CITY OF OREM
PLANNING COMMISSION MEETING
56 North State Street, Orem, Utah
August 5, 2026

This meeting may be held electronically
to allow a Commission member to participate.

4:30 PM WORK SESSION – AGENDA REVIEW, CITY COUNCIL CONFERENCE ROOM, 56 NORTH STATE STREET, OREM, UT

5:30 PM REGULAR SESSION – CITY COUNCIL CHAMBERS

1. CALL TO ORDER
2. INVOCATION/INSPIRATIONAL THOUGHT: BY INVITATION
3. CONSENT AGENDA ITEMS
   - **3.1 Minutes for the July 15th, 2026 Planning Commission Meeting**
4. ACTION ITEMS
   - **4.1 Preliminary Plat - PH Tennis Center Plat A - Located generally at 92 E 800 North**
   - **4.2 Site Plan - PH Tennis Center - Located generally at 92 E 800 North**
   - **4.3 Preliminary Plat - Johnson Farms Plat A - Located generally at 1700 S Geneva Road**
   - **4.4 Site Plan - The Shops at Johnson Farms - Located generally at 1700 S Geneva Road**
   - **4.5 Preliminary Plat - Valor Homes Plat A - Located generally at 1301 W 400 South**
5. PUBLIC HEARING ITEMS
   - **5.1 Text Amendment - Aligning definitions in Chapters 19, 21, and 22 with proposed Section 22-6-11, Accessory Dwelling Units**
6. ADJOURN

THE PUBLIC IS INVITED TO PARTICIPATE IN ALL PLANNING COMMISSION MEETINGS.
If you need a special accommodation to participate in the Planning Commission Meetings and Study Sessions, please call the Development Services Office at least 3 working days prior to the meeting.
(Voice 801-229-7183)

This agenda is also available on the City's webpage at orem.org

CITY OF OREM
PLANNING COMMISSION MEETING MINUTES
July 15, 2026

The following items are discussed in these minutes:

CONSENT AGENDA ITEMS:

- **3.1** - Approval of the July 1st, 2026 Minutes

ACTION ITEMS:

- None

PUBLIC HEARINGS:

- **5.1 Text Amendment -** Updates to Chapter 22 of the Orem City Code Relating to Code Enforcement
- **5.2 Text Amendment -** Updates to Article 22-6 of the Orem City Code to establish regulations for detached accessory dwelling units

A recording of the meeting can be viewed online at https://www.youtube.com/live/fv0N0Up0ZDQ?si=v4amV6rHfOuehsyg.

PLANNING COMMISSION WORK SESSION

Place: Orem City Council Conference Room, 56 North State Street

Chair Komen called the Planning Commission meeting to order at 4:30 PM.

Those present: Darren Hawkins, Madeline Komen, Micah Ladle, Susan Madsen, Karl Radmall, Jeff Reeves, Planning Commissioners; Quinn Mecham, City Council Liaison; Gary McGinn, Director of Community Development; Jared Hall, Matthew Taylor, Grace Bjarnson, Planning and Zoning Staff; Aaron McKnight, City Attorney.

Those excused: Rebecca Gourley, Emma Tenney, Planning and Zoning Staff.

1. Agenda Items Discussion

Aaron McKnight presented the text amendment for updates to Chapter 22 of the Orem City Code relating to code enforcement and provided context behind the proposed changes. Mr. McKnight noted that most of these adjustments are for clarity, rather than substantial code changes. Commissioners asked clarifying questions.

Jared Hall then presented on the DADU text amendment. This topic has been discussed in two previous work sessions, so Mr. Hall provided a quick overview of the presentation on DADUs that was given at the previous Planning Commission work meeting on what the city can and can't do, per the state requirements. He then presented the minor changes that have been made to the proposed amendment since the last meeting.

2. Commissioner Training

   Due to lack of time, this item was postponed.

A recording of the meeting can be viewed online at https://www.youtube.com/live/fv0N0Up0ZDQ?si=v4amV6rHfOuehsyg.

The meeting was adjourned at 5:25 PM.

PLANNING COMMISSION MEETING

Place: Orem City Council Chambers, 56 North State Street

At **5:32 PM**, Chair Komen called the Planning Commission meeting to order.
An invocation was offered by Commissioner Susan Madsen.

Those present: Darren Hawkins, Madeline Komen, Micah Ladle, Susan Madsen, Karl Radmall, Jeff Reeves, Planning Commissioners; Quinn Mecham, City Council Liaison; Gary McGinn, Director of Community Development; Jared Hall, Matthew Taylor, Grace Bjarnson, Planning and Zoning Staff; Aaron McKnight, City Attorney.

Those excused: Rebecca Gourley, Emma Tenney, Planning and Zoning Staff.

Agenda Item 3, Consent Agenda Items

- **3.1** - Approval of the July 1st, 2026 Minutes

Planning Commission Action: Commissioner Karl Radmall motioned to approve the Consent Agenda. Commissioner Jeff Reeves seconded the motion.

YES: Darren Hawkins, Madeline Komen, Micah Ladle, Susan Madsen, Karl Radmall, Jeff Reeves

NO: None

ABSTAIN: None

Agenda Item 4, Action Items

None

Agenda Item 5, Public Hearings

5.1 TEXT AMENDMENT - Updates to Chapter 22 of the Orem City Code Relating to Code Enforcement

Aaron McKnight, City Attorney, presented updates to Chapter 22 of the Orem City Code relating to code enforcement. The proposed changes are as follows:

- Unregistered vehicles and inoperative vehicles are not allowed to be parked in the front yard by current Code. The proposed change will allow one of each to be parked in a driveway or on a gravel strip. Inoperative or unregistered vehicles are still allowed to be parked in a garage, and parking up to 2 such vehicles in a backyard is allowed, but this text amendment adds additional flexibility for people doing repairs on a personal car. Mr. McKnight clarified that this would still not allow commercial auto repair neighborhoods.
- Current City Code restricts recreation vehicles from being parked in the front yard. The proposed change provides clarification that such vehicles are not permitted in side yard areas adjacent to the street or on landscaping.
- City Code prohibits living in trailer houses or mobile homes parked on residential lots. The proposed change clarifies this to include recreational vehicles and campers in this restriction. Mr. McKnight encouraged Commissioners to include in the motion an amendment that vehicles of any kind cannot be lived in on residential lots, per Commissioner discussion in the work session.
- City Code prohibits shipping containers and the like from being stored and maintained on residential lots. The proposed change clarifies this to include moving containers, and adds an exception that moving containers can be kept on a driveway for up to 15 days for the purpose of moving in or out of a house.

Chair Komen opened the meeting to public comment.

Marion Baxter: When family or friends visit, can kids sleep in a trailer on the lot for that visitation? Does doing mechanic work out of a personal garage fall under legitimate use if it doesn't impact parking out on the street?

As no one else was present to speak, Chair Komen closed the public comment.

Mr. McKnight addressed the questions posed by clarifying that the ordinance refers to human habitation, which is different from a temporary visit, and that personal/family vehicles can be operated on, but commercial repair work is not permitted under the home occupation code.

Commissioner Hawkins noted a concern with the amendment to vehicles in driveways. The code does not permit vehicles with body damage to be parked in the driveway, and Commissioner Hawkins asserted that it is unfair that vehicles requiring engine work are allowed to park in the driveway, but vehicles requiring body work are not.

Commissioner Madsen proposed that habitation of a trailer or similar vehicle be allowed for a limited period of days, to allow visitation from family. Commissioner Hawkins suggested that a time limit be enacted for inoperable vehicles in driveways as well. Chair Komen noted that these changes have been proposed by code enforcement officials and city attorneys who know what is needed to best conduct code enforcement, and recommended that the Commission not get stuck in the minutia of what ifs.

Planning Commission Action: Chair Komen moved that the Planning Commission forward a recommendation of approval to the City Council for the request to amend Chapter 22 of the Orem City Code, related to Neighborhood Improvement Zoning Code Enforcement, with the recommendation that any vehicle be added to 22-18-8A. Commissioner Radmall seconded the motion.

YES: Madeline Komen, Micah Ladle, Susan Madsen, Karl Radmall, Jeff Reeves

NO: Darren Hawkins

ABSTAIN: None

The motion passed.

5.2 TEXT AMENDMENT - Updates to Article 22-6 of the Orem City Code to establish regulations for detached accessory dwelling units

Jared Hall presented this item. The State has mandated that cities adopt rules allowing detached accessory dwelling units (DADUs) as permitted uses by October 1st, 2026, and this text amendment is for the proposed DADU ordinance. This subject has been discussed many times in Planning Commission work sessions, and is now being brought forward for a public hearing and an official vote.

Accessory dwelling units are currently regulated by section 22-6-9(I) of Orem City Code. This text amendment moves that section to 22-6-11 and adds regulations for DADUs, to put it all in one place. Mr. Hall presented what things the State ordinance requires the City to allow, and what things they specifically permit the City to regulate. Mr. Hall presented the sections in the proposed ordinance:

- Purpose and Definitions: Defines ADU, clarifies only one ADU of either kind (attached or detached)
- Regulations for Attached ADUs: existing accessory apartment code
- Regulations for Detached ADUs: Permitted for lots over 11,000 square feet, unit size restrictions based on lot size, height restrictions, setbacks, additional parking spaces required depending on DADU size, etc.

Chair Komen opened the meeting to public comment.

Aaron Larson: This is a practical opportunity to address the housing affordability crisis and the housing shortage. This is a family ordinance, and provides affordable housing for young families and aging parents. Some cities have chosen to have no lot size restrictions for DADUs, and Orem deciding to limit to 11,000 square feet limits the number of lots in Orem that can have DADUs to about 25%. Additionally, the limitations on number of bedrooms and height restrictions based on roof pitch are in conflict with state code 10-20-618.

Marion Baxter: Setting this at 11,000 square foot lots or higher really limits who can do a viable design. Short-term rentals are not an issue when they're managed well, such as frequent permit renewals and owner-occupied requirements. Opening up other avenues for people to have income coming in is a good thing, and will invite younger families. Disallowing short-term rentals will not bring housing costs down.

Chair Komen closed the public comment.

Chair Komen asked staff to address the comment that limiting bedrooms is not allowed per State Law. Mr. McKnight stated that he has reviewed the proposed DADU ordinance against State Law 10-20-618, and the City is confident that the ordinance is not in violation of State Law.

Commissioner Radmall asked how many lots in the city are at least 11,000 square feet, and Mr. Hall answered that it's about 23.5% of lots. Commissioner Hawkins asked why 11,000 square feet is the limit for lot size. Mr. Hall noted that this is the minimum set by the State, and that lots of 11,000 square feet and more are plentiful in the City, but not a majority, making them a good limit. He also noted that setbacks from property lines for DADUs are easier to meet on larger lots. Additionally, Mr. Hall pointed out that lots under 11,000 square feet are still permitted to have attached ADUs. Commissioner Reeves asked what the utility of having a minimum lot size is if setbacks could create similar limits. Mr. Hall answered that in addition to proximity to other lots, another concern is lot coverage, and smaller lots with

DADUs will have a higher percentage of lot covered by structures. Chair Komen noted that these are things that can be revisited, and that due to the time constraints put in place by the State, there are some issues that will need to be addressed as amendments after the ordinance is put in place.

Further Commission discussion was had regarding setbacks and lot size restrictions.

Commissioner Madsen asked if prefabricated homes, such as yurts, are allowed as DADUs. Mr. Hall responded that structures that are on a permanent foundation, hooked up to utilities, and pass building and fire codes for permanent habitation would be permitted. A recording of the meeting can be viewed online at https://www.youtube.com/live/fv0N0Up0ZDQ?si=v4amV6rHfOuehsyg.

Planning Commission Action: Commissioner Madsen made a motion that the Planning Commission forward a recommendation of approval to the Orem City Council for the request to amend Article 22-6 of the Orem City Code, establishing regulations for detached accessory dwelling units. Commissioner Ladle seconded the motion.

YES: Darren Hawkins, Madeline Komen, Micah Ladle, Susan Madsen, Karl Radmall, Jeff Reeves

NO: None

ABSTAIN: None

The motion passed.

Final Meeting Comments:
Gary McGinn updated the Commission and public on what projects were approved at the City Council meeting held the previous night. He also noted that a joint meeting between the Planning Commission and City Council may be scheduled soon.

Commissioner Hawkins recognized Jared Hall, Aaron McKnight, and Gary McGinn for their hard work in preparing materials for Planning Commission meetings and their helpfulness in answering questions from the Planning Commission.

Adjournment:
Chair Komen asked for a motion to adjourn. Commissioner Radmall motioned to adjourn, Commissioner Reeves seconded. All present Commissioners voted yes.

The Planning Commission Meeting adjourned at **6:39 PM.**

A recording of the meeting can be viewed online at https://www.youtube.com/live/fv0N0Up0ZDQ?si=v4amV6rHfOuehsyg.

Reviewed and Approved: DRAFT

OREM Administrative	PLANNING COMMISSION August 5th, 2026	Item 4.1
	PH Tennis Center Plat A 92 East 800 North Preliminary Plat	**Prepared By:** Rebecca Gourley **Applicant:** Jeremy Call, Joshua Hart

Notices:

Posted in 2 public places.

Posted on City Webpage and City hotline.

Posted at Utah.gov/pmn.

Site Information:

General Plan Designation: **Community Commercial**

Zoning: **C2**

Total Acreage: **1.27**

Action:

The Planning Commission is the Land Use Authority and the approving body for this item.

REQUEST: The applicant requests preliminary subdivision approval for the PH Tennis Center Plat A, combining three parcels of property into one lot and updating existing Public Utility Easements (PUEs).

BACKGROUND: On May 4th, 2026, Mr. Call and Mr. Hart applied for preliminary plat approval for PH Tennis Center Plat A. The properties located at 92 E and 86 E 800 North are currently three separate parcels of land. The applicants propose to combine the properties into one lot to accommodate future plans for a mixed office suite and indoor tennis court facility.



Figure one (left), Existing property lines at 92 E 800 North; Figure Two (right), Proposed lot combination

REVIEW:

Zoning: The subject properties are zoned C2. The C2 zone maintains a minimum lot area of 7000 ft^2. The combined lot totals 54,930 ft^2, which meets the lot size requirement of the C2 zone.

Public Utility Easements:

General Easements - The plat establishes a general subdivision PUE, as required by section 17-7-11. The general easement provides water, sewer, and storm drainage access, as well as access to Lumen/Century Link, Comcast/Xfinity, Enbridge/Dominion Energy, Rocky Mountain Power, and Utopia Fiber. The easement is 10 ft wide along the northern property line, and 8 ft wide on all other property lines.

Waterline Easements – The plat also establishes a 15 ft wide waterline easement in favor of Orem City on the northern portion of the property. This ensures the City will be able to access and maintain an existing public waterline located underground in this area.

Power Easements – The plat formally maps two existing PUEs in favor of Rocky Mountain Power. These easements, previously recorded only in written documents, are located along the eastern property line and in the center of the property, running in an east-to-west direction. These easements contain powerlines, poles, and guywires, and provide power to neighboring structures. The applicants are coordinating with Rocky Mountain Power to relocate these utilities underground in a future project.

DEVELOPMENT REVIEW COMMITTEE: The Development Review Committee (DRC) reviewed the preliminary plat application on Monday, July 13th, 2026. The DRC recommended approval and did not forward any specific conditions to the Planning Commission.

ACTIONS: The Planning Commission is the designated Land Use Authority for the preliminary plat. The Commission may approve or deny the request for site plan approval or may choose to continue their consideration of the request and ask for additional information or analysis.

ALTERNATIVE MOTIONS:

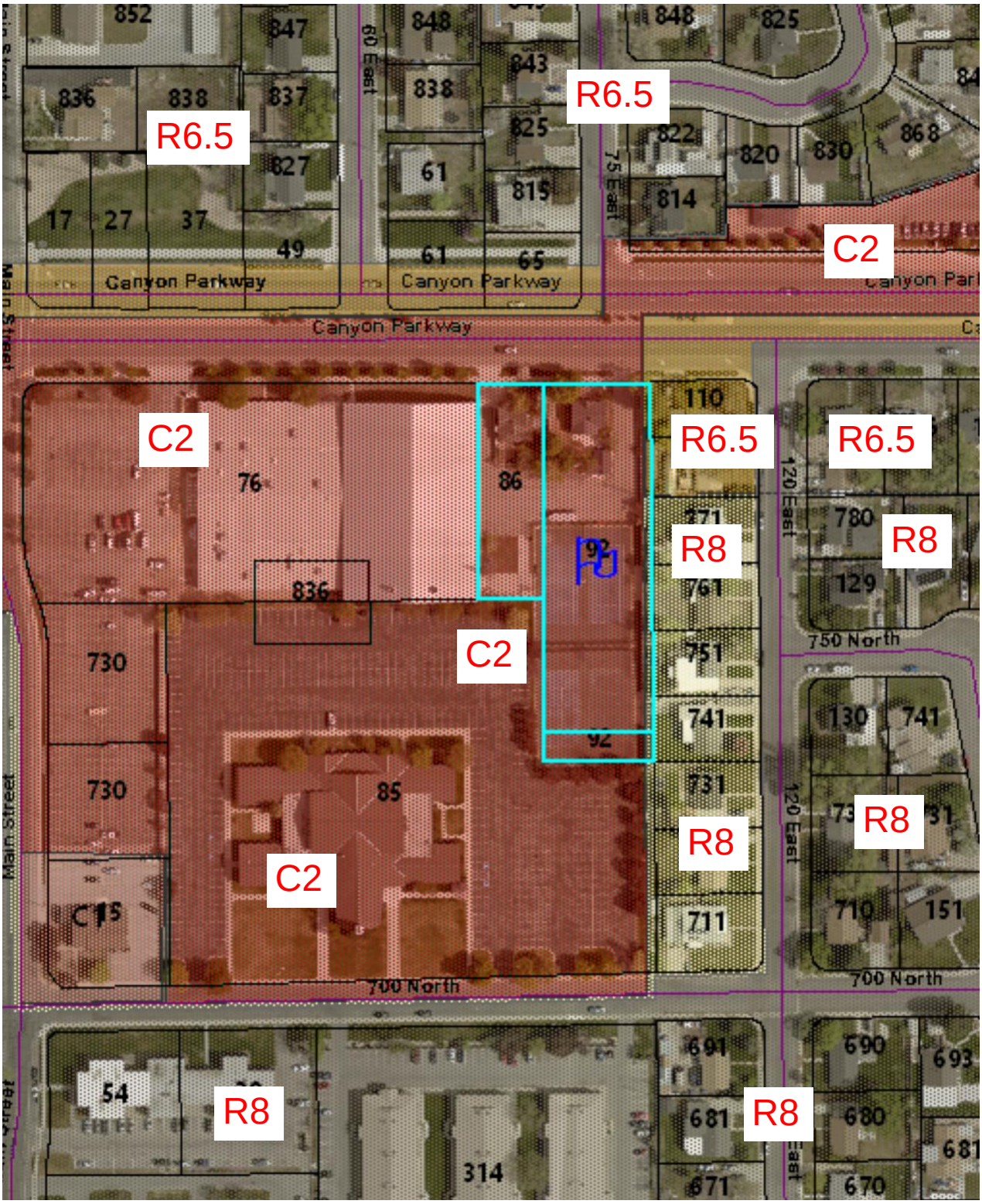
Motion to Approve or Deny -

"I move that the Planning Commission [choose **APPROVE** or **DENY]** the Preliminary Plat for PH Tennis Center Plat A."

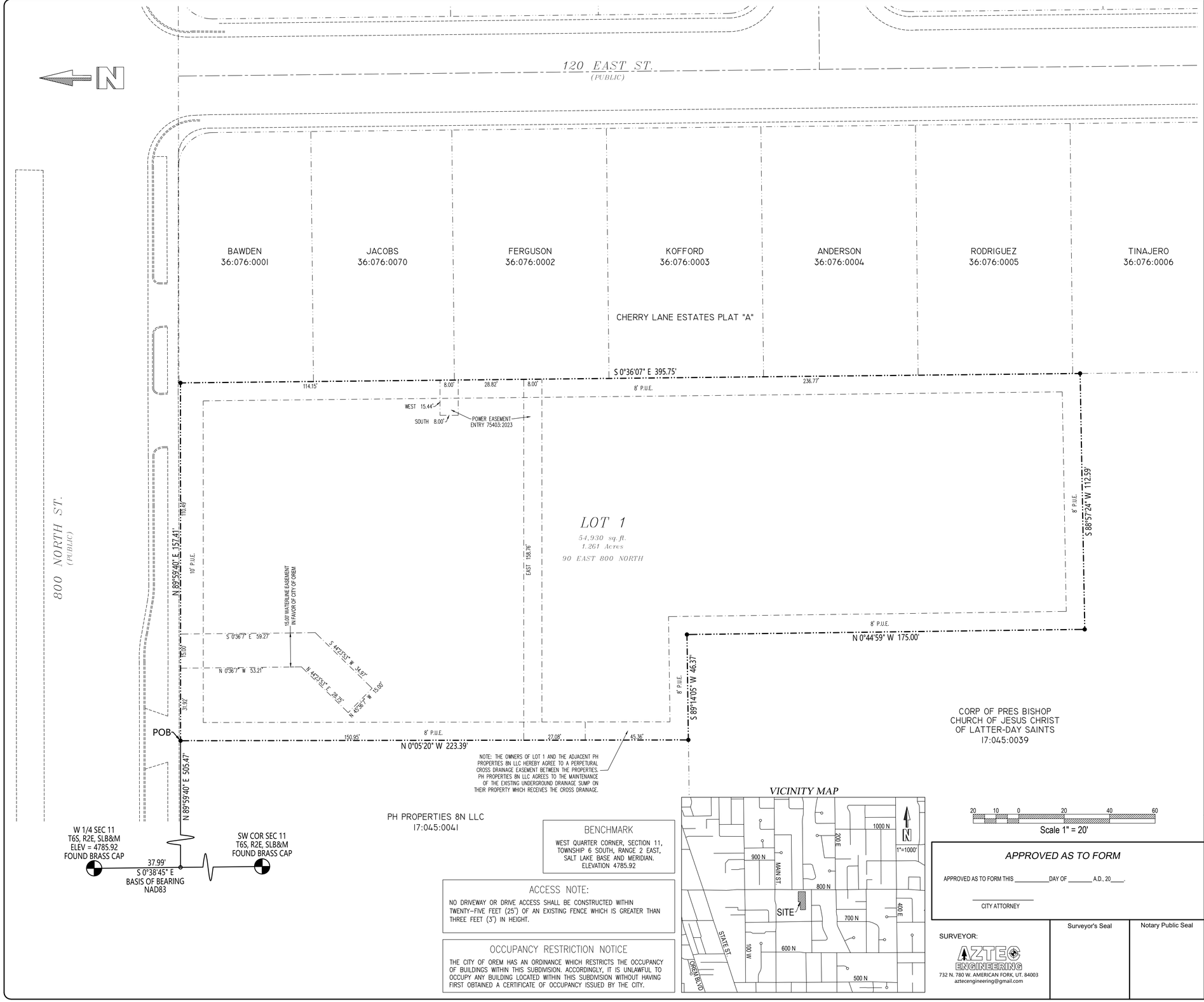
Motion to Continue the Request –

"I move that the Planning Commission continue this request to [choose appropriate date or condition]."

PH Tennis Center – 92 E 800 North



Vicinity & Zoning Map
Zone: C2
Acres: 1.27



BENCHMARK

WEST QUARTER CORNER, SECTION 11, TOWNSHIP 6 SOUTH, RANGE 2 EAST, SALT LAKE BASE AND MERIDIAN.
ELEVATION 4785.92

ACCESS NOTE:

NO DRIVEWAY OR DRIVE ACCESS SHALL BE CONSTRUCTED WITHIN TWENTY-FIVE FEET (25') OF AN EXISTING FENCE WHICH IS GREATER THAN THREE FEET (3') IN HEIGHT.

