603 OF THE UTAH CODE, I, TROY L TAYLOR, DO HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR HOLDING LICENSE NUMBER 6854112 IN ACCORDANCE WITH TITLE 58, CHAPTER 22, OF THE PROFESSIONAL ENGINEERS AND PROFESSIONAL LAND SURVEYORS LICENSING ACT.

I FURTHER CERTIFY THAT I HAVE COMPLETED A SURVEY OF THE PROPERTY DESCRIBED ON THE PLAT IN ACCORDANCE WITH SECTION 17-23-17 OF THE UTAH CODE, AND HAVE VERIFIED ALL MEASUREMENTS, AND HAVE PLACED MONUMENTS AS REPRESENTED ON THE PLAT.

DATE _____ SURVEYOR _____ (SEE SEAL BELOW)

BASIS OF BEARINGS

BASIS OF BEARING IS NORTH 00°21'42" WEST 2646.68 FEET (MEASURED) BETWEEN THE NORTHWEST CORNER OF SECTION 35, TOWNSHIP 3 SOUTH, RANGE 4 EAST, SALT LAKE BASE AND MERIDIAN AND THE WEST QUARTER CORNER OF SAID SECTION.

BOUNDARY DESCRIPTION

BEGINNING AT A POINT WHICH IS SOUTH 102.15 FEET AND EAST 964.05 FEET FROM THE FOUND 1976 WASATCH COUNTY SURVEYORS MONUMENT FOR THE NORTHWEST CORNER OF SECTION 34, TOWNSHIP 3 SOUTH, RANGE 4 EAST, SALT LAKE BASE AND MERIDIAN TO A POINT ON THE PROPERTY LINE.

THENCE NORTH 00°13'03" EAST 142.92 FEET;
THENCE NORTH 89°48'47" EAST 198.08 FEET;
THENCE SOUTH 00°36'20" WEST 142.23 FEET;
THENCE SOUTH 89°36'38" WEST 197.12 FEET TO THE POINT OF BEGINNING.

CONTAINING: 28,170 SF

OWNER'S DEDICATION

KNOW ALL MEN BY THESE PRESENTS THAT, THE UNDERSIGNED OWNER(S) OF THE PROPERTY DESCRIBED HEREON, HAVE CAUSED THE SAME TO BE SUBDIVIDED INTO LOTS, PUBLIC STREETS, EASEMENTS, AND HEREBY DEDICATE THOSE AREAS LABELED AS PUBLIC STREETS, RIGHTS-OF-WAY AND EASEMENTS FOR THE CONSTRUCTION AND MAINTENANCE OF PUBLIC UTILITIES AND EMERGENCY VEHICLE ACCESS.

DATED THIS _____ DAY OF _____, A.D. 20____.

BY: _____
HAROLD S. REMUND

BY: _____
VICKIE S. REMUND

ACKNOWLEDGMENT

STATE OF UTAH)
COUNTY OF WASATCH) S.S.

ON THE _____ DAY OF _____, A.D. 20____ PERSONALLY APPEARED BEFORE ME, _____, WHO DULY ACKNOWLEDGED TO ME THAT HE/SHE DID EXECUTE THE SAME IN THE CAPACITY INDICATED.

MY COMMISSION EXPIRES _____ _____
NOTARY PUBLIC

ACCEPTANCE BY MIDWAY CITY

THE CITY COUNCIL OF MIDWAY CITY, WASATCH COUNTY, STATE OF UTAH, HEREBY APPROVES THIS SUBDIVISION AND ACCEPTS THE DEDICATION OF LOTS, EASEMENTS, STREETS AND PUBLIC RIGHTS-OF-WAY HEREON SHOWN.

THIS _____ DAY OF _____, A.D. 20____

APPROVED _____ ATTEST _____
MAYOR CLERK-RECORDER (SEE SEAL BELOW)

APPROVED _____ APPROVED _____
CITY ENGINEER (SEE SEAL BELOW) CITY ATTORNEY

PLANNING COMMISSION APPROVAL

APPROVED THIS _____ DAY OF _____, A.D. 20____ BY THE MIDWAY CITY PLANNING COMMISSION

_____ _____
DIRECTOR - PLANNING CHAIRMAN, PLANNING COMMISSION

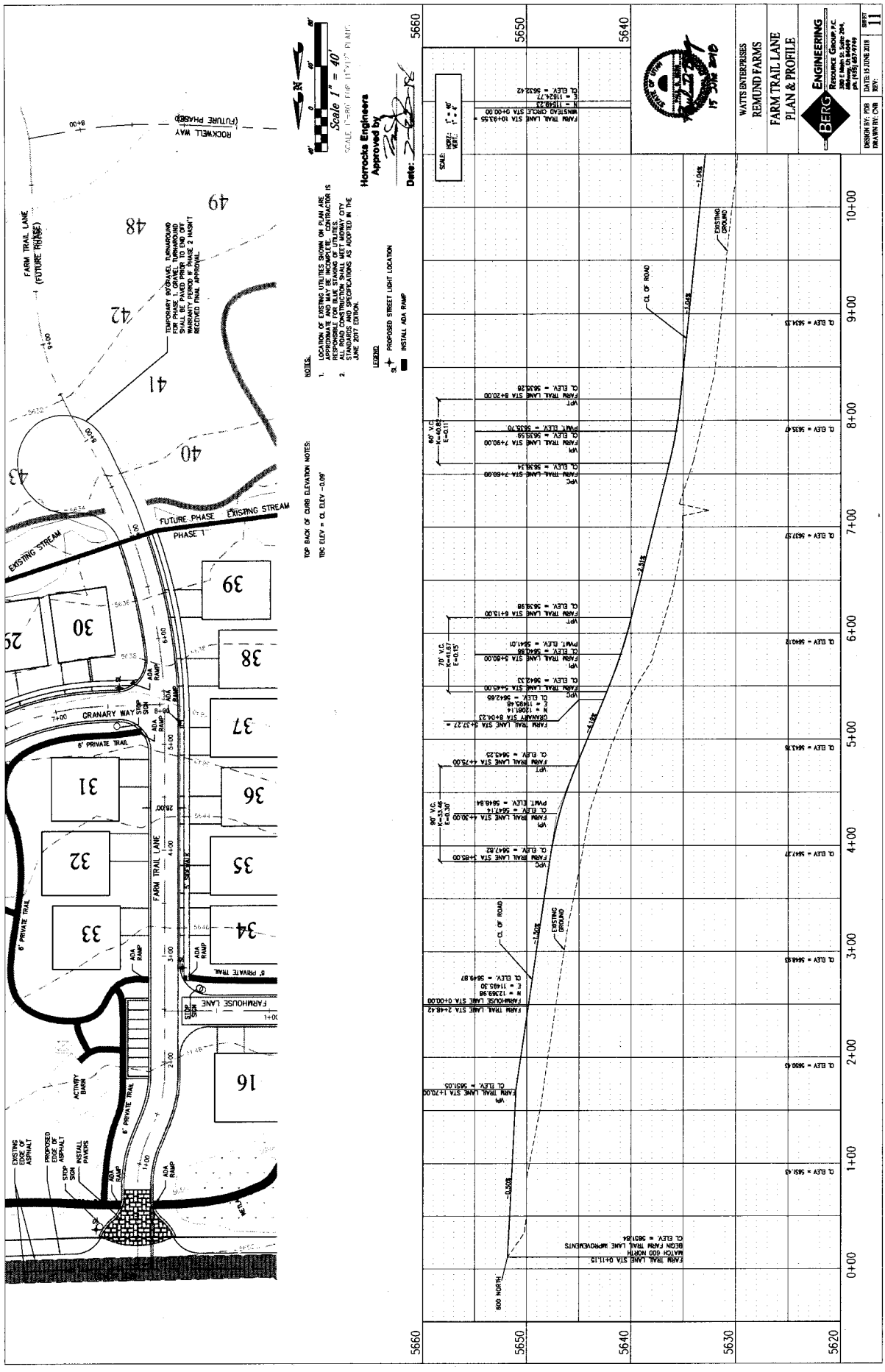
REMUND FARMS SUBDIVISION

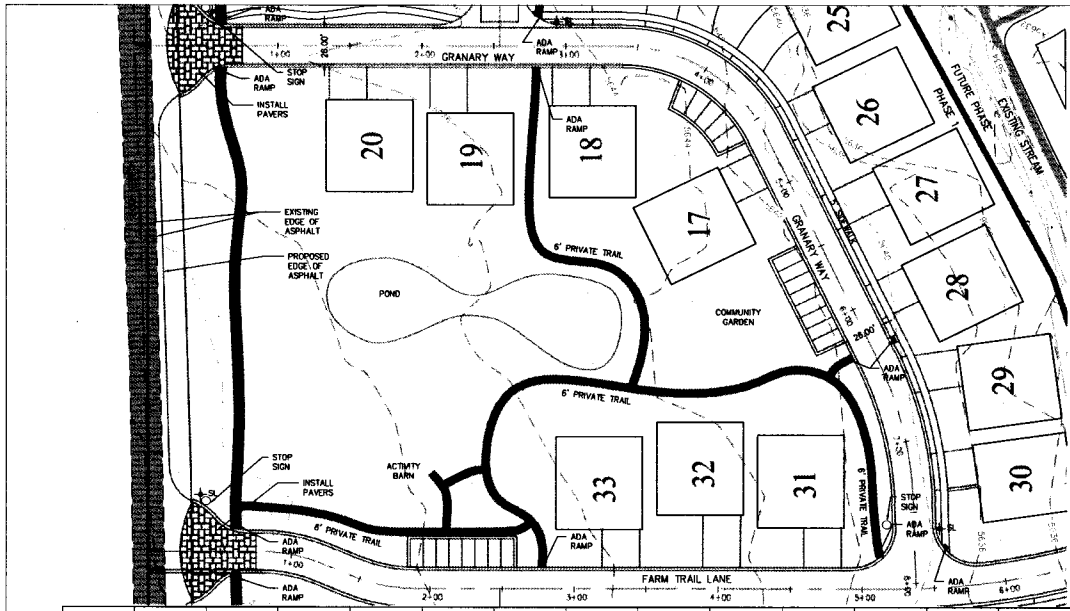
MIDWAY CITY, WASATCH COUNTY, STATE OF UTAH
NORTHWEST QUARTER OF SECTION 35, TOWNSHIP 3 SOUTH, RANGE 4 EAST, SLB&M
SCALE: 1" = 20 FEET

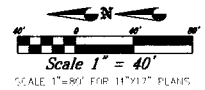
SURVEYOR'S SEAL	NOTARY PUBLIC SEAL	CITY ENGINEER SEAL	CLERK-RECORDER SEAL

SURVEYOR
TROY L TAYLOR, P.L.S.
ELEMENT LAND SURVEYING
2296 SOUTH 270 EAST
HEBER CITY, UTAH 84032
PHONE: (801) 857-8748

DATE OF SURVEY: JULY 2017


FARM TRAIL LANE
(FUTURE PHASE)
ROCKWELL WAY
(FUTURE PHASE)
TEMPORARY NON-PAVED TURNAROUND FOR PHASE 1. GRAVEL TURNAROUND SHALL BE PAVED PRIOR TO END OF WARRANTY PERIOD IF PHASE 2 HAS NOT RECEIVED FINAL APPROVAL
FUTURE PHASE
PHASE 1
EXISTING STREAM
EXISTING STREAM
CRANARY WAY
FARM TRAIL LANE
FARMHOUSE LANE
8' PRIVATE TRAIL
ACTIVITY BARN
EXISTING EDGE OF ASPHALT
PROPOSED EDGE OF ASPHALT
INSTALL PAVERS
STOP SIGN
ADA RAMP
TBC
16
31
32
33
34
35
36
37
38
39
40
41
42
48
49
Scale 1" = 40'
NOTES:
1. LOCATION OF EXISTING UTILITIES SHOWN ON PLAN ARE APPROXIMATE AND MAY BE INCOMPLETE. CONTRACTOR IS RESPONSIBLE FOR BLUE STAKING OF UTILITIES.
2. ALL ROAD CONSTRUCTION SHALL MEET HERRIMAN CITY STANDARDS AND SPECIFICATIONS AS ADOPTED IN THE JUNE 2017 EDITION.
LEGEND
PROPOSED STREET LIGHT LOCATION
INSTALL ADA RAMP
TOP BACK OF CURB ELEVATION NOTES:
TBC ELEV = CL ELEV -0.09'
Horrocks Engineers
Approved by
Date:
WATTS ENTERPRISES
REMUND FARMS
FARM TRAIL LANE
PLAN & PROFILE
BERG ENGINEERING
Resource Group P.C.
DESIGN BY: PSH
DRAWN BY: CWB
DATE: 15 JUNE 2018
REV:
SHEET 11
CL OF ROAD
EXISTING GROUND
-1.04%
-1.00%
-2.81%
-1.00%
-0.50%
800 NORTH
5660
5650
5640
5630
5620
0+00
1+00
2+00
3+00
4+00
5+00
6+00
7+00
8+00
9+00
10+00





NOTES:

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2. ALL ROAD CONSTRUCTION SHALL MEET MIDWAY CITY STANDARDS AND SPECIFICATIONS AS ADOPTED IN THE JUNE 2017 EDITION.

LEGEND

SL PROPOSED STREET LIGHT LOCATION

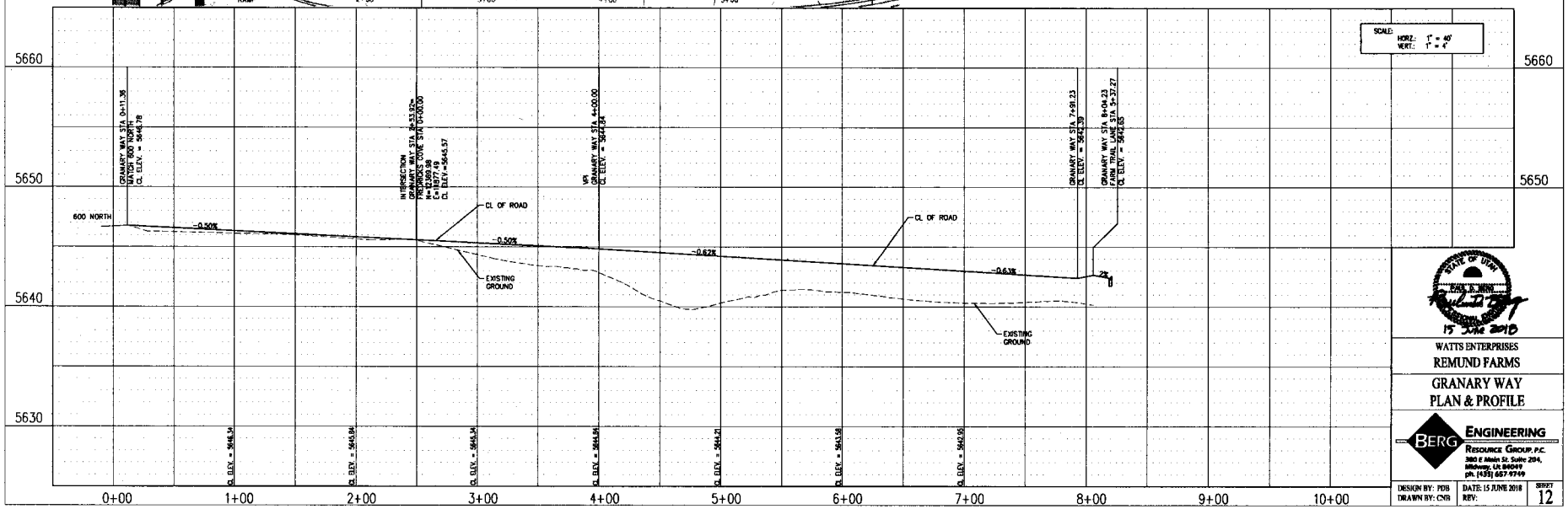
INSTALL ADA RAMP

TOP BACK OF CURB ELEVATION NOTES

TBC ELEV = CL ELEV. −0.09'

Horrocks Engineers
Approved by

Date:

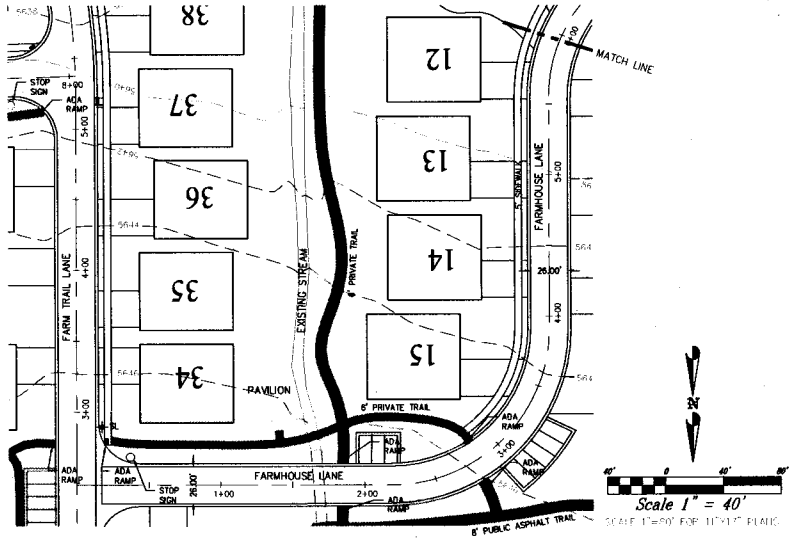


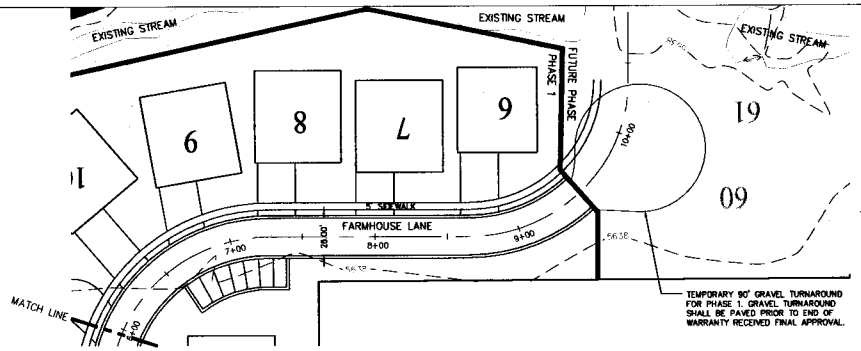
STATE OF UTAH
CHAD D. HALL
PROFESSIONAL ENGINEER
15 JUNE 2018

WATTS ENTERPRISES
REMUND FARMS
GRANARY WAY
PLAN & PROFILE

BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204,
Midway, UT 84049
ph. (435) 657-9749

DESIGN BY: PDB
DRAWN BY: CNR
DATE: 15 JUNE 2018
REV:
SHEET 12





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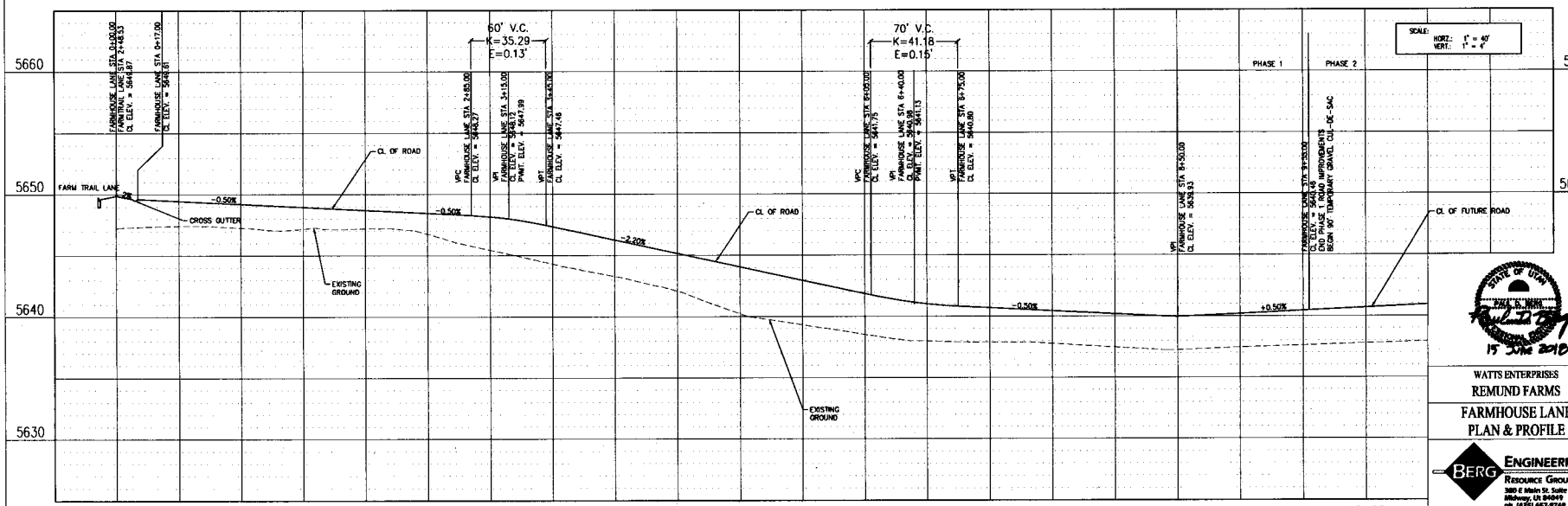
Horrocks Engineers
Approved by
Date: 7-6-18

LEGEND

SL PROPOSED STREET LIGHT LOCATION

INSTALL ADA RAMP

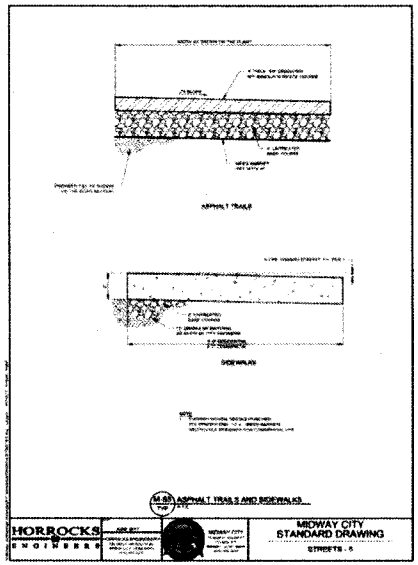


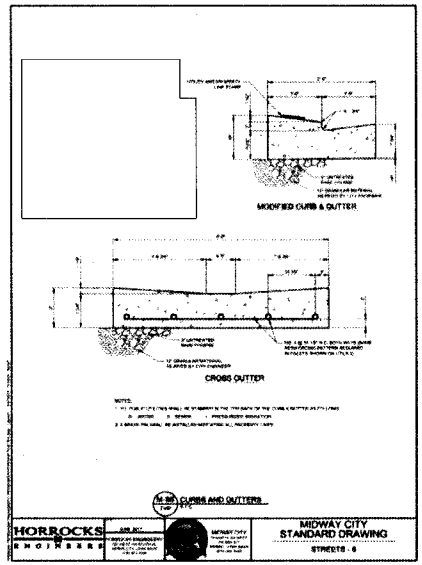
STATE OF UTAH
PAUL D. BERG
15 JUNE 2018

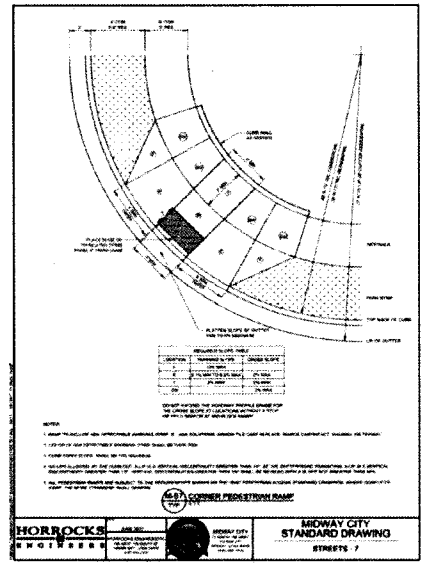
WATTS ENTERPRISES
REMUND FARMS
FARMHOUSE LANE
PLAN & PROFILE

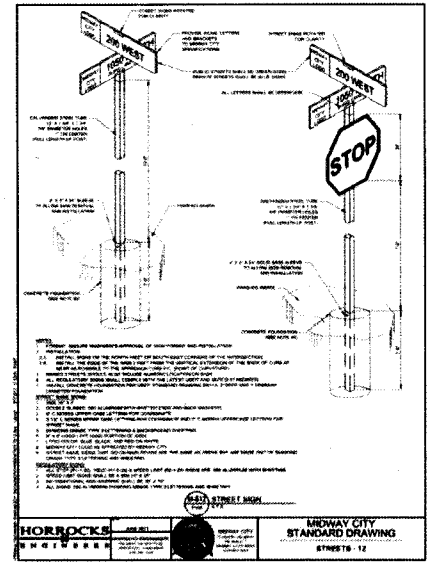
BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204,
Midway, UT 84049
ph. (435) 657-9749

DESIGN BY: PDB
DRAWN BY: CNR
DATE: 15 JUNE 2018
REV:
SHEET 13

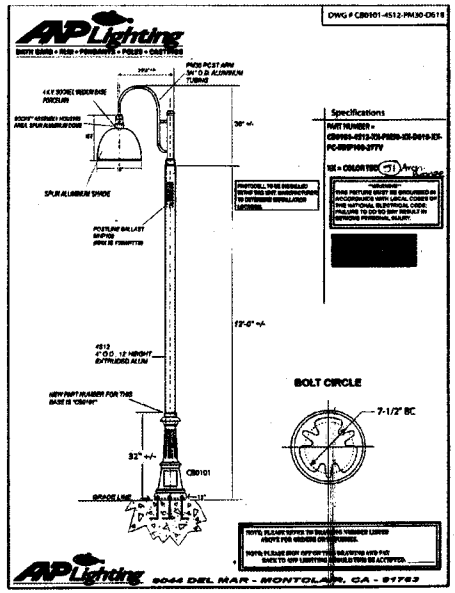


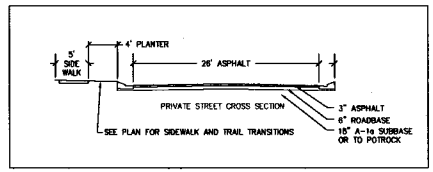






HOME OWNER ASSOCIATION IS RESPONSIBLE FOR THE MAINTENANCE OF THE STREET LIGHTS





Horrocks Engineers
Approved by

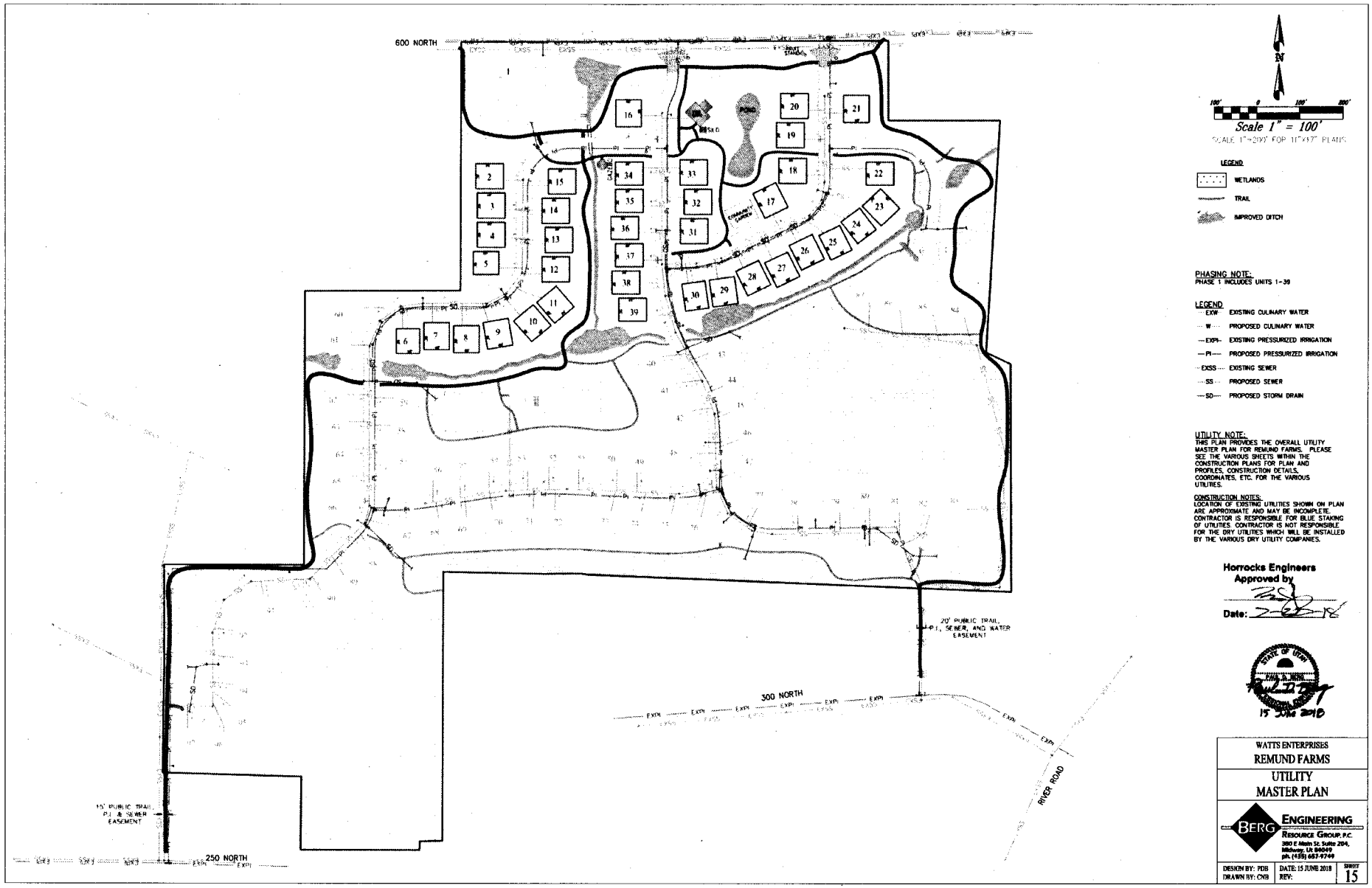
Date:

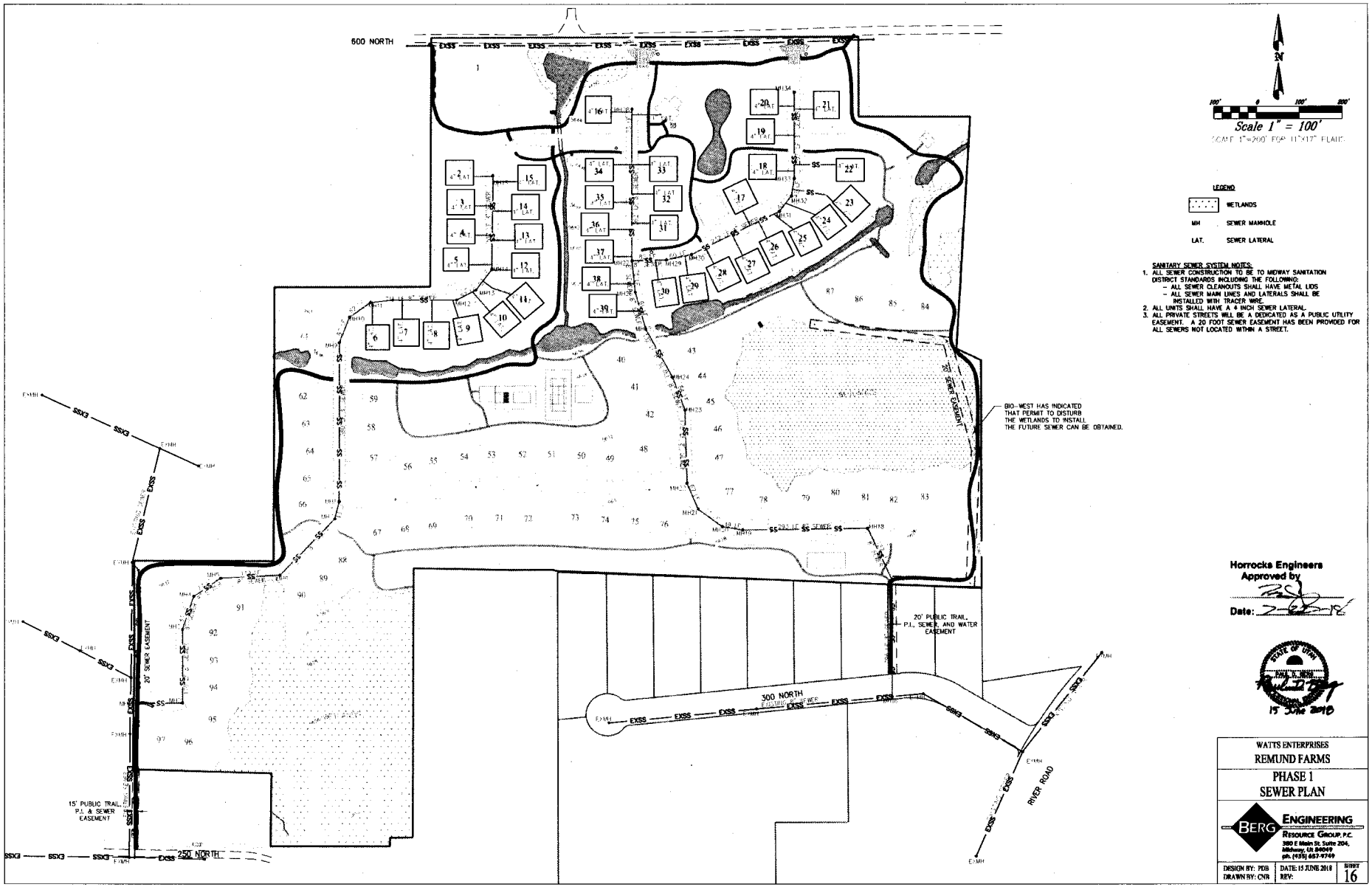
WATTS ENTERPRISES
REMUND FARMS

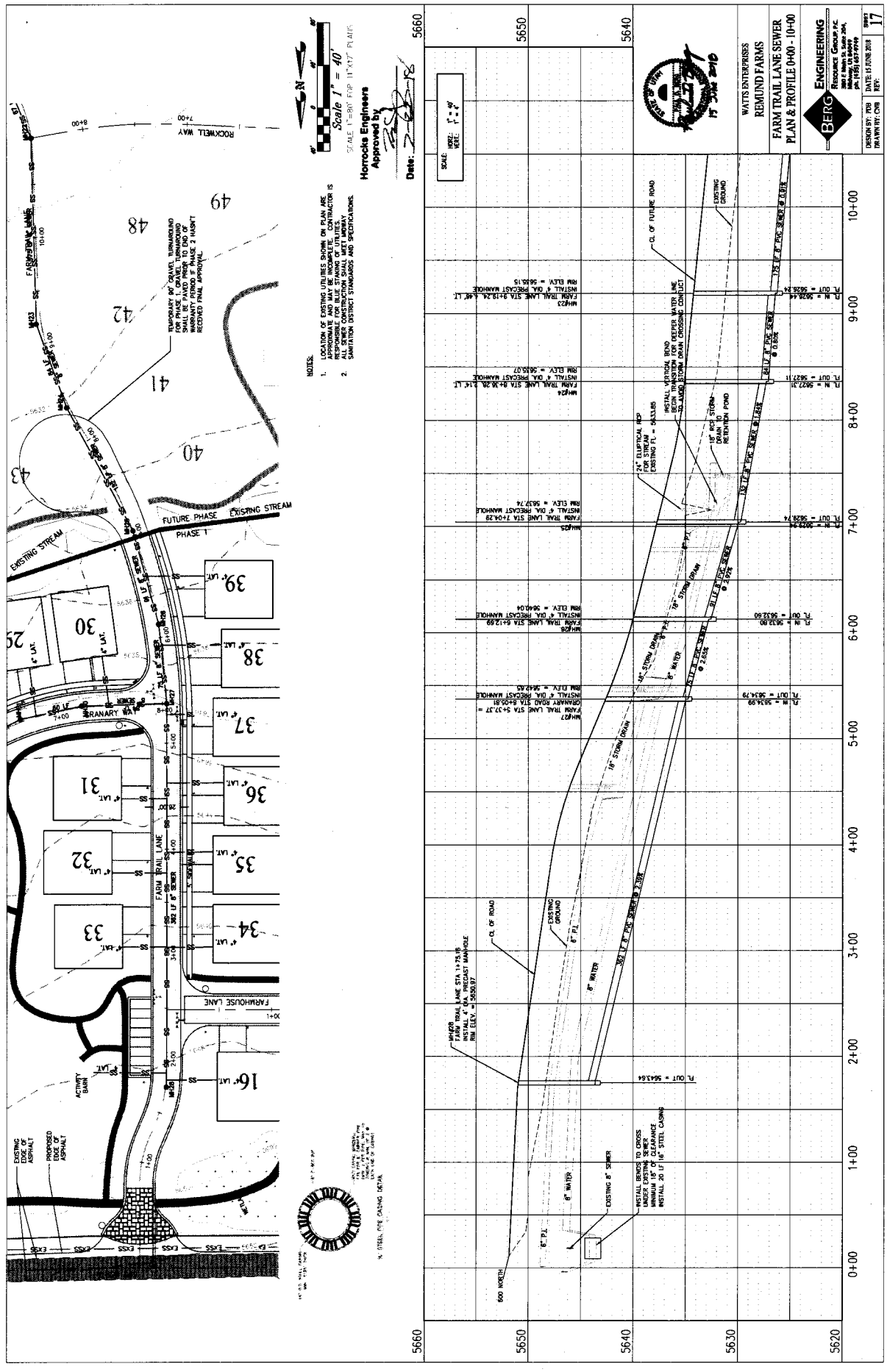
ROAD DETAILS

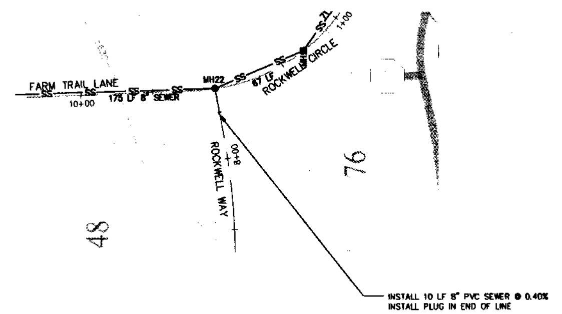
BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204,
Midway, UT 84049
ph. (435) 657-9749

DESIGN BY: PDB
DRAWN BY: CNB
DATE: 15 JUNE 2018
REV:
SHEET 14






Scale 1" = 40'
SCALE 1"=80' FOR 11"X17" PLANS
Horrocks Engineers
Approved by
Date: 7-25-18
NOTES:
1. LOCATION OF EXISTING UTILITIES SHOWN ON PLAN ARE APPROXIMATE AND MAY BE INCOMPLETE. CONTRACTOR IS RESPONSIBLE FOR BLUE STAKING OF UTILITIES.
2. ALL CONSTRUCTION SHALL MEET CURRENT SYRACUSE CITY SANITATION DISTRICT STANDARDS AND SPECIFICATIONS.
FARM TRAIL LANE
ROCKWELL WAY
FUTURE PHASE
EXISTING STREAM
PHASE 1
GRANARY WAY
FARMHOUSE LANE
ACTIVITY BARN
EXISTING EDGE OF ASPHALT
PROPOSED EDGE OF ASPHALT
TEMPORARY 90' GRAVEL TURNAROUND FOR PHASE 1 ONLY. TURNAROUND SHALL BE PAVED PRIOR TO END OF WARRANTY PERIOD IF PHASE 2 HASN'T RECEIVED FINAL APPROVAL
WATTS ENTERPRISES
REMUND FARMS
FARM TRAIL LANE SEWER
PLAN & PROFILE 0+00 - 10+00
BERG ENGINEERING
RESOURCE GROUP P.C.
DESIGN BY: PDB
DRAWN BY: CNB
DATE: 15 JUNE 2018
REV:
SHEET 17



NOTES:

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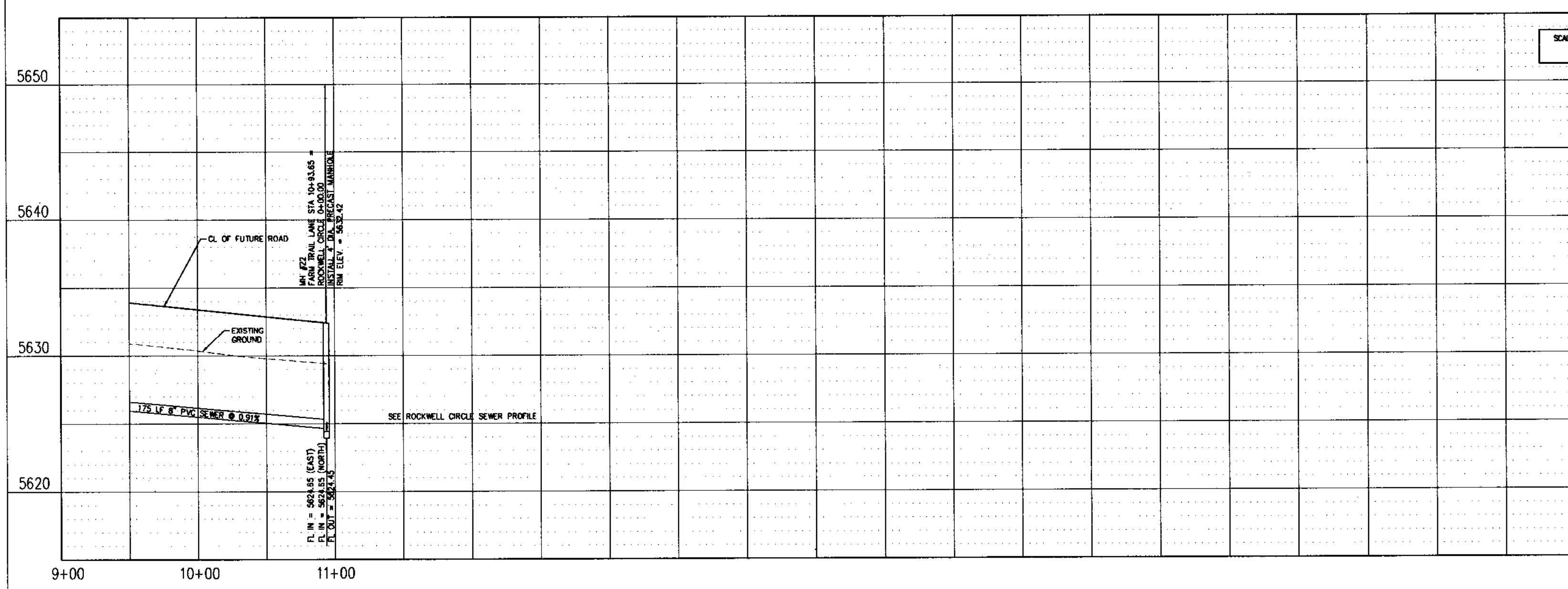
N

Scale 1" = 40'

SCALE 1"=80' FOR 11"X17" PLANS

Horrocks Engineers
Approved by

Date:



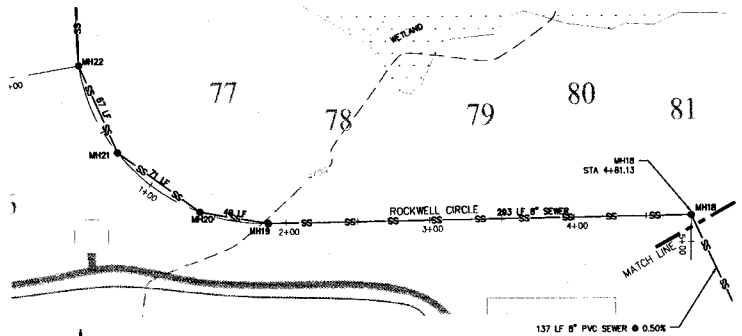
15 JUNE 2018

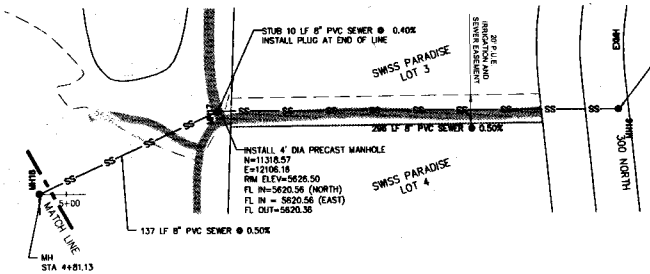
WATTS ENTERPRISES
REMUND FARMS

FARM TRAIL LANE SEWER
PLAN & PROFILE 10+00 - 10+93.65

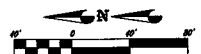
BERG ENGINEERING
RESOURCE GROUP P.C.
380 E Main St. Suite 204,
Midway, Ut 84049
ph. (435) 657-9749

DESIGN BY: PDB	DATE: 15 JUNE 2018	SHEET
DRAWN BY: CNB	REV:	18

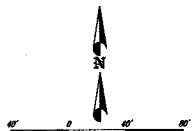




MH #16
CONNECT TO EXISTING 8" SEWER
INSTALL 4' DIA MANHOLE
WITH CAST-IN-PLACE BASE
N=11041.88
E=12106.16
RIM ELEV=5626.00
FL IN=5618.97
FL EXISTING=5618.77
(CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF SEWER AND NOTIFY ENGINEER BEFORE WORK BEGINS)



