Meeting Procedures

Outline of Meeting Procedures:

- The Chair will call the meeting to order, read the opening meeting statement, and then introduce the item.
- The typical order is for consent items, old business, and then any new business.
- Please respect the right of other participants to see, hear, and fully participate in the proceedings. In this regard, anyone who becomes disruptive, or refuses to follow the outlined procedures, is subject to removal from the meeting.

Role of Staff:

- Staff will review the staff report, address the approval criteria, and give a recommendation on the application.
- The Staff recommendation is based on conformance to the general plan and meeting the ordinance approval criteria.

Role of the Applicant:

- The applicant will outline the nature of the request and present supporting evidence.
- The applicant will address any questions the Planning Commission may have.

Role of the Planning Commission:

- To judge applications based upon the ordinance criteria, not emotions.
- The Planning Commission's decision is based upon making findings consistent with the ordinance criteria.

Public Comment:

- The meeting will then be open for either public hearing or comment. Persons in support of and in opposition to the application or item for discussion will provide input and comments.
- The commission may impose time limits for comment to facilitate the business of the Planning Commission.

Planning Commission Action:

- The Chair will then close the agenda item from any further public comments. Staff is asked if they have further comments or recommendations.
- A Planning Commissioner makes a motion and second, then the Planning Commission deliberates the issue. The Planning Commission may ask questions for further clarification.
- The Chair then calls for a vote and announces the decision.

Commenting at Public Meetings and Public Hearings

Address the Decision Makers:

- When commenting please step to the podium and state your name and address.
- Please speak into the microphone as the proceedings are being recorded and will be transcribed to written minutes.
- All comments must be directed toward the matter at hand.
- All questions must be directed to the Planning Commission.
- The Planning Commission is grateful and appreciative when comments are pertinent, well organized, and directed specifically to the matter at hand.

Speak to the Point:

- Do your homework. Obtain the criteria upon which the Planning Commission will base their decision. Know the facts. Don't rely on hearsay and rumor.
- The application is available for review in the Planning Division office.
- Speak to the criteria outlined in the ordinances.
- Don't repeat information that has already been given. If you agree with previous comments, then state that you agree with that comment.
- Support your arguments with relevant facts and figures.
- Data should never be distorted to suit your argument; credibility and accuracy are important assets.
- State your position and your recommendations.

Handouts:

- Written statements should be accurate and either typed or neatly handwritten with enough copies (10) for the Planning Commission, Staff, and the recorder of the minutes.
- Handouts and pictures presented as part of the record shall be left with the Planning Commission.

Remember Your Objective:

- Keep your emotions under control, be polite, and be respectful.
- It does not do your cause any good to anger, alienate, or antagonize the group you are standing in front of.

WESTERN WEBER PLANNING COMMISSION MEETING

AGENDA

May 19, 2021

4:00 p.m.

Join Zoom Meeting
https://us02web.zoom.us/j/85805092284
Meeting ID: 858 0509 2284

- ***Pledge of Allegiance***
- ***Roll Call:***

1. Petitions, Applications, and Public Hearings:

Work Session Items:

WS1: Western Weber General Plan Update and Planning Commission Discussion Regarding the Future of the Planning Area.

Administrative items:

2. LVS021320: Request for preliminary approval of Stagecoach Estates Cluster Subdivision consisting of 55 lots located at approximately 1800 South 3800 W, Ogden: Staff Presenter Tammy Aydelotte

3. LVS021320: Request for recommendation of final approval of Stagecoach Estates Cluster Subdivision consisting of 55 lots located at approximately 1800 South 3800 W, Ogden: Staff Presenter Tammy Aydelotte

4. Request for preliminary approval for Winston Park Subdivision, a Planned Residential Unit Development consisting of 54 residential units, and two open space parcels, totaling approximately 40.259 acres: Staff Presenter Tammy Aydelotte

5. Request for a recommendation of final approval for Winston Park Subdivision, a Planned Residential Unit Development consisting of 54 residential units, and two open space parcels, totaling approximately 40.259 acres: Staff Presenter Tammy Aydelotte

6. Public Comment for Items not on the Agenda:
7. Remarks from Planning Commissioners:
8. Planning Director Report:
9. Remarks from Legal Counsel

Adjourn

The regular meeting will be held Via Zoom Video Conferencing at the link listed above.

****There will be no pre-meeting.****

In compliance with the Americans with Disabilities Act, persons needing auxiliary services for these meetings should call the Weber County Planning Commission at 801-399-8791

Staff Report to the Western Weber Planning Commission

Weber County Planning Division

Synopsis

Application Information

Application Request:	Consideration and action on a request for preliminary approval of Stagecoach Estates Cluster Subdivision consisting of 55 lots located at approximately 1800 South 3800 W, Ogden.
Type of Decision:	Administrative
Agenda Date:	Wednesday, May 19, 2021
Applicant:	Pat Burns
File Number:	LVS021320

Property Information

Approximate Address:	1800 S 3800 W
Project Area:	Approximately 40 acres
Zoning:	Agricultural (A-1) Zone
Existing Land Use:	Agricultural
Proposed Land Use:	Residential
Parcel ID:	15-057-0006
Township, Range, Section:	T6N, R2W, Section 21

Adjacent Land Use

North:	Agricultural	**South:**	1800 South
East:	Residential/Agricultural	**West:**	Residential

Staff Information

Report Presenter:	Tammy Aydelotte taydelotte@co.weber.ut.us 801-399-8794
Report Reviewer:	SB

Applicable Ordinances

- Weber County Land Use Code Title 104 (Zones) Chapter 5, Agricultural (A-1 Zone)
- Weber County Land Use Code Title 106 (Subdivisions)
- Weber County Land Use Code Title 108 (Standards) Chpter 3, Cluster Subdivisions

Background and Summary

Sketch plan endorsement was given December 10, 2019. The applicant is requesting preliminary approval of Stagecoach Estates Cluster subdivision consisting of 55 lots, located at approximately 1800 S 3800 W, Ogden. The proposal meets the requirements of the minimum width (60' in the A-1 zone) and area (9,000 square feet, minimum, in all zones) requirements for lots in a cluster subdivision (LUC 108-3-7).

Analysis

General Plan: The proposal conforms to the Western Weber General Plan by encouraging cluster subdivision development and preserving agricultural land and open spaces with open space easements (2003 Western Weber General Plan, Pages 2-12 thru 2-14).

Zoning: The A-1 zone allows Cluster Subdivision Development, as a permitted use. The Cluster ordinance allows for lot sizes as small as 9,000 square feet, as well as miniumum lot width to be 60 feet. The proposal contains lots that range in size from .20 (9,000 square feet) to .48 acres.

Culinary water and sanitary sewage disposal: A Feasibility letter has been provided for the sanitary sewer from Central Weber Sewer, for the proposed subdivision (see exhibit B). A Feasibility letter for culinary water (see exhibit B) has been provided by Taylor West Weber Water Improvement District. Per Taylor West Weber, a requirement for final approval for culinary water, is that pressurized secondary water must be provided to each lot. Hooper Irrigation has provided a feasibility letter (see exhibit B), dated 5/11/2021. The sanitary sewage disposal will be provided by Central Weber Sewer Improvement District. The culinary water will-serve letter states that the applicant must provide pressurized secondary water to each lot. A condition of approval has been added to the staff recommendation that requires a final approval letter from Hooper Irrigation, and Taylor West Weber, be submitted prior to receiving final approval from the County Commission.

Review Agencies: The subdivision application will be required to comply with all review agency requirements, including County Engineering's requirements to annex into Central Weber Sewer District, and address any potential wetlands issues, prior to receiving final approval from the County Commission.

Additional Design Standards: Applicant is requesting 40% bonus density. Per LUC 108-3-5, minimum percentage of open space dedication shall be 30% in the A-1 zone. This is allowed as the bonus density shall equal the gross acreage of the subdivision (40 acres), per LUC 108-3-8. The applicant is dedicating 50% of net developable area (36.69 acres) as open space, to be used for grazing. Per LUC 108-3-5(c)(6)c. *"An open space parcel designated as an individually owned preservation parcel shall contain an area of not less than five acres and shall be part of a contiguous area of open space consisting of not less than ten acres in total; and shall be in compliance with the following:*

1. *The ten acre minimum contiguous area does not need to be platted in the same subdivision.* Contiguous, and in one phase.
2. *Each individually owned open space parcel shall be provided clear and perpetual legal access from a public or private street right-of-way.* – There is a 10' pathway that connects 1750 South Street to the open space parcel, as well as the 3800 West Street stub to the open space parcel.
3. *Drainage detention or retention facilities intended to accommodate subdivision improvements may be located on an individually owned preservation parcel and counted toward the subdivision's overall open space area, but the acreage of the facility shall not be included as part of the parcel's agricultural use, and the acreage of the facility shall be in addition to, not a part of, the minimum parcel area requirement."* The detention basin located adjacent to lots 27-29 accounts for 2% of the net developable area and is not included as part of the agricultural use for the open space.

Base density entitlement, based on net developable area is 39 lots. Granting 40% bonus density would entitle the applicant to an additional 16 lots, bringing the total number of lots proposed within this subdivision to 55 residential lots.

The applicant is proposing to qualify for bonus density through dedication of open space, adhering to the Dark Sky Lighting Ordinance, and providing street trees throughout the proposed subdivision, according to LUC 108-3-8(a)(2). As required by our land use code, the applicant will provide one street tree, of at least two-inch caliper, every 50 feet on both sides of the street. This comes out to approximately 56 trees along 1750 South, and 38 trees along 3800 West. All exterior lighting of homes in this subdivision shall comply with the requirements outlined in LUC 108-16.

On the final improvement plans, the improved surface of the pathway within the subdivision, including along 1800 South, must be shown to be 10 feet wide. The applicant will maintain individual ownership of open space (LUC 108-3-5 (c) 6 c.). The applicant has has indicated a plan to lease the open space, as grazeland, for their preservation plan. The applicant has provided soil and irrigation information (see exhibit C), including a will-serve letter (see letter form Hooper irrigation – exhibit B). The applicant will be required to dedicate an open space easement to the County so that the open space remains undeveloped in perpetuity. This can be done through the dedication language on the final subdivision plat (LUC 108-3-5 (f) (2)).

The applicant is proposing a standard urban roadway cross section within the internal roads of the subdivision. This proposed cross section does not include curb and gutter, as such the County Engineering may require a deferral agreement, in which the owner would be required to install curb and gutter at the time the county so requests.

The applicant will need to show 10' wide pathways throughout the subdivision (along one side of the roadways, and running north/south between lots 16, 17, 35, 36, 53, 54, as well as along 1800 South St, on the final improvement plans). These plans shall be approved by all applicable agencies prior to going before County Commission for final approval (LUC 106-1-5 (a)(11).

Staff Recommendations

Staff recommends preliminary approval of Stagecoach Estates Cluster Subdivision consisting of 55 lots. This recommendation is based on all review agency requirements, including those outlined in this staff report, and based on the following findings:

1. The proposed subdivision conforms to the West Central Weber General Plan.
2. The proposed subdivision complies with applicable county ordinances.

Exhibits

A. Preliminary subdivision plat
B. Application & Feasibility Letters
C. Geotech Report and Soil Analysis Information
D. Time-Lapse Aerial Photos

Area Map

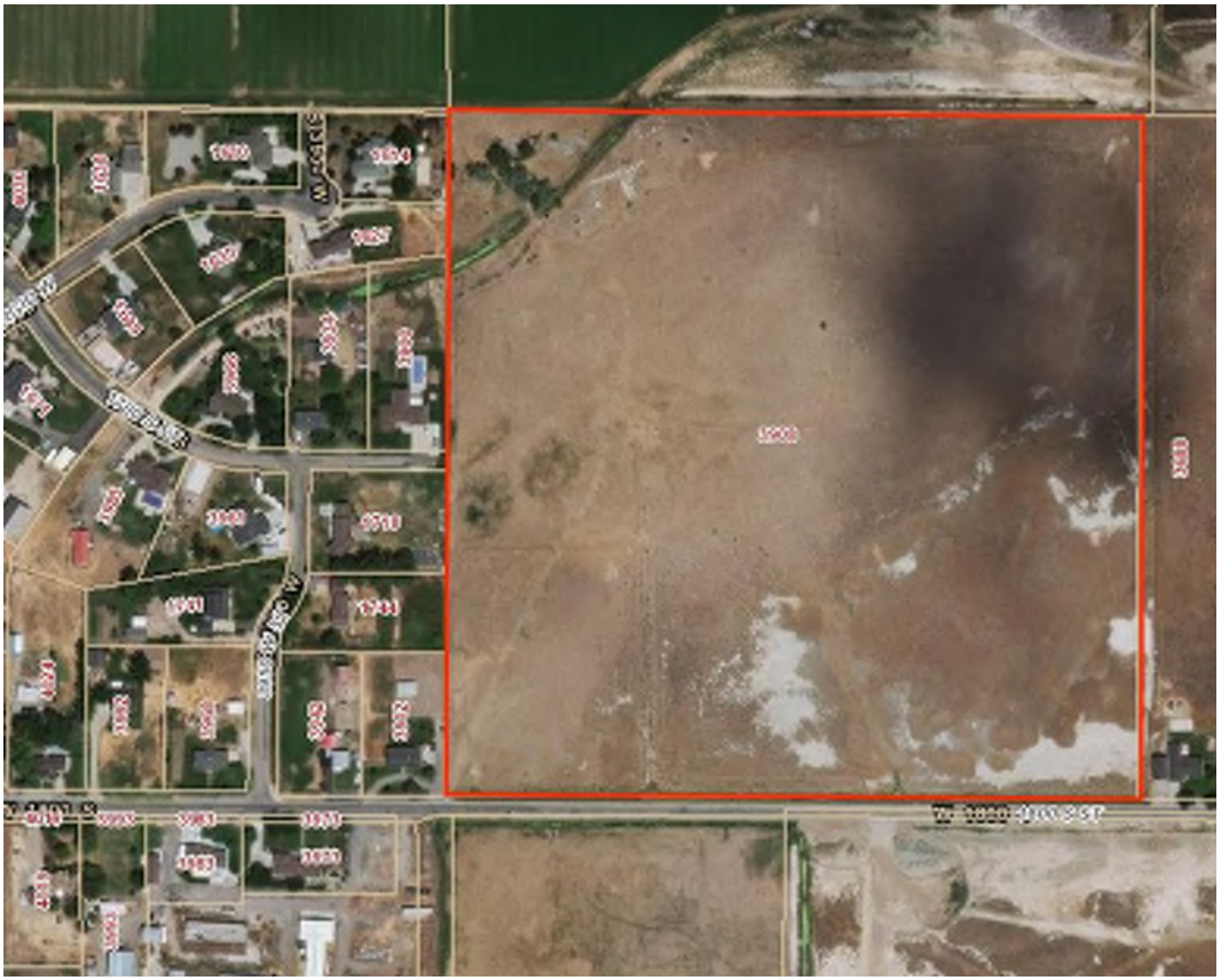

Exhibit A – Preliminary Subdivision Plat

See Attached.

Stagecoach Estates Acreage & Lot Summary			
Acreages	acres	ft^2	No. Lots
Gross Development	40.00	1,742,400	
Street	3.31	144,184	
Net Developable	36.69	1,598,216	
Open Space	18.35	799,108	
Number 40KSF Lots[1]			39.96
Number Cluster Subdivision Lots[2]			55.94

Notes:

1. Number 40KSF Lots=((Net Developable acreage)*(43,560))/(40,000))
2. Number of Cluster Subdivision Lots=(Number of 40KSF Lots)(1.40)

Exhibit B– Application & Feasibility Letters

See attached.

Exhibit C – Geotech Report and Soil Analysis Information

See attached – CMT Engineering

NW
Texture = Loam
PH=7.6
Salinity=.58

NE
Texture = Loar
PH=7.8
Salinity=.63

SW
Texture = Sandy Loam
PH=7.8
Salinity = .64

SE
Texture = Clay
PH=9.1
Salinity = 4.86

USU ANALYTICAL LABORATORIES

Soil Test Report
and
Fertilizer Recommendations

USU Analytical Labs
Utah State University
Logan, Utah 84322-8400
(435) 797-2217
(435) 797-2117 (FAX)
www.usual.usu.edu

Date Received: 3/24/2020
Date Completed: 4/3/2020

Name: Steve Burns
Address: 2675 N 850 E

North Ogden UT 84414

Phone: 801-602-6262
County: Weber

Lab Number: 2001-0419
Identification: SW
Crop to be Grown: Grass Hay

Grower's Comments:

Acres in Field:

Soil Test Results			Interpretations	Recommendations
Texture		Sandy Loam		
pH		7.8	Normal	
Salinity - ECe	dS/m	0.64	Normal	
Phosphorus - P	mg/kg	8.5	Low	50-75 lbs P2O5/A
Potassium - K	mg/kg	529	Very High	0 lbs K2O/A
Nitrate-Nitrogen - N	mg/kg			100-150 lbs N/A
Zinc - Zn	mg/kg			
Iron - Fe	mg/kg			
Copper - Cu	mg/kg			
Manganese - Mn	mg/kg			
Sulfate-Sulfur - S	mg/kg			
Organic Matter	%			
SAR				

Notes

For further assistance, please see your County Agent -- Helen Muntz 801-399-8204
For further information and publications of interest, see the
USU Analytical Lab webpage or Utah State University Extension

Methods Used by USUAL: pH • EC (salinity) • SAR by saturated paste; P • K by Olsen sodium bicarbonate extract • K by AA;
P by ascorbic acid/molybdate blue colorimetric; NO3-N by CaCl2 extract • cadmium reduction; Zn, Fe, Cu, Mn by DTPA • ICP;
SO4-S by Ca(H2PO4 • ICP; OM by Walkley-Black
Results only reflect the sample received and may not be indicative of actual field conditions.

USU ANALYTICAL LABORATORIES

Soil Test Report and Fertilizer Recommendations

USU Analytical Labs
Utah State University
Logan, Utah 84322-9400
(435) 797-2217
(435) 797-2117 (FAX)
www.usuali.usu.edu

Date Received: 3/24/2020
Date Completed: 4/3/2020

Name: Steve Burns
Address: 2675 N 850 E

North Ogden UT 84414

Phone: 801-602-6262
County: Weber

Lab Number: 2001-6418
Identification: SE
Crop to be Grown: Grass Hay

Grower's Comments:

Acres in Field:

Soil Test Results			Interpretations	Recommendations
Texture		Clay		
pH		9.1	Very High	
Salinity - ECe	dS/m	4.86	Normal	
Phosphorus - P	mg/kg	28.4	Adequate	0 lbs P2O5/A
Potassium - K	mg/kg	899	Very High	0 lbs K2O/A
Nitrate-Nitrogen - N	mg/kg			100-150 lbs N/A
Zinc - Zn	mg/kg			
Iron - Fe	mg/kg			
Copper - Cu	mg/kg			
Manganese - Mn	mg/kg			
Sulfate-Sulfur - S	mg/kg			
Organic Matter	%			
SAR				

Notes

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For further information and publications of interest, see the
USU Analytical Lab webpage or Utah State University Extension

Methods Used by USUAL: pH = 1:1 (salinity) + SAR by saturated paste, P = K by Olsen sodium bicarbonate extract + ICP, NA by P by ascorbic acid/molybdate blue colorimetric, NO3-N by CaCl2 extract + cadmium reduction, Zn, Fe, Cu, Mn by DTPA + ICP, SO4-S by CaHPO4 + ICP, OM by Walkley-Black
Results only reflect the samples received and may not be indicative of actual field conditions.

USU ANALYTICAL LABORATORIES

Soil Test Report and Fertilizer Recommendations

USU Analytical Labs
Utah State University
Logan, Utah 84322-8400
(435) 797-2217
(435) 797-2117 (FAX)
www.usual.usu.edu

Date Received: 3/24/2020
Date Completed: 4/3/2020

Name: Steve Burns
Address: 2675 N 650 E

North Ogden UT 84414

Phone: 801-602-6262
County: Weber

Lab Number: 2001-0421
Identification: NW
Crop to be Grown: Grass Hay

Grower's Comments:

Acres in Field:

Soil Test Results			Interpretations	Recommendations
Texture		Loam		
pH		7.6	Normal	
Salinity - ECe	dS/m	0.58	Normal	
Phosphorus - P	mg/kg	14.3	Marginal	0-50 lbs P2O5/A
Potassium - K	mg/kg	491	Very High	0 lbs K2O/A
Nitrate-Nitrogen - N	mg/kg			100-150 lbs N/A
Zinc - Zn	mg/kg			
Iron - Fe	mg/kg			
Copper - Cu	mg/kg			
Manganese - Mn	mg/kg			
Sulfate-Sulfur - S	mg/kg			
Organic Matter	%			
SAR				

Notes

For further assistance, please see your County Agent -- Helen Muntz 801-399-8204
For further information and publications of interest, see the
USU Analytical Lab webpage or Utah State University Extension

Methods Used by USUAL: pH + EC (salinity) + SAR by saturated paste; P = K by Olsen sodium bicarbonate extract – N by AA; P by ascorbic acid/molybdate blue colorimetric; NO3-N by CaSO4 extract + cadmium reduction; Zn, Fe, Cu, Mn by DTPA + ICP; SO4-S by Ca(H2PO4)2 + ICP; OM by Walkley Black.
Results only reflect the sample received and may not be indicative of actual field conditions.

USU ANALYTICAL LABORATORIES

Soil Test Report
and
Fertilizer Recommendations

USU Analytical Labs
Utah State University
Logan, Utah 84322-9400
(435) 797-2217
(435) 797-2117 (FAX)
www.usual.usu.edu

Date Received: 3/24/2020
Date Completed: 4/3/2020

Name: Steve Burns
Address: 2875 N 850 E

North Ogden UT 84414

Phone: 801-622-6262
County: Weber

Lab Number: 2001-0420
Identification: NE
Crop to be Grown: Grass Hay

Grower's Comments:

Acres in Field:

Soil Test Results			Interpretations	Recommendations
Texture		Loam		
pH		7.8	Normal	
Salinity - ECe	dS/m	0.63	Normal	
Phosphorus - P	mg/kg	5.5	Low	75-100 lbs P2O5/A
Potassium - K	mg/kg	328	High	0 lbs K2O/A
Nitrate-Nitrogen - N	mg/kg			100-150 lbs N/A
Zinc - Zn	mg/kg			
Iron - Fe	mg/kg			
Copper - Cu	mg/kg			
Manganese - Mn	mg/kg			
Sulfate-Sulfur - S	mg/kg			
Organic Matter	%			
SAR				

Notes

For further assistance, please see your County Agent -- Helen Muntz 801-399-8204
For further information and publications of interest, see the
USU Analytical Lab webpage or Utah State University Extension

Methods Used by USUAL: pH + EC (saturity) + SAR by saturated paste, P + K by Olsen-sodium bicarbonate extract + K by AA, P by ascorbic acid/molybdate blue (colorimetric), NO3-N by CaCl2 extract + cadmium reduction, Zn, Fe, Cu, Mn by DTPA + ICP, SO4-S by CaHPO4 + ICP, OM by Walkley-Black
Results only reflect the sample received and may not be indicative of actual field conditions.

Exhibit D– Time Lapse Aerial Photos

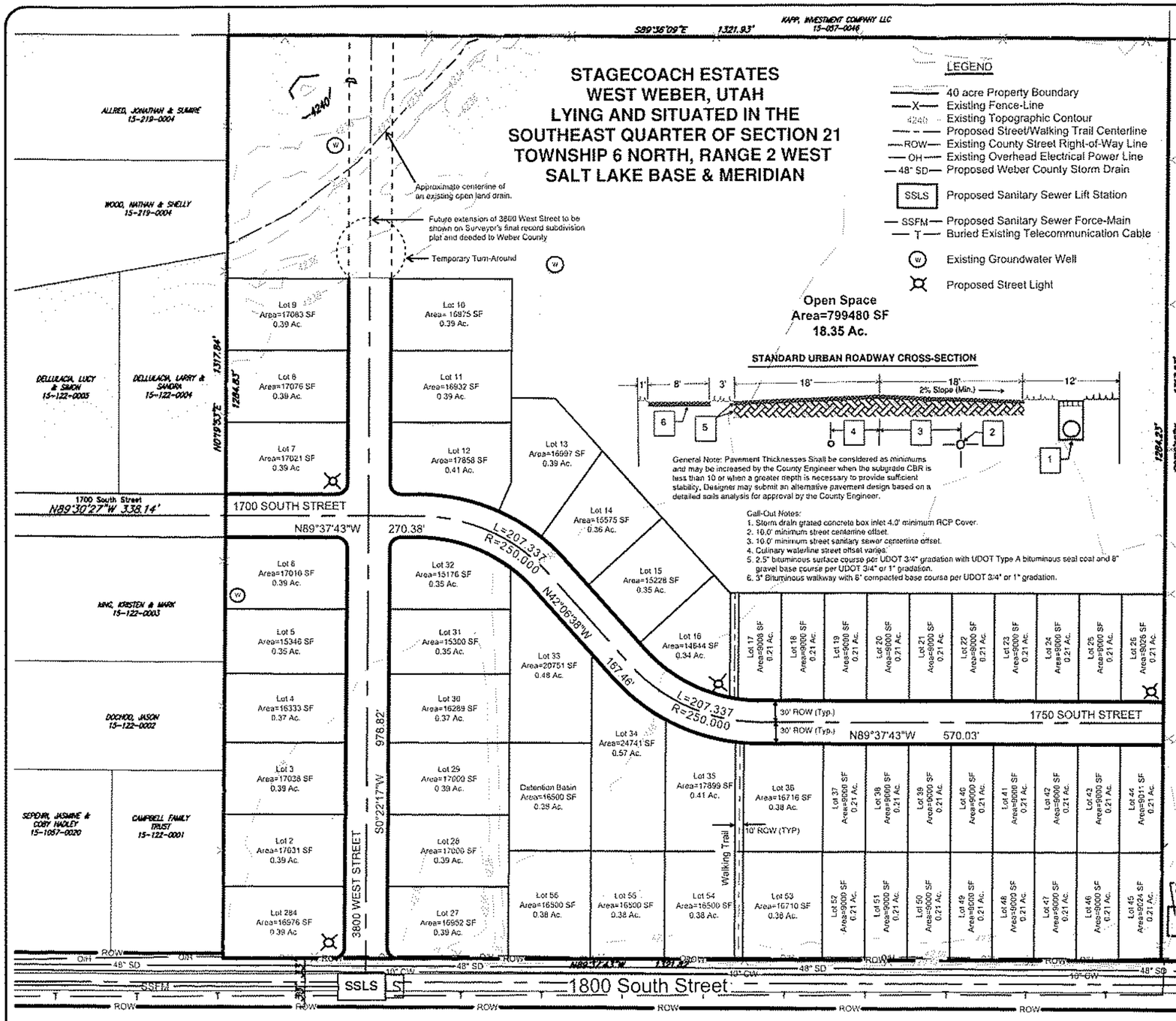
2021

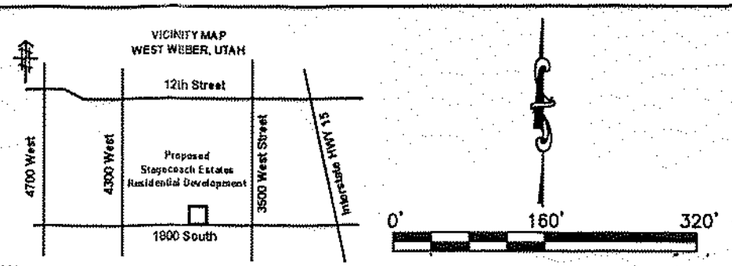
2017

2015

2011

STAGECOACH ESTATES
WEST WEBER, UTAH
LYING AND SITUATED IN THE SOUTHEAST QUARTER OF SECTION 21 TOWNSHIP 6 NORTH, RANGE 2 WEST SALT LAKE BASE & MERIDIAN





OPEN SPACE PLAN

The Open Space Parcel (OSP) shall be utilized as open pasture-land for agricultural livestock.

The OSP has no assigned water-shares from any local irrigation water provider agency with very limited water rights as on record with the State of Utah Division of Water Rights (UWRNs 35-2215, 35-2216, and 35-2217). Total annual diversions for all three water rights is roughly 37.4 acre-ft. 25.3 acre-ft. comes from groundwater (well) diversions with a beneficial use for irrigated agriculture; 5.0 acre-ft. also comes from groundwater diversions with a beneficial use for livestock water. The 25.3 acre-ft. for irrigated agriculture will support 5.9 acres of irrigated pasture land with an allowable water-duty of 4.0 acre-ft. per acre irrigated per year. The 5.0 acre-ft. for livestock water will support 24 ELUs per year.

The projected landowner is also the developer of the property: Mr. Pat Burns with Lync Construction.

Maintenance of the property is expected to be minimal with little to no need for mechanical farm equipment to harvest pasture forage crops. The new landowner is expected to pasture up to 24 head of cattle on the property which will feed off of the existing and newly planted pasture grass.

Engineering Drawing Narrative

1. All buried-piped utilities are not shown on the Preliminary Plan in consideration of clarity. The drawing scale does not allow for the clear and distinguishable graphical representation of individual utility lines (culinary water, secondary water, storm drainage, and sanitary sewer). A cross-section of the proposed municipal street and relative locations of individual buried utilities are as shown on the attached revised "Weber County Public Works Standards-Urban Surface Improvements" Sheet 3 of 17.

2.The metes and bounds legal description and Surveyor's Record Plat of the 40 acre development property is as shown on the attached "Record of Survey of Tax Parcel 15-057-0006 Ray L. Bertoldi Living Trust Lying and Situated in the Southwest Quarter of the Southwest Quarter of Section 21, Township 6 North, Range 2 West, Salt Lake Base and Meridian."

3.The "Stagecoach Estates Preliminary Plan Cluster Subdivision Submittal" was completed in accordance with Weber County Code Titles 106 Subdivisions and 108 Standards.

4.From scoping meetings with Weber County Planning Division staff, it was stated that: 1) the proposed Stagecoach Estates residential subdivision (Proposed Subdivision) cannot be serviced by the existing sanitary sewer trunkline within 1800 South Street's utility right-of-way and 2) the Proposed Subdivision cannot be serviced by the existing secondary water-line within 1800 South Street's utility right-of-way. The existing sanitary sewer ends at roughly 3950 West Street with an existing pipe invert flowline too high to sewer the Proposed Subdivision. The secondary water-line ends somewhere between 4075 West Street and 3950 West Street. The engineering design of the Proposed Subdivision is expected to include a sanitary lift station located somewhere near the main 1800 South entrance to the Proposed Subdivision with a forcemain that will discharge into the existing sanitary sewer manhole at 3950 West Street. The engineering design is also expected to include segments of a 10" to 12" high pressure secondary water line form roughly 4300 West Street to the main 1800 South Street entrance to the Proposed Subdivision. The determination of a construction site for the new sanitary lift station and alignments for both the forcemain and secondary water-line is considered beyond the scope of the preparation of this Preliminary Plan.

5. The South boundary of the development property is the location of an existing open channel land-drain (Open Drain) that is owned and operated by Weber County. The Open Drain will be replaced with a 48" RCP or HDPE pipeline as part of the scope of work to complete the engineering design of the Proposed Subdivision.
6.The South boundary of the development property is also the location of a high-voltage overhead electrical powerline that will be buried in an underground high-voltage cable per Rocky Mountain Power standards by a Rocky Mountain Power general contractor.

2/8/2020 11:16 AM

Preliminary Subdivision Plan Based on a Boundary/Topographic Survey by
Boundary Consultants
David L. Hawkes, PLS,
Utah Registration No. 356548
1295 North 1700 West, Farr West, Utah
Phone (801) 795-1589

168487 EDWIN H. CHRISTENSEN REGISTERED PROFESSIONAL ENGINEER STATE OF UTAH

Terrex Engineering & Construction, LLC
Land Development | Public Works - Water & Wastewater Utilities
P.O. Box 13059 Ogden, UT 84412 (801) 458-9647

DATE	REVIEWED	SUBMITTAL
02/07/2020	EHC	INITIAL PRELIMINARY PLAN SUBMITTAL TO WEBER COUNTY PLANNING

Stagecoach Estates
40.0 Acre Proposed Residential Development
Submitted by Lync Construction

ADDRESS:	1800 South 3800 West, West Weber, Utah
PARTIAL LEGAL:	Part of SW 1/4, Section 21, T6N, R2W
RECORDED DAVIS COUNTY TAX ASSESSOR TAX ID NUMBER:	15-057-0006
RECORD PROPERTY OWNERSHIP:	Ray L. Betoldi Living Trust
LAND SURVEYOR:	Boundary Consultants / David E. Hawkes, PLS

STAGECOACH ESTATES
PRELIMINARY PLAN CLUSTER SUBDIVISION SUBMITTAL

SHEET :
1 of 1

KAPP, INVESTMENT COMPANY LLC
15-057-0048

ALLRED, JONATHAN & SUMIRE
15-219-0004

WOOD, NATHAN & SHELLY
15-219-0004

DELLULACIA, LUCY & SIMON
15-122-0005

DELLULACIA, LARRY & SANDRA
15-122-0004

KING, KRISTEN & MARK
15-122-0003

DOCHOD, JASON
15-122-0002

SEPEHRI, JASMINE & COBY HADLEY
15-1057-0020

CAMPBELL FAMILY TRUST
15-122-0001

FLINDERS SUBDIVISION PHASE 1
15-057-0027

North Quarter Corner Section 21, Township 6 North, Range 2 West, Salt Lake Base and Meridian. Fnd Weber County Surveyor Brass Cap Monument flush with surface in fence line (see tie sht.).

East Quarter Corner Section 21, Township 6 North, Range 2 West, Salt Lake Base and Meridian. Fnd Weber County Surveyor Brass Cap Monument below surface of asphalt with ring & lid (see tie sht.)

South Quarter Corner Section 21, Township 6 North, Range 2 West, Salt Lake Base and Meridian. Fnd Weber County Surveyor Brass Cap Monument below surface of asphalt without ring & lid (see tie sht.)

Southeast Corner Section 21, Township 6 North, Range 2 West, Salt Lake Base and Meridian. Fnd Weber County Surveyor Brass Cap Monument base surface of asphalt with ring & lid (see tie sht.)

Found and accepted Rebar & Cap Stamped "Gardner Eng"

Found and rejected old Rebar & Cap Stamped "Gardner Eng"

Found and accepted Rebar & Cap Stamped "Mountain Engineering"

Found and rejected Rebar & Cap Stamped "Gardner Eng"

5242.68' (Meas)
3924.84' (Meas.)
Quarter Corner to Quarter Corner

South Sixteenth Section Line

S89°36'09"E 1321.93' (Meas)

South Sixteenth Section Line

1284.83'

N00°19'53"E 1317.83' (Meas)

1700 South Street
N89°30'27"W 338.14'

1284.23'

S00°20'10"W 1317.23'

N00°20'03"E 2633.26' (Meas)
N00°41'11"E 2631.40' (Rec)

1321.80'

N89°37'43"W 1321.81'

S89°37'43"E 2643.59' (Meas)

N89°15'08"W 2643.46' (Rec)

BASIS OF BEARING

1800 South Street

33.00' Typ.

Telephone Riser

Irrigation Riser

Telephone Riser

Water County Survey Benchmark Stamped 1924 Elevation = 4241.80'

Found Rebar & Cap Stamped "MOUNTAIN ENG"

Found and accepted Rebar & Cap Stamped "BENCHMARK ENG"

Fire Hydrant 1287.07' East of Property Line

SOUTH 826.67' West of Section Corner
16" Ridged Elm
Elev. = 4239.56'
16" 12" PVC West = 4234.56

4232.63 Rim
4227.93 Grate
4228.30 Ft.

4232.84 Rim

4238.11 Rim
4227.85 Grate
4233.41 Ft.

4238.85 Rim
4228.19 Grate
4233.41 Ft.

4236.33 Rim
4233.53 Ft.

SUBJECT PARCEL
CONTAINS
39.98 Gross Acres
1,741,606 sq. ft.
or
38.98 Net Acres
1,697,986 sq. ft.