OCCUPANCY RESTRICTION NOTICE

THE CITY OF OREM HAS AN ORDINANCE WHICH RESTRICTS THE OCCUPANCY OF BUILDINGS WITHIN THIS SUBDIVISION. ACCORDINGLY, IT IS UNLAWFUL TO OCCUPY ANY BUILDING LOCATED WITHIN THIS SUBDIVISION WITHOUT HAVING FIRST OBTAINED A CERTIFICATE OF OCCUPANCY ISSUED BY THE CITY.

VICINITY MAP

APPROVED AS TO FORM

APPROVED AS TO FORM THIS _____DAY OF _____ A.D., 20____.

_____
CITY ATTORNEY

SURVEYOR:
AZTEC ENGINEERING
732 N. 780 W. AMERICAN FORK, UT. 84003
aztecengineering@gmail.com

SURVEYOR'S CERTIFICATE

I, AARON D. THOMAS, DO HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR, AND THAT I HOLD CERTIFICATE NO. 6418780 AS PRESCRIBED UNDER THE LAWS OF THE STATE OF UTAH, I FURTHER CERTIFY BY AUTHORITY OF THE OWNERS, I HAVE MADE A SURVEY OF THE TRACT OF LAND SHOWN ON THIS PLAT AND DESCRIBED BELOW, AND HAVE SUBDIVIDED SAID TRACT OF LAND IN LOTS, BLOCKS, STREETS AND EASEMENTS AND THE SAME HAS BEEN CORRECTLY SURVEYED AND STAKED ON THE GROUND AS SHOWN ON THIS PLAT AND THAT THIS PLAT IS TRUE AND CORRECT.

_____ _____
DATE (SEE SEAL BELOW)

BOUNDARY DESCRIPTION

Beginning at a point located South 0°38'45" East along section line 37.99 feet and North 89°59'40" East 505.47 feet from the West Quarter Corner of Section 11, Township 6 South, Range 2 East, Salt Lake Base and Meridian; thence North 89°59'40" East along the southerly right-of-way line of 800 North Street a distance of 157.41 feet; thence South 0°36'07" East along the westerly boundary of Plat "A" of the Cherry Lane Estates subdivision a distance of 395.75 feet; thence along a boundary line agreement recorded as Entry 56236:2002 the following three courses and distances: 1) South 88°57'24" West 112.59 feet, 2) North 0°44'59" West 175.00 feet, and 3) South 89°14'05" West 46.37 feet; thence North 0°05'20" West 223.39 feet to the point of beginning.

Area = 1.261 Acres, Contains 1 Lot.

OWNER'S DEDICATION

KNOW ALL MEN BY THESE PRESENTS THAT WE, THE UNDERSIGNED OWNER(S) OF ALL OF THE PROPERTY DESCRIBED IN THE SURVEYOR'S CERTIFICATE HERON AND SHOWN ON THIS MAP, HAVE CAUSED THE SAME TO BE SUBDIVIDED INTO LOTS, BLOCKS, STREETS AND EASEMENTS AND DO HEREBY DEDICATE THE STREETS AND OTHER PUBLIC AREAS AS INDICATED HEREON FOR PERPETUAL USE OF THE PUBLIC.

IN WITNESS HEREOF, WE HAVE HEREUNTO SET OUR HANDS THIS _____ DAY OF _____, A.D. 20__.

_____
PRINTED NAME - TITLE - AUTHORIZED SIGNATURE - DATE
PH PROPERTIES 8N LLC

ACKNOWLEDGMENT

STATE OF UTAH
COUNTY OF UTAH S.S.

THE FORGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS _____ DAY OF _____ 20___, BY _____ WHO REPRESENTED THAT HE/SHE IS THE OWNER/REPRESENTATIVE OF THE ABOVE DESCRIBED PROPERTY AND HAVE THE AUTHORITY TO EXECUTE THIS INSTRUMENT.

_____
MY COMMISSION EXPIRES NOTARY PUBLIC (SEE SEAL BELOW)

ACCEPTANCE BY CITY OF OREM

THE CITY OF OREM, COUNTY OF UTAH, APPROVES THIS SUBDIVISION AND HEREBY ACCEPTS THE DEDICATION OF ALL STREETS, EASEMENTS, AND OTHER PARCELS OF LAND INTENDED FOR PUBLIC PURPOSES FOR THE PERPETUAL USE OF THE PUBLIC.
THIS _____ DAY OF _____, 20___.

ATTEST:

_____ _____
CITY ENGINEER (SEE SEAL BELOW) CITY RECORDER

_____
COMMUNITY DEVELOPMENT DIRECTOR

CONDITIONS OF APPROVAL

PLAT "A"

PH TENNIS CENTER

LOCATED IN THE SOUTHWEST QUARTER OF SECTION 11,
TOWNSHIP 6 SOUTH, RANGE 2 EAST, SLB&M

OREM CITY UTAH COUNTY, UTAH

SCALE: 1" = 20 FEET

Surveyor's Seal	Notary Public Seal	City Engineer's Seal	Clerk-Recorder Seal	County Recorder Seal



92 East 800 North Street View

Administrative	PLANNING COMMISSION August 5th, 2026	**Item 4.2**
	PH Tennis Center Site Plan 92 East 800 North Site Plan	**Prepared By:** Grace Bjarnson **Applicant: Jeremy Call, Joshua Hart**

Notices:

Posted in 2 public places.

Posted on City Webpage and City hotline.

Posted at Utah.gov/pmn.

Site Information:

General Plan Designation: **Community Commercial**

Zoning: **C2**

Total Acreage: **1.27**

Action:

The Planning Commission is the Land Use Authority and the approving body for this item.

REQUEST: The applicant requests site plan approval for PH Tennis Center located at 92 E 800 North.

BACKGROUND: On May 8th, 2026, Mr. Call and Mr. Hart applied for site plan approval for PH Tennis Center located at 92 E 800 North. The three separate parcels will be combined into one lot to accommodate a building for an office suite, storage area, and indoor tennis court facility.

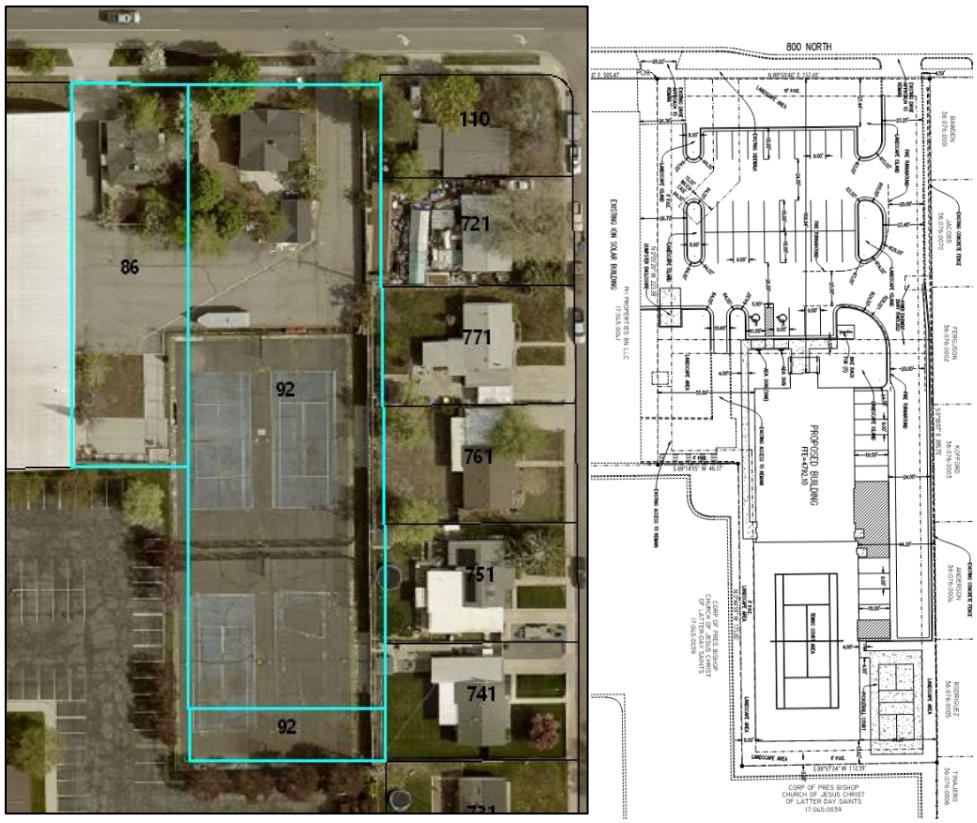


Figure one (left), Existing property lines; Figure Two (right), Proposed site plan

REVIEW & ANALYSIS:

Zoning & Setbacks: The subject property is zoned C2, Community Commercial, with residential zones to the east and north. The combined lot totals 54,930 ft^2, which meets the lot size minimum requirement of 7,000 ft^2. The proposed site plan also meets the setbacks requirements for the C2 zone, as shown below.

SETBACK	REQUIRED	PROPOSED SITE
From Street	20 ft	169 ft
From Residential	10 ft	44 ft
From Non-Residential	0 ft	63 ft



Figure three, Proposed site plan rendering

Neighborhood Meeting: Due to the residential areas to the north and east of the property, a neighborhood meeting was required and held on Thursday, May 7th at 7pm at Ion Solar just to the west of the property. Josh Hart and Jeremy Call presented the project. The attendees' main concerns were noise and dust control during construction and lighting for the outdoor pickleball court. The presenters expressed commitment to keeping communication open during construction. Details are provided in the Neighborhood Meeting Info file accompanying this report.

Powerlines: There are easements located along the eastern property line and in the center of the property, running in an east-to-west direction, which contain powerlines, poles, and guywires, and provide power to neighboring structures. The applicants are coordinating with Rocky Mountain Power to relocate these utilities underground in a future project.

Access: The two existing drive approaches from 800 North will remain, as well as the existing access from the subject property to the ION Solar building to the west.

Surfaces & Landscaping: The surface tabulations for this site are as follows:

	SQUARE FOOTAGE	ACREAGE	PERCENT
Building Footprint	12,217	.280	22.2
Impervious Area	31,024	.712	56.5
Landscaped Area	11,689	.268	21.3

Landscaping requirements include landscaping in the front easement and parking islands with trees at the end of parking aisles. The site plan more than meets these requirements with over double the landscaping in front and extra landscaping on the west and south sides of the site.

Parking: One parking stall is required for every 250 ft^2 of office space (25 in total) and 4 stalls each are required for both the tennis court and pickleball court. A total of 33 stalls (including 2 ADA) is required for this site. The site plan provides 45 stalls (including 2 ADA), exceeding the requirement for the property.

Lighting: Site lighting will be hooded wall-pack lights mounted to the building for down-directed light. No other lighting is proposed. Article 22-8-11 requires that all lighting on commercial properties shall be designed to minimize direct glare to adjoining residences. Any future lighting changes to this location must meet these criteria and may be enforced by the city.

Elevations: The building is just under 35 feet tall, meeting the height limitation for the zone, and is primarily covered in stucco, a wood grain band, and cement BD siding. The front elevation has substantial window coverage.



Figure four, Elevations

DEVELOPMENT REVIEW COMMITTEE: The Development Review Committee (DRC) reviewed the site plan application on Monday, July 13th, 2026, and forwarded the project to Planning Commission without any specific conditions.

ACTIONS: The Planning Commission is the designated Land Use Authority for the site plan. The Commission may approve or deny the request for site plan approval

or may choose to continue their consideration of the request and ask for additional information or analysis.

ALTERNATIVE MOTIONS:

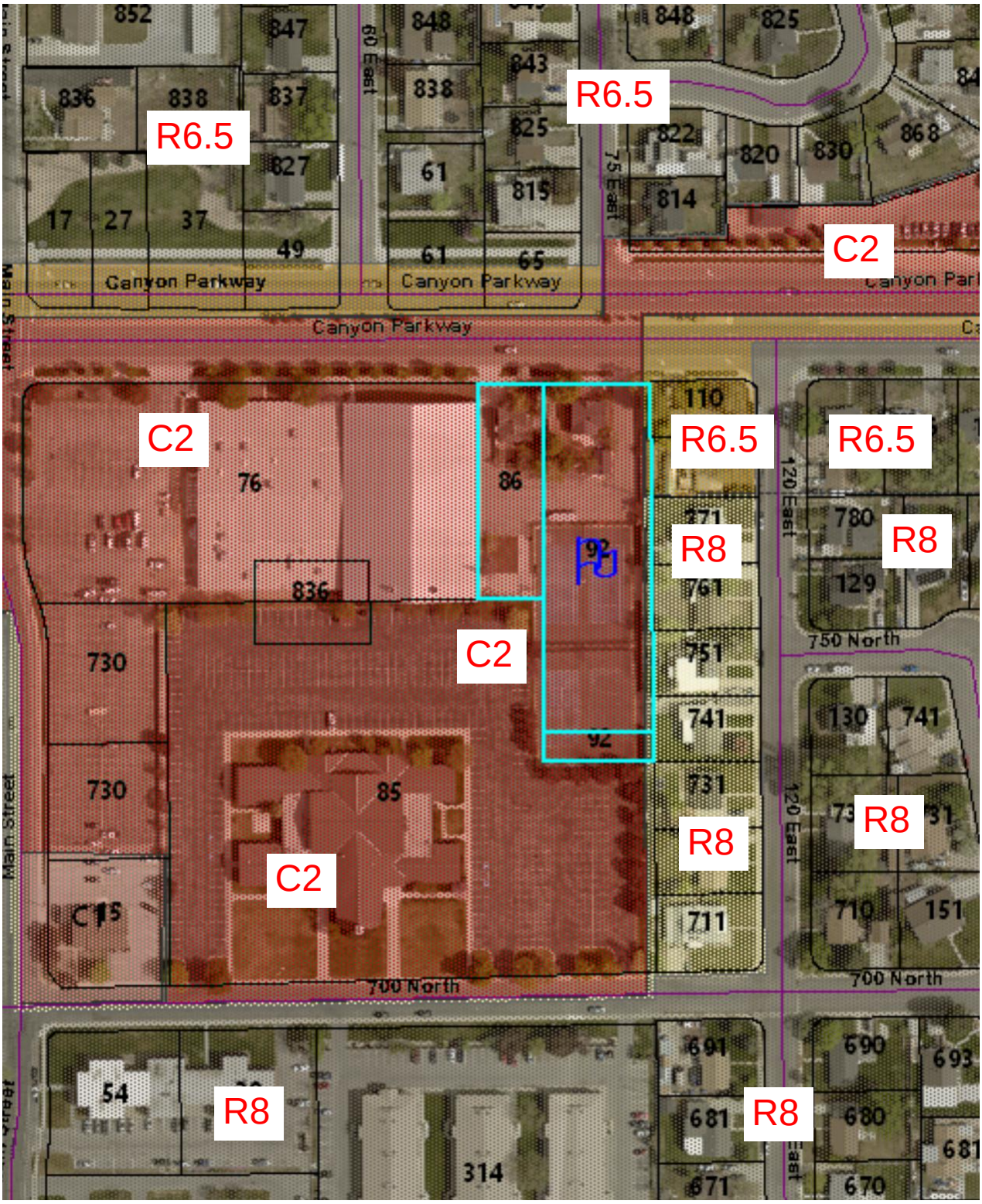
Motion to Approve or Deny -

"I move that the Planning Commission **[**choose **APPROVE** or **DENY]** the site plan for the PH Tennis Center."

Motion to Continue the Request –

"I move that the Planning Commission continue this request to [choose appropriate date or condition]."

PH Tennis Center – 92 E 800 North



Vicinity & Zoning Map
Zone: C2
Acres: 1.27



92 East 800 North Street View

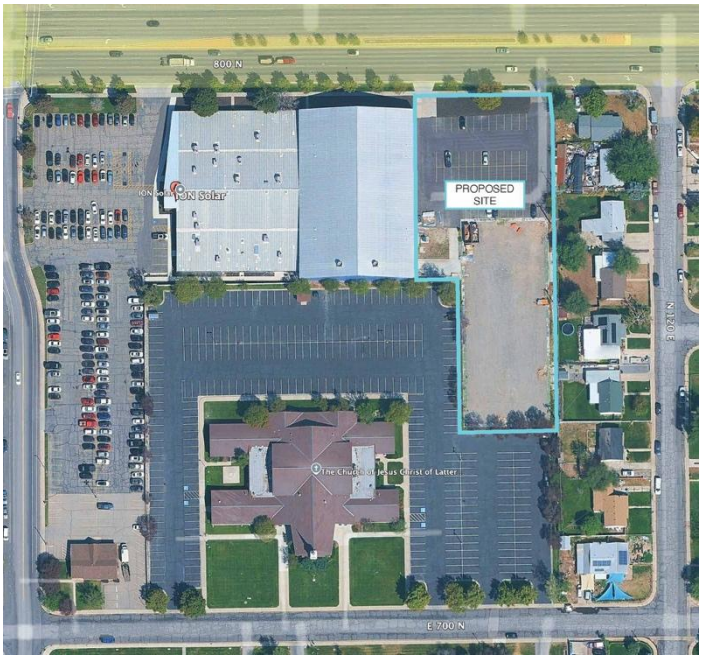
NOTICE OF NEIGHBORHOOD MEETING

Josh Hart | *801-722-9021*

Dear Neighbor,

This letter is to inform you of an upcoming “Neighborhood Meeting” regarding a proposed development in your area.

The owner of the commercial property located at **92 East 800 North** is proposing to construct a new building that includes offices, a garage, and an indoor tennis court.



We value the surrounding neighborhood and are committed to keeping nearby residents informed. You are invited to attend the meeting to learn more about the proposal, ask questions, and share feedback or comments.

Existing Zoning Classification: C2

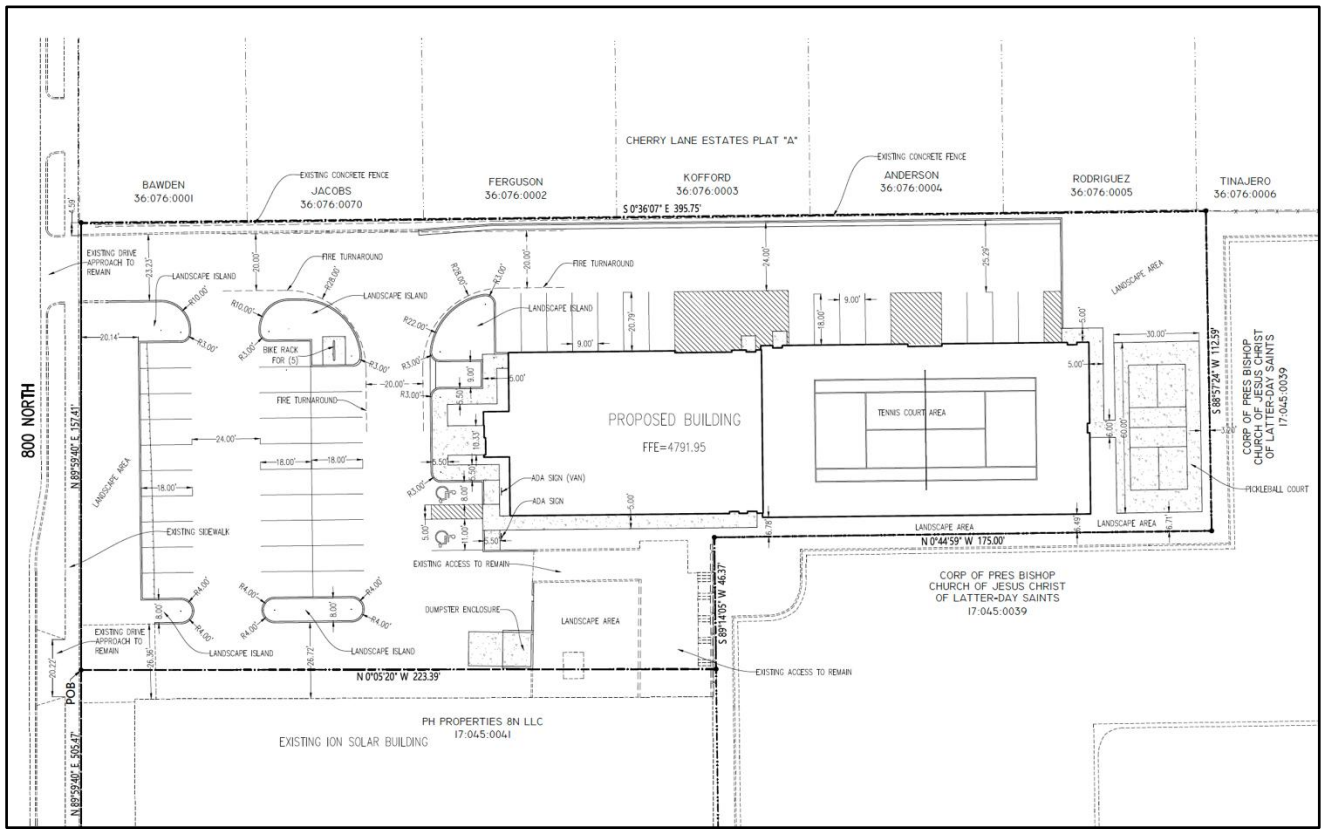
This letter has been mailed more than (10) days prior to the meeting date in accordance with Orem City requirements.

The Neighborhood Meeting will be held at:

ION Solar
44 East 800 North
7:00-8:00 pm on Thursday, May 7th

Pursuant to Orem City Code Section 22-14-20(I), this meeting is being held to discuss the project with you. This is an opportunity for you to review the plans and provide input and recommendations regarding the project. This application has not yet been reviewed by the City and is subject to change during the review process

If you are unable to attend the meeting and wish to make a public comment or have questions, please contact **JOSH HART** at **(801) 722–9021** or ***jshdesigns.inc@gmail.com***


CHERRY LANE ESTATES PLAT "A"
BAWDEN
36:076:0001
JACOBS
36:076:0070
FERGUSON
36:076:0002
KOFFORD
36:076:0003
ANDERSON
36:076:0004
RODRIGUEZ
36:076:0005
TINAJERO
36:076:0006
EXISTING CONCRETE FENCE
S 0°36'07" E 395.75'
800 NORTH
N 89°59'40" E 157.41'
N 89°59'40" E 505.47'
PROPOSED BUILDING
FFE=4791.95
TENNIS COURT AREA
PICKLEBALL COURT
BIKE RACK FOR (5)
FIRE TURNAROUND
LANDSCAPE ISLAND
LANDSCAPE AREA
EXISTING SIDEWALK
EXISTING DRIVE APPROACH TO REMAIN
ADA SIGN (VAN)
ADA SIGN
EXISTING ACCESS TO REMAIN
DUMPSTER ENCLOSURE
N 0°05'20" W 223.39'
N 0°44'59" W 175.00'
S 89°14'05" W 46.37'
S 88°57'24" W 112.59'
POB
CORP OF PRES BISHOP
CHURCH OF JESUS CHRIST
OF LATTER-DAY SAINTS
17:045:0039
PH PROPERTIES 8N LLC
17:045:0041
EXISTING ION SOLAR BUILDING



Neighborhood Meeting Roster

Name	Phone Number	Email
Deanna Jacobs	801-368-7617	jacobsdeanna@hotmail.com
Bill Jacobs	801-471-3805	
Cesar Rodriguez	801-687-5957	cnairod@gmail.com

Neighborhood Meeting Minutes

LOCATION: 44 East 800 North (ION Solar Corporate Headquarters)
DATE: 05/07/2026
TIME START: 7:00 PM
PROJECT/PROPOSAL: PH Tennis Center

PRESENTERS: Josh Hart, Jeremy Call

INTRODUCTION: Welcomed residents and discussed purpose of the meeting.

SUMMARY OF ITEMS PRESENTED: Slide deck (attached)

OPEN FOR COMMENT:

Name of commenter: Deana & Bill Jacobs
Summary of comment: Requested that we make sure to keep up on dust control, asked if we plan to install some type of fence along our south property line.

Name of commenter: Cesar Rodriguez
Summary of comment: Requested that if we are going to install lights at the outdoor pickleball court that we put them on timers to turn off at night. Requested that we provide notice prior to compaction of soils and asphalt, or other activities that produce vibrations or loud noises during construction.