Scale 1" = 40'
SCALE 1"=80' FOR 11"X17" PLANS



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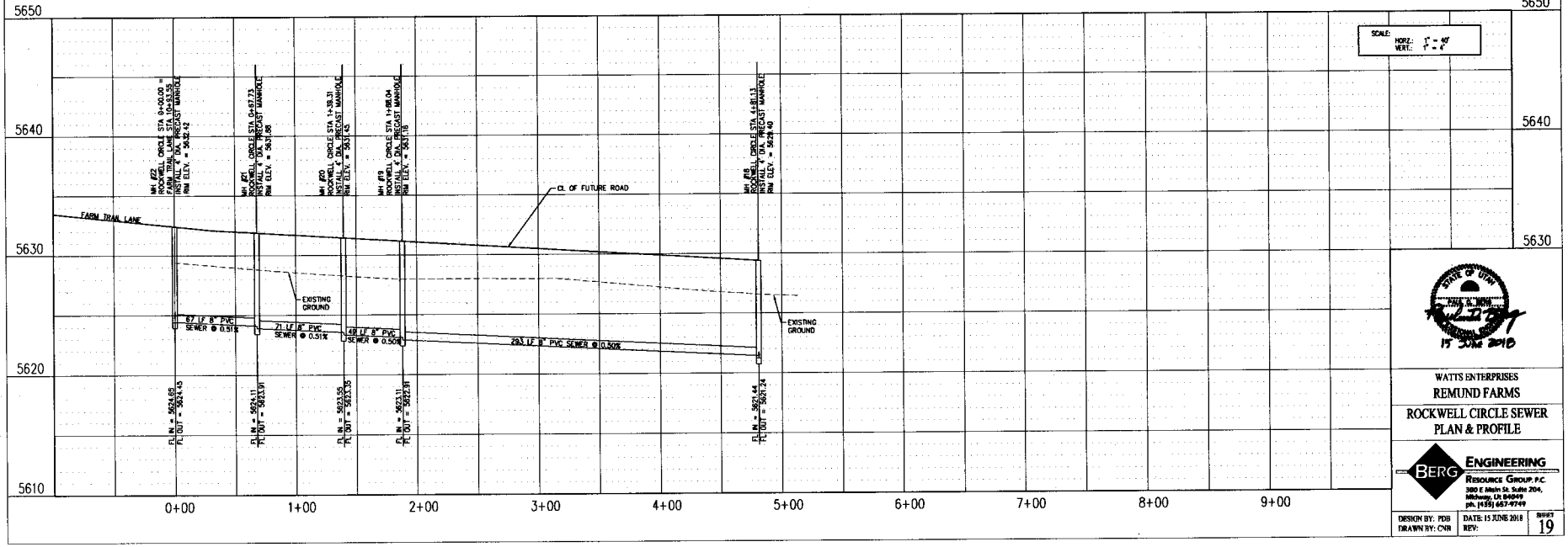
Horrocks Engineers
Approved by
Date: 7-6-18

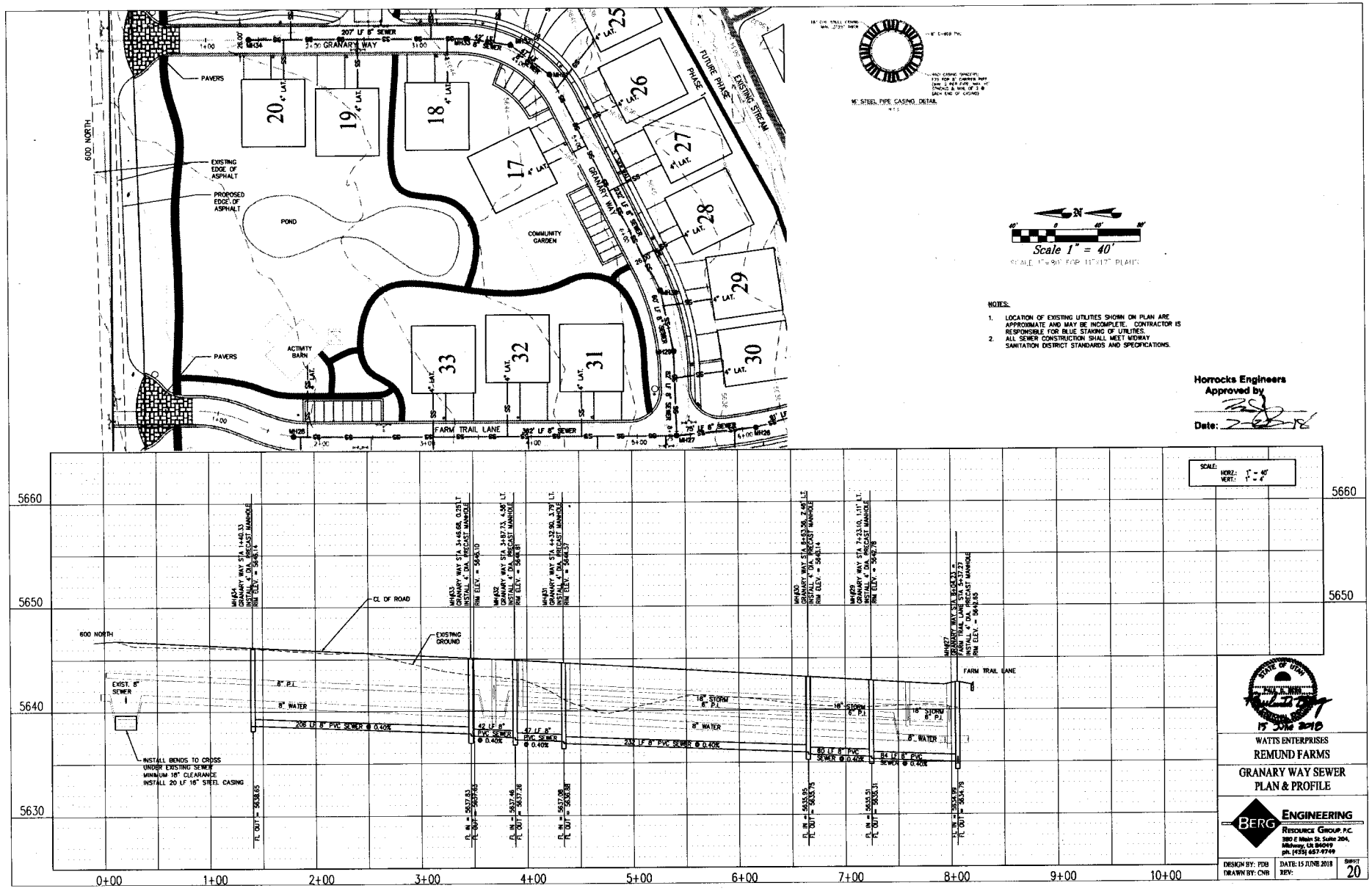


STATE OF UTAH
KYLE D. BERG
15 JUNE 2018

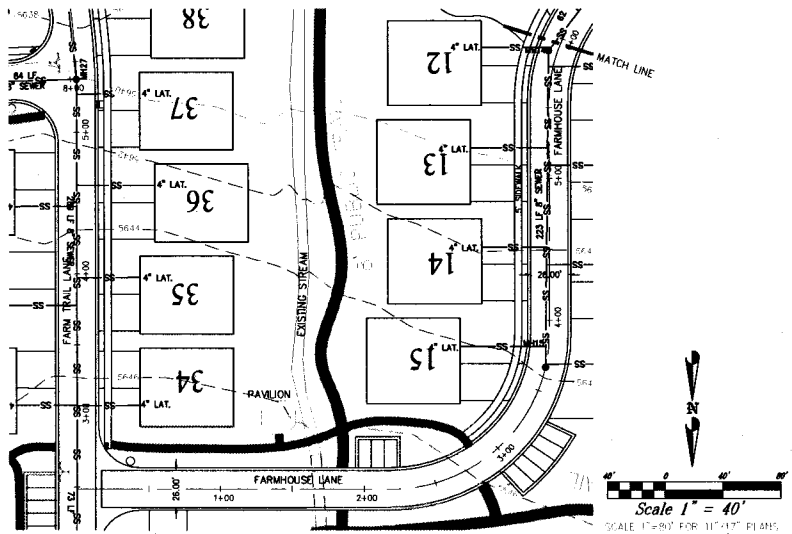
WATTS ENTERPRISES
REMUND FARMS
ROCKWELL CIRCLE SEWER
PLAN & PROFILE

BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204,
Midway, Ut 84049
ph. (435) 657-9749

DESIGN BY: PDB	DATE: 15 JUNE 2018	SHEET
DRAWN BY: CWB	REV:	19

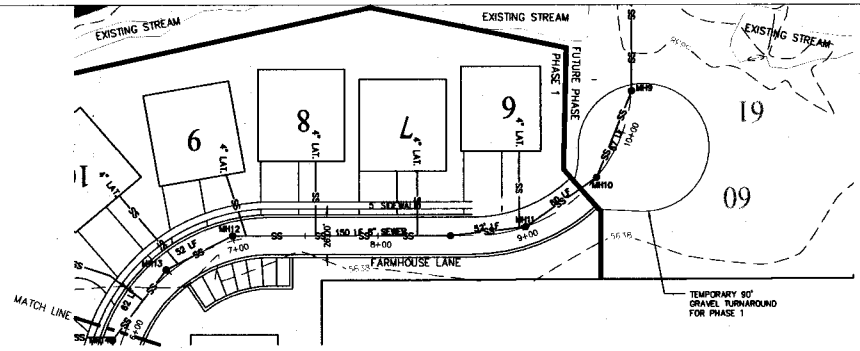


Ent 456064 Bk 1233 Pg 1592



Scale 1" = 40'

SCALE 1"=80' FOR 11"X17" PLANS



Horrocks Engineers
Approved by

Date:

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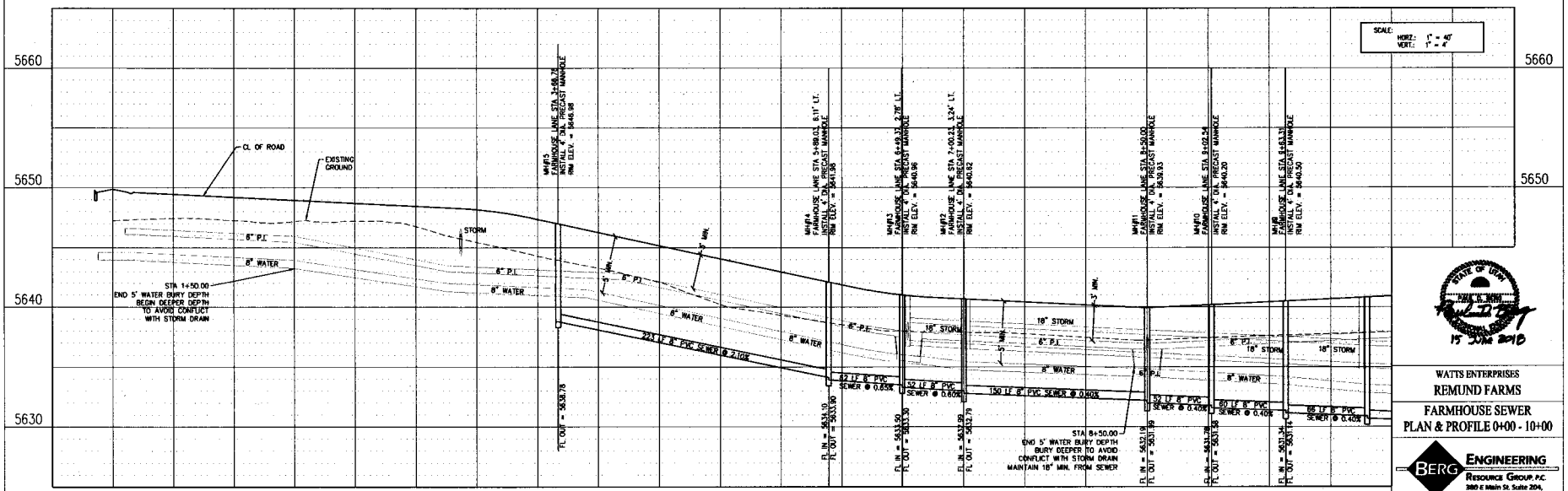
Scale 1" = 40'

SCALE 1"=80' FOR 11"X17" PLANS



STATE OF UTAH
PAUL D. BERG
15 JUNE 2018

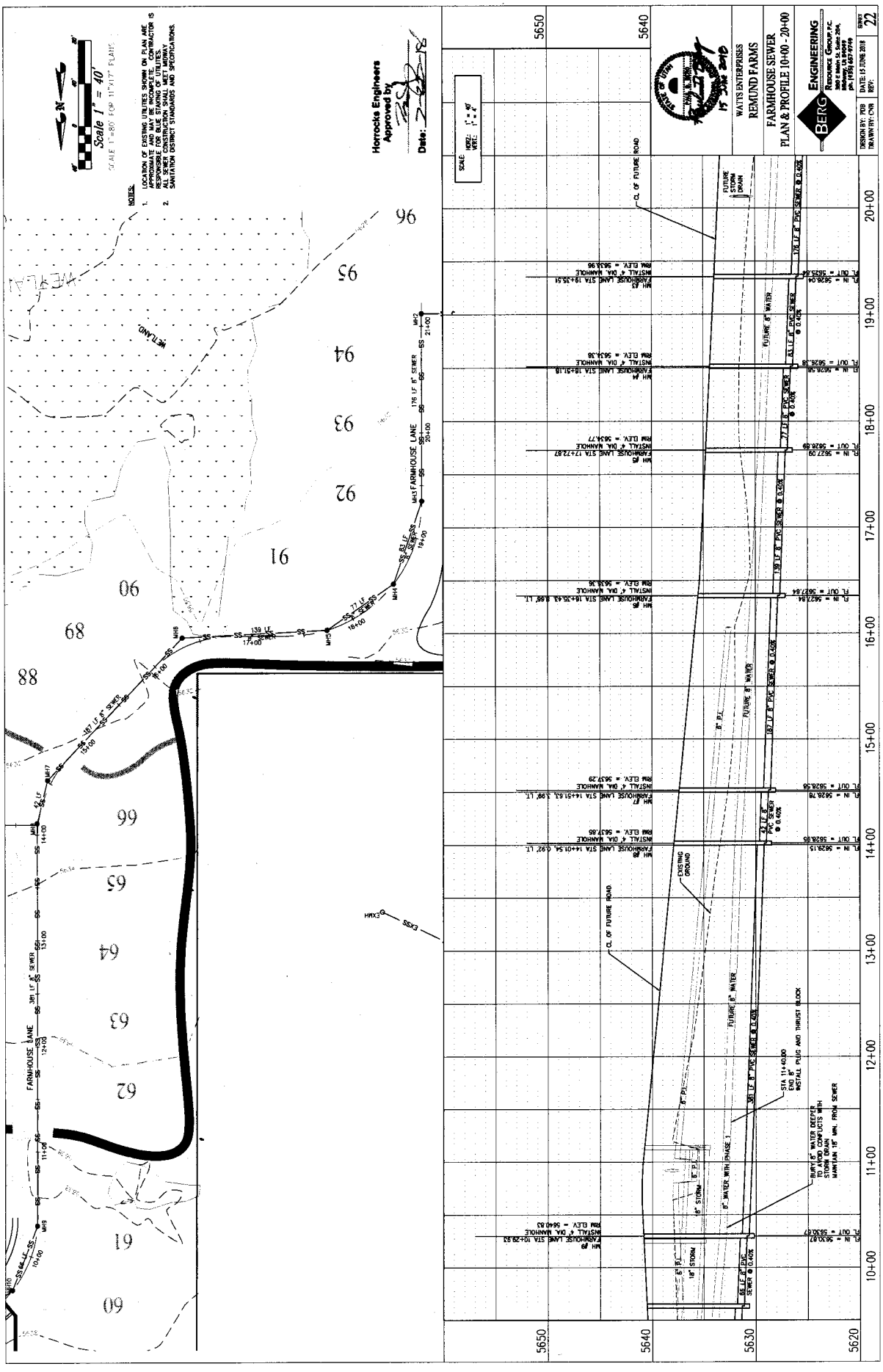
WATTS ENTERPRISES

REMUND FARMS

FARMHOUSE SEWER
PLAN & PROFILE 0+00 - 10+00

BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204,
Midway, UT 84049
ph. (435) 657-9749

DESIGN BY: PDB	DATE: 15 JUNE 2018	SHEET
DRAWN BY: CNB	REV:	21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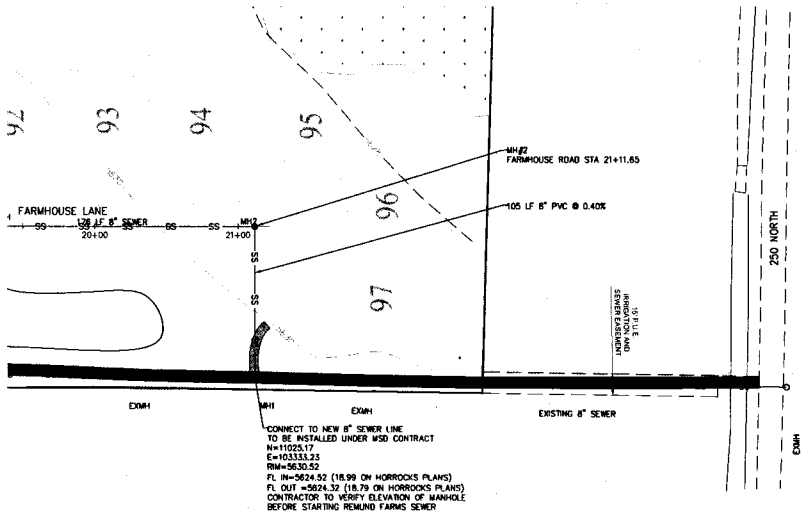
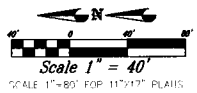
Horrocks Engineers
Approved by
Date:
FARMHOUSE LANE
176 LF 8" SEWER
139 LF
187 LF 8" SEWER
381 LF 8" SEWER
MH1
MH2
MH3
MH4
MH5
MH6
MH7
MH8
MH9
MH10
WETLAND
EXISTING GROUND
CL OF FUTURE ROAD
FUTURE 8" WATER
FUTURE STORM DRAIN
8" WATER WITH PHASE 1
18" STORM
WATTS ENTERPRISES
REMUND FARMS
FARMHOUSE SEWER
PLAN & PROFILE 10+00 - 20+00
ENGINEERING
Resource Group, P.C.
DESIGN BY: TCD
DRAWN BY: CNR
DATE: 15 JUNE 2018
SHEET 22





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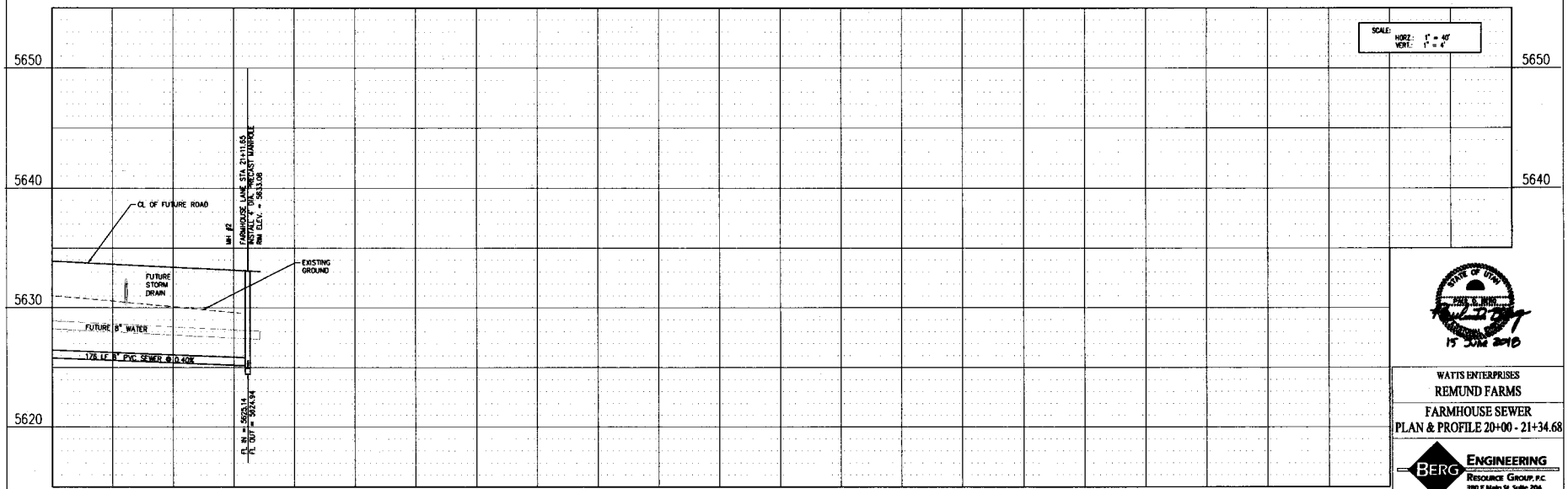
Horrocks Engineers
Approved by

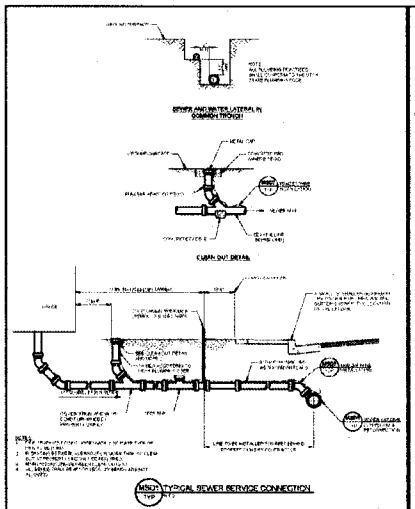
Date:



WATTS ENTERPRISES
REMUND FARMS
FARMHOUSE SEWER
PLAN & PROFILE 20+00 - 21+34.68

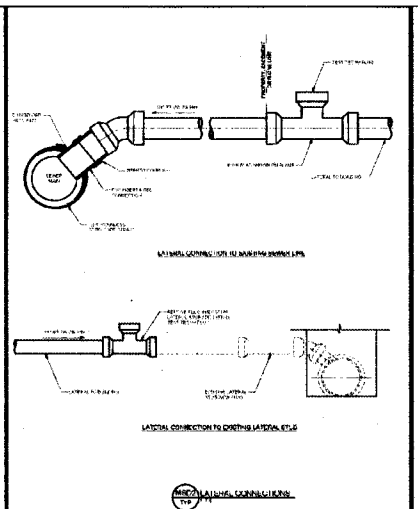
BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204,
Midway, UT 84049
ph. (435) 657-9749

DESIGN BY: PDB	DATE: 15 JUNE 2018	SHEET
DRAWN BY: CNB	REV:	23



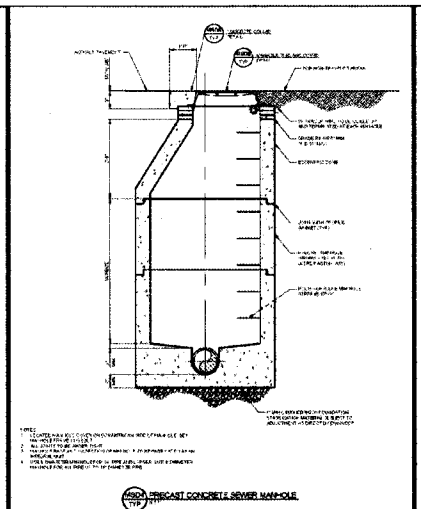
TYPICAL SEWER SERVICE CONNECTION

HORROCKS ENGINEERS | MIDWAY SANITATION DISTRICT STANDARD DRAWING | SEWER - 1



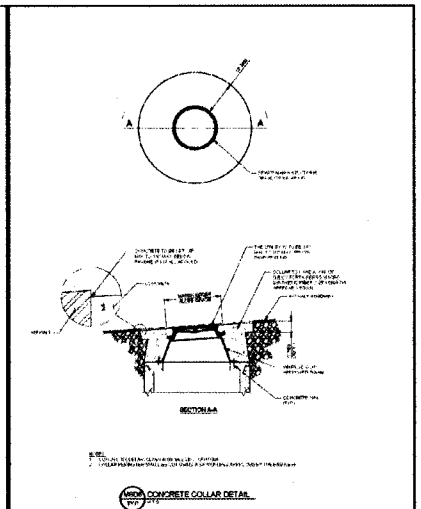
LATERAL CONNECTION

HORROCKS ENGINEERS | MIDWAY SANITATION DISTRICT STANDARD DRAWING | SEWER - 2



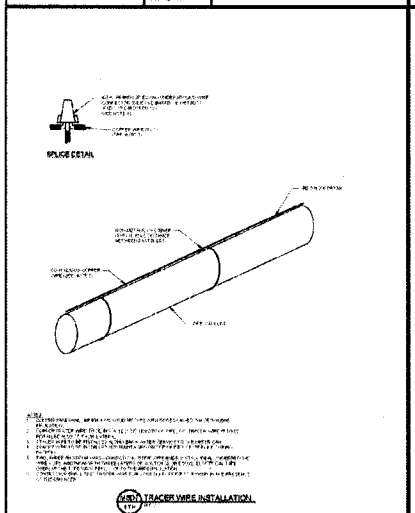
PRECAST CONCRETE SEWER MANHOLE

HORROCKS ENGINEERS | MIDWAY SANITATION DISTRICT STANDARD DRAWING | SEWER - 4



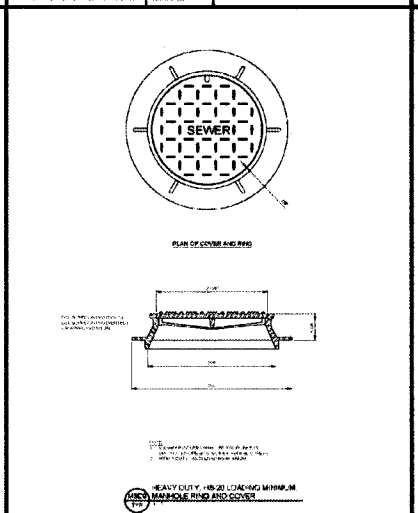
CONCRETE COLLAR DETAIL

HORROCKS ENGINEERS | MIDWAY SANITATION DISTRICT STANDARD DRAWING | SEWER - 6



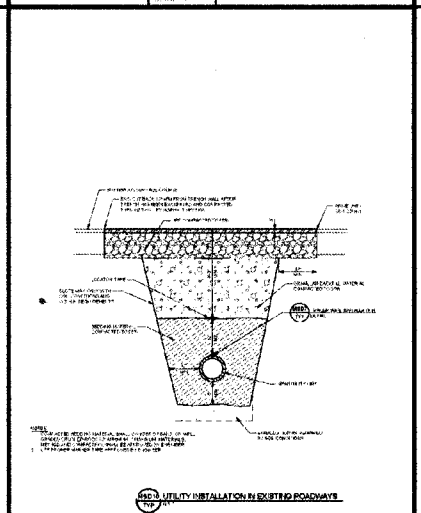
TRACER WIRE INSTALLATION

HORROCKS ENGINEERS | MIDWAY SANITATION DISTRICT STANDARD DRAWING | SEWER - 7



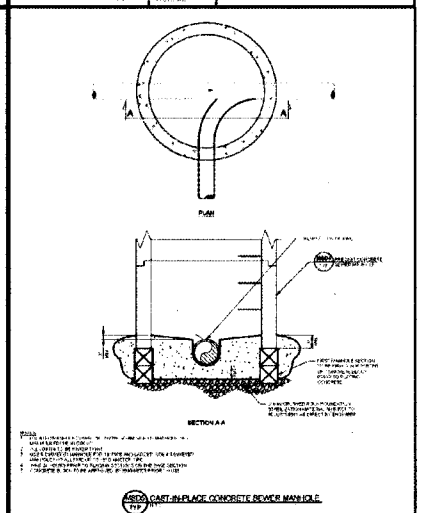
HEAVY DUTY, HS-20 LOADING MINIMUM MANHOLE RING AND COVER

HORROCKS ENGINEERS | MIDWAY SANITATION DISTRICT STANDARD DRAWING | SEWER - 9



UTILITY INSTALLATION IN EXISTING ROADWAYS

HORROCKS ENGINEERS | MIDWAY SANITATION DISTRICT STANDARD DRAWING | SEWER - 10



CAST-IN-PLACE CONCRETE SEWER MANHOLE

HORROCKS ENGINEERS | MIDWAY SANITATION DISTRICT STANDARD DRAWING | SEWER - 5

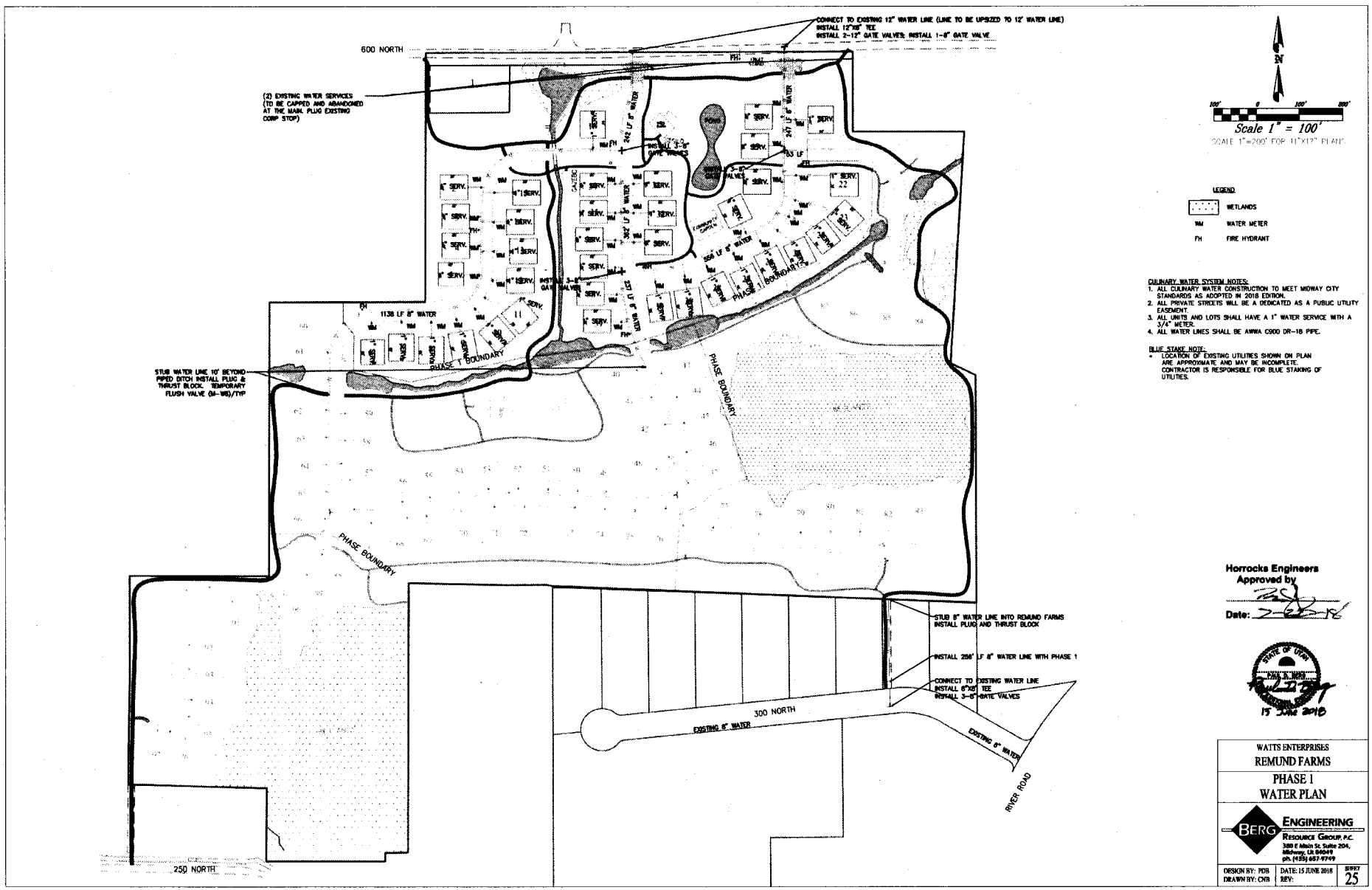
Horrocks Engineers
Approved by

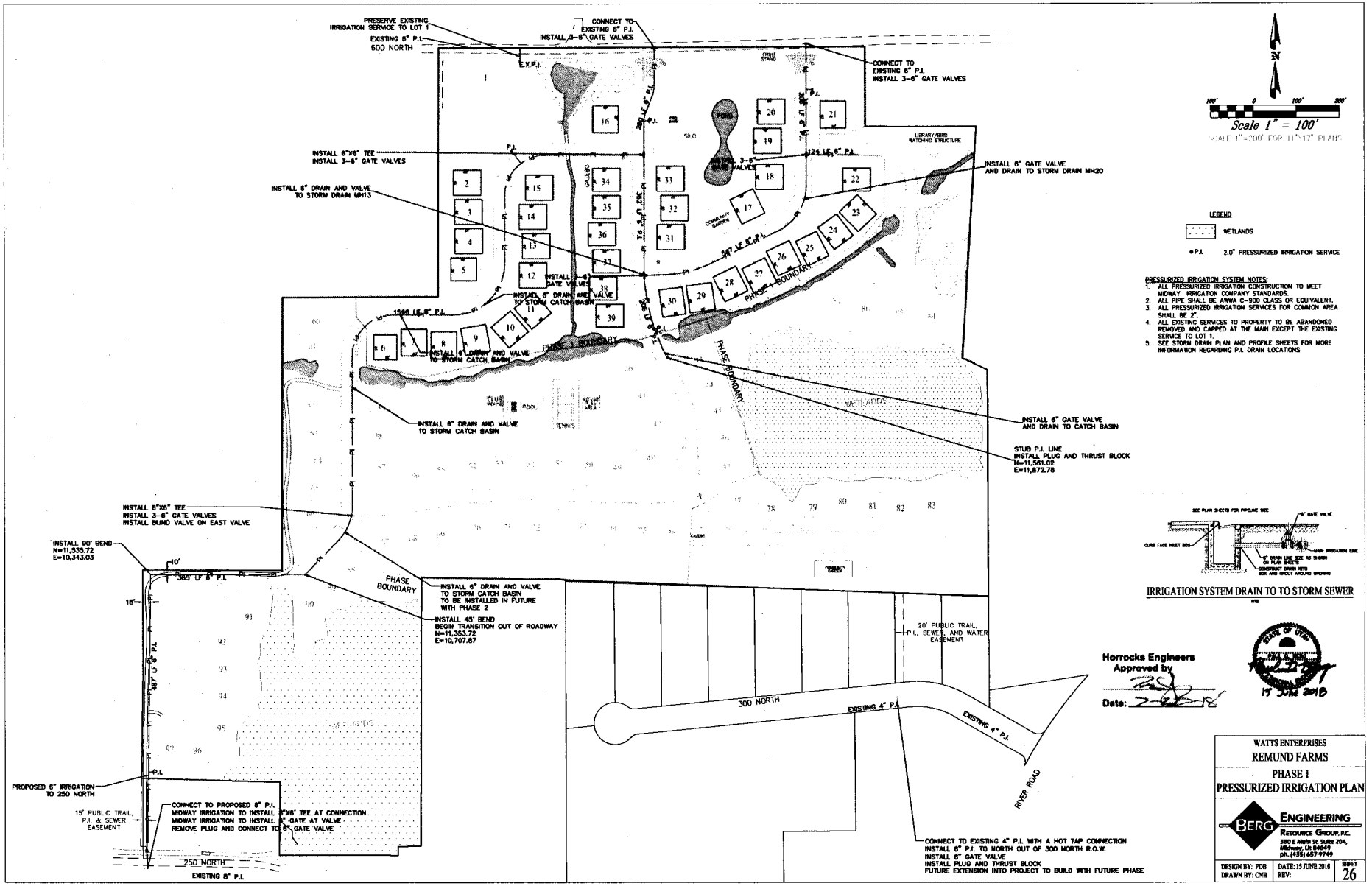
Date:

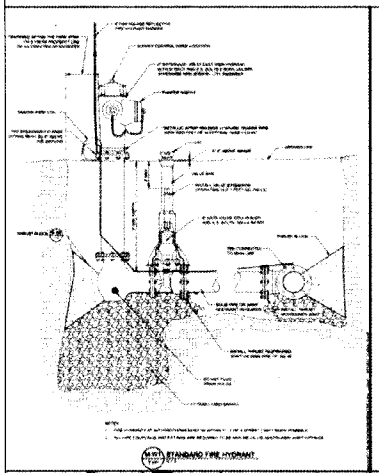
WATTS ENTERPRISES
REMUND FARMS
SEWER CONSTRUCTION DETAILS

BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204,
Midway, UT 84049
ph. (435) 657-9749

DESIGN BY: PDB
DRAWN BY: CNB
DATE: 15 JUNE 2018
REV:
SHEET 24

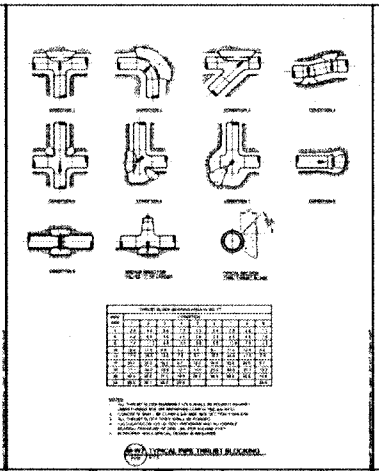






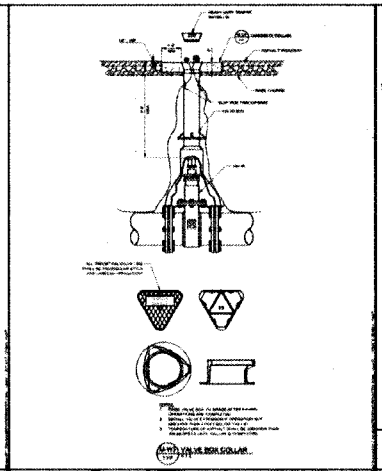
STANDARD FIRE HYDRANT

HORROCKS engineers | MIDWAY CITY STANDARD DRAWING | WATER - 1



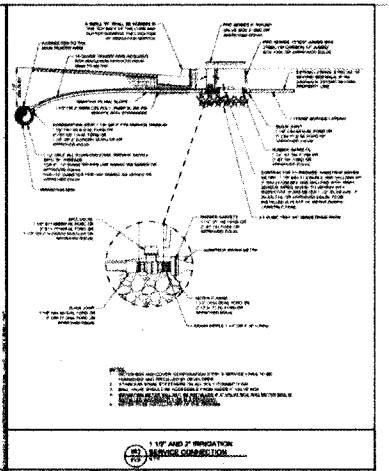
TYPICAL PIPE THRUST BLOCKING

HORROCKS engineers | MIDWAY CITY STANDARD DRAWING | WATER - 2



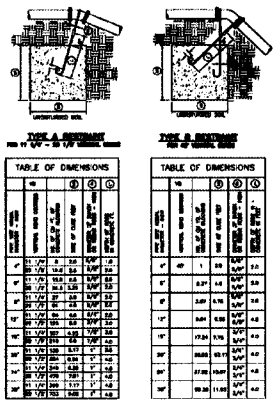
TYPE VB BOX COLLAR

HORROCKS engineers | MIDWAY CITY STANDARD DRAWING | WATER - 3



1 1/2" AND 2" IRRIGATION SERVICE CONNECTION

HORROCKS engineers | MIDWAY IRRIGATION COMPANY | MIDWAY IRRIGATION COMPANY STANDARD DRAWING | IRRIGATION - 2



TYPE A RESTRAINT

TYPE A RESTRAINT

TABLE OF DIMENSIONS

4"	31 1/2"	8	3.0	5/8"	1.0		
	39 1/2"	14.6	5.5	5/8"	2.0		
6"	31 1/2"	10.5	4.0	5/8"	1.5		
	39 1/2"	19.1	7.25	5/8"	2.5		
8"	31 1/2"	27	5.0	5/8"	2.5		
	39 1/2"	34	6.5	5/8"	3.0		
10"	31 1/2"	54	6.0	5/8"	3.0		
	39 1/2"	68	8.0	5/8"	3.0		
12"	31 1/2"	78	6.0	5/8"	3.0		
	39 1/2"	98	8.0	5/8"	3.0		
14"	31 1/2"	105	8.0	7/8"	3.5		
	39 1/2"	132	10.0	7/8"	4.0		
16"	31 1/2"	138	8.17	1"	3.5		
	39 1/2"	174	10.33	1"	4.0		
18"	31 1/2"	205	9.83	1"	4.0		
	39 1/2"	258	12.33	1"	5.0		
20"	31 1/2"	255	10.67	1"	4.0		
	39 1/2"	321	13.33	1"	5.0		
24"	31 1/2"	369	11.17	1"	4.0		
	39 1/2"	463	14.00	1"	5.0		

TABLE OF DIMENSIONS

4"	40	1	3.0	5/8"	2.0		
6"		2.37	4.5	5/8"	3.0		
8"		3.87	5.75	5/8"	3.5		
10"		5.61	7.00	5/8"	4.0		
12"		8.04	8.50	5/8"	4.5		
14"		17.04	9.75	3/4"	4.5		
16"		20.03	10.17	3/4"	4.5		
18"		27.00	10.67	3/4"	4.5		
20"		33.33	11.17	3/4"	4.5		
24"		48.00	11.83	3/4"	4.5		

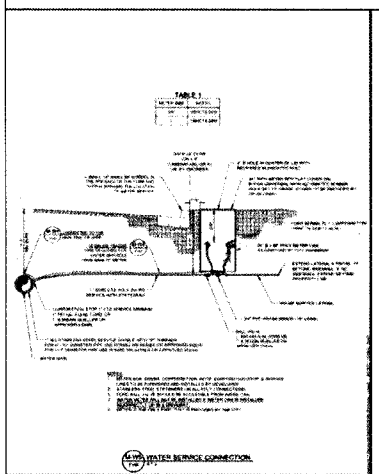
Tie-down thrust restraints

Sheet No. 262

April 1997 241

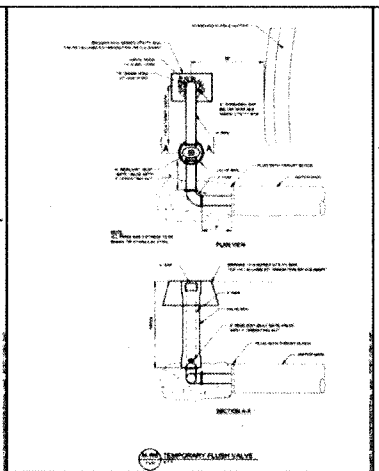
Tie-down thrust restraints

1. CONCRETE: Class 2000 minimum per APWA Section 03 30 04. Pour concrete against undisturbed soil.
2. PIPE JOINTS: Do not cover with concrete. Leave completely accessible.
3. GREASE: Apply poly-fm grease to all buried metal surfaces. Wrap with 8 mil thick polyethylene sheet and tape wrap.
4. SPECIAL CONSTRUCTION REQUIREMENTS:
   A. Thrust design for pipe sizes or configurations not shown require special design.
   B. Bearing areas, volumes, and special thrust blocking details shown on drawings take precedence over this plan.
   C. Reinforcing steel bars to be epoxy coated at least 15 mils thick. Minimum stress yield strength of tie down bars is 70,000 psi.
   D. Locking restraint devices may be used in conjunction with concrete thrust blocking (at option of ENGINEER).
   E. Restraint sizing is based upon a maximum operating pressure of 150 psi and a test pressure of 200 psi, and a minimum soil bearing stress of 2,000 psf. Operating pressures in excess of 150 psi or soils with less than 2,000 pound bearing strength will require special design.
   F. Concrete must be allowed to cure in thrust restraints for 5 days prior to pressurizing water lines or have additional approved thrust restraints installed prior to pressurizing the water line.
5. INSPECTION: Prior to backfilling around thrust block, secure inspection of installation by ENGINEER.
6. BACKFILL: Provide and place per APWA Section 33 05 20. Compact per APWA Section 31 23 26 to a modified proctor density of 95 percent or greater. Maximum lift thickness is 8 inches before compaction



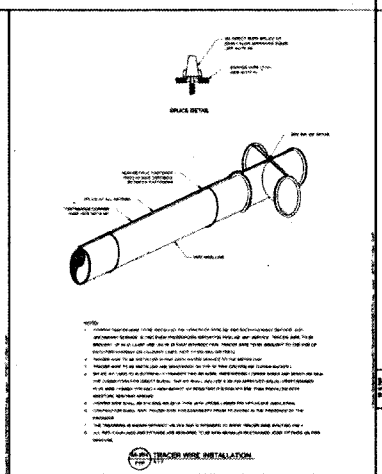
WATER SERVICE CONNECTION

HORROCKS engineers | MIDWAY CITY STANDARD DRAWING | WATER - 5



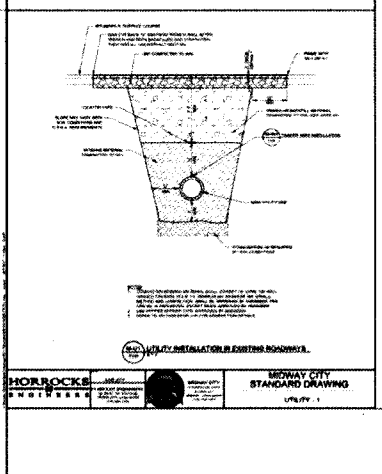
TEMPORARY FLUSH VALVE

HORROCKS engineers | MIDWAY CITY STANDARD DRAWING | WATER - 6



TRACER WIRE INSTALLATION

HORROCKS engineers | MIDWAY CITY STANDARD DRAWING | WATER - 4



UTILITY INSTALLATION IN EXISTING ROADWAYS

HORROCKS engineers | MIDWAY CITY STANDARD DRAWING | UTILITY - 1

Horrocks Engineers Approved by

Date: 7-23-18

WATTS ENTERPRISES
REMUND FARMS

WATER CONSTRUCTION DETAILS

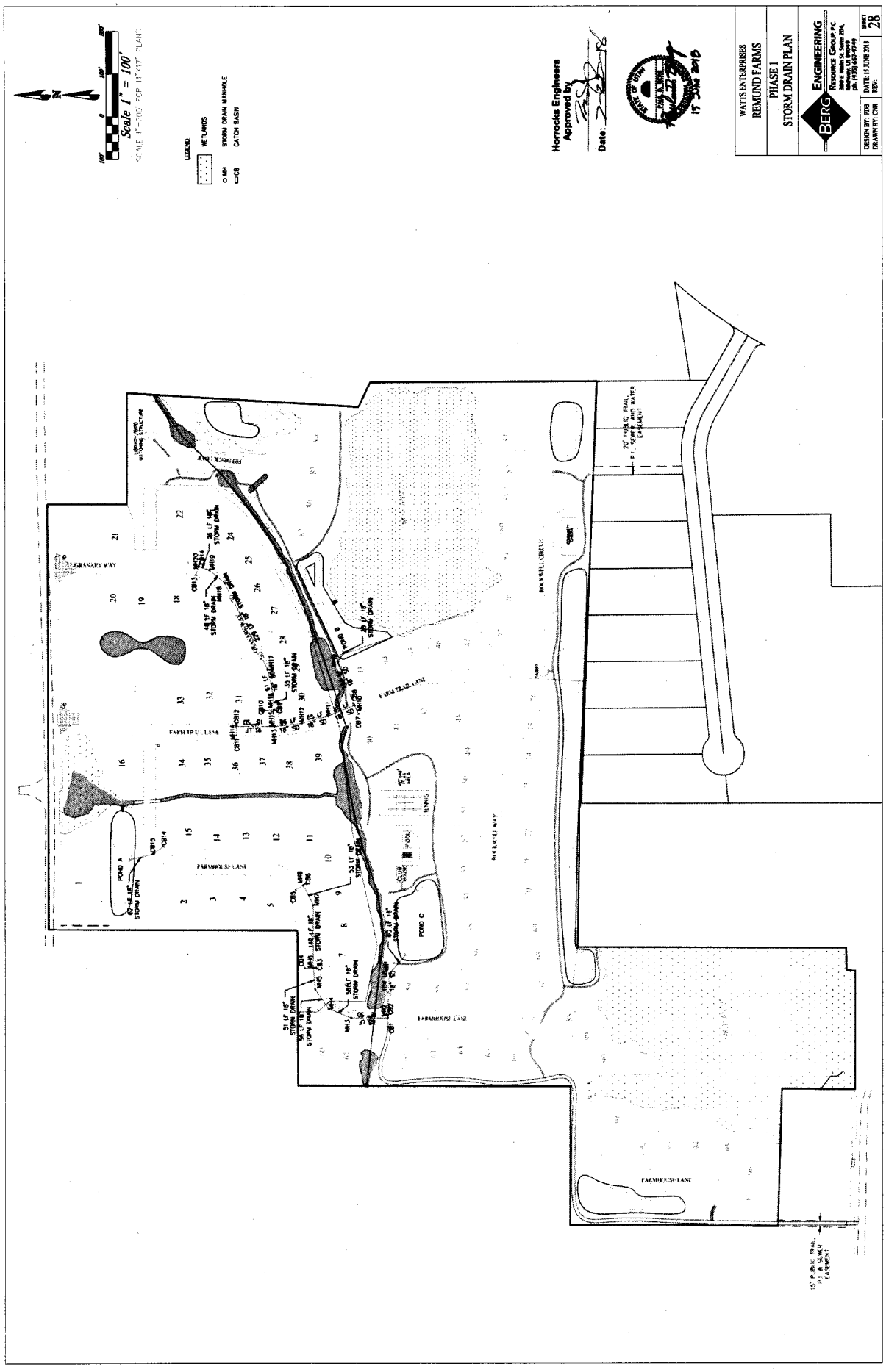
BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204,
Midway, Ut 84049
ph. (435) 657-9749