NARRATIVE:

Boundary Consultants was retained by Terrex Engineering to survey the subject parcel and verify a previous A.L.T.A./NSPS Land Title Survey performed by Benchmark Engineering & Land Surveying, certified by Evon Wood, P.L.S., filed as Survey Number 5815 in the Office of the Weber County Surveyor.

This survey was carried out using a Trimble R8 GPS System, with ground distances being determined by Utah State VRS Network and no calibration. Basis of Bearing for this survey is North as determined by Utah VRS System or South 89°37'43" East 2643.59 feet measured between the Weber County brass cap monuments monumenting the South Quarter Corner and the Southeast Corner of Section 21, Township 6 North, Range 2 West, Salt Lake Base and Meridian.

Evidence of prior surveys performed by Gardner Engineering and Mountain Engineering were found as depicted hereon. The West property line of said parcel runs coincident with the Quarter Section Line of Section 21, Township 6 North, Range 2 West. The East boundary line for the subject parcel does not follow the current fence line with the adjoining parcel to the East.

1800 South Street is not a dedicated roadway the 66.00' foot road width depicted hereon is based upon Weber Counties assertion that roads in this area are 66.00 feet in width. The road crossing the subject parcel is a "Road by Use" and as such is defined by State Statute 72-5-104. that which is "Reasonable and necessary for safe travel according to the facts and circumstances".

DESCRIPTION:

Quit Claim Deed, Entry #2779143

The Southwest Quarter of the Southeast Quarter of Section 21, Township 6 North, Range 2 West, Salt Lake Base and Meridian, U.S. Survey, Weber County, Utah. Containing 40 acres, More or Less.

80 0 80 160
SCALE OF FEET

LEGEND

- 29 28 / 32 33 = SECTION CORNER & SECTION LINE
- = BOUNDARY LINE WITH REBAR AND CAP STAMPED "156548"
- = DEDICATED RIGHT OF WAY LINES
- = PURPORTED RIGHT OF WAY LINES
- = EXTANT WIRE FENCE
- = ADJOINING PARCELS DEED LINES
- = DIMENSION LINES
- = MINOR CONTOUR LINES
- = MAJOR CONTOUR LINES
- = FIRE HYDRANT
- = CATCH BASIN
- = TEL/COMM RISER
- = SANITARY SEWER MANHOLE
- = WATER VALVE
- = STORM DRAIN MANHOLE
- = WEBER COUNTY SURVEY BENCHMARK
- = WATER METER

RECORD OF SURVEY OF
TAX PARCEL 15-057-0006
RAY L BERTOLDI LIVING TRUST
LYING AND SITUATE IN THE SOUTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 21, TOWNSHIP 6 NORTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN

DRAWN: DEH
CHECKED: DEH
DATE PLOT WAS: 01-15-20
SCALE: 1"=80'
PROJECT NUMBER: 20010001

Boundary Consultants
Professional Land Surveyors
1295 North 1700 West, Farr West, Utah
801-782-1569 801-690-7158 FAX

DESIGNED: DEH
DRAFTED: DEH
CHECKED: DEH

SHEET 1 OF 1

EXHIBIT A - LOT SUMMARY

Stagecoach Estates Acreage & Lot Summary			
Acreages	acres	ft^2	No. Lots
Gross Development	40.00	1,742,400	
Street	3.31	144,184	
Net Developable	36.69	1,598,216	
Open Space	18.35	799,108	
Number 40KSF Lots[1]			39.96
Number Cluster Subdivision Lots[2]			55.94

Notes:

1. Number 40KSF Lots=((Net Developable acreage)*(43,560))/(40,000))
2. Number of Cluster Subdivision Lots=(Number of 40KSF Lots)(1.40)

EXHIBIT B

Weber County Subdivision Application

All subdivisions submittals will be accepted by appointment only. (801) 399-8791. 2380 Washington Blvd. Suite 240, Ogden, UT 84401

Date Submitted / Completed	Fees (Office Use)	Receipt Number (Office Use)	File Number (Office Use)
2/10/2020			

Subdivision and Property Information

Subdivision Name	Number of Lots
Stagecoach Estates	56

Approximate Address	Land Serial Number(s)
1800 S 3800 W	15-057-0006

Current Zoning	Total Acreage
A-1	40

Culinary Water Provider	Secondary Water Provider	Wastewater Treatment
	Hooper Irrigation	Weber Sewer district

Property Owner Contact Information

Name of Property Owner(s)	Mailing Address of Property Owner(s)
Ray L. Bertoldi	1530 Church St. Layton, UT 84041
Phone / Fax	
Email Address	Preferred Method of Written Correspondence: Email Fax (Mail)

Authorized Representative Contact Information

Name of Person Authorized to Represent the Property Owner(s)	Mailing Address of Authorized Person
Patrick Burns	1407 N Mountain RD Ogden, UT 84404
Phone: 801-710-2234 / Fax	
Email Address: Pat@lyncconstruction.com	Preferred Method of Written Correspondence: (Email) Fax Mail

Surveyor/Engineer Contact Information

Name or Company of Surveyor/Engineer	Mailing Address of Surveyor/Engineer
Terrex Engineering & Construction	P.O Box 13059 Ogden, UT 84412
Phone: 801-458-9647 / Fax	
Email Address: echristensen@terrexeng-const.com	Preferred Method of Written Correspondence: (Email) Fax Mail

Property Owner Affidavit

I (We), Ray L. Bertoldi, Trustee, depose and say that I (we) am (are) the owner(s) of the property identified in this application and that the statements herein contained, the information provided in the attached plans and other exhibits are in all respects true and correct to the best of my (our) knowledge. I (we) acknowledge that during the subdivision review process, it may be determined that additional requirements, covenants and/or agreements may be required to be constructed or entered into.

Ray L Bertoldi
(Property Owner)

(Property Owner)

Subscribed and sworn to me this 10th day of February, 2020

Weber County Corporation
Weber County Engineering
2380 Washington Blvd, Ste 240

Customer Receipt

Receipt Number 128793

Receipt Date

02/13/20

Received From:
PPD CONSTRUCTION

Time: 10:36:1
Clerk: amartin

Description	Comment	Amount
ENG SUBDIV FEES	SUBDIVISION	$3,185.00
PLAN SUBDIV FEE	SUBDIVISION	$2,215.00
SURVEY SUBDIV	SUBDIVISION	$1,800.00

Payment Type	Quantity	Ref	Amount
CHECK		1238	

AMT TENDERED:	$7,200.00
AMT APPLIED:	$7,200.00
CHANGE:	$0.00

Weber County *Incoming Application Processing Form*

Project Name: Stagecoach Estates

Date Submitted: 2/18/20 **Zoning:** A-1 **Received by:** Charlie

Culinary Water Provider: TAYLOR WEST WEBER **Secondary Water Provider:** HOOPER IRRIGATION **Waste Water Provider:** CENTRAL WEBER

Project Type:

- ☐ Alternative Access
- ☐ Board of Adjustment
- ☐ Building Parcel Designation
- ☐ Conditional Use Permit
- ☐ Design Review
- ☐ Hillside Review
- ☐ Land Use Permit
- ☒ Subdivisions:
  - Subdivision (Small/Amendment)
  - Subdivision-(Prelim/Final)
  - Subdivision-Cluster
- ☐ Zoning Text Amendment
- ☐ Zoning Map Amendment
- ☐ Zoning Development Agreement
- ☐ Vacation
- ☐ Other _____

Project Description:

56 LOT CLUSTER SUBDIVISION

Applicable Ordinances:

- ☐ Accessory Apartments
- ☐ Airport Zones and Height Regulations
- ☒ Cluster Subdivision
- ☐ Design Review
- ☐ Drinking Water Source Protection
- ☐ Hillside Development Review and Procedures and Standards
- ☐ Home Occupation
- ☐ Land Use Permit, Building Permit and Certificate of Occupancy
- ☐ Natural Hazards Overlay Districts
- ☐ Nonconforming Buildings, Uses and Parcels
- ☐ Ogden Valley Architectural, Landscape and Screening Standards
- ☒ Ogden Valley Lighting (CLUSTER)
- ☐ Ogden Valley Pathways
- ☐ Ogden Valley Sensitive Lands Overlay District
- ☐ Ogden Valley Signs
- ☐ Parking and Loading Space, Vehicle Traffic and Access Regulations
- ☐ Petitioner Requirements-Rezoning Procedure Development Agreement
- ☐ Planned Residential Unit Development
- ☐ Public Buildings and Public Utility Substations and Structures
- ☐ Signs
- ☐ Standards for Single Family Dwellings
- ☒ Supplementary & Qualifying Reg
- ☐ Time Share
- ☐ Zones & Districts

Weber County Review Agencies:

- ☐ Weber-Morgan Health Department-Drinking Water Division
- ☐ Weber-Morgan Health Department-Waste Water Division
- ☒ Weber County Addressing Official
- ☐ Weber County Animal Services
- ☒ Weber County Assessor's Office
- ☐ Weber County Board of Adjustment
- ☐ Weber County Building Inspection
- ☐ Weber County Commission
- ☐ Weber County Economic Development Partnership
- ☒ Weber County Engineering Division
- ☐ Weber County GIS
- ☐ Weber County CED
- ☒ Weber County Planning Division
- ☒ Weber County Recorder's Office
- ☐ Weber County Recreation Facilities
- ☐ Weber County Roads Division
- ☒ Weber County School District-Transportation Division
- ☐ Weber County Sheriff
- ☐ Weber County Special Events
- ☒ Weber County Surveyor's Office
- ☒ Weber County Treasurer's Office
- ☒ Weber Fire District
- ☐ Other_____

Outside Review Agencies:

- ☐ Bona Vista Water Improvement District
- ☐ Causey Estates Lot Owners Assoc.
- ☒ Central Weber Sewer Improvement
- ☐ Cole Canyon Water Company
- ☐ Centurylink
- ☐ Eden Irrigation Company
- ☒ Hooper Irrigation Company
- ☐ Hooper Water Improvement District
- ☐ Nordic Mountain Water Inc.
- ☐ Ogden Valley Starry Nights
- ☐ Powder Mountain Water & Sewer District
- ☒ Dominion Energy
- ☒ Rocky Mountain Power
- ☐ State of Utah Dept of Ag & Food
- ☐ Taylor Geotechnical
- ☒ Taylor-West Weber Water District
- ☐ Uintah Highlands Water & Sewer Dist
- ☐ US Forest Service
- ☐ Utah Department of Transportation
- ☐ Utah Division of Air Quality
- ☐ Utah Division of Drinking Water
- ☐ WC3
- ☒ Weber Pathways
- ☐ West Warren-Warren Water & Sewer
- ☐ Wolf Creek Water and Sewer Improvement District
- ☐ Other_____

EXHIBIT B

TAYLOR WEST WEBER WATER DISTRICT
2815 WEST 3300 SOUTH
WEST HAVEN, UTAH 84401
801-731-1668

5/7/2021

Weber County Planning Commission
2380 Washington Boulevard
Ogden, Utah 84401

To Whom It May Concern:

This is to inform you that ***Final*** approval has been given and the District has the capacity to provide only culinary water for 56 lots for the Stagecoach Subdivision by means of a 12" water main that will be extended from approximately 3900 W. to 3500 W. in Taylor, Utah. Taylor West Weber Water specifications and details must be followed.

Requirements:

- Plan review fee= $100 per lot. ($5,600.00 Total)
- Water rights fee = $4,363.00 per lot or current costs when paid. ($244,328.00 Total)
- Secondary Water = Must connect to the best available and feasible pressurized system available. Hooper Irrigation is preferred. For final approval Taylor West Weber Water may ask that a contract be implemented concerning pressurized secondary water. A pressurized secondary water system must be operatable and functioning before Taylor West Weber Water will give final approval for occupancy of any home. The developer is responsible for implementing the secondary water system.
- A 12" water line must be installed along 1800 S. on the frontage of the development.
- Impact Fees = $5,228.00 per lot or current costs when paid.
- Taylor West Weber Water District reserves the right to make or revise changes as needed or as advised by the district engineer or the district attorney.

FINAL APPROVAL SHOULD NOT BE ISSUED UNTIL FINAL APPROVAL IS GIVEN BY TAYLOR WEST WEBER WATER. Final approval is subject to meeting all of the requirements of the District and all fees being paid and received. This letter expires six months from the date it is issued.

Sincerely,

Expires 5/7/2021

Ryan Rogers – Manager
Taylor West Weber Water Improvement District

EXHIBIT B

Hooper Irrigation Co.

PO Box 184
5375 S 5500 W
Hooper, Utah 84315

Phone: (801)985-8429
Fax: (801)985-3556
hooperirrigationco@msn.com

May 11, 2021

Weber County Planning Commission
2380 Washington Blvd, #240
Ogden, Utah 84401

RE: Verification of Water Shares – Stagecoach Subdivision

The development is located at 1800 South and 3800 West approximately and consists of a total of 56 lots. Hooper Irrigation Company has pressure irrigation water available for the afore mentioned project located at the above address. This letter states that the afore named project is in the boundaries of Hooper Irrigation Company. A formal application has been made to our office and the fee for application has been paid.

The subdivision plat plan has been reviewed by Hooper Irrigation. The preliminary plans have been conditionally approved for the above subdivision with some changes possibly needed. ***Hooper Irrigation has been informed that Soderby, LLC is a partner in the Stagecoach Subdivision. Hooper Irrigation can verify that Soderby, LLC is the owner of 46 shares which would be more than sufficient to provide water for Stagecoach Subdivision to connect to the Pressurized Secondary System.*** The developer will also be required to bring the water to the subdivision and run the lines in front of the property. Only this project is in consideration and guaranteed service and the plan review is good only for a period of one year from the date of this letter, if not constructed.

Hooper Irrigation's specifications are available at the Company office.

If you have questions, please call 801-985-8429.

Sincerely,

Michelle Pinkston

Michelle Pinkston
Office Manager
Board Secretary

Central Weber Sewer Improvement District

February 11, 2020

EXHIBIT B

Weber County Planning Commission
2380 Washington Blvd.
Ogden, Utah 84401-1473

Reference: Stagecoach Estates Subdivision
3800 West 1800 South
Sanitary Sewer Will Serve Letter

Weber County Planning Commission:

We have been asked review the possibility of providing sanitary sewer service for the proposed Stagecoach Estates Subdivision located at 3800 West 1800 South. This property is more or less described as a 40 Acre Parcel with Tax ID #15-057-0006. Central Weber Sewer Improvement District can accept and treat the sanitary sewer discharge from this location. The following conditions that must be met prior to any connections being made to the District's sanitary sewer line.

1. The nearest sanitary sewer line owned by Central Weber Sewer Improvement District is located at the intersection of 1800 S 4300 W.

2. If any sanitary sewer connections are made to the District's lines they will need to be designed and constructed according to the District's standard details and specifications. A copy of the District's details and specifications can be found at: https://www.centralweber.com/information.

3. The plans and details for any sanitary sewer connection into the District's collection system must be submitted to the District for review and approval. The District does not take the responsibility for the design of the collection system for the subdivision.

4. The District will not take ownership nor responsibility for ongoing maintenance and operation of the collection system within the Stagecoach Estates Subdivision nor the collection line from the subdivision to the connection point at 1800 South 4300 West.

5. The District must be notified for inspection at any time connections are being made to the District's sanitary sewer lines. The District will NOT install, own and/or maintain any of the sanitary sewer lines being extended to serve this property.

6. The connection of any sump pumps (or similar type pumps) to the sanitary sewer system is prohibited during or after construction. Central Weber's Wastewater Control Rules and Regulations state:

   Prohibited Discharge into Sanitary Sewer. No person shall discharge or cause or make a connection which would allow to be discharged any storm water, surface water, groundwater, roof water runoff or subsurface drainage to any sanitary sewer.

7. Impact Fees for each residential lot must be paid prior to or at the time a building permit is obtained.

If you have further questions or need additional information please do not hesitate to contact us.

Sincerely,

CENTRAL WEBER SEWER IMPROVEMENT DISTRICT

Lance L. Wood, P. E.
General Manager

cc: Mandy Peterson, Lync Construction
pat@lyncconstruction.com

EXHIBIT C

CMT ENGINEERING LABORATORIES

Engineering
Geology
Environmental (ESA I & II)
Organic Chemistry
Materials Testing
Special Inspections

GEOTECHNICAL ENGINEERING STUDY

Bertoldi Property

1800 South about 3900 West
West Weber, Utah

Prepared For:

Mr. Ray L. Bertoldi
1530 N. Church Street
Layton, UT 84041

CMT Project No. 10878
March 7, 2018

CMT ENGINEERING LABORATORIES

March 7, 2018

Mr. Ray L. Bertoldi
1530 N. Church Street
Layton, UT 84041

Subject: Geotechnical Engineering Study
Bertoldi Property
1800 South about 3900 West
South Weber, Utah
CMT Project Number: 10878

Mr. Bertoldi:

Submitted herewith is the report of our geotechnical engineering study for the subject site. This report contains the results of our findings and an engineering interpretation of the results with respect to the available project characteristics. It also contains recommendations to aid in the design and construction of the earth related phases of this project.

On February 7, 2018, a CMT Engineering Laboratories (CMT) engineer was on-site and supervised the excavation of 12 test pits extending to depths of about 9.0 to 12.0 feet below the existing ground surface. Soil samples were obtained during the field operations and subsequently transported to our laboratory for further testing and observation. Groundwater was encountered at very shallow depths.

Conventional spread and/or continuous footings may be utilized to support the proposed residences, provided the recommendations in this report are followed. A detailed discussion of design and construction criteria is presented in this report.

We appreciate the opportunity to work with you at this stage of the project. CMT offers a full range of Geotechnical Engineering, Geological, Material Testing, Special Inspection services, and Phase I and II Environmental Site Assessments. With offices throughout Utah and Arizona, our staff is capable of efficiently serving your project needs. If we can be of further assistance or if you have any questions regarding this project, please do not hesitate to contact us at (801) 870-6730.

Sincerely,
CMT Engineering Laboratories

LICENSED PROFESSIONAL ENGINEER # 374995 JEFFREY J. EGBERT 3/7/18 STATE OF UTAH

Jeffrey J. Egbert, P.E., LEED A.P., M. ASCE
Senior Geotechnical Engineer

Reviewed by:

Bryan N. Roberts, P.E.
Senior Geotechnical Engineer

TABLE OF CONTENTS

APPENDIX

1.0 INTRODUCTION

1.1 General

CMT Engineering Laboratories (CMT) was retained to conduct a geotechnical subsurface study for the proposed development of approximately 40 acres as a residential subdivision. The parcel is situated on the north side of 1800 South Street at about 3900 West in West Weber, Utah, as shown in the **Vicinity Map** below.

Vicinity Map

1.2 Objectives, Scope and Authorization

The objectives and scope of our study were planned in discussions between Mr. Bill Frandsen, and Mr. Andrew Harris of CMT Engineering Laboratories (CMT). In general, the objectives of this study were to define and evaluate the subsurface soil and groundwater conditions at the site, and provide appropriate foundation, earthwork, and pavement recommendations and geoseismic information to be utilized in the design and construction of the proposed development.

In accomplishing these objectives, our scope of work has included performing field exploration, which consisted of the excavating/logging/sampling of 12 test pits, performing laboratory testing on representative samples, and conducting an office program, which consisted of correlating available data, performing engineering analyses, and preparing this summary report.

1.3 Description of Proposed Construction

We understand that the proposed structures will be single family residences which we project will have one to two levels of wood frame construction above grade, with a possible single level of reinforced concrete below or partially below grade (basement) if conditions allow. Maximum continuous wall and column loads for the single family residential structures are anticipated to be 1 to 3 kips per lineal foot and 10 to 25 kips, respectively. Floor slab loads are anticipated to be relatively light, with an average uniform loading not exceeding 100 pounds per square foot. If the loading conditions are different than we have projected, please notify us so that any appropriate modifications to our conclusions and recommendations contained herein can be made.

We anticipate that asphalt-paved residential streets will be constructed as part of the development. Traffic is projected to consist of a light volume of automobiles and pickup trucks, a few weekly medium-weight delivery trucks, a weekly garbage truck, daily school buses, and an occasional fire truck.

Site development will require some earthwork in the form of minor cutting and filling. A site grading plan was not available at the time of this report. However, it is anticipated that site development will require a moderate amount of earthwork in the form of site grading. We recommend that site grading cuts be minimized to that required to remove vegetation, topsoil, disturbed soils and other unsuitable soils due to very shallow groundwater. Site grading fills to achieve design grades are projected to be on the order of 2 to 3 feet. Larger cuts and fills may be required in isolated areas. If deeper cuts or fills are planned, CMT should be notified to provide additional recommendations, if needed.

1.4 Executive Summary

Our evaluation indicates that proposed residences can be supported upon conventional spread and continuous wall foundations established upon suitable, undisturbed, natural soils and/or upon structural fill extending to suitable natural soils. Further, some periodic stabilization of exposed bearing subgrade must be anticipated due to shallow groundwater.

The most significant geotechnical aspects regarding site development include the following:

1. Up to 4 inches of clayey sandy topsoil blankets the site, which will require removal beneath structures;
2. Relatively shallow groundwater which will limit the practical depth of subgrade floor slabs (basements); and
3. Clay and sand layers easily disturbed by construction activities which may require stabilization.

Static groundwater was measured on February 27, 2018 within installed pipes at the test pits completed across the site between about 2.8 and 6.5 feet below the existing ground surface. The shallow groundwater encountered at the site may affect the installation of utilities, foundations, and any sublevel construction. It is recommended that the top of the lowest habitable slab be kept a minimum of 3.0 feet above the measured groundwater level. If a land drain is constructed within the development, the top of slabs within the lowest habitable level are recommended to be at least 1.5 feet above the level controlled by individual foundation subdrains tied into land drains within the development.

The natural clay soils encountered within the test pits are not recommended for re-utilization as structural fill due to their high moisture content and difficulty to properly rework. Further saturated natural sand soils will require drying to near optimum moisture content in order to recompact. This will be difficult during wet and cold periods of the year. The natural soil may be re-utilized in non- structural and landscape areas.

CMT must assess that topsoil, undocumented fills, debris, disturbed or unsuitable soils have been removed and that suitable soils have been encountered prior to placing site grading fills, footings, slabs, and pavements.

In the following sections, detailed discussions pertaining to the site and subsurface descriptions, geologic/seismic setting, earthwork, foundations, lateral resistance, lateral pressure, floor slabs, and pavements are provided.

2.0 FIELD EXPLORATION

In order to define and evaluate the subsurface soil and groundwater conditions, twelve test pits were excavated with a backhoe throughout the site to depths of approximately 9.0 to 12.0 feet below the existing ground surface. Locations of the test pits are presented on **Figure 1, Site Plan**, included in the Appendix. The field exploration was performed under the supervision of an experienced member of our geotechnical staff.

Representative soil samples were collected by obtaining disturbed "grab" samples and utilizing a 2.42-inch inside diameter thin-wall drive sampler. The samples were placed in sealed plastic bags and containers prior to transport to the laboratory.

The subsurface soils encountered in the test pits were logged and described in general accordance with ASTM[1] D-2488. Soil samples were collected as described above, and were classified in the field based upon visual and textural examination. These field classifications were supplemented by subsequent examination and testing of select samples in our laboratory. Graphical representations of the subsurface conditions encountered are presented on each individual Test Pit Log, **Figures 2 through 13**, included in the Appendix. A Key to Symbols defining the terms and symbols used on the logs, is provided as **Figure 14** in the Appendix.

Following completion of exploration operations, 1.25-inch diameter slotted PVC pipe was installed in test pits TP-1 through TP-7, and TP-9 through TP-12 to allow subsequent water level measurements.

When backfilling the test pits, only minimal effort was made to compact the backfill and no compaction testing was performed. Thus, settlement of the backfill in the test pits over time should be anticipated and the backfilled materials must be considered non-engineered.

3.0 LABORATORY TESTING

Selected samples of the subsurface soils were subjected to various laboratory tests to assess pertinent engineering properties, as follows:

[1]American Society for Testing and Materials

1. Moisture Content, ASTM D-2216, Percent moisture representative of field conditions
2. Dry Density, ASTM D-2937, Dry unit weight representing field conditions
3. Atterberg Limits, ASTM D-4318, Plasticity and workability
4. Gradation Analysis, ASTM D-1140/C-117, Grain Size Analysis
5. One Dimension Consolidation, ASTM D-2435, Consolidation properties

Laboratory test results are presented on the test pit logs (**Figures 2 through 13**) and in the following Lab Summary table:

Lab Summary Table

Test Pit	Depth (feet)	Soil Class	Sample Type	Moisture Content (%)	Dry Denstiy (pcf)	Gradation			Atterberg Limits			Collapse (-) or Expansion (+)
						Grav	Sand	Fines	LL	PL	PI	
TP-1	2.5	CL	Thin Wall	27.6	96.0							<+0.5%
TP-2	3	CL	Thin Wall	26.1	96.3			75				
TP-4	2.5	CL	Thin Wall	15.3	117.6							<+0.5%
TP-5	7.5	SM	Bag	21.8				25				
TP-6	3	SM	Bag	10.5				25				
TP-7	3	SM	Bag	10.4				24				
TP-8	2.5	SC	Bag	19.4				49	24	16	8	
TP-9	2.5	CL	Thin Wall	17.0	109.0							<+0.5%
TP-10	3	CL	Thin Wall	24.9	99.4			41				
TP-12	3	CL	Bag	19.2				50	24	16	8	

Consolidation test results indicate the natural soils at this site are moderately over-consolidated and moderately compressible under additional loading, and have a minor potential to swell when wetted. Detailed results of the tests are maintained within our files and can be transmitted to you, upon your request.

4.0 GEOLOGIC & SEISMIC CONDITIONS

4.1 Geologic Setting

The subject site is located in the west-central portion of Weber County in north-central Utah. The site sits at an elevation of between approximately 4,230 and 4,240 feet above sea level. The site is located in a valley bound by the Wasatch Mountains on the east and Antelope Island (Great Salt Lake) and the Promontory Mountains to the west. The Valley is a deep, sediment-filled basin that is part of the Basin and Range Physiographic Province. The valley was formed by extensional tectonic processes during the Tertiary and Quaternary geologic time periods. The Valley is located within the Intermountain Seismic Belt, a zone of ongoing tectonism and seismic activity extending from southwestern Montana to southwestern Utah. The active (evidence of movement in the last 10,000 years) Wasatch Fault Zone is part of the Intermountain Seismic Belt and extends from southeastern Idaho to central Utah along the western base of the Wasatch Mountain Range.

Much of northwestern Utah, including the valley in which the subject site is located, was also previously covered by the Pleistocene age Lake Bonneville. The Great Salt Lake, located along the western margin of the valley and

beyond, is a remnant of this ancient fresh water lake. Lake Bonneville reached a high-stand elevation of between approximately 5,100 and 5,200 feet above sea level at between 18,500 and 17,400 years ago. Approximately 17,400 years ago, the lake breached its basin in southeastern Idaho and dropped by almost 300 feet relatively fast as water drained into the Snake River. Following this catastrophic release, the lake level continued to drop slowly over time, primarily driven by drier climatic conditions, until reaching the current level of the Great Salt Lake. Shoreline terraces formed at the high-stand elevation of the lake and several subsequent lower lake levels are visible in places on the mountain slopes surrounding the valley. Much of the sediment within the Valley was deposited as lacustrine sediments during both the transgressive (rise) and regressive (fall) phases of Lake Bonneville.

The geology of the USGS Roy, Utah 7.5 Minute Quadrangle, that includes the location of the subject site, has been mapped by Sack[2]. The surficial geology over the majority of the subject site and adjacent properties is mapped as "Early Holocene fine-grained deltaic deposits" (Map Unit Qd_2) dated to be early Holocene. On areas of the central portions of the site Unit Qd_2 is overlain by "Marsh Deposits" (Map Unit Qsm) dated to be Holocene to uppermost Pleistocene. No fill has been mapped at the location of the site on the geologic map. The referenced geologic map describes Unit Qd_2 as "Muddy to sandy fines deposited between about 9.7 and 9.4 ka. Estimated thickness 10 to 20 feet (3-6 m)." Unit Qsm is described in the referenced mapping as "Wet, fine-grained, organic-rich sediments in association with springs, ponds, and seeps. Deposited from about 12.1 ka to present. Thickness probably less than 5 feet (1.5 m)." Refer to the **Geologic Map**, shown below.

Geologic Map

2Sack, D., 2005, Geologic Map of the Roy 7.5' Quadrangle, Weber and Davis Counties, Utah; Utah Geological Survey Miscellaneous Publication, Map MP-05-03, Scale 1:24,000.

4.2 Faulting

No surface fault traces are shown on the referenced geologic map crossing or projecting toward the subject site. The nearest mapped active fault trace is the Weber segment of the Wasatch fault located about 6.75 miles northeast of the site.

The Wasatch Fault is considered a "normal" fault because movement along the fault is typically vertical. The east side of the fault, or the mountain block, typically moves upward relative to the valley block on the west side of the fault. The fault generally dips to the west below the valleys. In an earthquake, the point where the fault initially ruptures is called the 'focus" and generally occurs about 10 miles below the surface. The point on the surface directly above the focus, the epicenter, typically out in the valley, is usually where the strongest ground shaking occurs. The Wasatch Fault is one of the longest and most active normal faults in the world.

4.3 Seismicity

4.3.1 Site Class

Utah has adopted the International Building Code (IBC) 2015. IBC 2015 determines the seismic hazard for a site based upon 2008 mapping of bedrock accelerations prepared by the United States Geologic Survey (USGS) and the soil site class. The USGS values are presented on maps incorporated into the IBC code and are also available based on latitude and longitude coordinates (grid points). For site class definitions, IBC 2015 (Section 1613.3.2) refers to Chapter 20, Site Classification Procedure for Seismic Design, of ASCE[3] 7. Given the subsurface soils at the site, including our projection of soils within the upper 100 feet of the soil profile, it is our opinion the site best fits Site Class D – Stiff Soil Profile, which we recommend for seismic structural design.

4.3.2 Seismic Design Category

The 2008 USGS mapping utilized by the IBC provides values of peak ground, short period and long period accelerations for the Site Class B boundary and the Maximum Considered Earthquake (MCE). This Site Class B boundary represents average bedrock values for the Western United States and must be corrected for local soil conditions. The Seismic Design Categories in the International Residential Code (IRC 2015) are based upon the Site Class as addressed in the previous section. For Site Class D at site grid coordinates of 41.2364 degrees north latitude and 112.0710 degrees west longitude, S_{DS} is 0.835 and the **Seismic Design Category** is D_2.

4.3.3 Liquefaction

The site is located within an area designated by the Utah Geologic Survey[4] as having "High" liquefaction potential. Liquefaction is defined as the condition when saturated, loose, sandy soils lose their support capabilities because of excessive pore water pressure which develops during a seismic event. Clayey soils, even if saturated, will generally not liquefy during a major seismic event.

[3] American Society of Civil Engineers
[4] Liquefaction Special Study Areas, Wasatch Front and Nearby Areas, Utah Geological Survey, 2008

A special liquefaction study was not performed for this site. We encountered some saturated sand layers, estimated to be in a medium dense state, which could be potentially liquefiable. Additional exploration, testing, and engineering analysis would be required to further quantify the liquefaction potential at the site.

4.4 Other Geologic Hazards

No landslide deposits or features, including lateral spread deposits, are mapped on or adjacent to the site. The site is not located within a known or mapped potential debris flow, stream flooding, or rock fall hazard area. The Walker Slough crosses the northwest corner of the site and is a location of surface water collection.

5.0 SITE CONDITIONS

5.1 Surface Conditions

At the time the test pits were excavated the site predominately consisted of undeveloped pasture land vegetated with grasses and weeds, with a few tress in the extreme northwest corner. The site grade was relatively flat. Based upon aerial photos readily available online dating back to 1993, the site has been pasture since that time. Open ditches were observed along the south boundary, and cutting across the northwest corner of the site. The site is bounded on the north by fields, on the south by 1800 South Street, on the east by fields and a single residence, and on the west by residential development (See **Vicinity Map** in **Section 1.1** above).

5.2 Subsurface Soils

At the locations of the test pits we encountered approximately 4 inches of clayey sandy topsoil and disturbed soils on the surface of the site. Natural soils were observed beneath the topsoil including brown CLAY (CL) with varying sand contents, and brown to gray Silty and Clayey SAND (SM, SC) layers, extending to the bottom of the test pits. The clay soils were moist to wet, and estimated to have medium stiff consistency. The sand soils were moist to wet and estimated to be in a medium dense state.

For a more descriptive interpretation of subsurface conditions, please refer to the test pit logs, **Figures 2 through 13**, which graphically represent the subsurface conditions encountered. The lines designating the interface between soil types on the logs generally represent approximate boundaries - in situ, the transition between soil types may be gradual.

5.3 Groundwater

Groundwater was encountered in the test pits at depths of about 4 to 10 feet below existing grade at the time of our field exploration. On February 27, 2018, CMT personnel returned to the site and measured stabilized/static groundwater levels within slotted PVC pipes installed in most of the test pits. The stabilized/static water levels are tabulated on the following page:

Test Pit No.	Static Groundwater Level Below Existing Grade (feet) February 27, 2018
TP-1	2.8
TP-2	5.5
TP-3	6.5
TP-4	4.8
TP-5	6.4
TP-6	5.5
TP-7	5.5
TP-8	No pipe installed
TP-9	5.2
TP-10	4.2
TP-11	3.5
TP-12	3.5

These depths to groundwater will affect the installation of utilities at the site and the practical depth of basements.

Groundwater levels can fluctuate as much as 1.0 to 2.0 feet seasonally. Numerous other factors such as heavy precipitation, irrigation of neighboring land, and other unforeseen factors, may also influence ground water elevations at the site. The detailed evaluation of these and other factors, which may be responsible for ground water fluctuations, is beyond the scope of this study.

5.4 Design Groundwater

Very shallow static groundwater was measured following excavations for this project. As a result, further measures will be required to control groundwater levels within the development if sublevels are desired, such as the construction of a land drain system throughout the development. If a land drain is not constructed within the development, then the lowest habitable floor slab embedment should be kept a minimum of 3.0 feet above measured static groundwater levels indicated above in Section 5.3, Groundwater. Further if a land drain is not installed then the static groundwater level must be determined on each individual lot and minimum floor slab elevations determined based on the depth to groundwater.

5.5 Site Subsurface Variations

Based on the results of the subsurface explorations and our experience, variations in the continuity and nature of subsurface conditions should be anticipated. Due to the heterogeneous characteristics of natural soils, care should be taken in interpolating or extrapolating subsurface conditions between or beyond the exploratory locations.

Also, when logging and sampling of the test pits was completed, the test pits were backfilled with the excavated soils but minimal to no effort was made to compact these soils. Thus, settlement of the backfill in the test pits over time should be anticipated. Test pit backfill materials must be considered non-engineered fill.

6.0 SITE PREPARATION AND GRADING

6.1 General

Initial site preparation will consist of the removal of surface vegetation, topsoil, any other deleterious materials, non-engineered fills, if encountered, and loose/disturbed surface soils from beneath an area extending out at least 3 feet from the perimeter of the proposed homes buildings. Similarly remove surface vegetation, topsoil, any other deleterious materials, non-engineered fills from beneath an area extending out at least 2 feet beyond pavements and exterior flatwork areas. Disturbed soils may remain below flexible pavements and flatwork if properly prepared. Proper preparation consists of scarifying the upper 9 inches of disturbed soils, moisture conditioning, and compacting the soils to the requirements of structural fill.