COMMENTS CLOSED.

PRESENTER: Thanked residents for their participation, committed to good communication and notifications during construction.

TIME STOP: 7:50 PM

NEIGHBORHOOD MEETING

PH Tennis Center

A proposed mixed-use development

92 East 800 North • Orem, Utah

Meeting Date: May 7th, 2026

Location: ION Solar Corporate Headquarters

WELCOME

Tonight's Agenda

1	Welcome & Introductions	5 min
2	Project Overview	15 min
3	Potential Impacts	10 min
4	Questions & Comments	20 min
5	Next Steps & Closing	5 min

This meeting is informational — intended to share the proposed project and gather general feedback.

INTRODUCTIONS

Project Team

APPLICANT / DEVELOPER

Jeremy Call

Owner / decision maker

PROJECT MANAGER

Josh Hart

Project lead / Owner's representative

CIVIL ENGINEER

Excel Engineering

Site plan and civil design

ARCHITECT

Harris Architecture

Building design and elevations

PROJECT OVERVIEW

What's Being Proposed

A new two-story building combining professional office space, a garage, and an indoor tennis court.

- **Two-story office building**
  Professional office space / executive office suites
- **Indoor tennis court**
  Single full-size court
- **Garage**
  Overhead door, enclosed storage and vehicle parking

15,117 SF

2 stories

1 tennis court

Mixed use

Project status: *Conceptual / site plan review — design is preliminary and may evolve based on City review and community feedback.*

PROJECT LOCATION

Where The Site Sits



ADDRESS

92 East 800 North

Orem, Utah

CONTEXT

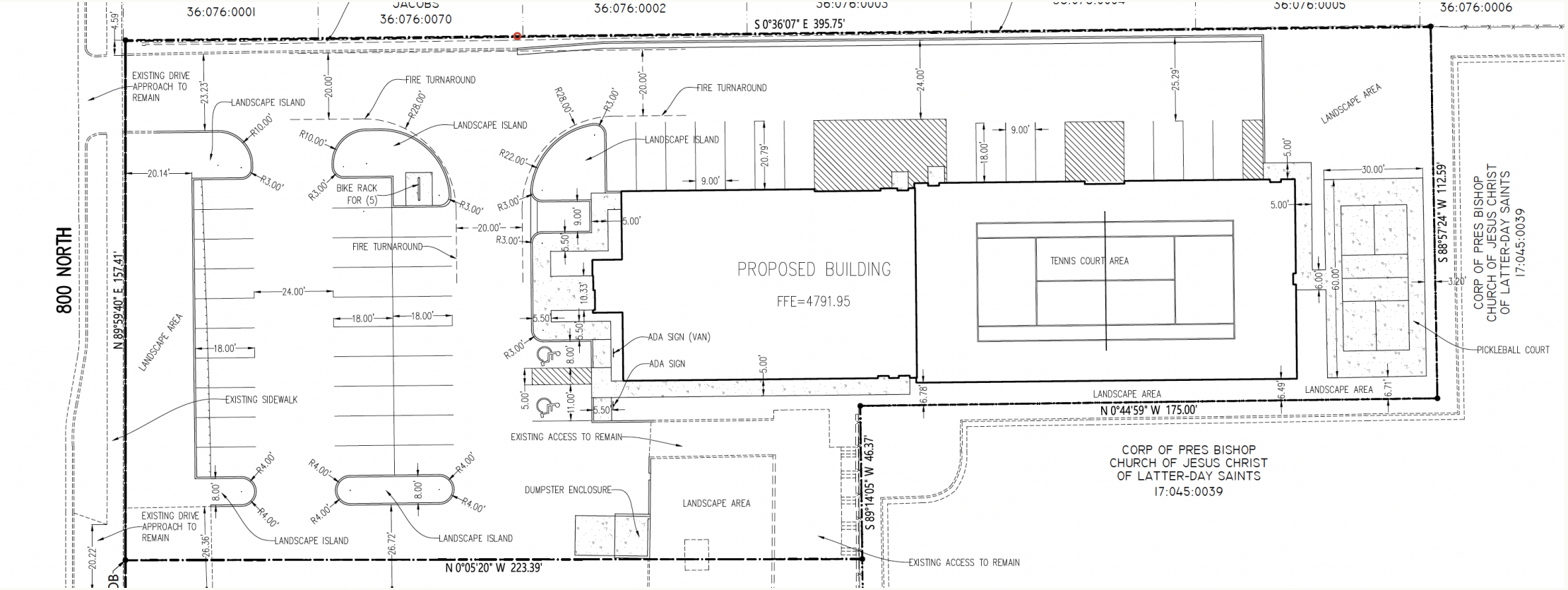
- Fronts 800 North
- Existing access from 800 North
- Currently zoned for commercial use

SITE LAYOUT

Site Plan

OVERVIEW

47 parking stalls, landscaping, pickle ball court, trash enclosure



Source: Excel Engineering — preliminary site plan, not for construction

EXTERIOR CONCEPT

Conceptual Rendering



Conceptual rendering — design intent, subject to refinement

DESIGN & MATERIALS

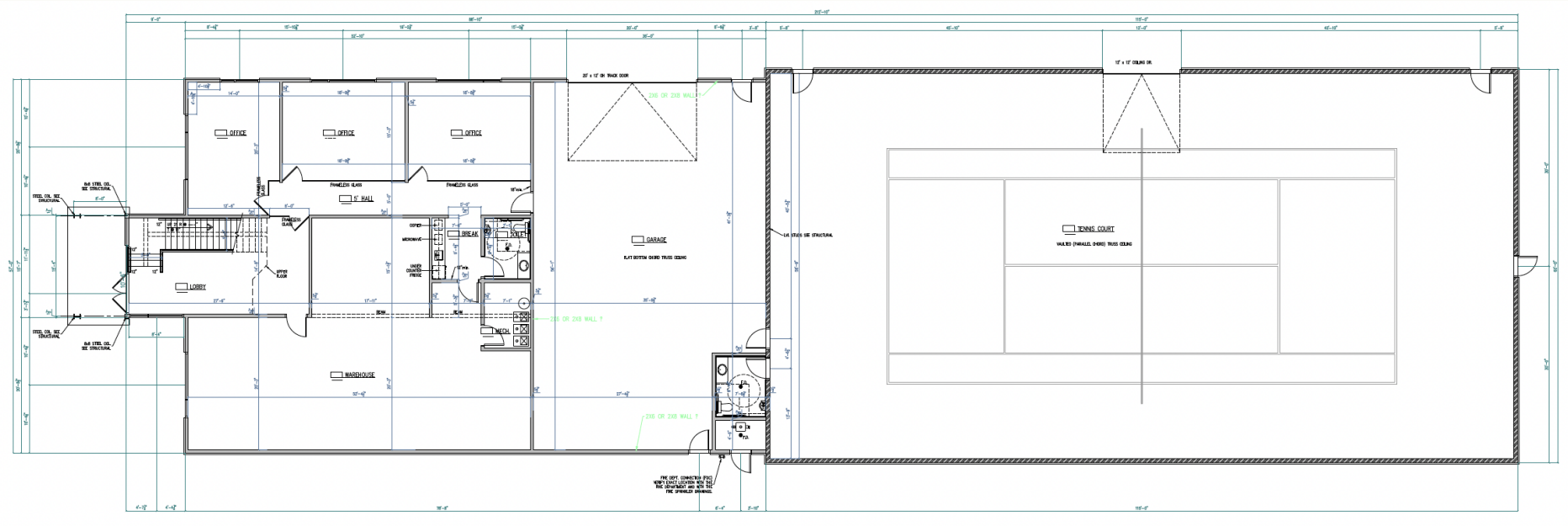
Designed to fit the scale and character of the surrounding neighborhood.

- Charcoal stucco
- Faux wood accent siding
- Black storefront w/ tinted glass
- Asphalt and metal roofing

Building height = 34 ft

INTERIOR PROGRAM

Level 1 Floor Plan



Source: Harris Architecture — preliminary, not for construction

OFFICE

3,216 SF

GARAGE

2,041 SF

TENNIS COURT

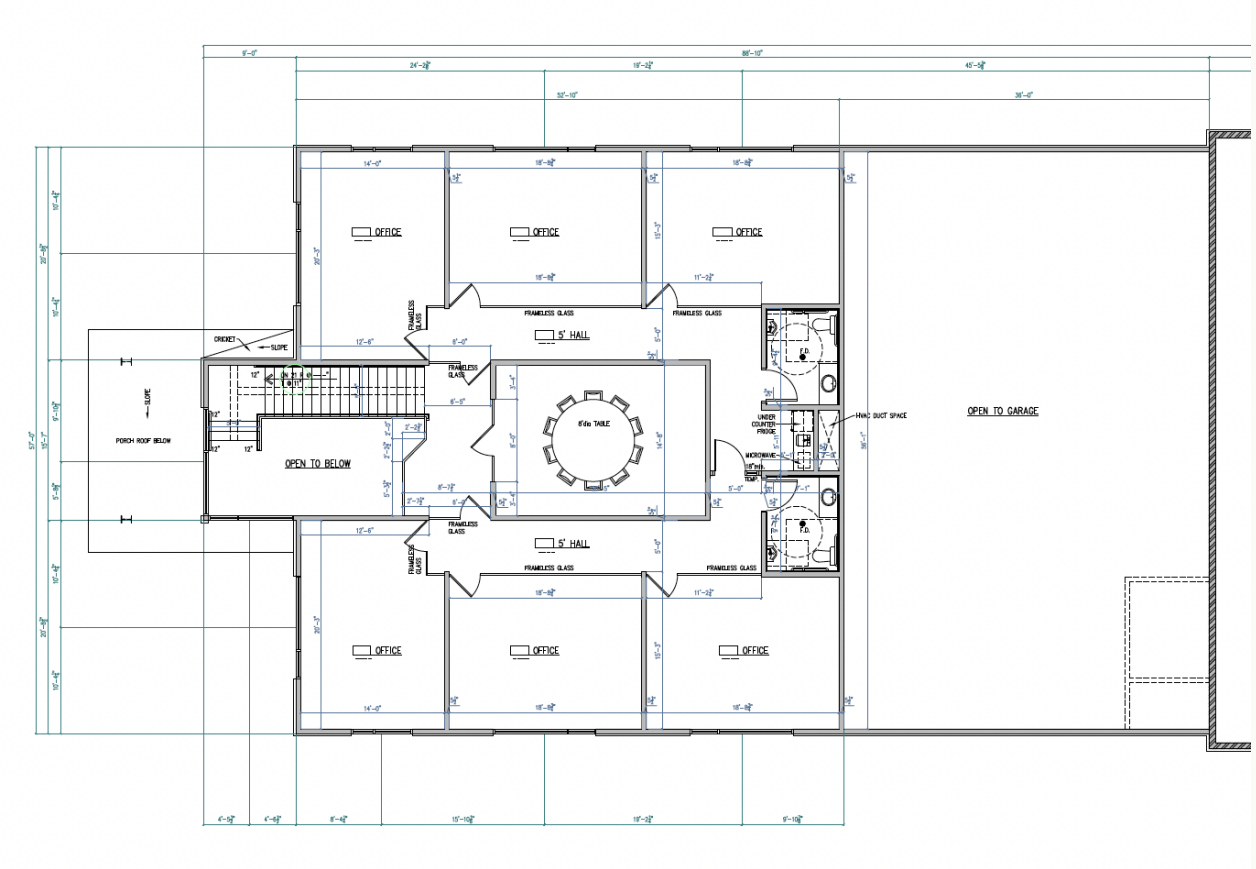
6,961 SF

LEVEL 1 TOTAL

12,218 SF

INTERIOR PROGRAM

Level 2 Floor Plan



Source: Harris Architecture — preliminary, not for construction

OFFICE (LEVEL 2)

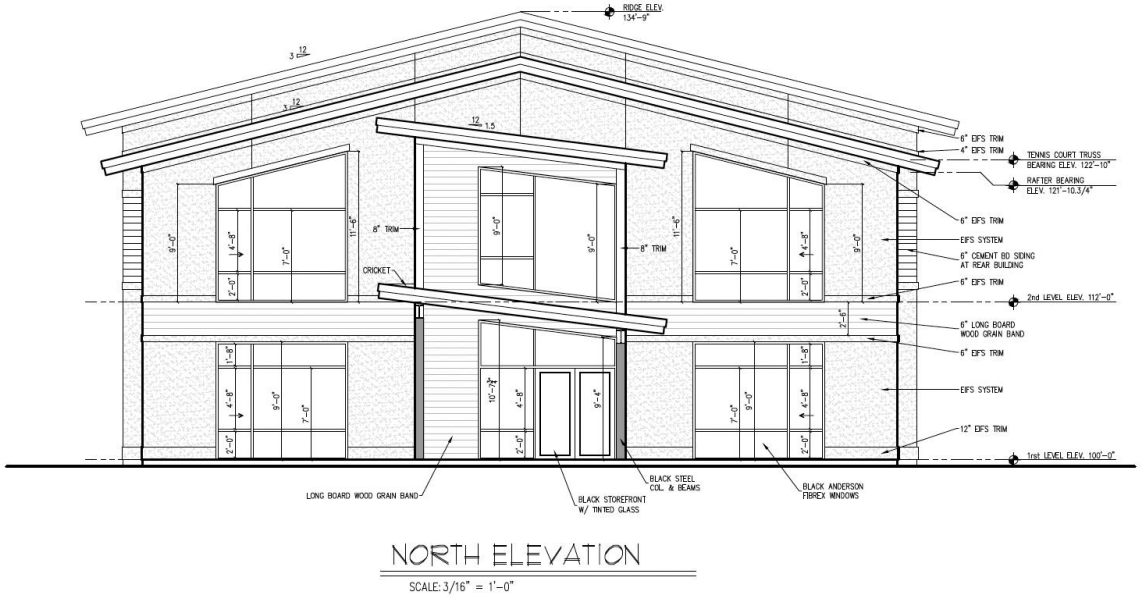
2,559 SF

LEVEL 2 INCLUDES

- Six private offices
- Conference room
- Break room
- Restrooms

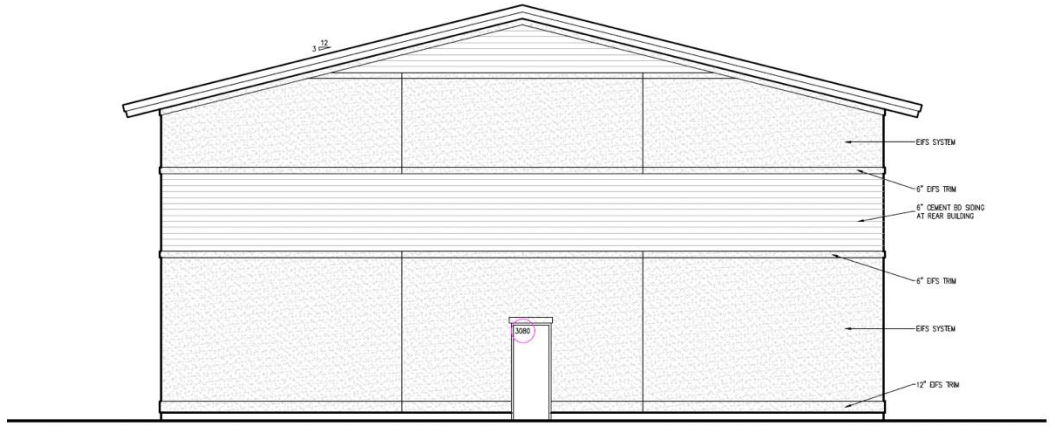
EXTERIOR CONCEPT

North & South Elevations



NORTH ELEVATION

SCALE: 3/16" = 1'-0"



SOUTH ELEVATION

SCALE: 3/16" = 1'-0"

Source: Harris Architecture — preliminary, not for construction

EXTERIOR CONCEPT

East & West Elevations



Source: Harris Architecture — preliminary, not for construction

REVIEW OF POTENTIAL IMPACTS

What We've Considered

Traffic & Access

Existing drive access from 800 North to remain -- no new access points. A detailed traffic study will be addressed during City review.

Parking

47 surface parking stalls that meet City zoning requirements for the proposed use.

Building Height & Placement

Two stories, 34 ft high to the ridge. 50 ft setback from the east property line that borders the residences, compliant with City code.

Anticipated Timeline

3-6 months City plan review → 10 months construction → Open for business estimated July 2027

Detailed technical questions are addressed during the City's formal review process.

THANK YOU

Questions, Comments & Next Steps

HOW YOUR FEEDBACK IS USED

- Comments noted tonight are shared with the project team
- Project advances to formal application with the City
- Public hearings and review provide additional input
- Final approvals required before construction begins

FOLLOW-UP CONTACT

Reach out anytime

NAME

Josh Hart

EMAIL

jshdesigns.inc@gmail.com

PHONE

801-722-9021

Thank you for joining tonight's neighborhood meeting.

PH TENNIS CENTER

OREM TRAFFIC 07/08/2026

DEPARTMENT REVIEW

SEWER ____ / DATE 07/09/2026

WATER ____ / DATE 07/09/2026

STORM DRAIN ____ / DATE 07/09/2026

TRAFFIC _____ /DATE _____

STREET LIGHTS _____ /DATE _____

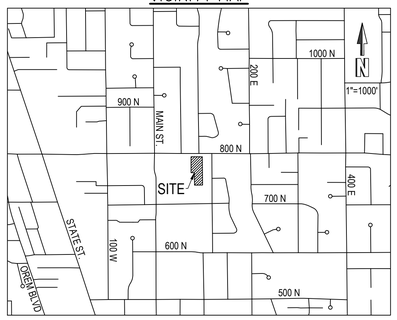
FIRE MARSHAL _____ /DATE _____

STREETS _____ /DATE _____

PLANNING ___R___ /DATE 07/09/2026

CITY SURVEYOR _____ /DATE _____

VICINITY MAP



SHEET INDEX

C1 COVER SHEET
C2 SITE PLAN
C3 DEMOLITION PLAN
C4 UTILITY PLAN
C5 GRADING & DRAINAGE PLAN
C6 STORM WATER POLLUTION PREVENTION PLAN
C7 BMP DETAILS
C8 SITE DETAILS
C9 SITE DETAILS
C10 SITE DETAILS
C11 SITE DETAILS
C12 SITE DETAILS
C13 LONG TERM STORM WATER BMP SITE MAP

OREM CITY STANDARD NOTES:

1. THE FIRE PROTECTION ITEMS (FIRE HYDRANTS, WATER MAINS, ACCESS ROADS, ETC.) SHOWN ON THIS SITE PLAN ARE PRELIMINARY ONLY. DETAILED FIRE PROTECTION PLANS SHALL BE SUBMITTED WITH THE BUILDING PLANS. PLAN REVIEWS BY THE CITY OF OREM FIRE PREVENTION BUREAU SHALL BE COMPLETED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT. THE PLAN REVIEWS BY THE CITY OF OREM FIRE PREVENTION BUREAU MAY IDENTIFY ADDITIONAL FIRE PROTECTION REQUIREMENTS MANDATED BY THE INTERNATIONAL FIRE CODE. FIRE HYDRANT FOOT VALVES SHALL BE INSTALLED AT THE CONNECTION POINT WITH THE MAIN WATER LINES.

2. ALL LANDSCAPED AREAS SHALL HAVE AN AUTOMATIC, UNDERGROUND SPRINKLING SYSTEM WITH A BACK-FLOW DEVICE TO THE BUILDING. BACK-FLOW DEVICES SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH SECTION 21-1-14 OF THE OREM CITY CODE. WATER METER SIZES SHALL BE DETERMINED BY THE CITY OF OREM BUILDING DIVISION AT THE TIME OF BUILDING PERMIT APPROVAL OR WHEN THERE IS A REQUEST TO CHANGE THE WATER METER SIZE. WATER METERS SHALL BE LOCATED AT THE BACK OF SIDEWALK OR CURB IN AN AREA THAT IS ACCESSIBLE FOR READING AND SERVICING. WATER METERS SHALL NOT BE LOCATED WITHIN AREAS ENCLOSED WITH FENCES OR WITHIN TEN FEET (10') OF ANY EXISTING OR PROPOSED STRUCTURES.

3. IF REQUIRED BY CHAPTER 20 OF THE OREM CITY CODE OR BY THE APPLICANT'S PERMIT FOR INDUSTRIAL WASTEWATER DISCHARGE, A SAMPLING MANHOLE AND FAT AND OIL SEPARATOR/GREASE TRAP SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF OREM STANDARDS AND SPECIFICATIONS.

4. ALL SIGNAGE SHALL COMPLY WITH THE REQUIREMENTS OF THE OREM CITY CODE.

5. ALL UTILITIES, INCLUDING WATER AND SEWER LATERALS, SWATER AND SEWER MAINS, STORM WATER DRAINS, STORM WATER SUMPS, SEWER MANHOLES WATER VALVES, ETC., WATER LATERALS SHALL NOT BE LOCATED UNDER COVERED PARKING AREAS, AND SHALL BE INSTALLED ACCORDING TO CHAPTER 21 OF THE OREM CITY CODE..

6. ALL DRAINAGE FROM ROOFTOP AND DUMPSTER AREAS ARE REQUIRED TO DRAIN TO VEGETATED LANDSCAPE AREAS UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

7. AT THE TIME OF CONSTRUCTION, THE CITY OF OREM MAY DETERMINE BASED ON PROFESSIONAL EXPERIENCE AND JUDGMENT AND AT ITS SOLE DISCRETION THE NEED FOR THE OWNER/Applicant/Owner/developer TO PAY FOR, REMOVE, AND REPLACE ANY EXISTING SUBSTANDARD IMPROVEMENTS SUCH AS CURBS, GUTTERS, SIDEWALKS, DRIVE APPROACHES, DRIVEWAYS, DECORATIVE CONCRETE, WHEELCHAIR RAMPS, ETC. OR ANY UNUSED DRIVE APPROACHES.

8. ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF OREM CONSTRUCTION STANDARDS AND SPECIFICATIONS UNLESS THE IMPROVEMENT IS WITHIN THE UDOT RIGHT-OF-WAY, IN WHICH CASE THE CONSTRUCTION SHALL CONFORM TO UDOT CONSTRUCTION STANDARDS AND SPECIFICATIONS.

9. ALL DAMAGE TO CITY OWNED ROADS ARE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR. EACH CUT IN THE ROADWAY (INCLUDING CORES) IS SUBJECT TO ROAD CUT FEES. INSTALL ASPHALT ACCORDING TO THE CITY STANDARD DETAILS.

10. ALL DAMAGE TO CITY OWNED SIDEWALKS/CONCRETE (LIFTING, CRACKING, CORES, ETC.) ARE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE. ANY CONCRETE REPAIR IN LIEU OF REPLACEMENT MUST BE APPROVED BY THE CITY. INSTALL CONCRETE ACCORDING TO THE CITY STANDARD DETAILS (SEE DETAILS RW-1 THROUGH RW-13, AND RW-18).

NOTES TO CONTRACTOR

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING CURB & GUTTER, STORM DRAIN, & SEWER ELEVATIONS OR INVERTS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER WHEN ELEVATIONS OR INVERTS DO NOT MATCH PLANS.
2. THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS SHOWN IN APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE AND ALL UNDERGROUND UTILITIES, WHETHER OR NOT SUCH FACILITIES ARE SHOWN ON THESE PLANS.