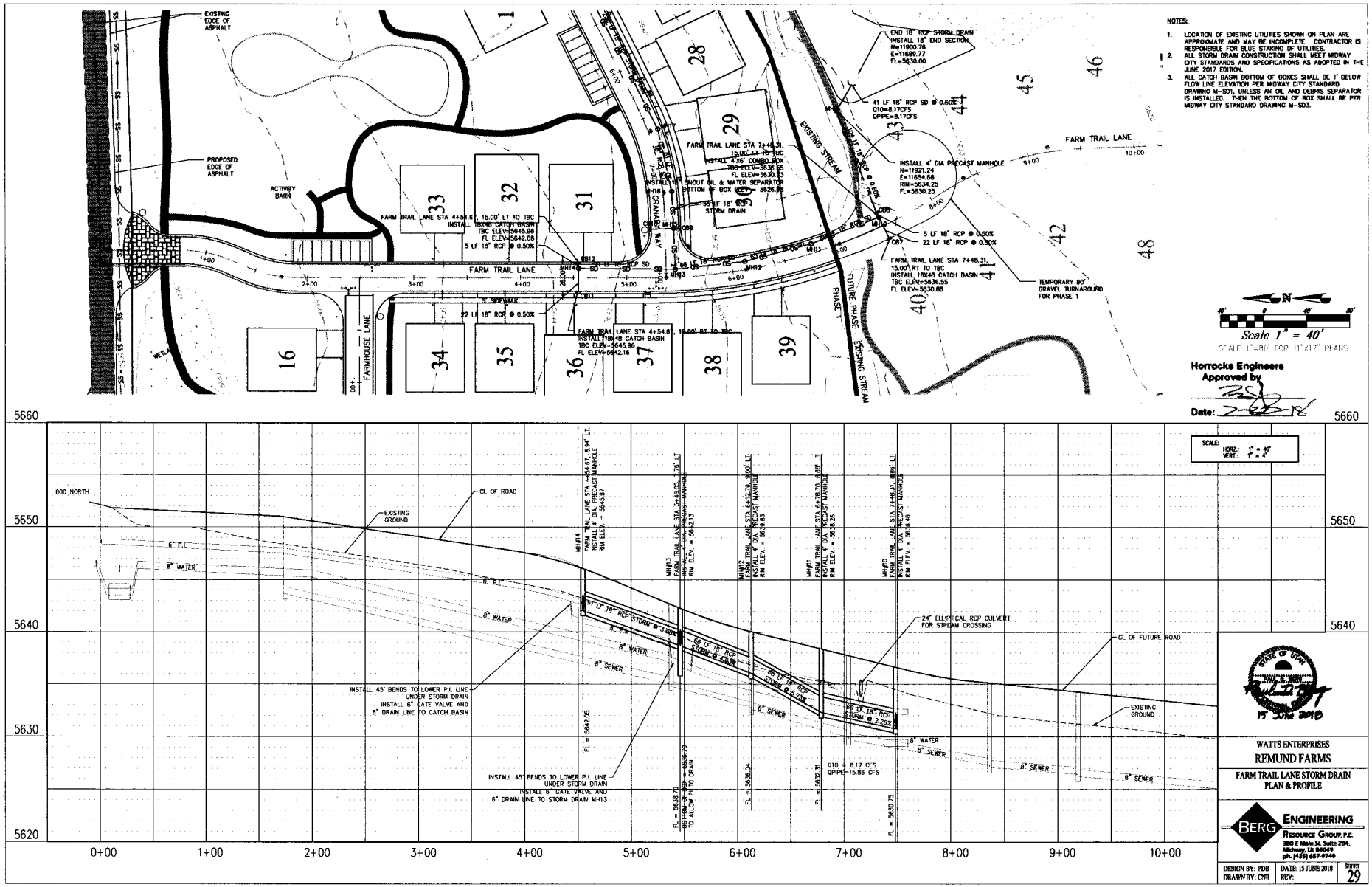
240

DESIGN BY: PDB
DRAWN BY: CNB

DATE: 15 JUNE 2018
REV:

SHEET 27


Scale 1" = 100'
SCALE 1"=100' FOR 11"X17" PLANS
LEGEND
WETLANDS
STORM DRAIN MANHOLE
CATCH BASIN
Horrocks Engineers
Approved by:
Date: 2-28-18
WATTS ENTERPRISES
REMUND FARMS
PHASE 1
STORM DRAIN PLAN
BERG ENGINEERING
RESOURCE GROUP P.C.
DESIGN BY: JTDS
DRAWN BY: CNH
DATE: 15 JUNE 2018
REV:
SHEET 28
GRANARY WAY
FARMHOUSE LANE
FARM TRAIL LANE
MAXWELL CIRCLE
MAXWELL WAY
POND A
POND B
POND C
TENNIS
POOL
CLUB HOUSE
20' PUBLIC TRAIL, P.U.E., SEWER, AND WATER EASEMENT
15' PUBLIC TRAIL, P.U.E. & SEWER EASEMENT



WATTS ENTERPRISES

REMUND FARMS

FARM TRAIL LANE STORM DRAIN PLAN & PROFILE

BERG ENGINEERING

RESOURCE GROUP, P.C.

380 E Main St. Suite 204, Midway, Ut 84049 ph. (435) 657-9749

DESIGN BY: PDB	DATE: 15 JUNE 2018	SHEET 29
DRAWN BY: CNB	REV:	


NOTES:
1. LOCATION OF EXISTING UTILITIES SHOWN ON PLAN ARE APPROXIMATE AND MAY BE INCOMPLETE. CONTRACTOR IS RESPONSIBLE FOR BLUE STAKING OF UTILITIES.
2. ALL STORM DRAIN CONSTRUCTION SHALL MEET MIDWAY CITY STANDARDS AND SPECIFICATIONS AS ADOPTED IN THE JUNE 2017 EDITION.
3. ALL CATCH BASIN BOTTOM OF BOXES SHALL BE 1' BELOW FLOW LINE ELEVATION PER MIDWAY CITY STANDARD DRAWING M-501. UNLESS AN OIL AND DEBRIS SEPARATOR (SUMP) IS REQUIRED. THE BOTTOM OF BOXES SHALL BE PER MIDWAY CITY STANDARD DRAWING M-503.
Horrocks Engineers
Approved by
Date:
Scale 1" = 40'
SCALE: HORIZ: 1" = 40' VERT: 1" = 4'
WATTS ENTERPRISES
REMOND FARMS
GRANARY WAY STORM DRAIN
PLAN & PROFILE
BERG ENGINEERING
RESOURCE GROUP, P.C.
DESIGN BY: PBB
DRAWN BY: CNR
DATE: 15 JUNE 2018
REV:
SHEET 30
EXISTING STREAM
FUTURE PHASE
PHASE 1
GRANARY WAY
COMMUNITY GARDEN
POND
ACTIVITY BARN
EARN TRAIL LANE
PAVERS
EXISTING EDGE OF ASPHALT
PROPOSED EDGE OF ASPHALT
600 NORTH
CL OF ROAD
EXISTING GROUND
8" SEWER
8" WATER
6" P.I.
8" P.I.
INSTALL 45° BENDS TO LOWER P.I. LINE UNDER STORM DRAIN AND 6" DRAIN LINE TO STORM DRAIN MH13
INSTALL 45° BENDS TO LOWER P.I. LINE UNDER STORM DRAIN AND 6" DRAIN LINE TO STORM DRAIN MH20
BOTTOM OF BOX = 5638.99 TO ALLOW FOR P.I DRAIN
BOTTOM OF BOX = 5638.70 TO ALLOW FOR P.I DRAIN
5660
5650
5640
5630
0+00
1+00
2+00
3+00
4+00
5+00
6+00
7+00
8+00
9+00
10+00

NOTES:

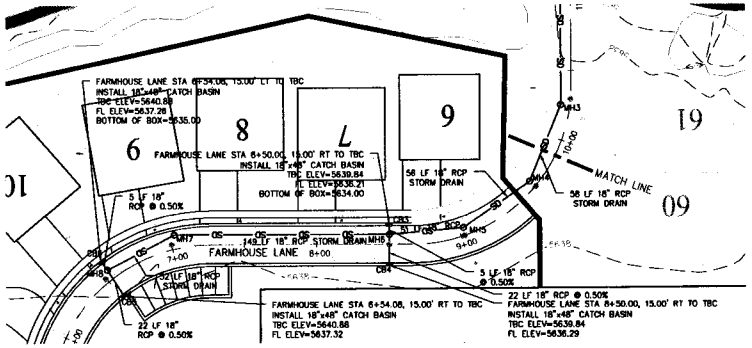
1. LOCATION OF EXISTING UTILITIES SHOWN ON PLAN ARE APPROXIMATE AND MAY BE INCOMPLETE. CONTRACTOR IS RESPONSIBLE FOR BLUE STAKING OF UTILITIES.
2. ALL STORM DRAIN CONSTRUCTION SHALL MEET MIDWAY CITY STANDARDS AND SPECIFICATIONS AS ADOPTED IN THE JUNE 2017 EDITION.
3. ALL CATCH BASIN BOTTOM OF BOXES SHALL BE 1' BELOW FLOWLINE ELEVATION PER MIDWAY CITY STANDARD DRAWING M-SD1 UNLESS AN OIL AND DEBRIS SEPARATOR IS INSTALLED. THEN THE BOTTOM OF BOX SHALL BE PER MIDWAY CITY STANDARD DRAWING MSD-3.

N

40' 0 40' 80'

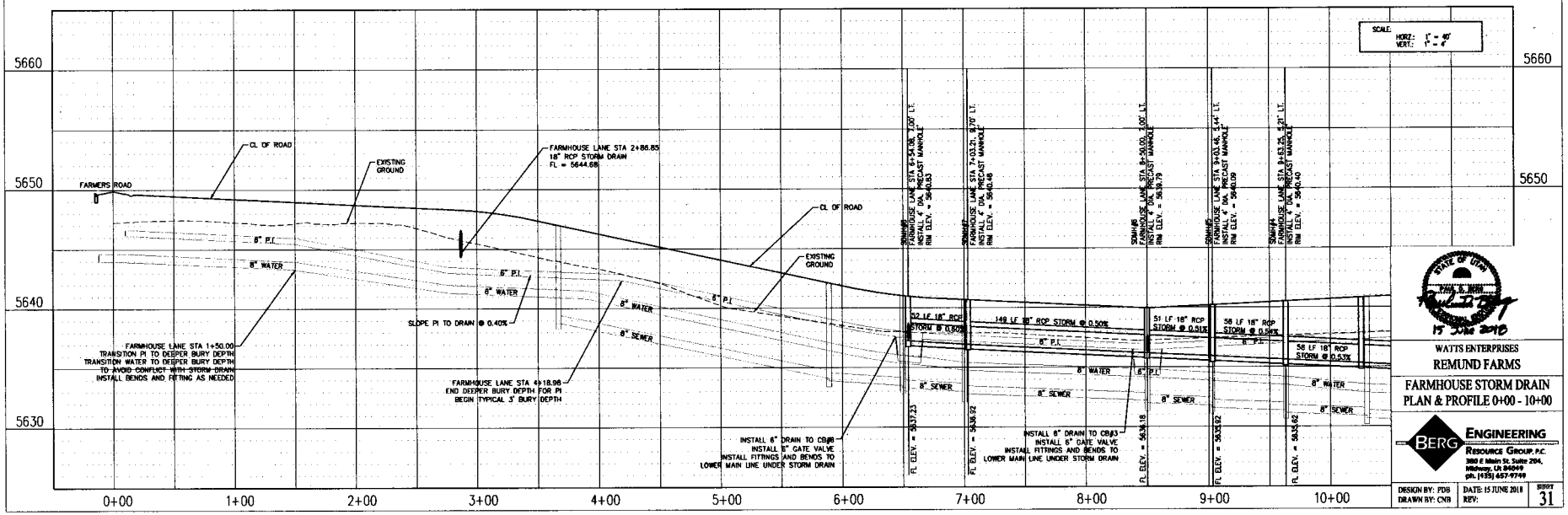
Scale 1" = 40'

SCALE 1"=80' FOR 11"X17" PLANS



Horrocks Engineers
Approved by

Date: 2-6-18



STATE OF UTAH
PAUL D. BERG
PROFESSIONAL ENGINEER
15 JUNE 2018

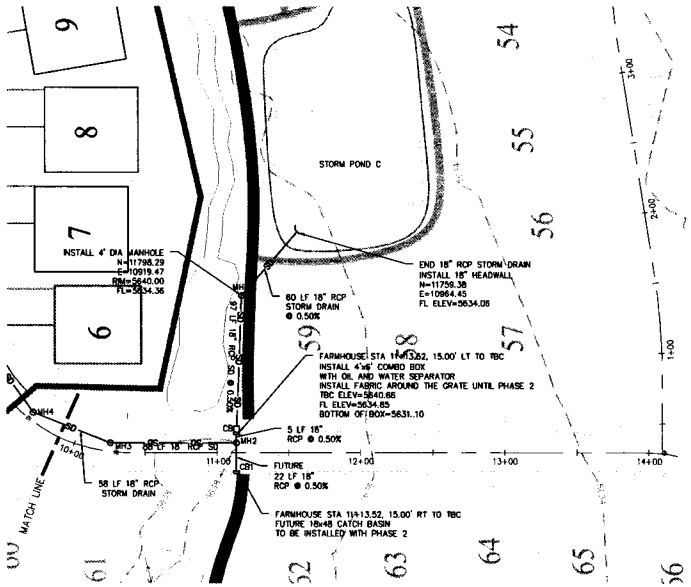
WATTS ENTERPRISES

REMUND FARMS

FARMHOUSE STORM DRAIN
PLAN & PROFILE 0+00 - 10+00

BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204,
Midway, Ut 84049
ph. (435) 657-9749

DESIGN BY: PDB	DATE: 15 JUNE 2018	SHEET
DRAWN BY: CNB	REV:	31

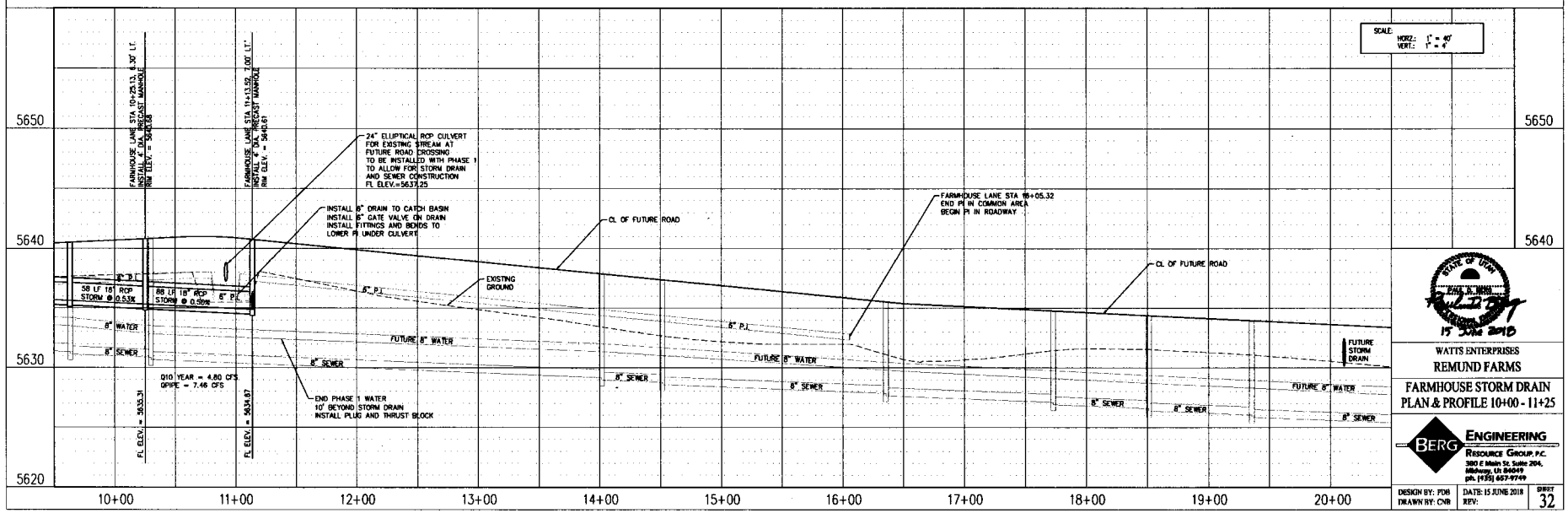


NOTES:

1. LOCATION OF EXISTING UTILITIES SHOWN ON PLAN ARE APPROXIMATE AND MAY BE INCOMPLETE. CONTRACTOR IS RESPONSIBLE FOR BLUE STAKING OF UTILITIES.
2. ALL STORM DRAIN CONSTRUCTION SHALL MEET MIDWAY CITY STANDARDS AND SPECIFICATIONS AS ADOPTED IN THE JUNE 2017 EDITION.
3. ALL CATCH BASIN BOTTOM OF BOXES SHALL BE 1' BELOW FLOWLINE ELEVATION PER MIDWAY CITY STANDARD DRAWING M-SD1, UNLESS AN OIL AND DEBRIS SEPARATOR IS INSTALLED. THEN THE BOTTOM OF BOX SHALL BE PER MIDWAY CITY STANDARD DRAWING M-SD3.

Horrocks Engineers
Approved by

Date: 2-26-18



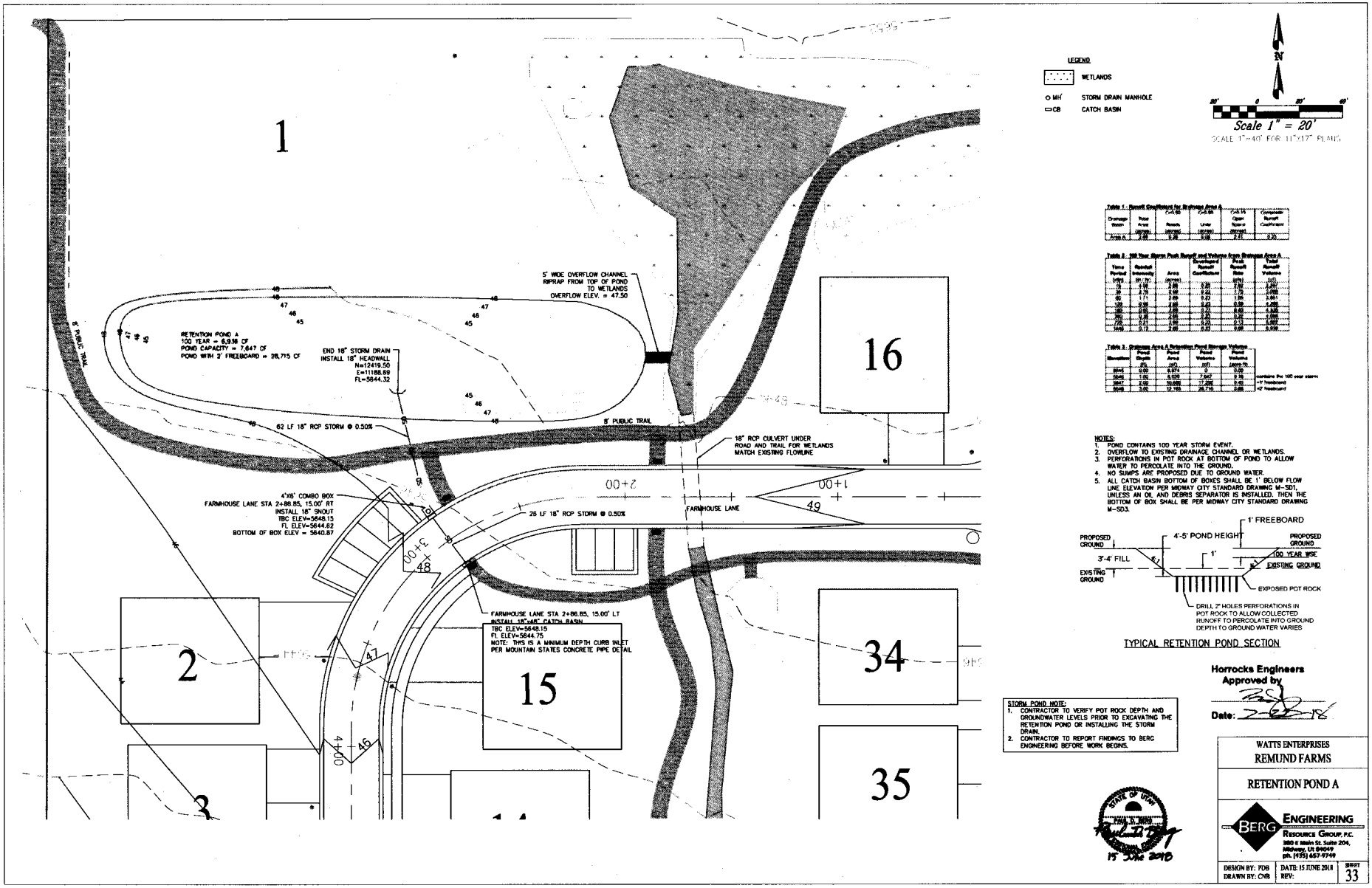
STATE OF UTAH
ERIC N. WINS
15 JUNE 2018

WATTS ENTERPRISES
REMUND FARMS

FARMHOUSE STORM DRAIN
PLAN & PROFILE 10+00 - 11+25

BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204,
Midway, Ut 84049
ph. (435) 657-9749

DESIGN BY: PDB	DATE: 15 JUNE 2018	SHEET
DRAWN BY: CNB	REV:	32



LEGEND

WETLANDS

MH STORM DRAIN MANHOLE

CB CATCH BASIN

N

20' 0 20' 40'

Scale 1" = 20'

SCALE 1"=40' FOR 11"X17" PLANS

Table 1 - Runoff Coefficient for Drainage Area A

Drainage Basin	Total Area (acres)	Pervious Area (acres)	Curb 85 Impervious Area (acres)	Curb 95 Open Space Area (acres)	Composite Runoff Coefficient
Area A	7.68	6.39	0.88	2.81	0.70

Table 2 - 100 Year Storm Peak Runoff and Volume from Drainage Area A

Time Period (min)	Rainfall Intensity (in/hr)	Area (acres)	Developed Runoff Coefficient	Peak Runoff Rate (cfs)	Total Runoff Volume (cf)
5	5.50	7.68	0.70	29.56	8,867
10	4.29	7.68	0.70	23.05	13,834
15	3.60	7.68	0.70	19.34	17,401
30	2.52	7.68	0.70	13.54	24,374
60	1.77	7.68	0.70	9.51	34,233
120	1.14	7.68	0.70	6.13	44,126
180	0.89	7.68	0.70	4.78	51,588
360	0.58	7.68	0.70	3.12	67,331
720	0.37	7.68	0.70	1.99	85,997
1440	0.23	7.68	0.70	1.24	96,000

Table 3 - Drainage Area A Retention Pond Storage Volume

Elevation	Pond Depth (ft)	Pond Area (sf)	Pond Volume (cf)	Pond Volume (acre-ft)	
5643	0.00	3,974	0	0.00	
5644	1.00	5,109	7,647	0.18	Contains the 100 year storm
5647	2.00	10,668	17,388	0.40	+1' freeboard
5648	3.00	12,765	28,716	0.66	+2' freeboard

NOTES:
1. POND CONTAINS 100 YEAR STORM EVENT.
2. OVERFLOW TO EXISTING DRAINAGE CHANNEL OR WETLANDS.
3. PERFORATIONS IN POT ROCK AT BOTTOM OF POND TO ALLOW WATER TO PERCOLATE INTO THE GROUND.
4. NO SUMPS ARE PROPOSED DUE TO GROUND WATER.
5. ALL CATCH BASIN BOTTOM OF BOXES SHALL BE 1' BELOW FLOW LINE ELEVATION PER MIDWAY CITY STANDARD DRAWING M-SD1, UNLESS AN OIL AND DEBRIS SEPARATOR IS INSTALLED. THEN THE BOTTOM OF BOX SHALL BE PER MIDWAY CITY STANDARD DRAWING M-SD3.

TYPICAL RETENTION POND SECTION

STORM POND NOTE:
1. CONTRACTOR TO VERIFY POT ROCK DEPTH AND GROUNDWATER LEVELS PRIOR TO EXCAVATING THE RETENTION POND OR INSTALLING THE STORM DRAIN.
2. CONTRACTOR TO REPORT FINDINGS TO BERG ENGINEERING BEFORE WORK BEGINS.

Horrocks Engineers
Approved by

Date: 2-8-18

STATE OF UTAH
PAUL D. BERG
15 JUNE 2018

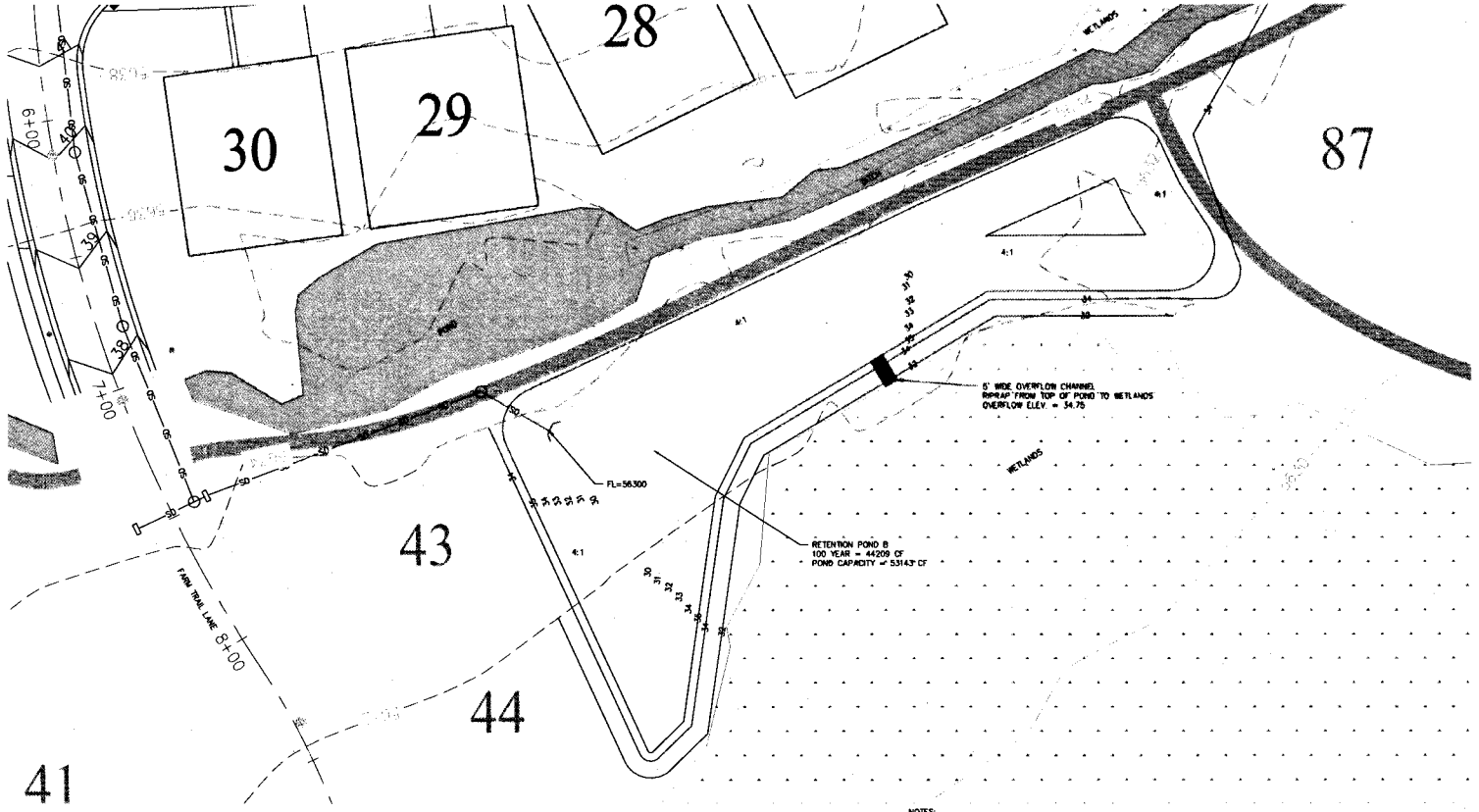
WATTS ENTERPRISES
REMUND FARMS

RETENTION POND A

BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204,
Midway, UT 84049
ph. (435) 657-9749

DESIGN BY: PDB	DATE: 15 JUNE 2018	SHEET
DRAWN BY: CNB	REV:	33

Ent 456064 Bk 1233 Pg 1605



Scale 1" = 20'

SCALE 1"=40' FOR 11"X17" PLANS

LEGEND

- WETLANDS
- MH STORM DRAIN MANHOLE
- CB CATCH BASIN

Horrocks Engineers
Approved by

Date: 2-6-18

15 JUNE 2018

Table 4 - Runoff Coefficient for Drainage Area B

Drainage Basin	Total Area (acres)	C=0.95 Roads (acres)	C=0.65 Lots (acres)	C=0.15 Open Space (acres)	Composite Runoff Coefficient
Area B	6.58	1.98	1.63	3.17	0.46

Table 5 - 100 Year Storm Peak Runoff and Volume from Drainage Area B

Time Period (min)	Rainfall Intensity (in/hr)	Area (acres)	Developed Runoff Coefficient	Peak Runoff Rate (cfs)	Total Runoff Volume (ft³)
15	4.06	6.58	0.46	18.05	14,463
30	2.76	6.58	0.46	10.88	19,564
60	1.71	6.58	0.46	6.73	24,226
120	0.98	6.58	0.46	3.86	27,809
180	0.69	6.58	0.46	2.68	27,451
360	0.39	6.58	0.46	1.51	29,174
720	0.21	6.58	0.46	0.81	35,707
1440	0.13	6.58	0.46	0.51	44,209

Table 6 - Drainage Area B Retention Pond Storage Volume

Elevation	Pond Depth (ft)	Pond Area (sf)	Pond Volume (cu.ft.)	Pond Volume (acre-ft)
50.00	0.00	2,500	0	0.00
51.00	1.00	4,225	3,363	0.08
52.00	2.00	5,625	8,288	0.19
53.00	3.00	7,225	14,713	0.34
54.00	4.00	11,025	23,838	0.55
54.75	4.75	13,225	30,338	0.70
55.00	5.00	13,969	33,410	0.77

2' excavation for bottom of pond

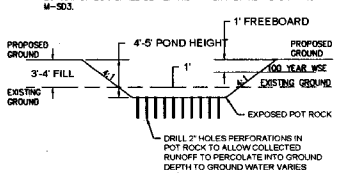
existing ground elevation

contains the 100 year storm, no freeboard

storm exceeding 100 year or 8 overflow to wetlands

DO NOT DISTURB WETLANDS DURING POND CONSTRUCTION

NOTES:
1. POND CONTAINS 100 YEAR STORM EVENT.
2. OVERFLOW TO EXISTING DRAINAGE CHANNEL OR WETLANDS.
3. PERFORATIONS IN POT ROCK AT BOTTOM OF POND TO ALLOW WATER TO PERCOLATE INTO THE GROUND.
4. NO SUMPS ARE PROPOSED DUE TO GROUND WATER.
5. ALL CATCH BASIN BOTTOM OF BOXES SHALL BE 1' BELOW FLOW LINE ELEVATION PER MIDWAY CITY STANDARD DRAWING M-SD1, UNLESS AN OIL AND DEBRIS SEPARATOR IS INSTALLED. THEN THE BOTTOM OF BOX SHALL BE PER MIDWAY CITY STANDARD DRAWING M-SD3.



TYPICAL RETENTION POND SECTION

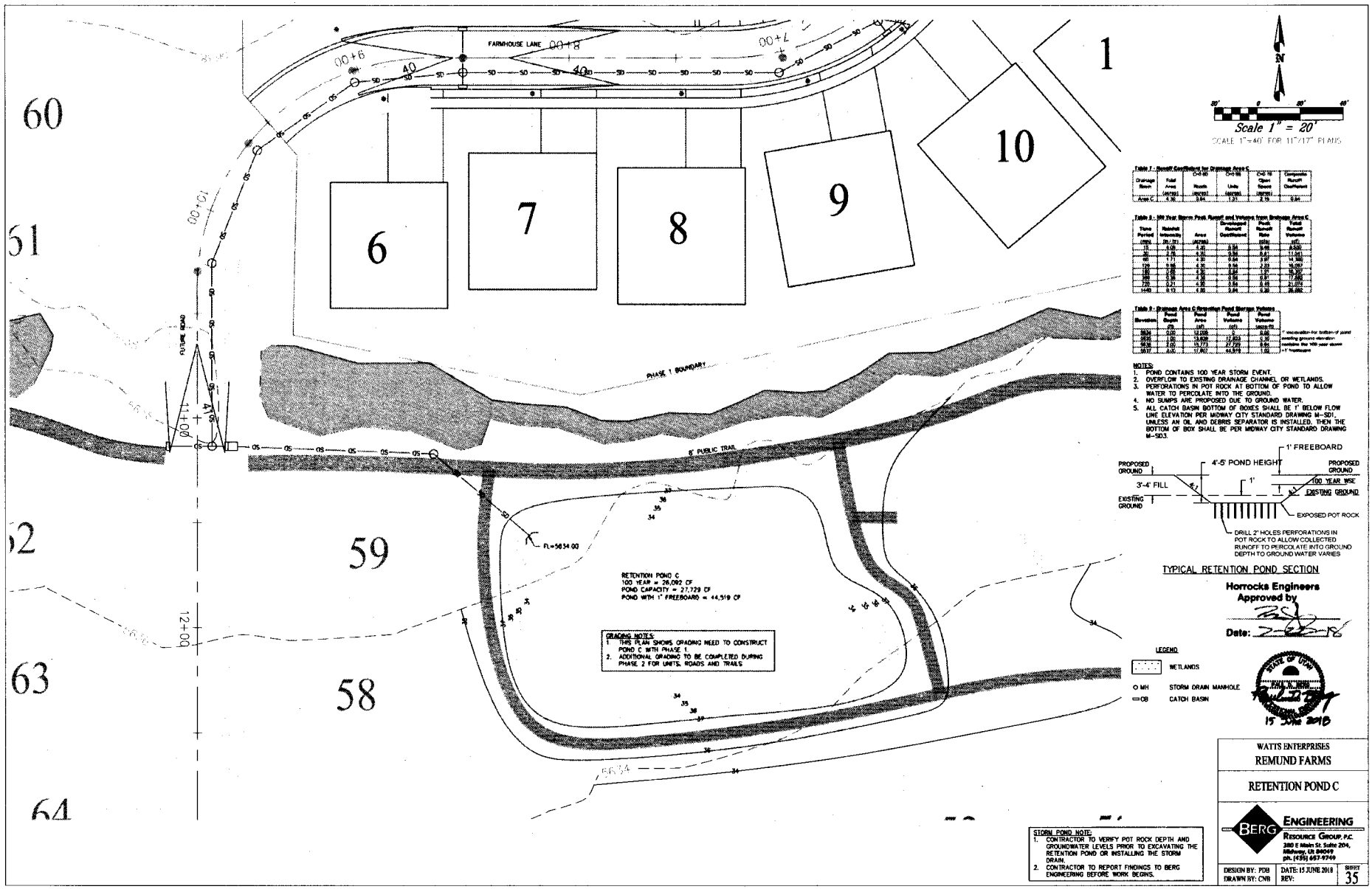
GRADING NOTES:
1. THIS PLAN SHOWS GRADING NEED TO CONSTRUCT POND B WITH PHASE 1.
2. ADDITIONAL GRADING TO BE COMPLETED DURING PHASE 2 FOR UNITS, ROADS AND TRAILS.

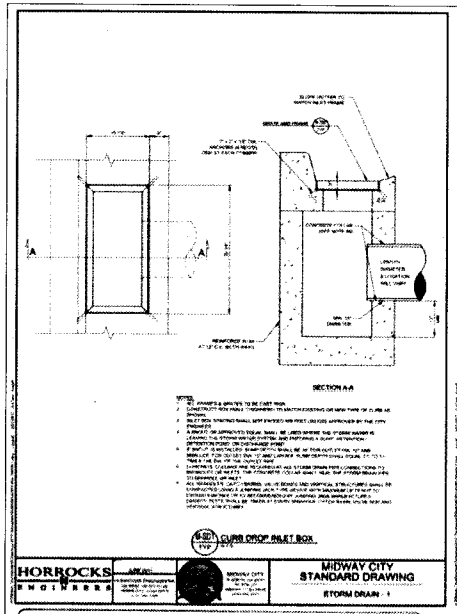
STORM POND NOTE:
1. CONTRACTOR TO VERIFY POT ROCK DEPTH AND GROUNDWATER LEVELS PRIOR TO EXCAVATING THE RETENTION POND OR INSTALLING THE STORM DRAIN.
2. CONTRACTOR TO REPORT FINDINGS TO BERG ENGINEERING BEFORE WORK BEGINS.

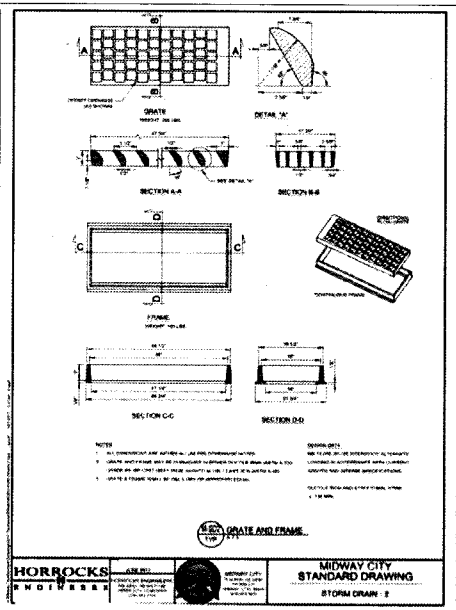
WATTS ENTERPRISES
REMUND FARMS
RETENTION POND B

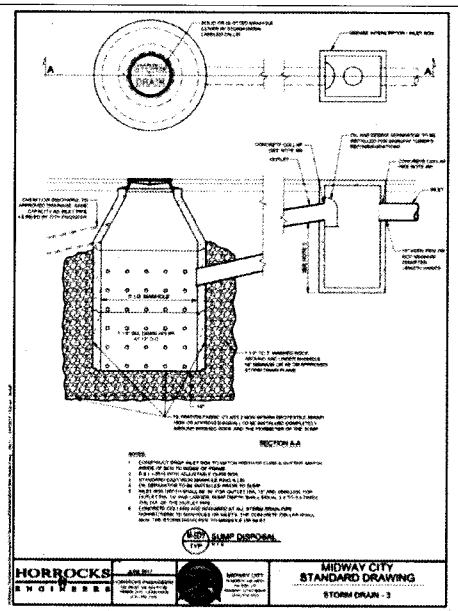
BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204,
Midway, UT 84049
ph. (435) 657-9749

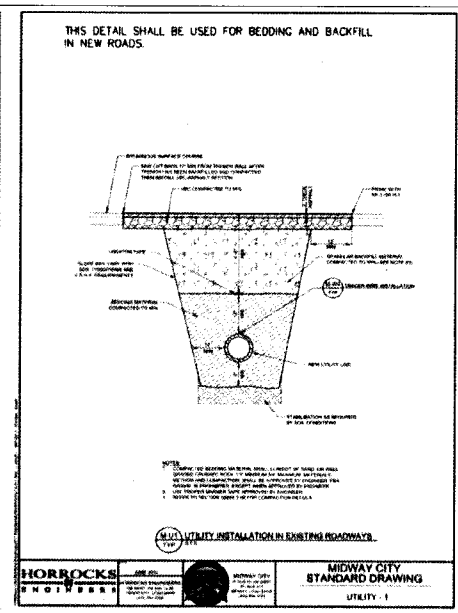
DESIGN BY: PDS
DRAWN BY: CNB
DATE: 15 JUNE 2018
REV:
SHEET 34

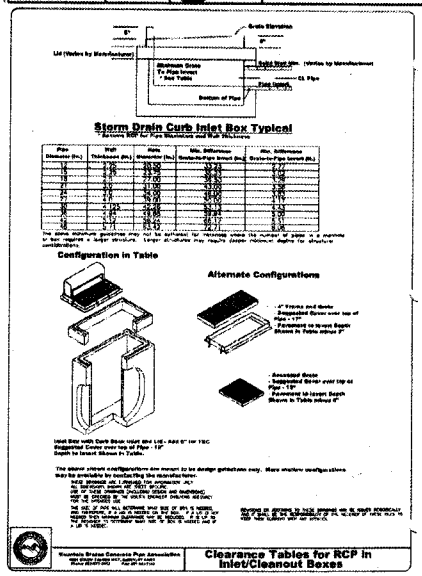


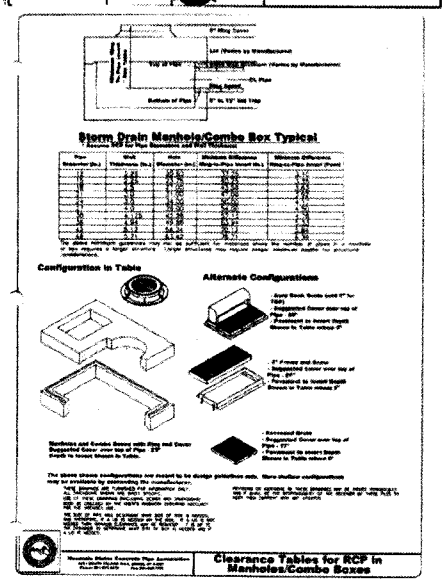




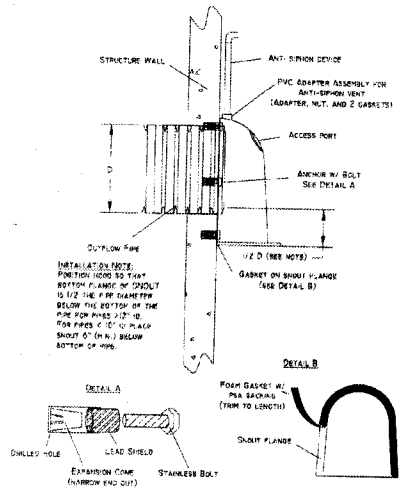




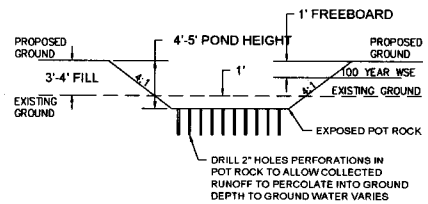




BEST MANAGEMENT PRODUCTS, INC. "SNOUT" OIL & DEBRIS STOP INSTALLATION DIAGRAM (TYPICAL)



NOTES:
1. POND CONTAINS 100 YEAR STORM EVENT.
2. OVERFLOW TO EXISTING DRAINAGE CHANNEL OR WETLANDS.
3. PERFORATIONS IN POT ROCK AT BOTTOM OF POND TO ALLOW WATER TO PERCOLATE INTO THE GROUND.
4. NO SUMPS ARE PROPOSED DUE TO GROUND WATER.
5. ALL CATCH BASIN BOTTOM OF BOXES SHALL BE 1' BELOW FLOW LINE ELEVATION PER MIDWAY CITY STANDARD DRAWING M-SD1, UNLESS AN OIL AND DEBRIS SEPARATOR IS INSTALLED. THEN THE BOTTOM OF BOX SHALL BE PER MIDWAY CITY STANDARD DRAWING M-SD3.



TYPICAL RETENTION POND SECTION

FOR STORM DRAIN MANHOLES SEE PRECAST SEWER MANHOEL DETAIL ON SHEET 24.