Based upon the conditions observed in the test pits there is topsoil on the surface of the site which we estimated to be about 4 inches in thickness. When stripping and grubbing, topsoil should be distinguished by the apparent organic content and not solely by color; thus we estimate that topsoil stripping will need to include the upper about 4 inches.

Due to shallow groundwater conditions, we strongly recommend that land drains, if utilized, as well as major utilities be installed as far in advance as possible prior to roadway and residential construction. Further it is recommended that site grading cuts be kept to the minimum to remove vegetation, topsoil, disturbed soils and any other unsuitable soils. Ideally roadway structural sections would be designed at least two feet above the groundwater level to reduce potential subgrade stabilization needs. The earthwork contractor must be prepared to dewater and likely begin dewatering prior to major excavating. Further, some stabilization of very moist to saturated subgrade soils must be anticipated. Stabilization recommendations are provided later in this report.

Subsequent to stripping and prior to the placement of structural site grading fill, pavements, floor slabs, or footings, the exposed subgrade shall be proofrolled by running moderate-weight rubber tire-mounted construction equipment uniformly over the surface at least three times. An exception to this would be where the exposed subgrade is within 2 feet of groundwater. If excessively soft or otherwise unsuitable soils are encountered beneath footings, they must be totally removed and/or stabilized. If removal depth required is

more than 2 feet or at groundwater level, CMT must be notified to provide additional recommendations. In pavement, outside flatwork areas, and in most cases below floor slab, unsuitable natural soils shall be removed to a maximum depth of 2 feet and replaced with compacted granular structural fill. Additional removal below floor slabs may be required depending on conditions encountered.

Surface vegetation and other deleterious materials should generally be removed from the site. Topsoil, although unsuitable for utilization as structural fill, may be stockpiled for subsequent landscaping purposes.

The site should be examined by a CMT geotechnical engineer to assess that suitable natural soils have been exposed and any deleterious materials, loose and/or disturbed soils have been removed/properly prepared, prior to placing site grading fills, footings, slabs, and pavements.

Fill placed over large areas to raise overall site grades can induce settlements in the underlying natural soils. If more than 3 feet of site grading fill is anticipated over the natural ground surface, we should be notified to assess potential settlements and provide additional recommendations as needed. These recommendations may include placement of the site grading fill far in advance to allow potential settlements to occur prior to construction.

6.2 Temporary Excavations

Relatively shallow groundwater was encountered during our field investigation for the site and later measured at depths of 2.8 to 6.5 feet below the existing ground surface. We anticipate that excavations extending below a depth of about 2.5 to 6 feet will likely encounter groundwater, and dewatering of such excavations will likely be required. Groundwater levels could be shallower in the spring and early summer.

In cohesive (clayey) soils, temporary construction excavations not exceeding 4 feet in depth may be constructed with near-vertical side slopes. Temporary excavations up to 8 feet deep, above or below groundwater, may be constructed with side slopes no steeper than one-half horizontal to one vertical (0.5H:1V). Excavations deeper than 8 feet are not anticipated at the site.

For cohesionless (sandy/gravelly) soils, temporary construction excavations not exceeding 4 feet in depth and above the groundwater should be no steeper than one-half horizontal to one vertical (0.5H:1V). For excavations up to 8 feet and above groundwater, side slopes should be no steeper than one horizontal to one vertical (1H:1V).

Excavations encountering saturated cohesionless soils will be very difficult and will require very flat sideslopes and/or shoring, bracing and dewatering as these soils will tend to flow into the excavation. Where excavations are known to extend below groundwater it is recommended that dewatering begin as far in advance and reasonably possible to help facilitate the excavation process. Even with dewatering, adjacent saturated clean sand soils, if encountered, may flow into the excavation. Under such cases, temporary shoring of excavations must be anticipated.

To reduce disturbance of the natural soils during excavation, we recommend that smooth edge buckets/blades be utilized.

All excavations must be inspected periodically by qualified personnel. If any signs of instability or excessive sloughing are noted, immediate remedial action must be initiated. All excavations should be made following OSHA safety guidelines.

6.3 Fill Material

Following are our recommendations for the various fill types we anticipate will be used at this site:

Fill Material Type	Description/Recommended Specification
Structural Fill	Placed below structures, flatwork and pavement. Well-graded sand/gravel mixture, with maximum particle size of 4 inches, a minimum 70% passing 3/4-inch sieve, a maximum 20% passing the No. 200 sieve, and a maximum Plasticity Index of 10.
Site Grading Fill	Placed over larger areas to raise the site grade. Sandy to gravelly soil, with a maximum particle size of 6 inches, a minimum 70% passing 3/4-inch sieve, and a maximum 50% passing No. 200 sieve.
Non-Structural Fill	Placed below non-structural areas, such as landscaping. On-site soils or imported soils, with a maximum particle size of 8 inches, including silt/clay soils not containing excessive amounts of degradable/organic material (see discussion below).
Stabilization Fill	Placed to stabilize soft areas prior to placing structural fill and/or site grading fill. Coarse angular gravels and cobbles 1 inch to 8 inches in size. May also use 1.5- to 2.0-inch gravel placed on stabilization fabric, such as Mirafi RS280i, or equivalent (see **Section 6.6**).

On-site clay soils, are not recommended for re-utilization as structural site grading fill but may be utilized in landscape areas. On-site sand soils may be used as site grading fill and non-structural fill, however, if these soils are saturated they will required drying prior to recompacting which will be very difficult, if not impossible, during wet and cold periods of the year. We also recommend that the grading fill thickness using on-site soils be no more than 3 feet below structures, to minimize potential settlements.

All fill material should be approved by a CMT geotechnical engineer prior to placement.

6.4 Fill Placement and Compaction

The various types of compaction equipment available have their limitations as to the maximum lift thickness that can be compacted. For example, hand operated equipment is limited to lifts of about 4 inches and most "trench compactors" have a maximum, consistent compaction depth of about 6 inches. Large rollers, depending on soil and moisture conditions, can achieve compaction at 8 to 12 inches. The full thickness of each lift should be compacted to at least the following percentages of the maximum dry density as determined by ASTM D-1557 (or AASHTO[5] T-180) in accordance with the following recommendations:

[5] American Association of State Highway and Transportation Officials

Location	Total Fill Thickness (feet)	Minimum Percentage of Maximum Dry Density
Beneath an area extending at least 3 feet beyond the perimeter of structures, and below flatwork and pavement (applies to structural fill and site grading fill)	0 to 5 5 to 8	95 98
Site grading fill outside area defined above	0 to 5 5 to 8	92 95
Utility trenches within structural areas	--	96
Roadbase and subbase	-	96
Non-structural fill	0 to 5 5 to 8	90 92

Structural fills greater than 8 feet thick are not anticipated at the site. For best compaction results, we recommend that the moisture content for structural fill/backfill be within 2% of optimum. Field density tests should be performed on each lift as necessary to verify that proper compaction is being achieved.

6.5 Utility Trenches

For the bedding zone around the utility, we recommend utilizing sand bedding fill material that meets current APWA[6] requirements.

All utility trench backfill material below structurally loaded facilities (foundations, floor slabs, flatwork, parking lots/drive areas, etc.) shall be placed at the same density requirements established for structural fill in the previous section.

Most utility companies and local governments are requiring Type A-1a or A-1b (AASHTO Designation) soils (sand/gravel soils with limited fines) be used as backfill over utilities within public rights of way, and the backfill be compacted over the full depth above the bedding zone to at least 96% of the maximum dry density as determined by AASHTO T-180 (ASTM D-1557).

Where the utility does not underlie structurally loaded facilities and public rights of way, on-site natural soils may be utilized as trench backfill above the bedding layer, provided they are properly moisture conditioned and compacted to the minimum requirements stated above in **Section 6.4**.

6.6 Stabilization

The natural soils at this site will likely be susceptible to rutting and pumping. The likelihood of disturbance or rutting and/or pumping of the existing natural soils is a function of the load applied to the surface, as well as the frequency of the load. Consequently, rutting and pumping can be minimized by avoiding concentrated traffic, minimizing the load applied to the surface by using lighter equipment and/or partial loads, by working in

[6] American Public Works Association

drier times of the year, or by providing a working surface for the equipment. Rubber-tired equipment particularly, because of high pressures, promotes instability in moist/wet, soft soils.

To stabilize soft subgrade conditions (if encountered), a mixture of coarse, clean, angular gravels and cobbles and/or 1.5- to 2.0-inch clean gravel should be utilized, as indicated above in **Section 6.3**. Often the amount of gravelly material can be reduced with the use of a geotextile fabric such as Mirafi RS280i or equivalent. Its use will also help avoid mixing of the subgrade soils with the gravelly material. After excavating the soft/disturbed soils, the fabric should be spread across the bottom of the excavation and up the sides a minimum of 18 inches. Otherwise, it should be placed in accordance with the manufacturer's recommendation, including proper overlaps. The gravel material can then be placed over the fabric in compacted lifts as described above.

7.0 FOUNDATION RECOMMENDATIONS

The following recommendations have been developed on the basis of the previously described project characteristics, the subsurface conditions observed in the field and the laboratory test data, as well as common geotechnical engineering practice.

7.1 Foundation Recommendations

Based on our geotechnical engineering analyses, the proposed residential structures may be supported upon conventional spread and/or continuous wall foundations placed on suitable, undisturbed natural soils or on structural fill extending to suitable natural soils. Footings may be designed using a net bearing pressure of 1,500 psf if placed entirely on suitable, undisturbed, natural soils or 2,000 psf if placed entirely on a minimum 18 inches of granular structural fill. The term "net bearing pressure" refers to the pressure imposed by the portion of the structure located above lowest adjacent final grade, thus the weight of the footing and backfill to lowest adjacent final grade need not be considered. The allowable bearing pressure may be increased by 1/3 for temporary loads such as wind and seismic forces.

Saturated subgrade soils below footings may require stabilization with coarse angular gravel/cobble fill as described in section **6.6 Stabilization** above.

We also recommend the following:

1. Exterior footings subject to frost should be placed at least 30 inches below final grade.
2. Interior footings not subject to frost should be placed at least 16 inches below grade.
3. Continuous footing widths should be maintained at a minimum of 18 inches.
4. Spot footings should be a minimum of 24 inches wide.

7.2 Installation

Foundations shall not be placed on topsoil with organics or undocumented fill, nor should they be placed on rubbish, construction debris, other deleterious materials, frozen soils, or within ponded water. If unsuitable soils are encountered, they must be completely removed and replaced with properly compacted structural fill.

Excavation bottoms should be examined by a CMT geotechnical engineer to confirm that suitable bearing materials soils have been exposed.

All structural fill should meet the requirements for such, and should be placed and compacted in accordance with **Section 6** above. The width of structural replacement fill below footings should be equal to the width of the footing plus 1 foot for each foot of fill thickness. For instance, if the footing width is 2 feet and the structural fill depth beneath the footing is 2 feet, the fill replacement width should be 4 feet, centered beneath the footing.

7.3 Estimated Settlement

Foundations designed and constructed in accordance with our recommendations could experience some settlement, but we anticipate that total settlements of footings founded as recommended above will not exceed 1 inch, with differential settlements on the order of 0.5 inches over a distance of 25 feet. We expect approximately 50% of the total settlement to initially take place during construction.

7.4 Lateral Resistance

Lateral loads imposed upon foundations due to wind or seismic forces may be resisted by the development of passive earth pressures and friction between the base of the footings and the supporting soils. In determining frictional resistance, a coefficient of 0.30 for natural soils or 0.40 for structural fill, may be utilized for design. Passive resistance provided by properly placed and compacted structural fill above the water table may be considered equivalent to a fluid with a density of 250 pcf. A combination of passive earth resistance and friction may be utilized if the friction component of the total is divided by 1.5.

8.0 LATERAL EARTH PRESSURES

Due to shallow ground water, sublevels may or may not be constructed and will vary in depth if constructed. The lateral earth pressure values given below are for a backfill material that will consist of drained sand/gravel soils (less than 10% passing No. 200 sieve) placed and compacted in accordance with the recommendations presented herein. If other soil types will be used as backfill, we should be notified so that appropriate modifications to these values can be provided, as needed.

The lateral pressures imposed upon subgrade facilities will, therefore, be basically dependent upon the relative rigidity and movement of the backfilled structure. For active walls, such as retaining walls which can move outward (away from the backfill), backfill may be considered equivalent to a fluid with a density of 45 pounds per cubic foot in computing lateral pressures. For more rigid walls (moderately yielding), backfill may be considered equivalent to a fluid with a density of 55 pounds per cubic foot. For very rigid non-yielding walls, backfill should be considered equivalent to a fluid with a density of at least 65 pounds per cubic foot. The above values assume that the surface of the soils slope behind the wall is horizontal and that the fill within 3 feet of the wall will be compacted with hand-operated compacting equipment.

For seismic loading of retaining/below-grade walls, the following uniform lateral pressures, in pounds per square foot (psf), should be added based on wall depth and wall case.

Uniform Lateral Pressures			
Wall Height (Feet)	Active Pressure Case (psf)	Moderately Yielding Case (psf)	At Rest/Non-Yielding Case (psf)
4	33	63	93
6	50	95	140
8	67	127	187

9.0 FLOOR SLABS

Floor slabs may be established upon suitable, undisturbed, natural soils or on structural fill extending to suitable natural soils (same as for foundations). Under no circumstances shall floor slabs be established directly on topsoil, non-engineered fills, loose or disturbed soils, sod, rubbish, construction debris, other deleterious materials, frozen soils, or within ponded water.

In order to facilitate curing of the concrete, we recommend that floor slabs be directly underlain by at least 4 inches of "free-draining" fill, such as "pea" gravel or 3/4-inch quarters to 1-inch minus, clean, gap-graded gravel. To help control normal shrinkage and stress cracking, the floor slabs may include the following features:

1. Adequate reinforcement for the anticipated floor loads with the reinforcement continuous through interior floor joints;
2. Frequent crack control joints; and
3. Non-rigid attachment of the slabs to foundation walls and bearing slabs.

The tops of all floor slabs in habitable areas must be established at least 3 feet above the measured static water level or a minimum 18 inches above levels controlled by subdrains.

10.0 DRAINAGE RECOMMENDATIONS

10.1 Surface Drainage

It is important to the long-term performance of foundations and floor slabs that water not be allowed to collect near the foundation walls and infiltrate into the underlying soils. We recommend the following:

1. All areas around each residence should be sloped to provide drainage away from the foundations. We recommend a minimum slope of 4 inches in the first 10 feet away from the structure. This slope should be maintained throughout the lifetime of the structure.

2. All roof drainage should be collected in rain gutters with downspouts designed to discharge at least 10 feet from the foundation walls or well beyond the backfill limits, whichever is greater.

3. Adequate compaction of the foundation backfill should be provided. We suggest a minimum of 90% of the maximum laboratory density as determined by ASTM D-1557. Water consolidation methods should not be used under any circumstances.

4. Landscape sprinklers should be aimed away from the foundation walls. The sprinkling systems should be designed with proper drainage and be well-maintained. Over watering should be avoided.

5. Other precautions that may become evident during construction.

10.2 Foundation Subdrains

10.2.1 General

Groundwater at this site is shallow and variable across the site. If habitable floor slabs are to be placed less than 3.0 feet above measured groundwater, then a foundation drain tied to a suitable down gradient land drain or another disposal system must be installed. Due to the variation in measured groundwater levels, it is recommended that the depth to groundwater be determined for each individual home if a land drain is not installed.

10.2.2 Subdrain Design

Foundation subdrains shall at a minimum consist of a 4-inch diameter perforated or slotted plastic or PVC pipe enclosed in clean gravel surrounding the home foundation. The invert of the subdrain should be at least 18 inches below the top of the lowest adjacent floor slab. The gravel portion of the drain should extend 2 inches laterally and below the perforated pipe and at least 1 foot above the top of the lowest adjacent floor slab. The gravel zone must be installed immediately adjacent to the perimeter footings and the foundation walls. To reduce the possibility of plugging, the gravel with drain pipe must be wrapped with a geotextile, such as Mirafi 140N or equivalent. Above the subdrain, a minimum 12-inch-wide zone of “free-draining” sand/gravel should be placed adjacent to the foundation walls and extend to within 2 feet of final grade and similarly separated from adjacent soils with a geotextile such as Mirafi 140N or equivalent. The upper 1 foot of soils should consist of a compacted low permeable soil where possible to reduce surface water infiltration into the drain. As an alternative to the zone of permeable sand/gravel, a prefabricated “drainage board,” such as Miradrain or equivalent, may be placed adjacent to the exterior below-grade walls. Prior to the installation of the footing subdrain, the below-grade walls should be waterproofed. The slope of the subdrain should be at least 0.3 percent. The gravel placed around the drain pipe should be clean 0.75-inch to 1.0-inch minus gap-graded gravel and/or “pea” gravel. The foundation subdrains shall be discharged into the area subdrains or other suitable down-gradient location. Further it is recommended that a minimum 8 inches of gravel be placed below the floor slab which is hydraulically tied to the perimeter foundation drain through either drain pipes or a minimum 4-inch gravel layer extending out and below the foundation and connecting to the perimeter drain.

11.0 PAVEMENTS

We anticipate the natural soils will exhibit poor pavement support characteristics when saturated or nearly saturated. Based on our laboratory testing experience with similar soils, our pavement design utilized a California Bearing Ratio (CBR) of 3 for the natural clay soils.

In roadway areas, the subgrade must be prepared as recommended in **Section 6.1**. Subsequent to stripping of topsoil and preparation of disturbed soils, and prior to the placement of pavement materials, the exposed subgrade must be proof rolled by passing moderate-weight rubber tire-mounted construction equipment over the surface at least twice. If excessively soft or otherwise unsuitable soils are encountered, we recommend they be removed to a minimum of 18 inches below the subgrade level and replaced with structural fill.

Given the projected traffic as discussed above in **Section 1.3**, the following pavement sections are recommended for the given ESAL's (18-kip equivalent single-axle loads) per day:

Material	Pavement Section Thickness (inches)	
	Residential Street (6 ESAL's per day)	
Asphalt	**3**	**3**
Road-Base	**12**	**6**
Subbase	**0**	**8**
Total Thickness	**15**	**17**

Untreated base course (UTBC) should conform to city specifications, or to 1-inch-minus UDOT specifications for A–1-a/NP, and have a minimum CBR value of 70%. Material meeting our specification for structural fill can be used for subbase, as long as the fines content (percent passing No. 200 sieve) does not exceed 15%. Roadbase and subbase material should be compacted as recommended above in **Section 6.4**. Asphalt material generally should conform to APWA requirements, having a ½-inch maximum aggregate size, a 75-gyration Superpave mix containing no more than 15% of recycled asphalt (RAP) and a PG58-28 binder.

12.0 QUALITY CONTROL

We recommend that CMT be retained as part of a comprehensive quality control testing and observation program. With CMT on-site we can help facilitate implementation of our recommendations and address, in a timely manner, any subsurface conditions encountered which may vary from those described in this report. Without such a program CMT cannot be responsible for application of our recommendations to subsurface conditions which may vary from those described herein. This program may include, but not necessarily be limited to, the following:

12.1 Field Observations

Observations should be completed during all phases of construction such as site preparation, foundation excavation, structural fill placement and concrete placement.

12.2 Fill Compaction

Compaction testing by CMT is required for all structural supporting fill materials. Maximum Dry Density (Modified Proctor, ASTM D-1557) tests should be requested by the contractor immediately after delivery of any fill materials. The maximum density information should then be used for field density tests on each lift as necessary to ensure that the required compaction is being achieved.

12.3 Excavations

All excavation procedures and processes should be observed by a geotechnical engineer from CMT or their representative. In addition, for the recommendations in this report to be valid, all backfill and structural fill placed in trenches and all pavements should be density tested by CMT. We recommend that freshly mixed concrete be tested by CMT in accordance with ASTM designations.

12.4 Vibration Monitoring

Construction activities, particularly site grading and fill placement, can induce vibrations in existing structures adjacent to the site. Such vibrations can cause damage to adjacent buildings, depending on the building composition and underlying soils. It can be prudent to monitor vibrations from construction activities to maintain records that vibrations did not exceed a pre-defined threshold known to potentially cause damage. CMT can provide this monitoring if desired.

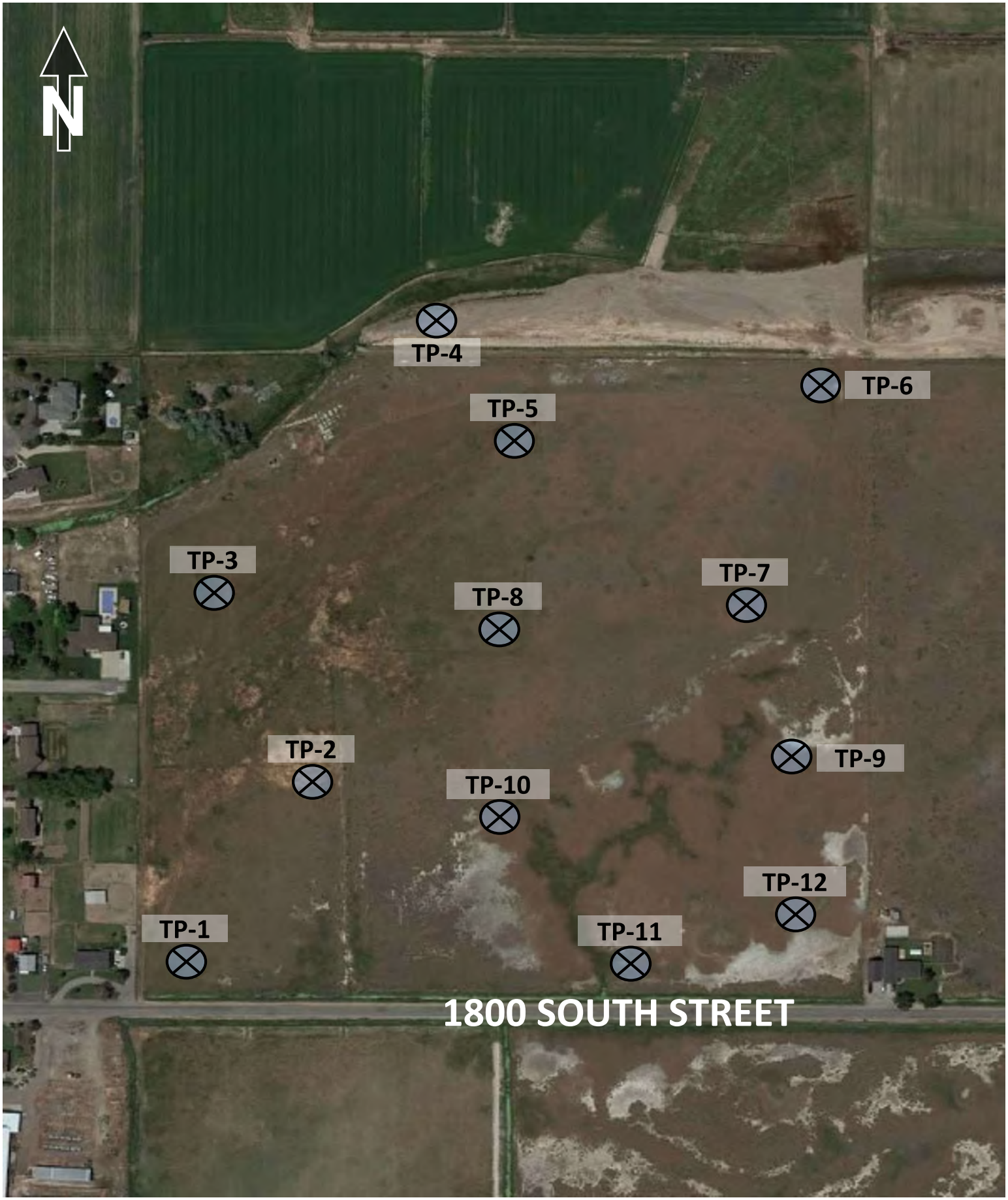
13.0 LIMITATIONS

The recommendations provided herein were developed by evaluating the information obtained from the subsurface explorations and soils encountered therein. The exploration logs reflect the subsurface conditions only at the specific location at the particular time designated on the logs. Soil and ground water conditions may differ from conditions encountered at the actual exploration locations. The nature and extent of any variation in the explorations may not become evident until during the course of construction. If variations do appear, it may become necessary to re-evaluate the recommendations of this report after we have observed the variation.

Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with generally accepted geotechnical engineering principles and practices. This warranty is in lieu of all other warranties, either expressed or implied.

We appreciate the opportunity to be of service to you on this project. If we can be of further assistance or if you have any questions regarding this project, please do not hesitate to contact us at (801) 870-6730. To schedule materials testing, please call (801) 381-5141.

Appendix



Bertoldi Property

About 3908 W 1800 S, West Weber, UT

CMT ENGINEERING LABORATORIES

Site Plan

Date:	13-Feb-18
Job #	10878

Figure: 1

Bertoldi Property

Test Pit Log

TP-1

About 3908 W. 1800 S., West Weber, UT

Equipment: Rubber Tire Backhoe	Total Depth: 11'	Date: 2/7/18
Surface Elev. (approx):	Water Depth: 5.5', 2.8'	Job #: 10878

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Moisture (%)	Dry Density(pcf)	Gradation: Gravel %	Gradation: Sand %	Gradation: Fines %	Atterberg: LL	Atterberg: PL	Atterberg: PI
0		TOPSOIL: 4" Clay, sand, roots, organics, moist, dark brown										
0		Brown CLAY (CL), some fine sand moist, medium stiff (estimated)										
3				1	27.6	96						
3		Gray Silty SAND (SM), fine grained moist, medium dense (estimated)										
4				2								
5		wet										
7		Brown CLAY (CL), some fine sand wet, medium stiff (estimated)										
9		Brown Silty SAND (SM), fine grained		3								
11		END AT 11'										

Remarks: Groundwater encountered during excavating at depth of 5.5 feet and measured on 2/27/18 at depth of 2.8 feet.
Slotted PVC pipe installed to depth of 11.0 feet to facilitate water level measurements.

CMT ENGINEERING LABORATORIES

Excavated By: Dan Strickland
Logged By: Hogan Wrigh
Page: 1 of 1

Figure: 2

Bertoldi Property

Test Pit Log

TP-2

About 3908 W. 1800 S., West Weber, UT

Equipment: Rubber Tire Backhoe	Total Depth: 11'	Date: 2/7/18
Surface Elev. (approx):	Water Depth: 7.5', 5.5'	Job #: 10878

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Moisture (%)	Dry Density(pcf)	Gradation Gravel %	Gradation Sand %	Gradation Fines %	Atterberg LL	Atterberg PL	Atterberg PI
0		TOPSOIL: 4" Clay, sand, roots, organics, moist, dark brown										
1		Brown CLAY (CL), some fine sand moist, medium stiff (estimated)										
2												
3				4	27.1	96.3			75			
4												
5		Brown Silty SAND (SM), fine grained moist, medium dense (estimated)										
6				5								
7		wet										
8		Brown CLAY (CL), some fine sand wet, medium stiff (estimated)										
9												
10				6								
11		END AT 11'										
12												
13												
14												

Remarks: Groundwater encountered during excavating at depth of 7.5 feet and measured on 2/27/18 at depth of 5.5 feet.
Slotted PVC pipe installed to depth of 11.0 feet to facilitate water level measurements.

CMT ENGINEERING LABORATORIES

Excavated By: Dan Strickland
Logged By: Hogan Wrigh
Page: 1 of 1

Figure: 3

Bertoldi Property

Test Pit Log

TP-3

About 3908 W. 1800 S., West Weber, UT

Equipment: Rubber Tire Backhoe	Total Depth: 9'	Date: 2/7/18
Surface Elev. (approx):	Water Depth: 4.75', 6.5'	Job #: 10878

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Moisture (%)	Dry Density(pcf)	Gradation: Gravel %	Gradation: Sand %	Gradation: Fines %	Atterberg: LL	Atterberg: PL	Atterberg: PI
0		TOPSOIL: 4" Clay, sand, roots, organics, moist, dark brown										
		Brown CLAY (CL), some fine sand moist, medium stiff (estimated)										
4		wet										
5		Brown Silty SAND (SM), fine to medium grained wet, medium dense (estimated)		7								
8				8								
9		END AT 9'										

Remarks: Groundwater encountered during excavating at depth of 4.75 feet and measured on 2/27/18 at depth of 6.5 feet.
Slotted PVC pipe installed to depth of 9.0 feet to facilitate water level measurements.

CMT ENGINEERING LABORATORIES

Excavated By: Dan Strickland
Logged By: Hogan Wrigh
Page: 1 of 1

Figure: 4

Bertoldi Property

Test Pit Log

TP-4

About 3908 W. 1800 S., West Weber, UT

Equipment: Rubber Tire Backhoe	Total Depth: 10'	Date: 2/7/18
Surface Elev. (approx):	Water Depth: 6.5', 4.8'	Job #: 10878

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Moisture (%)	Dry Density(pcf)	Gradation: Gravel %	Gradation: Sand %	Gradation: Fines %	Atterberg: LL	Atterberg: PL	Atterberg: PI
0		TOPSOIL: 4" Clay, sand, roots, organics, moist, dark brown										
		Brown CLAY (CL), some fine sand moist, stiff (estimated)										
3				9	15.3	118						
6		wet										
7		Brown Silty SAND (SM), fine to medium grained wet, medium dense (estimated)										
8				10								
10		END AT 10'										

Remarks: Groundwater encountered during excavating at depth of 6.5 feet and measured on 2/27/18 at depth of 4.8 feet.
Slotted PVC pipe installed to depth of 10.0 feet to facilitate water level measurements.

CMT ENGINEERING LABORATORIES

Excavated By: Dan Strickland
Logged By: Hogan Wrigh
Page: 1 of 1

Figure: 5

Bertoldi Property

Test Pit Log

TP-5

About 3908 W. 1800 S., West Weber, UT

Equipment: Rubber Tire Backhoe	Total Depth: 11'	Date: 2/7/18
Surface Elev. (approx):	Water Depth: 6.5', 6.4'	Job #: 10878

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Moisture (%)	Dry Density(pcf)	Gradation Gravel %	Gradation Sand %	Gradation Fines %	Atterberg LL	Atterberg PL	Atterberg PI
0		TOPSOIL: 4" Clay, sand, roots, organics, moist, dark brown										
1		Brown CLAY (CL), some fine sand moist, stiff (estimated)										
2												
3				11								
4												
5												
6		wet										
7		Brown Silty SAND (SM), fine grained wet, medium dense (estimated)		12	21.8				25			
8												
9		grades with some clay layers up to 4" thick										
10				13								
11		END AT 11'										
12												
13												
14												

Remarks: Groundwater encountered during excavating at depth of 6.5 feet and measured on 2/27/18 at depth of 6.4 feet.
Slotted PVC pipe installed to depth of 10.0 feet to facilitate water level measurements.

CMT ENGINEERING LABORATORIES

Excavated By: Dan Strickland
Logged By: Hogan Wrigh
Page: 1 of 1

Figure: 6

Bertoldi Property

Test Pit Log

TP-6

About 3908 W. 1800 S., West Weber, UT

Equipment: Rubber Tire Backhoe	Total Depth: 10'	Date: 2/7/18
Surface Elev. (approx):	Water Depth: 5', 5.5'	Job #: 10878

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Moisture (%)	Dry Density(pcf)	Gradation: Gravel %	Gradation: Sand %	Gradation: Fines %	Atterberg: LL	Atterberg: PL	Atterberg: PI
0		TOPSOIL: 4" Clay, sand, roots, organics, moist, dark brown										
0		Brown Silty SAND (SM), fine grained, some clay medium dense (estimated)										
3				14	10.5				25			
4		Brown CLAY (CL), some fine sand very moist, stiff (estimated)										
5		wet										
6		Brown Silty SAND (SM), fine grained, some clay wet, medium dense (estimated)										
7		Brown CLAY (CL), some fine sand wet, medium stiff (estimated)										
9				15								
10		END AT 10'										

Remarks: Groundwater encountered during excavating at depth of 5 feet and measured on 2/27/18 at depth of 5.5 feet.
Slotted PVC pipe installed to depth of 10.0 feet to facilitate water level measurements.

CMT ENGINEERING LABORATORIES

Excavated By: Dan Strickland
Logged By: Hogan Wrigh
Page: 1 of 1

Figure: 7

Bertoldi Property

Test Pit Log

TP-7

About 3908 W. 1800 S., West Weber, UT

Equipment: Rubber Tire Backhoe	Total Depth: 10'	Date: 2/7/18
Surface Elev. (approx):	Water Depth: 6.5', 5.5'	Job #: 10878

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Moisture (%)	Dry Density(pcf)	Gradation Gravel %	Gradation Sand %	Gradation Fines %	Atterberg LL	Atterberg PL	Atterberg PI
0		TOPSOIL: 4" Clay, sand, roots, organics, moist, dark brown										
0		Brown Silty SAND (SM), fine grained, some clay moist, medium dense (estimated)										
3				16	10.4				24			
7		wet										
7		Brown CLAY (CL), some fine sand wet, medium stiff (estimated)										
9				17								
10		END AT 10'										

Remarks: Groundwater encountered during excavating at depth of 6.5 feet and measured on 2/27/18 at depth of 5.5 feet.
Slotted PVC pipe installed to depth of 10.0 feet to facilitate water level measurements.

CMT ENGINEERING LABORATORIES

Excavated By: Dan Strickland
Logged By: Hogan Wrigh
Page: 1 of 1

Figure: 8

Bertoldi Property

Test Pit Log

TP-8

About 3908 W. 1800 S., West Weber, UT

Equipment: Rubber Tire Backhoe
Surface Elev. (approx):

Total Depth: 10'
Water Depth: (see Remarks)

Date: 2/7/18
Job #: 10878

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Moisture (%)	Dry Density(pcf)	Gradation			Atterberg		
							Gravel %	Sand %	Fines %	LL	PL	PI
0		TOPSOIL: 4" Clay, sand, roots, organics, moist, dark brown										
		Brown Clayey SAND (SC) moist, medium dense (estimated)										
3				18	19.4				49	24	16	8
6		Brown Silty SAND (SM), fine grained wet, medium dense (estimated)		19								
10		END AT 10'										

Remarks: Groundwater not encountered during excavating.

Figure: 9

CMT ENGINEERING LABORATORIES

Excavated By: Dan Strickland
Logged By: Hogan Wrigh

Bertoldi Property

Test Pit Log

TP-9

About 3908 W. 1800 S., West Weber, UT

Equipment: Rubber Tire Backhoe	Total Depth: 12'	Date: 2/7/18
Surface Elev. (approx):	Water Depth: 10', 5.2'	Job #: 10878

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Moisture (%)	Dry Density(pcf)	Gradation: Gravel %	Gradation: Sand %	Gradation: Fines %	Atterberg: LL	Atterberg: PL	Atterberg: PI
0		TOPSOIL: 4" Clay, sand, roots, organics, moist, dark brown										
		Brown CLAY (CL), some fine sand										
		moist, medium stiff (estimated)										
3				20	16.8	109						
10		wet		21								
12		END AT 12'										

Remarks: Groundwater encountered during excavating at depth of 10 feet and measured on 2/27/18 at depth of 5.2 feet.
Slotted PVC pipe installed to depth of 12 feet to facilitate water level measurements.