REGISTERED PROFESSIONAL ENGINEER
No. 270393
DAVID W. PETERSON
STATE OF UTAH

811 Know what's below. Call before you dig.

LAND SURVEYOR: AZTEC ENGINEERING INC.
732 N. 780 W.
AMERICAN FORK, UT. 84003
AZTECENGINEERING@GMAIL.COM

BENCH MARK

WEST QUARTER CORNER, SECTION 11, TOWNSHIP 6 SOUTH, RANGE 2 EAST, SALT LAKE BASE AND MERIDIAN
ELEVATION = 4785.92
FOUND BRASS CAP

REVISIONS

Rev.	Date	Description
1	06/10/26	REVISED PER CITY REVIEW #1

Applicant/Owner/developer: Jeremy Call
111 West 2070 South, Orem, Ut 84058
208-757-1631

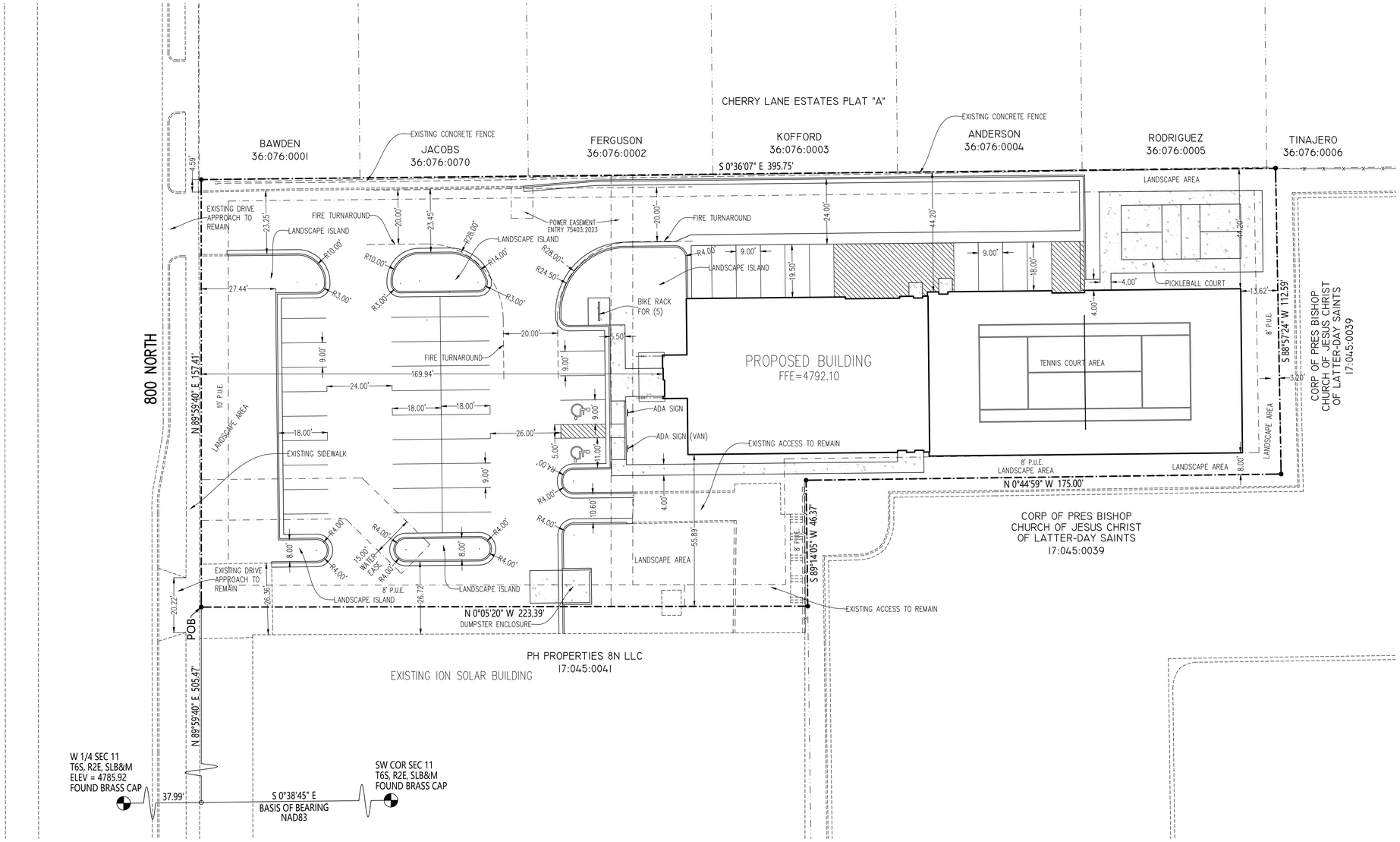
EXCEL ENGINEERING
David W. Peterson, P.E., License #270393
12 West 100 North, Suite 201C, American Fork, UT 84003
P: (801) 756-4504; david@excelcivil.com

PH TENNIS CENTER
OREM 92 EAST 800 NORTH UTAH

Drawn by: D.W.P.
Designed by: D.W.P.
Checked by: D.W.P.

COVER SHEET

Scale: NTS
Date: 03/24/26
C1



GENERAL NOTES:

1. ZONE: C2
2. ALL SITE LIGHTING WILL BE BY WALL-PACK LIGHTS MOUNTED TO THE BUILDING. WALL PACKS ARE TO BE HOODED FOR DOWN-DIRECTED LIGHT. NO OTHER LIGHTING IS PROPOSED.
3. NO FENCING IS PROPOSED FOR THIS PROJECT.
4. NO MONUMENT SIGN IS PROPOSED.
5. FIRE SPRINKLING WILL BE PROVIDED FOR THE BUILDINGS.
6. 1 PARKING STALL/250 S.F. OF OFFICE AREA = 6,250 S.F./250 S.F. = 24 STALLS.

   TENNIS COURT REQUIRED = 4 STALLS.

   PARKING REQUIRED = 28 STALLS (INCLUDES 2 ADA).

   PARKING STALLS PROVIDED = 45 STALLS (INCLUDES 2 ADA)

   BIKE SPACES REQUIRED/PROVIDED = 5 SPACES
7. PARKING LOT PAVEMENT SECTION:
   3" ASPHALT OVER 8" AGGREGATE BASE COURSE OVER PROPERLY PROPERLY PREPARED NATURAL SOILS OR STABILIZED SUBGRADE SOILS.
8. NO DRIVEWAY OR DRIVE ACCESS MAY BE LOCATED WITHIN 25' OF AN EXISTING FENCE WHICH IS GREATER THAN 3' IN HEIGHT.
9. BUILDING INFO:
   CONSTRUCTION TYPE: VB,
   OCCUPANCY: B, A-3
10. MECHANICAL EQUIPMENT WILL BE SCREENED ON THE ROOF.

LEGAL DESCRIPTION

Beginning at a point located South 0°38'45" East along section line 37.99 feet and North 89°59'40" East 505.47 feet from the West Quarter Corner of Section 11, Township 6 South, Range 2 East, Salt Lake Base and Meridian; thence North 89°59'40" East along the southerly right-of-way line of 800 North Street a distance of 157.41 feet; thence South 0°36'07" East along the westerly boundary of Plat "A" of the Cherry Lane Estates subdivision a distance of 395.75 feet; thence along a boundary line agreement recorded as Entry 56236:2002 the following three courses and distances: 1) South 88°57'24" West 112.59 feet, 2) North 0°44'59" West 175.00 feet, and 3) South 89°14'05" West 46.37 feet; thence North 0°05'20" West 223.39 feet to the point of beginning.

Area = 1.261 Acres, Contains 1 Lot.

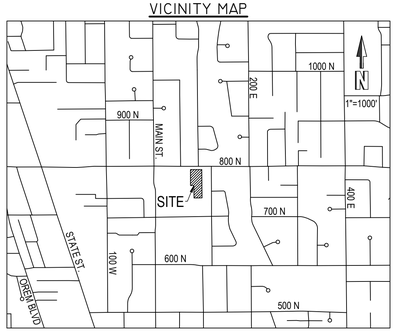
TABULATIONS:

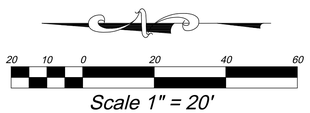
	SQUARE FOOTAGE	ACREAGE	PERCENT
TOTAL PROPERTY AREA:	54,930	1.260	100
TOTAL BUILDING MAIN FLOOR AREA	12,217	0.280	22.2
TOTAL IMPERVIOUS AREA:	31,024	0.712	56.5
TOTAL LANDSCAPED AREA:	11,689	0.268	21.3
STANDARD PARKING SPACES REQUIRED:	28	--	--
STANDARD PARKING SPACES PROVIDED:	45	--	--
ADA STALLS REQUIRED:	2	--	--
ADA STALLS PROVIDED:	2	--	--

LEGEND

CONCRETE

VICINITY MAP





Know what's below. Call before you dig.

BENCH MARK	REVISIONS		
WEST QUARTER CORNER, SECTION 11, TOWNSHIP 6 SOUTH, RANGE 2 EAST, SALT LAKE BASE AND MERIDIAN ELEVATION = 4785.92 FOUND BRASS CAP	Rev.	Date	Description
	1	06/10/26	REVISED PER CITY REVIEW #1

Applicant/Owner/developer: Jeremy Call
111 West 2070 South, Orem, Ut 84058
208-757-1631

EXCEL ENGINEERING
David W. Peterson, P.E., License #270393
12 West 100 North, Suite 201C, American Fork, UT 84003
P: (801) 756-4504; david@excelcivil.com

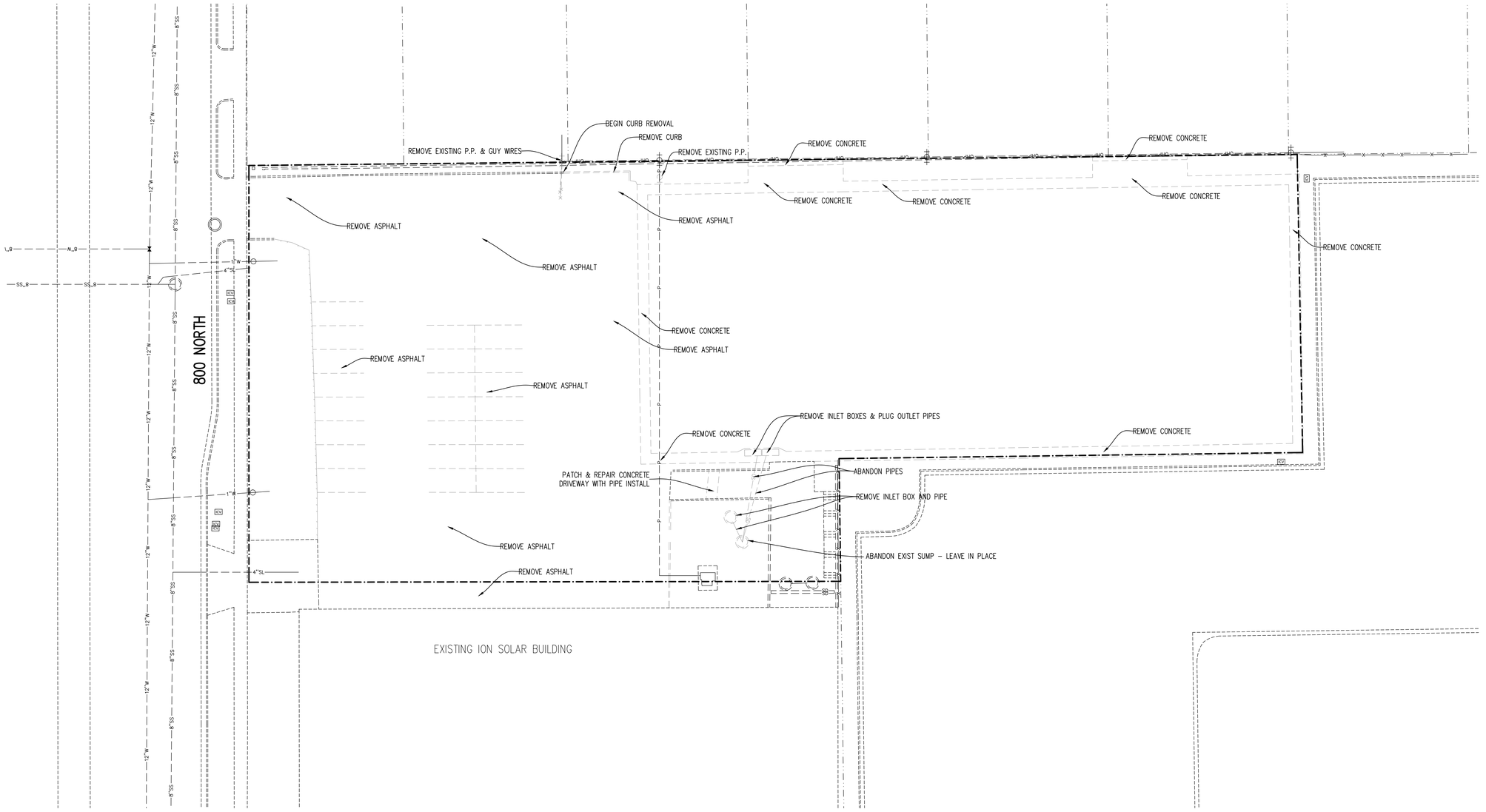
REGISTERED PROFESSIONAL ENGINEER No. 270393 DAVID W. PETERSON STATE OF UTAH

PH TENNIS CENTER

OREM 92 EAST 800 NORTH UTAH

Drawn by: D.W.P.	Scale: 1"=20'
Designed by: D.W.P.	Date: 03/24/26
Checked by: D.W.P.	C2

SITE PLAN



20 10 0 20 40 60

Scale 1" = 20'

NOTES TO CONTRACTOR

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING CURB & GUTTER, STORM DRAIN, & SEWER ELEVATIONS OR INVERTS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER WHEN ELEVATIONS OR INVERTS DO NOT MATCH PLANS.
2. THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS SHOWN IN APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE AND ALL UNDERGROUND UTILITIES, WHETHER OR NOT SUCH FACILITIES ARE SHOWN ON THESE PLANS.

REGISTERED PROFESSIONAL ENGINEER
7/2/26
No. 270393
DAVID W. PETERSON
STATE OF UTAH

BENCH MARK

WEST QUARTER CORNER, SECTION 11, TOWNSHIP 6 SOUTH, RANGE 2 EAST, SALT LAKE BASE AND MERIDIAN
ELEVATION = 4785.92
FOUND BRASS CAP

REVISIONS

Rev.	Date	Description
1	06/10/26	REVISED PER CITY REVIEW #1

Applicant/Owner/developer: Jeremy Call
111 West 2070 South, Orem, Ut 84058
208-757-1631

EXCEL ENGINEERING
David W. Peterson, P.E., License #270393
12 West 100 North, Suite 201C, American Fork, UT 84003
P: (801) 756-4504; david@excelcivil.com

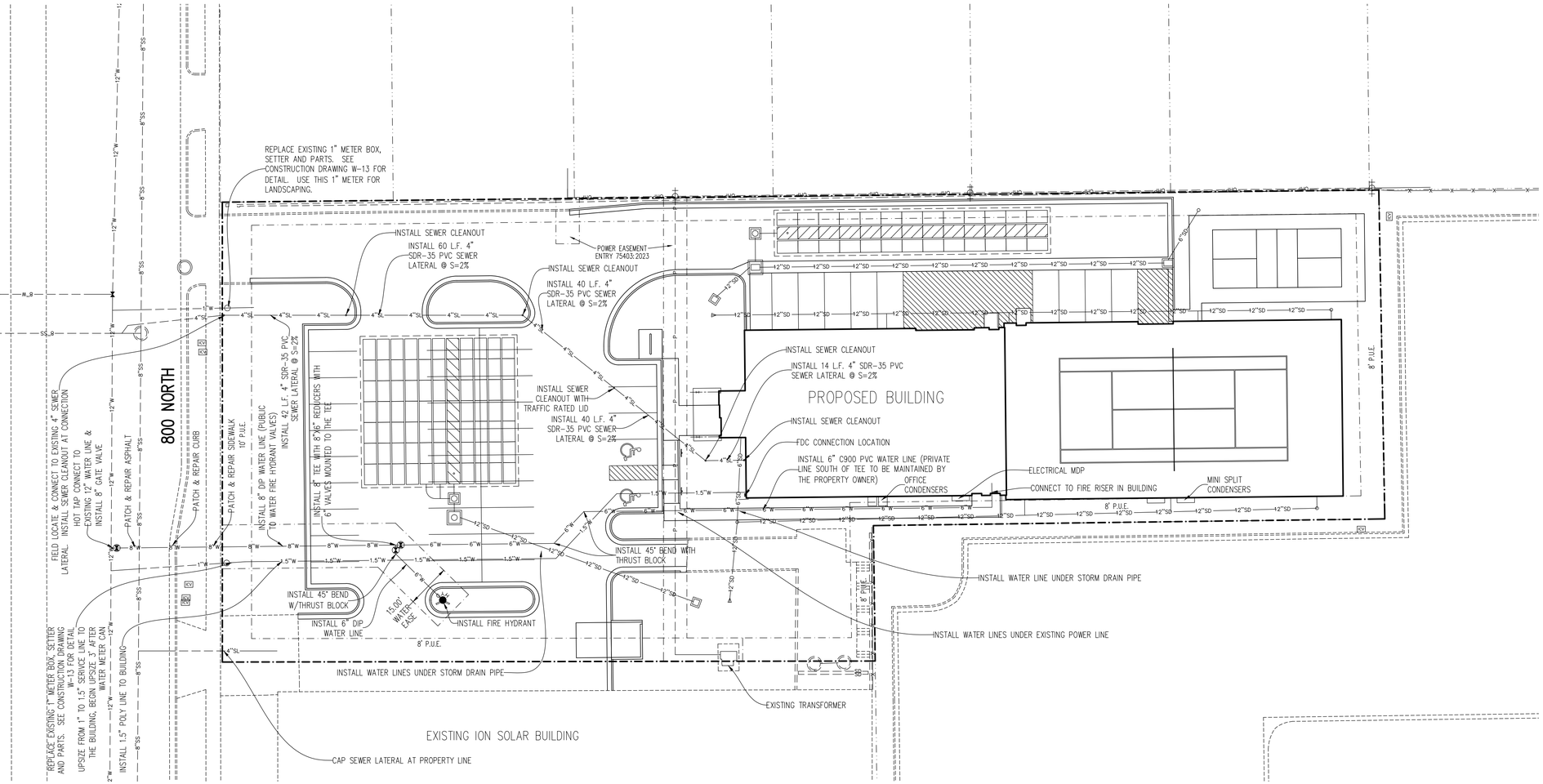
PH TENNIS CENTER

OREM — 92 EAST 800 NORTH — UTAH

Drawn by: D.W.P.
Designed by: D.W.P.
Checked by: D.W.P.

DEMOLITION PLAN

Scale: 1"=20'
Date: 03/24/26
C3



UTILITY NOTE

1. 3' OF HORIZONTAL SEPARATION AND 1' OF VERTICAL SEPARATION MUST BE MAINTAINED FROM CITY UTILITIES.
2. WHEN TRENCHLESS UTILITY INSTALLATION METHODS ARE EMPLOYED, ALL EXISTING UTILITIES ARE TO BE POTHOLED AND EXPOSED FOR VISUAL INSPECTION PRIOR TO AND DURING THE INSTALLATION PROCESS.
3. ALL UTILITIES SHALL NOT BE LOCATED UNDER COVERED PARKING AREAS AND SHALL BE INSTALLED ACCORDING TO CHAPTER 21-4-6 OF THE OREM CITY CODE.

PEAK WATER & SEWER DEMAND

THE ESTIMATED PEAK WATER DEMAND ON THE CITY WATER SYSTEM AND THE PEAK SEWER FLOW TO BE TREATED:

200 GALLONS PER DAY

NOTES TO CONTRACTOR

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING CURB & GUTTER, STORM DRAIN, & SEWER ELEVATIONS OR INVERTS PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER WHEN ELEVATIONS OR INVERTS DO NOT MATCH PLANS.
2. THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS SHOWN IN APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE AND ALL UNDERGROUND UTILITIES, WHETHER OR NOT SUCH FACILITIES ARE SHOWN ON THESE PLANS.
3. 1200 NORTH IS UNDER CONTRACT TO BE RECONSTUCTED BY KILGORE. ALL UTILITIES WILL NEED TO BE COMPLETED BEFORE THE RECONSTRUCT. THEY WILL BE STARTING IN MID TO END OF MAY.

SEWER PRETREATMENT NOTE:

THERE WILL BE NO FLOOR DRAINS IN THESE UNITS SO NO SEWER PRETREATMENT IS REQUIRED.

STORM DRAIN DESIGN

SEE GRADING PLAN FOR STORM DRAIN DESIGN.

UTILITY LEGEND

- FIRE HYDRANT
- CULINARY WATER VALVE
- 8"W — CULINARY WATER
- 8"SS — SEWER PIPE PVC SDR-35
- 15"SD — STORM DRAIN PIPE ADS
- EDGE OF ASPHALT
- X — X — EXIST FENCE
- O — O — NEW FENCE
- OVERHEAD POWER LINE
- P — BURIED POWER LINE
- TV — TELEVISION LINE
- TEL — TELEPHONE LINE
- G — GAS LINE

OFF-SITE FIRE HYDRANT LOCATIONS

THERE IS AN EXISTING FIRE HYDRANT 160 FEET TO THE EAST OF THE NORTHEAST CORNER OF THE SITE.

THERE IS AN EXISTING FIRE HYDRANT 208 FEET TO THE WEST OF THE NORTHWEST CORNER OF THE SITE.

POWER EASEMENT NOTES

THERE ARE EXISTING POWER EASEMENTS THAT ENCROACH ON THE PROPOSED DRIVE AISLES AND THE PROPOSED BUILDING FOOTPRINT. THE POWER COMPANY HAS BEEN CONTACTED TO RELOCATE THESE EASEMENTS. THE NEW EASEMENTS WILL BE ADDED TO THE PLANS ONCE CORDINATION HAS BEEN MADE WITH THE POWER COMPANY.

20 10 0 20 40 60

Scale 1" = 20'

Know what's below. Call before you dig.