Horrocks Engineers
Approved by

Date:

WATTS ENTERPRISES
REMUND FARMS
STORM DRAIN CONSTRUCTION DETAILS

BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204,
Midway, UT 84049
ph. (435) 657-9749

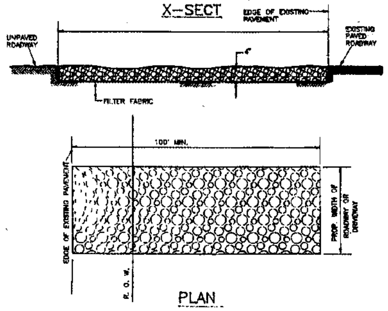
DESIGN BY: PDB
DRAWN BY: CNR
DATE: 15 JUNE 2018
REV:
SHEET 36

Ent 456064 Bk 1233 Pg 1609

STABILIZED CONSTRUCTION ACCESS

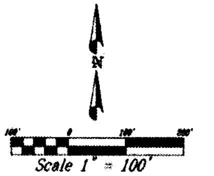
A STABILIZED CONSTRUCTION ENTRANCE APPLIES TO POINTS OF CONSTRUCTION INGRESS AND EGRESS WHERE SEDIMENT MAY BE TRACKED OR FLOW OFF THE CONSTRUCTION SITE.

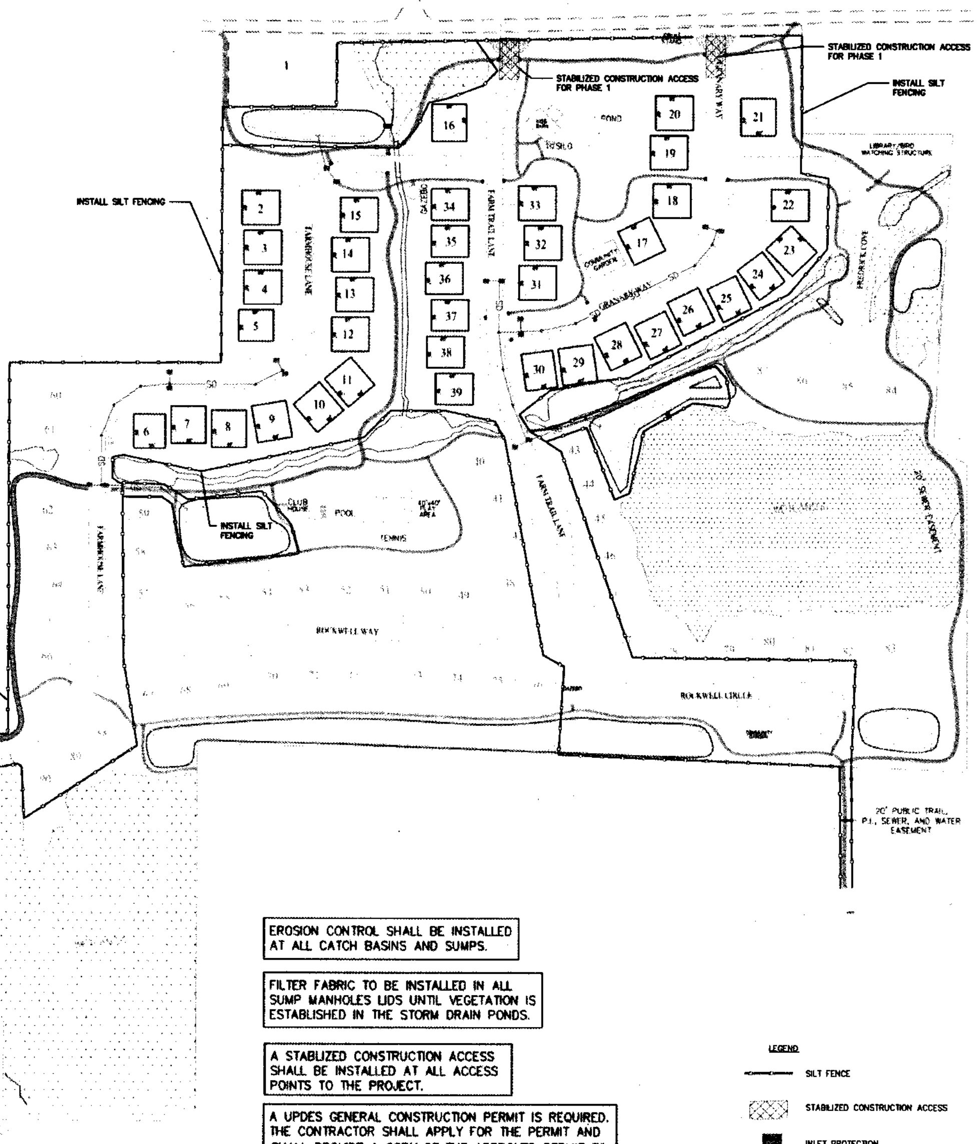
MAINTENANCE
THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.



LENGTH – 50 FEET MINIMUM WHERE THE SOILS ARE SANDS OR GRAVELS OR 100 FEET MINIMUM WHERE SOILS ARE CLAYS OR SILTS, EXCEPT WHERE THE TRAVELED LENGTH IS LESS THAN 50 OR 100 FEET RESPECTIVELY.

MAINTENANCE
ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR ADDITIONAL LENGTH AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.





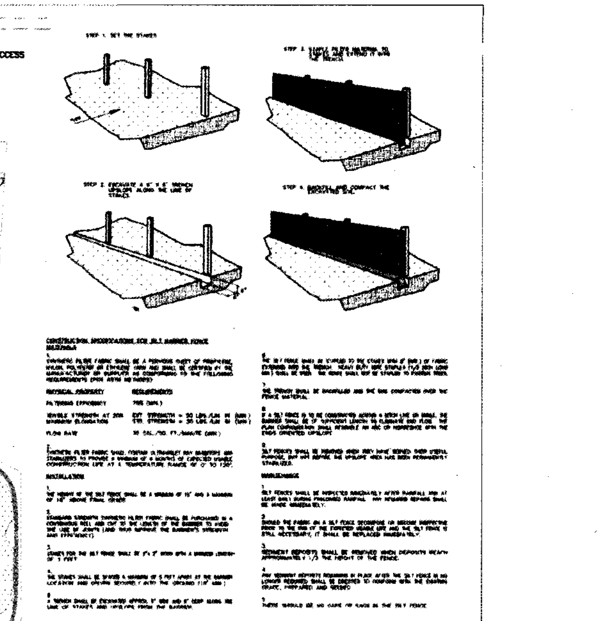
ERROSION CONTROL SHALL BE INSTALLED AT ALL CATCH BASINS AND SUMPS.

FILTER FABRIC TO BE INSTALLED IN ALL SUMP MANHOLES LIDS UNTIL VEGETATION IS ESTABLISHED IN THE STORM DRAIN PONDS.

A STABLIZED CONSTRUCTION ACCESS SHALL BE INSTALLED AT ALL ACCESS POINTS TO THE PROJECT.

A UPDES GENERAL CONSTRUCTION PERMIT IS REQUIRED. THE CONTRACTOR SHALL APPLY FOR THE PERMIT AND SHALL PROVIDE A COPY OF THE APPROVED PERMIT TO HEBER CITY PRIOR TO CONSTRUCTION.

LEGEND
- SILT FENCE
- STABLIZED CONSTRUCTION ACCESS
- INLET PROTECTION



CONSTRUCTION OF A FILTER BARRIER

EROSION CONTROL FOR STORM DRAIN SYSTEM
CONTRACTOR SHALL INSTALL EROSION CONTROL AT ALL CATCH BASINS DURING CONSTRUCTION. EROSION CONTROL TO INCLUDE FILTER FABRIC AND HAY BALES. CONTRACTOR SHALL PERIODICALLY REMOVE SEDIMENT THAT COLLECTS AROUND THE CATCH BASINS AND SHALL KEEP THE STORM DRAIN SYSTEM FREE OF SEDIMENT AND DEBRIS.

CONSTRUCTION ENTRANCE
A STABILIZED CONSTRUCTION ACCESS IS REQUIRED FOR THIS PROJECT DURING CONSTRUCTION OF THE DEVELOPMENT AND BUILDINGS. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING A STABILIZED CONSTRUCTION ACCESS. SEE DETAIL ON THIS SHEET FOR ADDITIONAL INFORMATION.

CLEARING AND GRUBBING
CONTRACTOR IS RESPONSIBLE TO CLEAR AND GRUB A MINIMUM OF 12" FROM THE ROADWAY AREA FOR THE STREET AND PARKING AREAS. CONTRACTOR IS RESPONSIBLE TO CLEAR AND GRUB A MINIMUM OF 12" FROM THE PROPOSED BUILDING PADS AND DRIVEWAYS. GRUBBINGS SHOULD REMAIN ON SITE FOR USE IN SITE GRADING FOR LANDSCAPED AREAS.

Horrocks Engineers
Approved by
Date: 7-23-18

15 JUNE 2018

WATTS ENTERPRISES
REMUND FARMS
STORM WATER POLLUTION PREVENTION PLAN - PHASE 1
BERG ENGINEERING RESOURCE GROUP, P.C.
380 E Main St. Suite 204, Midway, Ut 84049
ph. (435) 657-9749

DESIGN BY: PDB	DATE: 15 JUNE 2018	SHEET
DRAWN BY: CNB	REV:	37

BERM PLAN
-NUMBERS INDICATE HEIGHT OF BERM

N

50' 0 50' 100'

Scale 1" = 50'

SCALE 1"=100' FOR 11"X17" PLANS

LEGEND

WETLANDS

TRAIL

IMPROVED DITCH OR POND

PLANT SCHEDULE

TREES	QTY	COMMON NAME / BOTANICAL NAME	CONT	CAL
	37	Autumn Blaze Maple / Acer freemanii 'Autumn Blaze	B&B	2" Cal
	20	Autumn Purple Ash / Praxinus americana 'Autumn Purple'	B&B	2" Cal
	11	Eastern Cottonwood Siouxland / Populus deltoides 'Siouxland'	B&B	2" Cal
	4	Weeping Willow / Salix babylonica	B&B	2" Cal
EVERGREEN TREES	QTY	COMMON NAME / BOTANICAL NAME	CONT	CAL
	16	Colorado Spruce / Picea pungens	B&B	
	14	White Fir / Abies concolor	B&B	
GROUND COVERS	QTY	COMMON NAME / BOTANICAL NAME	CONT	
	4,832 sf	2-6" Cobble Rock w/ Pond Liner / Landscape Rock	mulch	
	325,374 sf	Kentucky Bluegrass / Poa pratensis	sod	
	60,046 sf	Native Grass Mix / Native Grass Mix Hard Fescue, Big Bluegrass, Blue Wildrye, Slender Wheatgrass, Sheep Fescue, Mountain Brome	Hydroseed	

Horrocks Engineers
Approved by

Date: 2-26-18

WATTS ENTERPRISES
REMUND FARMS

BERM PLAN

BERG ENGINEERING
360 E Main St. Suite 204
Midway, UT 84049
ph 435.657.9749

DESIGN BY: PDB	DATE: 15 June 2018	SHEET
DRAWN BY: CEL	REV:	38

EXHIBIT C

CITY COUNCIL MEETING STAFF REPORT

DATE OF MEETING: June 13, 2018

NAME OF PROJECT: Remund Farms

NAME OF APPLICANT: Watts Enterprises

AGENDA ITEM: Phase 1 Final

LOCATION OF ITEM: 600 North 200 East

ZONING DESIGNATION: R-1-15

ITEM: 13

Berg Engineering, agent for Watts Enterprises, is requesting Final Approval for phase I of Remund Farms which is a Planned Unit Development and a standard subdivision. The proposal is for 38 building pads and one lot located on 15.96 acres. The proposal is located at 200 East 600 North and is in the R-1-15 zone.

BACKGROUND:

Watts Enterprises is proposing final approval of phase 1 of the Remund Farms which is comprised of a small-scale standard subdivision and Planned Unit Development. The proposal is for 38 building pads and one lot located on 15.96 acres. The area of the proposed subdivision has historically been in agricultural production. A dairy farm has been on the property for decades. There is generally a high-water table on the property which lends itself to wetlands which are also present on the property. Residents of the city, particularly those living next to the property, have raised concerns with staff regarding the development and potential impacts that it may have on surrounding properties. The City is committed to assuring that all code requirements are met and that

impacts are mitigated as they are identified during the approval and construction process. To identify impacts several studies have been conducted on and off site. These studies will be discussed later in this report.

There are 38 pads proposed in this phase which are either 55' x 55' (3,025 sq. ft.), 55' x 60' (3,300 sq. ft.) in size or 60' x 60' (3,600 sq. ft.) in size. All structural improvements must be located within the building pad for each dwelling including window wells, eave overhangs, bay window, pop outs, decks, pergolas, and other structural items. Also, all units have a height limit of 35' measured from natural grade.

There will be two public trails and one private trail with a public easement located in this area of the development along with some private trails. One is a public trail that will run north and south and is planned as a linear park trail. The other is a public trail running along 600 North. Both will be 6' wide paved public trails that will be constructed by the developer. A third a private trail with a public easement that will also be 6' wide and will run along the perimeter of the development on the east side and then along the southern boundary of the development.

The streets located within the area of the PUD will be private roads and will be maintained by the HOA. A public access easement will allow access to all the streets in the PUD. All open space will be common area that will be owned by the homeowners' association (HOA).

Sensitive lands area also located on the property and will be left undisturbed as required by the land use ordinance. These sensitive lands include wetlands and stream corridors.

LAND USE SUMMARY:

- 15.96 acres
- 11.69 acres of open space
- R-1-15 zoning
- Proposal contains 38 pads (PUD)
- Proposal contains 1 lot
- Private roads will be maintained by the HOA
- The lots will connect to the Midway Sanitation District sewer and to the City's water line.
- 6' paved public trail is planned to run north and south through the length of the property, another public trail will run east and west along 600 North, and a

private trail with a public access easement will run along the eastern boundary of the phase 1

- Sensitive lands of the property include wetlands, and stream corridors

ANALYSIS:

Open Space – The code requires that with each phase that is approved that there is enough open space to comply with the requirements of the code. For example, phase I must have at least 50% open space for that particular phase. If phase I has 75% open space, then phase II only needs to have 25% open space if both phases are equal in acreage. The proposed plan shows 11.69 acres (73.2%) of open space in phase 1 which does meet the requirements of the code.

Open Space Credit – The City Council has approved off-site open space for this proposal. Watts Enterprises owns much of the property around the River Road roundabout. The parcel is OMI-0563-0-026-034 and comprises 1.32 acres that will be deeded to the City. The property is part of the open space requirement for the development and 2.2 units of density are being petitioned by the developer as part of the approval. Watts Enterprises will need to landscape the property and deed the required water acre-feet to the City as it would if the open space is part of the open space within the proposed Remund Farms PUD. Remund Farms HOA will be required to maintain the open space. The concern has been raised that in the future the Remund Farms HOA might question why they are maintaining the property at the roundabout. To avoid this possible future situation the City is including language in the development agreement, on the plat, and in the CCRs (which will be included in any title search) that explain the agreement. The City Council did limit the maximum density of the development to 97 units based on the off-site open space that is included in the development.

Density – The applicant is asking for approval for 39 dwellings in phase 1 (one is an existing dwelling). The density allowed for the entire master plan is 97 units.

Access – Each phase of the subdivision must meet the access and cul-de-sac limitation requirements of the code. A cul-de-sac is limited to 500' in length, unless approved otherwise by the City Council. Staff has found that Farmhouse Lane is about 700' in length to the temporary cul-de-sac. This lane will continue and loop through phase II so the extended length should be temporary. All other street lengths and access requirements have been met as presented in the application.

Two Points of Access – The development plans have two points of access onto 600 North. The two points of access on 600 North do meet the City requirements regarding the two points of access ordinance.

Traffic Study – The developers have submitted a traffic study to the City as part of the application. Horrocks Engineers has reviewed that study to determine what road improvements are required. Please see attached letter from Horrocks.

Geotechnical Study – The developers have submitted a geotechnical study to the City as part of the application. Horrocks Engineers has reviewed that that study to determine if any special requirements are needed for construction of the roads and future structures in the development. Please see attached letter from Horrocks.

Public Participation Meeting – The developers did hold a public participation meeting on July 10, 2017 as required by the ordinance for master plan applications. This requirement is to give the developers an opportunity to present the development to the surrounding residents of the proposed development.

Sensitive Lands – The property does contain some wetlands that will not be disturbed through the development process. The wetlands will become part of the open space for the development and will be preserved. There is a stream/ditch that runs through the property. It will be impacted by the roads crossing the development because of the culverts that will cover the ditch. Midway Irrigation Company owns an easement to the ditch area and will need to approve modifications made to the current ditch. There is a warm spring on the property that will be preserved. There are also acres of wetlands on the property that are included in the open space areas of the development. A study has been submitted by the developer has been reviewed by three organizations that include The Army Corps of Engineers, Horrocks Engineers, and another third-party wetland expert that was decided by the City. There is concern by residents and of the area and the City regarding the location of wetlands and therefore the City has decided to have three entities review the study that has been submitted.

Staggered Setbacks – The Land Use Code requires staggered setbacks to help mitigate the "wall effect" that dwellings with the same setback on a straight street creates. The code states the following in Section 16.16.8.5.c:

> *Front setbacks for buildings from all private streets within the PUD shall be staggered at seven and one-half feet variances, with 25 feet the minimum setback. One-third of the buildings containing dwelling units shall be at each of at least three different setbacks as recommended by the Planning Commission and approved by the City Council. For example, one-third at 25 feet, one-third at 32 ½ feet and one-third at 40 feet. Setbacks for accessory buildings shall be as recommended by the Planning Commission and approved by the City Council. Setbacks from private streets shall be measured from top-back of curb or back of sidewalk or trail, whichever is further from the street centerline. The City Council may waive this requirement when a curvilinear street design is used and shown to create the same varying setback effect.*

The application has staggered the front setback of the units in phase I which will help reduce the "wall effect".

Phase 1 Environmental Study and Water Study – The developer has submitted the required Environmental Study and requested water study. Horrocks Engineers has reviewed both.

Trails – The Trails Master Plan and the Master Parks Plan calls for a linear park and public trail to run north and south across the proposal. The City feels this is a very important community amenity that will benefit current residents and future residents for generations. Staff feels the trail should be of highest priority and careful review of the alignment and landscaping must happen to assure the trail will function and have the effect that it is envisioned to have. Staff also feels the trail should be built with the first phase in its entirety. If it is built per phase then it could take several years, if not more, to complete the trail. For this reason, it should be completed as a requirement of phase 1. The trail will be a 6' wide paved public trail that will be constructed by the developer. The trail plan also calls for a connection the Blackner property that is also part of the linear park trail system that will also be a 6' wide paved or boardwalk trail, depending on the presence of wetlands. This trail will eventually connect to the Indian Summer subdivision with its part of the linear park trail system. There is another public trail running along 600 North which will be a 6' paved trail. A third a private trail with a public easement that will also be 6' wide and will run along the perimeter of the development on the east side and then along the southern boundary of the development.

WATER BOARD RECOMMENDATION:

The Water Board has recommended that 50.93-acre feet are required for phase 1. The number of culinary connections and the amount of open space has adjusted since that recommendation and has been updated since that recommendation by staff. The amount of water now required for phase 1 is now **55.06-acre feet**. Staff did consult with Steve Farrell, member of the Water Board and President of the Midway Irrigation Company, regarding the adjusted number. The required water was derived from the following information:

- 35 culinary connections – 28-acre feet
    - Credit for culinary connections
        - Harold Remund home and 3 culinary connections
- 9.02 irrigated acres – 27.06-acre feet
    - Includes water features such as ponds

CITY COUNCIL PRELIMINARY APPROVAL OF PHASE 1

Motion: Council Member Christen moved to grant preliminary approval for Phase I of the Remund Farms PUD with the following conditions and findings:
• Rights to 50.93 acre-feet of water be turned over to the City.
• A hydrology study would be continued on site for all three phases and the areas would be monitored to determine any potential impacts or disturbances. If any impacts were discovered, then a plan would be presented to mitigate those impacts.
• The linear park public trail and the perimeter trail would be built, in their entirety, as part of Phase I and would connect to 250 North.
• Off-site open space and water would be deeded to the City with Phase I. The open space landscape plan would be approved by the Visual and Architectural Committee and the landscaping would be completed with Phase I. The Remund Farms HOA would maintain the landscaped area as part of the open space for the development.
• The proposed phase of Remund Farms appeared to meet the requirements of the Municipal Code for PUD's.
• The public trail system in the development would benefit the entire community by creating trails away from collector roads.

Second: Council Member Probst seconded the motion.

Discussion: None

Vote: The motion was approved with the Council voting as follows:
Council Member Christen Aye
Council Member Drury Aye
Council Member Probst Aye
Council Member Simonsen Aye
Council Member Van Wagoner Aye

PLANNING COMMISSION FINAL APPROVAL OF PHASE 1

Motion: Commissioner Waldrip: I move that we recommend to the City Council final approval for Phase I of the Remund Farms development as set forth in the agenda here tonight that we accept with gratitude the report by the staff. We find that the proposed Master Plan does meet the requirements of the code for Planned Unit Developments. Lot one (1) which is a standard subdivision does comply with the requirements for the R-1-15 zone, that the private and public trail system in the development which the public has full access will benefit the entire community by creating a trail away from the collector roads and most of its length. We impose upon the approval the following conditions.

1) A hydrology study is conducted on site and the areas of Phase II and Phase III are monitored along with the existing monitoring on Phase I for potential impacts of disturbance by the work on Phase I, on those areas or on neighboring properties. If any impacts are discovered than a reasonable plan is presented to mitigate those impacts.

2) The linear park public trail and the private trail that will have public access and the perimeter trail are to be built in their entirety as apart of Phase I and must connect to 250 North although they need not be completely paved until the trail associated with a particular phase is developed and then it would be paved at that time.
3) Off-site open space and water is deeded to the City with Phase I as required by the report from the Water Board. The Remund Farms HOA maintains the landscaped area both in the boundaries of the development and the off-site open space in perpetuity as a part of the development plan.
4) That there be a 20-foot easement be granted by the developer/owner along northerly boundary of the property heading westerly to the east border of the Remund lot. So that access to a potential north bound trail can be facilitated at some time in the future.

Seconded: Commissioner Streeter
Chairman Kohler: Any discussion on the motion?
Commissioner Ream: On the number one (1) on the second sentence would you be open to defining the impacts as negative impacts because if it's a positive impact we are not going to do anything about it?
Commissioner Waldrip: Certainly.
Commissioner Streeter: Second agrees.
Commissioner Ream: I don't want to get into one of these legal things where of who makes the decision. So, I would specifically like to say identified by the Midway City Engineer. So, basically your last sentence under number one (1), reasonably determined by the City Engineer.
Commissioner Waldrip: So, where it says than a reasonable plan as determined by the City engineer is presented to mitigate those impacts? Or are you talking about in the first sentence where it says potential impacts of disturbance by the work on Phase I as determined by the City Engineer?
Commissioner Ream: I think that would work, yes. I don't want to end up in a law suit over what's reasonable, it's just defining who says.
Commissioner Waldrip: Should we have the City Engineer determining in both of those sentences then?
Commissioner Ream: Yes.
Commissioner Waldrip: Yes, that sounds good to me.
Commissioner Streeter: So, City Engineer determines what is a negative impact and then the City Engineer determines what is a reasonable plan?
Commissioner Ream: Yes.
Commissioner Streeter: Okay.
Commissioner Waldrip: So, as determined by the City Engineer goes into both sentences to determine potential impact of any disturbance by the work on Phase I as determined by the City Engineer, then in the second sentence if any impacts are discovered then a reasonable plan as determined by the City Engineer is presented to mitigate the impacts.
Chairman Kohler: Any further discussion on the motion?
There was none
Chairman Kohler: All in favor.

Ayes: Commissioners Streeter, Waldrip, Nicholas, O'Toole, Payne and Ream
Nays: None
Motion: Passed

PROPOSED FINDINGS:

- The proposed plan does meet the requirements of the code for PUDs.
- Lot 1 which is a standard subdivision does comply with the requirements for the R-1-15 zone.
- The public trail system in the development will benefit the entire community by creating a trail away from collector roads.

ALTERNATIVE ACTIONS:

1. Approval (conditional). This action can be taken if the City Council feels the proposal complies with the requirements of the Land Use Code.

    a. Accept staff report
    b. List accepted findings
    c. Place condition(s) if needed

2. Continuance. This action can be taken if the City Council feels that there are unresolved issues.

    a. Accept staff report
    b. List accepted findings
    c. Reasons for continuance
        i. Unresolved issues that must be addressed
    d. Date when the item will be heard again

3. Denial. This action can be taken if the City Council feels that the request does not meet the intent of the ordinance.

    a. Accept staff report
    b. List accepted findings
    c. Reasons for denial

PROPOSED CONDITIONS:

1. A hydrology study is conducted on site and the areas of Phase II and Phase III are monitored along with the existing monitoring on Phase I for potential impacts of disturbance by the work on Phase I, as reasonably determined by the City Engineer, on those areas or on neighboring properties. If any impacts are discovered than a reasonable plan, as determined by the City Engineer, is presented to mitigate those impacts.

2. The linear park public trail and the perimeter trail that will have public access are to be built in their entirety as apart of Phase I and must connect to 250 North although they need not be completely paved until the trail associated with a particular phase is developed and then it would be paved at that time.

3. Off-site open space and water is deeded to the City with Phase I as required by the report from the Water Board. The Remund Farms HOA maintains the landscaped area both in the boundaries of the development and the off-site open space in perpetuity as a part of the development plan.

4. A 20-foot easement is granted by the developer/owner along northerly boundary of the property heading westerly to the east border of the Remund lot to allow access to a potential north bound trail that can be facilitated at some time in the future.

EXHIBIT D

N

100' 0 100' 200'

Scale 1" = 100'

SCALE 1"=200' FOR 11"X17" PLANS

LEGEND

WETLANDS

PROPOSED TOPSOIL STORAGE AREAS

THIS DOCUMENT IS RELEASED FOR REVIEW ONLY. IT IS NOT INTENDED FOR CONSTRUCTION UNLESS SIGNED AND SEALED.

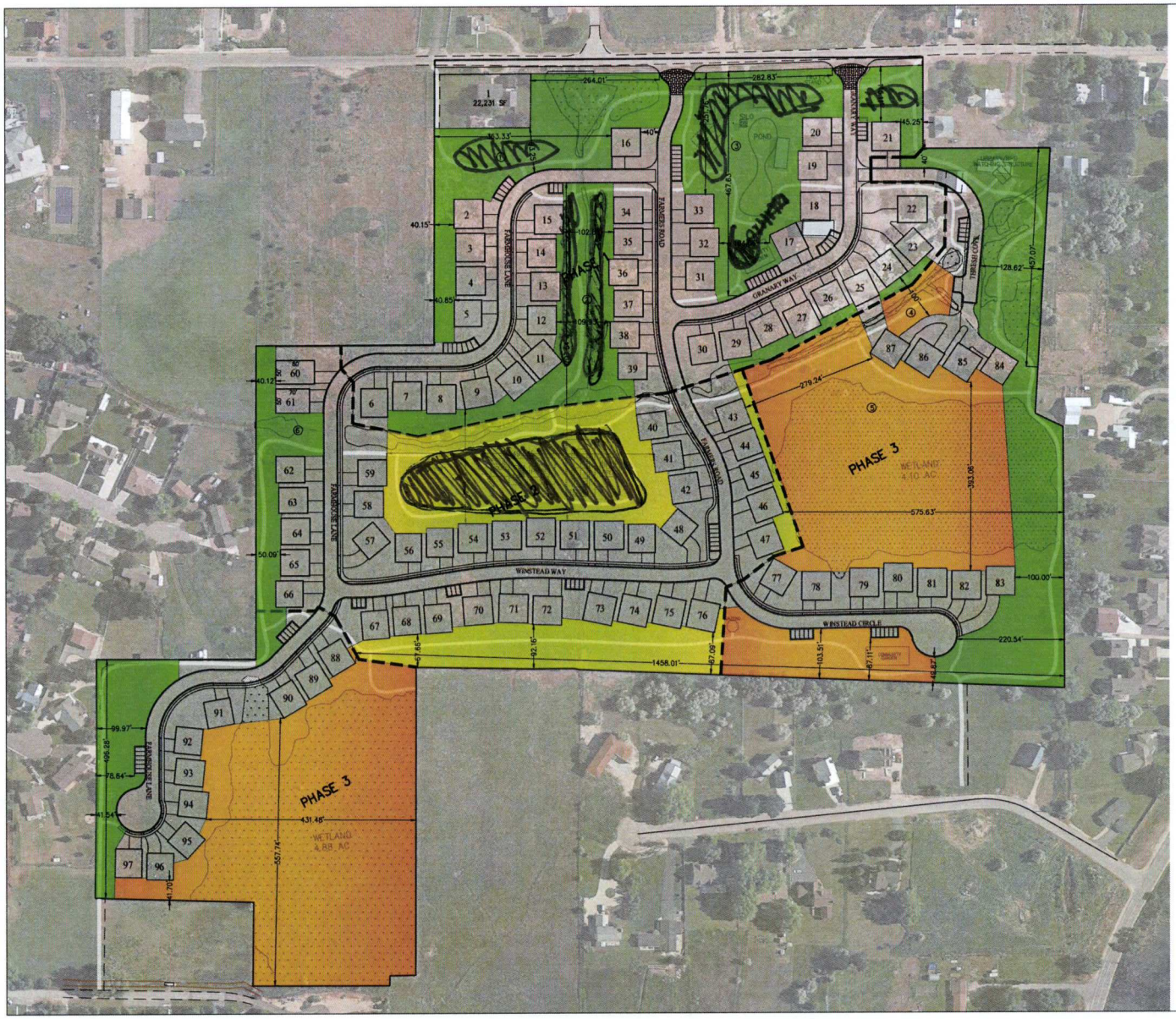
PAUL D. BERG, P.E.
SERIAL NO. 295595
DATE: 15 FEB 2018

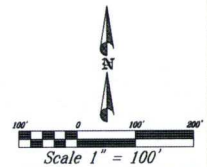
WATTS ENTERPRISES
REMUND FARMS
TOPSOIL STORAGE EXHIBIT

BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204.
Midway, Ut 84049
ph (435) 657-9749

DESIGN BY: PDB	DATE: 15 FEB 2018	EXHIBIT
DRAWN BY: CNB	REV:	1

EXHIBIT D.





SCALE 1"=200' FOR 11"X17" PLANS

LEGEND

WETLANDS (10.00 AC)

OPEN SPACE PERIPHERY – 40' MINIMUM
INTERIOR – 100' MINIMUM
ONSITE 27.38 AC (53.95%)
OFFSITE 1.32 AC (02.60%)
TOTAL 28.70 AC (56.55%) (50% REQUIRED)

OPEN SPACE DEDICATION BY PHASE

PHASE	AREA	OPEN SPACE PER PHASE	TOTAL PROJECT AREA	TOTAL PROJECT OPEN SPACE
1	15.96 AC	11.69 AC (73.20%)	15.96 AC	11.69 AC (73.20%)
2	12.94 AC	4.57 AC (35.32%)	28.90 AC	16.26 AC (56.26%)
3	21.84 AC	12.10 AC (55.45%)	50.87 AC	28.36 AC (55.75%)
ADDITIONAL OFFSITE OPEN SPACE DEDICATED WITH PHASE 1		1.32 AC		29.68 AC (58.34%)

OPEN SPACE AREAS

① 1.95 ACRES
② 4.45 ACRES
③ 2.25 ACRES
④ 0.36 ACRES
⑤ 18.47 ACRES
⑥ 0.88 ACRES

OPEN SPACE NOTES:

TOTAL AREA: 50.87 ACRES
PUD AREA: 50.36 ACRES
TOTAL OPEN SPACE: 28.36 A ACRES (55.49%) OF ENTIRE DEVELOPMENT

OPEN SPACE IN A SINGLE OPEN SPACE AREA
AREA 5 = 18.47 ACRES (65.13%)

SECTION 16.16.11.C REQUIRES ONE-HALF OF ALL OPEN SPACE TO BE RETAINED IN A SINGLE OPEN SPACE AREA. OPEN SPACE PARCEL 5 MEETS THIS PUD REQUIREMENT.

THIS DOCUMENT IS RELEASED FOR REVIEW ONLY. IT IS NOT INTENDED FOR CONSTRUCTION UNLESS SIGNED AND SEALED.

PAUL D. BERG P.E.
SERIAL NO. 280580
DATE: 19 APRIL 2018

WATTS ENTERPRISES
REMUND FARMS
OPEN SPACE
MASTER PLAN

BERG ENGINEERING
RESOURCE GROUP, P.C.
380E Main St. Suite 204,
Midway, Ut 84049
ph. (435) 657-9749

DESIGN BY: PDB
DRAWN BY: CNB
DATE: 19 APRIL 2018
REV:
SHEET 5

EXHIBIT E

728 West 100 South
Heber, UT 84032
www.horrocks.com

HORROCKS
ENGINEERS

Heber Office
Tel: 435.654.2226
Fax: 435.657.1160

February 21, 2018

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

Subject: Midway Springs, Phase 1 Preliminary, and overall Master Plan Approval

Dear Michael:

Horrocks Engineers recently reviewed the above development plans for Master Plan Approval, and Preliminary Approval for Phase 1. The proposed development is located near 200 East and 600 North. The proposed development is 50.75 acres and contains 97 lots. The following issues should be addressed.

Wetlands

The development contracted with BIO-WEST to determine the extent and location of the existing wetlands. The wetland delineation was done in two separate delineations. The first delineation covered ground within Phase 1 and partially covering a portion of the proposed Phase 2 and the north corner of the proposed Phase 3. The second delineation covered the majority of the remaining site. However, the very southern portion of the proposed Phase 3 property, adjacent to the Philpot property, has not been delineated. The developer is currently showing this un-delineated property as wetlands.

The first delineation was submitted to Watts Enterprises through a letter dated, September 23, 2016. The second delineation was submitted to Watts Enterprises through a letter dated, June 1, 2017. Only the first delineation has been submitted to the US Army Corps of Engineers. On December 22, 2016 the US Army Corps of Engineers provided a Jurisdictional Determination for 0.50 acres of palustrine emergent wetlands within the first delineation. The second delineation has currently not been submitted to the US Army Corps of Engineers.

To ensure the accuracy of the delineation, Midway City contracted with Wetland Resources to provide a 3rd party review of the delineations. This 3rd party review determined that a small section of property within the first delineation was most likely wetlands. After working with BIO-WEST an amended document was sent to the US Army Corp of Engineers. In a letter dated, November 29, 2017, the US Army Corp of Engineers concurred with submitted delineation and provided a Jurisdictional Determination of 0.66 acres of palustrine emergent wetlands.

The second delineation has not been submitted to the US Army Corp of Engineers at this time. The developer is proposing to submit a delineation the US Army Corp of Engineers at the time of preliminary approval of the future phases.

Geotechnical Investigation

The geotechnical investigation performed 25 boring pits over the entire site. Soil samples were taken to determine the type of soil and depth of groundwater. Generally, the site is covered with topsoil, a sandy lean clay covering pot rock. The soil depth varies from very shallow to a maximum depth of 3 feet. The general topsoil depth determined from the 25 test pits is 12 inches. Each of the 25 test pits were dug to the surface of pot rock. To determine the groundwater elevation 6 piezometers were installed throughout the site. Each of the piezometers were installed to the top of pot rock.

Hydrogeologic Consulting Services

To better understand the site and predicate the groundwater elevation, and soil classification both above and below the layer of pot rock, the City is contracting with Loughlin Water Associates to conduct a geotechnical investigation below the layer of pot rock. Loughlin will oversee the approximately 10 borings. Each location will be bored to a depth of approximately 8' to 10'. Data within Phase 1 of the proposed development will be available prior to Final City Council approval. More long term data will be collected and analyzed within the future phases of the proposed development.

Phase 1 Environmental Site Assessment

Intermountain GeoEnvironmental Services, Inc. (IGES) has completed an Environmental Site Assessment (ESA) on the property. As stated within the Executive Summary, *"This Phase I ESA was performed in general accordance with the standards set forth in ASTM Document E 1527-13, Standard Practice for Environmental Site Assessment process."* The Executive Summary went on to state, *"No recognized environmental conditions were observed on the subject property or readily observable portions of adjacent properties."*
A copy of the full report is available upon request.

Assessment of Surface Water Quality

At the direction of Midway City, Loughlin Water Associates conducted an Assessment of the Surface Water Quality. The assessment was done by collecting water samples from four locations throughout the site. The samples were tested for: Chloride and Total Dissolved Solids, Sulfate concentrations, Oil and grease, Coliform bacteria, E. coli bacteria, Phosphorus, and Ammonia Nitrate. The Conclusion of the report states, "We selected parameters for laboratory analysis based on constituents that would be expected from a dairy farm and from naturally occurring geothermal water. Overall the results are within the range that we expected." A copy of the full report is available upon request.

Water

- The proposed development will be served from the Gerber Mahogany Springs zone. The existing line within 600 North is shown as a 6" line. Per the Midway City Master Plan, the 600 North water line should be up-sized to a 12" line. To provide adequate fire flow within the development the water line shall be upsized and connected to the water line within River Road. Impact fees should pay to upsize the water line from an 8" line to a 12" line.
- To provide adequate fire flow within the lower cul-de-sac of the proposed Phase 3, the cul-de-sac road should be upsized to a 10" line or a connection should be made from the east cul-de-sac, at the bottom of the proposed development, to the existing water line within 300 North.
- The fire hydrant spacing shall not exceed 500'.

Irrigation

- The proposed development will connect to existing irrigation line within 600 North and install services with meters according to Midway Irrigation Company standards.
- Prior to final approval it should be determined whether the irrigation line within the proposed Phase 3 should be connected to the existing irrigation line within 300 North.

Roads

- A Traffic Impact Study was completed by Hales Engineering. The study indicates that the peak hour of operation is in the evening between 5:00 and 6:00 pm. The study indicates that each intersection is currently operating at a Level of Service (LOS) A. The study states that "All study intersections are anticipated to operate at LOS A during the evening peak hour with project traffic added." The traffic study was reviewed by a traffic engineer in our Pleasant Grove office. He generally agreed with the finding within traffic study.
- The proposed development will install a modified curb on each side of the road, with a 5' park strip and 5' sidewalk on each side of the road.
- All roads within the proposed development will be private roads.
- 600 North is classified in the Midway City Master Plan as a Local Collector with a right-of-way of 60' and a pavement section of 34'. The rebuilding of 600 North should be addressed.

Trails:

- The proposed subdivision is showing several public and private trails within the development.

Storm Drain

- The storm water system within the proposed development will be a private storm drain systems. All maintenance for the system will be provided by the HOA. Prior to final approval the storm drain calculations should be updated reflecting the PUD status of the development.

Landscaping

- Adjacent to 600 North and along the stream corridors and wetlands the landscaping plan shows a native grass mix. The irrigation system and mowing schedule should be discussed. Are there any maintenance plans for the wetlands?

Please feel free to call our office with any questions.

Sincerely,
HORROCKS ENGINEERS

Wesley Johnson, P.E.
Midway City Engineer

cc: Paul Berg Berg Engineering

EXHIBIT E.

Ent 456064 Bk 1233 Pg 1629

HALES ENGINEERING
innovative transportation solutions

June 23, 2017

c/o Paul Berg – Berg Engineering
Watts Enterprises
Russ Watts
5200 South Highland Drive
Salt Lake City, Utah 84117

c. 801.673.5630

Subject: Midway Springs Traffic Impact Study

Dear Russ:

Thank you for inviting Hales Engineering to submit this proposal to complete a traffic impact study (TIS) for your proposed Midway Springs project. The following is an outline of our proposed scope of work and cost estimate to complete this study according to standard traffic impact study guidelines and our communication with Paul Berg. To meet the basic needs of a traffic impact study we propose to only evaluate the existing conditions for the intersections identified within this scope of work.

Scope of Work

Task 1: Project Kick-off and Site Visit

Hales Engineering will make one site visit to photograph and record existing geometric conditions (lane geometry, intersection control, speed limits, etc.) at the site and at the surrounding study intersections. Hales Engineering will also participate in one conference call with you or your representative to discuss the site plan.

Task 2: Data Collection

Hales Engineering will collect data for the weekday morning (7:00 to 9:00 a.m.) and evening (4:00 to 6:00 p.m.) peak hours at the following intersection(s):

- River Road / 600 North
- 200 East / 600 North

Based on the results of the data collection in combination with a review of the project trip generation, the single highest peak hour will be analyzed.

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innovative transportation solutions

Nearby permanent count stations will be used to identify the seasonal adjustment factors that will be applied to the raw count data to normalize the counts.

Task 3: Trip Generation, Distribution and Assignment

Hales Engineering will perform trip generation for a single site plan to generate weekday and weekend daily and weekday a.m. and p.m. peak hour trips associated with the proposed development. Trip generation data will be calculated based on rates published by the Institute of Transportation Engineers (ITE), 9th Ed. of the *Trip Generation*, 2012.

Based on existing turning movement counts, Hales Engineering will distribute and assign project-generated trips for the single controlling peak hour to the project access points and study intersections for existing 2017 conditions.

Task 4: Existing (2017) Analysis

Hales Engineering will use Synchro / SimTraffic software to evaluate traffic for the controlling a.m. and p.m. peak hour conditions and identify necessary improvements without the proposed project at the following intersection(s):

- River Road / 600 North
- 200 East / 600 North

If any existing deficiencies are identified, we will make the appropriate recommendations for City, County, or State improvements to the system to bring it up to an acceptable level of service standard. The cost(s) for these improvements are typically borne by the jurisdictions that control and maintain these roadways.

Task 5: Existing (2017) Plus Project Analysis

This analysis will use the Synchro / SimTraffic software to determine the impact of a single site plan for the proposed development superimposed on top of the controlling a.m. and p.m. peak hour traffic conditions to identify any resulting improvements at the following intersection(s):

- River Road / 600 North
- 200 East / 600 North
- Midway Springs Accesses (2) / 600 North

If any existing plus project deficiencies are identified, we will make the appropriate recommendations to the system to bring it up to an acceptable level of service standard. The cost(s) for these improvements are typically borne by the developer or are completed in lieu of

paying impact fee assessments, or a combination thereof. These negotiations are typically between the developer and the municipality for which they are developing within.

Task 6: Report Preparation

Hales Engineering will summarize results of our study in a final report including the necessary text, tables and figures. Following completion of the report we will submit one (1) electronic version for your use and distribution. The final report will include key findings within our conclusions and recommendations on potential mitigation measures.

Cost Estimate

We anticipate that the breakdown of the cost to complete the six (6) tasks identified in the traffic impact study scope of work will be **$3,800**.

Meeting Attendance/Out of Scope Work

Predicting the number of meetings and time commitments required to move a traffic impact study through the approval process varies from project to project. Therefore, in the best interest of our clients, we have not included any meetings beyond those identified in the scope of work. If additional meetings are necessary, they will be billed separately on a time and materials basis and will be attended by representatives of Hales Engineering only upon prior written or electronic approval given by you or a designated representative.

Schedule

If you agree to the terms and conditions of this letter, please countersign below. We will begin work after we have received the written authorization to proceed. We will then complete the report for your review within two weeks, if not sooner. This letter will serve as our contract along with the attached Standard Terms and Conditions.

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Agreement

Invoices for work completed will be submitted monthly for payment.

Again, thank you for asking Hales Engineering to prepare this proposal. We look forward to working with you on this project. If you have any questions, please feel free to call.

Sincerely,
HALES ENGINEERING, LLC

Ryan Hales, PE, PTOE, AICP
Principal / Owner

Accepted by:_____

Signature: _____

Representing:_____

Date:_____

P1598-UT

HALES ENGINEERING
innovative transportation solutions

STANDARD TERMS AND CONDITIONS

These STANDARD TERMS AND CONDITIONS apply to, and are made part of, the attached letter agreement ("Agreement") by and between HALES ENGINEERING, LLC, a Utah company, ("Consultant"), and the "Client" referenced in the signature block on the Agreement.

WITNESSETH THAT, in consideration of the premises and covenants hereinafter set forth, the parties agree as follows:

1. **Data to Be Furnished**. All information, data, reports, records and maps with respect to the Project which are available to Client and which Client deems reasonably necessary for the performance of work set forth in the Agreement, shall be furnished to Consultant without charge by Client.

2. **Personnel**. Consultant agrees that it will employ, at its own expense, all personnel necessary to perform the services required by this Agreement and in no event, shall such personnel be the employees of Client. All the services required hereunder shall be performed by Consultant and all personnel engaged therein shall be fully qualified under applicable federal, state and local law to undertake the work performed by them. Consultant assumes full and sole responsibility for the payment of all compensation and expenses of such personnel and for all state and federal income tax, unemployment insurance, Social Security, disability insurance and other applicable withholdings.

3. **Compensation**. Client shall pay Consultant an amount not to exceed the sum noted in the Agreement as consideration for the services described. Consultant shall submit invoices to the Client monthly. Client agrees to pay the invoices within 30 days of receipt. If payment is not received within 60 days, Consultant may, at its sole discretion, elect to stop work until payments are received. In that case, Consultant will notify Client that work has ceased. Client also agrees to pay all costs, including attorney's fees and court costs, incurred by Consultant to collect on past due invoices. If Client fails to make any payment due Consultant for services and expenses within thirty (30) days after receipt of Consultant's statement, the amounts due Consultant will be increased at the rate of 1.5% per month from due date identified on invoice.

4. **Ownership of Documents**. The work papers, drawings, photographs and any other written or graphic material, hereinafter materials, prepared by Consultant for this Project are instruments of the Consultant's service for use solely with respect to this Project and, unless otherwise provided, the Consultant shall be deemed the author of these documents and shall retain all common law, statutory and other reserved rights, including the copyright. The Client shall be permitted to retain copies, including reproducible copies of Consultant's materials for information and reference in connection with the Client's use on the Project. The Client or others shall not use the Consultant's materials on other projects, or for changes to this Project without the express written consent of the Consultant. Submission or distribution of documents to meet official regulatory requirements or for similar purposes in connection with the Project is not to be construed as publication or violation of copyright.

5. **Attorneys' Fees/Arbitration**. In the event that either party brings an action or claim arising out of or in connection with this Agreement, the prevailing party shall be entitled to reasonable and actual attorneys' fees incurred, as well as costs incurred, as well as expert witness fees. All disputes shall be resolved by way of binding Arbitration, which shall take place in Salt Lake City, Utah utilizing a single Arbitrator. Arbitration shall take place under the auspices of either the American Arbitration Association or JAMS, at the election of the party commencing Arbitration. The prevailing party shall also be entitled to be reimbursed for any and all Arbitration expenses incurred.