Figure: 10

CMT ENGINEERING LABORATORIES

Excavated By: Dan Strickland
Logged By: Hogan Wrigh
Page: 1 of 1

Bertoldi Property

Test Pit Log

TP-10

About 3908 W. 1800 S., West Weber, UT

Equipment: Rubber Tire Backhoe	Total Depth: 10'	Date: 2/7/18
Surface Elev. (approx):	Water Depth: 4.2'	Job #: 10878

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Moisture (%)	Dry Density(pcf)	Gradation Gravel %	Gradation Sand %	Gradation Fines %	Atterberg LL	Atterberg PL	Atterberg PI
0		TOPSOIL: 4" Clay, sand, roots, organics, moist, dark brown										
0		Brown Silty SAND (SM), fine grained, some clay moist, medium dense (estimated)										
3				22	24.9	99.4			41			
4		Brown Silty SAND (SM), fine grained moist, medium dense (estimated)										
6				23								
9				24								
10		END AT 10'										

Remarks: Groundwater encountered during excavating at depth of feet and measured on 2/27/18 at depth of 4.2 feet.

Slotted PVC pipe installed to depth of 10.0 feet to facilitate water level measurements.

CMT ENGINEERING LABORATORIES

Excavated By: Dan Strickland

Logged By: Hogan Wrigh

Page: 1 of 1

Figure:

11

Bertoldi Property

Test Pit Log

TP-11

About 3908 W. 1800 S., West Weber, UT

Equipment: Rubber Tire Backhoe	Total Depth: 11'	Date: 2/7/18
Surface Elev. (approx):	Water Depth: 10', 3.5'	Job #: 10878

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Moisture (%)	Dry Density(pcf)	Gradation: Gravel %	Gradation: Sand %	Gradation: Fines %	Atterberg: LL	Atterberg: PL	Atterberg: PI
0		TOPSOIL: 4" Clay, sand, roots, organics, moist, dark brown										
		Brown CLAY (CL), some fine sand										
		moist, medium stiff (estimated)										
1												
2												
3												
4				25								
5												
6												
7												
8												
9												
10		wet		26								
11		END AT 11'										
12												
13												
14												

Remarks: Groundwater encountered during excavating at depth of 10 feet and measured on 2/27/18 at depth of 3.5 feet.
Slotted PVC pipe installed to depth of 10.0 feet to facilitate water level measurements.

CMT ENGINEERING LABORATORIES

Excavated By: Dan Strickland
Logged By: Hogan Wrigh
Page: 1 of 1

Figure: 12

Bertoldi Property

Test Pit Log

TP-12

About 3908 W. 1800 S., West Weber, UT

Equipment: Rubber Tire Backhoe	Total Depth: 11'	Date: 2/7/18
Surface Elev. (approx):	Water Depth: 9', 3.5'	Job #: 10878

Depth (ft)	GRAPHIC LOG	Soil Description	Sample Type	Sample #	Moisture (%)	Dry Density(pcf)	Gradation Gravel %	Gradation Sand %	Gradation Fines %	Atterberg LL	Atterberg PL	Atterberg PI
0		TOPSOIL: 4" Clay, sand, roots, organics, moist, dark brown										
		Brown CLAY (CL) with fine sand										
		moist, medium stiff (estimated)										
3				27	19.2				50	24	16	8
9		wet										
10				28								
11		END AT 11'										

Remarks: Groundwater encountered during excavating at depth of 9 feet and measured on 2/27/18 at depth of 3.5 feet.

Slotted PVC pipe installed to depth of 10.0 feet to facilitate water level measurements.

CMT ENGINEERING LABORATORIES

Excavated By: Dan Strickland

Logged By: Hogan Wrigh

Page: 1 of 1

Figure: 13

Bertoldi Property

About 3908 W. 1800 S., West Weber, UT

Key to Symbols

Date: 2/7/18
Job #: 10878

Depth (ft) ②	GRAPHIC LOG	Soil Description ③	Sample Type ④	Sample # ⑤	Moisture (%) ⑥	Dry Density(pcf) ⑦	Gradation ⑧ Gravel %	Sand %	Fines %	Atterberg LL	PL	PI

COLUMN DESCRIPTIONS

Depth (ft.): Depth (feet) below the ground surface (including groundwater depth - see water symbol below).

Graphic Log: Graphic depicting type of soil encountered (see below).

Soil Description: Description of soils encountered, including Unified Soil Classification Symbol (see below).

Sample Type: Type of soil sample collected at depth interval shown; sampler symbols are explained below-right.

Sample #: Consecutive numbering of soil samples collected during field exploration.

Moisture (%): Water content of soil sample measured in laboratory (percentage of dry weight of sample).

Dry Density (pcf): The dry density of a soil measured in laboratory (pounds per cubic foot).

Gradation: Percentages of Gravel, Sand and Fines (Silt/Clay), obtained from lab test results of soil passing the No. 4 and No. 200 sieves.

Atterberg: Individual descriptions of Atterberg Tests are as follows:

LL = Liquid Limit (%): Water content at which a soil changes from plastic to liquid behavior.

PL = Plastic Limit (%): Water content at which a soil changes from liquid to plastic behavior.

PI = Plasticity Index (%): Range of water content at which a soil exhibits plastic properties (= Liquid Limit - Plastic Limit).

STRATIFICATION	
Description	**Thickness**
Seam	Up to ½ inch
Lense	Up to 12 inches
Layer	Greater than 12 in.
Occasional	1 or less per foot
Frequent	More than 1 per foot

MODIFIERS	
Trace	<5%
Some	5-12%
With	> 12%

MOISTURE CONTENT
Dry: Absence of moisture, dusty, dry to the touch.
Moist: Damp / moist to the touch, but no visible water.
Saturated: Visible water, usually soil below groundwater.

UNIFIED SOIL CLASSIFICATION SYSTEM (USCS)

MAJOR DIVISIONS			USCS SYMBOLS	TYPICAL DESCRIPTIONS
COARSE-GRAINED SOILS More than 50% of material is larger than No. 200 sieve size.	**GRAVELS** The coarse fraction retained on No. 4 sieve.	**CLEAN GRAVELS** (< 5% fines)	GW	Well-Graded Gravels, Gravel-Sand Mixtures, Little or No Fines
			GP	Poorly-Graded Gravels, Gravel-Sand Mixtures, Little or No Fines
		GRAVELS WITH FINES (≥ 12% fines)	GM	Silty Gravels, Gravel-Sand-Silt Mixtures
			GC	Clayey Gravels, Gravel-Sand-Clay Mixtures
	SANDS The coarse fraction passing through No. 4 sieve.	**CLEAN SANDS** (< 5% fines)	SW	Well-Graded Sands, Gravelly Sands, Little or No Fines
			SP	Poorly-Graded Sands, Gravelly Sands, Little or No Fines
		SANDS WITH FINES (≥ 12% fines)	SM	Silty Sands, Sand-Silt Mixtures
			SC	Clayey Sands, Sand-Clay Mixtures
FINE-GRAINED SOILS More than 50% of material is smaller than No. 200 sieve size.	**SILTS AND CLAYS** Liquid Limit less than 50%		ML	Inorganic Silts and Sandy Silts with No Plasticity or Clayey Silts with Slight Plasticity
			CL	Inorganic Clays of Low to Medium Plasticity, Gravelly Clays, Sandy Clays, Silty Clays, Lean Clays
			OL	Organic Silts and Organic Silty Clays of Low Plasticity
	SILTS AND CLAYS Liquid Limit greater than 50%		MH	Inorganic Silts, Micacious or Diatomacious Fine Sand or Silty Soils
			CH	Inorganic Clays of High Plasticity, Fat Clays
			OH	Organic Silts and Organic Clays of Medium to High Plasticity
HIGHLY ORGANIC SOILS			PT	Peat, Soils with High Organic Contents

Note: Dual Symbols are used to indicate borderline soil classifications (i.e. GP-GM, SC-SM, etc.).

SAMPLER SYMBOLS

- Block Sample
- Bulk/Bag Sample
- Modified California Sampler
- 3.5" OD, 2.42" ID D&M Sampler
- Rock Core
- Standard Penetration Split Spoon Sampler
- Thin Wall (Shelby Tube)

WATER SYMBOL

- Encountered Water Level
- Measured Water Level (see Remarks on Logs)

1. The results of laboratory tests on the samples collected are shown on the logs at the respective sample depths.
2. The subsurface conditions represented on the logs are for the locations specified. Caution should be exercised if interpolating between or extrapolating beyond the exploration locations.
3. The information presented on each log is subject to the limitations, conclusions, and recommendations presented in this report.

CMT ENGINEERING LABORATORIES

Figure: 14

Staff Report to the Western Weber Planning Commission

Weber County Planning Division

Synopsis

Application Information

Application Request: Consideration and action on a request for final approval of Stagecoach Estates Cluster Subdivision consisting of 55 lots located at approximately 1800 South 3800 W, Ogden.
Type of Decision: Administrative
Agenda Date: Wednesday, May 19, 2021
Applicant: Pat Burns
File Number: LVS021320

Property Information

Approximate Address: 1800 S 3800 W
Project Area: Approximately 40 acres
Zoning: Agricultural (A-1) Zone
Existing Land Use: Agricultural
Proposed Land Use: Residential
Parcel ID: 15-057-0006
Township, Range, Section: T6N, R2W, Section 21

Adjacent Land Use

North: Agricultural
South: 1800 South
East: Residential/Agricultural
West: Residential

Staff Information

Report Presenter: Tammy Aydelotte
taydelotte@co.weber.ut.us
801-399-8794
Report Reviewer: SB

Applicable Ordinances

- Weber County Land Use Code Title 104 (Zones) Chapter 5, Agricultural (A-1 Zone)
- Weber County Land Use Code Title 106 (Subdivisions)
- Weber County Land Use Code Title 108 (Standards) Chpter 3, Cluster Subdivisions

Background and Summary

****This staff report will appear similar to the report presented before the Planning Commission for preliminary approval. The purpose of this report is to explain how the proposal meets, or can meet, the applicable county standards. There are several ordinances that apply to both preliminary and final approval so the report and analysis will have some of the same information as the preliminary report.**

The developer is requesting final approval of Stagecoach Estates Cluster subdivision consisting of 55 lots, located at approximately 1800 S 3800 W, Ogden. The proposal meets the requirements of the minimum width (60' in the A-1 zone) and area (9,000 square feet, minimum, in all zones) requirements for lots in a cluster subdivision (LUC 108-3-7).

- **Sketch plan endorsement was given on 12/10/2019.**
- **Preliminary approval was granted by the Planning Commission on 3/9/2020. For clarity, preliminary approval is being requested again.**
- **A request for an application extension was granted 3/10/2021.**
- **Final approval was tabled by the Planning Commission 5/11/2021 due to a lack of information.**
- **Preliminary approval is scheduled for 5/19/2021 with the Planning Commission.**
- **A recommendation for final approval is scheduled for 5/19/2021 with the Planning Commission.**

Previous Conditions – See preliminary approval granted 5/19/2021

****No staff conditions were proposed as part of the staff recommendation to receive a preliminary approval from the Planning Commission.**

Analysis

General Plan: The proposal conforms to the Western Weber General Plan by encouraging cluster subdivision development and preserving agricultural land and open spaces with open space easements (2003 Western Weber General Plan, Pages 2-12 thru 2-14).

Zoning: The A-1 zone allows Cluster Subdivision Development, as a permitted use. The Cluster ordinance allows for lot sizes as small as 9,000 square feet, as well as miniumum lot width to be 60 feet. The proposal contains lots that range in size from .20 (9,000 square feet) to .48 acres.

Culinary water and sanitary sewage disposal: Prior to going before the **County Commission** for final approval, a letter from Taylor West Weber Water, granting final approval, as well as a final approval letter from Hooper Irrigation must be submitted by the developer.

Review Agencies: The subdivision application will be required to comply with all review agency requirements, including County Engineering's requirements to annex into Central Weber Sewer District, and address any potential wetlands issues, prior to receiving final approval from the **County Commission**.

Additional Design Standards: This development has been approved for bonus density (see preliminary approval dated 5/19/2021).
The applicant is proposing to continue 1700 South Street and create 3800 West Street. These wil be standard 60' wide urban roadways, within the subdivision. This proposed cross section does not include curb and gutter. As such the County Engineering may require a deferral agreement, in which the owner would be required to install curb and gutter at the time the county so requests. A 10' pathway within the subdivision, will connect the open space, 1750 South Street, and 1800 South Street.

The applicant will need to show 10' wide pathways throughout the subdivision (along one side of the roadways, and running north/south between lots 16, 17, 35, 36, 53, 54, as well as along 1800 South St, on the final improvement plans). These plans shall be approved by all applicable agencies prior to going before the **County Commission** for final approval (LUC 106-1-5 (a)(11).

Staff Recommendations

Staff recommends final approval of Stagecoach Estates Cluster Subdivision consisting of 55 lots. This recommendation is based on all review agency requirements, and the following conditions:

1. Prior to going before the **County Commission** for final approval, a letter from Taylor West Weber Water, granting final approval, as well as a final approval letter from Hooper Irrigation must be submitted by the developer.
2. The applicant will need to show 10' wide pathways throughout the subdivision (along one side of the roadways, and running north/south between lots 16, 17, 35, 36, 53, 54, as well as along 1800 South St, on the final improvement plans). These plans shall be approved by all applicable agencies prior to going before the **County Commission** for final approval (LUC 106-1-5 (a)(11).

The recommendation is based on the following findings:

1. The proposed subdivision conforms to the West Central Weber General Plan.
2. The proposed subdivision complies with applicable county ordinances.

Exhibits

A. Proposed subdivision plat

**Exhibits are minimal in this staff report, due to the volume of information presented for preliminary approval, and the lack of conditions required for a recommendation of final approval from the planning commission.

Area Map

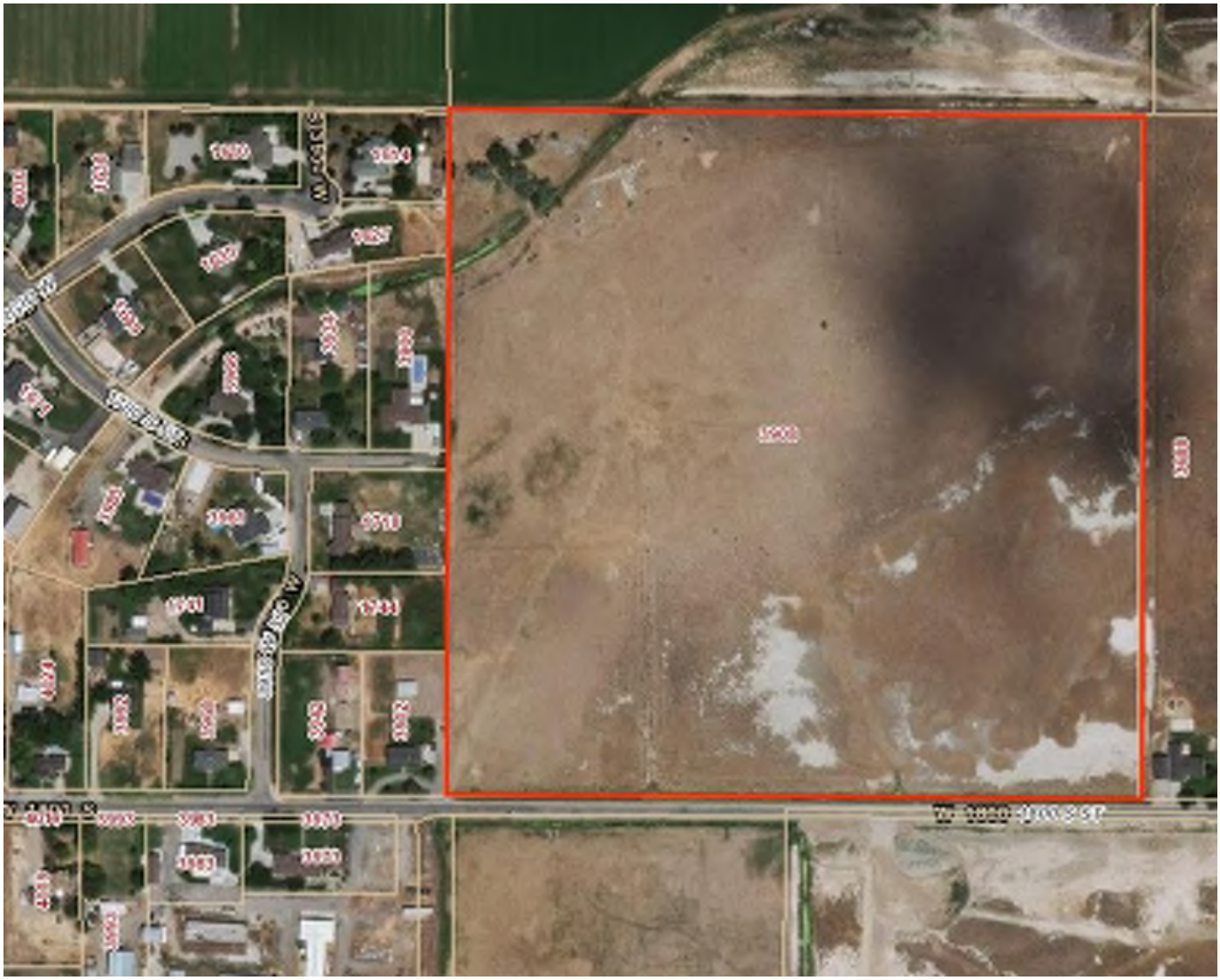
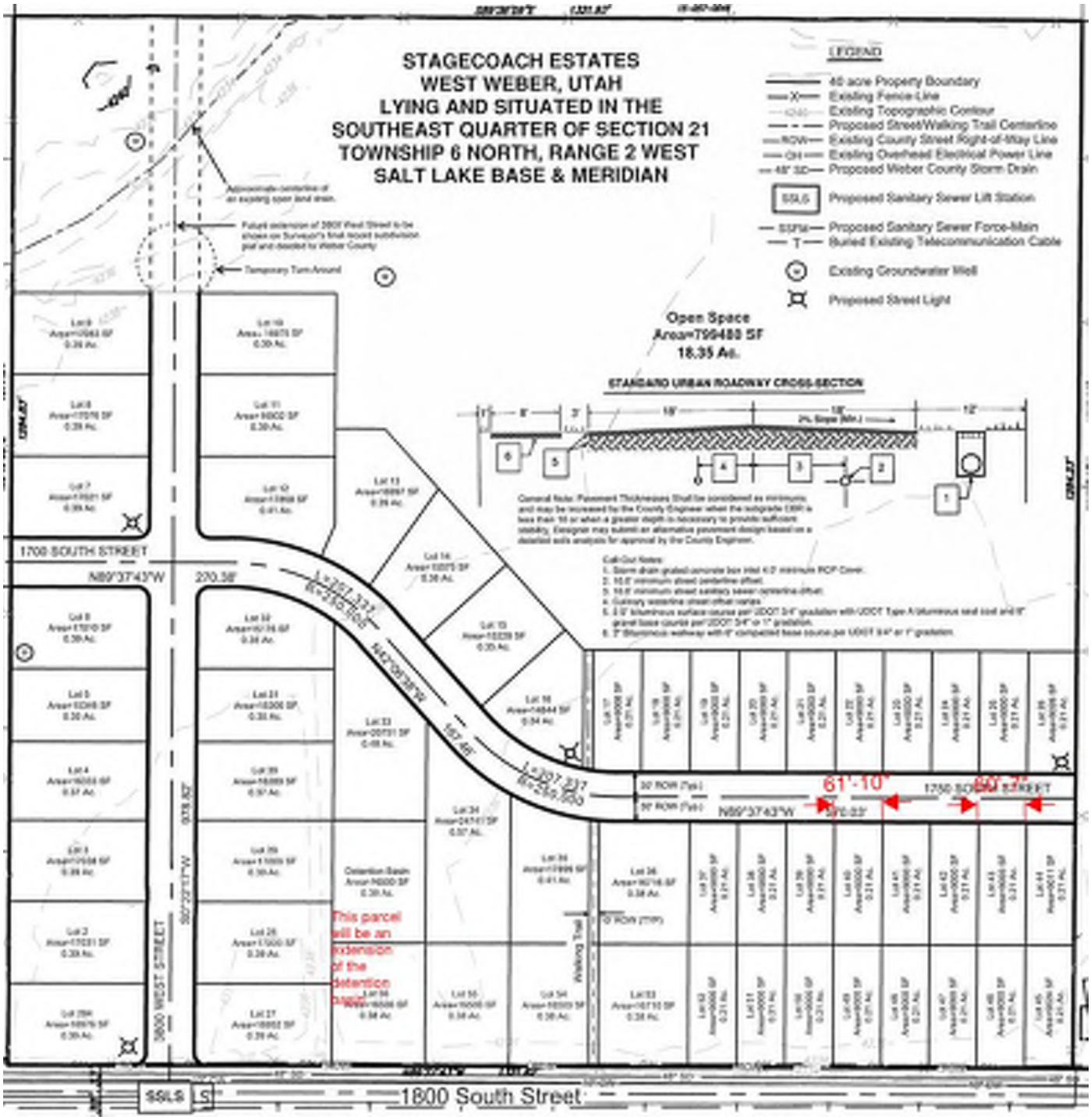


Exhibit A – Proposed Subdivision Plat


STAGECOACH ESTATES
WEST WEBER, UTAH
LYING AND SITUATED IN THE
SOUTHEAST QUARTER OF SECTION 21
TOWNSHIP 6 NORTH, RANGE 2 WEST
SALT LAKE BASE & MERIDIAN
LEGEND
40 acre Property Boundary
Existing Fence Line
Existing Topographic Contour
Proposed Street/Walking Trail Centerline
Existing County Street Right-of-Way Line
Existing Overhead Electrical Power Line
Proposed Weber County Storm Drain
Proposed Sanitary Sewer Lift Station
Proposed Sanitary Sewer Force-Main
Buried Existing Telecommunication Cable
Existing Groundwater Well
Proposed Street Light
Open Space
Area=799488 SF
18.35 Ac.
STANDARD URBAN ROADWAY CROSS-SECTION
1700 SOUTH STREET
N89°37'43"W 220.38'
3600 WEST STREET
1250 SOUTH STREET
N89°37'43"W 370.23'
61'-10"
60'-2"
Detention Basin
Area=16000 SF
0.36 Ac.
This parcel will be an extension of the detention basin
Walking Trail
1800 South Street

Staff Report to the Western Weber Planning Commission

Weber County Planning Division

Synopsis

Application Information

Application Request:	Request for preliminary approval for Winston Park Subdivision, a Planned Residential Unit Development consisting of 54 residential units, and two open space parcels, totaling approximately 40.259 acres.
Type of Decision:	Administrative
Applicant:	Wade Rumsey
Agenda Date:	Wednesday, May 19, 2021
File Number:	LVW020421

Property Information

Approximate Address:	3701 West 1800 South
Project Area:	40.259 Acres
Zoning:	A-1
Existing Land Use:	Residential/Agricultural
Proposed Land Use:	Residential-
Parcel ID:	15-078-0002
Township, Range, Section:	T6N, R2W, Section 28 NE

Adjacent Land Use

North:	1800 South St.	**South:**	Agricultural
East:	Agricultural	**West:**	Agricultural/Residential

Staff Information

Report Presenter:	Tammy Aydelotte taydelotte@co.weber.ut.us 801-399-8794
Report Reviewer:	SB

Applicable Ordinances

- Title 101, Chapter 1 General Provisions, Section 7, Definitions
- Title 104, Zones, Chapter 5 Agricultural A-1 Zone
- Title 108, Chapter 1 Design Review
- Title 108, Chapter 4 Conditional Uses
- Title 108, Chapter 5 Planned Residential Unit Development
- Title 108, Chapter 8 Parking and Loading Space, Vehicle Traffic and Access Regulations

Summary and Background

1/12/2021 – Western Weber Planning Commission recommended approval for the conditional use of a Planned Residential Unit Development. Receiving a recommendation for approval from the Planning Commission is the first step in the PRUD process.

1/19/2021 – Weber County Commission approved CUP 2020-18, approving 42% bonus density, and overall development plan.

2/4/2021 – Application submittal for Winston Park PRUD Subdivision.

3/9/2021 – Preliminary approval granted.

5/11/2021 – Final approval tabled due to requirement from Planning Commission for communication from Army Corps of Engineers to address a previously submitted wetlands report.

Analysis

General Plan: The proposal conforms to the West Central Weber County General Plan by supporting agriculture and encouraging residential cluster style development with a minimum 30% open space.

Zoning: The A-1 zone conditionally allows Planned Residential Unit Developments. Although the proposed lot sizes are smaller than otherwise allowed by the A-1 zone, the platting of the lots is in conformance with the approved site plan provided as part of conditional use permit approval.

Culinary water and sanitary sewage disposal: Feasibility letters have been provided for the culinary water (Taylor West Weber), secondary water (Hooper Irrigation), and sanitary sewer (Central Weber Sewer) for the proposed subdivision. The culinary water will-serve letter states that the applicant must provide pressurized secondary water to each lot. A condition of approval has been added to the staff recommendation that requires an approval letter from Hooper Irrigation, indicating sufficient water shares, prior to receiving final approval from the County Commission.

Lot area, frontage/width and yard regulations: The purpose and intent of a Planned Residential Unit Development (PRUD) is to *"allow for diversification in the relationship of various uses and structures to their sites and to permit more flexibility of such sites and to encourage new and imaginative concepts in the design of neighborhood and housing projects in urbanizing areas."* The proposed PRUD utilizes the allowed flexibility to create neighborhoods with lots ranging in size from 0.27 acre lots to .33 acre lots and sized to accommodate single family homes. This proposal includes 54 lots and two open space parcels.

The proposal included and was approved with the following minimum single family development standards:

- Yard development standards:
  - Front Yard: 20 feet
  - Side Yard: 6 feet, 15 feet on a corner lot where the side lot line is adjacent to a street.
  - Rear Yard: 20 feet
- Maximum Building Height:
  - Single Family: 35' (average building height)

Based on the allowed flexibility of a PRUD, the proposed layout, lot configurations and lot sizes are acceptable. In order to provide clear site standards at intersecting streets throughout the development, staff recommends adding to the minimum setback standards on the preliminary and final subdivision plats a setback for "Side, facing street corner lot".

Applicant is planning one phase for this development.

Additional Design Standards: Applicant has been approved for 42% bonus density under CUP 2020-18. The current proposal adheres to the conditions in the conditional use approval. Weber Fire District has approved of the proposed fire road, as a secondary access. The materials proposed for the fire road, as well as the dimensions and the gate, have been approved by Weber Fire District.

The proposed open space will be used in two ways: the eastern area of Open Space 'A', is planned to be leased for grazing purposes. The western area of Open Space 'A' will have a storm drain easement, and will remain open for the subdivision residents to use as an open space area. There is an 8' walking path that loops off of the fire road. This will be accessible to the public with five parking stalls dedicated just inside the subdivision (See exhibit C). Open space 'B' will be generally used by those lots that are immediately adjacent to it.

Public Road Infrastructure: The applicant shows public roads throughout this subdivision, including a road stub to the south and east of the development, and sidewalk (both curb, and gutter) throughout the development.

Review Agencies: The subdivision application will be required to comply with all review agency requirements. Engineering has expressed a concern to regulate the disallowance of basements within this subdivision. This will need to be addressed prior to receiving final approval from the County Commission (see condition 5, under Staff Recommendations).

Previous Conditions of Approval – CUP 2020-18 (Approved 1/19/2021)

1. The following setback standard shall be added to the final subdivision plats for review and approval: Front – 20', side – 6', rear – 20', corner lot with a side facing a street – 15'. This will be noted on the final plat prior to recording the subdivision.
2. Street light design shall be approved by Planning Department prior to issuance of a conditional use permit. Applicant has submitted approved lighting designs to Planning Division (see exhibit E). Applicant has indicated these will include shielding.
3. Sidewalk, curb and gutter will be installed along the applicant's frontage of 1800 South as well as along the roads within the subdivision. Applicant has shown this on their previously approved site plan (CUP 2020-18 – see exhibit C).

Staff Recommendation

Staff recommends preliminary approval of Winston Park PRUD Subdivision consisting of 54 lots, and two open space parcels. This recommendation is based on the review agency requirements and following conditions:

1. A letter from Hooper Irrigation, verifying sufficient shares, is required prior to receiving final approval from the County Commission.
2. The subdivision application will be required to comply with all review agency requirements prior to receiving final approval from the County Commission.
3. Annexation into Central Weber Sewer District will be required prior to receiving final approval from the County Commission.
4. Address how to regulate no basements within this subdivision, if necessary, prior to receiving final approval from the County Commission.

The recommendation is based on the following findings:

This recommendation is based on the following findings:

1. The proposed PRUD conforms to the West Central Weber County General Plan.
2. The lot area, width, yard, height and coverage regulations proposed are acceptable as shown on the submitted plat.
3. The proposal will not be detrimental to the public health, safety, or welfare.
4. The proposal will not deteriorate the environment of the general area so as to negatively impact surrounding properties and uses.

Exhibits

A. Water/Sewer Feasibility
B. Proposed Lot Layout
C. Previously Approved Landscaping Plan
D. Geotech/Soils Report and Preliminary Wetlands Assessment with Addendum
E. Lighting Designs Approved by Planning – Will Include Shielding

Location Map

Exhibit A-Water/Sewer Feasibility

See attached.

Exhibit B-Proposed Plat

See attached.

Exhibit C-Previously Approved Landscaping Plan

Exhibit D – Geotech/Soils Report and Preliminary Wetlands Assessment with Addendum

See attached.

Exhibit E-Lighting Designs Approved by Planning - Will Include Shielding

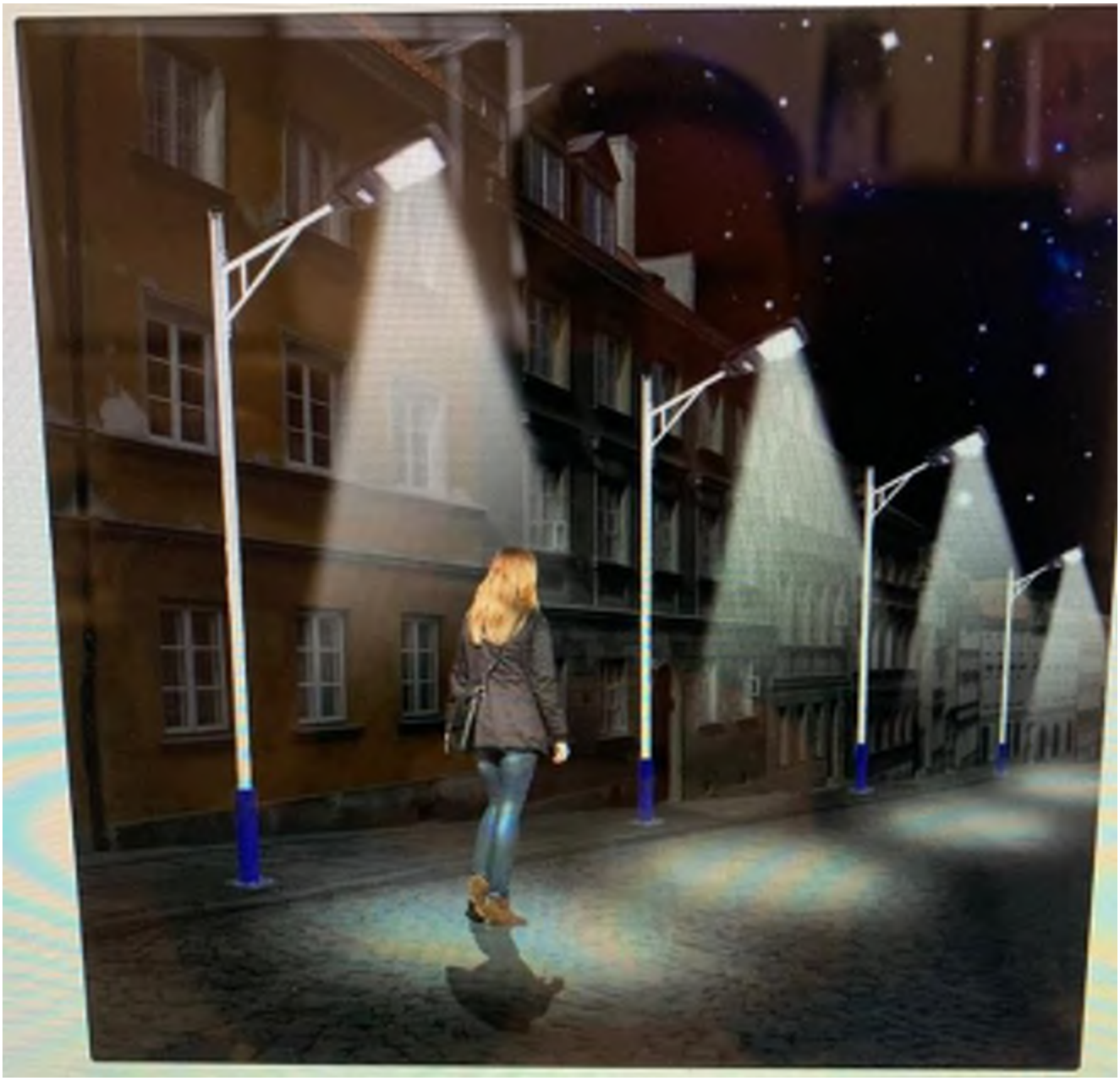


EXHIBIT A

Central Weber Sewer Improvement District

September 16, 2020

Weber County Planning Commission
2380 Washington Blvd.
Ogden, Utah 84401-1473

Reference: Proposed 38 Lot Winston Park Subdivision
Sanitary Sewer Will Serve Letter

We have been asked review the possibility of providing sanitary sewer service for the proposed 38 Lot Winston Park Subdivision located at approximately 3800 West and 1800 South. See the attached plat. Central Weber Sewer Improvement District [District] can accept the sanitary sewer discharge from this location. We offer the following comments.

1. The nearest District owned line for connection is on 4300 West. **It will be the developer's responsibility to provide information as to where the connection to the District's sanitary sewer will be and submit that information to the District.**

2. If any sanitary sewer connections are made to the District's lines they will need to be designed and constructed according to the District's standard details and specifications. A copy of the District's details and specifications can be found at: https://www.centralweber.com/information.

3. The plans and details for the sanitary sewer connection into the District's collection system must be submitted to the District for review and approval. The District does not take the responsibility for the design of the collection system within the subdivision.

4. The District must be notified for inspection at any time connections are being made to the District's sanitary sewer lines. The District will NOT install, own and/or maintain any of the sanitary sewer lines being extended to serve this property.

5. The connection of any sump pumps (or similar type pumps) to the sanitary sewer system is prohibited during or after construction. Central Weber's Wastewater Control Rules and Regulations state:

> *Prohibited Discharge into Sanitary Sewer. No person shall discharge or cause or make a connection which would allow to be discharged any storm water, surface*

water, groundwater, roof water runoff or subsurface drainage to any sanitary sewer.

6. Impact Fees for each residential lot must be paid prior to or at the time each building permit is obtained. The District's current impact fee is $2,464 per Equivalent Residential Unit (ERU).

If you have further questions or need additional information please do not hesitate to contact us.