REGISTERED PROFESSIONAL ENGINEER No. 270393 DAVID W. PETERSON STATE OF UTAH 7/1/26

BENCH MARK	REVISIONS		
	Rev.	Date	Description
WEST QUARTER CORNER, SECTION 11, TOWNSHIP 6 SOUTH, RANGE 2 EAST, SALT LAKE BASE AND MERIDIAN ELEVATION = 4785.92 FOUND BRASS CAP	1	06/10/26	REVISED PER CITY REVIEW #1
	2	07/02/26	REVISED PER CITY REVIEW #2

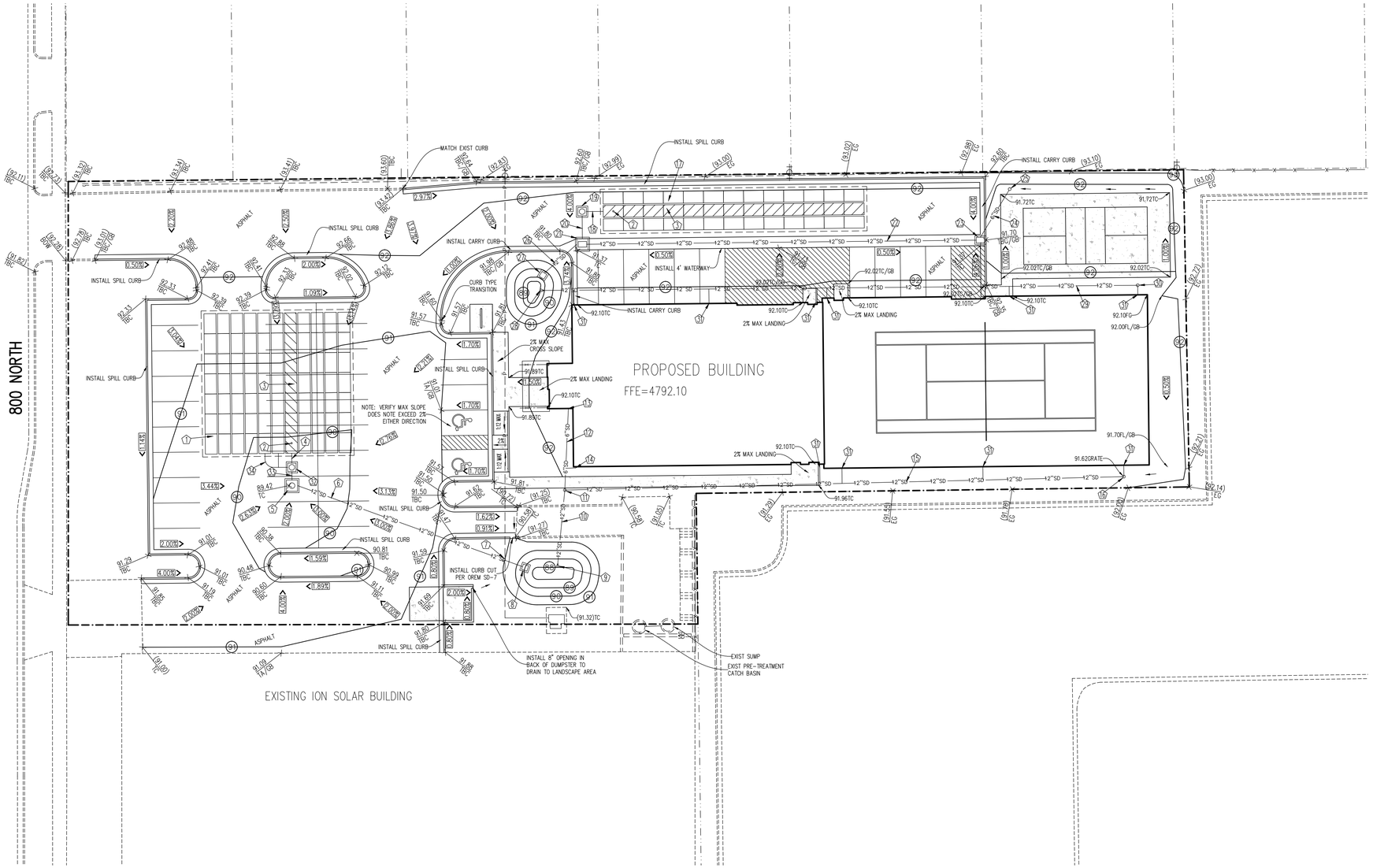
Applicant/Owner/developer: Jeremy Call
111 West 2070 South, Orem, Ut 84058
208-757-1631

EXCEL ENGINEERING
David W. Peterson, P.E., License #270393
12 West 100 North, Suite 201C, American Fork, UT 84003
P: (801) 756-4504; david@excelcivil.com

PH TENNIS CENTER

OREM — 92 EAST 800 NORTH — UTAH

Drawn by:	Designed by:	Checked by:	UTILITY PLAN	Scale:	Date:	
D.W.P.	D.W.P.	D.W.P.		1"=20'	03/24/26	C4



PAVEMENT SECTION

PARKING LOT PAVEMENT SECTION: 3" ASPHALT OVER 8" ROADCOURSE
OVER PROPERLY PREPARED FILLS AND NATURAL SUBGRADE SOILS, AND/OR STRUTURAL SITE GRADING FILL EXTENDING TO PROPERLY PREPARED AND STABILIZED NATURAL SUBGRADE SOILS.

FOLLOW ALL RECOMMENDATIONS CONTAINED IN GEOTECHNICAL STUDY PREPARED BY GSH GEOTECHNICAL DATED MARCH 2, 2026.

GRADING LEGEND

FFE	FINISHED FLOOR ELEV.
BOW	BACK OF WALK
GB	GRADE BREAK
TC	TOP OF CONCRETE
TBC	TOP BACK OF CURB
TA	TOP OF ASPHALT
EA	EDGE OF ASPHALT
RIM	RIM ELEVATION
FL	FLOWLINE
EG	EXIST GROUND
FG	FINISHED GRADE
TW	TOP OF WALL
BW	BOTTOM OF WALL
SD	STORM DRAIN
RD	ROOF DRAIN
0.00%	DIRECTION OF DRAINAGE
(00.00)	EXISTING ELEVATION
00.00 TBC	PROPOSED ELEVATION
4808	EXISTING CONTOUR
00	PROPOSED CONTOUR
00	STORM DRAIN KEYED NOTE

STORM DRAIN KEYED NOTES:

1. INSTALL STORMTECH CHAMBER SYSTEM WITH (77) SC-800 CHAMBERS WITH 6" STONE ABOVE AND 7" STONE BELOW. SYSTEM CAPACITY IS 6,676 CF. TOP STONE=4787.50, TOP CHAMBER=4787.00, 15" IE IN=4784.40, BOTTOM CHAMBER=4784.25, BOTTOM STONE=4783.67. INSTALL PER MANUFACTURER STANDARDS AND SPECIFICATIONS.
2. INSTALL INSPECTION PORT
3. INSTALL ISOLATER ROW
4. INSTALL 4 L.F. 15" ADS N-12 @ S=2%
5. INSTALL 4'X4' INLET BOX WITH 2' DIA. GRATED LID, GRATE=4789.42, 12" IE IN=4784.54, 15" IE OUT=4784.54, BOTTOM BOX=4781.42, INSTALL SNOUT TYPE 18F OVER 15" OUTLET PIPE.
6. INSTALL 85 L.F. 12" ADS N-12 @ S=0.5%
7. CROSSING. APPROXIMATE POWER LINE CONDUIT DEPTH=4787.50, FL 12" ADS=4785.94, CLEARANCE=1.56', FIELD LOCATE AND VERIFY PRIOR TO INSTALLING STORM DRAIN SYSTEM.
8. INSTALL 2'X2' OVERFLOW BOX, GRATE=4789.50, 12" IE OUT=4784.97
9. INSTALL 12" FLARED END SECTION, 12" FLOWLINE=4788.00
10. INSTALL 28 L.F. 12" ADS N-12 @ S=0.5%
11. INSTALL 15" NYLOPLAST DRAIN BASIN WITH SOLID LID, RIM=4791.96, 6" IE IN=4788.14, 12" IE THRU=4788.14
12. INSTALL 29 L.F. 6" ADS @ S=1%
13. CONNECT TO DOWNSPOUT AT BUILDING, FL 6" PIPE OUT=4788.43
14. CONNECT TO DOWNSPOUT AT BUILDING. INSTALL 4 L.F. 6" ADS PIPE AND CONNECT TO 6" PIPE WITH ADS FITTING OR INSERTA-TEE.
15. INSTALL 199 L.F. 12" ADS N-12 @ S=0.5%
16. INSTALL 15" NYLOPLAST DRAIN BASIN WITH BLACK DOMED GRATE, BASE OF GRATE=4791.62, 6" IE IN=4789.14, 12" IE OUT=4789.14
17. INSTALL STORMTECH CHAMBER SYSTEM WITH (39) SC-800 CHAMBERS WITH 6" STONE ABOVE AND 6" STONE BELOW. SYSTEM CAPACITY IS 3,431 CF. TOP STONE=4789.50, TOP CHAMBER=4789.00, 15" IE IN=4786.42, BOTTOM CHAMBER=4786.25, BOTTOM STONE=4785.75. INSTALL PER MANUFACTURER STANDARDS AND SPECIFICATIONS.
18. INSTALL 6 L.F. 15" ADS N-12 @ S=2%
19. INSTALL 3'X3' CONCRETE BOX WITH 2' DIA. SOLID LID, RIM=4791.72, 12" IE IN=4786.54, 15" IE OUT=4786.54
20. INSTALL 8 L.F. 12" ADS N-12 @ S=2%
21. INSTALL 4'X4' INLET BOX WITH 2'X3' INLET GRATE, GRATE=4791.20, 12" IE THRU=4786.70, BOTTOM BOX=4783.20, INSTALL SNOUT TYPE 18F OVER 12" OUTLET PIPE.
22. INSTALL 138 L.F. 12" ADS N-12 @ S=1%
23. INSTALL 2'X3' CATCH BASIN WITH GRATE, GRATE=4791.20, 6" IE IN=4788.50, 12" IE OUT=4788.08
24. INSTALL 20 L.F. 6" ADS @ S=2%
25. INSTALL 12" NYLOPLAST DRAIN BASIN WITH BLACK DOMED GRATE, BASE OF GRATE=4791.50, 6" IE OUT=4788.90
26. INSTALL 15 L.F. 12" ADS N-12 @ S=2%
27. INSTALL 2'X2' OVERFLOW BOX, GRATE=4790.00, 12" IE OUT=4787.00
28. INSTALL 12" FLARED END SECTION, 12" FLOWLINE=4788.50
29. INSTALL 212 L.F. 12" ADS N-12 @ S=0.5%
30. INSTALL 15" NYLOPLAST DRAIN BASIN WITH SOLID LID, RIM=4792.04, 12" IE OUT=4789.56
31. CONNECT TO DOWNSPOUT AT BUILDING, INSTALL 6" PIPE AT 1% MINIMUM TO CONNECT TO NYLOPLAST DRAIN BASIN OR TO CONNECT TO 12" PIPE WITH INSERTA-TEE.
32. INSTALL 3'X3' CONCRETE BOX WITH 2' DIA. SOLID LID, RIM=4789.58, 12" OVERFLOW PIPE OUT TO OVERFLOW MANIFOLD=4785.48, 15" IE THRU=4784.48
33. INSTALL 3 L.F. 15" ADS N-12 @ S=2%
34. INSTALL 12" OVERFLOW ADS MANIFOLD AND CONNECT TO CHAMBERS

ROOF DRAIN NOTES

1. THE PROPOSED ROOF MATERIAL IS METAL.
2. THE ROOF DRAIN DISCHARGE INTO VEGETATION AREAS AND THE DUMPSTER DRAINING TO VEGETATION IS SHOWN ON THIS PLAN.

20 10 0 20 40 60

Scale 1" = 20'

REGISTERED PROFESSIONAL ENGINEER
No. 270393
DAVID W. PETERSON
STATE OF UTAH

BENCH MARK

WEST QUARTER CORNER, SECTION 11, TOWNSHIP 6 SOUTH, RANGE 2 EAST, SALT LAKE BASE AND MERIDIAN
ELEVATION = 4785.92
FOUND BRASS CAP

REVISIONS

Rev.	Date	Description
1	06/10/26	REVISED PER CITY REVIEW #1
2	07/02/26	REVISED PER CITY REVIEW #2

Applicant/Owner/developer: Jeremy Call
111 West 2070 South, Orem, Ut 84058
208-757-1631

EXCEL ENGINEERING
David W. Peterson, P.E., License #270393
12 West 100 North, Suite 201C, American Fork, UT 84003
P: (801) 756-4504; david@excelcivil.com

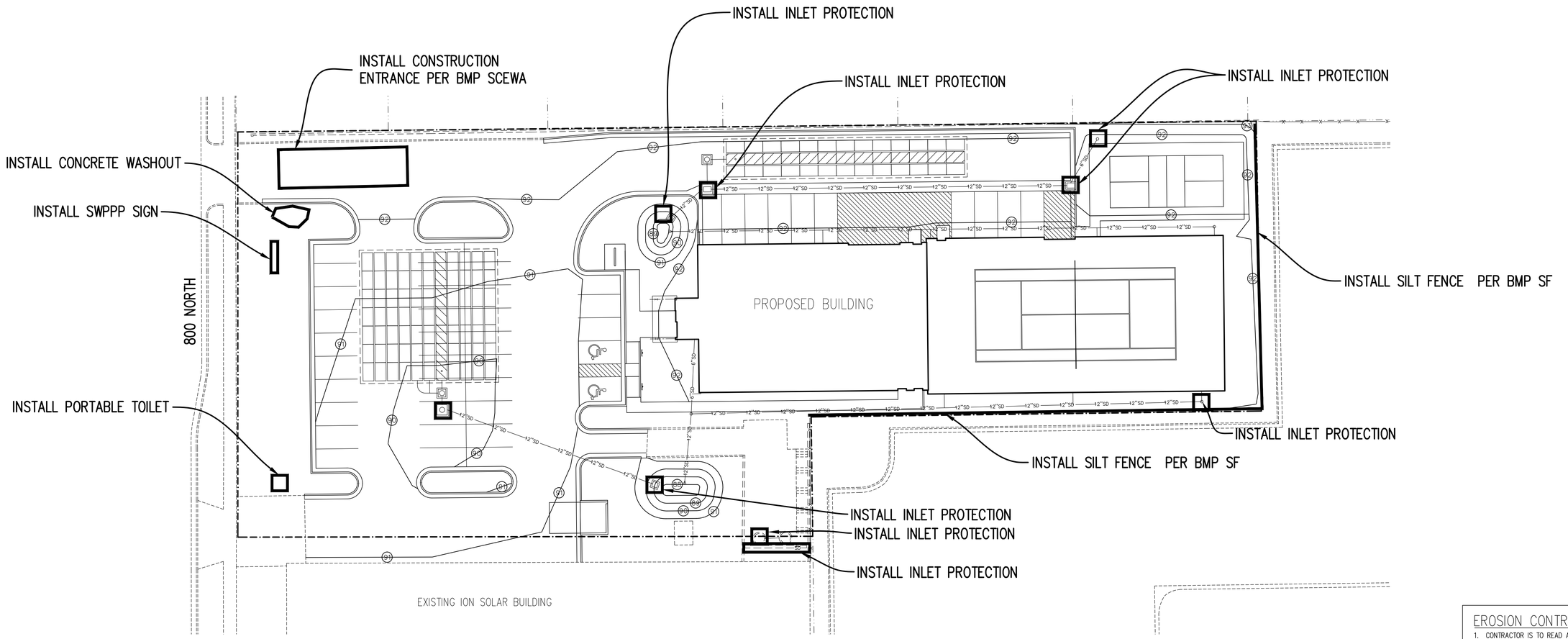
PH TENNIS CENTER

OREM | 92 EAST 800 NORTH | UTAH

Drawn by: D.W.P.
Designed by: D.W.P.
Checked by: D.W.P.

GRADING & DRAINAGE PLAN

Scale: 1"=20'
Date: 03/24/26
C5



20 10 0 20 40 60

Scale 1" = 20'

SWPPP TEMPLATE & NOI NOTE:

COMPLETE CONSTRUCTION STORM WATER POLLUTION PREVENTION PLAN AND STATE NOI WILL BE DEFERRED UNITL A CONTRACTOR FOR THIS PROJECT HAS BEEN SELECTED. ONCE THE CONTRACTOR HAS BEEN SELECTED, A COPY OF THE EROSION CONTROL PLAN SHEET, SWPPP, AND NOI WILL BE SENT TO RYAN CASPER: RCASPER@OREM.GOV 801-229-7573.

EROSION CONTROL PLAN NOTES:

1. CONTRACTOR IS TO READ AND UNDERSTAND ALL BMP PRACTICES PRIOR TO ANY CONSTRUCTION ON THIS SITE. CONTRACTOR IS TO FOLLOW ALL BMP PRACTICES CONTAINED IN THESE PLANS.
2. THE MAJORITY OF THIS LOT WILL BE DISTURBED, REGRADED, AND RECONSTRUCTED AS SHOWN IN THIS PLAN SET. TOTAL AREA DISTURBED IS 1.26 ACRES.
3. A SILT FENCE IS TO BE CONSTRUCTED AS SHOWN ON PLANS. SEE BMP SF.
4. INSTALL INLET PROTECTION ON PROPOSED INLETS. SEE BMP IPG OR FILTER FABRIC UNDER GRATES.
5. INSTALL CONSTRUCTION ENTRANCE AS SHOWN ON PLAN. SEE BMP SCEWA.
6. SITE IS TO BE WATERED AT LEAST ONCE A WEEK OR MORE AS REQUIRED TO CONTROL DUST.
7. ACCESS TO THE PROPERTY DURING CONSTRUCTION IS LIMITED TO THE ONE ACCESS SHOWN ON THE PLANS AS THE CONSTRUCTION ENTRANCE.
8. THE OWNER WILL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THE PLAN – JEREMY CALL AT PHONE: 208-757-1631
9. BMP DETAILS ARE LOCATED ON SHEET C7
10. A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) TEMPLATE MUST BE SUBMITTED TO OREM CITY ON OR BEFORE PRE-CONSTRUCTION.

REGISTERED PROFESSIONAL ENGINEER
No. 270393
DAVID W. PETERSON
STATE OF UTAH

BENCH MARK

WEST QUARTER CORNER, SECTION 11, TOWNSHIP 6 SOUTH, RANGE 2 EAST, SALT LAKE BASE AND MERIDIAN
ELEVATION = 4785.92
FOUND BRASS CAP

REVISIONS

Rev.	Date	Description
1	06/10/26	REVISED PER CITY REVIEW #1

Applicant/Owner/developer: Jeremy Call
111 West 2070 South, Orem, Ut 84058
208-757-1631

EXCEL ENGINEERING
David W. Peterson, P.E., License #270393
12 West 100 North, Suite 201C, American Fork, UT 84003
P: (801) 756-4504; david@excelcivil.com

PH TENNIS CENTER

OREM | 92 EAST 800 NORTH | UTAH

Drawn by: D.W.P.
Designed by: D.W.P.
Checked by: D.W.P.

STORM WATER POLLUTION PREVENTION PLAN

Scale: 1"=20'
Date: 03/24/26
C6

BMP: BMP Inspection and Maintenance — BMPIM



Applications
- ☐ Manufacturing
- ☒ Material Handling
- ☒ Vehicle Maintenance
- ☐ Construction
- ☐ Commercial Activities
- ☐ Roadways
- ☒ Waste Containment
- ☒ Housekeeping Practices

Description:
Inspect and maintain all structural BMP's (both existing and new) on a routine basis to remove pollutants from entering storm drain inlets. This includes the establishment of a schedule for inspections and maintenance.

Approach:
Regular maintenance of all structural BMP's is necessary to ensure their proper functionality.
- Annual inspections.
- Prioritize maintenance to clean, maintain, and repair or replace structures in areas beginning with the highest pollutant loading.
- Clean structural BMP's in high pollutant areas just before the wet season to remove sediments and debris accumulated during the summer and fall.
- Keep accurate logs of what structures were maintained and when they were maintained.
- Record the amount of waste collected.

Limitations:
- Availability of trained staff

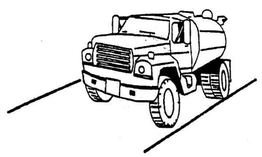
Targeted Pollutants
- ■ Sediment
- ■ Nutrients
- ☐ Heavy Metals
- ■ Toxic Materials
- ☐ Oxygen Demanding Substances
- ■ Oil & Grease
- ■ Floatable Materials
- ☐ Bacteria & Viruses

- ■ High Impact
- ☒ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- ■ Capital Costs
- ■ O&M Costs
- ☒ Maintenance
- ☒ Staffing
- ☐ Training
- ☐ Administrative

■ High ☒ Medium ☐ Low

BMP: Dust Controls — DC



Description:
Dust control measures are used to stabilize soil from wind erosion, and reduce dust by construction activities.

Application:
Dust control is useful in any process area, loading and unloading area, material handling areas, and transfer areas where dust is generated. Street sweeping is limited to areas that are paved.

Installation/Application Criteria:
- Two kinds of street sweepers are common; brush and vacuum. Vacuum sweepers are more efficient and work best when the area is dry.
- Mechanical equipment should be operated according to the manufacturers' recommendations and should be inspected regularly.
- Water may be sprayed on the ground surface to moisten dry soils, making it less susceptible to wind erosion.

Limitations:
- Street sweeping is labor and equipment intensive and may not be effective for all pollutants.
- Water sprayed from water trucks must be done at a rate such that the water is absorbed in the soil; if excessive amounts of water are used, it may run off, carrying soil with it.

Maintenance:
If excess water results from water spraying, dust-contaminated waters should not be allowed to run off site. Areas may need to be resprayed to keep dust from spreading.

Objectives
- ☒ Housekeeping Practices
- ☐ Contain Waste
- ☒ Minimize Disturbed Areas
- ☒ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☐ Control Site Perimeter
- ☐ Control Internal Erosion

Adapted from Salt Lake County BMP Fact Sheet

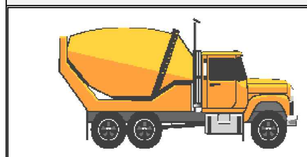
Targeted Pollutants
- ■ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☐ Oil & Grease
- ☐ Floatable Materials
- ☐ Other Waste

- ■ High Impact
- ☒ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- ☒ Capital Costs
- ☐ O&M Costs
- ☒ Maintenance
- ☒ Training

■ High ☒ Medium ☐ Low

BMP: Concrete Waste Management — CWM



Description:
Prevent or reduce the discharge of pollutants to storm water from concrete waste by conducting washout off-site, performing on-site washout in a designated area, and training employees and subcontractors.

Applications:
This technique is applicable to all types of sites.

Installation/Application Criteria:
- Store dry and wet materials under cover, away from drainage areas.
- Avoid mixing excess amounts of fresh concrete or cement on-site.
- Perform washout of concrete trucks off-site or in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped on-site, except in designated areas.
- When washing concrete to remove fine particles and expose the aggregate, avoid creating runoff by draining the water within a bermed or level area. (See Earth Berm Barrier information sheet.)
- Train employees and subcontractors in proper concrete waste management.

Limitations:
- Off-site washout of concrete wastes may not always be possible.

Maintenance:
- Inspect subcontractors to ensure that concrete wastes are being properly managed.
- If using a temporary pit, dispose hardened concrete on a regular basis.

Objectives
- ☐ Housekeeping Practices
- ☒ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☐ Control Site Perimeter
- ☐ Control Internal Erosion

Adapted from Salt Lake County BMP Fact Sheet

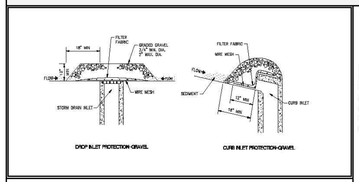
Targeted Pollutants
- ☐ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☐ Oil & Grease
- ☐ Floatable Materials
- ☒ Other Waste

- ■ High Impact
- ☒ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- ☐ Capital Costs
- ☐ O&M Costs
- ☒ Maintenance
- ☒ Training

■ High ☒ Medium ☐ Low

BMP: Inlet Protection - Gravel — IPG



Description:
Placement of gravel filter over inlet to storm drain to filter storm water runoff.

Application:
Construct at inlets in paved or unpaved areas where upgradient area is to be disturbed by construction activities.

Installation/Application Criteria:
- Place wire mesh (with ½ inch openings) over the inlet grate extending one foot past the grate in all directions.
- Place filter fabric over the mesh. Filter fabric should be selected based on soil type.
- Place graded gravel, to a minimum depth of 12-inches, over the filter fabric and extending 18-inches past the grate in all directions.

Limitations:
- Recommended for maximum drainage area of one acre.
- Excess flows may bypass the inlet requiring down gradient controls.
- Ponding will occur at inlet.

Maintenance:
- Inspect inlet protection after every large storm event and at a minimum of once monthly.
- Remove sediment accumulated when it reaches 4-inches in depth.
- Replace filter fabric and clean or replace gravel if clogging is apparent.

Objectives
- ☐ Housekeeping Practices
- ☐ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☒ Control Site Perimeter
- ☒ Control Internal Erosion

Adapted from Salt Lake County BMP Fact Sheet

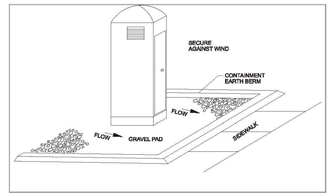
Targeted Pollutants
- ■ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☐ Oil & Grease
- ☐ Floatable Materials
- ☐ Other Waste

- ■ High Impact
- ☒ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- ☒ Capital Costs
- ☐ O&M Costs
- ☒ Maintenance
- ☐ Training

■ High ☒ Medium ☐ Low

BMP: Portable Toilets — PT
Construction



Description:
Temporary on-site sanitary facilities for construction personnel.

Application:
All sites with no permanent sanitary facilities or where permanent facility is too far from activities.

Installation/Application Criteria:
- Locate portable toilets in convenient locations throughout the site.
- Prepare level, gravel surface and provide clear access to the toilets for servicing and for on-site personnel.
- Construct earth berm perimeter (6" tall by 6" wide), control for spill/protection leak.