6. **Limitation of Liability**. Unless Client and Consultant otherwise agree in writing in consideration for an increase in Consultant's fee, Client agrees to limit Consultant's liability to Client to the sum of the Consultant's fee for any loss or damage, including but not limited to special and consequential damages arising out of or in connection with the performance of services or any other cause, including Consultant's professional negligent acts, errors, or omissions, and Client hereby releases and holds harmless Consultant from any liability above such amount.

7. **Modification/Termination**. No waiver, alteration, modification or termination of this Agreement shall be valid unless made in writing. This agreement may be terminated for convenience and without cause by either party upon seven days' written notice.

8. **Governing Law**. This Agreement shall be governed by and constructed in accordance with the laws of the State of Utah.

9. **Entire Agreement**. This Agreement sets forth the entire understanding between the parties as to the subject matter of this Agreement and merges all prior discussions, negotiations, letters of understanding or other promises, whether oral or in writing.

EXHIBIT F

Exhibit F

Ent 456064 Bk 1233 Pg 1635

BD BUSH EXCAVATION

P.O. Box 499
Lehi, UT 84043

Phone: 801-523-7900
Fax: 801-523-7911

To:	Watts Development	**Contact:**	Russ Watts
Address:	Salt Lake City	**Phone:**	
		Fax:	
Project Name:	Remund Farms 4' Road Width Credit	**Bid Number:**	18-0709
Project Location:	Remund Farms, Midway, UT	**Bid Date:**	7/9/2018

Item #	Item Description	Estimated Quantity	Unit	Unit Price	Total Price
	Imported 12" Granular Fill To Build Road To Subgrade	10,530.00	SF	$1.10	$11,583.00
	12" Granular Fill	10,530.00	SF	$1.10	$11,583.00
	6" Roadbase	10,530.00	SF	$0.75	$7,897.50
	3" Asphalt Paving	10,530.00	SF	$1.60	$16,848.00

Total Bid Price: $47,911.50

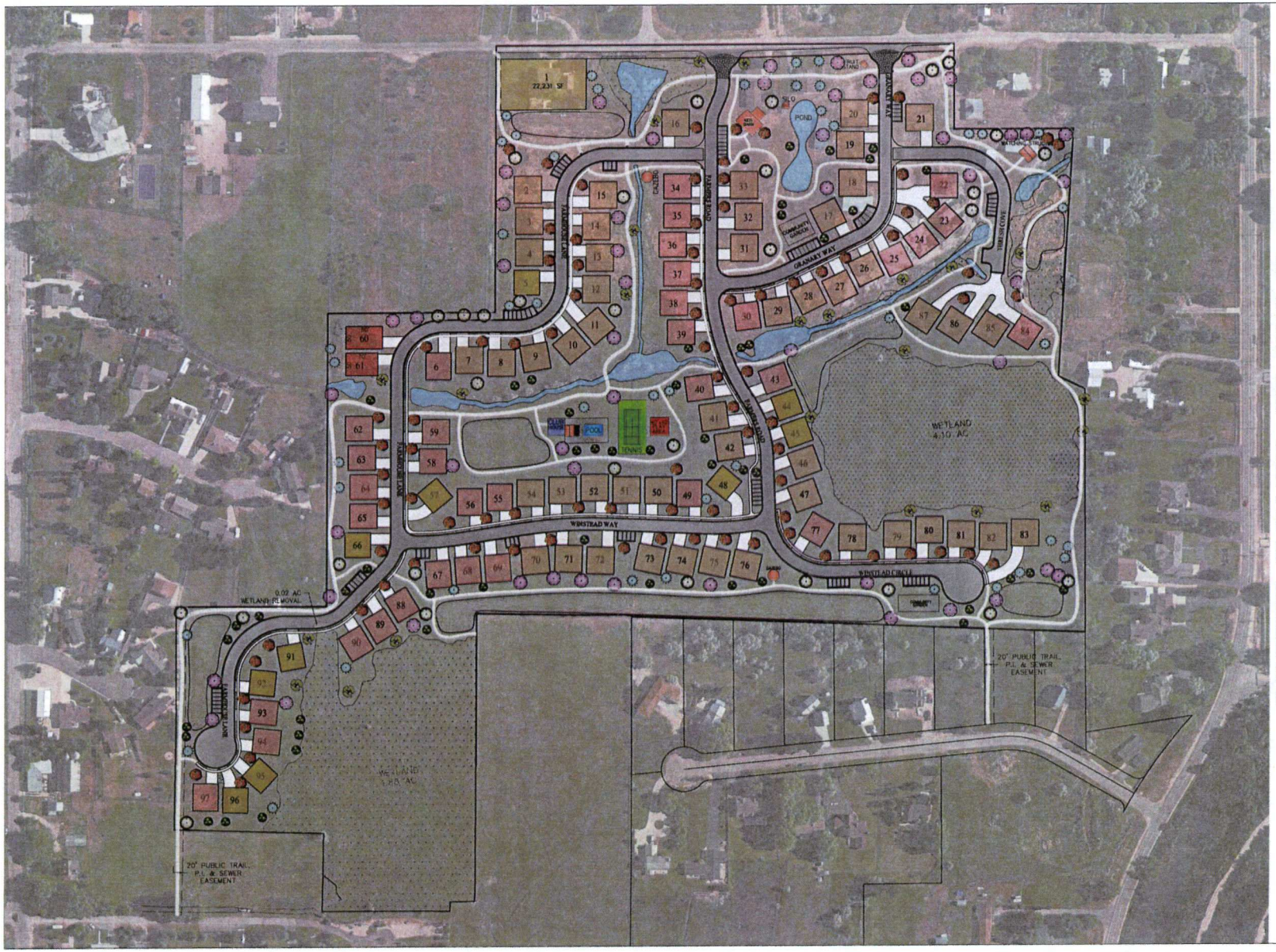
Notes:

- Unit pricing for the proposed road width difference from 30' to 26'.

ACCEPTED: The above prices, specifications and conditions are satisfactory and are hereby accepted. **Buyer:** _____ **Signature:** _____ **Date of Acceptance:** _____	**CONFIRMED:** **BD Bush Excavation** **Authorized Signature:** _____ **Estimator:**

EXHIBIT G

EXHIBIT G



N

100' 0 100' 200'

Scale 1" = 100'

SCALE 1"=200' FOR 11"X17" PLANS

LEGEND

- WETLANDS
- TRAIL
- IMPROVED DITCH

LAND USE SUMMARY

ZONE	R-1-15
TOTAL AREA	50.87 AC
PUD AREA	50.36 AC
SUBDIVISION AREA	0.51 AC
SUBDIVISION LOTS	1 LOT (REMUND EX. HOME)
PUD UNITS	96 UNITS
TOTAL UNITS	97 TOTAL UNITS

DENSITY	1.91 PER ACRE
ONSITE OPEN SPACE	28.36 AC (55.75% OF ENTIRE)
OFFSITE OPEN SPACE	1.32 AC (02.59%)
TOTAL OPEN SPACE	29.68 AC (58.34% OF ENTIRE) (50% REQUIRED)

PUD UNIT FRONT SETBACK NOTE:
16.16.8.5.C. THE CITY COUNCIL MAY WAIVE THIS REQUIRMENT (STAGGERED SETBACKS) WHEN A CURVILINEAR STREET DESIGN IS USED AND SHOWN TO CREATED THE SAME VARYING SETBACK EFFECT.

PUD DENSITY CALCULATIONS

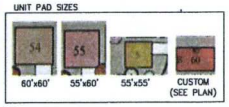
TOTAL PUD AREA	50.36 ACRES
WETLAND AND 25' BUFFER	13.39 ACRES
DENSITY FOR R-1-15 ZONE:	2.50 UNITS/ACRE
DENSITY FOR WETLANDS AND 25' BUFFER:	0.10 UNITS/ACRE

2.50(50.36-13.39) + 13.39(0.10) = 93.74

ALLOWED PUD UNITS FOR THE PROPERTY	93.74
UNITS FOR OFFSITE OPEN SPACE TRANSFER	2.26
TOTAL PUD UNITS ALLOWED FOR PROJECT	96.00

*SEE OFFSITE OPEN SPACE TRANSFER APPROVAL FROM MIDWAY CITY COUNCIL. MAXIMUM OF 97 UNITS ALLOWED FOR THE DEVELOPMENT.

UNIT PAD SIZES



MIDWAY CITY CODE EXCEPTIONS NOTE:
THIS PLAN IS BASED ON THE FOLLOWING EXCEPTIONS ALLOWED IN CITY CODE.
-CUL-DE-SAC LONGER THAN 500 FEET WITH CITY COUNCIL APPROVAL.
-WETLAND SETBACKS WITH CITY ENGINEER APPROVAL

THIS DOCUMENT IS RELEASED FOR REVIEW ONLY. IT IS NOT INTENDED FOR CONSTRUCTION UNLESS SIGNED AND SEALED.

PAUL D. BERG P.E.
SERIAL NO. 285095
DATE: 19 APRIL 2018

WATTS ENTERPRISES
REMUND FARMS

SITE MASTER PLAN

BERG ENGINEERING
RESOURCE GROUP, P.C.
380 E Main St. Suite 204,
Midway, Ut 84049
ph. (435) 657-9749

DESIGN BY: PDB DRAWN BY: CNB	DATE: 19 APRIL 2018 REV:	SHEET 3

EXHIBIT H

EXHIBIT H

Ent 456064 Bk 1233 Pg 1639

BIO-WEST, Inc.

1063 West 1400 North
Logan, Utah
84321-2291
Ph: 435.752.4202
Fx: 435.752.0507
www.bio-west.com

Coastal Ecology and Marine Biology

Environmental Analysis and Permitting

Geology/ Hydrogeology and Remediation

Fisheries and Aquatic Ecology

GIS Planning and Analysis

Landscape Architecture and Environmental Planning

Vegetation Resources

Watershed Sciences

Wetland Resources

Wildlife Resources

June 1, 2017

Watts Enterprises
Attention: Mr. Russ Watts
5200 South Highland Drive, Suite 101
Salt Lake City, UT 84117

Subject: 20.4-Acre Parcel Wetland Delineation, Midway, Utah

Dear Mr. Watts:

BIO-WEST, Inc. (BIO-WEST) is pleased to provide you with the results of the wetland delineation of the 20.4-acre Midway project area in Wasatch County, Utah. The project area is located adjacent to the southern boundary of a 29.2-acre area that BIO-WEST delineated for you in 2016. The project area is located between Center Street and River Road, approximately 800 feet south of 600 North Street in Midway, Utah. The project area is located approximately 0.5 mile northeast of downtown Midway, in Section 35 of Township 3 South, Range 4 East. The coordinates at the center of the project area are latitude 40°31'06.59" N and longitude 111°28'02.72" W. A location map and a topographic map illustrating the project area are attached to this letter.

Methods

A project area assessment was conducted on May 19, 2017, to delineate any wetlands or surface waters encountered. Methods were performed in accordance with the *US Army Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). In addition, the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Research and Development 2010), was used for regional specificity. The project area assessment included establishing sample points to determine if wetland characteristics were present. Western Mountains, Valleys, and Coast Region wetland delineation data forms were used to record conditions at sample points (attached).

BIO-WEST and Watts Enterprises worked together to install and monitor 14-shallow groundwater monitoring wells throughout the project area. The wells were installed on August 1, 2016 and monitored through the later summer and fall of 2016 and again in the spring of 2017 through the present. The results of the groundwater monitoring to date were used to help determine the wetland boundaries along with the analysis of sample point data.

At each sample point vegetation species and their relative abundance were recorded. Vegetation strata were used to determine the sampling-plot radius using the sampling point as the center. Trees and woody vines within a 30-foot radius of each sample point were recorded. Saplings, shrubs, and herbaceous vegetation within a 5-foot radius of each sample point were recorded. Those plant species considered dominant within each stratum were used to determine wetland or upland classification. Species comprising 20 percent or more of the total areal cover per stratum were considered dominant, following the guidelines of the US Army Corps of Engineers (Corps) 50/20 rule (Environmental Laboratory 1987). The wetland-indicator status of dominant plants was noted according to the Corps' *North American Digital Flora: National Wetland Plant List* (NWPL 2016).

The presence or absence of hydrological indicators was examined and recorded at each sample point. The determination of wetland hydrology was based on the presence of at least one positive primary indicator or two positive secondary indicators of a prolonged period of saturation. Primary indicators include surface water, high water table, saturation, watermarks, drift deposits, sediment deposits, iron deposits, sparsely vegetated concave surface, surface soil cracks, inundation visible on aerial imagery, salt crust, aquatic invertebrates, hydrogen sulfide odor, algal mat or crust, oxidized rhizospheres along living roots, stunted or stressed plants, and the presence of reduced iron or recent iron reduction in plowed soils. Secondary indicators include drainage patterns, dry-season water table, water stained leaves, saturation visible on aerial imagery, shallow aquitard, raised ant mounds, frost heave hummocks, geomorphic position, and hydrophytic results from the facultative-neutral test. Environmental changes and the topographic position of the sample points relative to observed water tables were also noted.

Soil pits were dug at each sample point to a depth of at least 12 inches to characterize soil profiles and soil/water conditions. At least one positive hydric soil indicator was required at each sample point to classify a soil as hydric. For example, soils in prolonged anaerobic conditions undergo chemical reduction, thereby producing gray soil colors. During the field survey, the colors of the soil profile matrix and mottles were identified using Munsell soil color charts (Kollmorgen Instruments 1990). Soil horizon, texture, moisture content, and depth-to-soil saturation and/or standing water were noted. The presence or absence of particulate organic matter, organic matter staining, concretions, mottling, and gleying was also noted.

Standard wetland delineation procedures require the comparison of soil profiles observed in the field with the soil descriptions referenced in the Natural Resource Conservation Service (NRCS) Soil Survey (USDA NRCS 2016). The Heber Valley area soil survey was accessed using the Web Soil Survey website from the NRCS and referenced during the project area visit. In addition to the soil map, the US Fish and Wildlife Service's National Wetlands Inventory Map of the project area was downloaded and used as a reference during the project area visit (NWI 2016). The project area soil map and wetland inventory map are attached to this letter.

Results

The soil map illustrates the project area soil types as Cudahy silt loam, cold variant (map symbol Cv), and the Cudahy silt loam, cold variant, moderately deep water table (map symbol Cw). The Cudahy silt loam, cold variant, and moderately deep water table are both listed as hydric soil types in Utah (USDA NRCS 2016). Hydric soils are one component of the jurisdictional wetland criteria. The wetland inventory map illustrates the project area as upland. These classifications were not completely consistent with observations made during the project area visit. The project area does contain wetlands and the hydric soils described by the soil survey have been drained or otherwise altered by past agricultural activities.

Six sample points were established to represent the conditions found within the project area wetlands and adjacent uplands. Three of the sample points met the wetland vegetation, soils, and hydrology requirements and three of the sample points did not meet the wetland criteria. Sample points A2, A3, and A5 are wetland sample points dominated by herbaceous emergent plants that are common in wetlands. These sample point soils exhibit dark brown, black, or gray colored, loam and/or clay layers over a limestone or pot rock subsurface layer. Sample points A1, A4, and A6 are upland sample points dominated by weedy herbaceous vegetation common in both wetlands and uplands. These sample points exhibit mostly brown colored soils over the top of the same limestone/pot rock layer as exhibited in the wetland sample points. Photographs of the sample points and adjacent areas are attached to this letter.

The 14-shallow groundwater monitoring wells were used to assist in delineating wetlands or ruling out areas that would not meet wetland hydrology criteria and would therefore be considered uplands. In

general groundwater monitoring wells that exhibited a water table within 12 inches of the ground surface for 14 or more consecutive days during the growing season were considered to be located in wetlands or on the boundary between the wetlands and uplands. Wells that exhibited a deeper water table or a water table within 12 inches of the ground surface for less than 14 consecutive days during the growing season were considered to be located in uplands as described in the Western Mountains, Valleys, and Coast Region Delineation Manual (Research and Development 2010).

The 20.4-acre project area contains 7.7-acres of emergent wetland represented by sample points A2, A3, and A5. The emergent wetlands are illustrated in the attached Wetland Delineation Map. The wetlands are dominated by blue grass (*Poa pratensis*), common spikerush (*Eleocharis palustris*), and clover (*Trifolium repens*) and are either seasonally flooded or exhibit a water table within 12 inches of the soil surface during the growing season. The wetland hydrology appears to be tied to the locally high water table within the immediate vicinity of the project area.

The project area contains a 0.4-acre section of open water irrigation channel that is supported by irrigation water flowing into the project area from a larger off-site irrigation ditch to the west.

Conclusions

The 20.4-acre project area contains 7.7-acres of emergent wetland supported by a high groundwater table. The wetland areas were delineated using a combination of observations made at representative sample points and by monitoring the growing season groundwater table in the project area using shallow groundwater monitoring wells. The project area also contains 0.4-acre of irrigation ditch. The existing emergent wetlands and the irrigation ditch are connected to offsite waters and are likely considered jurisdictional areas by the U.S. Army Corps of Engineers.

It is possible that by stopping all irrigation within the project area the existing wetland boundaries as depicted here could be modified or reduced. This would take at least an additional growing season and possibly more of observation and documentation before any wetland mapping changes could be considered.

If you have questions about the delineation results or conclusions, I can be reached at (435) 752-4202 or bthomas@bio-west.com.

Sincerely,

Robert Thomas

Professional Wetland Scientist

Attachments: Site Location Map
Topographic Map
Data Forms
Soil Map
National Wetland Inventory Map
Wetland Delineation Map
Photographs

REFERENCES CITED

Environmental Laboratory. 1987. US Army Corps of Engineers wetlands delineation manual. Vicksburg (MS): US Army Waterways Experiment Station. Technical Report Y-87-1.

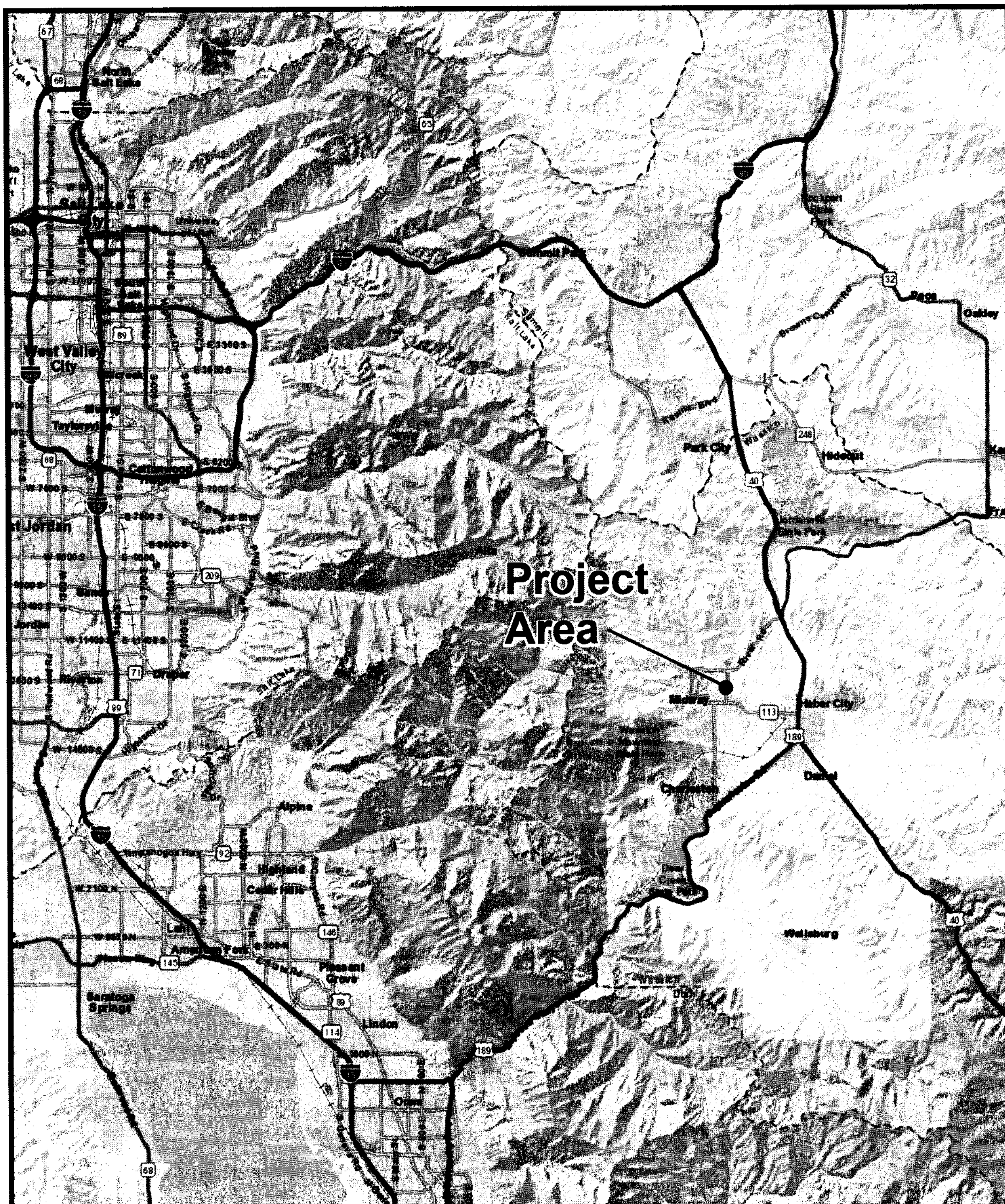
[Kollmorgen Instruments] Kollmorgen Instruments Corporation. 1990. Munsell soil color charts. Revised 2000. New Windsor (NY): Kollmorgen Instruments Corporation.

[NWI] U. S. Fish and Wildlife Service. 05/16/2016. National Wetlands Inventory website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. http://www.fws.gov/wetlands/

[NWPL] Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. North American digital flora: National wetland plant list (https://wetland_plants.usace.army.mil). Hanover (NH) and BONAP, Chapel Hill (NC): US Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory.

[Research and Development] US Army Engineer Research and Development Center. 2010. Regional supplement to the Corps of Engineers wetland delineation manual: western mountains, valleys, and coast region (Version 2.0). Vicksburg (MS): US Army Engineer Research and Development Center. 128 p. plus appendices.

[USDA NRCS] US Department of Agriculture, Natural Resources Conservation Service, Soil Survey Staff. 05/16/16. Official soil series descriptions. Location: http://soils.usda.gov/technical/classification/osd/index.html.



BIO-WEST
www.bio-west.com
435.752.4202

Map Date: 6/1/2017

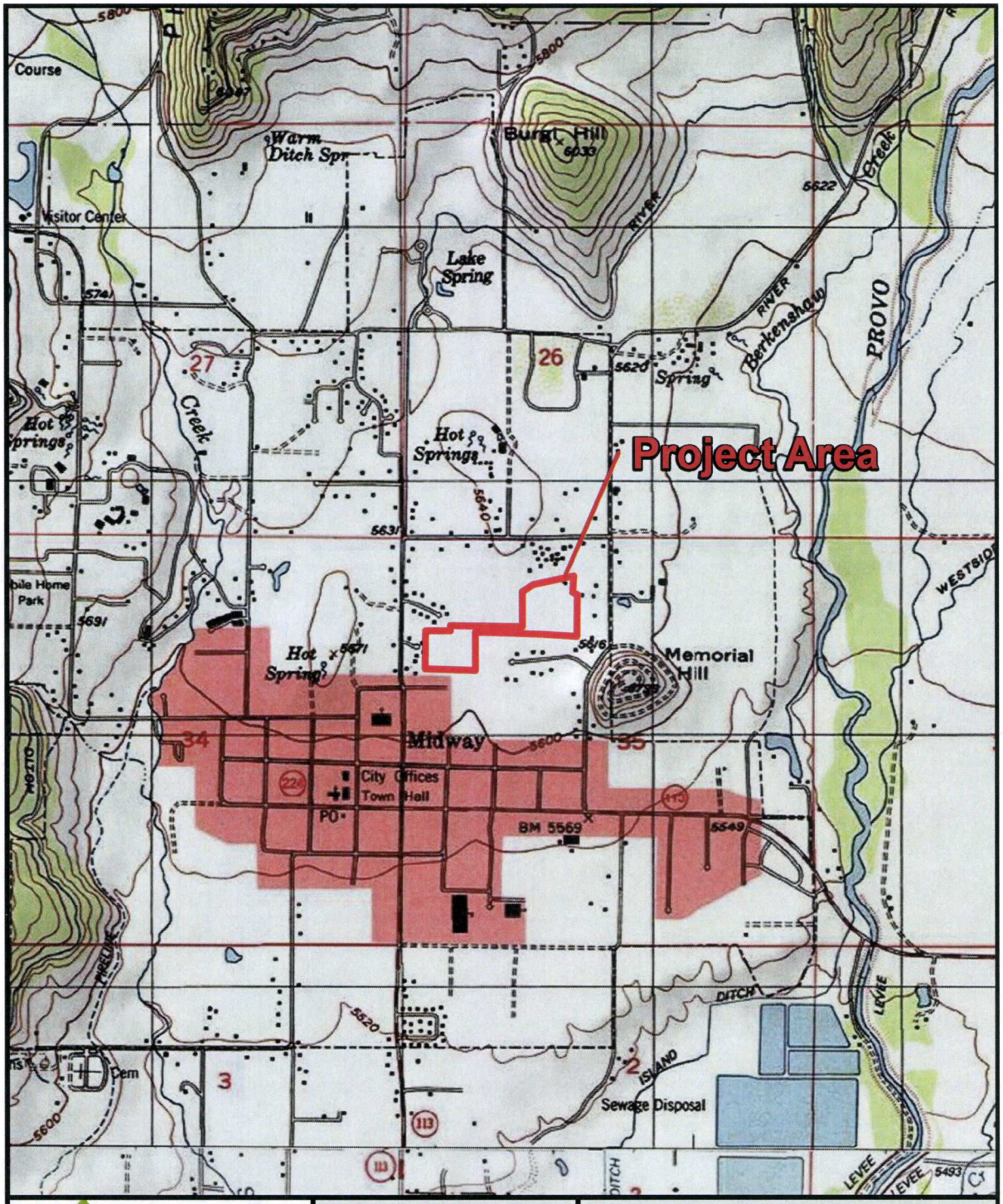
Coordinate System: NAD 1983 UTM Zone 12N
Projection: Transverse MercatorDatum: North American 1983

From Salt Lake City: Travel on Interstate 80 West approximately 25 miles to Exit 146. Take off at Exit 146 and travel on U.S. Highway 189/40 approximately 13 miles south and turn right onto River Road before entering Heber, UT. Travel southwest on River Road approximately 3 miles to the traffic circle. Follow the traffic circle right and exit onto River Road going south. Travel south on River Road approximately 0.5 mile and take a right onto 600 North Street. Travel west on 600 North Street approximately 0.1 mile and the project entrance is on the left (south) side of 600 North Street.

Midway Springs Location Map

0 3 6 Miles

North



BIO-WEST
www.bio-west.com
435.752.4202

Map Date: 6/1/2017

Coordinate System: NAD 1983 UTM Zone 12N
Projection: Transverse MercatorDatum: North American 1983

Midway Springs Topographic Map

0 1,000 2,000 Feet

North

EXHIBIT I

728 West 100 South
Heber, UT 84032
www.horrocks.com

HORROCKS
ENGINEERS

Heber Office
Tel: 435.654.2226
Fax: 435.657.1160

February 21, 2018

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

Subject: Midway Springs, Phase 1 Preliminary, and overall Master Plan Approval

Dear Michael:

Horrocks Engineers recently reviewed the above development plans for Master Plan Approval, and Preliminary Approval for Phase 1. The proposed development is located near 200 East and 600 North. The proposed development is 50.75 acres and contains 97 lots. The following issues should be addressed.

Wetlands

The development contracted with BIO-WEST to determine the extent and location of the existing wetlands. The wetland delineation was done in two separate delineations. The first delineation covered ground within Phase 1 and partially covering a portion of the proposed Phase 2 and the north corner of the proposed Phase 3. The second delineation covered the majority of the remaining site. However, the very southern portion of the proposed Phase 3 property, adjacent to the Philpot property, has not been delineated. The developer is currently showing this un-delineated property as wetlands.

The first delineation was submitted to Watts Enterprises through a letter dated, September 23, 2016. The second delineation was submitted to Watts Enterprises through a letter dated, June 1, 2017. Only the first delineation has been submitted to the US Army Corps of Engineers. On December 22, 2016 the US Army Corps of Engineers provided a Jurisdictional Determination for 0.50 acres of palustrine emergent wetlands within the first delineation. The second delineation has currently not been submitted to the US Army Corps of Engineers.

To ensure the accuracy of the delineation, Midway City contracted with Wetland Resources to provide a 3rd party review of the delineations. This 3rd party review determined that a small section of property within the first delineation was most likely wetlands. After working with BIO-WEST an amended document was sent to the US Army Corp of Engineers. In a letter dated, November 29, 2017, the US Army Corp of Engineers concurred with submitted delineation and provided a Jurisdictional Determination of 0.66 acres of palustrine emergent wetlands.

The second delineation has not been submitted to the US Army Corp of Engineers at this time. The developer is proposing to submit a delineation the US Army Corp of Engineers at the time of preliminary approval of the future phases.

Geotechnical Investigation

The geotechnical investigation performed 25 boring pits over the entire site. Soil samples were taken to determine the type of soil and depth of groundwater. Generally, the site is covered with topsoil, a sandy lean clay covering pot rock. The soil depth varies from very shallow to a maximum depth of 3 feet. The general topsoil depth determined from the 25 test pits is 12 inches. Each of the 25 test pits were dug to the surface of pot rock. To determine the groundwater elevation 6 piezometers were installed throughout the site. Each of the piezometers were installed to the top of pot rock.

Hydrogeologic Consulting Services

To better understand the site and predicate the groundwater elevation, and soil classification both above and below the layer of pot rock, the City is contracting with Loughlin Water Associates to conduct a geotechnical investigation below the layer of pot rock. Loughlin will oversee the approximately 10 borings. Each location will be bored to a depth of approximately 8' to 10'. Data within Phase 1 of the proposed development will be available prior to Final City Council approval. More long term data will be collected and analyzed within the future phases of the proposed development.

Phase 1 Environmental Site Assessment

Intermountain GeoEnvironmental Services, Inc. (IGES) has completed an Environmental Site Assessment (ESA) on the property. As stated within the Executive Summary, *"This Phase I ESA was performed in general accordance with the standards set forth in ASTM Document E 1527-13, Standard Practice for Environmental Site Assessment process."* The Executive Summary went on to state, "*No recognized environmental conditions were observed on the subject property or readily observable portions of adjacent properties.* "
A copy of the full report is available upon request.

Assessment of Surface Water Quality

At the direction of Midway City, Loughlin Water Associates conducted an Assessment of the Surface Water Quality. The assessment was done by collecting water samples from four locations throughout the site. The samples were tested for: Chloride and Total Dissolved Solids, Sulfate concentrations, Oil and grease, Coliform bacteria, E. coli bacteria, Phosphorus, and Ammonia Nitrate. The Conclusion of the report states, "We selected parameters for laboratory analysis based on constituents that would be expected from a dairy farm and from naturally occurring geothermal water. Overall the results are within the range that we expected." A copy of the full report is available upon request.

Water

- The proposed development will be served from the Gerber Mahogany Springs zone. The existing line within 600 North is shown as a 6" line. Per the Midway City Master Plan, the 600 North water line should be up-sized to a 12" line. To provide adequate fire flow within the development the water line shall be upsized and connected to the water line within River Road. Impact fees should pay to upsize the water line from an 8" line to a 12" line.
- To provide adequate fire flow within the lower cul-de-sac of the proposed Phase 3, the cul-de-sac road should be upsized to a 10" line or a connection should be made from the east cul-de-sac, at the bottom of the proposed development, to the existing water line within 300 North.
- The fire hydrant spacing shall not exceed 500'.

Irrigation

- The proposed development will connect to existing irrigation line within 600 North and install services with meters according to Midway Irrigation Company standards.
- Prior to final approval it should be determined whether the irrigation line within the proposed Phase 3 should be connected to the existing irrigation line within 300 North.

Roads

- A Traffic Impact Study was completed by Hales Engineering. The study indicates that the peak hour of operation is in the evening between 5:00 and 6:00 pm. The study indicates that each intersection is currently operating at a Level of Service (LOS) A. The study states that "All study intersections are anticipated to operate at LOS A during the evening peak hour with project traffic added." The traffic study was reviewed by a traffic engineer in our Pleasant Grove office. He generally agreed with the finding within traffic study.
- The proposed development will install a modified curb on each side of the road, with a 5' park strip and 5' sidewalk on each side of the road.
- All roads within the proposed development will be private roads.
- 600 North is classified in the Midway City Master Plan as a Local Collector with a right-of-way of 60' and a pavement section of 34'. The rebuilding of 600 North should be addressed.

Trails:

- The proposed subdivision is showing several public and private trails within the development.

Storm Drain

- The storm water system within the proposed development will be a private storm drain systems. All maintenance for the system will be provided by the HOA. Prior to final approval the storm drain calculations should be updated reflecting the PUD status of the development.

Landscaping

- Adjacent to 600 North and along the stream corridors and wetlands the landscaping plan shows a native grass mix. The irrigation system and mowing schedule should be discussed. Are there any maintenance plans for the wetlands?

Please feel free to call our office with any questions.

Sincerely,
HORROCKS ENGINEERS

Wesley Johnson, P.E.
Midway City Engineer

cc: Paul Berg Berg Engineering

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

Project/Site: Midway Springs Property City/County: Midway, Wasatch Sampling Date: 5/19/2017

Applicant/Owner: Russ Watts State: UT Sampling Point: a1

Investigator(s): BT Section, Township, Range: S35, T3S, R4E

Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): convex Slope (%): 1

Subregion (LRR): E Lat: 40.518959214 N Long: 111.464671489W Datum: WGS 1984

Soil Map Unit Name: Cv- Cudahy silt loam NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____ No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____ No ✔	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Poa pratensis	75%	Y	FAC
2. Taraxacum officinale	20%	Y	FACU
3. Festuca sp.	5%	N	unk.
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	75	x 3 =	225
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	95 (A)		305 (B)

Prevalence Index = B/A = 3.2

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: a1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-8"	10 YR 3/4	100					loam	well drained
8-13"	10YR 4/2	100					loamy clay	moist
13-18"	10YR 5/1	100					clay	moist to wet

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: limestone / pot rock

Depth (inches): 18"

Hydric Soil Present? Yes ____ No ✔

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No ✔ Depth (inches): ____

Water Table Present? Yes ✔ No ____ Depth (inches): 18"

Saturation Present? (includes capillary fringe) Yes ✔ No ____ Depth (inches): 16"

Wetland Hydrology Present? Yes ____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Project/Site: Midway Springs Property City/County: Midway, Wasatch Sampling Date: 5/19/2017

Applicant/Owner: Russ Watts State: UT Sampling Point: a2

Investigator(s): BT Section, Township, Range: S35, T3S, R4E

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): concave Slope (%): 0

Subregion (LRR): E Lat: 40.519090729 N Long: 111.464628195W Datum: WGS 1984

Soil Map Unit Name: Cv- Cudahy silt loam NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Poa pratensis	30%	Y	FAC
2. Elymus trachycaulus	30%	Y	FAC
3. Carex praegracilis	25%	Y	FACW
4. Alopecurus pratensis	10%	N	FAC
5. Taraxacum officinale	5%	N	FACU
6.			
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: a2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-6"	10 YR 2/2	100					loam	
6-14"	10YR 5/1	100					clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: limestone / pot rock

Depth (inches): 14"

Hydric Soil Present? Yes ✔ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): ___

Water Table Present? Yes ✔ No ___ Depth (inches): 10"

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 6"

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Project/Site: Midway Springs Property City/County: Midway, Wasatch Sampling Date: 5/19/2017

Applicant/Owner: Russ Watts State: UT Sampling Point: a3

Investigator(s): BT Section, Township, Range: S35, T3S, R4E

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): convex Slope (%): 1

Subregion (LRR): E Lat: 40.519449553 N Long: 111.465940276W Datum: WGS 1984

Soil Map Unit Name: Cv- Cudahy silt loam NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes _____ No ✔

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

The hydric soil and wetland hydrology determinations were inferred for the sampling point by using visual observations at the nearby groundwater monitoring well that was drilled through the restrictive pot rock layer.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Poa pratensis	50%	Y	FAC
2. Trifolium repens	20%	Y	FAC
3. Eleocharis palustris	20%	Y	OBL
4. Carex nebrascensis	10%	N	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

✔ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: a3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8"	10 YR 3/3	100					loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ✔ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: limestone / pot rock

Depth (inches): 8"

Hydric Soil Present? Yes ✔ No ___

Remarks:

Nearby drilled monitoring well hole through the pot rock indicates that a light gray matrix color in saturated clay is present below the 8" restrictive layer. The soil would meet a depleted matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ✔ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): ___

Water Table Present? Yes ___ No ✔ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): ___

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

The nearby drilled monitoring well hole indicates the water table is located just below the pot rock layer, at the nearby well that is 6 inches deep, at this sample point it would be just below 8" deep.

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

Project/Site: Midway Springs Property City/County: Midway, Wasatch Sampling Date: 5/19/2017

Applicant/Owner: Russ Watts State: UT Sampling Point: a4

Investigator(s): BT Section, Township, Range: S35, T3S, R4E

Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): convex Slope (%): 1

Subregion (LRR): E Lat: 40.519415244 N Long: 111.466101567W Datum: WGS 1984

Soil Map Unit Name: Cv- Cudahy silt loam NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes _____ No ✔

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

The soil and upland hydrology determinations were inferred for the sampling point by using visual observations at the nearby groundwater monitoring well that was drilled through the restrictive pot rock layer.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Poa pratensis	20%	Y	FAC
2. Taraxucum officinale	20%	Y	FACU
3. Elymus trachycaulus	20%	Y	FAC
4. Capsella bursa pastoris	20%	Y	FACU
5. Trifolium repens	10%	N	FAC
6. Cirsium vulgare	10%	N	FACU
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	100 (A)		350 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: a4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5"	10 YR 3/4	100					loam	very dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: limestone / pot rock

Depth (inches): 5"

Hydric Soil Present? Yes ____ No ✔

Remarks:

Nearby drilled monitoring well hole through the pot rock indicates a brown colored clay is present below the 5" restrictive layer. The soil would not meet a hydric soil indicator.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No ✔ Depth (inches): ____

Water Table Present? Yes ____ No ✔ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No ✔ Depth (inches): ____

Wetland Hydrology Present? Yes ____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

The nearby drilled monitoring well hole indicates the water table is located at 17" with not saturated soils within 12" of the soil surface.

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

Project/Site: Midway Springs Property City/County: Midway, Wasatch Sampling Date: 5/19/2017

Applicant/Owner: Russ Watts State: UT Sampling Point: a5

Investigator(s): BT Section, Township, Range: S35, T3S, R4E

Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): convex Slope (%): 1

Subregion (LRR): E Lat: 40.518031871 N Long: 111.469438643W Datum: WGS 1984

Soil Map Unit Name: Cv- Cudahy silt loam NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Poa pratensis	40%	Y	FAC
2. Taraxucum officinale	30%	Y	FACU
3. Trifolium repens	30%	Y	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ✔ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: a5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-7"	10 YR 2/1	100					loam	lot of organic matter
7-18"	10YR 5/1	100					clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ✔ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ✔ No ___ Depth (inches): 14"

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 12"

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Project/Site: Midway Springs Property City/County: Midway, Wasatch Sampling Date: 5/19/2017

Applicant/Owner: Russ Watts State: UT Sampling Point: a6

Investigator(s): BT Section, Township, Range: S35, T3S, R4E

Landform (hillslope, terrace, etc.): depression Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): E Lat: 40.517878377 N Long: 111.469258093W Datum: WGS 1984

Soil Map Unit Name: Cv- Cudahy silt loam NWI classification: UPL

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5' radius)			
1. Poa pratensis	50%	Y	FAC
2. Taraxucum officinale	50%	Y	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100% = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	50	x 3 =	150
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	100 (A)		350 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

SOIL

Sampling Point: a6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-12"	10 YR 3/2	100					loam	
12-15"	10YR 5/2	100					clay	
15-18"	10YR 5/1	100					clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Marginal point.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes ✔ No _____ Depth (inches): 19"

Saturation Present? (includes capillary fringe) Yes ✔ No _____ Depth (inches): 17"

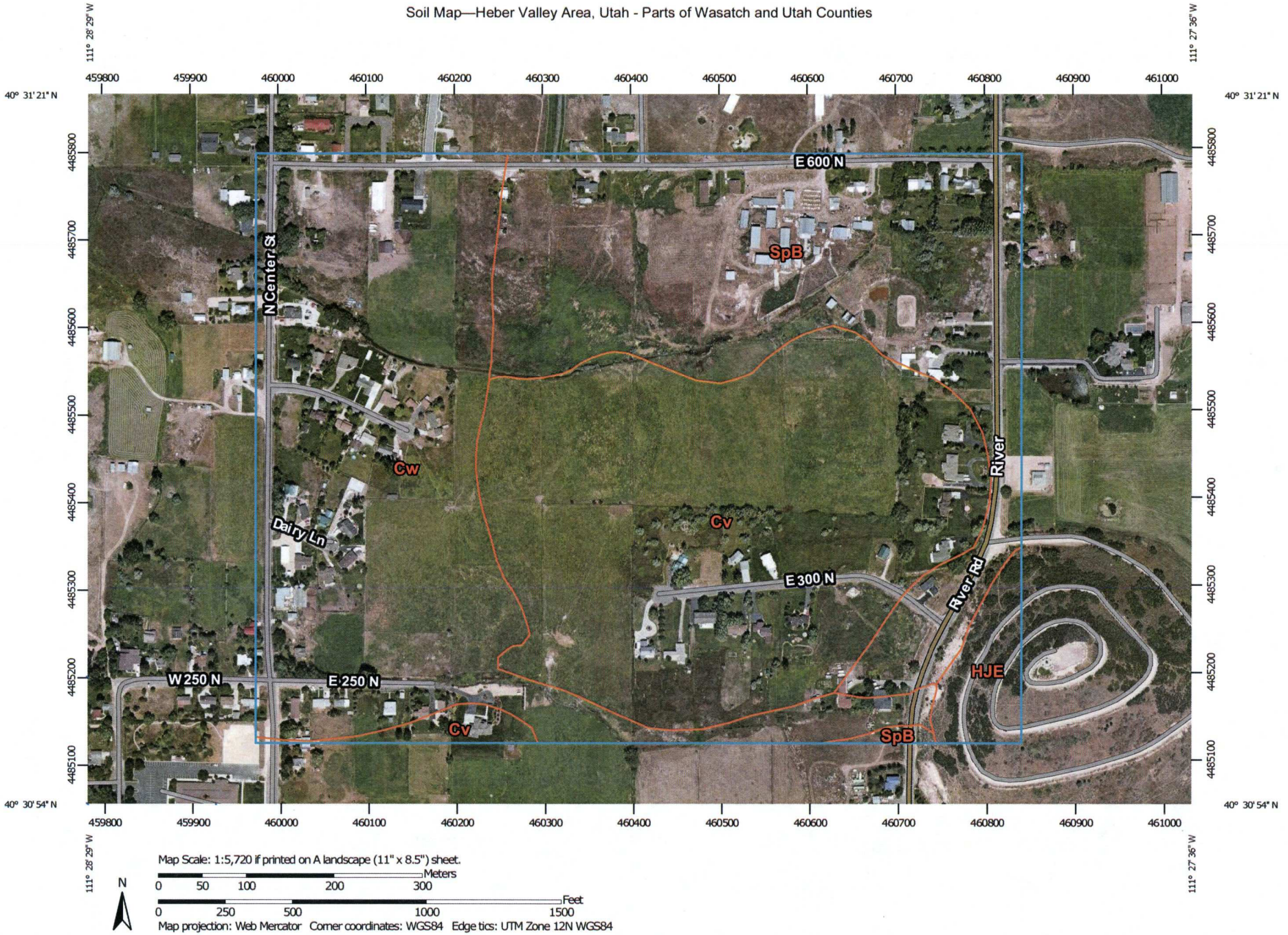
Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

On the margin of the nearby wetland.