Sincerely,

CENTRAL WEBER SEWER IMPROVEMENT DISTRICT

Lance L. Wood, P. E.
General Manager

Attachment: Winston Park Subdivision

cc: Hyrum Osguthorpe hyrum@benchmarkcivil.com
Igor Maksymiw <igormaksymiw@aol.com>

WINSTON PARK SUBDIVISION

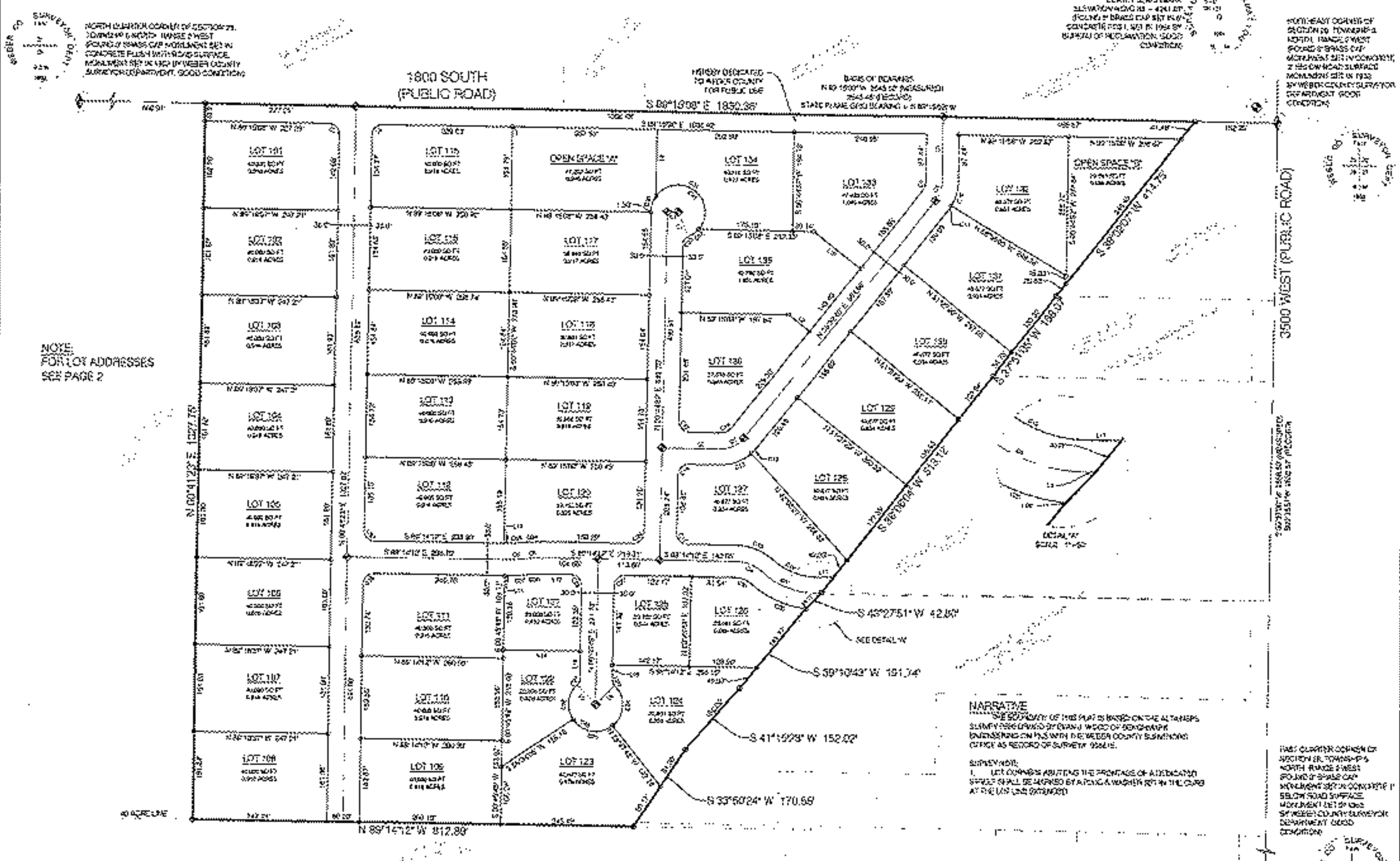
LOCATED IN THE NORTHEAST QUARTER OF SECTION 26,
TOWNSHIP 6 NORTH NORTH, RANGE 2 WEST,
SALT LAKE BASE AND MERIDIAN
WEBER COUNTY, UTAH
2020

LEGEND

- WEBER COUNTY SECTION CORNER — SECTION LINE
- LOT CORNER (SET ⅝ REBAR AND CAP) — BOUNDARY LINE
- BOUNDARY CORNER (SET ⅝ REBAR AND CAP) — LOT LINE
- P.U.E. PUBLIC UTILITY EASEMENT — STREET CENTERLINE
- STREET MON. (TO BE SET) — EASEMENT LINE
- RIGHT OF WAY LINE

GRAPHIC SCALE

NORTH



NOTE:
FOR LOT ADDRESSES
SEE PAGE 2

NARRATIVE

OWNER / DEVELOPER:
NAME: IGOR MAKSYMIW
TELEPHONE: (801) XXX-XXXX
ADDRESS: XXXXXXXXX
IGORMAKSYMIW@AOL.COM

BENCHMARK CIVIL
BENCHMARK ENGINEERING & LAND SURVEYING

SURVEYOR'S CERTIFICATE

WINSTON PARK SUBDIVISION

BOUNDARY DESCRIPTION

OWNER'S DEDICATION

SIGNED THIS ____ DAY OF ____________, 2020

WINSTON PARK SUBDIVISION

ACKNOWLEDGMENT

State of }
County of } S.S.

MY COMMISSION NUMBER ____________ NOTARY PUBLIC (PRINT NAME)

MY COMMISSION EXPIRES ____________ NOTARY PUBLIC RESIDING IN ________ COUNTY

WINSTON PARK SUBDIVISION

LOCATED IN THE NORTHEAST QUARTER OF SECTION 26,
TOWNSHIP 6 NORTH NORTH, RANGE 2 WEST,
SALT LAKE BASE AND MERIDIAN
WEBER COUNTY, UTAH

WEBER COUNTY SURVEYOR

SIGNATURE

WEBER COUNTY PLANNING COMMISSION ACCEPTANCE

CHAIRMAN, WEBER COUNTY PLANNING COMMISSION

WEBER COUNTY ENGINEER

SIGNATURE

WEBER COUNTY COMMISSION ACCEPTANCE

CHAIRMAN, WEBER COUNTY COMMISSION

WEBER COUNTY ATTORNEY

SIGNATURE

WEBER COUNTY RECORDER

WEBER COUNTY RECORDER

DEPUTY

EXHIBIT A

Hooper Irrigation Co.

PO Box 184
5375 S 5500 W
Hooper, Utah 84315

Phone: (801)985-8429
Fax: (801)985-3556
hooperirrigationco@msn.com

March 2, 2021

Weber County Planning Commission
2380 Washington Blvd, #240
Ogden, Utah 84401

RE: PRELIMINARY WILL SERVE LETTER – Winston Park Subdivision

The Winston Park development is located at 1800 South and 3600 West approximately and consists of 54 building lots, a large open space, and a detention basin. The subdivision is in the boundaries of the Hooper Irrigation Company service area. The secondary water line is 1450 west of the subdivision on 1800 South and will need to be brought to the subdivision and along the frontage of the subdivision. Pioneering and Oversize agreements can be utilized to reimburse the developer if future development connects to the lines installed by the developer of Winston Park. A formal application has been made to our office and the fee for application has been paid.

The subdivision plat plan has been reviewed by Hooper Irrigation. The preliminary plans have been conditionally approved for the above subdivision with some minor changes needed. At this time, the developer does not own enough water shares to complete the project, therefore water will need to be verified prior to giving final approval by the County and prior to issuing permits. There may be private ditches, tailwater and/or waste ditches, on the property that would need to be piped to ensure a continuation of water flow for irrigation users. Only this project is in consideration and guaranteed service and the plan review is good only for a period of one year from the date of this letter, if not constructed.

Hooper Irrigation's specifications are available at the Company office.

If you have questions, please call 801-985-8429.

Sincerely,

Michelle Pinkston

Michelle Pinkston
Office Manager
Board Secretary

EXHIBIT A

TAYLOR WEST WEBER WATER DISTRICT
2815 WEST 3300 SOUTH
WEST HAVEN, UTAH 84401
801-731-1668

11/17/2020

Weber County Planning Commission
2380 Washington Boulevard
Ogden, Utah 84401

To Whom It May Concern:

This is to inform you that ***preliminary*** approval has been given and the District has the capacity to provide culinary water only for 54 lots for the Winston Park Subdivision at the approximate address 3600 W. 1800 S. Taylor, Utah.

Requirements:

- Plan review fee= $100 per lot = $5400
- Water rights fee = Must be paid before subdivision approval is given. $4363.00 per lot (Total $235,602.00 54 lots) or current cost when paid.
- It is expected that the developer will upgrade the water line along the entire frontage of 1800 South. The existing water line is now a 6" line which will not accommodate the new subdivision. A new line needs to be installed. An 8" line is required for the subdivision. The District would like to participate in the upgrade and install a 12" line for future growth. The District will pay the offset from an 8" line to a 12" line.
- Secondary Water = Must connect to Hooper Irrigation pressurized secondary water.
- Impact Fees ($5,228 per lot or current cost when paid).
- Taylor West Weber Water District reserves the right to make or revise changes as needed or as advised by the district engineer or the district attorney.

SUBDIVISION APPROVAL SHOULD NOT BE ISSUED UNTIL FINAL APPROVAL IS GIVEN BY TAYLOR WEST WEBER WATER. Final approval is subject to meeting all of the requirements of the District and all fees being paid and received. This letter expires six months from the date it is issued.

Sincerely,

Expires 5/17/2021

Ryan Rogers – Manager
Taylor West Weber Water Improvement District

WINSTON PARK SUBDIVISION

EXHIBIT B

LOCATED IN THE NORTHEAST QUARTER OF SECTION 28,
TOWNSHIP 6 NORTH NORTH, RANGE 2 WEST,
SALT LAKE BASE AND MERIDIAN
WEBER COUNTY, UTAH
2021

LEGEND

- WEBER COUNTY SECTION CORNER
- LOT CORNER (SET 5/8 REBAR AND CAP)
- BOUNDARY CORNER (SET 5/8 REBAR AND CAP)
- P.U.E. PUBLIC UTILITY EASEMENT
- STREET MON. (TO BE CONST.)
- SECTION LINE
- BOUNDARY LINE
- LOT LINE
- STREET CENTERLINE
- EASEMENT LINE
- RIGHT OF WAY LINE

GRAPHIC SCALE
100 0 50 100 200
(IN FEET)
1 inch = 100ft.

NORTH

NORTH QUARTER CORNER OF SECTION 28, TOWNSHIP 6 NORTH, RANGE 2 WEST (FOUND 3" BRASS CAP MONUMENT SET IN CONCRETE FLUSH WITH ROAD SURFACE. MONUMENT SET IN 1963 BY WEBER COUNTY SURVEYOR DEPARTMENT. GOOD CONDITION)

WEBER COUNTY BENCHMARK
62121-2-5217
SURVEY BENCHMARK
ELEVATION NGVD 88 = 4241.87'
(FOUND 3" BRASS CAP SET IN 6" CONCRETE POST. SET IN 1954 BY BUREAU OF RECLAMATION. GOOD CONDITION)

NORTHEAST CORNER OF SECTION 28, TOWNSHIP 6 NORTH, RANGE 2 WEST (FOUND 3' BRASS CAP MONUMENT SET IN CONCRETE 2" BELOW ROAD SURFACE. MONUMENT SET IN 1963 BY WEBER COUNTY SURVEYOR DEPARTMENT. GOOD CONDITION)

1800 SOUTH ST.
(PUBLIC ROAD)

HEREBY DEDICATED TO WEBER COUNTY FOR PUBLIC USE

BASIS OF BEARINGS
N 89°15'08" W 2643.62' (MEASURED)
2643.46' (RECORD)
STATE PLANE GRID BEARING = N 89°15'02" W

S 89°15'08" E 1830.36'

660.91'

1089.51'

152.35'

POB

3500 WEST (PUBLIC ROAD)

S 38°02'07" W 414.75

S 37°51'05" W 188.07'

S 38°06'04" W 513.12'

S 43°27'51" W 42.80'

S 39°10'43" W 191.74'

S 41°15'28" W 152.02'

S 33°50'24" W 170.55'

N 89°14'12" W 812.89'

N 00°41'23" E 1327.75'

S 00°36'51" W 2656.60' (MEASURED)
S 00°36'51" W 2656.57' (RECORD)

RAY L BERTODI, TR
PARCEL 15-057-0006

JEFFERY & TRUDY EAST
PARCEL No. 15-057-0027

JEFFERY & TRUDY EAST
PARCEL No. 15-057-0004

FRANCIS & NOLA HESSELGESSER
PARCEL No. 15-057-0052

PARKER, THOMAS C
PARCEL No. 15-078-0065

HANSEN, SUBDIVISION
BOOK 28, PAGE 81

REED G FINDLAY & BARBARA W FINDLEY
PARCEL No. 15-172-0001

ALBERT WHETTON REV. TRUST
PARCEL No. 15-078-0076

MARDELL & FRANCES W GODDERIDGE FAMILY TRUST
PARCEL No. 15-078-0050

A JAY SMITH, ETAL
PARCEL No. 15-078-0001

PJF CORP
PARCEL No. 15-078-0006

LOT 101 — 13,496 SQ FT — 0.310 ACRES
LOT 102 — 14,520 SQ FT — 0.333 ACRES
LOT 103 — 14,520 SQ FT — 0.333 ACRES
LOT 104 — 14,520 SQ FT — 0.333 ACRES
LOT 105 — 14,520 SQ FT — 0.333 ACRES
LOT 106 — 14,520 SQ FT — 0.333 ACRES
LOT 107 — 14,520 SQ FT — 0.333 ACRES
LOT 108 — 14,520 SQ FT — 0.333 ACRES
LOT 109 — 14,520 SQ FT — 0.333 ACRES
LOT 110 — 14,520 SQ FT — 0.333 ACRES
LOT 111 — 14,520 SQ FT — 0.333 ACRES
LOT 112 — 14,520 SQ FT — 0.333 ACRES
LOT 113 — 14,237 SQ FT — 0.327 ACRES
LOT 114 — 15,470 SQ FT — 0.355 ACRES
LOT 115 — 13,200 SQ FT — 0.303 ACRES
LOT 116 — 13,200 SQ FT — 0.303 ACRES
LOT 117 — 13,200 SQ FT — 0.303 ACRES
LOT 118 — 13,200 SQ FT — 0.303 ACRES
LOT 119 — 13,200 SQ FT — 0.303 ACRES
LOT 120 — 13,200 SQ FT — 0.303 ACRES
LOT 121 — 13,813 SQ FT — 0.317 ACRES
LOT 122 — 12,917 SQ FT — 0.297 ACRES
LOT 123 — 12,903 SQ FT — 0.296 ACRES
LOT 124 — 12,903 SQ FT — 0.296 ACRES
LOT 125 — 12,904 SQ FT — 0.296 ACRES
LOT 126 — 13,573 SQ FT — 0.312 ACRES
LOT 127 — 13,622 SQ FT — 0.313 ACRES
LOT 128 — 13,575 SQ FT — 0.312 ACRES
LOT 129 — 11,863 SQ FT — 0.272 ACRES
LOT 130 — 11,863 SQ FT — 0.272 ACRES
LOT 131 — 11,863 SQ FT — 0.272 ACRES
LOT 132 — 11,863 SQ FT — 0.272 ACRES
LOT 133 — 11,863 SQ FT — 0.272 ACRES
LOT 134 — 14,564 SQ FT — 0.334 ACRES
LOT 135 — 13,852 SQ FT — 0.318 ACRES
LOT 136 — 14,298 SQ FT — 0.328 ACRES
LOT 137 — 16,789 SQ FT — 0.385 ACRES
LOT 138 — 14,672 SQ FT — 0.337 ACRES
LOT 139 — 14,375 SQ FT — 0.330 ACRES
LOT 140 — 14,520 SQ FT — 0.333 ACRES
LOT 141 — 14,520 SQ FT — 0.333 ACRES
LOT 142 — 14,520 SQ FT — 0.333 ACRES
LOT 143 — 14,520 SQ FT — 0.333 ACRES
LOT 144 — 14,520 SQ FT — 0.333 ACRES
LOT 145 — 14,520 SQ FT — 0.333 ACRES
LOT 146 — 13,855 SQ FT — 0.318 ACRES
LOT 147 — 13,855 SQ FT — 0.318 ACRES
LOT 148 — 13,855 SQ FT — 0.318 ACRES
LOT 149 — 13,855 SQ FT — 0.318 ACRES
LOT 150 — 13,838 SQ FT — 0.318 ACRES
LOT 151 — 12,649 SQ FT — 0.290 ACRES
LOT 152 — 12,697 SQ FT — 0.291 ACRES
LOT 153 — 12,697 SQ FT — 0.291 ACRES
LOT 154 — 12,612 SQ FT — 0.290 ACRES

COMMON AREA — 55,518 SQ FT — 1.275 ACRES

OPEN SPACE "A" — 667,600 SQ FT — 15.326 ACRES

PUBLIC WALKING TRAIL EASEMENT

STORM DRAIN EASEMENT IN FAVOR OF WEBER COUNTY, TO BE MAINTAINED BY HOA

20' PUBLIC RIGHT OF WAY FOR EMERGENCY SERVICE ACCESS ROAD

20' DRAINAGE EASEMENT AND INGRESS EGRESS ACCESS FOR PUBLIC USE

20' SEWER EASEMENT IN FAVOR OF WEBER SEWER IMPROVEMENT DISTRICT

TEMPORARY FIRE TURNAROUND TO BE VACATED UPON CONTINUATION OF ROAD SOUTHERLY

ALDER CT. (PUBLIC ROAD)
FITZROY ROAD (PUBLIC ROAD)
CHALGROVE RD. (PUBLIC ROAD)
STANMORE DR. (PUBLIC ROAD)
FINSBURY DR. (PUBLIC ROAD)

DETAIL "A"
SCALE: 1"=50'

SEE DETAIL "A"

EAST QUARTER CORNER OF SECTION 28, TOWNSHIP 6 NORTH, RANGE 2 WEST (FOUND 3" BRASS CAP MONUMENT SET IN CONCRETE 1" BELOW ROAD SURFACE. MONUMENT SET IN 1963 BY WEBER COUNTY SURVEYOR DEPARTMENT. GOOD CONDITION)

NOTES:
1. FOR LOT ADDRESSES SEE PAGE 2

2. AGRICULTURE IS THE PREFERRED USE IN THE AGRICULTURE ZONES. AGRICULTURAL OPERATIONS AS SPECIFIED IN THE LAND USE CODE FOR A PARTICULAR ZONE ARE PERMITTED AT ANY TIME INCLUDING THE OPERATION OF FARM MACHINERY AND NO ALLOWED AGRICULTURAL USE SHALL BE SUBJECT TO RESTRICTIONS ON THE BASIS THAT IT INTERFERES WITH ACTIVITIES OF FUTURE RESIDENTS OF THIS SUBDIVISION." WCO 106-1-8(C)(5).

NOTE:
THE LOWEST ALLOWABLE LIVABLE FINISH FLOOR ELEVATION WILL NEED TO BE APPROVED BY GEOTECHNICAL ENGINEER AND COUNTY ENGINEER DUE TO GROUND WATER TABLE.

NARRATIVE

THE BOUNDARY OF THIS PLAT IS BASED ON THE ALTA/NSPS SURVEY PERFORMED BY EVAN J. WOOD OF BENCHMARK ENGINEERING ON FILE WITH THE WEBER COUNTY SURVEYOR'S OFFICE AS RECORD OF SURVEY#: 005615.

SURVEY NOTE:
1. LOT CORNERS ABUTTING THE FRONTAGE OF A DEDICATED STREET SHALL BE MARKED BY A PLUG & WASHER SET IN THE CURB AT THE LOT LINE EXTENDED.

OWNER / DEVELOPER:
NAME: IGOR MAKSYMIW
TELEPHONE: (801) 209-6759
IGORMAKSYMIW@AOL.COM

BENCHMARK ENGINEERING & LAND SURVEYING
9138 SOUTH STATE STREET SUITE # 100
SANDY, UTAH 84070 (801) 542-7192
www.benchmarkcivil.com

WEBER COUNTY SURVEYOR

I HEREBY CERTIFY THAT THE WEBER COUNTY SURVEYORS OFFICE HAS REVIEWED THIS PLAT AND ALL CONDITIONS FOR APPROVAL BY THIS OFFICE HAVE BEEN SATISFIED. THE APPROVAL OF THIS PLAT BY THE WEBER COUNTY SURVEYOR DOES NOT RELIEVE THE LICENSED LAND SURVEYOR WHO EXECUTED THIS PLAT FROM THE RESPONSIBILITIES AND/OR LIABILITIES ASSOCIATED THEREWITH.
SIGNED THIS _____ DAY OF _____ 2021.

WEBER COUNTY SURVEYOR

WEBER COUNTY PLANNING COMMISSION ACCEPTANCE

THIS IS TO CERTIFY THAT THIS SUBDIVISION PLAT WAS DULY APPROVED BY THE WEBER COUNTY, PLANNING COMMISSION ON THE _____ DAY OF _____, 2021

CHAIRMAN, WEBER COUNTY PLANNING COMMISION

WEBER COUNTY ENGINEER

I HEREBY CERTIFY THAT THE REQUIRED PUBLIC IMPROVEMENT STANDARDS AND DRAWINGS FOR THIS SUBDIVISION CONFORM WITH THE COUNTY STANDARDS AND THE AMOUNT OF THE FINANCIAL GUARANTEE IS SUFFICIENT FOR THE INSTALLATION OF THESE IMPROVEMENTS.
SIGNED THIS _____ DAY OF _____, 2021

SIGNATURE

WEBER COUNTY COMMISSION ACCEPTANCE

THIS IS TO CERTIFY THAT THIS SUBDIVISION PLAT, THE DEDICATION OF STREETS AND OTHER PUBLIC WAYS AND FINANCIAL GUARANTEE OF PUBLIC IMPROVEMENTS ASSOCIATED WITH THIS SUBDIVISION , THEREON ARE HEREBY APPROVED AND ACCEPTED BY THE COMMISSIONERS OF WEBER COUNTY, UTAH THIS ___ DAY OF _____, 2021

CHAIRMAN, WEBER COUNTY COMMISION

WEBER COUNTY ATTORNEY

I HAVE EXAMINED THE FINANCIAL GUARANTEE AND OTHER DOCUMENTS ASSOCIATED WITH THIS SUBDIVISION PLAT AND IN MY OPINION THEY CONFORM WITH THE COUNTY ORDINANCE APPLICABLE THERETO AND NOW IN FORCE AND AFFECT.
SIGNED THIS_____ DAY OF _____, 2021

SIGNATURE

WEBER COUNTY RECORDER

ENTRY NO._____
FEE PAID_____
FILED FOR RECORD AND RECORDED_____AT_____
BOOK _____ OF OFFICIAL RECORDS, PAGE _____
RECORDED FOR : _____

WEBER COUNTY RECORDER

DEPUTY

SURVEYOR'S CERTIFICATE

I, BRIAN A. LINAM DO HEREBY CERTIFY THAT I AM A LICENSED PROFESSIONAL LAND SURVEYOR, IN THE STATE OF UTAH IN ACCORDANCE WITH TITLE 58, CHAPTER 22, PROFESSIONAL ENGINEERS AND LAND SURVEYORS ACT, AND THAT I HOLD CERTIFICATE NO. 7240531: AND THAT I HAVE COMPLETED A SURVEY OF THE PROPERTY DESCRIBED ON THIS PLAT IN ACCORDANCE WITH SECTION 17-23-17 AND HAVE VERIFIED ALL MEASUREMENTS, AND HAVE PLACED MONUMENTS AS REPRESENTED ON THIS PLAT ON THIS PLAT AND THAT THIS PLAT OF WINSTON PARK SUBDIVISION IN WEBER COUNTY, UTAH, HAS BEEN DRAWN CORRECTLY TO THE DESIGNATED SCALE AND IS A TRUE AND CORRECT REPRESENTATION OF THE HEREIN DESCRIBED LANDS INCLUDED IN SAID SUBDIVISION, BASED UPON DATA COMPILED FROM RECORDS IN THE WEBER COUNTY RECORDERS OFFICE AND FROM SAID SURVEY MADE BY ME ON THE GROUND, I FURTHER CERTIFY THAT THE REQUIREMENTS OF ALL APPLICABLE STATUES AND ORDINANCES OF WEBER COUNTY CONCERNING ZONING REQUIREMENTS REGARDING LOT MEASUREMENTS HAVE BEEN COMPILED WITH.

PROFESSIONAL LAND SURVEYOR
S-10-21
7240531
BRIAN A. LINAM
STATE OF UTAH

WINSTON PARK SUBDIVISION

BOUNDARY DESCRIPTION

BEGINNING AT A POINT ON THE EXISTING FENCE LINE EXTENDED DEFINED AS THE WESTERLY BANK OF A SLOUGH, SAID POINT BEING NORTH 89°15'08" WEST ALONG THE QUARTER SECTION LINE 152.35 FEET FROM THE NORTHEAST CORNER OF SECTION 28, TOWNSHIP 6 NORTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN AND RUNNING THENCE ALONG SAID EXISTING FENCE AND WESTERLY BANK OF SAID SLOUGH THE FOLLOWING SEVEN (7) COURSES: 1) SOUTH 38°02'07" WEST 414.75 FEET; 2) SOUTH 37°51'05" WEST 188.07 FEET; 3) SOUTH 38°06'04" WEST 513.12 FEET; 4) SOUTH 43°27'51" WEST 42.80 FEET; 5) SOUTH 39°10'43" WEST 191.74 FEET; 6) SOUTH 41°15'28" WEST 152.02 FEET; 7) SOUTH 33°50'24" WEST 170.55 FEET TO A POINT ON THE 40 ACRE LINE; THENCE NORTH 89°14'12" WEST 812.89 FEET ALONG SAID 40 ACRE LINE; THENCE NORTH 00°41'23" EAST 1327.75 FEET TO THE QUARTER SECTION LINE; THENCE SOUTH 89°15'08" EAST ALONG SAID QUARTER SECTION LINE 1830.36 FEET TO THE POINT OF BEGINNING.

CONTAINS 40.259 ACRES
54 RESIDENTIAL LOTS & 1 OPEN SPACE & 1 COMMON AREA

OWNER'S DEDICATION

WE THE UNDERSIGNED OWNERS OF THE HEREIN DESCRIBED TRACT OF LAND, DO HEREBY SET APART AND SUBDIVIDE THE SAME INTO LOTS AND STREETS AS SHOWN ON THE PLAT AND NAME SAID TRACT, WINSTON PARK SUBDIVISION, AND DO HEREBY DEDICATE, FOR PERPETUAL USE OF THE PUBLIC ALL PARCELS OF LAND , TRAILS AND ROADS INTENDED FOR PUBLIC USE AND ALSO TO GRANT AND DEDICATE A PERPETUAL RIGHT AND EASEMENT OVER, UPON AND UNDER THE LANDS DESIGNATED HEREON AS PUBLIC UTILITY EASEMENTS, STORM WATER DETENTION PONDS, SEWER EASEMENTS, AND DRAINAGE EASEMENTS, THE SAME TO BE USED FOR THE INSTALLATION, MAINTENANCE, AND OPERATION OF PUBLIC UTILITY SERVICE LINE, AND STORM DRAINAGE FACILITIES, WITH NO BUILDINGS OR STRUCTURES BEING ERECTED WITHIN SUCH EASEMENTS. AND DO ALSO HEREBY DEDICATE AND GRANT TO WEBER COUNTY A PERPETUAL RIGHT AND EASEMENT ON AND OVER OPEN SPACE PARCELS TO GUARANTEE TO WEBER COUNTY THAT SAID OPEN SPACE PARCELS REMAIN OPEN AND UNDEVELOPED, AND OPEN SPACE PURPOSES.

AND DO ALSO GRANT AND CONVEY TO THE SUBDIVISION LOT OWNERS ASSOCIATION, ALL THOSE PARTS OR PORTIONS OF SAID TRACT OF LAND DESIGNATED AS COMMON AREAS TO BE USED FOR RECREATIONAL AND OPEN SPACE PURPOSES FOR THE BENEFIT OF EACH LOT OWNERS ASSOCIATION MEMBER IN COMMON WITH ALL OTHERS IN THE SUBDIVISION AND GRANT AND DEDICATE TO THE COUNTY A PERPETUAL OPEN SPACE RIGHT AND EASEMENT ON AND OVER THE COMMON AREAS TO GUARANTEE TO WEBER COUNTY THAT THE COMMON AREAS REMAIN OPEN AND UNDEVELOPED EXCEPT FOR APPROVED RECREATIONAL, PARKING AND OPEN SPACE PURPOSES.

SIGNED THIS _____ DAY OF _____, 2021

WINSTON PARK SUBDIVISION

WADE RUMSEY

ACKNOWLEDGMENT

State of
County of } S.S.

ON THE____DAY OF _____, 20____, _____PERSONALLY APPEARED BEFORE ME, THE UNDERSIGNED NOTARY PUBLIC, WADE RUMSEY, OF THE ABOVE OWNER'S DEDICATION AND CERTIFICATION, WHO BEING BY ME DULY SWORN, DID ACKNOWLEDGE TO ME THAT HE SIGNED IT FREELY, VOLUNTARILY, AND FOR THE PURPOSES THEREIN MENTIONED.

MY COMMISSION NUMBER: _____

MY COMMISSION EXPIRES: _____

NOTARY PUBLIC (PRINT NAME)

NOTARY PUBLIC
RESIDING IN _____ COUNTY

WINSTON PARK SUBDIVISION

LOCATED IN THE NORTHEAST QUARTER OF SECTION 28,
TOWNSHIP 6 NORTH NORTH, RANGE 2 WEST,
SALT LAKE BASE AND MERIDIAN
WEBER COUNTY, UTAH
MARCH, 2021

2006142sp.dwg

WINSTON PARK SUBDIVISION

LOCATED IN THE NORTHEAST QUARTER OF SECTION 28,
TOWNSHIP 6 NORTH NORTH, RANGE 2 WEST,
SALT LAKE BASE AND MERIDIAN
WEBER COUNTY, UTAH
2021

VICINITY MAP
SCALE: N.T.S.

CURVE TABLE					
CURVE #	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD DISTANCE
C1	77.39'	170.00'	26°04'54"	N 76°11'45" W	76.72'
C2	31.42'	20.00'	90°00'00"	N 44°15'08" W	28.28'
C3	31.42'	20.00'	90°00'00"	S 45°44'52" W	28.28'
C4	23.56'	15.00'	90°00'00"	S 44°15'08" E	21.21'
C5	13.60'	15.00'	51°56'37"	N 64°46'33" E	13.14'
C6	75.07'	58.00'	74°09'36"	S 75°53'03" W	69.94'
C7	70.98'	58.00'	70°06'57"	N 31°58'41" W	66.63'
C8	70.33'	58.00'	69°28'26"	N 37°49'01" E	66.10'
C9	71.00'	58.00'	70°08'15"	S 72°22'39" E	66.65'
C10	13.60'	15.00'	51°56'37"	N 63°16'50" W	13.14'
C11	23.56'	15.00'	90°00'00"	S 45°44'52" W	21.21'
C12	287.38'	58.00'	283°53'13"	N 00°44'52" E	71.51'
C13	23.56'	15.00'	90°00'00"	S 44°15'08" E	21.21'
C14	13.91'	15.00'	53°07'48"	N 64°10'57" E	13.42'
C15	61.00'	60.00'	58°15'11"	S 66°44'39" W	58.41'
C16	68.77'	60.00'	65°40'01"	N 51°17'46" W	65.06'
C17	71.36'	60.00'	68°08'43"	N 15°36'37" E	67.23'
C18	24.58'	60.00'	23°28'25"	N 61°25'11" E	24.41'
C19	13.91'	15.00'	53°07'48"	S 46°35'29" W	13.42'
C20	24.81'	15.00'	94°46'35"	S 27°21'43" E	22.08'
C21	40.47'	200.00'	11°35'42"	N 68°57'09" W	40.41'
C22	63.73'	140.00'	26°04'54"	N 76°11'45" W	63.18'
C23	23.57'	15.00'	90°00'57"	S 45°45'20" W	21.22'
C24	23.56'	15.00'	89°59'03"	S 44°14'40" E	21.21'
C25	18.52'	15.00'	70°44'14"	N 55°23'42" E	17.37'
C26	28.61'	15.00'	109°16'43"	N 34°36'47" W	24.47'
C27	23.56'	15.00'	90°00'00"	S 45°44'52" W	21.21'
C28	225.71'	60.00'	215°32'20"	N 34°36'47" W	114.28'
C29	18.43'	28.00'	37°42'19"	S 19°36'01" W	18.10'
C30	31.59'	48.00'	37°42'19"	N 19°36'01" E	31.02'
C31	18.43'	28.00'	37°42'19"	N 19°36'01" E	18.10'
C32	31.59'	48.00'	37°42'19"	S 19°36'01" W	31.02'
C33	11.11'	5.00'	127°17'04"	S 64°23'23" W	8.96'
C34	45.55'	70.00'	37°17'02"	S 70°36'37" E	44.75'
C35	109.96'	70.00'	90°00'00"	N 45°44'52" E	98.99'
C36	52.00'	40.00'	74°28'45"	N 36°29'31" W	48.41'
C37	90.32'	34.74'	148°57'29"	S 00°44'52" W	66.95'
C38	52.00'	40.00'	74°28'45"	N 37°59'14" E	48.41'
C39	109.96'	70.00'	90°00'00"	N 44°15'08" W	98.99'
C40	45.48'	70.00'	37°13'40"	S 72°08'02" W	44.69'
C41	11.10'	5.00'	127°13'40"	S 62°51'58" E	8.96'
C42	3.93'	5.00'	45°00'03"	S 23°14'50" W	3.83'
C43	48.69'	62.00'	45°00'00"	S 68°14'52" W	47.45'
C44	97.39'	62.00'	90°00'00"	N 44°15'08" W	87.68'
C45	41.60'	32.00'	74°28'45"	N 37°59'14" E	38.73'
C46	111.12'	42.74'	148°57'29"	S 00°44'52" W	82.37'
C47	41.60'	32.00'	74°28'45"	N 36°29'31" W	38.73'
C48	97.39'	62.00'	90°00'00"	N 45°44'52" E	87.68'
C49	48.82'	62.00'	45°06'54"	S 66°41'41" E	47.57'
C50	3.92'	5.00'	44°53'06"	S 21°41'41" E	3.82'

PARCEL LINE TABLE		
LINE #	BEARING	DISTANCE
L1	S 63°09'18" E	22.14'
L2	S 89°15'08" E	126.28'
L3	S 00°44'52" W	72.88'
L4	S 00°44'52" W	99.36'
L5	S 00°44'52" W	99.43'
L6	S 00°44'52" W	99.50'
L7	S 00°44'52" W	99.56'
L8	S 00°44'52" W	99.63'
L9	S 00°44'52" W	99.70'
L10	S 00°44'52" W	99.77'
L11	S 00°44'52" W	99.84'
L12	S 00°44'52" W	99.91'
L13	S 00°44'52" W	99.98'
L14	S 00°44'52" W	100.05'
L15	S 00°44'52" W	98.18'
L16	N 89°15'08" W	145.08'
L17	S 89°15'08" E	145.18'
L18	N 89°15'08" W	145.28'
L19	S 89°15'08" E	145.38'
L20	N 89°15'08" W	145.48'
L21	S 89°15'08" E	145.58'
L22	N 89°15'08" W	145.68'
L23	S 89°15'08" E	145.79'
L24	N 89°15'08" W	145.89'
L25	S 89°15'08" E	145.99'
L26	N 89°15'08" W	146.09'
L27	S 89°15'08" E	146.19'
L28	S 00°44'52" W	75.38'
L29	S 00°44'52" W	95.38'
L30	S 00°44'52" W	95.38'
L31	S 00°44'52" W	80.38'
L32	S 89°15'08" E	133.13'
L33	S 89°15'08" E	133.13'
L34	S 89°15'08" E	133.13'
L35	S 00°44'52" W	95.38'
L36	S 00°44'52" W	95.38'
L37	S 00°44'52" W	109.50'
L38	S 89°15'08" E	118.13'
L39	S 89°15'08" E	47.61'
L40	N 22°57'51" E	92.69'