Limitations:
- No limitations.

Maintenance:
- Portable toilets should be maintained in good working order by licensed service with daily observation for leak detection.
- Regular waste collection should be arranged with licensed service.
- All waste should be deposited in sanitary sewer system for treatment with appropriate agency approval.

BMP: Parking Lot Sweeping/Vacuuming — PLSV



Program Elements
- ☐ New Development
- ☐ Residential
- ☒ Commercial Activities
- ☒ Industrial Activities
- ☒ Municipal Facilities
- ☒ Illegal Discharges

Description:
Reduce the discharges of pollutants to stormwater from parking lot surfaces by conducting parking lot cleaning on a regular basis.

Approach:
- Restrict parking prior to and during sweeping.
- Establish frequency of sweeping based on anticipated need and observations of debris or sediment accumulation
- Increase sweeping frequency just before the rainy season.
- Lots that generate greater amounts of debris or sediment must be swept more frequently. These include lots associated with or adjacent to recreational, commercial, or industrial areas, or other areas of high vehicle or pedestrian traffic.
- Manually remove debris from corners or other areas of the parking lot that equipment cannot reach
- Keep accurate operation logs to track programs.
- Equipment selection can be key for this particular BMP. There are two types used, the mechanical broom sweepers (more effective at picking up large debris and cleaning wet streets), and the vacuum sweepers (more effective at removing fine particles and associated heavy metals). It may be useful to have the ability to use both kinds.

Limitations:
- Conventional sweepers are not able to remove oil and grease.
- Mechanical sweepers are not effective at removing finer sediments.
- Effectiveness may also be limited by parking lot conditions, presence of parked vehicles, presence of construction projects, climatic conditions and condition of curbs.

Maintenance:
- Acquisition and maintenance of equipment is generally handled by the company hired to perform the sweeping/vacuuming.

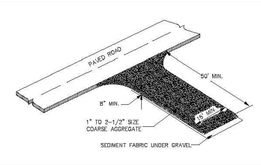
Targeted Pollutants
- ■ Sediment
- ■ Nutrients
- ■ Heavy Metals
- ☒ Toxic Materials
- ■ Oxygen Demanding Substances
- ☐ Oil & Grease
- ☒ Floatable Materials
- ☐ Bacteria & Viruses

- ■ High Impact
- ☒ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- ☐ Capital Costs
- ☒ O&M Costs
- ☐ Regulatory
- ☐ Training
- ☐ Staffing
- ☒ Administrative

■ High ☒ Medium ☐ Low

BMP: Stabilized Construction Entrance and Wash Area — SCEWA



Description:
A stabilized pad of crushed stone located where construction traffic enters or leaves the site from or to paved surface. The area can be used to spray off vehicles before they leave the site.

Applications:
At any point of ingress or egress at a construction site where adjacent traveled way is paved. Generally applies to sites over 2 acres unless special conditions exist.

Installation/Application Criteria:
- Clear and grub area and grade to provide maximum slope of 2%.
- Compact subgrade and place filter fabric if desired (recommended for entrances to remain for more than 3 months).
- Place coarse aggregate, 1 to 2-1/2 inches in size, to a minimum depth of 8 inches.
- Provide water to the area that can be used to spray off vehicles as needed to prevent the tracking of mud off of the construction site. This may not be needed during dry periods of work, but is needed when construction is proceeding under wet conditions.
- Provide berming as needed to prevent sediment laden wash water from entering storm water facilities or other water bodies, or leaving the site.

Limitations:
- Requires periodic top dressing with additional stones.
- Should be used in conjunction with street sweeping on adjacent public right-of-way.
- Must be situated such that waste water does not run off site.

Maintenance:
- Inspect daily for loss of gravel or sediment buildup.
- Inspect adjacent roadway for sediment deposit and clean by shoveling and sweeping.
- Repair entrance and replace gravel as required to maintain control in good working condition.
- Expand stabilized area as required to accommodate traffic and prevent erosion at driveways.

Objectives
- ☒ Housekeeping Practices
- ☐ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☒ Control Site Perimeter
- ☐ Control Internal Erosion

Adapted from Salt Lake County BMP Fact Sheet

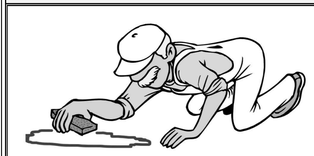
Targeted Pollutants
- ■ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☐ Oil & Grease
- ☐ Floatable Materials
- ☐ Other Waste

- ■ High Impact
- ☒ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- ☒ Capital Costs
- ☒ O&M Costs
- ☒ Maintenance
- ☐ Training

■ High ☒ Medium ☐ Low

BMP: Spill Clean-Up — SCU



Description:
Practices to clean-up leakage/spillage of on-site materials that may be harmful to receiving waters.

Application:
All sites

General:
- Store controlled materials within a storage area.
- Educate personnel on prevention and clean-up techniques.
- Designate an Emergency Coordinator responsible for employing preventative practices and for providing spill response.
- Maintain a supply of clean-up equipment on-site and post a list of local response agencies with phone numbers.

Methods:
- Clean-up spills/leaks immediately and remediate cause.
- Use as little water as possible. NEVER HOSE DOWN OR BURY SPILL CONTAMINATED MATERIAL.
- Use rags or absorbent material for clean-up. Excavate contaminated soils. Dispose of clean-up material and soil as hazardous waste.
- Document all spills with date, location, substance, volume, actions taken and other pertinent data.
- Contact local Fire Department and State Division of Environmental Response and Remediation (Phone #801-536-4100) for any spill of reportable quantity.

Objectives
- ☒ Housekeeping Practices
- ☒ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☐ Control Site Perimeter
- ☐ Control Internal Erosion

Adapted from Salt Lake County BMP Fact Sheet

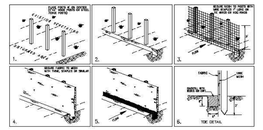
Targeted Pollutants
- ☐ Sediment
- ☐ Nutrients
- ■ Toxic Materials
- ☒ Oil & Grease
- ☐ Floatable Materials
- ☐ Other Waste

- ■ High Impact
- ☒ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- ☒ Capital Costs
- ☐ O&M Costs
- ☐ Maintenance
- ■ Training

■ High ☒ Medium ☐ Low

BMP: Silt Fence — SF



Description:
A temporary sediment barrier consisting of entrenched filter fabric stretched across and secured to supporting posts.

Application:
- Perimeter control: place barrier at downgradient limits of disturbance
- Sediment barrier: place barrier at toe of slope or soil stockpile
- Protection of existing waterways: place barrier near top of stream bank
- Inlet protection: place fence surrounding catchbasins

Installation/Application Criteria:
- Place posts 6 feet apart on center along contour (or use preassembled unit) and drive 2 feet minimum into ground. Excavate an anchor trench immediately upgradient of posts.
- Secure wire mesh (14 gage min. With 6 inch openings) to upslope side of posts. Attach with heavy duty 1 inch long wire staples, tie wires or hog rings.
- Cut fabric to required width, unroll along length of barrier and drape over barrier. Secure fabric to mesh with twine, staples, or similar, with trailing edge extending into anchor trench.
- Backfill trench over filter fabric to anchor.

Limitations:
- Recommended maximum drainage area of 0.5 acre per 100 feet of fence
- Recommended maximum upgradient slope length of 150 feet
- Recommended maximum uphill grade of 2:1 (50%)
- Recommended maximum flow rate of 0.5 cfs
- Ponding should not be allowed behind fence

Maintenance:
- Inspect immediately after any rainfall and at least daily during prolonged rainfall.
- Look for runoff bypassing ends of barriers or undercutting barriers.
- Repair or replace damaged areas of the barrier and remove accumulated sediment.
- Reanchor fence as necessary to prevent shortcutting.
- Remove accumulated sediment when it reaches ½ the height of the fence.

Objectives
- ☐ Housekeeping Practices
- ☐ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☒ Protect Slopes/Channels
- ☒ Control Site Perimeter
- ☒ Control Internal Erosion

Adapted from Salt Lake County BMP Fact Sheet

Targeted Pollutants
- ■ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☐ Oil & Grease
- ☐ Floatable Materials
- ☐ Other Waste

- ■ High Impact
- ☒ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- ☒ Capital Costs
- ☒ O&M Costs
- ☒ Maintenance
- ☐ Training

■ High ☒ Medium ☐ Low

REGISTERED PROFESSIONAL ENGINEER
No. 270393
DAVID W. PETERSON
STATE OF UTAH
12/12/25

REVISIONS		
Rev.	Date	Description

Applicant/Owner/developer: Jeremy Call
111 West 2070 South, Orem, Ut 84058
208-757-1631

EXCEL ENGINEERING
David W. Peterson, P.E., License #270393
12 West 100 North, Suite 201C, American Fork, UT 84003
P: (801) 756-4504; david@excelcivil.com

PH TENNIS CENTER

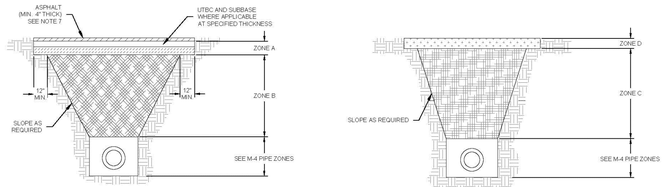
OREM — 92 EAST 800 NORTH — UTAH

Drawn by: D.W.P.
Designed by: D.W.P.
Checked by: D.W.P.

BMP DETAILS

Scale: NTS
Date: 03/24/26

C7



BACKFILL IN ROADWAYS OR PARKING AREAS

BACKFILL FOR OUTSIDE OF ROADWAYS OR PARKING AREAS

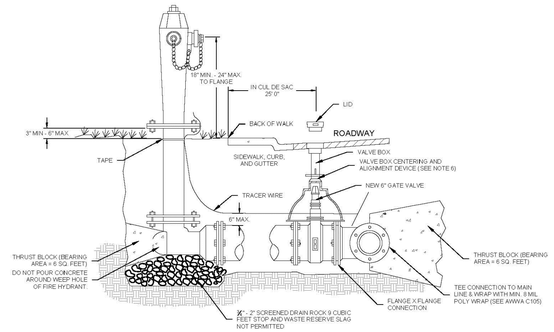
ZONE		BACK FILL MATERIAL				
		TYPE	GRADATION	COMPACTION	LIFT THICKNESS	TEST
A	ROADWAY	UTBC/ SUBBASE	-3/4"(UTBC) -3" (SUBBASE)	95%	MAX 12"	AASHTO T-180
B	LOAD	BACKFILL	-6"	95%	MAX 12"	AASHTO T-180
C	NON-LOAD	REUSE SPOILS	-6"	90%	NOT SPECIFIED	
D	NON-LOAD	TOP SOIL	-6"	90%	NOT SPECIFIED	

NOTES:

1. CUT ASPHALT T-PATCH TO WIDTH OF TRENCH. CONSTRUCT PIPELINE & RESTORE SUB-SURFACE. THEN CUT ASPHALT 12" WIDER THAN THE TRENCH ON EACH SIDE. REMOVE ASPHALT & FINISH RESTORATION. IF TRENCH WALLS COLLAPSE OR WIDEN CUT 12" FROM THAT NEW FINAL WIDTH.
2. LONGITUDINAL EDGE OF A ROADWAY PATCH SHALL BE CUT TO THE NEAREST SEAM OR ROAD STRIPING (AND/OR OUT OF THE WHEEL-PATH OF VEHICLES.
3. NEW TRENCHES WITHIN 10 FT OF ONE ANOTHER SHALL BE COMBINED INTO A SINGLE PATCH.
4. PATCHES EXTENDING MORE THAN ½' OF A ROADWAY'S WIDTH SHALL BE EXTENDED TO THE FULL WIDTH OF THE ROAD (GUTTER TO GUTTER). WHEN TRENCHING IS WITHIN 24" OF A CURB AND GUTTER THE REMOVAL OF THE SURFACE LAYERS MUST BE EXTENDED ALL THE WAY TO THE LIP OF GUTTER.
5. PLACE ASPHALT CONCRETE IN LIFTS NO GREATER THAN 3", OR LESS THAN 2".
6. T-PATCH REQUIRED FOR ALL FINAL ASPHALT PAVEMENT RESTORATION.
7. ASPHALT THICKNESS WILL MATCH THE EXISTING ASPHALT THICKNESS PLUS 1". WITH A MINIMUM OF 4". IF EXISTING ASPHALT THICKNESS IS 6" OR GREATER, THEN THE ASPHALT PATCH WILL MATCH THE EXISTING THICKNESS.
8. LIMIT LENGTH OF OPEN TRENCHES TO 200 LINEAL FEET DAY OR NIGHT.

Z:\IDS_ENG\DETAILS\2023 DETAILS\2023 Misc Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	TRENCH DETAILS	REV. 4/2024 M-3

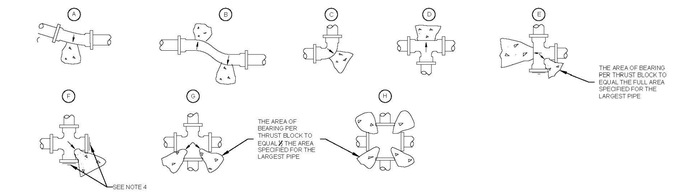


NOTES:

1. TRACER WIRE SHALL BE 14 GAUGE SOLID INSULATED COPPER WIRE TAPED ON TOP OF PIPE.
2. WIRE IS TO SPLICED IN AT ALL SERVICE CONNECTIONS TO THE MAIN AND COVERED OR COATED WITH CORROSION PROTECTION USING WEATHER GEL CAPS, OR MASTIC PAD.
3. IN LIMITED SITUATIONS, HYDRANT TIE RODS MAY BE REQUIRED IN COMBINATION WITH A THRUST BLOCK ONE ON EACH SIDE.
4. END OF LINE INSTALLATION REQUIRES A MJ CONNECTION.
5. ALL TREES, SHRUBS, AND DEEP ROOTED VEGETATION MUST BE A MINIMUM OF 36" HORIZONTAL AND 10' VERTICAL FROM FIRE HYDRANTS
6. 6" WATER VALVE IS INSTALLED AS PART OF NEW CONSTRUCTION INSTALL VALVE BOX ALIGNMENT RING, IF EXCAVATION ON EXISTING VALVE EXTENDS DOWN TO TOP OF BOX IT IS ALSO REQUIRED

Z:\IDS_ENG\DETAILS\2023 DETAILS\2023 Water Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	FIRE HYDRANT ASSEMBLY	REV. 4/2024 W-7



DIRECT BEARING THRUST BLOCKS

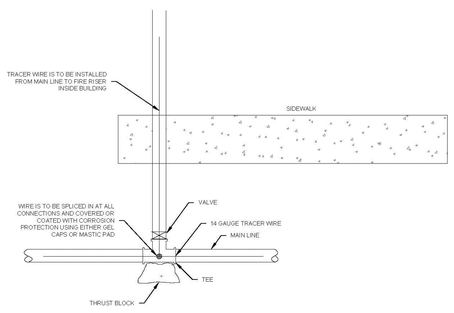
PIPE SIZE (INCHES)	WATERLINE THRUST BLOCK BEARING AREA (SQ. FEET)						WATER DESIGN PSI
	IN LINE VAVLE, TEE OR END PLUG	90° ELBOW & CROSSES	45° ELBOW BENDS	30° ELBOW BENDS	22.5° & 11.25° ELBOW BEND	REDUCER ONE SIZE REDUCTION	
-	D, E, F	C, G, H	B	A	A	-	-
4"	2.4	3.4	2.0	2.0	2.0	2.0	150
6"	5.3	7.5	4.0	2.75	2.0	2.9	150
8"	9.4	13.2	7.1	4.9	3.7	5.3	150
10"	12.3	17.3	9.3	6.4	4.8	5.3	125
12"	14.2	20.0	11.9	7.4	5.5	5.4	100
14"	19.3	27.0	14.6	10.0	7.5	5.4	100
16"	24.0	33.0	18.0	14.0	9.0	10.0	100

NOTES:

1. MINIMUM BACKFILL COVER OVER TOP OF THRUST BLOCK = 3.0 FT.
2. FOR PIPES SIZES & CONDITIONS DIFFERENT FROM SHOWN REQUIRES PROFESSIONAL ENGINEER'S DESIGN.
3. LOCKING FOLLOWER RESTRAINTS REQ'D ON ALL BENDS (11.25°, 22.5°, 45° & 90°).
4. PRECAST BLOCKS MAY BE USED FOR THRUST BLOCKS ON BLIND FLANGE ENDS.

Z:\IDS_ENG\DETAILS\2023 DETAILS\2023 Water Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	THRUST BLOCK SIZES	REV. 4/2024 W-8

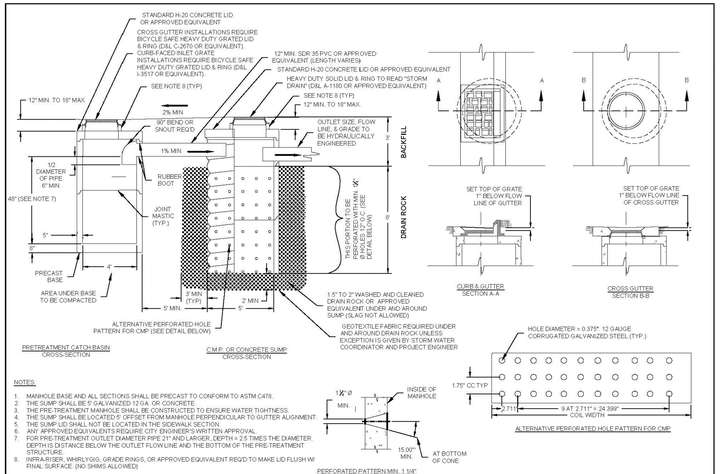


NOTES:

1. TRACER WIRE SHALL BE 14 GAUGE INSULATED COPPER WIRE INSTALLED WITHIN 6" ABOVE TOP OF PIPE.

Z:\IDS_ENG\DETAILS\2023 DETAILS\2023 Water Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	FIRE LINE PLAN	REV. 4/2024 W-12

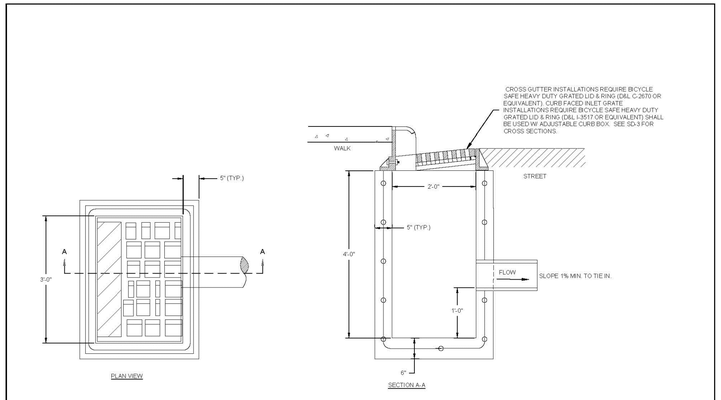


NOTES:

1. MANHOLE BASE AND ALL SECTIONS SHALL BE PRECAST TO CONFORM TO ASTM C478.
2. THE SUMP SHALL BE 5' GALVANIZED 12 GA. OR CONCRETE.
3. THE PRE-TREATMENT MANHOLE SHALL BE CONSTRUCTED TO ENSURE WATER TIGHTNESS.
4. THE SUMP SHALL BE LOCATED 5' OFFSET FROM MANHOLE PERPENDICULAR TO GUTTER ALIGNMENT.
5. THE SUMP LID SHALL NOT BE LOCATED IN THE SIDEWALK SECTION.
6. ANY APPROVED EQUIVALENTS REQUIRE CITY ENGINEER'S WRITTEN APPROVAL.
7. FOR PRE-TREATMENT OUTLET DIAMETER PIPE 21" AND LARGER, DEPTH = 2.5 TIMES THE DIAMETER. DEPTH IS DISTANCE BELOW THE OUTLET FLOW LINE AND THE BOTTOM OF THE PRE-TREATMENT STRUCTURE.
8. INFRA-RISER, WHIRLYGIG, GRADE RINGS, OR APPROVED EQUIVALENT REQ'D TO MAKE LID FLUSH W/ FINAL SURFACE. (NO SHIMS ALLOWED)

Z:\IDS_ENG\DETAILS\2023 DETAILS\2023 Storm Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	PRE-TREATMENT CATCH BASIN & SUMP	REV. 4/2024 SD-3



NOTES:

1. REBAR #4 BARS SPACED A MAX. 14" O.C. HORIZ. AND VERT. 14" OVER LAP ON REBAR REQUIRED.

Z:\IDS_ENG\DETAILS\2023 DETAILS\2023 Storm Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	STANDARD CATCH BASIN	REV. 4/2024 SD-4

REGISTERED PROFESSIONAL ENGINEER
No. 270393
DAVID W. PETERSON
STATE OF UTAH

REVISIONS		
Rev.	Date	Description

Applicant/Owner/developer: Jeremy Call
111 West 2070 South, Orem, Ut 84058
208-757-1631

EXCEL ENGINEERING
David W. Peterson, P.E., License #270393
12 West 100 North, Suite 201C, American Fork, UT 84003
P: (801) 756-4504; david@excelcivil.com

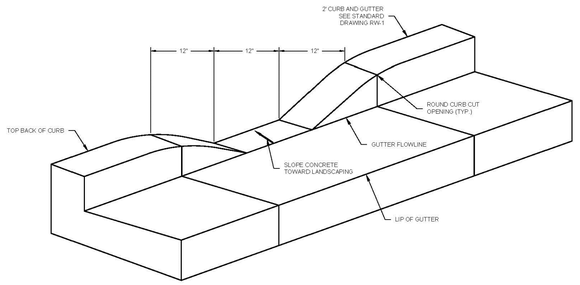
PH TENNIS CENTER

OREM | 92 EAST 800 NORTH | UTAH

Drawn by: D.W.P.
Designed by: D.W.P.
Checked by: D.W.P.

SITE DETAILS

Scale: NTS
Date: 03/24/26
C8

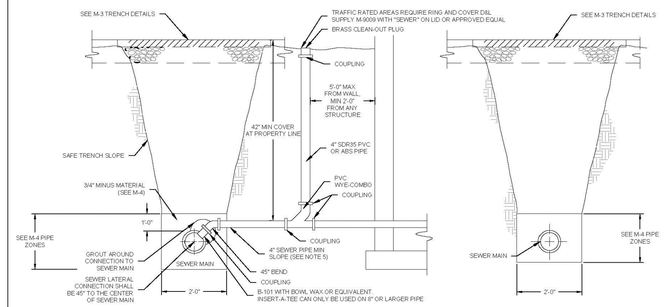


NOTES:

1. LANDSCAPING ADJACENT TO CURB CUT IS TO BE INSTALLED 2" BELOW AND SLOPED AWAY FROM CURB CUT TO PREVENT BLOCKAGE.

Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Storm Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	CURB CUT	REV. 4/2024 SD-7

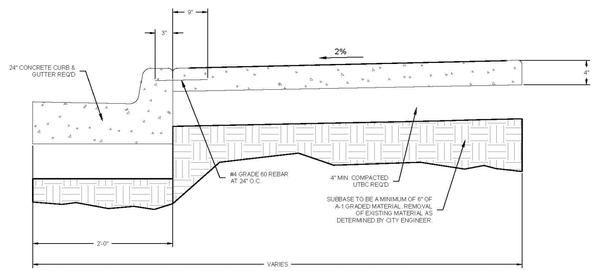


NOTES:

1. CLEANOUT REQ'D EVERY 75'.
2. INSTALL ADDITIONAL CLEANOUT REQ'D 5'-0" MAX. FROM WALL OF BUILDING STRUCTURE.
3. CLEANOUT REQ'D 2' MIN. TO 4' MAX. FROM PROPERTY LINE.
4. IF FERNCO'S ARE USED THEY ARE REQUIRED TO BE SHEAR BANDS OR APPROVED EQUAL.
5. ALL SEWER LATERALS ARE REQUIRED TO HAVE A MINIMUM OF 2.0% SLOPE. A 1.0% MINIMUM SLOPE MAY BE ALLOWED FOR THE FOLLOWING TYPES OF PIPE:
   - SDR-35 PVC PIPE FOR 6" DIAMETER AND LARGER.
   - ABS OR SCHEDULE 40 PVC PIPE FOR 4" DIAMETER.
6. IF THE DIAMETER OF THE SEWER LATERAL PIPE IS GREATER THAN HALF THE SIZE OF THE SEWER MAIN LINE PIPE A MANHOLE SHALL BE PLACED AT THE MAIN LINE CONNECTION.