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



MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Heber Valley Area, Utah - Parts of Wasatch and Utah Counties
Survey Area Data: Version 6, Aug 7, 2014

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

Date(s) aerial images were photographed: May 2, 2011—Aug 12, 2011

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

Heber Valley Area, Utah - Parts of Wasatch and Utah Counties (UT622)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
Cv	Cudahy silt loam, cold variant	50.4	34.7%
Cw	Cudahy silt loam, cold variant, moderately deep water table	49.0	33.7%
HJE	Henefer soils, 25 to 50 percent slopes	3.6	2.5%
SpB	Spaa silt loam, 2 to 5 percent slopes	42.2	29.0%
Totals for Area of Interest		**145.2**	**100.0%**

U.S. Fish and Wildlife Service
National Wetlands Inventory

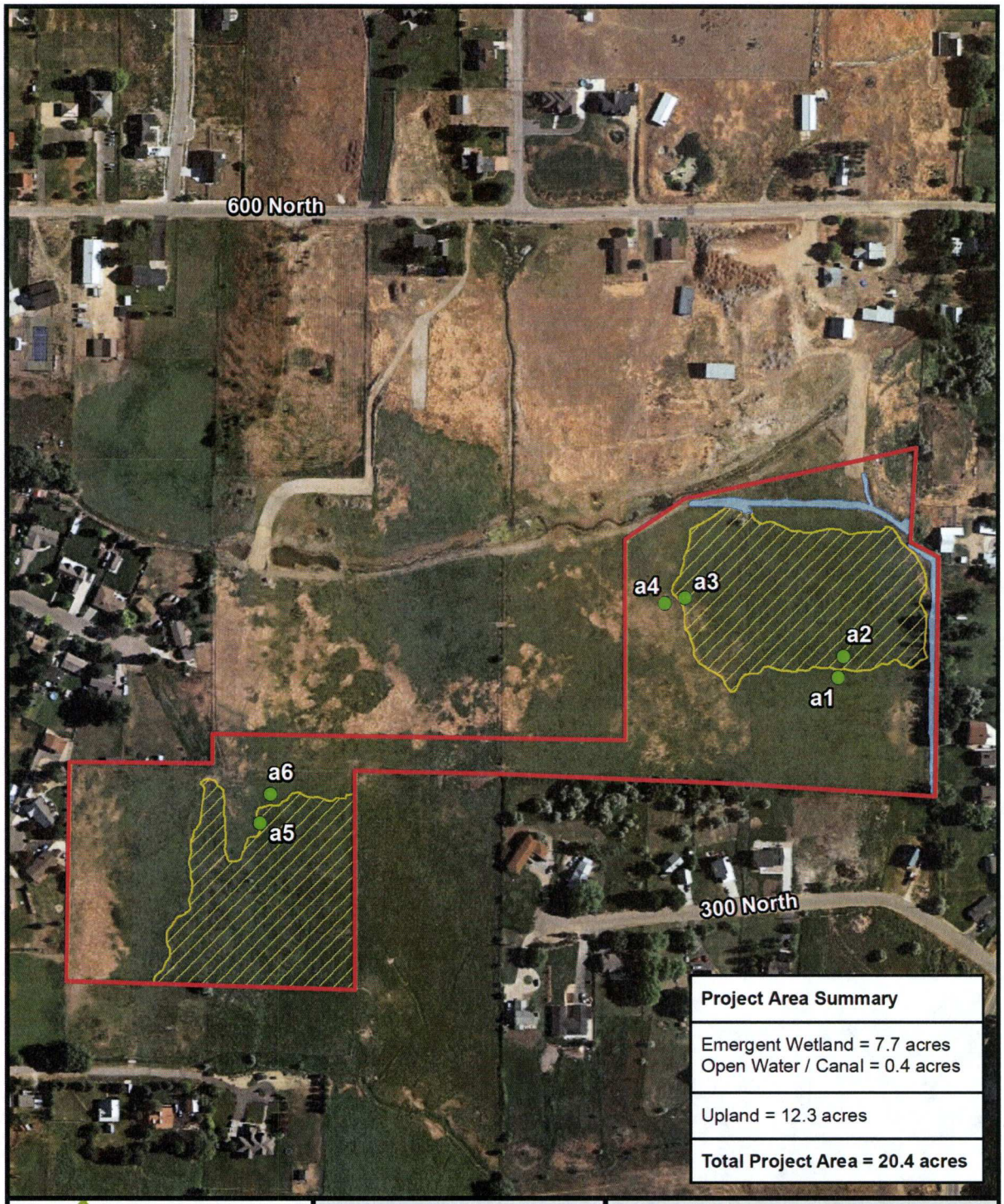
May 16, 2016

Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

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

User Remarks:



BIO-WEST
www.bio-west.com
435.752.4202

Sample Point
Project Boundary
Emergent Wetland
Open Water / Canal

Midway Springs Wetland Delineation Map

0 175 350 Feet

North

Map Date: 5/23/2017

Coordinate System: NAD 1983 UTM Zone 12N
Projection: Transverse MercatorDatum: North American 1983

Sample Point A1.

Sample Point A1.

Sample Point A2.

Sample Point A2.

Sample Point A2.

Sample Point A3.

Sample Point A3.

Sample Point A4.

Sample Point A4.

Sample Point A5.

Sample Point A5.

Sample Point A5.

Sample Point A6.

Sample Point A6.

Sample Point A6.

EXHIBIT H & I

Ent 456064 Bk 1233 Pg 1675

A CULTURAL RESOURCES INVENTORY OF THE MIDWAY SPRINGS PROJECT, IN WASATCH COUNTY, UTAH

by:

Wendy Simmons Johnson
Principal Investigator

Prepared for:

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Logan, Utah 84321

Prepared by:

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Utah Archaeological Survey Permit No. 58

Utah State Antiquities Project No. U16HP0450 p\

Cultural Resources Report No. 2139

July 8, 2016

ABSTRACT

In May 2016, Bio-West of Logan, Utah, requested that Commonwealth Heritage Group, Inc. (Commonwealth) conduct a cultural resources inventory of the proposed Midway Springs Project in Wasatch County, Utah. Since this project would affect waters of the United States, this project must meet requirements of Section 404 of the Clean Water Act, and therefore, Bio-West is seeking a permit from the U.S. Army Corps of Engineers, Sacramento District. The project is located in T. 3S, R. 4E, Sec 35 on the USGS Quadrangle Heber City, Utah (1999). The purpose of this survey is to identify, record and evaluate cultural resources within the project area for their eligibility to the National Register of Historic Places.

The inventory of the current project resulted in the recordation of one Not Eligible turn-of-the century farmstead. Therefore, Commonwealth recommends that construction of this project will have **No Adverse Effect** to historic properties. There is medium to high potential for privy, midden, and burn deposits at this farmstead site. Additionally there is little to moderate potential at other areas of the project for historic or prehistoric buried cultural resources.

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PROJECT PURPOSE

In May 2016, Bio-West, Inc., of Logan, Utah (Bio-West), requested that Commonwealth Heritage Group, Inc. (Commonwealth) conduct a cultural resources inventory of the proposed Midway Springs Project in Wasatch County, Utah. Since this project would affect waters of the United States, this project must meet requirements of Section 404 of the Clean Water Act, and therefore, Bio-West is seeking a permit from the U.S. Army Corps of Engineers, Sacramento District. The project is located in T. 3S, R. 4E, Sec 35 on the USGS Quadrangle Heber City, Utah (1999). (Figures 1-3). The purpose of this survey is to identify, record and evaluate cultural resources within the project area for their eligibility to the National Register of Historic Places (NRHP). Fieldwork was conducted under Archaeological Survey Permit No. 58, issued by the Public Lands Policy Coordination Office.

PROJECT DESCRIPTION

Watts Enterprises proposes to build 97 housing units for the Midway Springs project. Midway Springs is proposed as a family oriented, aesthetically pleasing, safe walkable neighborhood. Sensitive lands and water courses will be preserved in open space areas. A system of trails will be built throughout the development including links to 250 North and 600 North. A clubhouse, pool, children's play area and a pickle ball court will provide a family oriented development. The development will be well landscaped with open space areas and landscape buffers between lots and next to trails. The 600 North trail will be set back from the road providing a safer trail. Bulldozers will be used to level ground and back/trackhoes will be brought in to excavate basements and the pool. There will be no basements, since these are all patio homes that will be constructed slightly above existing grade.

ENVIRONMENT

The proposed project area is located within the Salt Lake Valley in northern Utah. The project area lies mainly within agricultural fields with an old homestead in the northeast corner of the project area. There are a number of invasive plant species present in the area including agricultural grasses and wetland species. In many areas throughout the project there is almost no ground visibility, due to thick introduced grasses. Cultural disturbances include plowing, seeding, ditch digging, road construction and home and outbuilding construction. Additionally, the wetlands area has been impacted by the uncapped, flowing wellhead in the northeast portion of the site. Natural disturbances include some wind and water erosion. The elevation of the project area is approximately 4,215 feet a.s.l. Topography is fairly flat but slopes gently to the wetlands area. Sediments are brown silty loams with a few gravels.

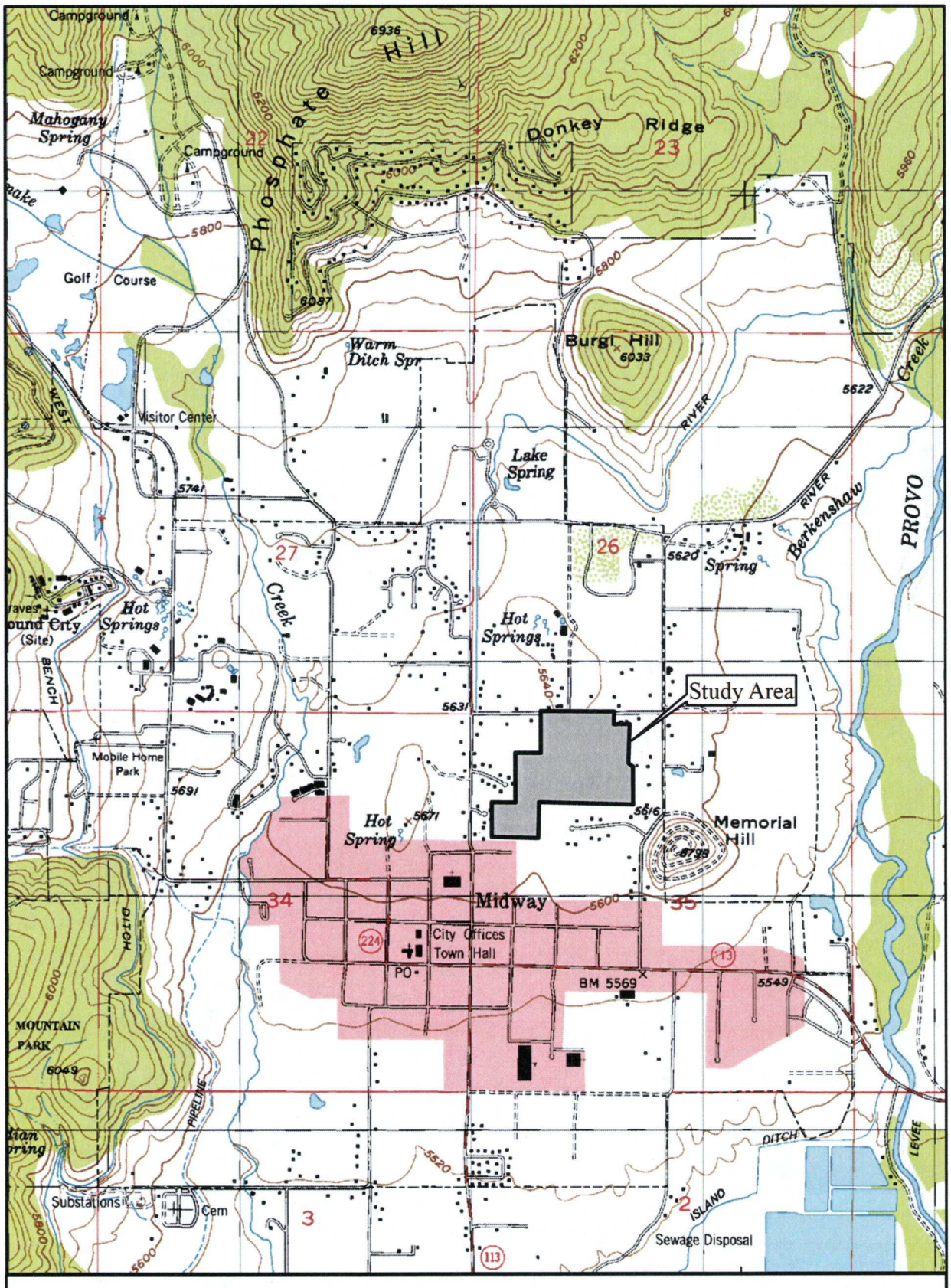

Figure 1. Study Area for the Midway Springs Project, Wasatch County, Utah. Taken from the USGS 7.5' Quadrangle Heber, Utah (1998)

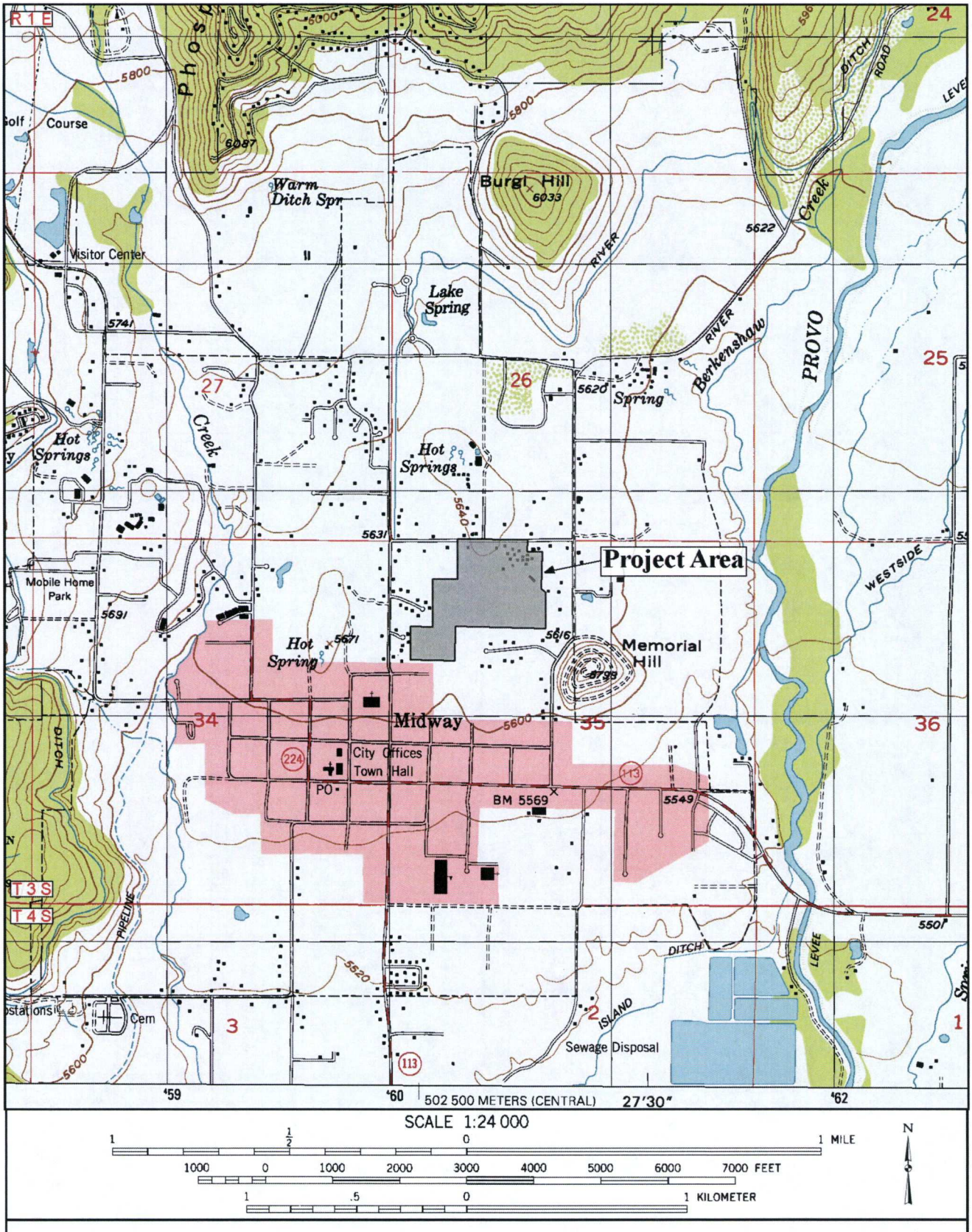

Figure 2. Location of the study area for the Midway Springs Project, Wasatch County. Taken from USGS 7.5' Quadrangle Heber City, Utah (1998).

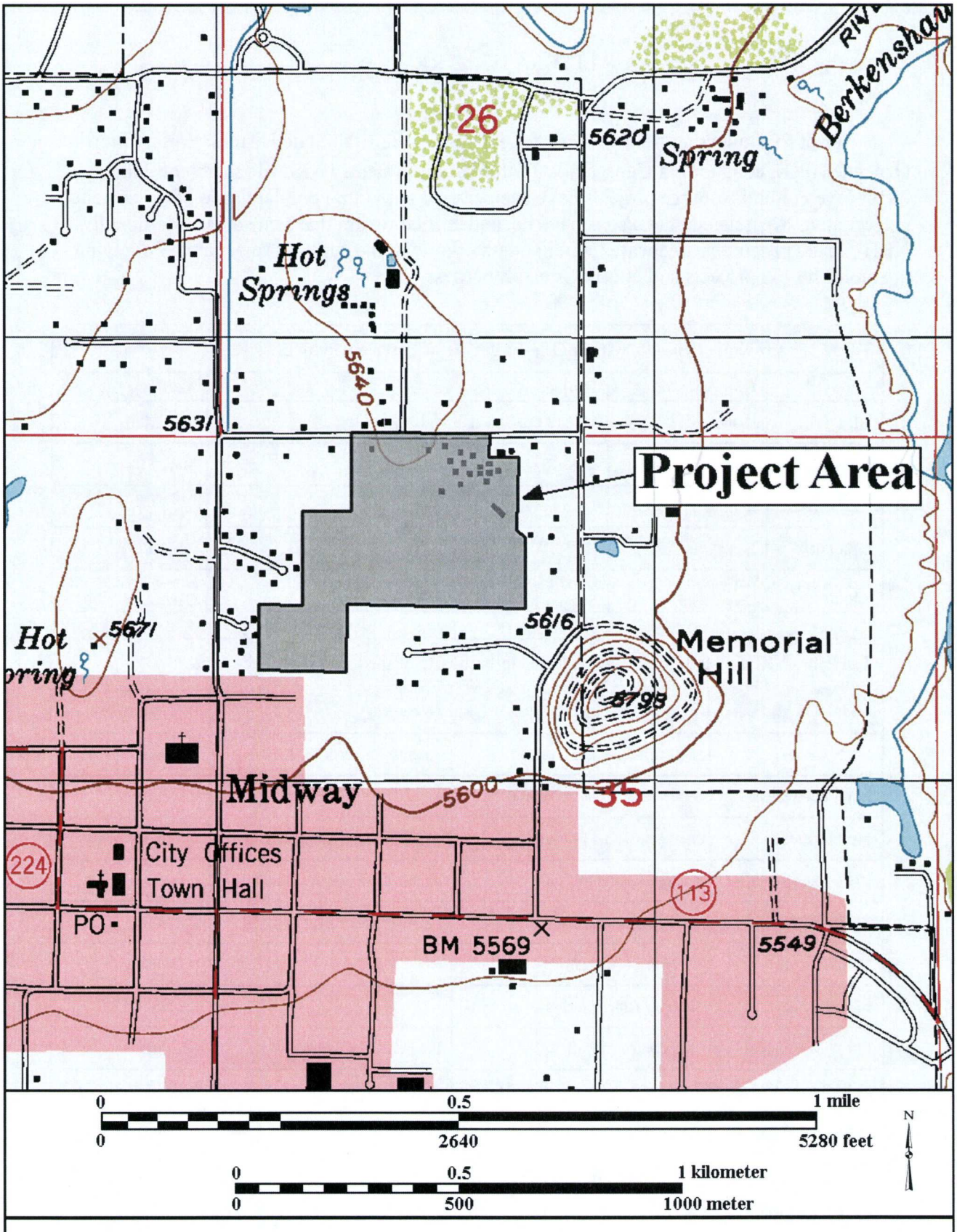

Figure 3. Close-up of the study area for the Midway Springs Project, Wasatch County. Taken from USGS 7.5' Quadrangle Heber City, Utah (1998).

LITERATURE REVIEW

Prior to conducting fieldwork, Arie Leeflang, of the Utah State Historic Preservation Office (SHPO), conducted a Geographical Information Systems (GIS) file search on June 3, 2016. Five cultural resource projects have been carried out within one-half mile of the current project area. No archaeological sites have been identified within that same area. Additionally 10 NRHP listed properties are located within one-half mile of the current project area. Following are tables for the projects and NRHP listed properties:

Table 1. Previous Projects within One-half Mile of Current Project Area.

Report #	Company	Project	Author(s)
U13UT0019	UDOT	SR-113 Charleston to Midway	Rich Allen
U15TD0711	Tetra Tech	Class III CRI, UT2 Zermatt, Midway	Mark Krapinski
U11GN1005	Pentacore Engineering	Lot 5 Level I Inventory in Midway	Kristoper Carambelas
U12EP0509	Earth Touch	An Archaeological Assessment of a Proposed T-Mobile USA Project, Midway Main Street/UT-SI04117D	Lorna Billat
U12KZ0221	Kristopher Carambelas	Level 1 CRI of Lot 10 in the Swiss Paradise Subdivision, Midway	Kristopher Carambelas

Table 1. NRHP listed Properties within One-half Mile of the Current Project Area.

Address in Midway	Property Name	Notes	Distance to Project
180 N Center	William Coleman House	Architecture of John Watkins	0.11 miles
270 E Main Street	Attewall Wootton Jr. House		0.21 miles
110 E Main Street	William Bonner House	Architecture of John Watkins	0.17 miles
103 E Main Street	George Bonner Sr. House	Architecture of John Watkins	0.16 miles
90 E Main Street	George Bonner Jr. House	Architecture of John Watkins	0.17 miles
71 E Main Street	Midway Social Hall		0.17 miles
5 E Main Street	Watkins-Coleman House		0.2 miles
120 W Main Street	Midway Town Hall	Public Works Building	0.32 miles
22 W Hundred Street	John and Margaret Watkins House	Architecture of John Watkins	0.32 miles
102 W 100 N	Burgener-Boss Farmstead		0.27 miles

GLO survey plats for the area were consulted prior to the commencement of fieldwork and no cultural resource features were located within one-half mile of the current project area.

FIELD METHODOLOGY

The entire project area was surveyed by John Rasmussen and the author on Junel, 2016, in transects spaced no more than 15 m apart. USGS topographic maps, project maps, and aerial photographs provided by Bio-West were used to locate the project area. The project is located in T. 3N, R. 4E, Sec 35 on the USGS Quadrangle Heber City, Utah (1999). Approximately 50 acres were surveyed during this inventory.

RESULTS

In May 2016, Bio-West requested a cultural resources inventory of the Midway Springs Project in Wasatch County, Utah. One site, the Remund Farmstead (380 E 600 N, Midway) was recorded during this project (Figure 4).

380 E 600 N – Remund Farmstead

The Remund Farmstead existed as an active dairy farm until just a few years ago. Google Earth maps show many more buildings than are currently present. The property, today, consists of a residence, granary/barn, feeder barn, cattle sheds, and two modern sheds. These are described below.

Residence

This is a stone (pot-rock) cross-wing structure constructed in 1892 by Fredrick Remund. Early in the history of the city, this rock was frequently used in building construction. A major addition was constructed on the east side of the home in 1961 (Midway Historic Landmarks 2016). The forward facing gable or middle section of the building was constructed in 1892 and the stairs leading to the upper level were on the outside of the building. The *Walking Tour of Midway* pamphlet indicates that the west wing was built a few years later (Midway Historic Landmarks 2016).

The two wings are constructed of local pot rock, a local limestone material laid in a coursed rubble masonry pattern with tooled mortar joint. There is no entrance on the front façade; however, four windows are present. Two of the windows are located in the front facing gable of the original portion of the cross wing. One on each floor. These were likely one-over-one double-hung windows, but have been replaced with aluminum sliders. In spite of the change in windows, the window openings remain the original size and the original wooden pediment and sills are still present. There are two side-by-side windows on the cross gable of the house.

COMMONWEALTH HERITAGE GROUP

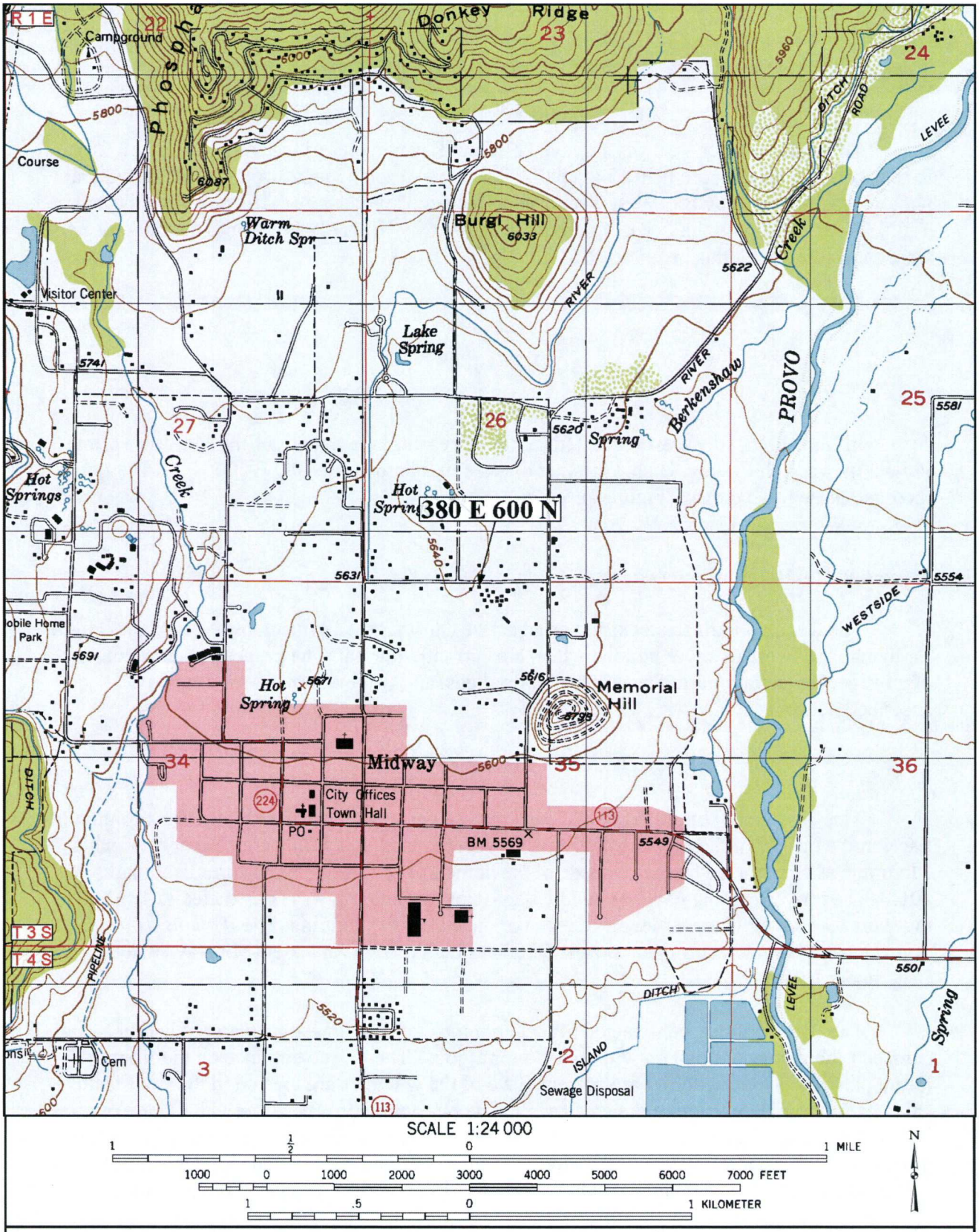

Figure 4. Location of the property at 380 E 600 N, Midway, Wasatch County, Utah. Taken from USGS 7.5' Quadrangle Heber City, Utah (1998).

One appears to hold the original window and the second has been replaced with the aluminum slider. The roof is covered with metal roofing and the eaves are overhanging.

The 1960s addition, located on the east side of the home is a side-facing gable constructed on a concrete foundation. The lower half of the main floor is constructed of unshaped local pot rock with wooden vertical siding above that. The gable end is enclosed with plaster in a Tudor half-timbered style with a balcony extending the length of the open gable end. The main entrance is a sliding-glass door flanked by two large aluminum windows with a fixed pane center and sliding windows on either side. This door is accessed by seven concrete steps leading to a rectangular shaped porch. The porch and stairs are surrounded by wrought iron railings. There is a wooden door with a single fixed-pane window in the gable end. A red brick chimney extends up through the roof of this addition.

Outbuilding 1

There are three historic outbuildings still standing along with two modern metal outbuildings. The first building (Outbuilding 1) appears to have originally been a pot rock gable-roof granary structure. The gable ends are enclosed in horizontal drop siding. There are two doors into the granary, on the east-façade; one just below ground level, and one about half way up the building. Wooden steps lead to both doors. The upper door is of plywood and the lower one is constructed of wooden planks.

There are three wooden shed roof additions; one on either side of the rock building and one that extends the length of the rear building. The additions on the north and south sides of the building appear to have been constructed early, possibly at the same time as the rock granary as evidenced by the slow-moving rotary saw cuts in the wood. The north addition is situated on a rock foundation and the front and side walls are constructed of drop siding. There are two door openings in the front, one regular door, and one larger door, possibly for equipment. The back wall is constructed of vertical board and batten siding and there is one six-pane fixed-sash window. There are two side-by side six-light fixed-sash windows in the north wall of the structure with many of the window panes and wooden dividers missing. The east shed-roof addition is constructed of horizontal drop siding and it appears that there are two large doors on the front. The side wall shows two windows covered up with plywood. The rafter trails are exposed and these exhibit slow-moving rotary saw cuts. The rear shed-roof addition is a 1920s balloon-frame construction, and the back wall is mostly open. The roof of the building was originally built with wooden shingles, was later covered with corrugated metal and, still later, with corrugated metal plates. Portions of the most recent plates have begun to break away from the roof.

Outbuilding 2

The second outbuilding appears to be a feeder barn. It is a wooden gable-roof structure with a loft in the gable. In the north end of the structure is a large opening likely for loading hay or other feed. Portions of the side walls of the building have already been torn down and what remains appears to be the loft and roof with wooden beams holding it up.

Outbuilding 3

The third historic building consists of two connected cow sheds. The sheds were constructed of wood with horizontal plank siding on a concrete foundation. The lower part of the south side of the shed(s) is open for cattle to shelter. The roof is covered with corrugated metal siding as are some of the sides of the building.

Modern Outbuildings

The two modern sheds are shed roof structures constructed of wooden beams with corrugated metal on the roofs and top sides of the structures.

Remund Farmstead History

The residence at 380 East 600 North was constructed by Frederick Remund (alternate spelling Friedrick Reymund) in 1886 (Wasatch County Treasurer's Office 2016; Remund n.d.). Frederick Remund was born March 30, 1853 in Bumpliz, Bern, Switzerland (Salt Lake County Death Records 1908-1949). His parents were Christian and Margaritha Hofman Remund (Remund n.d.). Frederick learned the trade of a Shoemaker and worked in Geneva, Switzerland and France. In 1874, Frederick moved back home and worked with a man named John Zwahlen. John was a member of the Church of Jesus Christ of Latter-day Saints (Mormons), and soon Frederick was converted to this church. The two men decided to travel to Salt Lake City where they could join the other church members gathering in the Utah Territory (Remund n.d.).

Frederick and John arrived in Salt Lake City on July 18, 1875 (Remund n.d.). Speaking no English the two men sought out other German-speaking members of the church and settled in Richfield, Sevier County, Utah. There they met their wives. Frederick married Anna Elizabeth Ott, also from Switzerland, on January 24, 1876 (Remund n.d.). The newlyweds lived in Richfield for nine years, where three of their children were born; Frederick, William Paul and Albert. Around 1884, the Remund family moved to Midway, a high Wasatch Mountains valley, where other Swiss immigrants had settled (Remund n.d.). The family purchased a small home and lived there until Frederick built a home on his farmstead, near the "Hot Pots." Fredericks life story describes how his "children carried the rocks and did other jobs to help build this house." Frederick also filed on 80 acres just north of town in an area known as "Dutch Fields" (GLO 2016; Remund n.d.). Frederick dug ditches and worked very hard to make a living as a farmer in Midway (Remund n.d.). Frederick and Anna had seven more children while living in Midway; Maria Pauline, Mary Matilda, Henry Arnold, Joseph Hyrum, Carl Ludwig (Charles), Annie Elizabeth and Lydia Lina.

In 1909, Frederick's wife, Anna Elizabeth, died in Provo of cancer. Frederick later married Theressa Lohr, and after her death married Elizabeth Baer. Sometime after 1911, Frederick sold his farm to Fred Jr. and move to Salt Lake City (Remund n.d.). While living in Salt Lake, he worked as a shoemaker and a janitor. Frederick Remund died on December 27, 1935 in Salt Lake City, Utah and was buried in Midway, Utah.

Fredrick Remund Jr. was born on May 6, 1877 in Richmond, Sevier County, Utah. He married Anna Elfreda Jasperson on October 25, 1905 in Salt Lake City, Utah. Together they had six children; Karl F. Clive O, Grace, George W. Carol and Grant (US Census 1930). The youngest son, Grant, took over the farm from his father (Marilyn Larsen personal communication 2016). Paul "Grant" Remund was born on December 14, 1918 (US Social Security Claims Index). He married Iva Don Shumway on July 23, 1941 (Ancestry.com 2016). Together they had five children; Paul, Richard, Ranae, Roy and Harold. Grant died on October 31, 2003 and was buried in the Midway Cemetery. Iva Don lived in the old family home until her death on August 18, 2008 (Findagrave 2016). Their two sons, Harold and Roy, ran a dairy farm on the property until about 2013, when the family sold the property (Marilyn Larson, Personal Communication 2016).

NRHP RECOMMENDATIONS

The Farmstead at 380 E 600 N was evaluated for significance based on NRHP guidelines. Following are the NRHP Criteria followed in determining the eligibility of properties as set forth in *36 CFR 60.4*:

> *The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:*
>
> *(A) that are associated with events that have made a significant contribution to the broad patterns of our history; or*
>
> *(B) that are associated with the lives of persons significant in our past; or*
> *(C)that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or*
>
> *(D) that have yielded, or may be likely to yield, information important in prehistory or history.*

Following is the site recommendation based upon the Criteria listed above.

380 E 600 N – Remund Farmstead

This site consists of a farmstead with a residence, three historic outbuildings and two modern outbuildings. This 1890s farmstead retains integrity of location, materials, feeling and association. However the residence lacks integrity of design and workmanship due to the 1960s addition on the west side of the home. Because the residence lacks integrity, this farmstead is recommended **Not Eligible** to the NRHP under any criteria.

RECOMMENDATION OF EFFECT

The inventory of the current project resulted in the recordation of one Not Eligible turn-of-the century farmstead. Therefore, Commonwealth recommends that construction of this project will have **No Adverse Effect** to historic properties. There is medium to high potential for privy, midden, and burn deposits at this site; however, little potential in the remaining project area.

This investigation was conducted with techniques that are considered adequate for evaluating cultural resources that are available for visual inspection on the ground surface and could be adversely impacted by the proposed project. However, there is the unlikely possibility of subsurface cultural deposits within the project area. Should such resources be discovered during the project, a report should be made immediately to the U.S. Army Corps of Engineers Regulatory Office located in Bountiful, Utah (801-295-8380).

REFERENCES CITED

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2016 [Index of Utah Marriages for Paul Grant Remund and IvaDon Shumway] Accessed 1 June at <www.ancestry.com.>

Findagrave.com
2016 Memorial for IvaDon Remund. Online document accessed 1 June <http://www.findagrave.com/cgi-bin/fg.cgi?page=gr&GRid=29200040&ref=acom>

Larsen, Marilyn
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Remund, Francis C.
n.d. *History of Frederick Remund.* Online document accessed 31 May <www.ancestry.com>

Salt Lake County Death Records
2016 Death Record for Frederick Remund. Online Document accessed 1 June <www.ancestry.com>

US Federal Census
1930 Census for Midway Town, Midway Precinct sheet No. 8A Wasatch County, Utah. Online document accessed 31 May at www.ancestry.com

Wasatch County Treasurer's Office
2016 Online tax assessment records for 380 E 600 N, Midway Utah. Document accessed 31 May <http://www.wasatch.utah.gov/Services/Property-Tax-Lookup>

APPENDIX A

VITA

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(801) 394-0013

EDUCATION

BA	International Relations	Brigham Young University, Provo, Utah	1990
MA	Anthropology	Brigham Young University, Provo, Utah	1992

EXPERIENCE PROFILE

2002-2016 Principal Investigator, Sagebrush Consultants, now known as Commonwealth Heritage Group, Inc. Supervisor: Michael R. Polk, Archaeologist/ Principal Investigator. Contract archaeological work on various projects in the Intermountain area. Duties include; project and field supervision, site evaluation, data collection, file searches, research and documentation of historic sites and events, participation in all phases of final report preparation, editing, drafting, ground survey of proposed project areas, the assessment of cultural resources within project scope, UHCS Reconnaissance Level Surveys, preparation of 106 site information forms, bids, cost proposals, MOA's, PA's, Specialist Work Plans, Treatment Plans, Research designs, other NEPA compliance documents, sections of management and mitigation plans, Pathfinder and GIS capabilities, photography, excavation and mapping of both prehistoric and historic sites, laboratory analysis and air photo interpretation.

1996-2002 Weber County Elections Administrator, Ogden, Utah. Supervisor: Roger Brunker, Chief Deputy Clerk/Auditor. Supervised all aspects of elections and voter registration. Duties included; supervising staff of ten, preparation of public outreach material, training election judges, maintaining voter registration list, complying with all state and federal code in running elections.

1993-1996 Senior Archaeologist, Sagebrush Archaeological Consultants, Ogden, Utah. Supervisor: Michael R. Polk, Archaeologist/Principal Investigator. Contract archaeological work on various projects in the Intermountain area. Duties include; project and field supervision, site evaluation, data collection, file searches, research and documentation of historic sites and events, participation in all phases of final report preparation.

SELECTED PUBLICATIONS AND REPORTS

2013 Paper Presented at SAA in Honolulu, Hawaii. *An Underground Store, The Skull Valley Goshute and Red Ink.* 78th Society for American Archaeology 78th Annual Meeting April, 2013.

2012 *Addendum to: Research Design for Mitigative Documentation at Site 42TO2390, the Tooele Valley Railroad, Tooele County, Utah.* Michael R. Polk, Wendy Simmons Johnson, and Cheryl R. Jeppson. Sagebrush Consultants Report No. 1914 (June 2012).

From Lampo Junction to Rozel: The Archaeological History of the Transcontinental Railroad across the Promontory Mountains, Utah. Michael R. Polk and Wendy Simmons Johnson. Sagebrush Consultants Report No. 1614 (April 2012).

A Cultural Resource Inventory for a Segment of the Proposed Echo Trail, Summit County, Utah. Wendy Simmons Johnson. Sagebrush Consultants Report No. 1882 (January 2012).

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WMR ENVIRONMENTAL

Balance in a changing world

Date: April 29, 2016

Mr. Bob Thomas
Professional Wetland Scientist
BIO-WEST, Inc.
1063 West 1400 North
Logan, UT 84321

Subject: Midway Threatened, Endangered, and Sensitive Species Survey

Dear Bob:

WMR Environmental LLC (WMR) was asked to conduct a threatened, endangered, and sensitive (T, E, S) species survey on a 51 acre site in Midway, Wasatch County, Utah. The proposed project would consist of the development of a residential subdivision that includes the preservation of as much open space as possible. The following document details the methods used to conduct the assessment, results, and recommendations for reducing disturbance to the wildlife community during the proposed project.

Executive Summary

WMR conducted a literature review and site visit and consulted with the Utah Division of Wildlife Resources (UDWR) to assess general wildlife habitat quality and to determine the presence of suitable habitat for state and federally-listed threatened, endangered and sensitive species on the 51 acre property in Midway, Utah (project area). Suitable habitat is not present and/or known distributions do not coincide with the project area for the three federally-listed threatened and endangered wildlife species found in Wasatch County. Additionally, suitable habitat is not present within the project area for 18 of the 22 Wasatch County specific state-listed wildlife species of concern. The four state-listed species that may be found within the project area include Bald Eagle (*Haliaeetus leucocephalus*), Bobolink (*Dolichonyx oryzivorus*), Short-eared Owl (*Asio flammeus*), and Smooth Green Snake (*Opheodrys vernalis*). The project area also provides habitat for other unlisted wildlife species including birds, mammals, amphibians, and reptiles.

Methods

WMR reviewed literature regarding habitat requirements and current and historic distributions of federally-listed threatened and endangered species and state-listed sensitive species for Wasatch County. The primary sources used were the UDWR Conservation Data Center (http://dwrcdc.nr.utah.gov/ucdc/), eBird (http://ebird.org), an online, real-time bird checklist maintained by the Cornell Lab of Ornithology and the National Audubon Society, and Cornell Lab of Ornithology's Birds of North America Online (http://bna.birds.cornell.edu/bna/). WMR also used these sources to determine the project area's value to unlisted wildlife species.

During the site visit of the project area, a visual inspection was made to determine whether suitable and/or potentially suitable habitat for listed species is present, and to evaluate habitat for the general wildlife community. All wildlife sightings and habitat quality were recorded. The information collected during the site visit was used in conjunction with the literature review and WMR's professional judgment to determine the project area's wildlife value.

Results and Discussion

A site visit was conducted on April 28, 2016. The project area is generally located immediately south of 600 North and lies between Center Street to the west and River Road to the east. The project area is approximately 51 acres in size, and is located in a predominantly agricultural area, bordered on all sides by residential developments and livestock grazing. The project area is comprised primarily of weedy upland habitat, a small wetland complex, wet meadow, and pasture lands. Edges of the property, particularly along the eastern side, also have tall trees. Habitat in the project area is generally comprised of teasel (*Dipsacus fullonum*), crested wheatgrass (*Agropyron cristatum*), Canada thistle (*Cirsium arvense*), various pasture grasses, sedges (*Carex* spp.), and bulrushes (*Schoenoplectus* spp.).

A total of 25 special status wildlife species potentially occur in Wasatch County, including three federally listed species (Table 1) and 22 state-listed species (Table 2) (UDWR 2015a, UDWR 2015b). Tables 1 and 2 also identify habitat requirements for a given species and its likelihood of occurrence in the project area based on its habitat requirements and known distribution as listed by the UDWR Conservation Data Center and other applicable sources. Table 3 provides a list of bird species that are known to occur within 0.25-mile of the project area. Many of these species could potentially occur within the project area.

The project area does not contain suitable habitat for any of the three federally-listed species, nor are they likely to occur in the general area of the site (Table 1). However, the project area does offer potentially suitable habitat for four of the 22 state-listed species (Table 2). The Bald Eagle, which is listed by the state as a species of concern, has been documented within 0.25 mile of the project area (Table 3) and suitable roosting trees are present along the eastern boundary of the property. For a description of habitat requirements for the four state-listed species that may occur within the project area, please refer to Table 2.

During the site visit, an abundance of birds were observed throughout the project area. Abundant bird species included Barn swallows (*Hirundo rustica*), red-winged blackbirds (*Agelaius phoeniceus*), western meadowlarks (*Sturnella neglecta*), and killdeer (*Charadrius vociferous*). The killdeer, a ground nesting bird species, was observed presenting displays intended to protect nests (i.e. "broken wing display"). This suggests that avian reproductive activity, particularly for the killdeer, has begun within the project area.

Conclusions

Any construction or other activities that disturb the project area may have some impact on wildlife. However, impacts would likely be short-term in nature. The habitat within the project area is of marginal quality and likely provides breeding and foraging habitat for birds, mammals, amphibians, and reptiles. WMR recommends that construction be avoided during nesting and brood-rearing season for birds (spring and summer months) in order to comply with the Migratory Bird Treaty Act of 1918 as amended (MBTA) which makes it illegal to "pursue, hunt, take, capture, kill, attempt to take, capture or kill" any migratory bird or their eggs and nests without first obtaining a permit from the U.S. Fish and Wildlife Service (16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755). This includes creating enough disturbances (e.g., noise, vibrations, visual disturbances, etc.) to cause a bird to abandon a nest or fledglings. Virtually all bird species within the United States are protected under the MBTA and/or state law.

To comply with the MBTA, the following mitigation measures should be implemented during construction in the project area:

- Require that no nesting vegetation (which can include trees, shrubs, and herbaceous vegetation such as grasses and forbs) clearing occur during the typical nesting/brood rearing period from April 1st through August 30th.
- Have a qualified wildlife biologist perform a nest clearance survey immediately prior (within three days) to construction activities if any vegetation clearing or soil disturbance is required during the nesting/brood rearing period.

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- If actively nesting and/or brood rearing birds are found within or reasonably near (≤ 200 feet) the vegetation clearance or soil disturbance area, clearance and construction should be postponed until breeding activity is completed (as assessed by a qualified wildlife biologist).

Please feel free to contact me with any questions and/or comments you might have. I can be reached by phone at (208) 852-0461 or by email at msipos@wmr-env.com. WMR is also available to assist in any additional wildlife-related permitting requirements, such as nest clearance surveys, that may be needed.

Sincerely,

Michael Sipos
Principal Wildlife Biologist
msipos@wmr-env.com

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Table 1. Federally-listed threatened and endangered species occurring in Wasatch County.

Common Name	Scientific Name	Status*	Habitat Requirements	Habitat Present
Brown (Grizzly) Bear	*Ursus arctos*	LT (Extirpated)	This species is thought to have been extirpated from the state	Absent
Canada Lynx	*Lynx canadensis*	LT	The preferred habitat of the Canada lynx is montane coniferous forest.	Absent
Yellow-billed Cuckoo	*Coccyzus americanus*	LT	Western cuckoos in Arizona, New Mexico, s. California, Utah, and w. Texas prefer desert riparian woodlands (Sonoran Zones) comprised of willow, Fremont cottonwood (*Populus fremontii*), alder (*Alnus* sp.), walnut (*Juglans* sp.), box elder (*Acer negundo*), and dense mesquite (*Prosopis* spp. Nests most frequently placed in willows, but cottonwoods used extensively for foraging. Prefer patches of riparian habitat >81 ha in size and at least 100 m in width; canopy height 5–30 m; understory height 1–6 m. Understory vegetation includes: velvet ash (*Fraxinus pennsylvanica*), netleaf hackberry (*Celtis reticulata*), condalia (*Condalia lycioides*), and whitebrush (*Aloysia* spp.). Also found in orchards adjacent to river bottoms in Utah.	Absent

*** LT = Listed as Threatened by the U.S. Fish and Wildlife Service**

Table 2. State-listed sensitive species occurring in Wasatch County.