PARCEL LINE TABLE		
LINE #	BEARING	DISTANCE
L41	S 86°55'12" E	81.83'
L42	S 17°26'47" E	88.84'
L43	S 89°15'08" E	53.77'
L44	S 89°15'08" E	111.97'
L45	S 00°44'52" W	94.50'
L46	S 89°15'08" E	126.97'
L47	S 89°15'08" E	157.10'
L48	S 89°15'08" E	93.86'
L49	S 00°44'52" W	120.03'
L50	N 89°15'08" W	92.89'
L51	S 00°44'52" W	135.03'
L52	S 89°15'08" E	107.89'
L53	S 89°15'08" E	107.53'
L54	N 89°15'08" W	107.53'
L55	N 89°15'08" W	107.53'
L56	N 89°15'08" W	107.53'
L57	S 00°44'52" W	135.03'
L58	N 89°15'08" W	107.53'
L59	S 00°44'52" W	135.03'
L60	N 89°15'08" W	107.53'
L61	S 00°44'52" W	135.03'
L62	N 89°15'08" W	107.53'
L63	S 00°44'52" W	135.03'
L64	N 89°15'08" W	107.53'
L65	S 00°44'52" W	135.03'
L66	N 89°15'08" W	46.87'
L67	N 05°52'14" E	105.69'
L68	S 71°32'15" W	90.42'
L69	S 49°27'36" E	173.69'
L70	N 20°01'35" E	77.72'
L71	N 69°58'25" W	167.70'
L72	N 20°01'35" E	91.22'
L73	N 69°58'25" W	136.01'
L74	N 20°01'35" E	114.23'
L75	S 63°09'18" E	29.85'
L76	S 63°09'18" E	14.43'
L77	S 89°14'12" E	53.73'
L78	S 00°45'48" W	165.00'
L79	S 89°14'12" E	80.00'
L80	N 00°45'48" E	165.00'

PARCEL LINE TABLE		
LINE #	BEARING	DISTANCE
L81	S 89°14'12" E	80.00'
L82	S 00°45'48" W	165.00'
L83	S 89°14'12" E	80.00'
L84	N 00°45'48" E	165.00'
L85	S 89°14'12" E	80.00'
L86	S 00°45'48" W	165.00'
L87	S 89°14'12" E	80.00'
L88	N 00°45'48" E	165.00'
L89	S 89°14'12" E	80.00'
L90	S 00°45'48" W	165.00'
L91	S 89°14'12" E	79.07'
L92	S 00°44'52" W	150.00'
L93	S 00°44'52" W	90.57'
L94	N 89°15'08" W	129.00'
L95	S 00°44'52" W	105.60'
L96	S 89°14'12" E	114.02'
L97	S 89°14'12" E	122.18'
L98	S 00°44'52" W	105.63'
L99	S 89°14'12" E	122.13'
L100	S 00°44'52" W	105.67'
L101	S 89°14'12" E	122.09'
L102	S 00°44'52" W	105.70'
L103	S 89°14'12" E	93.25'
L104	N 20°01'35" E	101.36'
L105	N 20°01'35" E	111.87'
L106	N 20°01'35" E	90.74'
L107	N 89°15'08" W	110.64'
L108	S 00°44'52" W	105.60'
L109	N 89°15'08" W	112.34'
L110	S 00°44'52" W	105.60'
L111	N 89°15'08" W	112.34'
L112	S 00°44'52" W	105.60'
L113	N 89°15'08" W	112.34'
L114	S 00°44'52" W	105.60'
L115	N 89°15'08" W	112.34'
L116	S 00°44'52" W	105.60'
L117	N 89°15'08" W	114.01'
L118	S 00°44'52" W	90.60'
L119	N 89°15'08" W	129.00'
L120	S 00°44'52" W	105.60'

PARCEL LINE TABLE		
LINE #	BEARING	DISTANCE
L121	S 00°44'52" W	105.60'
L122	S 89°32'47" E	17.45'
L123	S 00°27'13" W	10.00'
L124	S 89°32'47" E	17.40'
L125	N 20°59'25" W	24.13'
L126	N 89°15'08" W	50.00'
L130	S 00°44'52" W	1327.80'
L131	S 89°15'08" E	268.22'
L132	N 89°15'08" W	782.43'
L133	N 20°01'35" E	399.33'
L134	S 89°14'12" E	657.81'
L135	S 15°42'00" E	309.51'
L136	S 89°15'08" E	482.44'
L137	S 00°44'52" W	279.01'
L138	S 89°15'08" E	244.80'
L139	S 00°44'52" W	279.01'
L142	N 89°15'08" W	544.20'
L143	S 89°15'08" E	507.27'
L144	N 41°15'28" E	30.97'
L145	N 41°15'28" E	30.97'
L146	N 41°15'28" E	1.95'
L147	S 00°44'15" W	205.94'
L148	N 17°55'14" W	103.47'
L149	S 00°00'00" E	230.00'
L150	N 90°00'00" E	197.07'
L151	S 00°00'00" E	19.64'
L152	S 00°00'00" E	19.90'
L153	N 90°00'00" W	12.93'
L154	S 00°00'00" E	160.70'
L155	N 89°15'08" W	166.45'
L156	N 89°15'08" W	166.71'
L157	N 00°00'00" E	49.30'
L158	N 90°00'00" W	208.98'
L159	N 17°55'14" W	106.65'
L160	S 00°44'15" W	202.65'
L161	S 38°27'11" W	78.01'
L162	S 00°44'52" W	442.81'
L163	N 00°44'52" E	442.81'
L164	N 38°27'11" E	78.01'
L165	N 89°15'08" W	29.47'

PARCEL LINE TABLE		
LINE #	BEARING	DISTANCE
L166	S 00°44'52" W	32.47'
L167	S 00°44'52" W	32.47'
L168	S 89°15'08" E	29.53'
L169	S 45°44'52" W	7.17'
L170	N 89°15'08" W	29.53'
L171	N 00°44'52" E	32.47'
L172	N 00°44'52" E	32.47'
L173	S 89°15'08" E	29.47'
L174	S 44°08'14" E	7.15'

LOT	ADDRESS
101	3789 W. / 1811 S.
102	1825 S.
103	1841 S.
104	1855 S.
105	1871 S.
106	1885 S.
107	1901 S.
108	1915 S.
109	1931 S.
110	1947 S.
111	1961 S.
112	1977 S.
113	1991 S.
114	1988 S. / 3761 W.
115	3749 W.
116	3737 W.
117	3725 W.
118	3711 W.
119	3701 W.
120	3687 W.
121	3673 W.
122	1957 S. / 3685 W.
123	3702 W.
124	3722 W.
125	3738 W.
126	3758 W. / 1958 S.
127	1942 S.
128	1927 S. / 3759 W.
129	3741 W.
130	3723 W.
131	3705 W.
132	3689 W.
133	3671 W.
134	3662 W. / 1958 S.
135	1942 S.
136	1928 S.

LOT	ADDRESS
137	1918 S.
138	3650 W.
139	3662 W.
140	3680 W.
141	3696 W.
142	3712 W.
143	3728 W.
144	3746 W.
145	3760 W. / 1898 S.
146	1882 S. / 3759 W.
147	3741 W.
148	3723 W.
149	3724 W.
150	3738 W.
151	3758 W. / 1856 S.
152	1842 S.
153	1828 S.
154	1814 S. / 3759 W.

PROFESSIONAL LAND SURVEYOR
5102I
7240531
BRIAN A. LINAM
STATE OF UTAH

WEBER COUNTY RECORDER

ENTRY NO._____
FEE PAID_____
FILED FOR RECORD AND
RECORDED_____ AT _____
BOOK _____ OF OFFICIAL RECORDS,
PAGE _____
RECORDED FOR : _____

_____
WEBER COUNTY RECORDER

_____
DEPUTY

BENCHMARK CIVIL
BENCHMARK
ENGINEERING &
LAND SURVEYING
9130 SOUTH STATE STREET SUITE # 100
SANDY, UTAH 84070 (801) 542-7192
www.benchmarkcivil.com

EXHIBIT D - NEXT 55 PGS

AGEC
Applied GeoTech

October 12, 2016

JAR Development
4968 Holladay Pines Court
Salt Lake City, Utah 84117

Attention: Jay Rice
EMAIL: jrrice2014@gmail.com

Subject: Water Soluble Sulfate Testing
Proposed West Weber Subdivision
Approximately 3800 West 1800 South
Weber County, Utah
Project No. 1160708

Gentlemen:

Applied Geotechnical Engineering Consultants, Inc. (AGEC) previously conducted a geotechnical investigation for the proposed residential subdivision to be located approximately 3800 West 1800 South in Weber County, Utah. The report was dated September 29, 2016 under AGEC Project No. 1160708. The results of water soluble sulfate testing were not available at the time of report preparation. This letter summarizes the test results and recommendations related to water soluble sulfate content of the natural soil.

One sample of the natural soil was tested in the laboratory for water soluble sulfate content. The test results indicate there is less than 0.1 percent water soluble sulfate in the sample tested from Test Pit TP-5 at a depth of approximately 4 feet. Based on the results of the test and published literature, the natural soil possesses negligible sulfate attack potential on concrete. No special cement type is required for concrete placed in contact with the natural soil. Other conditions may dictate the type of cement to be used in concrete for the project.

If you have any questions or if we can be of further service, please call.

Sincerely,

APPLIED GEOTECHNICAL ENGINEERING CONSULTANTS, INC.

LICENSED PROFESSIONAL ENGINEER
10/12/16
No. 264456
CHRISTOPHER J. BECKMAN
STATE OF UTAH

Christopher J. Beckman, P.E.

Reviewed by Douglas R. Hawkes, P.E., P.G.
CJB/rs

AGEC

Applied GeoTech

GEOTECHNICAL INVESTIGATION

PROPOSED WEST WEBER SUBDIVISION

APPROXIMATELY 3800 WEST 1800 SOUTH

WEBER COUNTY, UTAH

PREPARED FOR:

JAR DEVELOPMENT
4968 HOLLADAY PINES COURT
SALT LAKE CITY, UTAH 84117

ATTENTION: JAY RICE

PROJECT NO. 1160708

SEPTEMBER 29, 2016

600 West Sandy Parkway • Sandy, Utah 84070 • (801) 566-6399 • FAX (801) 566-6493

TABLE OF CONTENTS

EXECUTIVE SUMMARY

1. Up to approximately 1½ feet of topsoil was encountered in the upper portion of test pits excavated at the site. The natural soil encountered below the topsoil consists of lean clay with silt and silty sand layers. The interlayered soil extends the maximum depth investigated, approximately 13 feet.

2. Subsurface water was encountered in the test pits at depths ranging from approximately 4½ to 7 feet below the existing ground surface when measured 9 to 10 days after excavation. Fluctuations in the subsurface water level will occur over time. An evaluation of such fluctuations in the subsurface water level is beyond the scope of this report.

3. The upper natural soil at the site consists predominantly of lean clay. Construction equipment access difficulties can be expected in areas where the subgrade consists of very moist to wet clay. Placement of 1½ to 2½ feet of gravel in these areas will generally improve site conditions for rubber-tired construction equipment access.

4. The proposed residences may be supported on spread footings bearing on the undisturbed natural or on compacted structural fill extending down to the undisturbed natural soil. Footings bearing on the undisturbed natural soil may be designed using an allowable net bearing pressure of 1,200 pounds per square foot (psf). Footings bearing on at least 2 feet of properly compacted structural fill extending down to the undisturbed natural soil may be designed using an allowable net bearing pressure of 2,000 psf.

5. The site is located within an area mapped as having a "high" liquefaction potential (Anderson and others, 1994). A site specific liquefaction analysis was not requested as part of this study. Clay and soil above the free water level are not susceptible to liquefaction. Loose sand below the free water level is susceptible to liquefaction. Liquefaction should be considered a hazard at this site. A site specific liquefaction analysis could be performed and would better define the liquefaction potential for the site.

6. Geotechnical information related to foundations, subgrade preparation, pavement design, materials and compaction are included in the report.

SCOPE

This report presents the results of a geotechnical investigation for the proposed West Weber subdivision to be located at approximately 3800 West 1800 South in Weber County, Utah. The report presents the subsurface conditions encountered, laboratory test results and recommendations for foundation support and pavement. The study was conducted in general accordance with our proposal dated August 25, 2016.

Field exploration was conducted to obtain information on the subsurface conditions. Samples obtained from the field investigation were tested in the laboratory to determine physical and engineering characteristics of the on-site soil. Information obtained from the field and laboratory was used to define conditions at the site for our engineering analysis and to develop recommendations for proposed foundations and pavement.

This report has been prepared to summarize the data obtained during the study and to present our conclusions and recommendations based on the proposed construction and the subsurface conditions encountered. Design parameters and a discussion of geotechnical engineering considerations related to construction are included in the report.

SITE CONDITIONS

The site consists of two parcels each approximately 40 acres in size.

North Parcel

The north parcel is located along the north side of 1800 South Street. There are no permanent structures or pavement on the site. The ground surface at the site is relatively flat with a gently slope down to the northwest.

The areas to the north and east of the north parcel consists of undeveloped farm land. The area west of the north parcel consists of a residential development with one to two-story, wood-frame structures.

South Parcel

The south parcel is located along the south side of 1800 South Street. There are no permanent or pavements on the site. The ground surface at the site is relatively flat with a gentle slope down to the northwest. The ground surface along a portion of the southeast area of the south parcel is approximately 10 feet higher in elevation than the surrounding areas.

The areas to the east, west and south of the south parcel consist of undeveloped land and farm fields.

There are shallow irrigation ditches along both sides of 1800 South Street. There was water in the ditches at the time of the field study.

FIELD STUDY

The field study was conducted on September 12 and 13, 2016. The test pits were excavated at the approximate locations indicate on Figure 1 using a rubber-tired backhoe.

The test pits were logged and soil samples obtained by an engineer from AGEC. Logs of the subsurface conditions encountered in the test pits are graphically shown on Figures 2 and 3 with legend and notes on Figure 4.

The test pits were backfilled with excavated material without significant compaction. The backfill in the test pits should be removed and properly compacted where it will remain below proposed structures, floor slabs, pavements or other site improvements.

SUBSURFACE CONDITIONS

Up to approximately 1½ feet of topsoil was encountered in the upper portion of test pits excavated at the site. The natural soil encountered below the topsoil consists of lean clay with silt and silty sand layers. The interlayered soil extends the maximum depth investigated, approximately 13 feet.

A description of the various soils encountered in the test pits follows:

Topsoil - The topsoil consists of lean clay and silty sand. It is slightly moist to moist, brown to gray and contains roots and organics.

Lean Clay - The clay contains small to moderate amounts of sand. It is soft to stiff, moist to wet and brown to gray.

Laboratory tests conducted on samples of the clay indicate that it has natural moisture contents ranging from 24 to 26 percent and natural dry densities ranging from 89 to 100 pounds per cubic foot (pcf).

An unconfined compressive strength of 2,690 pounds per square foot (psf) was measured for a sample of the clay tested in the laboratory.

Consolidation tests conducted on samples of the clay indicate that the clay will compress a small to moderate amount with the addition of light to moderate loads. Results of the consolidation tests are presented on Figure 5.

Silt - The silt contains small amounts of sand and contains a slightly porous structure. It is stiff, slightly moist and brown to light gray.

Silty Sand - The silty sand contains small to moderate amounts of silt, occasional poorly-graded sand with silt and occasional thin clay layers. It is medium dense, moist to wet and brown.

Laboratory tests conducted on samples of the silty sand indicate that it has natural moisture contents ranging from 26 to 28 percent and natural dry densities ranging from 93 to 97 pcf.

Interlayered Lean Clay and Silty Sand - The interlayered soil is medium stiff/medium dense, wet and brown.

Poorly-graded Sand with Silt - The sand is medium dense, moist to wet and brown.

Laboratory tests conducted on a sample of the sand indicates that it has a natural moisture content of 26 percent and a natural dry density of 97 pcf.

Results of the laboratory tests are summarized on Table I and are included on the logs of exploratory test pits.

SUBSURFACE WATER

Subsurface water was encountered in the test pits at depths ranging from approximately 4½ to 7 feet below the existing ground surface when measured 9 to 10 days after excavation. Fluctuations in the subsurface water level will occur over time. An evaluation of such fluctuations in the subsurface water level is beyond the scope of this report.

PROPOSED CONSTRUCTION

The site is approximately 80 acres in size with approximately 40 acres on each of the north and south sides of 1800 South Street (see Figure 1). We assume houses will consist of one to three-story, wood-frame residences with the potential for basements. We have assumed building loads will consist of wall loads up to 3 kips per lineal foot and column loads up to 30 kips based on typical residential construction in the area.

Paved roads are planned to extend through the proposed development. We have assumed traffic conditions for pavement areas consisting primarily of relatively light passenger vehicles, five delivery trucks per day and five buses and two garbage trucks per week.

If the proposed construction, building loads or anticipated traffic is significantly different from what is described above, we should be notified to reevaluate the recommendations given.

RECOMMENDATIONS

Based on the subsurface conditions encountered, our understanding of the proposed construction and our experience in the area, the following recommendations are given:

A. Site Grading

Site grading plans were not provided to AGEC at the time of our investigation. We anticipate that relatively small amounts of grade change (less than 3 feet) will be needed to facilitate construction at the site. Fill placed to raise grade for the project should be place as soon as possible prior to building construction.

1. Pavement Subgrade Preparation

Prior to placing grading fill or base course, the topsoil, organics, unsuitable fill, debris and other deleterious materials should be removed.

Subgrade areas should be proof-rolled prior to fill placement to identify soft areas. Soft areas should be removed and replaced with gravel containing less than 15 percent passing the No. 200 sieve. If the clay subgrade is very moist to wet, the subgrade should not be proof-rolled but cut to the undisturbed natural soil below unsuitable fill, topsoil and other deleterious materials and a sufficient thickness of gravel placed to provide construction equipment access.

Construction access difficulties can be expected when the subgrade consists of very moist to wet, fine-grained soil. Under these conditions, placement of 1½ to 2½ feet of gravel will provide limited support for moderately loaded rubber-tired construction equipment and facilitate pavement construction. Consideration may be given to placing a support fabric between the natural soil and granular fill to facilitate construction.

2. Excavation

We anticipate that excavation at the site can be accomplished with typical excavation equipment.

Excavations that extend below the free water level should be dewatered. The water level should be maintained below the base of the excavation during initial fill and concrete placements.

3. Materials

Listed below are materials recommended for imported structural fill.

Fill to Support	Recommendations
Footings	Non-expansive granular soil Passing No. 200 Sieve < 35% Liquid Limit < 30% Maximum size 4 inches
Floor Slab (Upper 4 inches)	Sand and/or Gravel Passing No. 200 Sieve < 5% Maximum size 2 inches
Slab Support	Non-expansive granular soil Passing No. 200 Sieve < 50% Liquid Limit < 30% Maximum size 6 inches

Free-draining gravel with less than 5 percent passing the No. 200 sieve should be used as fill or backfill below the original water level. Consideration should be given to using a support fabric above the subgrade prior to placement of free-draining gravel.

Material placed as fill to support structures should be non-expansive granular soil. The natural clay and silt are not recommended for use as fill below structures but may be used in pavement areas or as foundation backfill or as utility-trench backfill, if the topsoil, organics, debris and other deleterious materials are removed or they may be used in landscaping areas. The sand meeting the criteria above may be considered for use as fill or backfill.

The on-site soil will likely require moisture conditioning (wetting or drying) prior to use as fill. Drying of the soil may not be practical during cold or wet times of the year.

4. Compaction

Compaction of materials placed at the site should equal or exceed the minimum densities as indicated below when compared to the maximum dry density as determined by ASTM D1557.

Fill To Support	Compaction
Foundations	≥ 95%
Concrete Slabs and Pavement	≥ 90%
Landscaping	≥ 85%
Retaining Wall Backfill	85 - 90%

Base course should be compacted to at least 95 percent of the maximum dry density as determined by ASTM D1557.

The moisture of the fill should be adjusted to within 2 percent of the optimum moisture content to facilitate compaction.

Fill and pavement materials placed for the project should be frequently tested for compaction. Fill should be placed in thin enough lifts to allow for proper compaction.

5. Drainage

The ground surface surrounding the proposed structures should be sloped away from the buildings in all directions. Roof downspouts and drains should discharge beyond the limits of backfill.

The collection and diversion of drainage away from the pavement surface is important to the satisfactory performance of the pavement section. Proper drainage should be provided.

B. Foundations

1. Bearing Material

With the proposed construction and the subsurface conditions encountered, the proposed structures may be supported on spread footings bearing on the undisturbed natural soil or on compacted structural fill extending down to the undisturbed natural soil. Structural fill should extend out away from the edge of the footings at least a distance equal to the depth of fill beneath the footings.

Topsoil, organics, unsuitable fill, debris and other deleterious materials should be removed from below proposed footing areas.

2. Bearing Pressure

Foundations bearing on the undisturbed natural soil may be designed using an allowable net bearing pressure of 1,200 psf. Footings bearing on at least 2 feet of properly compacted structural fill extending down to the undisturbed natural soil may be designed using an allowable net bearing pressure of 2,000 psf.

Footings should have a minimum width of 1½ feet and a minimum depth of embedment of 1 foot.

3. Settlement

We estimate that settlement will be less than 1 inch for footings designed as indicated above. Differential settlement is estimated to be on the order of ¾ of an inch or less.

Disturbance of the soil below foundations can result in greater settlement. Care should be taken to minimize disturbance of the soil to remain below foundations so that settlement can be maintained within tolerable limits.

4. Temporary Loading Conditions

The allowable bearing pressure may be increased by one-half for temporary loading conditions such as wind or seismic loads.

5. Frost Depth

Exterior footings and footings beneath unheated areas should be placed at least 30 inches below grade for frost protection.

6. Foundation Base

The base of foundation excavations should be cleared of loose or deleterious material prior to structural fill or concrete placement.

7. Construction Observation

A representative of the geotechnical engineer should observe footing excavations prior to structural fill or concrete placement.

C. Concrete Slabs on Grade

1. Slab Support

Concrete slabs may be supported on the undisturbed natural soil or on compacted structural fill extending down to the undisturbed natural soil.

Topsoil, unsuitable fill, organics, debris and other deleterious materials should be removed from below proposed floor slabs.

2. Underslab Sand and/or Gravel

A 4-inch layer of free-draining sand and/or gravel (less than 5 percent passing the No. 200 sieve) should be placed below the concrete slabs for ease of construction and to promote even curing of the slab concrete.

D. Lateral Earth Pressures

1. Lateral Resistance for Footings

Lateral resistance for spread footings placed on compacted structural fill or the natural soil is controlled by sliding resistance developed between the footing and the structural fill or natural soil. Friction values of 0.35 and 0.45 may be used in design for ultimate lateral resistance for footings bearing on the fine-grained soil or granular fill, respectively.

2. Subgrade Walls and Retaining Structures

The following equivalent fluid weights are given for design of subgrade walls and retaining structures. The active condition is where the wall moves away from the soil. The passive condition is where the wall moves into the soil and the at-rest condition is where the wall does not move. The values listed below assume a horizontal surface adjacent the top and bottom of the wall.

Soil Type	Active	At-Rest	Passive
Clay & Silt	50 pcf	65 pcf	250 pcf
Sand & Gravel	40 pcf	55 pcf	300 pcf

3. Seismic Conditions

Under seismic conditions, the equivalent fluid weight should be increased by 32 pcf for the active condition and 17 pcf for at-rest condition. The equivalent fluid weight should be decreased by 32 pcf for the passive

condition. This assumes a horizontal ground acceleration of 0.51g which represents a 2 percent probability of exceedance in a 50-year period (IBC, 2015).

4. Safety Factors

The values recommended above for active and passive conditions assume mobilization of the soil to achieve the soil strength. Conventional safety factors used for structural analysis for such items as overturning and sliding resistance should be used in design.

E. Seismic, Faulting and Liquefaction

1. Seismicity

Listed below is a summary of the site parameters for the International Building Code 2015:

a.	Site Class	D*
b.	Short Period Spectral Response Acceleration, S_s	1.25g
c.	One Second Period Spectral Response Acceleration, S_1	0.42g

**The International Building Code, 2015 indicates that Site Class F should be used for soils vulnerable to potential failure or collapse under seismic loading, such as liquefiable soils.*

2. Faulting

There are no mapped active faults extending near or through the project site. The closest mapped fault, considered to be active, is a portion of the Wasatch fault located approximately 6.7 miles northeast of the site (Black and others, 2003).

3. Liquefaction

The site is located within an area mapped as having a "high" liquefaction potential (Anderson and others, 1994). Research indicates that the soil type most susceptible to liquefaction during a large magnitude earthquake is loose, clean sand. The liquefaction potential for soil tends to decrease with an increase in fines content and density. Clay and soil above the free water level are not considered susceptible to liquefaction. Potentially liquefiable soil (loose sand) was encountered at the site. Liquefaction should be considered a hazard at the site. A site specific liquefaction analysis that includes an investigation to a depth of approximately 30 feet could be performed to better define the liquefaction potential at the site. The site specific liquefaction analysis was not requested as part of this study.

F. Subsurface Drains

Due to the relatively shallow depth to subsurface water, we recommend that floor levels that extend below the existing ground surface be protected with a subsurface drain system. The drain system should consist of at least the following items:

1. The underdrain system should consist of a perforated pipe installed in a gravel filled trench around the perimeter of the subgrade floor portion of the residence. The gravel should extend approximately 1 foot above the top of the footing and higher than any penetrations through the foundation wall (water lines, etc.)

2. The flow line of the pipe should be placed at least 18 inches below the finished floor level and should slope to a sump or outlet where water can be removed by pumping or by gravity flow.

3. If placing the gravel and drain pipe requires excavation below the bearing level of the footing, the excavation for the drain pipe and gravel should have a slope no steeper than 1 horizontal to 1 vertical so as not to disturb the soil below the building.

4. A filter fabric should be placed between the natural soil and the drain gravel. This will help reduce the potential for fine-grained material filling in the void spaces of the gravel.

5. The subgrade floor slab should have at least 6 inches of free-draining gravel placed below it and the underslab gravel should connect to the perimeter drain.

6. Consideration should be given to installing clean-outs to allow access into the perimeter drain should cleaning of the pipe be required in the future.

G. Water Soluble Sulfates

The results of water soluble sulfate testing were not available at the time of this report preparation. The test results and recommendations relating to the use of sulfate resistant cement will be submitted separately.

H. Pavement

Based on the subsoil conditions encountered, laboratory test results and the assumed traffic as indicated in the Proposed Construction section of the report, the following pavement support recommendations are given:

1. Subgrade Support

The near surface soil consists predominantly of lean clay. A CBR of 2½ percent was used in the analysis which assumes a clay subgrade.

2. Pavement Thickness

Based on the subsoil conditions encountered, assumed traffic conditions presented in the Proposed Construction section of this report, a design life of 20 years for flexible pavement and 30 years for rigid pavement and methods presented by the Utah Department of Transportation, a flexible pavement section consisting of 3 inches of asphaltic concrete overlying 9 inches of high quality base course is calculated. In areas with no truck or bus traffic and in areas where at least 6 inches of granular borrow is provided to facilitate construction of the pavement section, the base course thickness may be reduced to 6 inches. Alternatively, a rigid pavement section consisting of 5 inches of Portland cement concrete may be constructed above a properly prepared subgrade.

The near surface soil consists predominantly of clay. Approximately 1½ to 2½ feet of granular borrow may be needed to provide equipment access and to facilitate construction of the pavement when the upper soil is very moist to wet.

3. Pavement Materials and Construction

a. Flexible Pavement (Asphaltic Concrete)

The pavement materials should meet the specifications for the applicable jurisdiction. The use of other materials may result in the need for different pavement material thicknesses.

b. Rigid Pavement (Portland Cement Concrete)

The pavement thickness indicated assumes that the pavement will have aggregate interlock joints and that a concrete shoulder or curb will be provided.

The pavement materials should meet the specifications for the applicable jurisdiction. The pavement thickness indicated above assumes that the concrete will have a 28-day compressive strength of 4,000 pounds per square inch.

Concrete should be air-entrained with approximately 6 percent air. Maximum allowable slump will depend on the method of placement but should not exceed 4 inches.

4. Jointing

Joints for concrete pavement should be laid out in a square or rectangular pattern. Joint spacings should not exceed 30 times the thickness of the slab. The joint spacings indicated should accommodate the contraction of the concrete and under these conditions steel reinforcing will not be required. The depth of joints should be approximately one-fourth of the slab thickness.

I. Preconstruction Meeting

A preconstruction meeting should be held with representatives of the owner, project architect, geotechnical engineer, general contractor, earthwork contractor and other members of the design team to review construction plans, specifications, methods and schedule.

LIMITATIONS

This report has been prepared in accordance with generally accepted soil and foundation engineering practices in the area for the use of the client for design purposes. The conclusions and recommendations included within the report are based on the information obtained from the test pits excavated at the approximate locations indicated on the site plan, the data obtained from laboratory testing and our experience in the area. Variations in the subsurface conditions may not become evident until additional exploration or excavation is conducted. If the proposed construction, subsurface conditions or groundwater level is found to be significantly different from what is described above, we should be notified to reevaluate the recommendations given.

APPLIED GEOTECHNICAL ENGINEERING CONSULTANTS, INC.

Christopher J. Beckman, P.E.

Reviewed by Douglas R. Hawkes, P.E., P.G.

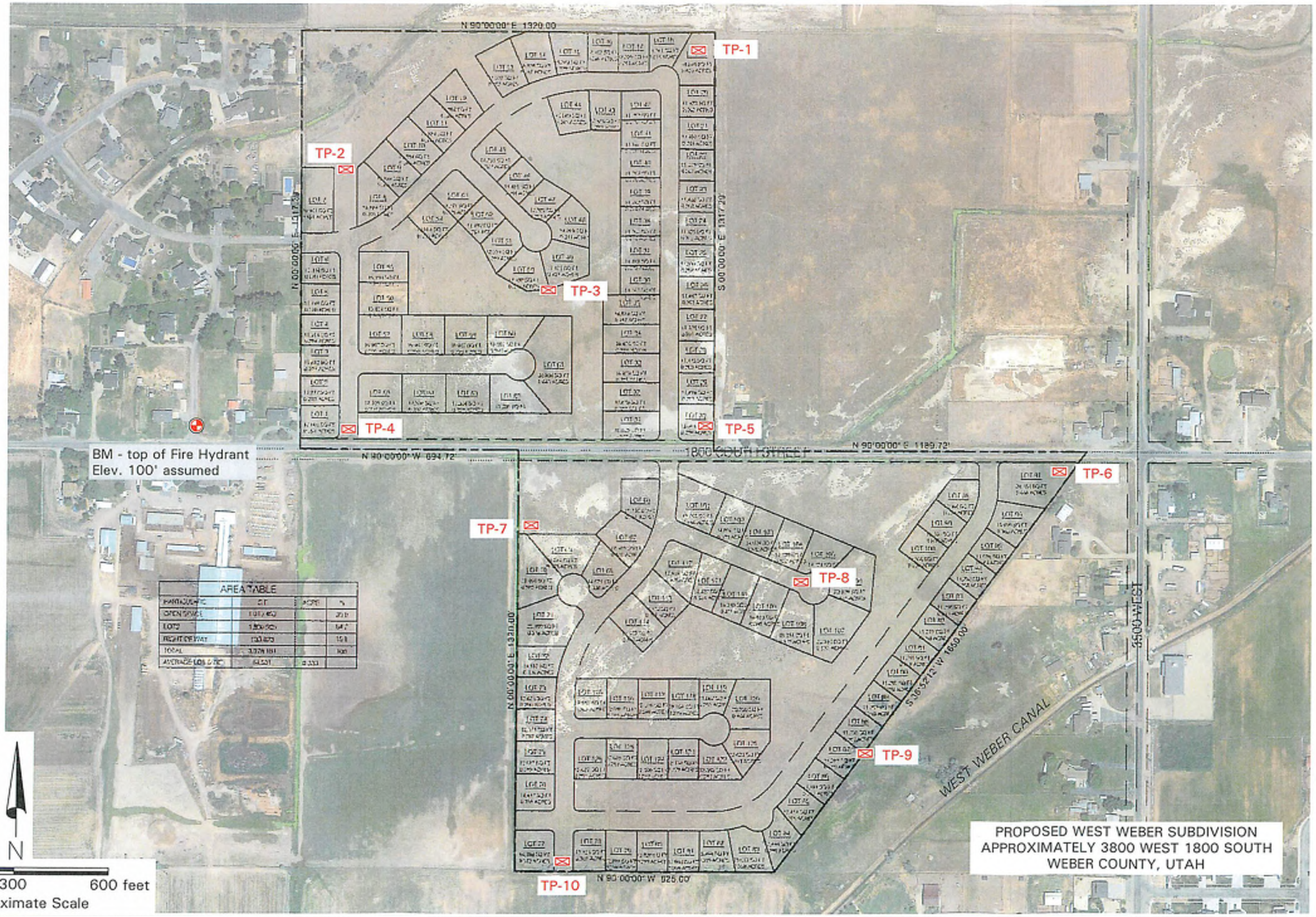
CJB/rs

REFERENCES

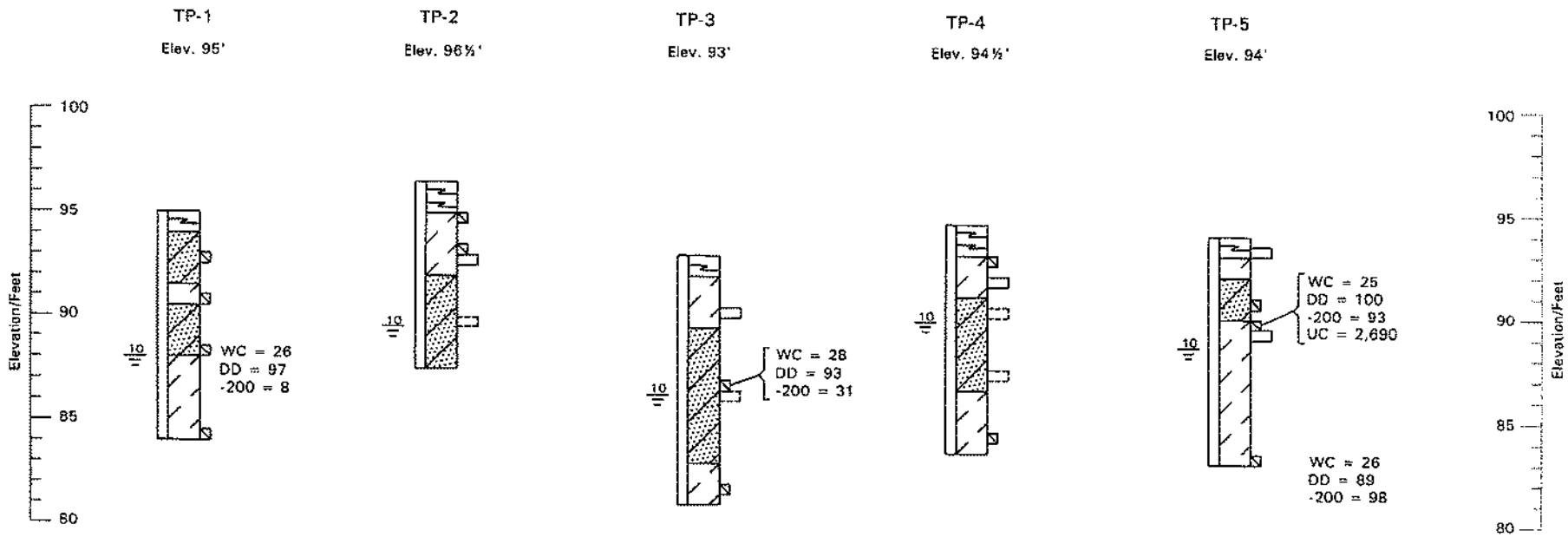
Anderson, L.R., Keaton, J.R., and Bay, J., 1994; Liquefaction Potential Map for Weber County, Utah; Utah Geological Survey Contract Report 94-1.