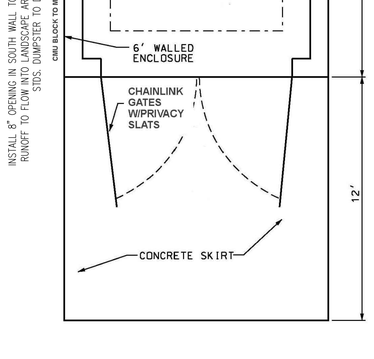
Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Sewer Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	SEWER LATERAL CONNECTION	REV. 4/2024 SS-3

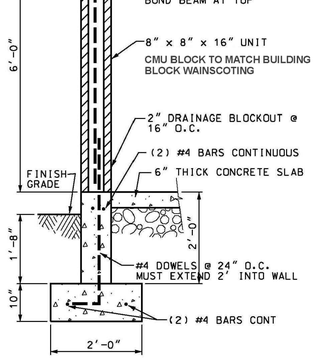


Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Roadway Details.dwg

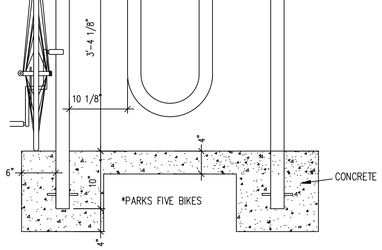
OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	CONCRETE CURB, GUTTER & SIDEWALK	REV. 4/2024 RW-4



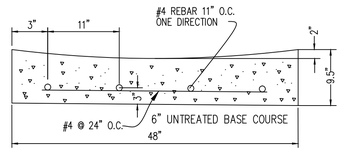
DUMPSTER



TRASH ENCLOSURE WALL DETAIL

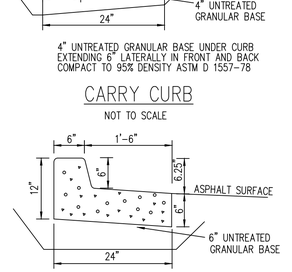


BIKE RACK DETAIL



48" CONCRETE WATERWAY

NOTE: USE 2" STEEL CHAIR SUPPORTS 18" O.C. FOR SPECIFIED REBAR.



4" UNTREATED GRANULAR BASE UNDER CURB EXTENDING 6" LATERALLY IN FRONT AND BACK COMPACT TO 95% DENSITY ASTM D 1557-78

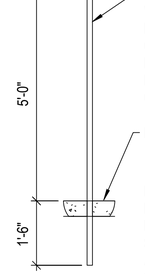
CARRY CURB

NOT TO SCALE

6" UNTREATED GRANULAR BASE UNDER CURB EXTENDING 6" LATERALLY IN FRONT AND BACK COMPACT TO 95% DENSITY ASTM D 1557-78

SPILL CURB

NOT TO SCALE



NOTE: WHEN PLACE IN AN ACCESSIBLE ROUTE HEAD CLEARANCE TO BOTTOM OF SIGN TO BE 6'-8"

1-1/2" GALVANIZED PIPE WITH CAP. SET PIPE PRIOR TO PLACEMENT OF CONCRETE OR CORE DRILL AND EPOXY SET PIPE AFTER PLACEMENT OF CONCRETE

FINISHED GRADE

NOTE: ADA COMPLIANT SIGN WITH RADIUS CORNER AND RADIUS BORDER. 18 GAUGE GALVANIZED STEEL WITH BLUE BACKGROUND AND WHITE INTERNATIONAL SYMBOLS. WHITE BAKED ENAMEL AND SCREEN PRINTED COPY.

ADA VAN SIGN DETAIL

REGISTERED PROFESSIONAL ENGINEER
No. 270393
DAVID W. PETERSON
STATE OF UTAH

REVISIONS		
Rev.	Date	Description

Applicant/Owner/developer: Jeremy Call
111 West 2070 South, Orem, Ut 84058
208-757-1631

EXCEL ENGINEERING
David W. Peterson, P.E., License #270393
12 West 100 North, Suite 201C, American Fork, UT 84003
P: (801) 756-4504; david@excelcivil.com

PH TENNIS CENTER

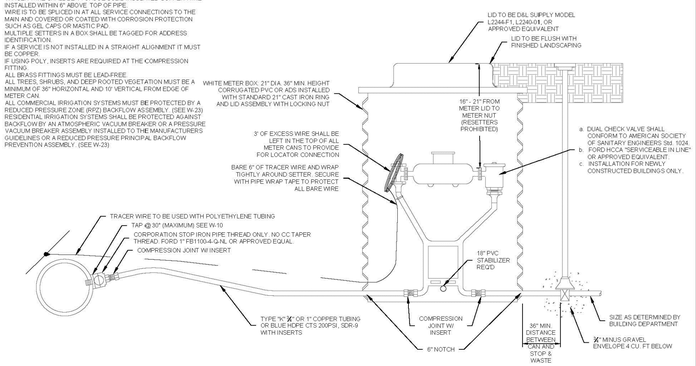
OREM | 92 EAST 800 NORTH | UTAH

SITE DETAILS

Drawn by:	Scale:
D.W.P.	NTS
Designed by: D.W.P.	Date: 03/24/26
Checked by: D.W.P.	C9

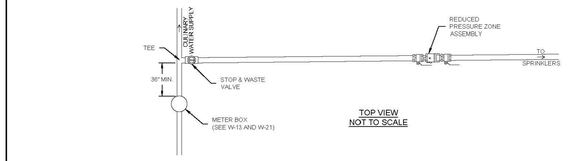
NOTES:

1. MIN. COVER ON SERVICE LINE IS 42".
2. FOR INSTALLATIONS WITH CONTINUOUS TRAFFIC FLOW ON METER LID, A STANDARD MANHOLE SECTION CONE WITH 36" MIN. HEIGHT REINFORCED CONCRETE WITH STANDARD 30" MANHOLE RING AND COVER SHALL BE USED AS APPROVED BY WATER SECTION PERSONNEL.
3. TRACER WIRE SHALL BE 14 GAUGE SOLID INSULATED COPPER WIRE INSTALLED WITHIN 6" ABOVE TOP OF PIPE.
4. WIRE IS TO BE SPLICED IN AT ALL SERVICE CONNECTIONS TO THE MAIN AND COVERED OR COATED WITH CORROSION PROTECTION SUCH AS GEL CAPS OR MASTIC PAD.
5. MULTIPLE SETTERS IN A BOX SHALL BE TAGGED FOR ADDRESS IDENTIFICATION.
6. IF A SERVICE IS NOT INSTALLED IN A STRAIGHT ALIGNMENT IT MUST BE COPPER.
7. IF USING POLY, INSERTS ARE REQUIRED AT THE COMPRESSION FITTING.
8. ALL BRASS FITTINGS MUST BE LEAD-FREE.
9. ALL TREES, SHRUBS, AND DEEP ROOTED VEGETATION MUST BE A MINIMUM OF 36" HORIZONTAL AND 10' VERTICAL FROM EDGE OF METER CAN.
10. ALL COMMERCIAL IRRIGATION SYSTEMS MUST BE PROTECTED BY A REDUCED PRESSURE ZONE (RPZ) BACKFLOW ASSEMBLY. (SEE W-23)
11. RESIDENTIAL IRRIGATION SYSTEMS SHALL BE PROTECTED AGAINST BACKFLOW BY AN ATMOSPHERIC VACUUM BREAKER OR A PRESSURE VACUUM BREAKER ASSEMBLY INSTALLED TO THE MANUFACTURERS GUIDELINES OR A REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTION ASSEMBLY. (SEE W-23)

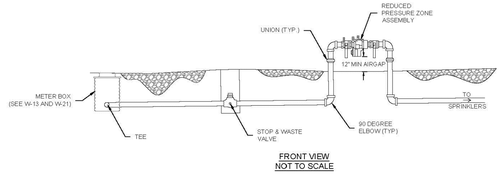


Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Water Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	3/4" & 1" SERVICE LINE INSTALLATION	REV. 4/2024 W-13



TOP VIEW
NOT TO SCALE



FRONT VIEW
NOT TO SCALE

NOTES:

1. ALL COMMERCIAL IRRIGATION SYSTEMS MUST BE PROTECTED BY A REDUCED PRESSURE ZONE (RPZ) BACKFLOW ASSEMBLY.
2. RESIDENTIAL IRRIGATION SYSTEMS SHALL BE PROTECTED AGAINST BACKFLOW BY AN ATMOSPHERIC VACUUM BREAKER OR A PRESSURE VACUUM BREAKER ASSEMBLY INSTALLED TO THE MANUFACTURERS GUIDELINES OR A REDUCED PRESSURE PRINCIPAL BACKFLOW PREVENTION ASSEMBLY AS SHOWN.

Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Water Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	RPZ BACKFLOW PREVENTER	REV. 4/2024 W-23

REGISTERED PROFESSIONAL ENGINEER
No. 270393
DAVID W. PETERSON
STATE OF UTAH

REVISIONS		
Rev.	Date	Description
1	07/02/26	REVISED PER CITY REVIEW #2

Applicant/Owner/developer: Jeremy Call
111 West 2070 South, Orem, Ut 84058
208-757-1631

EXCEL ENGINEERING
David W. Peterson, P.E., License #270393
12 West 100 North, Suite 201C, American Fork, UT 84003
P: (801) 756-4504; david@excelcivil.com

PH TENNIS CENTER

OREM — 92 EAST 800 NORTH — UTAH

Drawn by:	D.W.P.
Designed by:	D.W.P.
Checked by:	D.W.P.

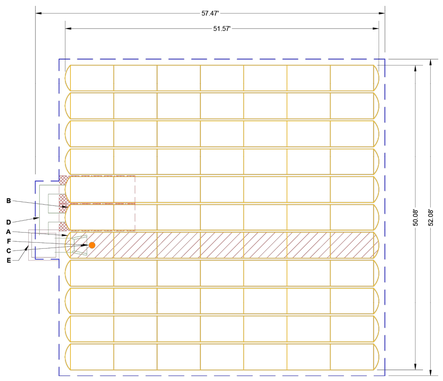
SITE DETAILS

Scale:	NTS
Date:	06/10/26
	C10

PROPOSED LAYOUT: NORTH BASIN 1		PROPOSED ELEVATIONS: NORTH BASIN 1	
77	STORMTECH SC-800 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	4795.00
22	STORMTECH SC-800 END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	4788.79
6	STONE ABOVE (in)	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	4788.29
7	STONE BELOW (in)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	4788.29
40	STONE VOID	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	4788.29
6739	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)	TOP OF SC-800 CHAMBER:	4787.50
		TOP OF SC-800 CHAMBER:	4787.00
		15" x 15" TOP MANIFOLD INVERT:	4785.19
		24" ISOLATOR ROW PLUS INVERT:	4784.44
		BOTTOM OF SC-800 CHAMBER:	4784.25
2840	SYSTEM AREA (SF)	BOTTOM OF STONE:	4783.67
219.1	SYSTEM PERIMETER (ft)		

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED EZ END CAP	A	24" BOTTOM PREFABRICATED EZ END CAP. PART#: SC800ECEZ / TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS		
PRE-CORED END CAP	B	15" TOP PRE-CORED END CAP. PART#: SC800EPE151PC / TYP OF ALL 15" TOP CONNECTIONS		
FLAMP	C	INSTALL FLAMP ON 24" ACCESS PIPE / PART#: SC80024RAMP		
MANIFOLD	D	15" x 15" TOP MANIFOLD, ADS N-12	11.30"	
CONCRETE STRUCTURE	E	DESIGN BY ENGINEER / PROVIDED BY OTHERS)		5.6 CFS IN
INSPECTION PORT	F	4" SEE DETAIL		



ISOLATOR ROW PLUS (SEE DETAIL)

PLACE MINIMUM 12.50' OF ADSPLUS625 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

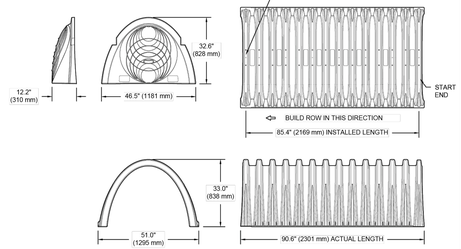
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- **NOT FOR CONSTRUCTION**: THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

SPACE INTENTIONALLY LEFT BLANK

SPACE INTENTIONALLY LEFT BLANK

SC-800 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 33.0" X 85.4"	(1295 mm X 838 mm X 2169 mm)
CHAMBER STORAGE	50.6 CUBIC FEET	(1.43 m³)
MINIMUM INSTALLED STORAGE*	78.4 CUBIC FEET	(2.22 m³)
WEIGHT	81.8 lbs.	(37.1 kg)

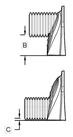
NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	46.5" X 32.6" X 10.5"	(1181 mm X 828 mm X 267 mm)
END CAP STORAGE	3.4 CUBIC FEET	(0.09 m³)
MINIMUM INSTALLED STORAGE**	14.7 CUBIC FEET	(0.42 m³)
WEIGHT	15.7 lbs.	(7.1 kg)

* ASSUMES 6" (150 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS, 3" (75 mm) BETWEEN CHAMBERS
**ASSUMES 6" (150 mm) STONE ABOVE AND BELOW END CAPS, 3" (150 mm) BETWEEN ROWS, 12" (300 mm) BEYOND END CAPS

PRE-CORED HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "BPC"
PRE-CORED HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "TPC"

PART #	STUB	B	C
SC800EPE06TPC	6" (150 mm)	21.4" (544 mm)	---
SC800EPE06BPC		---	0.9" (23 mm)
SC800EPE08TPC	8" (200 mm)	19.2" (488 mm)	---
SC800EPE08BPC		---	1.0" (25 mm)
SC800EPE10TPC	10" (250 mm)	17.0" (432 mm)	---
SC800EPE10BPC		---	1.2" (30 mm)
SC800EPE12TPC	12" (300 mm)	14.4" (366 mm)	---
SC800EPE12BPC		---	1.6" (41 mm)
SC800EPE15TPC	15" (375 mm)	11.3" (287 mm)	---
SC800EPE15BPC		---	1.7" (43 mm)
SC800EPE18TPC	18" (450 mm)	8.0" (203 mm)	---
SC800EPE18BPC		---	2.0" (51 mm)
SC800EPE24BPC	24" (600 mm)	---	2.3" (58 mm)
SC800EPE	NONE	SOLID END CAP	



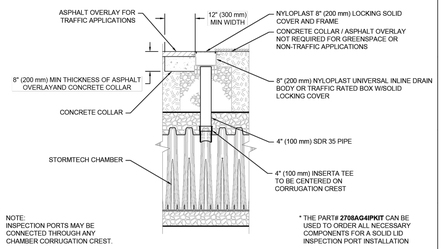
NOTE: ALL DIMENSIONS ARE NOMINAL

2 SC-800 TECHNICAL SPECIFICATION



SC-800 ISOLATOR ROW PLUS DETAIL
NTS

3 SC-800 ISOLATOR ROW PLUS DETAIL



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

* THE PART# **2708AG4IPKIT** CAN BE USED TO ORDER ALL NECESSARY COMPONENTS FOR A SOLID LID INSPECTION PORT INSTALLATION

4" (100 mm) PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)
NTS

4 4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

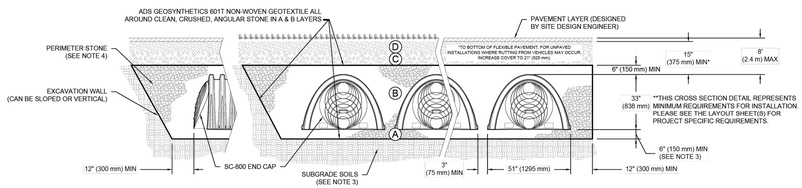
NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

ACCEPTABLE FILL MATERIALS: STORMTECH SC-800 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE (B' LAYER) TO 15" (375 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[4] A-1, A-2-4, A-3 OR AASHTO M43[3] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[3] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[3] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-800 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 700 LBS/FT/%, AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

1 SC-800 CROSS SECTION DETAIL

PH TENNIS CENTER
OREM, UT, USA

DATE: 07/02/2026
PROJECT #:
NOT TO SCALE
DRAWN: WA
CHECKED: N/A
REV:

StormTech® Chamber System
WWW.ADSPIPE.COM

SHEET 1 OF 1

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

REGISTERED PROFESSIONAL ENGINEER
No. 270393
DAVID W. PETERSON
STATE OF UTAH

REVISIONS		
Rev.	Date	Description
1	07/02/26	REVISED PER CITY REVIEW #2

Applicant/Owner/developer: Jeremy Call
111 West 2070 South, Orem, Ut 84058
208-757-1631

EXCEL ENGINEERING
David W. Peterson, P.E., License #270393
12 West 100 North, Suite 201C, American Fork, UT 84003
P: (801) 756-4504; david@excelcivil.com

PH TENNIS CENTER
OREM 92 EAST 800 NORTH UTAH

Drawn by: D.W.P.
Designed by: D.W.P.
Checked by: D.W.P.

SITE DETAILS

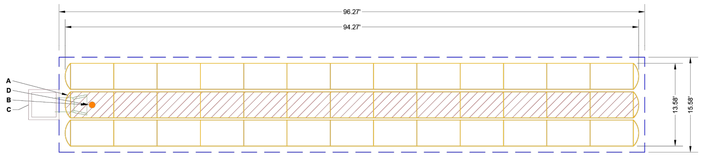
Scale: NTS
Date: 07/02/26
C11

PROPOSED LAYOUT: SOUTH BASIN 17		
39	STORMTECH SC-800 CHAMBERS	
6	STORMTECH SC-800 END CAPS	
6	STONE ABOVE (in)	
6	STONE BELOW (in)	
40	STONE VOID	
3447	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)	
1500	SYSTEM AREA (SF)	
223.7	SYSTEM PERIMETER (ft)	

PROPOSED ELEVATIONS: SOUTH BASIN 17	
MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	4797.00
MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	4790.77
MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	4790.25
MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	4790.25
MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	4790.25
CONCRETE STRUCTURE:	4789.92
INSPECTION PORT	4789.92
TOP OF SC-800 CHAMBER:	4789.92
24" ISOLATOR ROW PLUS INVERT:	4786.40
BOTTOM OF SC-800 CHAMBER:	4786.25
BOTTOM OF STONE:	4785.75

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED EZ END CAP	A	24" BOTTOM PREFABRICATED EZ END CAP. PART#: SC800ECEZ / TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS		
	B	INSTALL FLAMP ON 24" ACCESS PIPE / PART#: SC80024RAMP		
	C	(VERSION BY ENGINEER / PROVIDED BY OTHERS)		
	D	4" SEE DETAIL		



ISOLATOR ROW PLUS (SEE DETAIL)

NO WOVEN GEOTEXTILE

BED LIMITS

NOTES

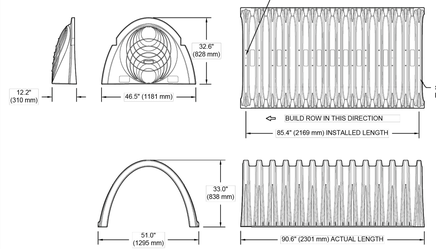
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- **NOT FOR CONSTRUCTION**: THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

SPACE INTENTIONALLY LEFT BLANK

SPACE INTENTIONALLY LEFT BLANK

SC-800 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 33.0" X 85.4"	(1295 mm X 838 mm X 2169 mm)
CHAMBER STORAGE	50.6 CUBIC FEET	(1.43 m³)
MINIMUM INSTALLED STORAGE*	78.4 CUBIC FEET	(2.22 m³)
WEIGHT	81.6 lbs.	(37.1 kg)

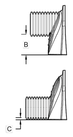
NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	46.5" X 32.6" X 10.5"	(1181 mm X 828 mm X 267 mm)
END CAP STORAGE	3.4 CUBIC FEET	(0.09 m³)
MINIMUM INSTALLED STORAGE**	14.7 CUBIC FEET	(0.42 m³)
WEIGHT	15.7 lbs.	(7.1 kg)

* ASSUMES 6" (150 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS, 9" (75 mm) BETWEEN CHAMBERS
**ASSUMES 6" (150 mm) STONE ABOVE AND BELOW END CAPS, 3" (150 mm) BETWEEN ROWS, 12" (300 mm) BEYOND END CAPS

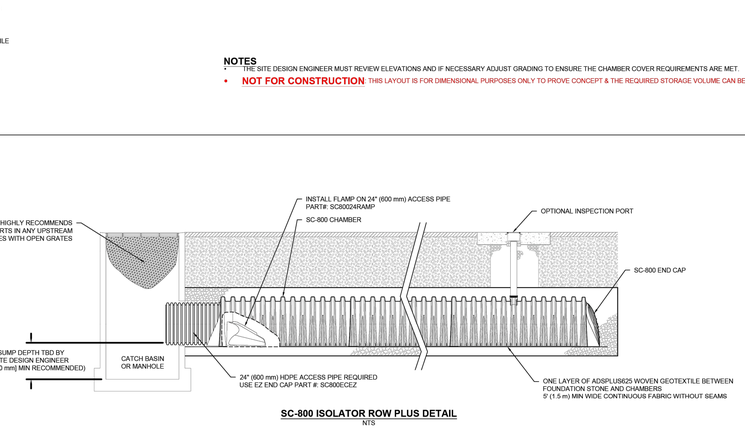
PRE-CORED HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "BPC"
PRE-CORED HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "TPC"

PART #	STUB	B	C
SC800EPE06TPC	6" (150 mm)	21.4" (544 mm)	---
SC800EPE06BPC		---	0.9" (23 mm)
SC800EPE08TPC	8" (200 mm)	19.2" (488 mm)	---
SC800EPE08BPC		---	1.0" (25 mm)
SC800EPE10TPC	10" (250 mm)	17.0" (432 mm)	---
SC800EPE10BPC		---	1.2" (30 mm)
SC800EPE12TPC	12" (300 mm)	14.4" (366 mm)	---
SC800EPE12BPC		---	1.6" (41 mm)
SC800EPE15TPC	15" (375 mm)	11.3" (287 mm)	---
SC800EPE15BPC		---	1.7" (43 mm)
SC800EPE18TPC	18" (450 mm)	8.0" (203 mm)	---
SC800EPE18BPC		---	2.0" (51 mm)
SC800EPE24BPC	24" (600 mm)	---	2.3" (58 mm)
SC800EPE	NONE	SOLID END CAP	



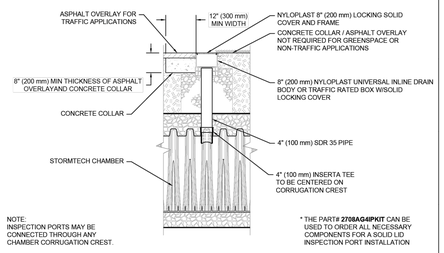
NOTE: ALL DIMENSIONS ARE NOMINAL

2 SC-800 TECHNICAL SPECIFICATION



SC-800 ISOLATOR ROW PLUS DETAIL
NTS

3 SC-800 ISOLATOR ROW PLUS DETAIL



4" (100 mm) PVC INSPECTION PORT DETAIL
(SC SERIES CHAMBER)
NTS

4 4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45° (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