Common Name	Scientific Name	Status*	Habitat Requirements	Habitat Present
American Three-toed Woodpecker	*Picoides dorsalis*	SPC	The American three-toed woodpecker is found in Engelmann spruce, sub-alpine fir, Douglas fir, grand fir, ponderosa pine, tamarack, aspen, and lodgepole pine forests. In Utah, this woodpecker nests and winters in coniferous forests, generally above 2400 m (8,000 ft) elevation.	Absent
Bald Eagle	*Haliaeetus leucocephalus*	SPC	May occur occasionally in the vicinity of the project area. There are documented occurrences at nearby eBird hotspots (eBird 2016). Roosting and perching trees are present along the boundaries of the project area.	Present
Black Swift	*Cypseloides niger*	SPC	Nests on ledges or shallow caves in steep rock faces and canyons, usually near or behind waterfalls, and in sea caves. Ranges widely to forage over both forest and open areas in montane habitats.	Absent
Bluehead Sucker	*Catostomus discobolus*	CS	The bluehead sucker is a benthic species with a mouth modified to scrape algae from the surface of rocks. Members of the species spawn in streams during the spring and summer. Fast flowing water in high gradient reaches of mountain rivers has been identified as important habitat for bluehead sucker.	Absent
Bobolink	*Dolichonyx oryzivorus*	SPC	Potentially occurs, but the species is rare in Utah and has not been documented near the project area.	Potential
Bonneville Cutthroat Trout	*Oncorhynchus clarkii utah*	CS	This species can be found in a number of habitat types, ranging from high elevation mountain streams and lakes to low elevation grassland streams.	Absent
Brown (Grizzly) Bear	*Ursus arctos*	S-ESA	This species is thought to have been extirpated from the state.	Absent

Common Name	Scientific Name	Status*	Habitat Requirements	Habitat Present
Canada Lynx	*Lynx canadensis*	S-ESA	The preferred habitat of the Canada lynx is montane coniferous forest.	Absent
Colorado River Cutthroat Trout	*Oncorhynchus clarkii pleuriticus*	CS	Colorado River cutthroat trout naturally occur only in isolated high-elevation headwater streams.	Absent
Columbia Spotted Frog	*Rana luteiventris*	CS	This species seems to prefer isolated springs and seeps that have a permanent water source, although individuals are known to move over land in the spring and fall after breeding. During cold winter months, spotted frogs burrow in the mud and become inactive.	Absent
Ferruginous Hawk	*Buteo regalis*	SPC	During breeding, flat and rolling terrain in grassland or shrub steppe habitat is most often used. This species avoids high elevations, forests, and narrow canyons, occurring in grasslands, agricultural lands, sagebrush/saltbush/greasewood shrublands, and the periphery of pinyon-juniper forests.	Absent
Fringed Myotis	*Myotis thysanodes*	SPC	The fringed myotis inhabits caves, mines, and buildings, most often in desert and woodland areas.	Absent
Greater Sage-grouse	*Centrocercus urophasianus*	SPC	These birds inhabit sagebrush plains, foothills, and mountain valleys. Sagebrush is the predominant plant of quality habitat. Where there is no sagebrush, there are no Sage-Grouse. A good understory of grasses and forbs, and associated wet meadow areas, are essential for optimum habitat.	Absent

Common Name	Scientific Name	Status*	Habitat Requirements	Habitat Present
Lewis's Woodpecker	*Melanerpes lewis*	SPC	The major breeding habitat consists of open park-like ponderosa pine forests. The species is attracted to burned-over Douglas-fir, mixed conifer, pinyon-juniper, riparian, and oak woodlands, but is also found in the fringes of pine and juniper stands, and deciduous forests, especially riparian cottonwoods. Areas with a good under-story of grasses and shrubs to support insect prey populations are preferred. Dead trees and stumps are required for nesting.	Absent
Northern Goshawk	*Accipiter gentilis*	CS	This species prefers mature mountain forest and riparian zone habitats.	Absent
Roundtail Chub	*Gila robusta*	CS	The species prefers large rivers, and is most often found in murky pools near strong currents in the main-stem Colorado River, and in the Colorado River's large tributaries.	Absent
Short-eared Owl	*Asio flammeus*	SPC	Usually found in grasslands, shrublands, and other open habitat.	Potential
Smooth Greensnake	*Opheodrys vernalis*	SPC	This species prefers moist areas, especially moist grassy areas and meadows where the snake is camouflaged due to its solid green dorsal coloration.	Potential
Southern Leatherside Chub	*Lepidomeda aliciae*	SPC	A small minnow native to streams and rivers of the southeastern portion of the Bonneville Basin.	Absent
Townsend's Big-eared Bat	*Corynorhinus townsendii*	SPC	Townsend's big-eared bat can occur in many types of habitat, but the species is often found near forested areas. Caves, mines, and buildings are used for day roosting and winter hibernation.	Absent

Common Name	Scientific Name	Status*	Habitat Requirements	Habitat Present
Western Toad	*Bufo boreas*	SPC	This species occurs thoughout most of Utah and can be found in a variety of habitats including slow moving streams, wetlands, desert springs, ponds, lakes, meadows, and woodlands.	Absent
Yellow-billed Cuckoo	*Coccyzus americanus*	S-ESA	Western cuckoos in Arizona, New Mexico, s. California, Utah, and w. Texas prefer desert riparian woodlands (Sonoran Zones) comprised of willow, Fremont cottonwood (*Populus fremontii*), alder (Alnus sp.), walnut (*Juglans* sp.), box elder (*Acer negundo*), and dense mesquite (*Prosopis* spp. Nests most frequently placed in willows, but cottonwoods used extensively for foraging. Prefer patches of riparian habitat >81 ha in size and at least 100 m in width; canopy height 5–30 m; understory height 1–6 m. Understory vegetation includes: velvet ash (*Fraxinus pennsylvanica*), netleaf hackberry (*Celtis reticulata*), condalia (*Condalia lycioides*), and whitebrush (*Aloysia* spp.). Also found in orchards adjacent to river bottoms in Utah.	Absent

*** S-ESA = Federally-listed or candidate species under the Endangered Species Act. SPC = Wildlife species of concern. CS = Species receiving special management under a Conservation Agreement in order to preclude the need for Federal listing.**

Table 3. Bird species known to occur within 5-miles of the project area (eBird 2016)

Common Name	Scientific Name	State Listed	Federally Listed
American Coot	*Fulica americana*	No	No
American Goldfinch	*Spinus tristis*	No	No
American Kestrel	*Falco sparverius*	No	No
American Pipit	*Anthus rubescens*	No	No
American Robin	*Turdus migratorius*	No	No
American Wigeon	*Anas americana*	No	No
Bald Eagle	*Haliaeetus leucocephalus*	Yes	No
Barn Swallow	*Hirundo rustica*	No	No
Barrow's Goldeneye	*Bucephala islandica*	No	No
Black-billed Magpie	*Pica hudsonia*	No	No
Black-capped Chickadee	*Poecile atricapillus*	No	No
Blue-gray Gnatcatcher	*Polioptila caerulea*	No	No
Brewer's Blackbird	*Euphagus cyanocephalus*	No	No
Canada Goose	*Branta canadensis*	No	No
Caspian Tern	*Hydroprogne caspia*	No	No
Common Goldeneye	*Bucephala clangula*	No	No
Common Raven	*Corvus corax*	No	No
Dark-eyed Junco	*Junco hyemalis*	No	No
Downy Woodpecker	*Picoides pubescens*	No	No
Eared Grebe	*Podiceps nigricollis*	No	No
Eurasian Collared-Dove	*Streptopelia decaocto*	No	No
European Starling	*Sturnus vulgaris*	No	No
Evening Grosbeak	*Coccothraustes vespertinus*	No	No
Gadwall	*Anas strepera*	No	No
Great Blue Heron	*Ardea herodias*	No	No
Greater White-fronted Goose	*Anser albifrons*	No	No
Green-winged Teal	*Anas crecca*	No	No
House Finch	*Haemorhous mexicanus*	No	No
House Sparrow	*Passer domesticus*	No	No
Killdeer	*Charadrius vociferus*	No	No
Lazuli Bunting	*Passerina amoena*	No	No
Mallard	*Anas platyrhynchos*	No	No
Merlin	*Falco columbarius*	No	No
Mourning Dove	*Zenaida macroura*	No	No
Mute Swan	*Cygnus olor*	No	No
Northern Flicker	*Colaptes auratus*	No	No

Common Name	Scientific Name	State Listed	Federally Listed
Northern Goshawk	*Accipiter gentilis*	No	No
Northern Pintail	*Anas acuta*	No	No
Northern Shoveler	*Anas clypeata*	No	No
Osprey	*Pandion haliaetus*	No	No
Prairie Falcon	*Falco mexicanus*	No	No
Red-tailed Hawk	*Buteo jamaicensis*	No	No
Red-winged Blackbird	*Agelaius phoeniceus*	No	No
Ring-necked Duck	*Aythya collaris*	No	No
Ring-necked Pheasant	*Phasianus colchicus*	No	No
Rock Pigeon	*Columba livia*	No	No
Ruddy Duck	*Oxyura jamaicensis*	No	No
Sandhill Crane	*Grus canadensis*	No	No
Snow Goose	*Chen caerulescens*	No	No
Song Sparrow	*Melospiza melodia*	No	No
Swainson's Hawk	*Buteo swainsoni*	No	No
Turkey Vulture	*Cathartes aura*	No	No
Western Kingbird	*Tyrannus verticalis*	No	No
Western Meadowlark	*Sturnella neglecta*	No	No
Western Grebe	*Aechmophorus occidentalis*	No	No
White-faced Ibis	*Plegadis chihi*	No	No
Wilson's Snipe	*Gallinago delicata*	No	No
Yellow Warbler	*Setophaga petechia*	No	No

EXHIBIT J

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ENGINEERS

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February 21, 2018

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

Subject: Midway Springs, Phase 1 Preliminary, and overall Master Plan Approval

Dear Michael:

Horrocks Engineers recently reviewed the above development plans for Master Plan Approval, and Preliminary Approval for Phase 1. The proposed development is located near 200 East and 600 North. The proposed development is 50.75 acres and contains 97 lots. The following issues should be addressed.

Wetlands

The development contracted with BIO-WEST to determine the extent and location of the existing wetlands. The wetland delineation was done in two separate delineations. The first delineation covered ground within Phase 1 and partially covering a portion of the proposed Phase 2 and the north corner of the proposed Phase 3. The second delineation covered the majority of the remaining site. However, the very southern portion of the proposed Phase 3 property, adjacent to the Philpot property, has not been delineated. The developer is currently showing this un-delineated property as wetlands.

The first delineation was submitted to Watts Enterprises through a letter dated, September 23, 2016. The second delineation was submitted to Watts Enterprises through a letter dated, June 1, 2017. Only the first delineation has been submitted to the US Army Corps of Engineers. On December 22, 2016 the US Army Corps of Engineers provided a Jurisdictional Determination for 0.50 acres of palustrine emergent wetlands within the first delineation. The second delineation has currently not been submitted to the US Army Corps of Engineers.

To ensure the accuracy of the delineation, Midway City contracted with Wetland Resources to provide a 3rd party review of the delineations. This 3rd party review determined that a small section of property within the first delineation was most likely wetlands. After working with BIO-WEST an amended document was sent to the US Army Corp of Engineers. In a letter dated, November 29, 2017, the US Army Corp of Engineers concurred with submitted delineation and provided a Jurisdictional Determination of 0.66 acres of palustrine emergent wetlands.

The second delineation has not been submitted to the US Army Corp of Engineers at this time. The developer is proposing to submit a delineation the US Army Corp of Engineers at the time of preliminary approval of the future phases.

Geotechnical Investigation

The geotechnical investigation performed 25 boring pits over the entire site. Soil samples were taken to determine the type of soil and depth of groundwater. Generally, the site is covered with topsoil, a sandy lean clay covering pot rock. The soil depth varies from very shallow to a maximum depth of 3 feet. The general topsoil depth determined from the 25 test pits is 12 inches. Each of the 25 test pits were dug to the surface of pot rock. To determine the groundwater elevation 6 piezometers were installed throughout the site. Each of the piezometers were installed to the top of pot rock.

Hydrogeologic Consulting Services

To better understand the site and predicate the groundwater elevation, and soil classification both above and below the layer of pot rock, the City is contracting with Loughlin Water Associates to conduct a geotechnical investigation below the layer of pot rock. Loughlin will oversee the approximately 10 borings. Each location will be bored to a depth of approximately 8' to 10'. Data within Phase 1 of the proposed development will be available prior to Final City Council approval. More long term data will be collected and analyzed within the future phases of the proposed development.

Phase 1 Environmental Site Assessment

Intermountain GeoEnvironmental Services, Inc. (IGES) has completed an Environmental Site Assessment (ESA) on the property. As stated within the Executive Summary, *"This Phase I ESA was performed in general accordance with the standards set forth in ASTM Document E 1527-13, Standard Practice for Environmental Site Assessment process."* The Executive Summary went on to state, "*No recognized environmental conditions were observed on the subject property or readily observable portions of adjacent properties.* "
A copy of the full report is available upon request.

Assessment of Surface Water Quality

At the direction of Midway City, Loughlin Water Associates conducted an Assessment of the Surface Water Quality. The assessment was done by collecting water samples from four locations throughout the site. The samples were tested for: Chloride and Total Dissolved Solids, Sulfate concentrations, Oil and grease, Coliform bacteria, E. coli bacteria, Phosphorus, and Ammonia Nitrate. The Conclusion of the report states, "We selected parameters for laboratory analysis based on constituents that would be expected from a dairy farm and from naturally occurring geothermal water. Overall the results are within the range that we expected." A copy of the full report is available upon request.

Water

- The proposed development will be served from the Gerber Mahogany Springs zone. The existing line within 600 North is shown as a 6" line. Per the Midway City Master Plan, the 600 North water line should be up-sized to a 12" line. To provide adequate fire flow within the development the water line shall be upsized and connected to the water line within River Road. Impact fees should pay to upsize the water line from an 8" line to a 12" line.
- To provide adequate fire flow within the lower cul-de-sac of the proposed Phase 3, the cul-de-sac road should be upsized to a 10" line or a connection should be made from the east cul-de-sac, at the bottom of the proposed development, to the existing water line within 300 North.
- The fire hydrant spacing shall not exceed 500'.

Irrigation

- The proposed development will connect to existing irrigation line within 600 North and install services with meters according to Midway Irrigation Company standards.
- Prior to final approval it should be determined whether the irrigation line within the proposed Phase 3 should be connected to the existing irrigation line within 300 North.

Roads

- A Traffic Impact Study was completed by Hales Engineering. The study indicates that the peak hour of operation is in the evening between 5:00 and 6:00 pm. The study indicates that each intersection is currently operating at a Level of Service (LOS) A. The study states that "All study intersections are anticipated to operate at LOS A during the evening peak hour with project traffic added." The traffic study was reviewed by a traffic engineer in our Pleasant Grove office. He generally agreed with the finding within traffic study.
- The proposed development will install a modified curb on each side of the road, with a 5' park strip and 5' sidewalk on each side of the road.
- All roads within the proposed development will be private roads.
- 600 North is classified in the Midway City Master Plan as a Local Collector with a right-of-way of 60' and a pavement section of 34'. The rebuilding of 600 North should be addressed.

Trails:

- The proposed subdivision is showing several public and private trails within the development.

Storm Drain

- The storm water system within the proposed development will be a private storm drain systems. All maintenance for the system will be provided by the HOA. Prior to final approval the storm drain calculations should be updated reflecting the PUD status of the development.

Landscaping

- Adjacent to 600 North and along the stream corridors and wetlands the landscaping plan shows a native grass mix. The irrigation system and mowing schedule should be discussed. Are there any maintenance plans for the wetlands?

Please feel free to call our office with any questions.

Sincerely,
HORROCKS ENGINEERS

Wesley Johnson, P.E.
Midway City Engineer

cc: Paul Berg Berg Engineering

EXHIBIT J

Ent 456064 Bk 1233 Pg 1710

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Geotechnical Investigation
Midway Springs Subdivision
~600 North River Road
Midway, Utah

Prepared for:

Watts Enterprises

IGES Project No. 01855-006

May 13, 2016

IGES®
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Geotechnical Investigation
Midway Springs Subdivision
~600 North River Road
Midway City, Utah

IGES Project No. 01855-006

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APPENDIX

1.0 EXECUTIVE SUMMARY

This report presents the results of a geotechnical investigation conducted for the proposed Midway Springs subdivision to be located south of 600 North and west of River Road in Midway City, Utah. Based on the subsurface conditions encountered at the site, the subject site is considered suitable for the proposed construction provided that the recommendations presented in this report are implemented into the design and construction of the project. A brief summary of the critical recommendations is included below:

- The site is predominantly overlain by up to 18 inches of topsoil. In most areas, the topsoil was underlain by relatively hard 'pot rock', which consists of alluvial soils (sand and clay) that has been highly modified and cemented by calcium carbonate deposits. The pot rock is fairly hard and has engineering characteristics similar to limestone or dolomite. Consequently, excavation into the pot rock proved difficult – the backhoe could not excavate more than about 12 inches into the pot rock before meeting refusal.
- Shallow groundwater was encountered in twelve of the test pits completed for this investigation. The groundwater was measured at depths that varied from 1 to 3 feet below the existing grade. Shallow groundwater (less than 5 feet below existing grade) is expected to be prevalent throughout the property.
- Footings may be established *entirely* on pot rock or *entirely* on structural fill extending to pot rock. Shallow spread or continuous wall footings constructed as described above may be proportioned utilizing a maximum net allowable bearing pressure of **5,000 pounds per square foot (psf)** for dead load plus live load conditions.
- Finish floor elevations should be founded a minimum of 3 feet above the high groundwater elevation.
- Concrete slabs-on-grade should be constructed over a minimum of 4 inches of compacted gravel overlying undisturbed suitable native subgrade soils. The slab may be designed with a Modulus of Subgrade Reaction of **125 psi/inch**.
- Flexible pavement section of 3.5/10 (inches of asphalt/road base respectively) is recommended.

Recommendations for general site grading, design of foundations, slabs-on-grade, moisture protection and soil corrosivity as well as other aspects of construction are included in this report.

NOTE: The scope of services provided within this report is limited to the assessment of the subsurface conditions at the subject site. The executive summary is provided solely for purposes of overview and is not intended to replace the report of which it is part and should not be used separately from the report.

2.0 INTRODUCTION

2.1 PURPOSE AND SCOPE OF WORK

This report presents the results of a geotechnical investigation conducted for the proposed Midway Springs subdivision to be located south of 600 North and west of River Road in Midway City, Utah. The purposes of this investigation were to assess the nature and engineering properties of the subsurface soils and to provide recommendations for general site grading and the design and construction of foundations, slabs-on-grade. and pavement.

The scope of work completed for this study included a site reconnaissance, subsurface exploration, soil sampling, laboratory testing, engineering analyses, and preparation of this report. Our services were performed in accordance with our proposal dated March 22, 2016 and your signed authorization.

The recommendations presented in this report are subject to the limitations presented in the **Limitations** section of this report (Section 7.1).

2.2 PROJECT DESCRIPTION

The subject property is located south of 600 North and west of River Road in Midway City, Utah (see Figure A-1, *Site Vicinity Map*). Based on the concept plan provided by Watts, we understand that the project will consist of development for single-family residential lots. The 27.5-acre Koehle property to the east will be developed for 50 lots –the Remund property to the west will include 46 smaller cottage-type residential structures. The homes are expected to consist of conventional wood-framed structures, founded on spread footings. Due to the presence of shallow groundwater, the homes will be on-grade structures (no basements). The project will also include several acres of open space, a clubhouse with a pool, at least five ponds, interior roadways, landscaping, and utilities.

3.0 METHODS OF STUDY

3.1 FIELD INVESTIGATION

As a part of this investigation, subsurface soil conditions were explored by completing twenty-five exploratory test pits to depths ranging from 0.3 to 3½ feet below the existing site grade – deeper excavations could not be achieved due to refusal on hard 'pot rock' (alluvial soils heavily cemented with calcium carbonate). The approximate locations of the explorations are shown on Figure A-2 (*Geotechnical Map*) in Appendix A. Exploration points were placed to provide representative coverage across the site with the given site conditions at the time of the field work. Logs of the subsurface conditions as encountered in the explorations were recorded at the time of excavation by a member of our technical staff and are presented as Figures A-3 through A-27 in Appendix A. A *Key to Soil Symbols and Terminology* used on the test pit logs is included as Figure A-28.

The test pits were excavated with the aid of a Case 580 Super L rubber tired backhoe. Both bulk and relatively "undisturbed" soil samples were obtained in the test pit explorations. Bulk samples were placed in plastic bags and 5-gallon buckets. Relatively undisturbed soil samples were collected with the use of a 6-inch long brass tube attached to a hand sampler driven with a 2-lb sledge hammer (this type of sampling was very limited due to the presence of pot rock). All samples were transported to our laboratory to evaluate the engineering properties of the various earth materials observed. The soils were classified according to the *Unified Soil Classification System* (USCS). Classifications for the individual soil units are shown on the attached test pit logs.

3.2 LABORATORY INVESTIGATION

Geotechnical laboratory tests were conducted on selected relatively undisturbed and bulk soil samples obtained during our field investigation. The laboratory testing program was designed to evaluate the engineering characteristics of onsite earth materials. Laboratory tests conducted during this investigation include:

- Point load strength index (ASTM D5731)
- Corrosion testing - sulfate and chloride concentrations, pH and resistivity (AASHTO T288, T289, ASTM D4327 and C1580)

The results of the laboratory tests are presented on the test pit logs in Appendix A (Figures A-3 through A-27) and the test result summary sheets in Appendix B.

3.3 ENGINEERING ANALYSIS

Engineering analyses were performed using soil data obtained from the laboratory test results and empirical correlations from material density, depositional characteristics and classifications. Analyses were performed using formulas, calculations and software that represent methods currently accepted by the geotechnical industry. These methods include settlement, bearing capacity, lateral earth pressures, trench stability and pavement design. Appropriate factors of safety were applied to the results consistent with industry standards and the accepted standard of care.

4.0 GENERALIZED SITE CONDITIONS

4.1 SURFACE CONDITIONS

The site is relatively flat; maximum topographic relief across the site is approximately 40 feet, mostly accounted for by a topographic high along 600 North. The ground surface is primarily covered with native grasses, although the northern reaches of the property is largely exposed bare earth. A few trees and tree stumps are also present onsite, but are not widespread. Also, within the northern reaches of the property there are several structures, including at least one single-family residence and other appurtenant structures that appear to be barns, storage sheds, or similar. We understand these structures will be demolished to accommodate the new subdivision.

At the time of our subsurface investigation a small creek was flowing west to east through the center of the property. Also, a small hot spring was located near the property boundary along 600 North - a trench had been excavated to divert water from this spring into the creek near the center of the property.

Shallow groundwater appears to be prevalent at several locations – some of these locations have been identified as 'wetlands' on the plans provided by Watts (we understand that the 'wetlands' designation is informal pending further classification by a wetlands expert).

4.2 SUBSURFACE CONDITIONS

4.2.1 Earth Materials

Based on our observations, the site is predominantly overlain by up to 18 inches of topsoil; this material generally consists of clayey sand and was characterized by an abundance of roots. In some areas the topsoil was underlain by Lean CLAY (CL); however, in most cases the topsoil was underlain by "pot rock".

"Pot rock" was encountered at depths ranging from near-surface to 3½ feet below existing grade. Pot rock consists of alluvial soils (clay or sand) that has been heavily modified and cemented by *calcium carbonite*, which was deposited as a result of local hydrothermal activity. This material is also referred to as *calcareous tufa* on geologic maps. Where encountered, the pot rock was relatively hard and had a consistency similar to a rock unit (e.g., limestone or dolomite). Excavating into this material proved to be very difficult; in most cases, the excavator met with refusal within the upper 12 inches of pot rock.

The stratification lines shown on the enclosed test pit logs represent the approximate boundary between soil types. The actual in-situ transition may be gradual. Due to the nature and depositional characteristics of the native soils, care should be taken in interpolating subsurface conditions between and beyond the exploration locations. Additional descriptions of these soil units are presented on the test pit logs (Figures A-3 through A-27 in Appendix A).

4.2.2 Groundwater

Groundwater was encountered in twelve of the test pits completed for this investigation; the test pits where groundwater was observed were generally located on the southern end of the site. Where observed, the groundwater was measured at depths that ranged from 1 to 3 feet below the existing grade. The maximum depth of excavation was about 3½ feet due to the presence of pot rock; as such, in test pits where groundwater was not encountered, it is possible that shallow groundwater could still be present (e.g., groundwater within the upper 5 feet).

Seasonal fluctuations in irrigation, precipitation, surface runoff from adjacent properties, or other on or offsite sources may increase moisture conditions. Groundwater conditions can be expected to rise or fall several feet seasonally depending on the time of year. The impact of groundwater will need to be carefully assessed during the planning and layout of the proposed development. At the time of this investigation IGES installed six 1-inch PVC piezometers in test pits 5, 6, 17, 22, 23 and 25.

4.2.3 Strength of Earth Materials

Three *point load* tests (ASTM D5731) were performed on samples of "pot rock" obtained from TP-6, 11 and 24 at respective depths of 1.0, 1.5 and 2.0 feet. The results indicate that the samples obtained from TP-6, 11 and 24 have a uniaxial compressive strength of 999, 471 and 5,516 psi respectively. The results of the *point load* tests are presented in Appendix B.

5.0 GEOLOGIC CONDITIONS

5.1 GEOLOGIC SETTING

Geology of the site has been mapped as part of the *Heber City Geologic Quadrangle* (Bromfield et al., 1970). The site is located in a small valley associated with the mouth of the Dutch Hollow drainage, located approximately ½ mile west of Heber Valley as shown on the *Site Vicinity Map* (Figure A-1). Natural hot springs are located within and around the immediate vicinity of the subject site. As such, the property is shown as being almost entirely underlain by Quaternary-aged Calcareous Tufa (locally known as "pot rock"), which is underlain by Quaternary-aged alluvium in the form of stream gravel and valley fill deposits. Memorial Hill to the southeast is comprised of interbedded limy sandstones siltstone, shale, and fossiliferous limestone of the Triassic-aged Thaynes Formation.

5.2 SEISMICITY AND FAULTING

An active fault is generally defined as a fault that has experienced movement with the Holocene Epoch (~11,700 years before present). There are no known active faults that pass though the subject site (Bromfield et al., 1970). The closest mapped active fault to the site is the Salt Lake Segment of the Wasatch Fault Zone, located approximately 18 miles to the west of the property. The Salt Lake City segment of the Wasatch Fault Zone was reportedly last active approximately 1,100 years ago, and has a recurrence interval of approximately 1,300 years. Analyses of ground shaking hazard along the Wasatch Front suggests that the Wasatch Fault Zone is the single greatest contributor to the seismic hazard in the region.

Following the criteria outlined in the 2012 International Building Code (IBC, 2012), spectral response at the site was evaluated for the *Maximum Considered Earthquake* (MCE) which equates to a probabilistic seismic event having a two percent probability of exceedance in 50 years (2PE50). Spectral accelerations were determined based on the location of the site using the *U.S. Seismic "Design Maps" Web Application* (USGS, 2012); this software incorporates seismic hazard maps depicting probabilistic ground motions and spectral response data developed for the United States by the U.S. Geological Survey as part of NEHRP/NSHMP (Frankel et al., 1996). These maps have been incorporated into both *NEHRP Recommended Provisions for Seismic Regulations for New Buildings and Other Structures* (FEMA, 1997) and the *International Building Code* (IBC) (International Code Council, 2012).

To account for site effects, site coefficients that vary with the magnitude of spectral acceleration and *Site Class* are used. Site Class is a parameter that accounts for site amplification effects of soft soils and is based on the average shear wave velocity of the upper 100 feet. Based on our

understanding of the local geology, the subject site is appropriately classified as Site Class D (*Stiff Soil*). The spectral accelerations are calculated based on *Design Maps* and the site's approximate latitude and longitude of 40.5218° and -111.4679° respectively. Based on IBC criteria, the short-period (F_a) and long-period (F_v) site coefficients are 1.293 and 1.978, respectively. The *Spectral Response Accelerations* are presented in Table 5.2; a summary of the *Design Maps* analysis is presented in Appendix C. The *peak ground acceleration* (PGA) may be taken as 0.33g.

Table 5.2
Short and 1-Second Period Spectral Accelerations

Parameter	Short Period (0.2 sec)	Long Period (1.0 sec)
MCE Spectral Response Acceleration Site Class B (g)	$S_S = 0.633$	$S_1 = 0.278$
MCE Spectral Response Acceleration Site Class D (g)	$S_{MS} = 0.819$	$S_{M1} = 0.417$
Design Spectral Response Acceleration (g)	$S_{DS} = 0.546$	$S_{D1} = 0.211$

5.3 OTHER GEOLOGIC HAZARDS

Geologic hazards and conditions can be defined as naturally occurring geologic conditions or processes that could present a danger to human life and property or result in impacts to conventional construction procedures. These hazards and conditions must be considered before development of the site. There are several hazards and conditions in addition to seismicity and faulting that may be present at the site, and which should be considered in the design of habitable structures and other critical structures. The other geologic hazard considered for this site are liquefaction and flooding.

5.3.1 Liquefaction

Liquefaction is the loss of soil strength or stiffness due to a buildup of excess pore-water pressure during strong ground shaking. Liquefaction is associated primarily with loose (low density), granular, saturated soil. Effects of severe liquefaction can include sand boils, excessive settlement, bearing capacity failures, and lateral spreading.

The site is generally underlain by soil that is heavily cemented "pot rock". Though shallow groundwater was observed across the site, Anderson, et al. (1994) deems the project site to have a 'very low' potential for liquefaction. This 'very low' designation is likely due to the presence

of pot rock, which is not susceptible to liquefaction. Liquefaction-susceptible soils, if present, would be located below the pot rock. The depth/thickness of the pot rock is currently unknown, since the backhoe used in the field work could not excavate more than about 1 or 2 feet into the pot rock.

A liquefaction study, which would include borings and/or CPT soundings to a depth of 50 feet, was not completed and is beyond our scope of services for this project.

5.3.2 Flooding

A hot spring was observed near the norther boundary of the site along 600 North. This area is near the topographic high point of the site. The water from the spring currently flows south near the center of the property where it flows into a creek that bisects the site flowing west to east. Groundwater was observed throughout the site at elevations lower than the observed spring; also, several wet areas identified as 'wetlands' on the *Geotechnical Map* (Figure A-2) further indicate that groundwater is at, or near the surface. Considering the presence of a hot springs, an apparent perennial stream, and near-surface groundwater, flooding from a rise in groundwater level could impact the proposed improvements.

The hot spring could potentially be formed from artesian pressure that exists below the pot rock. Special consideration should be given during excavation through the pot rock. It is conceivable that the pot rock forms a relatively impermeable cap over artesian groundwater conditions; as such, potential flooding could occur in excavated areas that extend beneath the pot rock layer into unconsolidated sediments, if artesian pressure exists.

6.0 ENGINEERING CONCLUSIONS AND RECOMMENDATIONS

6.1 GENERAL CONCLUSIONS

Based on the subsurface conditions encountered at the site, the subject site is suitable for the proposed development provided that the recommendations presented in this report are incorporated into the design and construction of the project. We recommend that as part of the site grading process any unsuitable soils currently present at the site be removed from beneath proposed footings or the footings be deepened to extend below the unsuitable soils.

We recommend that IGES be on site at key points during construction to see that the recommendations in this report are implemented. Footings may be established *entirely* on undisturbed native "pot rock" or *entirely* on structural fill extending to undisturbed native "pot rock". However, in most cases we anticipate footings will be poured directly on pot rock. Shallow spread or continuous wall footings constructed as described above may be proportioned utilizing a maximum net allowable bearing pressure of **5,000 pounds per square foot (psf)** for dead load plus live load conditions.

The following sub-sections present our recommendations for general site grading, pavement design, design of foundations, slabs-on-grade, lateral earth pressures, moisture protection and preliminary soil corrosion.

6.2 EARTHWORK

Prior to the placement of foundations, general site grading is recommended to provide proper support for foundations, exterior concrete flatwork, and concrete slabs-on-grade. Site grading is also recommended to provide proper drainage and moisture control on the subject property.

6.2.1 General Site Preparation

Within the areas to be graded (below proposed structures, fill sections, concrete flatwork, or pavement sections), any existing surface vegetation, topsoil, debris, and undocumented fill should be removed. Based on our field investigation the upper 1 to 2 feet should be grubbed to remove the majority of the roots, organic matter and soft unsuitable material; *below man-made improvements we anticipate removal of most or all surficial material down to pot rock.* Any existing utilities should be re-routed or protected in-place. Any soft/loose areas identified during proof-rolling should be removed and replaced with structural fill. An IGES representative should observe the site preparation and grading operations to assess site conditions once construction begins.

6.2.2 Excavations

Soft, disturbed, or otherwise unsuitable soils beneath foundations or concrete flatwork may need to be over-excavated and replaced with structural fill. The excavations should extend a minimum of 1-foot laterally for every foot of depth of over-excavation. Excavations should extend laterally at least two feet beyond slabs-on-grade. Structural fill should consist of granular materials and should be placed and compacted in accordance with the recommendations presented in this report.

6.2.3 Excavation Stability

The contractor is responsible for site safety, including all temporary slopes and trenches excavated at the site and design of any required temporary shoring. The contractor is responsible for providing the "competent person" required by OSHA standards to evaluate soil conditions. Based on our observations soil types are expected to consist largely of *Type C* soils. Also, the presence of shallow groundwater may contribute to potential trench instability; dewatering will likely be necessary to maintain a safe working area inside the trench. Close coordination between the competent person and IGES should be maintained to facilitate construction while providing safe excavations.

Based on Occupational Safety and Health (OSHA) guidelines for excavation safety, trenches with vertical walls up to 5 feet in depth may be occupied. Where very moist soil conditions or groundwater is encountered, or when the trench is deeper than 5 feet, we recommend a trench-shield or shoring be used as a protective system to workers in the trench. Sloping of the sides at 1.5H:1V (34 degrees from horizontal) may be used as an alternative to shoring or shielding. Where hard, competent pot rock is exposed, the trench walls may be left vertical pending field approval by the "competent person" overseeing temporary excavations. If trench excavations extend deeper than 6 feet into competent pot rock, or if the trench extends more than 4 feet *below* the pot rock, temporary shoring will likely be required.

6.2.4 Structural Fill and Compaction

All fill placed for the support of structures, flatwork or pavements, should consist of structural fill. Structural fill should consist of an approved imported material; we do not recommend the native clay soils be used as structural fill. Imported soil used as structural fill should be a relatively well-graded granular soil with a maximum fines content (minus No.200 mesh sieve) of 35 percent. Structural fill should be free of vegetation and debris, and contain no rocks larger than 4 inches in nominal size (6 inches in greatest dimension). Soil classifying as A-1-a is ideal; soils not meeting this criterion may be suitable for use as structural fill but must be approved by IGES prior to importation. Also, *topsoil* may not be incorporated into structural fill; this material must be kept segregated from other soils intended to be used as structural fill.

All structural fill should be placed in maximum 6-inch loose lifts if compacted by small hand-operated compaction equipment, maximum 8-inch loose lifts if compacted by light-duty rollers, and maximum 10-inch loose lifts if compacted by heavy duty compaction equipment that is capable of efficiently compacting the entire thickness of the lift. These values are *maximums*; the Contractor should be aware that thinner lifts may be necessary to achieve the required compaction criteria. We recommend that all structural fill be compacted on a horizontal plane, unless otherwise approved by IGES. Structural fill placed beneath footings and pavements should be compacted to at least 95 percent of the maximum dry density (MDD) as determined by ASTM D-1557. The moisture content should be at or slightly above the optimum moisture content (OMC) for all structural fill – compacting dry of optimum is discouraged. Any imported fill materials should be approved by IGES prior to importing. Also, prior to placing any fill, the excavations should be observed by IGES to confirm that unsuitable materials have been removed. In addition, proper grading should precede placement of fill, as described in the General Site Preparation and Grading subsection of this report.

All utility trenches backfilled below pavement sections, curb and gutter and concrete flatwork, should be backfilled with structural fill compacted to at least 95 percent of the MDD as determined by ASTM D-1557. All other trenches, including landscape areas, should be backfilled and compacted to a minimum of 90 percent of the MDD (ASTM D-1557).

Specifications from governing authorities having their own precedence for backfill and compaction should be followed where applicable.

6.2.5 Temporary Dewatering

Based on groundwater conditions, trench excavations and possibly foundation excavations will likely require dewatering. Temporary dewatering can be accomplished by placing a pump in a low section of the excavation or by placing well points around the excavation to lower the groundwater. More than one pump located along a section of trench may be required to sufficiently dewater and create safe and comfortable working conditions.

IGES can provide design recommendations for a dewatering system upon request. We would recommend any dewatering system be installed congruent with construction rather than attempting to modify an existing excavation.

6.3 FOUNDATIONS

Footings should be established *entirely* on suitable undisturbed pot rock or *entirely* on structural fill extending to undisturbed pot rock; native/fill transition zones are not allowed. If soft, loose, porous, or otherwise deleterious earth materials are exposed in the footing excavations, then the footings should be deepened further such that all footings bear on relatively uniform, competent

native earth materials (e.g., all foundations should bear on pot rock). Alternatively, the earth materials underlying the foundations may be over-excavated and replaced with structural fill, such that the entire foundation system is underlain by a minimum of 2 feet of structural fill. All footing excavations should be observed by IGES or other qualified geotechnical engineer prior to constructing footings.

Shallow spread or continuous wall footings constructed as described above may be proportioned utilizing a maximum net allowable bearing pressure of **5,000 pounds per square foot (psf)** for dead load plus live load conditions. A one-third increase may be used for transient wind and seismic loads. If required, all fill beneath the foundations should consist of granular structural fill and should be placed and compacted in accordance with our recommendations presented in Section 6.2.4 of this report.

All foundations exposed to the full effects of frost should be established at a minimum depth of 36 inches below the lowest adjacent final grade. Interior footings, not subjected to the full effects of frost (i.e., a continuously heated structure), may be established at higher elevations, however, a minimum depth of embedment of 12 inches is recommended for confinement purposes. The minimum recommended footing width is 20 inches for continuous wall footings and 30 inches for isolated spread footings.

6.4 SETTLEMENT

Settlements of properly designed and constructed conventional foundations, founded as described above (on pot rock), are anticipated to be on the order of ½ inch or less. Differential settlement is expected to be half of total settlement over a distance of 30 feet.

6.5 EARTH PRESSURES AND LATERAL RESISTANCE

Lateral forces imposed upon conventional foundations due to wind or seismic forces may be resisted by the development of passive earth pressures and friction between the base of the footing and the supporting soils. In determining the frictional resistance against concrete, a coefficient of friction of 0.45 for *granular soil* should be used. Where the foundations are poured directly on pot rock, a coefficient of friction of 0.70 may be used.

Ultimate lateral earth pressures from *granular soil* backfill acting against retaining walls and buried structures may be computed from the lateral pressure coefficients or equivalent fluid densities presented in Table 6.5.

The coefficients and densities presented in Table 6.5 assume no buildup of hydrostatic pressures. The force of the water should be added to the presented values if hydrostatic pressures are anticipated.

Table 6.5
Recommended Lateral Earth Pressure Coefficients

Condition	Level Backfill	
	Lateral Pressure Coefficient	Equivalent Fluid Density (pcf)
Active (Ka)	0.31	40
At-rest (Ko)	0.47	61
Passive (Kp)	3.25	423

Clayey soils drain poorly and may swell upon wetting, thereby greatly increasing lateral pressures acting on earth retaining structures; therefore, clayey soils should not be used as retaining wall backfill. Backfill should consist of imported granular material with an Expansion Index (EI) less than 20.

Walls and structures allowed to rotate slightly should use the active condition. If the element is constrained against rotation, the at-rest condition should be used. These values should be used with an appropriate factor of safety against overturning and sliding. A value of 1.5 is typically used. Additionally, if passive resistance is calculated in conjunction with frictional resistance, the passive resistance should be reduced by ½.

6.6 CONCRETE SLAB-ON-GRADE CONSTRUCTION

To minimize settlement and cracking of slabs, and to aid in drainage beneath the concrete floor slabs, all concrete slabs should be founded on a minimum 4-inch layer of compacted gravel overlying undisturbed suitable native subgrade soils. The gravel should consist of free draining gravel with a 3/4-inch maximum particle size and no more than 5 percent passing the No. 200 mesh sieve. The slab may be designed with a Modulus of Subgrade Reaction of **125 psi/inch**.

All concrete slabs should be designed to minimize cracking as a result of shrinkage. Consideration should be given to reinforcing the slab with a welded wire fabric, re-bar, or fibermesh. Slab reinforcement should be designed by the structural engineer. We recommend that concrete be tested to assess that the slump and/or air content is in compliance with the plans and specifications. If slump and/or air content are measured above the recommendations contained in the plans and specifications, the concrete may not perform as desired. We recommend that concrete be placed in general accordance with the requirements of the American Concrete Institute (ACI).

A moisture barrier (vapor retarder) consisting of 10-mil thick Visqueen (or equivalent) plastic sheeting should be placed below slabs-on-grade where moisture-sensitive floor coverings or equipment is planned. Prior to placing this moisture barrier, any objects that could puncture it, such as protruding gravel or rocks, should be removed from the building pad. Alternatively, the building pad may be covered by two inches of clean sand.

6.7 MOISTURE PROTECTION AND SURFACE DRAINAGE

As part of good construction practices, moisture should not be allowed to infiltrate into the soils in the vicinity of the foundations. As such, design strategies to minimize ponding and infiltration near the structure should be implemented.

We recommend that hand watering, desert or Xeriscape landscaping be considered within 5 feet of the foundations. We further recommend roof runoff devices be installed around the entire perimeter of the home to collect and direct all runoff a minimum of 10 feet away from the addition. Irrigation valves should be placed a minimum of 5 feet from foundations. Additionally, the ground surface within 10 feet of residential structures should be constructed so as to slope a minimum of five percent away. Pavement sections should be constructed to divert surface water off of the pavement into storm drains.

6.8 ASPHALT CONCRETE PAVEMENT DESIGN

The prevailing pot rock is relatively hard and will behave similarly to a rock unit; as such, the pot rock is expected to provide good pavement support. However, the unconsolidated soils overlying the pot rock are expected to provide poor pavement support. Measured from final grade to the pot rock, we anticipate areas where the pavement section will be founded directly on pot rock, and other areas where placement of subbase will be required to fill in the gap between the native subgrade and overlying pavement sections.

No traffic information was available at the time this report was prepared, therefore, we have assumed an equivalent single axle load (ESAL) value of approximately 250,000 for a 20-year design life assuming an annual growth rate of 0%. Based on our analysis and assumptions presented above, we recommend the pavement design as shown in Table 6.8.1.

Prior to placing subbase or road base, all topsoil and soft/compressible clay soils must be overexcavated; we anticipate approximately 12 to 18 inches of overexcavation below existing grade in roadways (note that the actual depth of overexcavation may be more or less depending on the local site conditions). The overexcavated earth materials should be replaced with a minimum of 12 inches of subbase – greater thicknesses of subbase will be required where the road grade is significantly higher than existing grade. However, in the case where pot rock is less than 26 inches from finish grade, the subbase section may be proportionately reduced or

eliminated (e.g., if pot rock is 18 inches from finish grade, only 4 inches of subbase is needed, if pot rock is 14 inches from finish grade, subbase is not required).

Table 6.8.1
Flexible Pavement Section

Asphalt (in.)	Untreated Road Base (in.)	Subbase (in.)
3.5	10	12 in. min.*

*Pot rock need not be overexcavated to accommodate this section, the subbase section may be proportionately reduced/replaced with in-place pot rock, if present.

Asphalt has been assumed to be a high stability plant mix; base course material should be composed of crushed stone with a minimum CBR of 70 and the subbase should be a 3-inch minus pit run gravel with a minimum CBR of 30. The asphalt should be compacted to a minimum density of 96% of the Marshall value. The road base and subbase course should be compacted to at least 95% of the MDD of the modified proctor at or slightly above the OMC as determined by ASTM D1557.

It is our experience that pavement in areas where vehicles frequently turn around, backup, or load and unload, including round-a-bouts or trash enclosures, often experience more distress. If the owner wishes to prolong the life of the pavement in these areas, consideration should be given to using a Portland cement concrete (rigid) pavement in these areas. For these conditions, we recommend 5 inches of concrete overlying a minimum of 8 inches of road base. Previous recommendations regarding overexcavation of unsuitable soils and the placement of subbase also apply to the rigid pavement section discussed herein.

The (ESAL) value used for this pavement design does not account for construction traffic during the development of the subdivision. If traffic conditions vary significantly from our stated assumptions, IGES should be contacted so we can modify our pavement design parameters accordingly. Specifically, if the traffic counts are significantly higher or lower, we should be contacted to revise the pavement section design as necessary. The pavement section thickness above assumes that the majority of construction traffic including cement trucks, cranes, loaded haulers, etc. has ceased. If a significant volume of construction traffic occurs after the pavement section has been constructed, the owner should anticipate maintenance or a decrease in the design life of the pavement area.

6.9 PRELIMINARY SOIL CORROSION POTENTIAL

To evaluate the corrosion potential of concrete in contact with onsite native soil, a representative soil sample taken from TP-25 at a depth of 1.5 feet was tested in our soils laboratory for soluble sulfate content. Laboratory test results indicate that the sample tested had a sulfate content of 717 ppm. Based on this result, the onsite native soils are expected to exhibit a *low* potential for sulfate attack on concrete. A conventional Type I/II cement should be used for all concrete in contact with site soils.

To evaluate the corrosion potential of ferrous metal in contact with onsite native soil, a representative soil sample was tested in our soils laboratory for soil resistivity (AASHTO T288), soluble chloride content, and pH. The tests indicated that the onsite soil tested has a minimum soil resistivity of 603 OHM-cm, a soluble chloride content of 183, and a pH of 7.79. Based on this result, the onsite native soil is considered **severely corrosive** to ferrous metal. Consideration should be given to retaining the services of a qualified corrosion engineer to provide an assessment of any metal in contact with existing site soils, particularly ancillary water lines and reinforcing steel, and valves.

6.10 CONSTRUCTION CONSIDERATIONS

6.10.1 Shallow Groundwater

Shallow groundwater was encountered at several locations across the site. Also, areas identified as 'wetlands' on the preliminary site plan suggest groundwater is at, or near the surface in these areas. The contractor should anticipate groundwater issues during construction; dewatering for foundation and utility construction should be anticipated.

We recommend that IGES or the client take additional groundwater measurements prior to beginning construction in order to establish an annual high groundwater elevation and provide the groundwater information to the surveyors and the Civil Engineer to establish subdivision grades, layout and design. Additionally, due to the relatively high water table at the site, dewatering, subsurface drainage and other precautions should be implemented as needed (see dewatering recommendations presented in Section 6.2.5). The subdivision should be designed and graded such that the lowest finish floor is constructed a minimum of 3 feet above the high annual groundwater elevation.

6.10.2 Excavation Difficulty

Earth materials consisting of 'pot rock' were encountered over the entire site; these soils consist of cemented alluvial soils and exhibit engineering characteristics similar to limestone or dolomite. Where encountered, the backhoe met with refusal, and generally could not excavate

more than 12 inches into the pot rock. This material is expected to be difficult to excavate - special heavy-duty excavation equipment may be required, particularly for construction of utility trenches.