Black, B.D., Hecker, S., Hylland, M.D., Christenson, G.E., and McDonald, G.N., 2003; Quaternary fault and fold database and map of Utah; Utah Geological Survey Map 193DM.

International Building Code, 2015; International Code Council, Inc., Falls Church, Virginia.



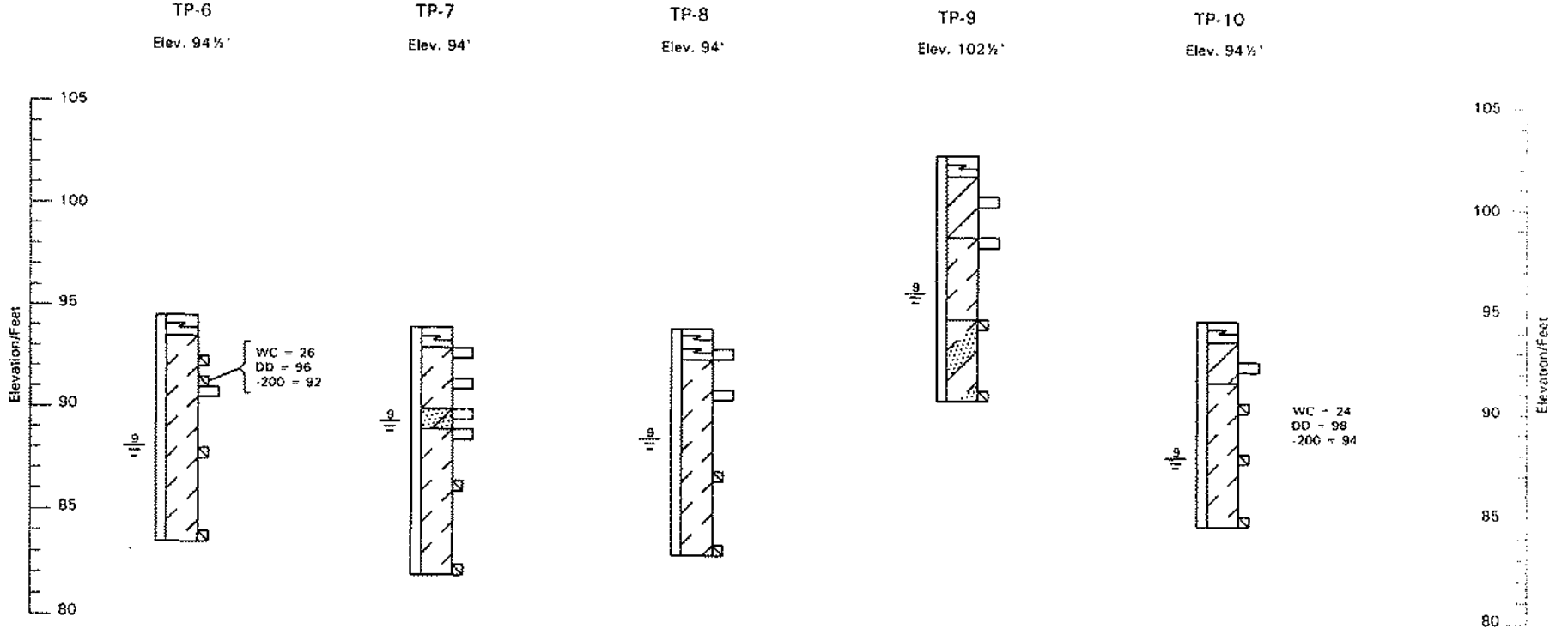
1160708	AGEC	Test Pit Locations	Figure 1



Approximate Vertical Scale 1" = 8'

See Figure 4 for Legend and Notes

1160708	AGEC	Test Pit Logs - North Parcel	Figure 2



Approximate Vertical Scale 1" = 8'

See Figure 4 for Legend and Notes

1160708	AGEC	Test Pit Logs - South Parcel	Figure 3

LEGEND:

Topsoil; lean clay to silty sand, slightly moist to moist, brown to gray, roots and organics.

Lean Clay (CL); small to moderate amounts of sand, soft to stiff, moist to wet, brown to gray.

Silt (ML); small amounts of sand, slightly porous, stiff, slightly moist, light brown to light gray.

Silty Sand (SM); small to moderate amounts of silt, occasional poorly-graded sand with silt, occasional thin lean clay layers, medium dense, moist to wet, brown.

Interlayered Lean Clay and Silty Sand (CL/SM); medium stiff/medium dense, wet, brown.

Poorly-graded Sand with Silt (SP-SM); medium dense, moist to wet, brown.

Indicates relatively undisturbed hand drive sample taken.

Indicates disturbed sample taken.

Indicates relatively undisturbed block sample taken.

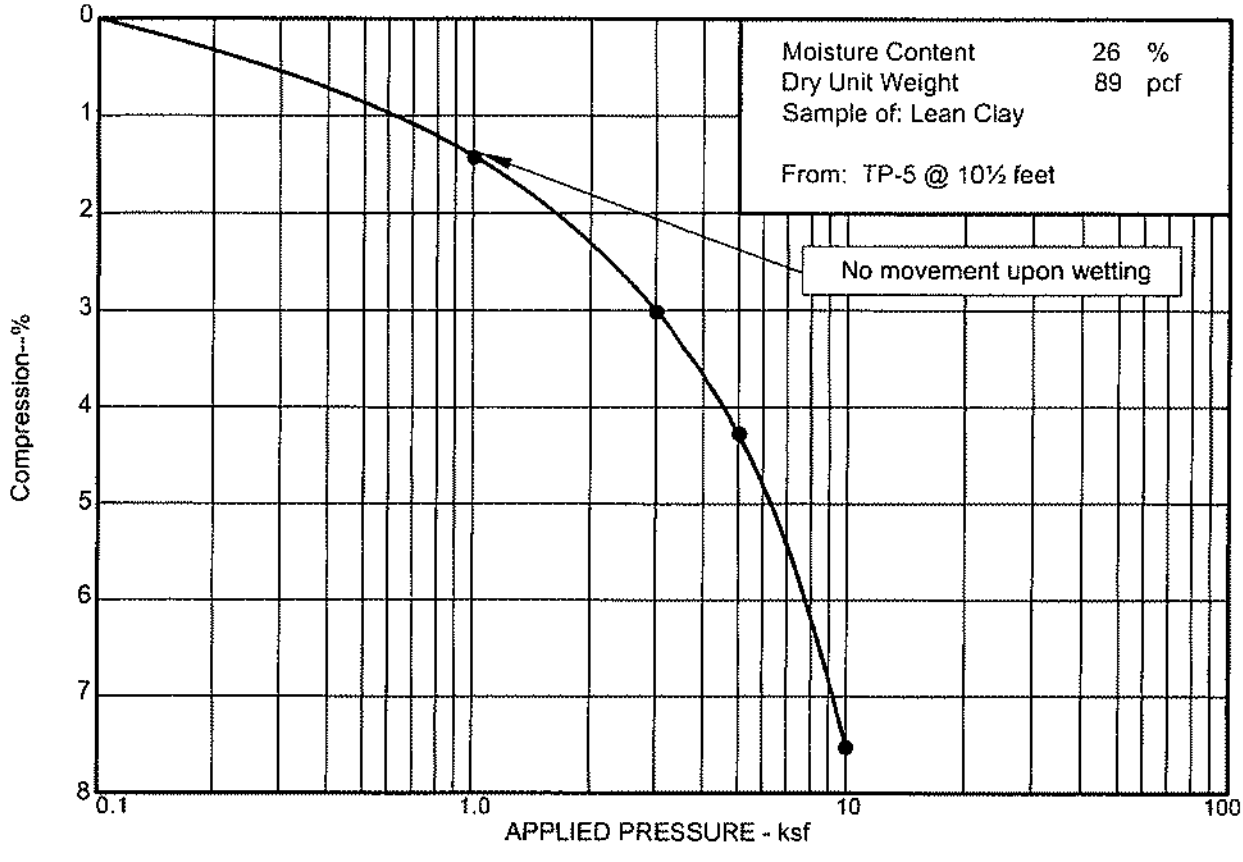
Indicates slotted 1 ½ inch PVC pipe installed in the test pit to the depth shown.

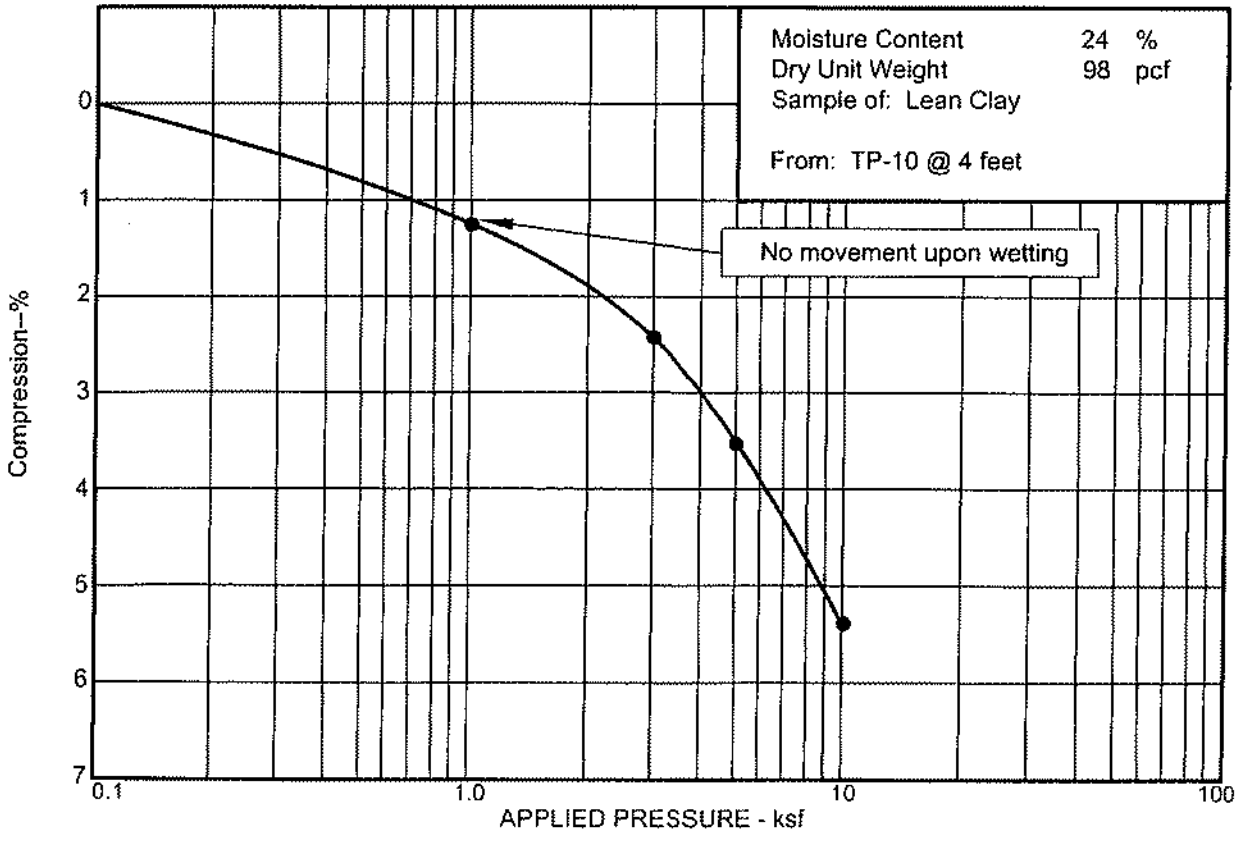
Indicates the depth to free water and the number of days after excavation the measurement was taken.

NOTES:

1. The test pits were excavated on September 12 and 13, 2016 with a rubber-tired backhoe.
2. Locations of the test pits were measured approximately by pacing from features shown on the site plan provided.
3. Elevations of the test pits were measured by automatic level and refer to the bench mark shown on Figure 1.
4. The test pit locations and elevations should be considered accurate only to the degree implied by the method used.
5. The lines between materials shown on the logs represent the approximate boundaries between material types and the transitions may be gradual.
6. Water level readings shown on the logs were made at the time and under the conditions indicated. Fluctuations in the water level will occur with time.
7. WC = Water Content (%);
   DD = Dry Density (pcf);
   -200 = Percent Passing the No. 200 Sieve;
   UC = Unconfined Compressive Strength (psf).

Applied Geotechnical Engineering Consultants, Inc.





Project No. 1160708 **CONSOLIDATION TEST RESULTS** **Figure 5**

APPLIED GEOTECHNICAL ENGINEERING CONSULTANTS, INC.

TABLE I

SUMMARY OF LABORATORY TEST RESULTS

PROJECT NUMBER 1160708

SAMPLE LOCATION		NATURAL MOISTURE CONTENT (%)	NATURAL DRY DENSITY (PCF)	GRADATION			ATTERBERG LIMITS		UNCONFINED COMPRESSIVE STRENGTH (PSF)	WATER SOLUBLE SULFATE (%)	SAMPLE CLASSIFICATION
TEST PIT	DEPTH (FEET)			GRAVEL (%)	SAND (%)	SILT/ CLAY (%)	LIQUID LIMIT (%)	PLASTICITY INDEX (%)			
TP-1	6½	26	97			8					Poorly-graded Sand with Silt
TP-3	6	28	93			31					Silty Sand
TP-5	4	25	100			93			2,690		Lean Clay
	10½	26	89			98					Lean Clay
TP-6	3	26	96			92					Lean clay
TP-10	4	24	98			94					Lean Clay

FRONTIER CORPORATION USA
Environmental Consultants

January 15, 2021

Ogden 3, LLC
c/o Wade Rumsey & Igor Maksymiw
1835 West 1500 South
Salt Lake City, UT 84104

Subject: Ogden 3 West Weber Property Preliminary Wetlands Assessment
Property Parcel #15:078:0002
Approximately 40.8-acre Project Area, West Weber, Weber County, Utah
Section 28, Township 6 North, Range 2 West, SLB&M

Dear Sirs:

Per your request, Frontier Corporation USA (Frontier) completed a preliminary wetlands assessment for an approximately 40.8-acre Project Area located in West Weber, Weber County, Utah (Figure 1). The Project Area consists of property parcel #15:078:0002. The Project Area is located on the east side of 3500 West, the south side 1800 South, and the north side of Taylor Canal in Section 28, Township 6 North, Range 2 West, Salt Lake Base and Meridian (SLB&M) (Figures 2a and 2b). The approximate street address for the Project Area is 1800 South 3600 West.

The Project Area is situated on the flat lake plain of the Great Salt Lake eastern shorelands. Surface topography ranges between approximately 4,248 feet and 4,236 feet and includes three topographically distinct lake terraces: a high lake terrace located in the southwest portion of the Project Area; a middle lake terrace located in the northeast and northwest portions of the Project Area; and a low lake terrace located in the central portion of the Project Area.

A buried storm drain runs along 1800 South paralleling the north Project Area boundary. A lateral irrigation ditch runs along the west Project Area boundary and appears to convey water diverted from the buried storm drain. There also appears to be remnants of an excavated stock pond located along 1800 South in the northeast corner of the Project Area. Flowing water was observed in the buried storm drain, and frozen water was observed in the irrigation ditch and remnants of the excavated stock pond when the site inspection for the preliminary wetlands assessment was completed on December 29, 2020.

The high and middle lake terraces contain upland plant communities on ground that appears to have been flood irrigated in the past. The low lake terrace contains a saline wet meadow plant community dominated by saltgrass.

The National Wetlands Inventory (NWI) mapping data shows the presence of two palustrine emergent persistent, seasonally flooded (PEM1C) wetlands (Figure 3). One of the PEM1C

wetlands generally corresponds to the saline wet meadow that occurs on the low lake terrace and one is located on the high lake terrace in the southeast corner of the Project Area. PEM1C wetlands are commonly associated with farm fields and pastures that are flood irrigated.

Wetlands, streams, canals, ponds, and other types of water bodies can be regulated by the U.S. Army Corps of Engineers (USACE) as waters of the U.S. (WoUS) under Section 404 of the federal Clean Water Act if they have a jurisdictional nexus to a traditional navigable water (i.e., the Great Salt Lake). However, the USACE will not regulate irrigation-induced wetlands if they would not exist in the absence of irrigation water.

The purpose of this preliminary wetlands assessment is to identify the presence (or absence) of potential wetlands and/or other water bodies within the Project Area that may fall under the USACE's Section 404 permitting regulations. Objectives are twofold:

1. Identify and preliminarily map the locations of potential wetlands and/or other aquatic resource features within the Project Area that exist under current site conditions, and
2. Assess whether such features may have jurisdictional connections to the Great Salt Lake and/or other potential WoUS in accordance with the 2020 Navigable Waters Protection Rule (NWPR) (Dept. Army, Corps of Engineers 33 CFR Part 328).

<u>This preliminary wetlands assessment is for planning purposes only.</u> The assessment was not done at a level of detail necessary for a formal USACE wetland delineation, which would be required for permit applications to fill, relocate or otherwise physically alter regulated wetlands or other WoUS for site development.

METHODS

The preliminary assessment consisted of an online query of existing NWI, National Hydrography Dataset (NHD), U.S. Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) Soil Survey, and U.S. Geological Survey (USGS) databases; a review of historical aerial imagery using Google Earth; and an initial site inspection that was completed on December 29, 2020. Areas that appeared to have wetland plant communities and evidence of potential sources of wetland hydrology at the time of the site inspections were identified as potential wetland areas, and checked against the NWI, NHD, USDA-NRCS and USGS databases. Stream channels, man-made ditches, ponds and other potential water features were similarly identified and preliminarily mapped.

Areas that were dominated by upland plant communities with no evidence of potential water sources for wetland hydrology were identified as uplands.

Areas that could not be clearly discerned as being either wetlands or uplands without completing a formal USACE wetland delineation were identified as "problem areas". Further investigation following the Corps of Engineers 2008 Arid West Delineation Manual would be necessary in order to determine whether problem areas meet the wetland delineation criteria.

Aerial imagery dated August 17, 2018 was obtained from the Utah AGRC imagery database and used to produce aerial field maps. The locations of potential wetlands, ponds, streams, canals, ditches and other water features were marked on the aerial field maps. The identified features were digitized in the office and incorporated into a Geographic Information Systems (GIS) database using ArcGIS. The aerial imagery data and the USGS, Soil Survey, NHD, and NWI map data were obtained online and added to the GIS database.

GIS was used to produce the site location maps (Figures 1, 2a and 2b), NWI map (Figure 3), Preliminary Wetlands Assessment Map (Figure 4), Soil Survey map (Figure 5), and NHD map (Figure 6). Representative photographs showing existing site conditions at the Project Area are provided in the attached photo log. Photo point locations and view directions are shown on the Preliminary Wetlands Assessment Map (Figure 4).

LAND USE

The majority of the Project Area consists of undeveloped farmland and semi-arid rangeland that has been historically irrigated and managed as farm field and livestock pasture. The west portion of the Project Area has been recently filled and graded for future residential development.

The Project Area is situated on three levels of lake terraces. According to Google Earth historic imagery coupled with observations during the December 29, 2020 inspection, it appears that the high and medium lake terraces have been historically managed as flood irrigated pasture fields. The low lake terrace occurs in the central portion of the Project Area and shows no evidence of past farming practices. The low lake terrace has saline soils that are dominated by salt-tolerant saltgrass and other saline wet meadow plant species. Livestock grazing was likely the main land use on the low lake terrace.

A buried storm drain paralleling the south side of 1800 South was recently installed. The storm drain conveys water in an east/west direction along the north Project Area boundary. Flows in the storm drain appear to be split between an open road ditch that continues along the south side of 1800 South and an irrigation ditch (Ditch 1) that runs along the west Project Area boundary (Figure 4). Flowing water was observed in the buried storm drain and frozen water was observed in Ditch 1 during the December 29, 2020 site inspection.

An abandoned irrigation ditch is located along the east Project Area boundary. The abandoned irrigation ditch was dry during the site inspection and showed no indicators of an OHWM or any other evidence that would suggest recent use. Only the storm drain and those ditches with evidence of prolonged flows (Ditch 1) were mapped. The remnants of a man-made stock pond (Stock Pond) was identified and mapped along 1800 South in the northeast corner of the Project Area (Figure 4).

FINDINGS

No perennial or intermittent stream channels are present in the Project Area. No readily discernible wetlands were identified in the Project Area.

One problem area (Problem Area 1), the remnants of one man-made stock pond (Stock Pond), and one excavated man-made irrigation ditch (Ditch 1) with evidence of ditch flows were identified and preliminarily mapped within the Project Area boundaries (Figure 4, Table 1).

Table 1. Potential Wetlands and Water Bodies Identified within the Project Area

Feature Name	Type	Area (acres)	Length (feet)
Problem Area 1	Saline Wet Meadow	5.43	-
Stock Pond	Man-made Stock Pond	0.01	-
Ditch 1	Irrigation Ditch	-	2,048

Problem Areas

Problem Area 1 (approximately 5.43 acres) is situated on the low lake terrace of the Project Area. It consists of mixed saline wet meadow plant community that is dominated by: saltgrass (*Distichlis spicata*). Saltgrass is a facultative and salt-tolerant plant species that can commonly occur in either wetlands or uplands. Other plants include a mix of wetland and upland species, including: seaside barley (*Hordeum marinum*), Baltic rush (*Juncus balticus*), Mexican rush (*Juncus mexicanus*), oakleaf goosefoot (*Chenopodium glaucum*), intermediate wheatgrass (*Thinopyrum intermedium*), western wheatgrass (*Pascopyrum smithii*), as well as various upland grasses and forbs. Because this problem area is situated on the lowest elevation terrace at this site, it is unknown whether the presence of the saline wet meadow plant species is due to dry saline soil conditions or due to the presence of a naturally high water table that causes prolonged soil saturation that could be indicative of a saline wet meadow wetland. Further investigation during the growing season would be needed to verify whether the problem area meets all of the USACE's Arid West wetland delineation criteria for soils, hydrology, and wetland vegetation.

Water Bodies

Ditch 1 (Approximately 2,048 feet) is an excavated man-made irrigation ditch that runs along the eastern and southern boundaries of the Project Area before terminating in the property east of the Project Area. Ditch 1 appears to receive water diverted from the buried storm drain in the northwest corner of the Project Area. Frozen water was observed in Ditch 1 during the time of the site inspection and surface water is discernible in Ditch 1 on historic Google Earth aerial imagery, but no diversion structure on the storm drain was identified in the field during the December 29, 2020 site inspection. Wetland vegetation was observed in the bottom and along the banks of Ditch 1. Ditch 1 has indicators of an ordinary high water mark (OHWM) but the source of water and how the water in Ditch 1 is controlled or managed is unknown at this time. Further investigation is needed to determine the source of water in Ditch 1 and how the ditch is operated for irrigation.

The **Stock Pond** (approximately 0.01 acre) is a remnant, man-made, excavated stock pond that was once used for livestock management. The bottom of the Stock Pond is about 2-3 feet lower in elevation than the native ground elevation. It appears that the excavation of the Stock Pond has intercepted the water table and wetland plants have established on the pond bottom. Frozen water was observed on the bottom of the stock pond during the time of the site inspection.

Uplands

The remaining 35.36 acres of the Project Area consists of uplands. Common plants identified within the upland areas included: greasewood (*Sarcobatus vermiculatus*), cheatgrass (*Bromus tectorum*), clasping pepperweed (*Lepidium perfoliatum*), five-horn smotherweed (*Bassia hyssopifolia*), wall barley (*Hordeum murinum*), prickly lettuce (*Lactuca serriola*), intermediate wheatgrass (*Thinopyrum intermedium*), bull thistle (*Cirsium vulgare*), and curly-cup gumweed (*Grindelia squarrosa*).

National Wetlands Inventory Data

The NWI mapping data for the Project Area were obtained online from the U.S. Fish and Wildlife Service (http://www.fws.gov/wetlands/Wetlands-Mapper.html). The NWI mapping was originally completed by photo-interpolation of 1:65,000-scale and 1:58,000-scale color infrared aerial photography that was flown in the early 1980s. The original aerial photography used for the initial NWI mapping is more than 35 years old, and conditions originally interpolated for the NWI mapping may no longer be present under current site conditions.

The NWI mapping shows two palustrine emergent persistent, seasonally flooded (PEM1C) wetlands within the Project Area (Figure 3). PEM1C wetlands are commonly associated with areas that are flood irrigated.

The PEM1C wetland in the central portion of the Project Area generally corresponds to Problem Area 1. This problem area requires further investigation to determine whether it meets the wetland delineation criteria. The area where the NWI shows a second PEM1C wetland in the southeast corner of the Project Area had no wetland plants and showed no other evidence of wetland conditions at December 29, 2020 site inspection. This NWI wetland was most likely associated with irrigation water from the abandoned ditch when it was regularly used for flood irrigation.

Soil Survey Data

The soil survey mapping data for the Project Area were obtained from the USDA-NRCS online database (http://websoilssurvey.nrcs.usda.gov) and cross-referenced with the hydric soils list for the area. Soils included on the hydric soils list typically have poor drainage characteristics and tend to have a prevalence of supporting wetland conditions if ample water sources are present.

The soil survey indicates that the Project Area is underlain by four soil units (Figure 5):

- Ac – Airport silt loam, 0 to 2 percent slopes;
- LS – Leland-Saltair complex, 0 to 1 percent slopes;
- Sy – Syracuse loam fine sand, moderately saline, sodic, 0 to 2 percent slopes; and
- WgA – Warm Springs fine sandy loam, saline, 0 to 1 percent slopes.

All four of the soil units are identified on the hydric soils list for Weber County, Utah. The regular use and liberal application of flood irrigation water would be an ample source of hydrology to artificially establish wetland conditions on these soil units at this Project Area.

National Hydrography Dataset

NHD data used for mapping was obtained from the National Map database as part of the USGS National Geospatial Program (http://viewer.nationalmap.gov). The NHD flow paths for the general vicinity of the Project Area are shown on Figure 6. The major tributaries in the area are Walker Slough, which drains into the Weber River, which is a major tributary to the Great Salt Lake. The Taylor Canal is located approximately 200 feet south of the Project Area. This is a concrete lined ditch that conveys irrigation water diverted from the Weber River. The NHD flow paths show that the Project Area does not appear to have any potential flow path connections to Walker Slough, the Weber River, or Taylor Canal.

A ditch that diverts water from Walker Slough occurs on the north side of 1800 South. The ditch is labeled on Figure 4 as the "Walker Slough Diversion Ditch". There are no drainage connections between the Project Area and the Walker Slough Diversion Ditch. The 1800 South road prism functions as a barrier between the Project Area and Walker Slough. There are no road culverts located along this length of 1800 South that would connect the Project Area to the Walker Slough Diversion Ditch. There are no drainage connections between Ditch 1 and the Walker Slough Diversion Ditch. There are also no drainage connections between Ditch 1 and Taylor Canal. Ditch 1 terminates in the property located east of the Project Area (Figure 4). Both Taylor Canal and the Walker Slough Diversion Ditch have no downgradient connections to the Weber River or the Great Salt Lake.

JURISDICTIONAL ASSESSMENT

Features within the Project Area that would meet the USACE's delineation criteria for wetlands or other types of water bodies could be potentially regulated as WoUS if they are determined to have: (1) connections to a stream or river channel that is tributary to the Great Salt Lake, (2) connections to wetlands that are adjacent to a tributary that connects to the Great Salt Lake, or (3) connections to wetlands that are adjacent to the Great Salt Lake.

Under the current 2020 NWPR definitions, most man-made irrigation ditches constructed in uplands are not classified as tributary streams. Tributaries are defined as perennial or intermittent stream channels that normally convey surface flows during a typical year. A man-made ditch can be regulated as a WoUS if (1) the ditch relocates flows from a tributary stream, (2) it is constructed in a tributary, or (3) it is constructed in a wetland adjacent to a tributary. The

ditch must also have perennial or intermittent flows during a typical year, and have surface water connections to a traditional navigable water. In other words, man-made ditches constructed in uplands that do not meet the conditions above are potentially non-jurisdictional waters under the 2020 NWPR. Also, under the new 2020 NWPR definitions, wetlands artificially created by irrigation water are non-jurisdictional if they would revert to uplands if the application of irrigation water is ceased.

There are no tributaries in the Project Area. The closest tributary is Walker Slough on the north side of 1800 South. Walker Slough connects to the Weber River, which is a major tributary to the Great Salt Lake. An irrigation diversion ditch off Walker Slough runs along the north side of 1800 South but does not have any connections to the Project Area.

Under the current 2020 NWPR definitions, the irrigation ditch (Ditch 1) would not be classified as a jurisdictional water if it is demonstrated that it is a man-made ditch that was constructed in uplands for the purpose of conveying irrigation water, it does not convey flows from relocated tributary channel, and the wetlands associated with this ditch has been artificially created by ditch water.

The remnant man-made stock pond (Stock Pond) would not likely be classified as a jurisdictional water because it appears to have been excavated in uplands, the wetland plants were artificially established by excavation that intercepted the water table, and the excavated stock pond has no tributary connections to Walker Slough, the Weber River or any other tributary to the Great Salt Lake.

Problem Area 1 could be classified as a wetland if it would meet the wetland delineation criteria during the spring growing season. It is unknown whether the saltgrass and other saline wet meadow plant species growing in Problem Area 1 are present due to soil salinity or prolonged soil saturation. However, if Problem Area 1 would meet the USACE delineation criteria for a wetland, it could be considered an isolated, non-jurisdictional wetland because it appears to have no tributary connections to Walker Slough, the Weber River, or the Great Salt Lake.

A formal delineation for the Project Area would have to be completed in order to get a formal jurisdictional determination from USACE that:

1. Verifies the presence and geographical boundaries of wetlands, ponds, ditches and other aquatic resource features that are within the Project Area boundaries.
2. Verifies whether any of the ditches in the Project Area meet the tributary stream definition.
3. Verifies the jurisdictional vs. non-jurisdictional status of each delineated aquatic resource feature.

SUMMARY

The purpose of this preliminary wetlands assessment is to identify the presence of potential wetlands and other water bodies that could potentially be regulated as WoUS by the USACE under Section 404 of the federal Clean Water Act.

The majority of the Project Area consists of undeveloped farmland and semi-arid rangeland that has been historically irrigated and managed as farm field and livestock pasture. There are no perennial or intermittent stream channels in the Project Area, and there are no readily discernible wetlands in the Project Area.

One problem area (Problem Area 1), the remnants of one man-made stock pond (Stock Pond), and one excavated man-made irrigation ditch (Ditch 1) with evidence of ditch flows were identified within the Project Area boundaries (Figure 4, Table 1).

Further investigation would have to be done to determine if Problem Area 1 would meet the USACE delineation criteria during the spring growing season. Further investigation would also be need to document whether Problem Area 1, Ditch 1, and the Stock Pond have downgradient tributary connections to Walker Slough, the Weber River or the Great Salt Lake.

This preliminary wetlands assessment is for planning purposes only. The assessment was not done at a level of detail necessary for a formal USACE wetland delineation and jurisdictional determination. A formal delineation for the Project Area would have to be completed in order to get a formal jurisdictional determination from USACE that verifies the presence and locations of jurisdictional vs. non-jurisdictional aquatic resource features within the Project Area boundaries.

Please feel free to call me if you have any questions about the findings of our preliminary wetlands assessment.

Sincerely,
Frontier Corporation USA

Dennis C. Wenger

Dennis C. Wenger
Senior Wetlands Ecologist/Principal

Attachments:
Figure 1. Site Vicinity Map – 1:100,000 scale topo basemap
Figure 2a. Project Area Location Map – 1:24,000 scale topo basemap
Figure 2b. Project Area Location Map – 1:24,000 scale aerial basemap
Figure 3. National Wetlands Inventory Map
Figure 4. Preliminary Wetlands Assessment Map
Figure 5. USDA-NRCS Soil Survey Map
Figure 6. National Hydrography Dataset Map
Photolog depicting current site conditions – 11 pages total

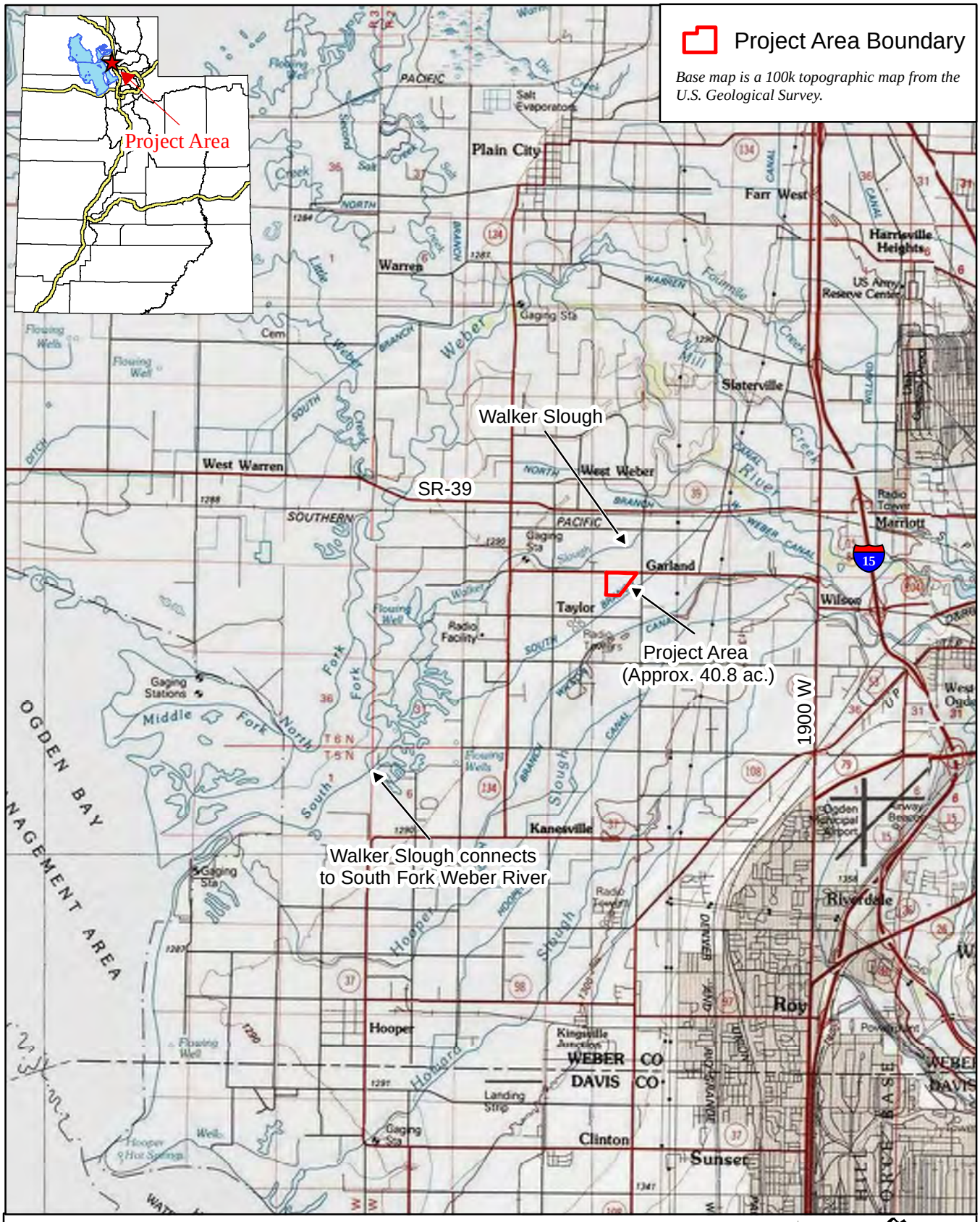


Figure 1. Site Vicinity Map
1:100,000 Scale Topographic Base.