7.0 CLOSURE

7.1 LIMITATIONS

The recommendations presented in this report are based on our limited field exploration, laboratory testing, and understanding of the proposed construction. The subsurface data used in the preparation of this report were obtained from the explorations made for this investigation. It is possible that variations in the soil and groundwater conditions could exist between the points explored. The nature and extent of variations may not be evident until construction occurs. If any conditions are encountered at this site that are different from those described in this report, we should be immediately notified so that we may make any necessary revisions to recommendations contained in this report. In addition, if the scope of the proposed construction changes from that described in this report, IGES should be notified.

This report was prepared in accordance with the generally accepted standard of practice at the time the report was written. No warranty, expressed or implied, is made. It is the Client's responsibility to see that all parties to the project including the Designer, Contractor, Subcontractors, etc. are made aware of this report in its entirety. The use of information contained in this report for bidding purposes should be done at the Contractor's option and risk.

7.2 ADDITIONAL SERVICES

The recommendations made in this report are based on the assumption that an adequate program of tests and observations will be made during construction. IGES staff should be on site to verify compliance with these recommendations. These tests and observations should include, but not necessarily be limited to, the following:

- Observations and testing during site preparation, earthwork and structural fill placement.
- Observation of foundation soils to assess their suitability for footing placement.
- Observation of soft soil over-excavation and any temporary excavations or shoring.
- Consultation as may be required during construction.
- Quality control and observation of concrete placement.

IGES should perform observations of the foundation excavations prior to placement of concrete as recommended previously. We also recommend that project plans and specifications be reviewed by us to verify compatibility with our conclusions and recommendations. Additional information concerning the scope and cost of these services can be obtained from our office.

We appreciate the opportunity to be of service on this project. Should you have any questions regarding the report or wish to discuss additional services, please do not hesitate to contact us at your convenience at (801) 748-4044.

8.0 REFERENCES CITED

Anderson, L.R., Keaton, J.R., and Rice, J.D., 1994, Liquefaction Potential Map for Central Utah, Complete Technical Report: Utah Geological Survey Contract Report 94-10, 161 p.

Bromfield, C.S., Baker, A.A., and Crittenden, Jr., M.D., 1970, Geologic Map of the Heber Quadrangle, Wasatch and Summit Counties, Utah: USGS GQ-864, Scale 1:24,000, 1 Plate.

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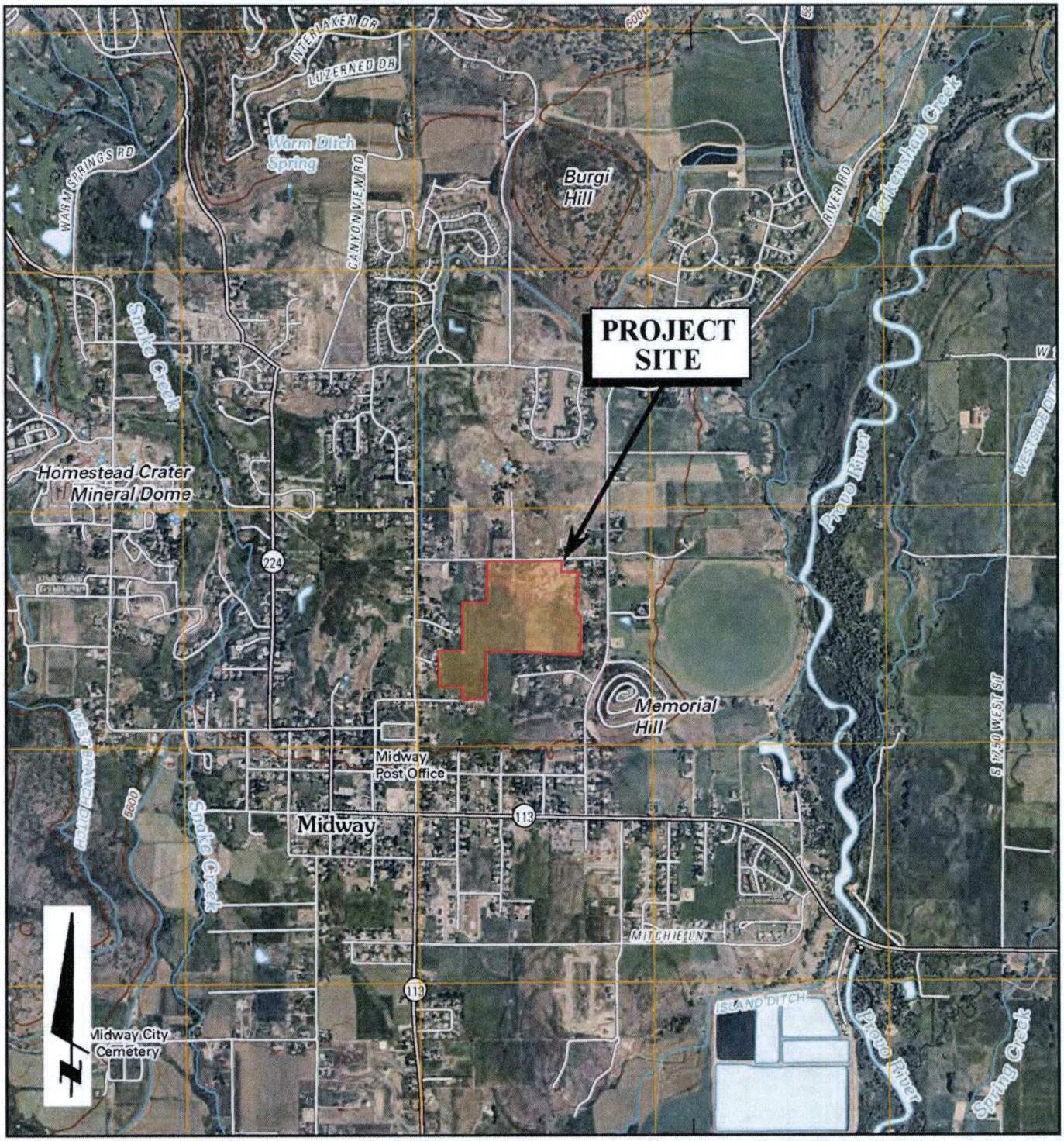
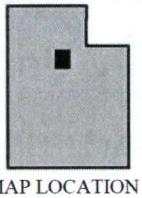
U.S. Geological Survey, 2012, U.S. *Seismic "Design Maps" Web Application*, site: https://geohazards.usgs.gov/secure/designmaps/us/application.php.

APPENDIX A



BASE MAP:
USGS Heber 7.5-Minute Quadrangle Topographic Map (2011)



MAP LOCATION

0 1000' 2000'

SCALE 1:24,000

IGES®

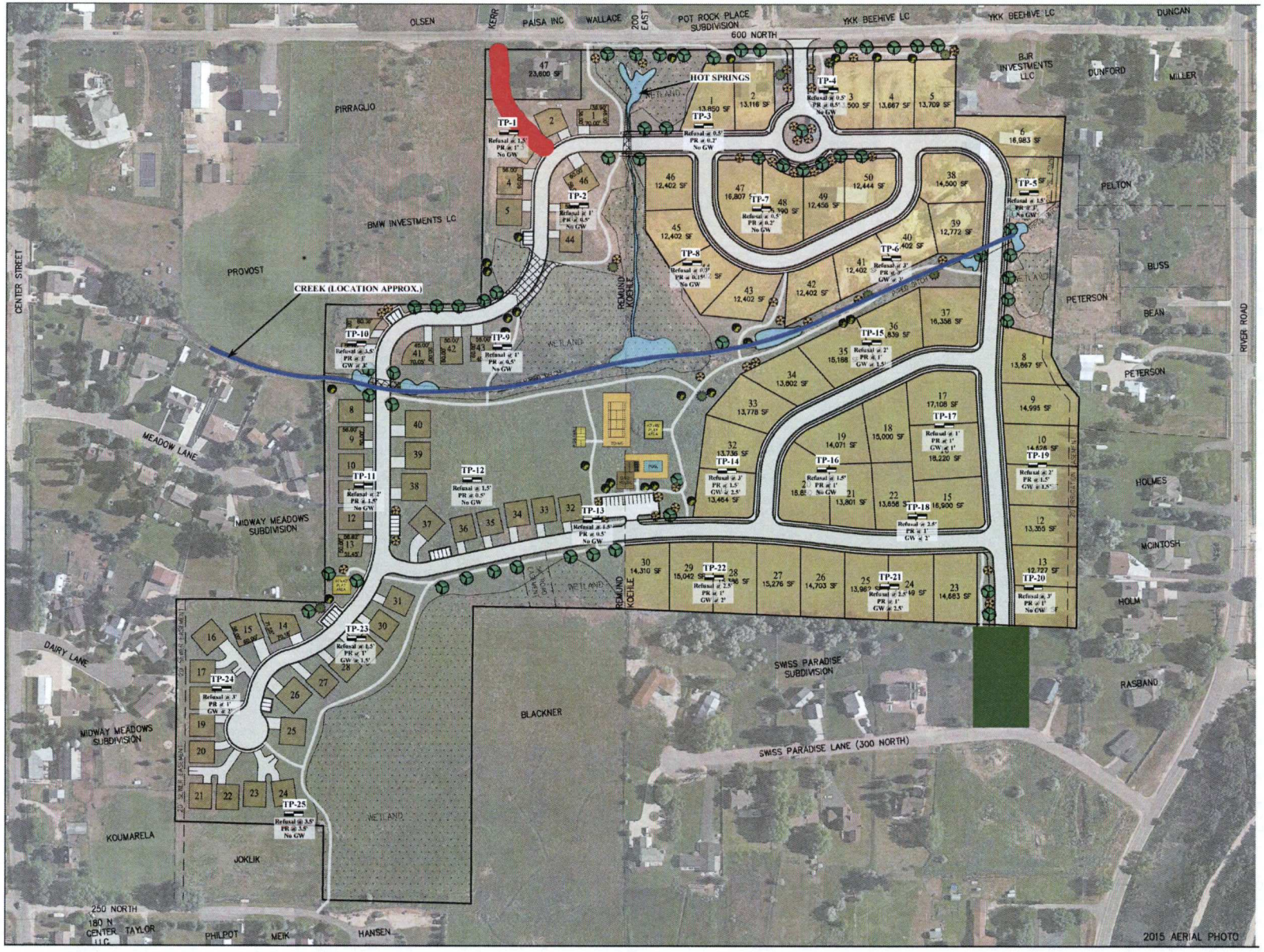
Project No. 01855-006

Geotechnical Investigation
Midway Springs Subdivision
~600 North and River Road
Midway City, Utah

SITE VICINITY MAP

Figure

A-1



LEGEND

TP-1 Refusal @ 3.5' PR @ 3' GW @ 1.5'

Approximate test pit location with total depth, depth to Pot Rock (PR), and depth to groundwater (GW)

Base Map: Concept Plan prepared by Bery Engineering, dated March 15, 2016

IGES Project No. 01855-006

Geotechnical Investigation
Midway Springs Subdivision
600 North and River Road
Midway, Utah

GEOTECHNICAL MAP

Figure A-2

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO:
TP- 1
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit / Moisture Content / Liquid Limit)
	0					Topsoil - Clayey SAND - medium dense, slightly moist, brown						10 20 30 40 50 60 70 80 90
	1					Pot Rock - hard, slightly moist, white, heavily modified, strong cementation, porous						
						Refusal at 1.5 feet No Groundwater Encountered Pot Rock Encountered at 1.0 feet						
	2											
	3											
	4											

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure A-3

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO: TP- 2
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit / Moisture Content / Liquid Limit; 10 20 30 40 50 60 70 80 90)
	0					Topsoil - Clayey SAND - medium dense, slightly moist, brown frequent fine roots						
						Calcium Carbonate "Pot Rock" - very dense, slightly moist, white, heavily modified, strong cementation, porous						
	1					Refusal at 1.0 feet No Groundwater Encountered Pot Rock Encountered at 0.5 feet						
	2											
	3											
	4											

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure A-4

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO: TP- 3
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit / Moisture Content / Liquid Limit)
	0					Topsoil - Clayey SAND - loose, dry to slightly moist, brown some fine roots						10 20 30 40 50 60 70 80 90
						Pot Rock - hard, slightly moist, white to light brown, heavily modified, strong cementation, porous - occasional diameters up to 1/4 inch with frequent fine holes typical						
						Refusal at 0.5 feet No Groundwater Encountered Pot Rock Encountered at 0.167 feet						
	1											
	2											
	3											
	4											

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure A-5

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO:
TP- 4
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit / Moisture Content / Liquid Limit)
	0					Undocumented Fill - Poorly Graded GRAVEL - medium dense, slightly moist, gray brown						
						Pot Rock - hard, slightly moist, white to light brown, heavily modified, strong cementation, porous - occasional diameters up to 1/4 inch with frequent fine holes typical						
						Refusal at 0.25 feet No Groundwater Encountered Pot Rock Encountered at 0.2 feet						
	1											
	2											
	3											
	4											

Moisture Content and Atterberg Limits
Plastic Limit / Moisture Content / Liquid Limit
10 20 30 40 50 60 70 80 90

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure
A-6

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO: TP- 5
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION
	0					Topsoil - Clayey SAND - medium dense, moist, brown
	1					Pot Rock - hard, slightly moist, light brown, heavily modified, strong cementation, porous - frequent fine holes typical
			▼			Refusal at 1.5 feet Groundwater Encountered at 1.5 feet Pot Rock Encountered at 1.0 feet 1" PVC Piezometer Placed
	2					
	3					
	4					

Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index

Moisture Content and Atterberg Limits

Plastic Limit — Moisture Content — Liquid Limit

10 20 30 40 50 60 70 80 90

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
▼ - MEASURED
▽ - ESTIMATED

NOTES:

Figure A-7

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO: TP- 6
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit / Moisture Content / Liquid Limit)
	0					Undocumented Fill - Poorly Graded GRAVEL - medium dense, dry to slightly moist, gray brown						
						Pot Rock - hard, slightly moist, light brown, heavily modified, strong cementation, porous - occasional diameters up to 1/16 inches with frequent fine holes typical						
	1											
	2											
	3		▼			Refusal at 3.0 feet Groundwater Encountered at 3.0 feet Pot Rock Encountered at 0.5 feet 1" PVC Piezometer Placed						
	4											

Moisture Content and Atterberg Limits
Plastic Limit — Moisture Content — Liquid Limit
10 20 30 40 50 60 70 80 90

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
▼ - MEASURED
▽ - ESTIMATED

NOTES:

Figure A-8

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO: TP- 7
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit / Moisture Content / Liquid Limit; 10 20 30 40 50 60 70 80 90)
	0					Topsoil - Clayey SAND - loose, slightly moist, brown frequent fine roots						
						Pot Rock - hard, slightly moist, white to brown, heavily modified, strong cementation, porous - frequent diameters up to 1/16 inches typical						
						Refusal at 0.5 feet No Groundwater Encountered Pot Rock Encountered at 0.167 feet						
	1											
	2											
	3											
	4											

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure A-9

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO:
TP- 8
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit / Moisture Content / Liquid Limit; 10 20 30 40 50 60 70 80 90)
	0					Disturbed Agricultural Topsoil - Clayey SAND - loose, dry to slightly moist, brown						
						Pot Rock - very dense, slightly moist, white to brown, heavily modified, strong cementation, porous - frequent fine holes typical						
						Refusal at 0.33 feet No Groundwater Encountered Pot Rock Encountered at 0.167 feet						
	1											
	2											
	3											
	4											

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure A-10

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO: TP- 9
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit – Moisture Content – Liquid Limit; 10 20 30 40 50 60 70 80 90)
	0					Topsoil - Clayey SAND - dense, slightly moist, brown frequent moderate sized roots						
						Pot Rock - hard, slightly moist, white, heavily modified, strong cementation, porous						
	1					Refusal at 1.0 feet No Groundwater Encountered Pot Rock Encountered at 0.5 feet						
	2											
	3											
	4											

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure A-11

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO:
TP-10
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit / Moisture Content / Liquid Limit; 10 20 30 40 50 60 70 80 90)
	0					Topsoil - Clayey SAND - dense, slightly moist, brown frequent moderate sized roots						
	1					Pot Rock - hard, slightly moist to wet, light gray, heavily modified, strong cementation, porous						
	2											
	3		▼									
						Refusal at 3.5 feet Groundwater Encountered at 3.0 feet Pot Rock Encountered at 1.0 feet						
	4											

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure A-12

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO:
TP-11
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit / Moisture Content / Liquid Limit; 10 20 30 40 50 60 70 80 90)
	0					Topsoil - Clayey SAND - dense, slightly moist, brown frequent moderate sized roots						
	1											
						Pot Rock - hard, slightly moist, white to light gray, heavily modified, strong cementation, porous						
	2					Refusal at 2.0 feet No Groundwater Encountered Pot Rock Encountered at 1.5 feet						
	3											
	4											

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure A-13

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO: **TP-12**
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit / Moisture Content / Liquid Limit; 10 20 30 40 50 60 70 80 90)
	0					Topsoil - Clayey SAND - loose, dry to slightly moist, brown frequent fine roots						
						Pot Rock - hard, slightly moist, light gray, heavily modified, strong cementation, porous						
	1											
						Refusal at 1.5 feet No Groundwater Encountered Pot Rock Encountered at 0.5 feet						
	2											
	3											
	4											

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure A-14

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO:
TP-13
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit — Moisture Content — Liquid Limit) 10 20 30 40 50 60 70 80 90
	0					Topsoil - Clayey SAND - medium dense, dry to slightly moist, brown frequent fine roots						
						Pot Rock - hard, slightly moist, light gray, heavily modified, strong cementation, porous - occasional diameters up to 1/16 inches with frequent fine holes typical						
	1											
	2					Refusal at 1.5 feet No Groundwater Encountered Pot Rock Encountered at 0.5 feet						
	3											
	4											

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure
A-15

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO: **TP-14**
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit / Moisture Content / Liquid Limit; 10 20 30 40 50 60 70 80 90)
	0					Topsoil - Clayey SAND - loose, dry to slightly moist, brown frequent fine roots						
	1				CL	Sandy Lean CLAY - stiff, moist, dark brown						
	2		▼			Pot Rock - hard, slightly moist, light brown with orange staining, heavily modified, strong cementation, porous - occasional diameters up to 1/2 inches with frequent diameters of 1/16 and smaller typical						
	3					Refusal at 3.0 feet Groundwater Encountered at 2.5 feet Pot Rock Encountered at 1.5 feet						
	4											

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure A-16

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO:
TP-15
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit – Moisture Content – Liquid Limit; 10 20 30 40 50 60 70 80 90)
	0					Topsoil - Clayey SAND - loose, dry to slightly moist, brown frequent fine roots						
	1		▼			Pot Rock - hard, wet, light gray, heavily modified, strong cementation, porous - frequent fine holes typical						
	2					Refusal at 2.0 feet Groundwater Encountered at 1.5 feet Pot Rock Encountered at 1.0 feet						
	3											
	4											

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure A-17

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO:
TP-16
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit / Moisture Content / Liquid Limit)
	0					Topsoil - Clayey SAND - loose, dry to slightly moist, brown frequent fine roots in upper 6 inches						
	1					Pot Rock - hard, slightly moist, light brown with some orange staining, heavily modified, strong cementation, porous - occasional diameters up to 1/16 inches with occasional fine holes typical						
						Refusal at 1.5 feet No Groundwater Encountered Pot Rock Encountered at 1.0 feet						
	2											
	3											
	4											

Moisture Content and Atterberg Limits
Plastic Limit | Moisture Content | Liquid Limit
10 20 30 40 50 60 70 80 90

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure A-18

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO:
TP-17
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit / Moisture Content / Liquid Limit; 10 20 30 40 50 60 70 80 90)
	0					Topsoil - Lean CLAY - medium stiff, moist, dark gray frequent fine roots						
	1		▼			Pot Rock - hard, slightly moist, light brown with some orange staining, heavily modified, strong cementation, porous - occasional diameters up to 1/16 inches with occasional fine holes Refusal at 1.0 feet Groundwater Encountered at 1.0 feet Pot Rock Encountered at 0.8 feet 1" PVC Piezometer Placed						
	2											
	3											
	4											

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure
A-19

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO: **TP-18**
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit / Moisture Content / Liquid Limit; 10 20 30 40 50 60 70 80 90)
	0					Topsoil - Clayey SAND - loose, slightly moist, brown						
					CL	Sandy Lean CLAY - stiff slightly moist to moist, dark brown						
	1					Pot Rock - hard, slightly moist to moist, light gray, heavily modified, strong cementation, porous - occasional diameters up to 1/16 inches with occasional fine holes typical						
	2		▼									
						Refusal at 2.5 feet Groundwater Encountered at 2.0 feet Pot Rock Encountered at 1.0 feet						
	3											
	4											

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure A-20

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO: **TP-19**
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit – Moisture Content – Liquid Limit; 10 20 30 40 50 60 70 80 90)
	0					Topsoil - Clayey SAND - loose, slightly moist, brown frequent fine roots						
	1				CL	Sandy Lean CLAY - medium stiff, moist to wet, dark gray						
			▼			Pot Rock - hard, slightly moist to moist, light gray, heavily modified, strong cementation, porous - occasional diameters up to 1/16 inches with occasional fine holes typical						
	2					Refusal at 2.0 feet Groundwater Encountered at 1.5 feet Pot Rock Encountered at 1.5 feet						
	3											
	4											

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure A-21

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO:
TP-20
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit / Moisture Content / Liquid Limit)
	0					Topsoil - Clayey SAND - loose, dry to slightly moist, brown frequent fine roots						
					CL	Sandy Lean CLAY - stiff, slightly moist, dark brown						
	1					Pot Rock - hard, moist to wet, light gray, heavily modified, strong cementation, porous - frequent diameters up to 1/4 inches typical						
	2											
	3					Refusal at 3.0 feet No Groundwater Encountered Pot Rock Encountered at 1.0 feet						
	4											

Moisture Content and Atterberg Limits
Plastic Limit — Moisture Content — Liquid Limit
10 20 30 40 50 60 70 80 90

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure A-22

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO: TP-21
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit / Moisture Content / Liquid Limit; 10 20 30 40 50 60 70 80 90)
	0					Topsoil - Clayey SAND - loose, dry to slightly moist, yellow brown frequent fine roots						
					CL	Sandy Lean CLAY - stiff, moist, dark brown						
	1					Pot Rock - hard, moist to wet, light brown, heavily modified, strong cementation, porous - occasional diameters up to 1/4 inches with frequent fine holes typical						
	2		▼									
						Refusal at 2.5 feet Groundwater Encountered at 2.0 feet Pot Rock Encountered at 1.0 feet						
	3											
	4											

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure A-23

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO: **TP-22**
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit / Moisture Content / Liquid Limit; 10 20 30 40 50 60 70 80 90)
	0					Topsoil - Clayey SAND - medium dense, dry to slightly moist, brown						
					CL	Sandy Lean CLAY - stiff, moist, dark brown						
	1					Pot Rock - hard, dry to moist, light brown with orange staining, heavily modified, strong cementation, porous - occasional diameters up to 1/2 inches with frequent diameters of 1/4 inches or smaller typical						
	2		▼									
						Refusal at 2.5 feet Groundwater Encountered at 2.0 feet Pot Rock Encountered at 1.0 feet 1" PVC Piezometer Placed						
	3											
	4											

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure A-24

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO:
TP-23
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

ELEVATION	FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit / Moisture Content / Liquid Limit; 10 20 30 40 50 60 70 80 90)
	0					Topsoil - Clayey SAND - loose to medium dense, slightly moist, brown						
	1					Pot Rock - hard, dry to moist, light brown with orange staining, heavily modified, strong cementation, porous - occasional diameters up to 1/8 inches typical						
						Refusal at 1.5 feet Groundwater Encountered at 1.5 feet Pot Rock Encountered at 1.0 feet 1" PVC Piezometer Placed						
	2											
	3											
	4											

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure A-25

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO:
TP-24
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index	Moisture Content and Atterberg Limits (Plastic Limit / Moisture Content / Liquid Limit; 10 20 30 40 50 60 70 80 90)
	0					Topsoil - Sandy Lean CLAY - medium stiff, slightly moist, brown						
	1					Pot Rock - hard, moist, yellow brown, heavily modified, strong cementation, porous - frequent fine pinholes typical						
	2											
	3					Refusal at 3.0 feet No Groundwater Encountered Pot Rock Encountered at 1.0 feet						
	4											

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure A-26

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

DATE
STARTED: 4/8/16
COMPLETED: 4/8/16
BACKFILLED: 4/8/16

Geotechnical Investigation
Midway Springs Subdivision
South of 600 North and West of River Road
Midway City, Utah
Project Number 01855-006

IGES Rep: TBL
Rig Type: Case 580 Backhoe

TEST PIT NO: TP-25
Sheet 1 of 1

LOCATION
LATITUDE LONGITUDE ELEVATION

DEPTH ELEVATION	DEPTH FEET	SAMPLES	WATER LEVEL	GRAPHICAL LOG	UNIFIED SOIL CLASSIFICATION	MATERIAL DESCRIPTION	Dry Density(pcf)	Moisture Content %	Percent minus 200	Liquid Limit	Plasticity Index
	0					Topsoil - Sandy Lean CLAY - medium stiff, moist, yellow brown frequent fine roots					
					CL	Lean CLAY - soft, moist to wet, light gray porous - occasional diameters up to 1/16 inches		10.6			
	1										
	2		▼								
	3					Pot Rock - hard, moist, yellow brown, heavily modified, strong cementation, porous - frequent fine pinholes typical					
						Refusal at 3.5 feet Groundwater Encountered at 2.0 feet Pot Rock Encountered at 3.3 feet 1" PVC Piezometer Placed					
	4										

Moisture Content and Atterberg Limits
Plastic Limit | Moisture Content | Liquid Limit
10 20 30 40 50 60 70 80 90

LOG OF TEST PITS - 4 LINE HEADER W ELEV DAG 01855-006.GPJ IGES.GDT 5/12/16

IGES

SAMPLE TYPE
- GRAB SAMPLE
- 3" O.D. THIN-WALLED HAND SAMPLER

WATER LEVEL
- MEASURED
- ESTIMATED

NOTES:

Figure A-27

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			USCS SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS (More than half of material is larger than the #200 sieve)	GRAVELS (More than half of coarse fraction is larger than the #4 sieve)	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
			GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES WITH LITTLE OR NO FINES
		GRAVELS WITH OVER 12% FINES	GM	SILTY GRAVELS, GRAVEL-SILT-SAND MIXTURES
			GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SANDS (More than half of coarse fraction is smaller than the #4 sieve)	CLEAN SANDS WITH LITTLE OR NO FINES	SW	WELL-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
			SP	POORLY-GRADED SANDS, SAND-GRAVEL MIXTURES WITH LITTLE OR NO FINES
		SANDS WITH OVER 12% FINES	SM	SILTY SANDS, SAND-GRAVEL-SILT MIXTURES
			SC	CLAYEY SANDS SAND-GRAVEL-CLAY MIXTURES
FINE GRAINED SOILS (More than half of material is smaller than the #200 sieve)	SILTS AND CLAYS (Liquid limit less than 50)		ML	INORGANIC SILTS & VERY FINE SANDS, SILTY OR CLAYEY FINE SANDS, CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC SILTS & ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS (Liquid limit greater than 50)		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILT
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS & ORGANIC SILTS OF MEDIUM-TO-HIGH PLASTICITY
HIGHLY ORGANIC SOILS			PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

LOG KEY SYMBOLS

BORING SAMPLE LOCATION

TEST-PIT SAMPLE LOCATION

WATER LEVEL (level after completion)

WATER LEVEL (level where first encountered)

CEMENTATION

DESCRIPTION	DESCRIPTION
WEAKELY	CRUMBLES OR BREAKS WITH HANDLING OR SLIGHT FINGER PRESSURE
MODERATELY	CRUMBLES OR BREAKS WITH CONSIDERABLE FINGER PRESSURE
STRONGLY	WILL NOT CRUMBLE OR BREAK WITH FINGER PRESSURE

OTHER TESTS KEY

C	CONSOLIDATION	SA	SIEVE ANALYSIS
AL	ATTERBERG LIMITS	DS	DIRECT SHEAR
UC	UNCONFINED COMPRESSION	T	TRIAXIAL
S	SOLUBILITY	R	RESISTIVITY
O	ORGANIC CONTENT	RV	R-VALUE
CBR	CALIFORNIA BEARING RATIO	SU	SOLUBLE SULFATES
COMP	MOISTURE/DENSITY RELATIONSHIP	PM	PERMEABILITY
CI	CALIFORNIA IMPACT	-200	% FINER THAN #200
COL	COLLAPSE POTENTIAL	Gs	SPECIFIC GRAVITY
SS	SHRINK SWELL	SL	SWELL LOAD

MODIFIERS

DESCRIPTION	%
TRACE	<5
SOME	5 - 12
WITH	>12

MOISTURE CONTENT

DESCRIPTION	FIELD TEST
DRY	ABSENCE OF MOISTURE, DUSTY, DRY TO THE TOUCH
MOIST	DAMP BUT NO VISIBLE WATER
WET	VISIBLE FREE WATER, USUALLY SOIL BELOW WATER TABLE

STRATIFICATION

DESCRIPTION	THICKNESS	DESCRIPTION	THICKNESS
SEAM	1/16 - 1/2"	OCCASIONAL	ONE OR LESS PER FOOT OF THICKNESS
LAYER	1/2 - 12"	FREQUENT	MORE THAN ONE PER FOOT OF THICKNESS

GENERAL NOTES

1. Lines separating strata on the logs represent approximate boundaries only. Actual transitions may be gradual.
2. No warranty is provided as to the continuity of soil conditions between individual sample locations.
3. Logs represent general soil conditions observed at the point of exploration on the date indicated.
4. In general, Unified Soil Classification designations presented on the logs were evaluated by visual methods only. Therefore, actual designations (based on laboratory tests) may vary.

APPARENT / RELATIVE DENSITY - COARSE-GRAINED SOIL

APPARENT DENSITY	SPT (blows/ft)	MODIFIED CA. SAMPLER (blows/ft)	CALIFORNIA SAMPLER (blows/ft)	RELATIVE DENSITY (%)	FIELD TEST
VERY LOOSE	<4	<4	<5	0 - 15	EASILY PENETRATED WITH 1/2-INCH REINFORCING ROD PUSHED BY HAND
LOOSE	4 - 10	5 - 12	5 - 15	15 - 35	DIFFICULT TO PENETRATE WITH 1/2-INCH REINFORCING ROD PUSHED BY HAND
MEDIUM DENSE	10 - 30	12 - 35	15 - 40	35 - 65	EASILY PENETRATED A FOOT WITH 1/2-INCH REINFORCING ROD DRIVEN WITH 5-LB HAMMER
DENSE	30 - 50	35 - 60	40 - 70	65 - 85	DIFFICULT TO PENETRATED A FOOT WITH 1/2-INCH REINFORCING ROD DRIVEN WITH 5-LB HAMMER
VERY DENSE	>50	>60	>70	85 - 100	PENETRATED ONLY A FEW INCHES WITH 1/2-INCH REINFORCING ROD DRIVEN WITH 5-LB HAMMER

CONSISTENCY - FINE-GRAINED SOIL		TORVANE	POCKET PENETROMETER	FIELD TEST
CONSISTENCY	SPT (blows/ft)	UNTRAINED SHEAR STRENGTH (tsf)	UNCONFINED COMPRESSIVE STRENGTH (tsf)	
VERY SOFT	<2	<0.125	<0.25	EASILY PENETRATED SEVERAL INCHES BY THUMB. EXUDES BETWEEN THUMB AND FINGERS WHEN SQUEEZED BY HAND.
SOFT	2 - 4	0.125 - 0.25	0.25 - 0.5	EASILY PENETRATED ONE INCH BY THUMB. MOLDED BY LIGHT FINGER PRESSURE.
MEDIUM STIFF	4 - 8	0.25 - 0.5	0.5 - 1.0	PENETRATED OVER 1/2 INCH BY THUMB WITH MODERATE EFFORT. MOLDED BY STRONG FINGER PRESSURE.
STIFF	8 - 15	0.5 - 1.0	1.0 - 2.0	INDENTED ABOUT 1/2 INCH BY THUMB BUT PENETRATED ONLY WITH GREAT EFFORT.
VERY STIFF	15 - 30	1.0 - 2.0	2.0 - 4.0	READILY INDENTED BY THUMBNAIL.
HARD	>30	>2.0	>4.0	INDENTED WITH DIFFICULTY BY THUMBNAIL.

IGES®

Key to Soil Symbols and Terminology

Figure A-28

IGES, Inc. Project No. 01855-006

APPENDIX B

Determination of the Point Load Strength Index of Rock

(ASTM D5731)

Project: Midway Springs GTI
No: 01855-006
Location: Midway City, Utah
Date: 4/25/2016
By: JDF
Test Device: Humboldt H-1342
Test Frame: GEOTAC Sigma-1 10K Calibration Date: 8/19/2015

Boring No.	TP-6	TP-11	TP-24			
Sample:						
Depth:	1.0'	1.5'	2.0'			
Sample type	Block	Block	Block			
Core test type						
Distance between platen points, D (in.)	1.464	2.097	2.155			
D (mm)	37.186	53.264	54.737			
Smallest specimen width, W (in.)	2.097	2.117	3.161			
W (mm)	53.3	53.8	80.3			
Equivalent core area, D_e^2 (mm^2)	2521.8	3646.7	5595.6			
Failure load, P (lbf)	169	100	1629			
P (N)	752	445	7246			
Point load strength index, I_s (MPa)	0.30	0.12	1.29			
Size correction factor, F	1.002	1.089	1.199			
PLSI 50mm equivalent, $I_{s(50)}$ (MPa)	0.30	0.13	1.55			
Site specific correlation, C	23.1	24.4	24.5			
Uniaxial compressive strength, δ_{uc} (MPa)	6.89	3.25	38.03			
Uniaxial compressive strength, δ_{uc} (psi)	**999**	**471**	**5516**			

Entered by:_____
Reviewed:_____

Minimum Laboratory Soil Resistivity, pH of Soil for Use in Corrosion Testing, and Ions in Water by Chemically Suppressed Ion Chromatography *(AASHTO T 288, T 289, ASTM D4327, and C1580)*

Project: Midway Springs GTI
No: 01855-006
Location: Midway City, Utah
Date: 4/20/2016
By: BRR/DKS

Sample info.	Boring No.	TP-25							
	Sample								
	Depth	1.5'							
Water content data	Wet soil + tare (g)	103.42							
	Dry soil + tare (g)	97.10							
	Tare (g)	37.71							
	Water content (%)	10.6							
Chem. data	pH	7.79							
	Soluble chloride* (ppm)	183							
	Soluble sulfate** (ppm)	717							
Resistivity data	Pin method	2							
	Soil box	Miller Small							
		Approximate Soil condition (%)	Resistance Reading (Ω)	Soil Box Multiplier (cm)	Resistivity (Ω-cm)	Approximate Soil condition (%)	Resistance Reading (Ω)	Soil Box Multiplier (cm)	Resistivity (Ω-cm)
		As Is	38400	0.67	25728				
		+3	13500	0.67	9045				
		+6	7200	0.67	4824				
		+9	3800	0.67	2546				
		+12	1800	0.67	1206				
		+15	1100	0.67	737				
		+18	900	0.67	603				
		+21	980	0.67	657				
	Minimum resistivity (Ω-cm)	**603**							

* Performed by AWAL using EPA 300.0

** Performed by AWAL using ASTM C1580

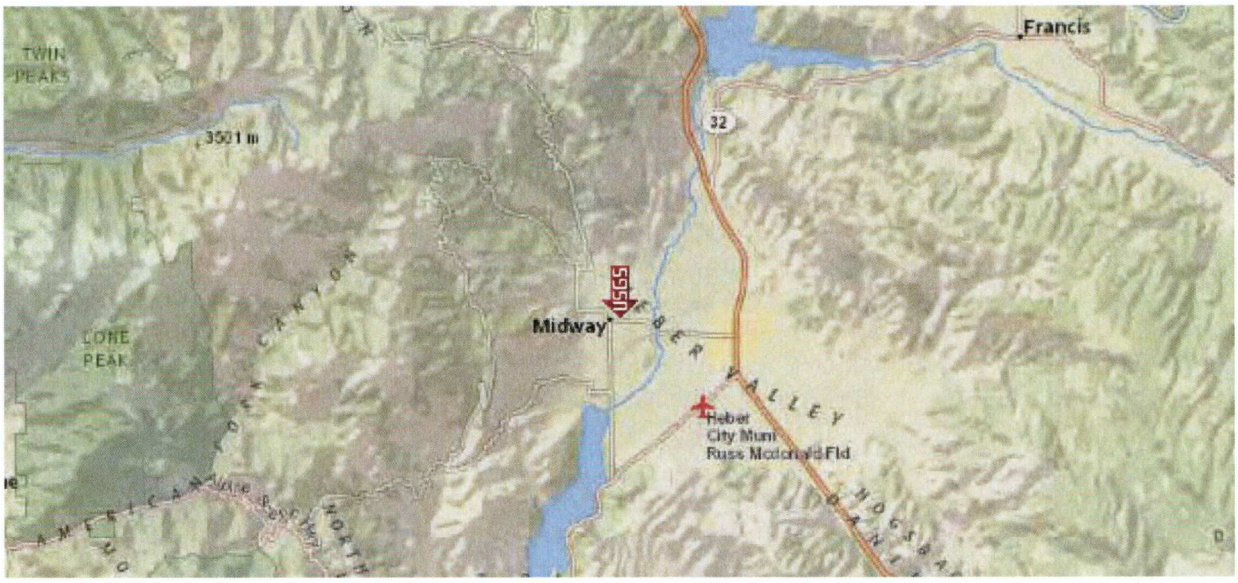
Entered by:_____
Reviewed:_____

APPENDIX C

USGS Design Maps Summary Report

User-Specified Input

Report Title	Midway Springs Subdivision Fri May 6, 2016 21:19:16 UTC
Building Code Reference Document	2012 International Building Code (which utilizes USGS hazard data available in 2008)
Site Coordinates	40.52178°N, 111.46791°W
Site Soil Classification	Site Class D – "Stiff Soil"
Risk Category	I/II/III

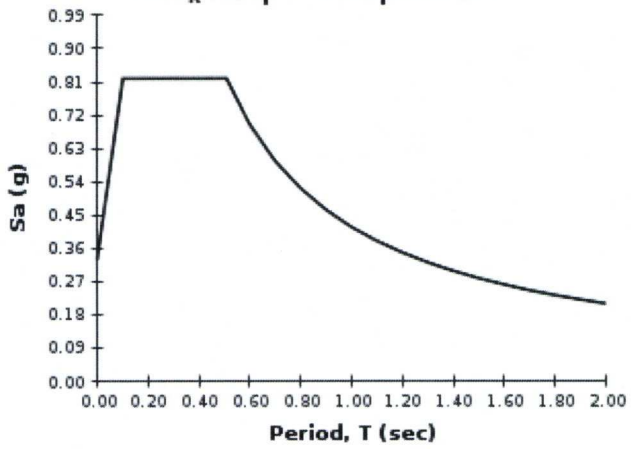


USGS-Provided Output

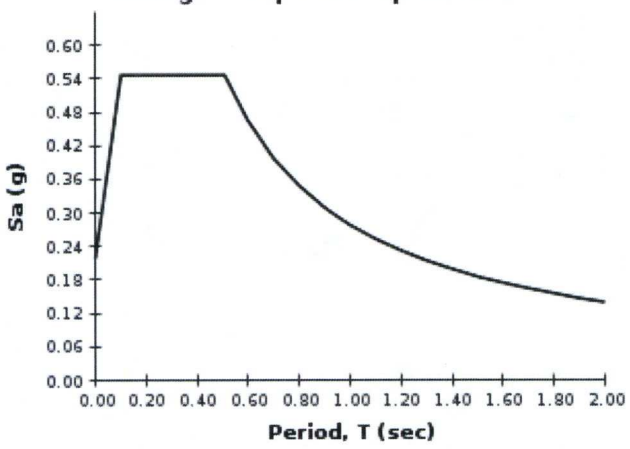
S_S =	0.633 g	S_{MS} =	0.819 g	S_{DS} =	0.546 g
S_1 =	0.211 g	S_{M1} =	0.417 g	S_{D1} =	0.278 g

For information on how the SS and S1 values above have been calculated from probabilistic (risk-targeted) and deterministic ground motions in the direction of maximum horizontal response, please return to the application and select the "2009 NEHRP" building code reference document.

MCE_R Response Spectrum



Design Response Spectrum



USGS Design Maps Detailed Report

2012 International Building Code (40.52178°N, 111.46791°W)

Site Class D – "Stiff Soil", Risk Category I/II/III

Section 1613.3.1 — Mapped acceleration parameters

Note: Ground motion values provided below are for the direction of maximum horizontal spectral response acceleration. They have been converted from corresponding geometric mean ground motions computed by the USGS by applying factors of 1.1 (to obtain S_S) and 1.3 (to obtain S_1). Maps in the 2012 International Building Code are provided for Site Class B. Adjustments for other Site Classes are made, as needed, in Section 1613.3.3.

From Figure 1613.3.1(1) [1] $S_S = 0.633$ g

From Figure 1613.3.1(2) [2] $S_1 = 0.211$ g

Section 1613.3.2 — Site class definitions

The authority having jurisdiction (not the USGS), site-specific geotechnical data, and/or the default has classified the site as Site Class D, based on the site soil properties in accordance with Section 1613.

2010 ASCE-7 Standard – Table 20.3-1
SITE CLASS DEFINITIONS

Site Class	$\bar{v}_s$	$\bar{N}$ or $\bar{N}_{ch}$	$\bar{s}_u$
A. Hard Rock	>5,000 ft/s	N/A	N/A
B. Rock	2,500 to 5,000 ft/s	N/A	N/A
C. Very dense soil and soft rock	1,200 to 2,500 ft/s	>50	>2,000 psf
D. Stiff Soil	600 to 1,200 ft/s	15 to 50	1,000 to 2,000 psf
E. Soft clay soil	<600 ft/s	<15	<1,000 psf
	Any profile with more than 10 ft of soil having the characteristics: • Plasticity index PI > 20, • Moisture content $w \geq 40\%$, and • Undrained shear strength $\bar{s}_u$ < 500 psf		
F. Soils requiring site response analysis in accordance with Section 21.1	See Section 20.3.1		

For SI: 1ft/s = 0.3048 m/s 1lb/ft² = 0.0479 kN/m²

Section 1613.3.3 — Site coefficients and adjusted maximum considered earthquake spectral response acceleration parameters

TABLE 1613.3.3(1)
VALUES OF SITE COEFFICIENT F_a

Site Class	Mapped Spectral Response Acceleration at Short Period				
	$S_S \leq 0.25$	$S_S = 0.50$	$S_S = 0.75$	$S_S = 1.00$	$S_S \geq 1.25$
A	0.8	0.8	0.8	0.8	0.8
B	1.0	1.0	1.0	1.0	1.0
C	1.2	1.2	1.1	1.0	1.0
D	1.6	1.4	1.2	1.1	1.0
E	2.5	1.7	1.2	0.9	0.9
F	See Section 11.4.7 of ASCE 7				

Note: Use straight-line interpolation for intermediate values of S_S

For Site Class = D and S_S = 0.633 g, F_a = 1.293

TABLE 1613.3.3(2)
VALUES OF SITE COEFFICIENT F_v

Site Class	Mapped Spectral Response Acceleration at 1-s Period				
	$S_1 \leq 0.10$	$S_1 = 0.20$	$S_1 = 0.30$	$S_1 = 0.40$	$S_1 \geq 0.50$
A	0.8	0.8	0.8	0.8	0.8
B	1.0	1.0	1.0	1.0	1.0
C	1.7	1.6	1.5	1.4	1.3
D	2.4	2.0	1.8	1.6	1.5
E	3.5	3.2	2.8	2.4	2.4
F	See Section 11.4.7 of ASCE 7				

Note: Use straight-line interpolation for intermediate values of S_1

For Site Class = D and S_1 = 0.211 g, F_v = 1.978

Equation (16-37): $S_{MS} = F_a S_S = 1.293 \times 0.633 = 0.819$ g

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Equation (16-38): $S_{M1} = F_v S_1 = 1.978 \times 0.211 = 0.417$ g

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Section 1613.3.4 — Design spectral response acceleration parameters

Equation (16-39): $S_{DS} = \frac{2}{3} S_{MS} = \frac{2}{3} \times 0.819 = 0.546$ g

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Equation (16-40): $S_{D1} = \frac{2}{3} S_{M1} = \frac{2}{3} \times 0.417 = 0.278$ g

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Section 1613.3.5 — Determination of seismic design category

TABLE 1613.3.5(1)
SEISMIC DESIGN CATEGORY BASED ON SHORT-PERIOD (0.2 second) RESPONSE ACCELERATION

VALUE OF S_{DS}	RISK CATEGORY		
	I or II	III	IV
$S_{DS} < 0.167g$	A	A	A
$0.167g \le S_{DS} < 0.33g$	B	B	C
$0.33g \le S_{DS} < 0.50g$	C	C	D
$0.50g \le S_{DS}$	D	D	D

For Risk Category = I and S_{DS} = 0.546 g, Seismic Design Category = D

TABLE 1613.3.5(2)
SEISMIC DESIGN CATEGORY BASED ON 1-SECOND PERIOD RESPONSE ACCELERATION

VALUE OF S_{D1}	RISK CATEGORY		
	I or II	III	IV
$S_{D1} < 0.067g$	A	A	A
$0.067g \le S_{D1} < 0.133g$	B	B	C
$0.133g \le S_{D1} < 0.20g$	C	C	D
$0.20g \le S_{D1}$	D	D	D

For Risk Category = I and S_{D1} = 0.278 g, Seismic Design Category = D

Note: When S_1 is greater than or equal to 0.75g, the Seismic Design Category is **E** for buildings in Risk Categories I, II, and III, and **F** for those in Risk Category IV, irrespective of the above.

Seismic Design Category ≡ "the more severe design category in accordance with Table 1613.3.5(1) or 1613.3.5(2)" = D

Note: See Section 1613.3.5.1 for alternative approaches to calculating Seismic Design Category.

References

1. *Figure 1613.3.1(1)*: http://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/IBC-2012-Fig1613p3p1(1).pdf
2. *Figure 1613.3.1(2)*: http://earthquake.usgs.gov/hazards/designmaps/downloads/pdfs/IBC-2012-Fig1613p3p1(2).pdf