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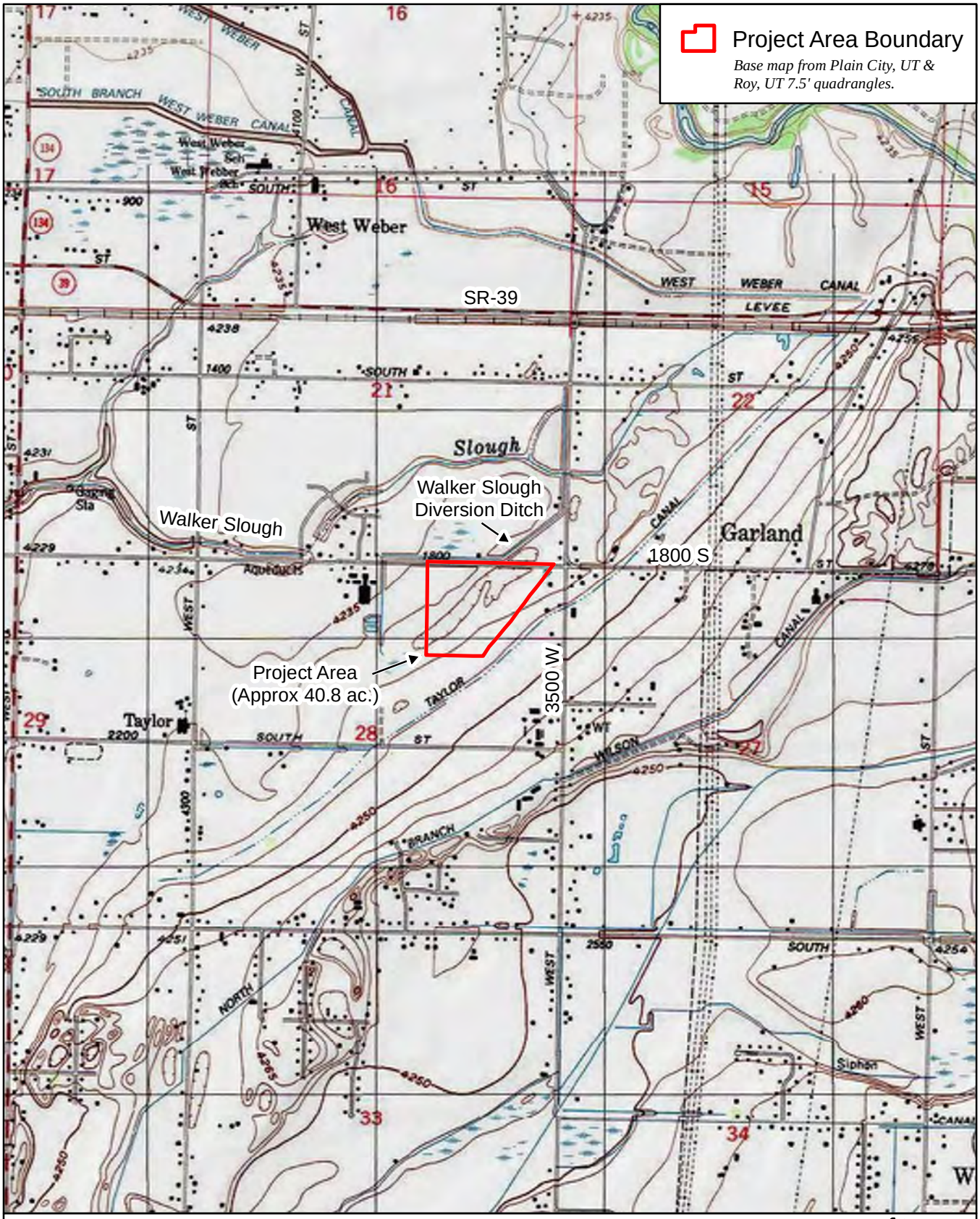

Figure 2a. Project Area Location Map 1:24,000 Scale Topographic Base.

N W E S

0 1,000 2,000 Feet

1 inch = 2,000 feet

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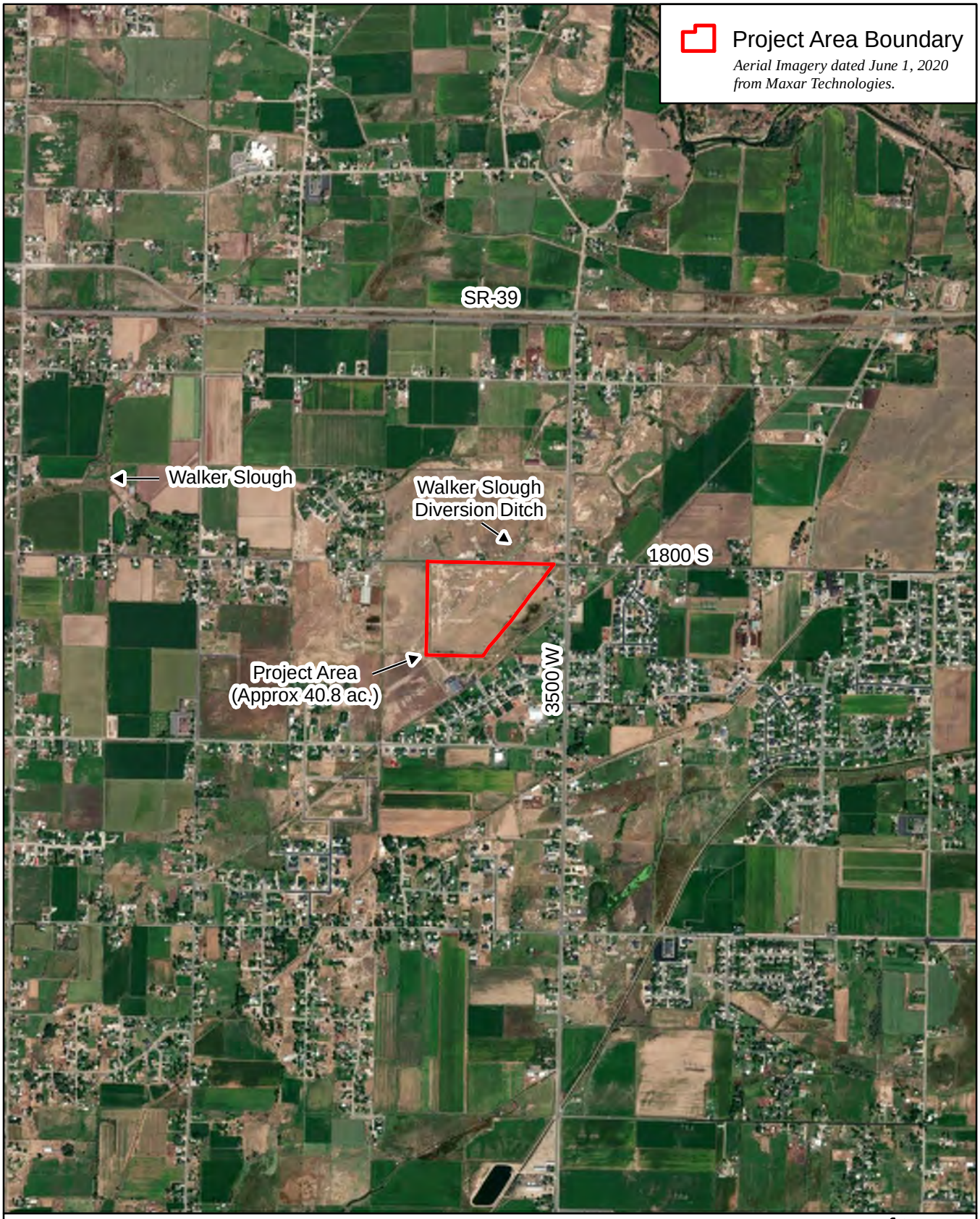

Figure 2b. Project Area Location Map
1:24,000 Scale Aerial Base.

N
W E
S

0 1,000 2,000 Feet

1 inch = 2,000 feet

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Figure 3. National Wetlands Inventory Map.

0 250 500 1,000 Feet

1 inch = 500 feet

N W E S

Date Prepared: January 6, 2021
Map Preparer: J. Hemmis
Aerial Image Source: NAIP - Utah AGRC
Aerial Image Date: August 17, 2018

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Feature Name	Feature Type	Area (acres)	Length (linear feet)
Problem Area 1	Saline Wet Meadow	5.43	-
Stock Pond	Man-made Stock Pond	0.01	-
Ditch 1	Irrigation Ditch	-	2,048

Figure 4.
Preliminary Wetlands Assessment Map

Project Area Boundary
Problem Area
Man-made Stock Pond
Irrigation Ditch
Buried Storm Drain
Flow Direction
P1↑ Photo Point & View Direction

Map Date: January 6, 2020
Map Author: J. Hemmis
Aerial Imagery Source: NAIP - Utah AGRC
Imagery Date: August 17, 2018

N

0 100 200 Feet

1 inch = 200 feet

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Figure 5. USDA - Natural Resources Conservation Service Soil Survey Map.

0 200 400 800 Feet

1 inch = 400 feet

N W E S

Date Prepared: January 6, 2020
Map Preparer: J. Hemmis
Aerial Image Source: NAIP - Utah AGRC
Aerial Image Date: August 17, 2018

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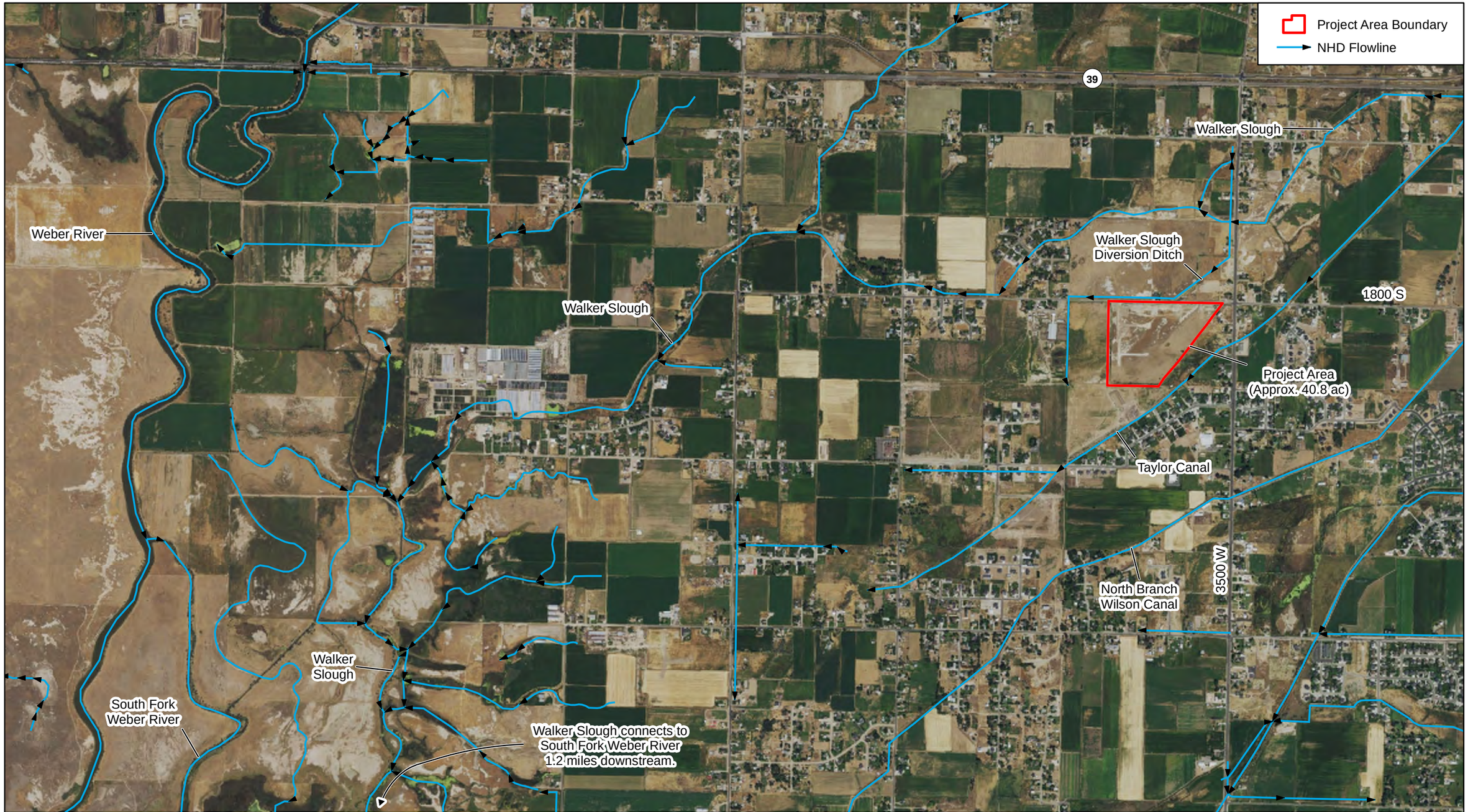

Figure 6. National Hydrography Dataset Map

Hydrography Data from USGS National Hydrography Dataset.

Aerial Imagery Source: NAIP 2018 - Utah AGRC
Aerial Imagery Date: Augst 17, 2018
Map Created By: J. Hemmis
Map Date: January 7, 2020

N

0 1,500 3,000 Feet

1 inch = 1,500 feet

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Photo 1. Southwest view of upland area taken from northeast corner of Project Area. A buried storm drain conveys water in an east/west direction along the north Project Area boundary paralleling 1800 South.

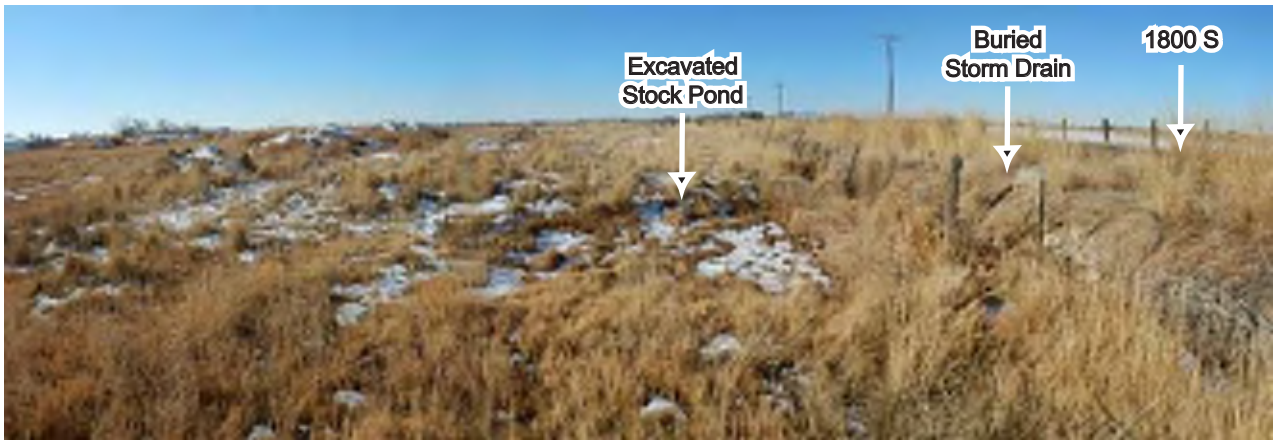

Photo 2. West view of remnants of an excavated stock pond located near the northeast corner of the Project Area. Wetland plants have established on the bottom of the excavated pond. Water was observed in stock pond during December 29, 2020 site inspection. Buried storm drain also pictured.

Photo 3. Southwest view of the northern extent of Problem Area 1. Problem Area 1 contains saline wet meadow plant species that are found in both seasonal wetlands and uplands with saline soils.

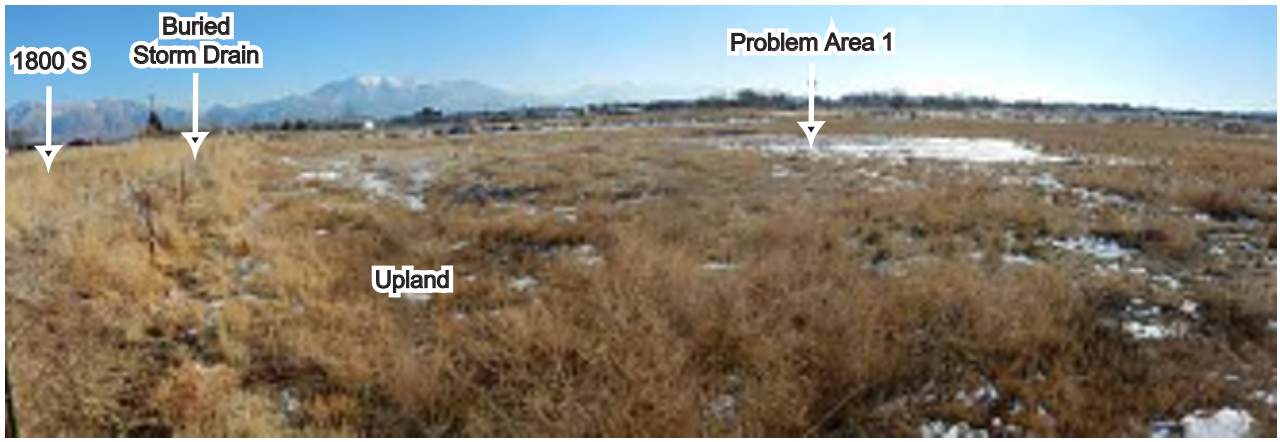

Photo 4a. Southeast view of upland area and Problem Area 1 taken from north Project Area boundary. No road culverts were observed along the entier length of the 1800 South property boundary.

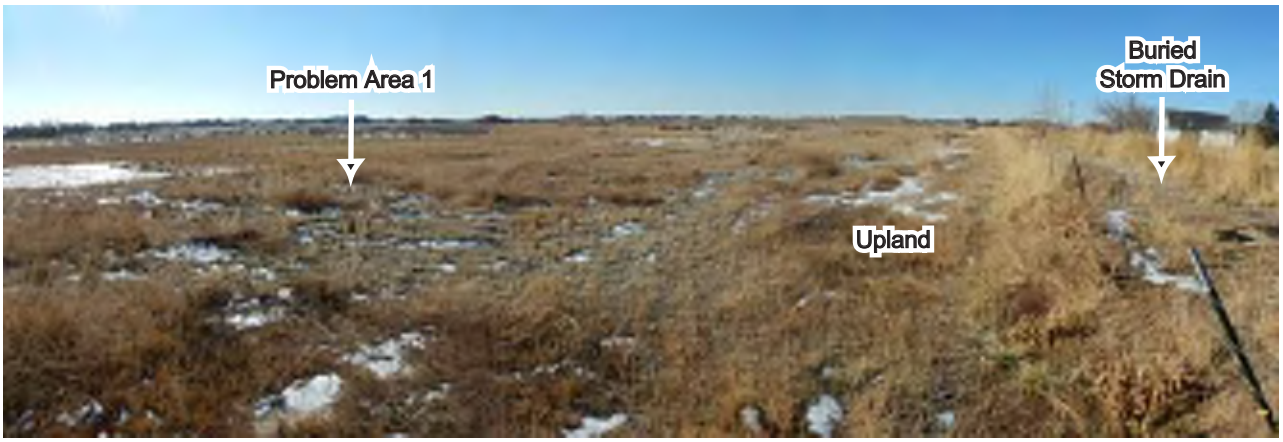

Photo 4b. Southwest view of upland area and Problem Area 1 taken from north Project Area boundary.

Photo 5a. Southeast view of upland area taken from northern boundary of the Project Area.

Photo 5b. Southwest view of upland area taken from northern boundary of the Project Area.

Photo 6. Southeast view of Ditch 1 where it enters the Project Area in the northwest corner of the property. It appears that Ditch 1 receives water from the buried storm drain.

Photo 7. Southeast view of upland area recently filled and graded.

Photo 8a. South view of Problem Area 1 located in the central portion of the Project Area. Problem Area 1 is on a low terrace that is distinctly lower in elevation than the bordering uplands on the middle and high terraces.

Photo 8b. North view of Problem Area 1 located in the central portion of the Project Area. Problem Area 1 contains a saline wet meadow plant community that is dominated by saltgrass.

Photo 9. South view of Problem Area 1 located in the central portion of the Project Area. Problem Area 1 is situated on a low lake terrace. Uplands are on the distinctly higher middle and high lake terraces.

Photo 10a. Southwest view of upland area taken from western boundary of the Project Area. This upland area is located on the middle lake terrace.

Photo 10b. North view of upland area taken from western boundary of the Project Area. This upland area is located the middle lake terrace.

Photo 11. West view of upland area taken from the western boundary of the Project Area. The Project Area has three levels of lake terraces.

Photo 12a. Northeast view of abandoned irrigation ditch. No OHWM indicators present.

Photo 12b. Southwest view of abandoned irrigation ditch. No OHWM indicators present.

Photo 12b. East view of where abandoned irrigation ditch enters Project Area and splits. Ditch dominated by upland plant species.

Photo 13a. Southwest view of Problem Area 1 located in the central portion of the Project Area. Problem Area 1 contains a saline wet meadow plant community dominated by saltgrass, but also containing a mix of both upland and wetland plants commonly found on saline soils.

Photo 13b. Northeast view of Problem Area 1 located in the central portion of the Project Area. Problem Area 1 is distincly lower in elevation than the surrounding upland areas.

Photo 14a. Southwest view of upland, graded area, and Problem Area 1 located in the central portion of the Project Area. Problem Area 1 is on distinctly lower ground.

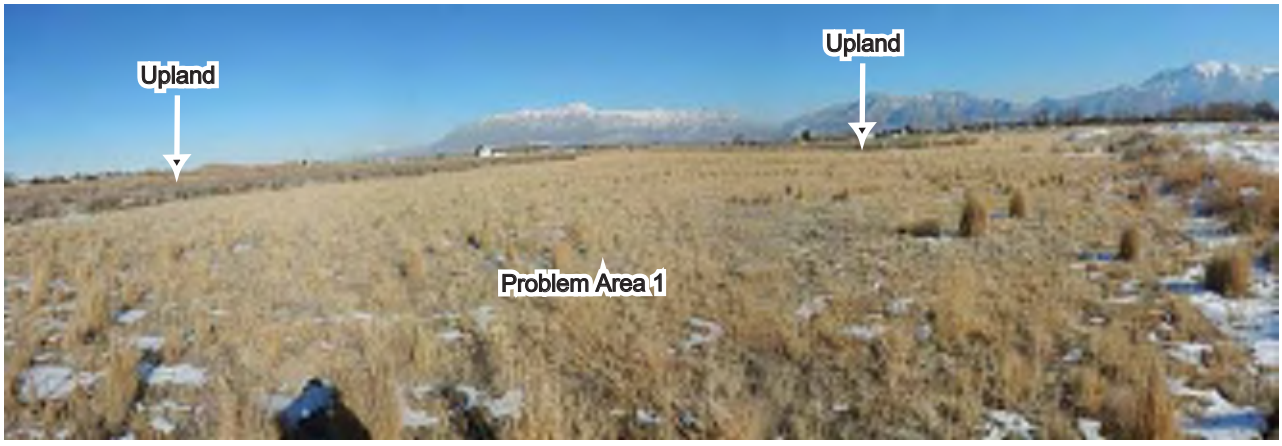

Photo 14b. Northeast view of Problem Area 1 located in the central portion of the Project Area. Problem Area 1 contains saline wet meadow plant community.

Photo 15a. Northeast view of Ditch 1 and upland area taken from the west Project Area boundary. Wetland plants were observed in Ditch 1 during the December 29, 2020 site inspection.

Photo 15b. Southeast view of Ditch 1 and upland area taken from the west Project Area boundary. Ditch 1 contains wetland plant species including broadleaf cattail, Baltic rush, and rabbits-foot grass.

Photo 16a. North view of Ditch 1. Ditch 1 is an excavated man-made irrigation ditch.

Photo 16b. South view of Ditch 1. OHWM indicators are present in Ditch 1 indicative of flowing water during the irrigation season.

Photo 17. Northeast view of excavated, man-made irrigation Ditch 1 in the southwest corner of the Project Area. It appears Ditch 1 flows in a north/south direction along the west Project Area boundary before turning eastward along the south Project Area boundary. The ditch has been excavated several feet lower than the native ground elevation.

Photo 18a. West view of upland area and fenceline. in the southern portion of the Project Area on the high lake terrace. No ditches present.

Photo 18b. Northeast view of upland area and fenceline. No ditches present.

Photo 18c. South view of upland area and fenceline. No ditches present.

Photo 19a. Northwest view of upland area and Ditch 1 taken from south Project Area boundary. Ditch 1 is a man-made excavated irrigation ditch.

Photo 19b. Northeast view of upland area and Ditch 1 taken from south Project Area boundary. Ditch 1 had water present during the December 29, 2020 site inspection.

Photo 20a. West view of Ditch 1 taken near southeast corner of Project Area.

Photo 20b. East view of Ditch 1 where it leaves the Project Area.

Photo 21. Northeast view of Ditch 1 and abandoned irrigation ditch taken from southeast corner of the Project Area. The abandoned irrigation ditch had no OHWM indicators present and was dominated by upland plant communities during the December 29, 2020 site inspection.

FRONTIER CORPORATION USA
Environmental Consultants

March 12, 2021

Ogden 3, LLC
c/o Wade Rumsey & Igor Maksymiw
1835 West 1500 South
Salt Lake City, UT 84104

Subject: Ogden 3 West Weber Property Preliminary Wetlands Assessment Follow-up
Property Parcel #15:078:0002
Approximately 40.8-acre Project Area, West Weber, Weber County, Utah
Section 28, Township 6 North, Range 2 West, SLB&M

Dear Sirs:

Per your request, I am providing this letter as follow-up to questions raised by Weber County Engineering on the findings that were presented in Frontier Corporation USA's Preliminary Wetlands Assessment Report dated January 15, 2021 for the above reference property parcel in West Weber, Utah.

As stated in the report, the property does not contain any tributary streams. The only type of "water bodies" present are man-made irrigation ditches and what looks like the small remnants of an excavated farm pond. Under the current Navigable Waters Protection Rule that came in effect June 2020 defining jurisdictional waters of the U.S. (i.e., those waters that could fall under the U.S. Army Corps of Engineers regulatory jurisdiction), these types of man-made ditches and ponds are not regulated waters.

Regarding wetlands. No readily discernible wetlands were identified during site inspections to evaluate current environmental conditions on the property. The National Wetlands Inventory (NWI) shows a palustrine emergent (PEM) wetland on low lying ground in the center part of the property. The type of PEM shown on the NWI is commonly associated with wet meadows on the flat lake plain of West Weber, but not all wet meadows are wetlands because they are often associated with artificially created "wet spots" found in irrigated fields and pastures.

During our site inspection, we found this area to have saline soils but did not observe any readily discernible wetlands in the area where the PEM was shown. What we found in this area was a mixed plant community consisting of saltgrass and weedy upland forbs. Saltgrass is a facultative wetland indicator plant species that has a predicted 50/50 probability of occurring in either uplands or wetlands. Saltgrass is also salt-tolerant halophyte commonly found in saline/alkali soils that are irrigated. The lack of other wetland indicator plant species makes me believe that the presence of saltgrass is due to saline soils conditions and past irrigation rather than saturated wetland soil conditions.

The NWI probably mapped this as a potential wetland because the low lying area used to be wetted by flood irrigation, so it would have appeared as a wet spot. Note. The NWI is not an official delineation map that the Corps of Engineers relies on. In fact, the NWI mapping is done by the U.S. Fish and Wildlife Service at a regional scale for habitat planning and often incorrectly shows irrigated fields and pastures as PEM wetlands.

We identified this as a problem area in our report because the field inspection was done during the winter non-growing season. And we point out in our report that further investigation during the growing season would have to be done in order to prepare a formal delineation report that could be submitted to the Corps of Engineers for official verification that the problem area, which with the NWI identifies as PEM1C, is not in fact a wetland. We also point out that even if the problem area met all of the wetland delineation criteria, it does not have any apparent surface water or tributary connections to Walker Slough, the Weber River or the Great Salt Lake. The problem area occurs in a closed basin depression that used to collect irrigation water when the property used to be flood irrigated. Under the current jurisdictional definitions, wetlands that occur in isolated basins with no outlets connecting to the Great Salt Lake or tributaries to the Great Salt Lake are not regulated waters.

In summary, we think the probability of having a wetland on the property is low. And if a wetland is present, there are no apparent regulatory jurisdictional connections to the Great Salt Lake.

Please feel free to call me if you have any additional questions about the findings of our preliminary wetlands assessment report.

Sincerely,
Frontier Corporation USA

Dennis C. Wenger

Dennis C. Wenger
Senior Wetlands Ecologist
Principal

Staff Report to the Western Weber Planning Commission

Weber County Planning Division

Synopsis

Application Information

Application Request: Request for final approval for Winston Park Subdivision, a Planned Residential Unit Development consisting of 54 residential units, and two open space parcels, totaling approximately 40.259 acres.
Type of Decision: Administrative
Applicant: Wade Rumsey
Agenda Date: Wednesday, May 19, 2021
File Number: LVW020421

Property Information

Approximate Address: 3701 West 1800 South
Project Area: 40.259 Acres
Zoning: A-1
Existing Land Use: Residential/Agricultural
Proposed Land Use: Residential-
Parcel ID: 15-078-0002
Township, Range, Section: T6N, R2W, Section 28 NE

Adjacent Land Use

North: 1800 South St.
South: Agricultural
East: Agricultural
West: Agricultural/Residential

Staff Information

Report Presenter: Tammy Aydelotte
taydelotte@co.weber.ut.us
801-399-8794
Report Reviewer: SB

Applicable Ordinances

- Title 101, Chapter 1 General Provisions, Section 7, Definitions
- Title 104, Zones, Chapter 5 Agricultural A-1 Zone
- Title 108, Chapter 1 Design Review
- Title 108, Chapter 4 Conditional Uses
- Title 108, Chapter 5 Planned Residential Unit Development
- Title 108, Chapter 8 Parking and Loading Space, Vehicle Traffic and Access Regulations

Summary and Background

****This staff report will appear similar to the one presented before the planning commission for preliminary approval due to the majority of conditions of approval that will be addressed at County Commission. The purpose of this report is to explain how the proposal meets, or can meet, the applicable county standards. There are several ordinances that apply to both preliminary and final approval so the report and analysis will have some of the same information as the preliminary report.**

1/12/2021 – Western Weber Planning Commission recommended approval for the conditional use of a Planned Residential Unit Development. Receiving a recommendation for approval from the Planning Commission is the first step in the PRUD process.

1/19/2021 – Weber County Commission approved CUP 2020-18, approving 42% bonus density, and overall development plan.

2/4/2021 – Application submittal for Winston Park PRUD Subdivision.

3/9/2021 – Preliminary approval granted.

5/11/2021 – Final approval tabled due to requirement from Planning Commission for communication from Army Corps of Engineers to address a previously submitted wetlands report.

5/19/2021 – Preliminary Approval brought/approved before planning commission.

Analysis

General Plan: The proposal conforms to the West Central Weber County General Plan by supporting agriculture and encouraging residential cluster style development with a minimum 30% open space.

Zoning: The A-1 zone conditionally allows Planned Residential Unit Developments. Although the proposed lot sizes are smaller than otherwise allowed by the A-1 zone, the platting of the lots is in conformance with the approved site plan provided as part of conditional use permit approval.

Culinary water and sanitary sewage disposal: Feasibility letters have been provided for the culinary water (Taylor West Weber), secondary water (Hooper Irrigation), and sanitary sewer (Central Weber Sewer) for the proposed subdivision. The culinary water will-serve letter states that the developer must provide pressurized secondary water to each lot. A condition of approval has been added to the staff recommendation that requires an approval letter from Hooper Irrigation, indicating sufficient water shares, prior to receiving final approval from the **County Commission**.

Lot area, frontage/width and yard regulations: The purpose and intent of a Planned Residential Unit Development (PRUD) is to *"allow for diversification in the relationship of various uses and structures to their sites and to permit more flexibility of such sites and to encourage new and imaginative concepts in the design of neighborhood and housing projects in urbanizing areas."* The proposed PRUD utilizes the allowed flexibility to create neighborhoods with lots ranging in size from 0.27 acre lots to .33 acre lots and sized to accommodate single family homes. This proposal includes 54 lots and two open space parcels.

This development will be platted in a single phase.

Subdivision Standards for Final Approval: A final version of the proposed plat will be required prior to recording this subdivision. The final plat must meet requirements of all review agencies.

Final improvement plans: The applicant shall furnish to the county engineer at the same time of submittal of the final plat a complete set of drawings signed and stamped by a state licensed civil engineer for all streets, existing and proposed, and all utilities to be constructed within the subdivision. All such utility and road construction shall be in accordance with the adopted public works standards of the county. All conditions of approval, as previously required will be addressed and presented before the **County Commission** for final approval.

Public Road Infrastructure: The developer is proposing five new public roads throughout this subdivision, including a road stub to the south and east of the development, and sidewalk (both curb, and gutter) throughout the development.

Review Agencies: The subdivision application will be required to comply with all review agency requirements. Engineering has expressed a concern to regulate the disallowance of basements within this subdivision. This will need to be addressed prior to a recommendation for final approval from the **County Commission** (see condition 5, under Previous Conditions of Approval).

Previous Conditions of Approval – Preliminary Approval Granted 5/19/2021

1. A letter from Hooper Irrigation, verifying sufficient shares, is required prior to receiving final approval from the County Commission. **This will still be required prior to scheduling for final approval with County Commission.**
2. The subdivision application will be required to comply with all review agency requirements prior to receiving final approval from the County Commission. **This will still be required prior to scheduling for final approval with County Commission.**
3. Annexation into Central Weber Sewer District will be required prior to receiving final approval from the County Commission. **This will still be required prior to scheduling for final approval with County Commission.**
4. Address how to regulate no basements within this subdivision, if necessary, prior to receiving final approval from the County Commission. **This will be required prior to scheduling for final approval with County Commission.**

Staff Recommendation

Staff recommends that the Planning Commission recommend final approval of Winston Park PRUD Subdivision consisting of 54 lots, and two open space parcels. This recommendation is based on the review agency requirements, any additional conditions from the planning commission, and the following findings:

1. The proposed PRUD conforms to the West Central Weber County General Plan.
2. The lot area, width, yard, height and coverage regulations proposed are acceptable as shown on the submitted plat.
3. The proposal will not be detrimental to the public health, safety, or welfare.
4. The proposal will not deteriorate the environment of the general area so as to negatively impact surrounding properties and uses.

Exhibits

A. Water/Sewer Feasibility
B. Proposed Plat

Location Map

Exhibit B-Proposed Plat