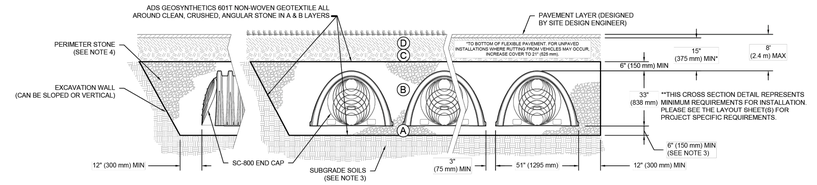
NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

ACCEPTABLE FILL MATERIALS: STORMTECH SC-800 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE (9" LAYER) TO 12" (375 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. OR MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[4] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-800 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 700 LBS/FT/% AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

1 SC-800 CROSS SECTION DETAIL

DRAWN: WA | DATE: 07/02/2026
CHECKED: N/A | PROJECT #:
REV: | NOT TO SCALE

PH TENNIS CENTER
OREM, UT, USA

StormTech® Chamber System
ADS WWW.ADSPIPE.COM

SHEET 1 OF 1

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

REGISTERED PROFESSIONAL ENGINEER
No. 270393
DAVID W. PETERSON
STATE OF UTAH

REVISIONS		
Rev.	Date	Description
1	07/02/26	REVISED PER CITY REVIEW #2

Applicant/Owner/developer: Jeremy Call
111 West 2070 South, Orem, Ut 84058
208-757-1631

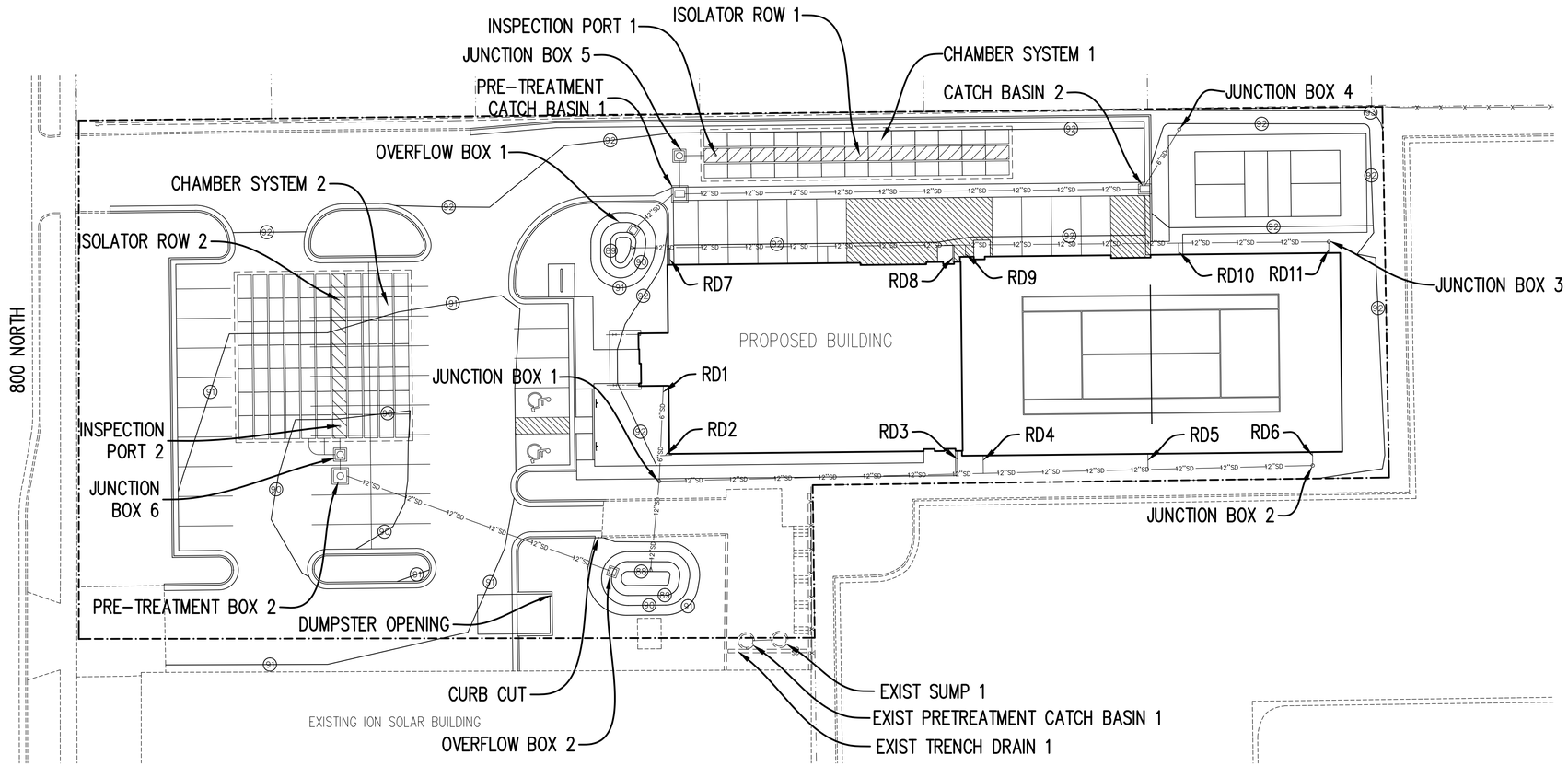
EXCEL ENGINEERING
David W. Peterson, P.E., License #270393
12 West 100 North, Suite 201C, American Fork, UT 84003
P- (801) 756-4504; david@excelcivil.com

PH TENNIS CENTER
OREM | 92 EAST 800 NORTH | UTAH

Drawn by:	Scale:
D.W.P.	NTS
Designed by:	Date:
D.W.P.	07/02/26
Checked by:	
D.W.P.	

SITE DETAILS

C11



20 10 0 20 40 60

Scale 1" = 20'

REGISTERED PROFESSIONAL ENGINEER
No. 270393
DAVID W. PETERSON
STATE OF UTAH

BENCH MARK

WEST QUARTER CORNER, SECTION 11, TOWNSHIP 6 SOUTH, RANGE 2 EAST, SALT LAKE BASE AND MERIDIAN
ELEVATION = 4785.92
FOUND BRASS CAP

REVISIONS

Rev.	Date	Description

Applicant/Owner/developer: Jeremy Call
111 West 2070 South, Orem, Ut 84058
208-757-1631

EXCEL ENGINEERING
David W. Peterson, P.E., License #270393
12 West 100 North, Suite 201C, American Fork, UT 84003
P: (801) 756-4504; david@excelcivil.com

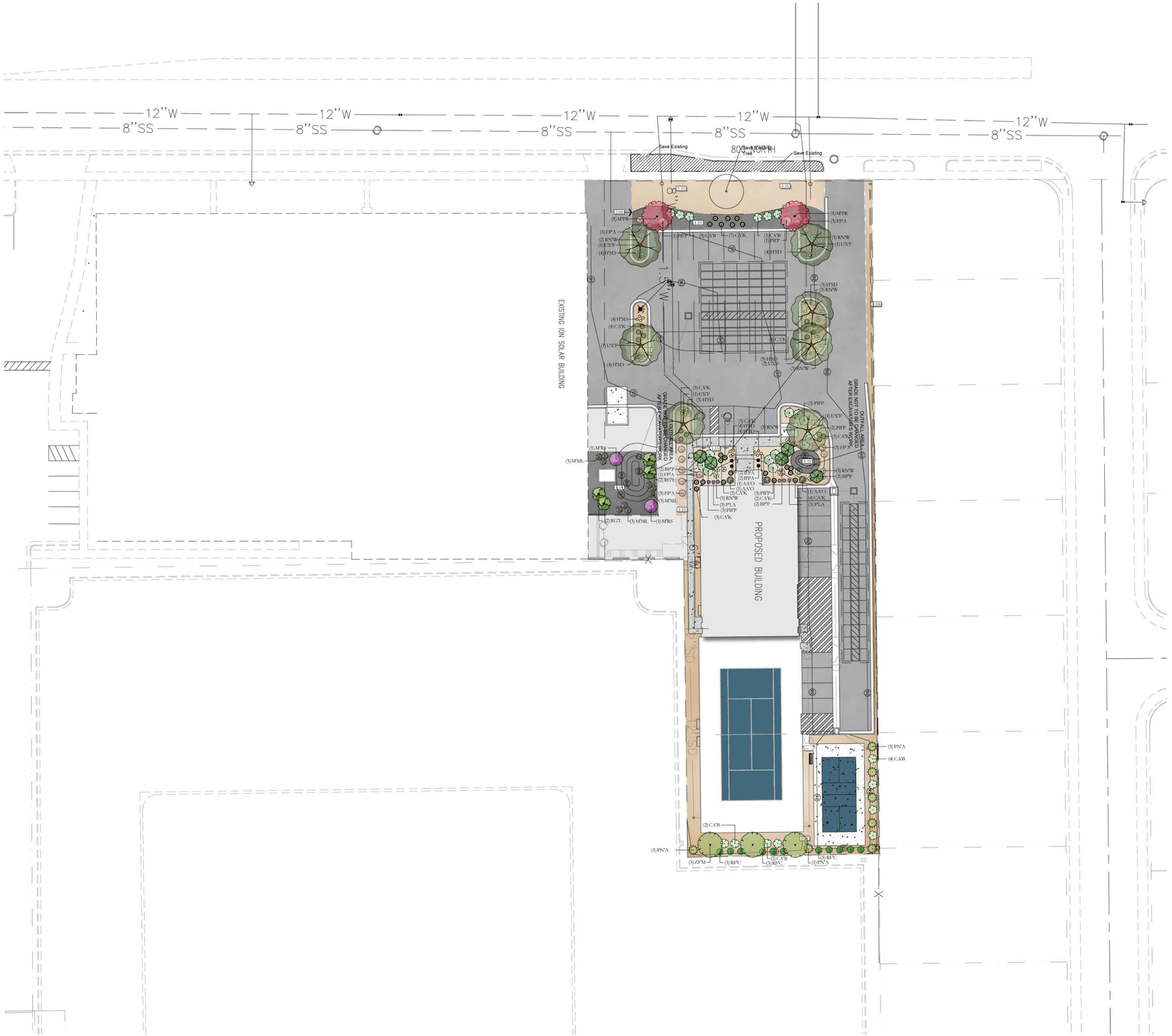
PH TENNIS CENTER

OREM — 92 EAST 800 NORTH — UTAH

Drawn by: D.W.P.
Designed by: D.W.P.
Checked by: D.W.P.

LONG TERM STORM WATER BMP SITE MAP

Scale: 1"=20'
Date: 06/10/26
C13



PLANT MATERIALS

(NOTE: PLANT QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. IN CASE OF DISCREPANCY, THE DRAWING SHALL TAKE PRECEDENCE.)

CONIFERS

PN'A	7	B & B		6`	Pinus nigra `Arnold Sentinel` — Arnold Sentinel Austrian Pine

DECIDUOUS TREES

BP'P	5	B & B	2"Cal		Betula platyphylla `Jefpark` — Parkland Pillar Birch
M'PR	2	B & B	2"Cal		Malus x `Prairie Rose` — Prairie Rose Crabapple
M'RS	2	B & B	2"Cal		Malus x `Raspberry Spear' — Raspberry Spear Crabapple
UX'F	7	B & B	2"Cal		Ulmus x `Frontier` — Frontier Elm
ZS'M	3	B & B	2"Cal		Zelkova serrata `Musashino` — Musashino Zelkova

SYMBOL	CODE	QTY	CONT	BOTANICAL / COMMON NAME

DECIDUOUS SHRUBS

AA'O	3	5 gal		Amelanchier alnifolia `Obelisk` TM — Standing Ovation Serviceberry
B'PA	4	5 gal		Buddleja x `SMNBDL` — Pugster Amethyst Dwarf Butterfly Bush
CA'B	14	5 gal		Cornus alba `Bailhalo` TM — Ivory Halo Dogwood
F'PA	15	5 gal		Fallugia paradoxa — Apache Plume
P'LA	6	5 gal		Physocarpus opulifolius 'Hoogi016' — Little Angel™ Ninebark
PB'P	13	5 gal		Prunus besseyi `P011S` 'Pawnee Buttes' — Pawnee Buttes Sand Cherry
RF'C	11	5 gal		Rhamnus frangula 'Columnaris' — Tall Hedge Buckthorn
RG'L	4	5 gal		Rhus aromatica `Gro-Low` — Gro-Low Sumac

GRASSES

CA'K	36	1 gal		Calamagrostis x acutiflora `Karl Foerster` — Feather Reed Grass
M'ML	9	2 gal		Miscanthus sinensis `Morning Light` — Morning Light Maiden Grass

PERENNIALS

H'SD	39	1 gal		Hemerocallis x `Stella de Oro` — Stella de Oro Daylily

ROSES

RN'W	20	5 gal		Rosa x `Noaschnee` TM — Flower Carpet White Groundcover Rose

SITE MATERIALS

(NOTE: SITE MATERIALS QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. IN CASE OF DISCREPANCY, THE DRAWING SHALL TAKE PRECEDENCE.)

1-15	(MATCH EXISTING) GREY CRUSHED ROCK. SUBMIT SAMPLES FOR LANDSCAPE ARCHITECT AND OWNER APPROVAL. PROVIDE 3" DEPTH OF ROCK MULCH TOP DRESSING. SEE INORGANIC MULCH LANDSCAPE NOTES FOR ADDITIONAL INFORMATION. SHEET LP-101.	9,300 sf
1-19	2" GREY CRUSHED ROCK. SUBMIT SAMPLES FOR LANDSCAPE ARCHITECT AND OWNER APPROVAL. PROVIDE 4" DEPTH OF ROCK MULCH TOP DRESSING. SEE INORGANIC MULCH LANDSCAPE NOTES FOR ADDITIONAL INFORMATION. SHEET LP-101.	3,206 sf

2 HARDSCAPE

2-05	5" DEEP STEEL EDGING - INSTALL PER MANUFACTURER SPECIFICATION.	116 lf

ISSUE DATE: 6/17/2026

PROJECT NUMBER: UT26044

PLAN INFORMATION: ** THIS PRINT FROM PKJ DESIGN GROUP IS BASED ON CIVIL AND ARCHITECT INFORMATION ISSUED ON 03/26/2026

NO.	REVISION	DATE
1	XXXX	XX-XX-XX
2		
3		
4		

811 BLUE STAKES OF UTAH UTILITY NOTIFICATION CENTER, INC 1-800-662-4111 www.bluestakes.org

NORTH

0' 15' 30' 60' 120'

GRAPHIC SCALE: 1" = 30'

PROJECT INFORMATION

PH TENNIS CENTER
92 EAST 800 NORTH
OREM, UTAH

DEVELOPER / PROPERTY OWNER / CLIENT

HARRIS ARCHITECTURE
KEN HARRIS
801-377-6303

COPYRIGHT:
PKJ DESIGN GROUP

THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN AS AN INSTRUMENT OF PROFESSIONAL SERVICE IS PROPERTY OF PKJ DESIGN GROUP. IT IS NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF PKJ DESIGN GROUP.

LANDSCAPE ARCHITECT / PLANNER

PKJ DESIGN GROUP
Landscape Architecture / Planning & Visualization
3450 N. TRIUMPH BLVD. SUITE 102
LEHI, UTAH 84043 (801) 995-2217
www.pkjdesigngroup.com

LICENSE STAMP: LICENSED LANDSCAPE ARCHITECT JOSEPH AINSWORTH 813017-5301 REGISTERED 6/17/2026 ELECTRONIC SEAL STATE OF UTAH

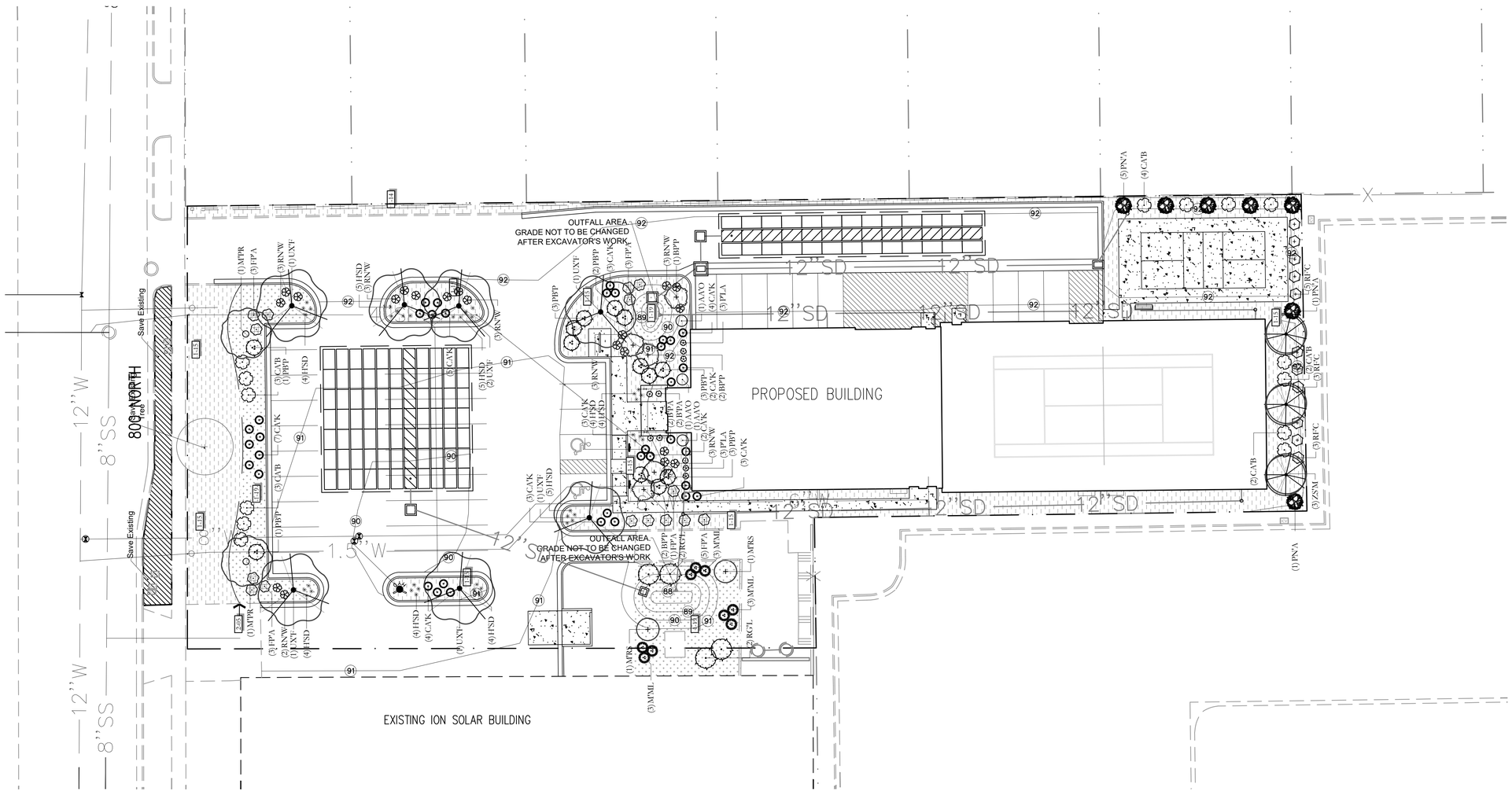
DRAWING INFO

PM:	JTA
DRAWN:	ACP
CHECKED:	KBA
PLOT DATE:	6/17/2026

COLOR ILLUSTRATION

CITY PERMIT SET

LP-COLOR



ISSUE DATE	PROJECT NUMBER
6/17/2026	UT26044

NO.	REVISION	DATE
1	XXXX	XX-XX-XX
2		
3		
4		

PLAN INFORMATION

** THIS PRINT FROM PKJ DESIGN GROUP IS BASED ON CIVIL AND ARCHITECT INFORMATION ISSUED ON 03/26/2026

811 BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC
1-800-662-4111
www.bluestakes.org

NORTH

0' 10' 20' 40' 80'

GRAPHIC SCALE: 1" = 20'

PROJECT INFORMATION

PH TENNIS CENTER
92 EAST 800 NORTH
OREM, UTAH

DEVELOPER / PROPERTY OWNER / CLIENT

HARRIS ARCHITECTURE
KEN HARRIS
801-377-6303

COPYRIGHT:
PKJ DESIGN GROUP

THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE IS PROPERTY OF PKJ DESIGN GROUP. IT IS NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF PKJ DESIGN GROUP.

LANDSCAPE ARCHITECT / PLANNER

PKJ DESIGN GROUP
Landscape Architecture • Planning & Visualization
3450 N. TRIUMPH BLVD. SUITE 102
LEHI, UTAH 84043 (801) 995-2217
www.pkjdesigngroup.com

LICENSE STAMP

JOSEPH ANDREW ANSWORTH
LICENSED LANDSCAPE ARCHITECT
8128121-5301
6/17/2026
ELECTRONIC SEAL
STATE OF UTAH

DRAWING INFO	
PM:	JTA
DRAWN:	ACP
CHECKED:	KBA
PLOT DATE:	6/17/2026

LANDSCAPE OVERALL PLAN

CITY PERMIT SET

LP-100

LANDSCAPE PLAN SPECIFICATIONS

PART I - GENERAL

1.1 SUMMARY

A. THIS SECTION INCLUDES LANDSCAPE PROCEDURES FOR THE PROJECT INCLUDING ALL LABOR, MATERIALS, AND INSTALLATION NECESSARY, BUT NOT LIMITED TO, THE FOLLOWING:

1. SITE CONDITIONS
2. GUARANTEES
3. MAINTENANCE
4. SOIL AMENDMENTS
5. FINE GRADING
6. LANDSCAPE EDGING
7. FURNISH AND INSTALLING PLANT
8. TURF PLANTING
9. WEED BARRIER

1.2 SITE CONDITIONS

A. EXAMINATION: BEFORE SUBMITTING A BID, EACH CONTRACTOR SHALL CAREFULLY EXAMINE THE CONTRACT DOCUMENTS; SHALL VISIT THE SITE OF THE WORK; SHALL FULLY INFORM THEMSELVES AS TO ALL EXISTING CONDITIONS AND LIMITATIONS; AND SHALL INCLUDE IN THE BID THE COST OF ALL ITEMS REQUIRED BY THE CONTRACT DOCUMENTS ARE AT A VARIANCE WITH THE APPLICABLE LAWS, BUILDING CODES, RULES, REGULATIONS, OR CONTAIN OBVIOUS ERRONEOUS OR UNCOORDINATED INFORMATION, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE PROJECT REPRESENTATIVE AND THE NECESSARY CHANGES SHALL BE ACCOMPLISHED BY ADDENDUM.

B. PROTECTION: CONTRACTOR TO CONDUCT THE WORK IN SUCH A MANNER TO PROTECT ALL EXISTING UNDERGROUND UTILITIES OR STRUCTURES. CONTRACTOR TO REPAIR OR REPLACE ANY DAMAGED UTILITY OR STRUCTURE USING IDENTICAL MATERIALS TO MATCH EXISTING AT NO EXPENSE TO THE OWNER.

C. IRRIGATION SYSTEM: DO NOT BEGIN PLANTING UNTIL THE IRRIGATION SYSTEM IS COMPLETELY INSTALLED, IS ADJUSTED FOR FULL COVERAGE AND IS COMPLETELY OPERATIONAL.

1.3 PERMITS

A. BLUE STAKE/ DIG LINE: WHEN DIGGING IS REQUIRED, "BLUE STAKE" OR "DIG LINE" THE WORK SITE AND IDENTIFY THE APPROXIMATE LOCATION OF ALL KNOWN UNDERGROUND UTILITIES OR STRUCTURES.

1.4 PLANT DELIVERY, QUALITY, AND AVAILABILITY

A. UNAUTHORIZED SUBSTITUTIONS WILL NOT BE ACCEPTED. IF PROOF IS SUBMITTED THAT SPECIFIC PLANTS OR PLANT SIZES ARE UNOBTAINABLE, WRITTEN SUBSTITUTION REQUESTS WILL BE CONSIDERED FOR THE NEAREST EQUIVALENT PLANT OR SIZE. ALL SUBSTITUTION REQUESTS MUST BE MADE IN WRITING AND PREFERABLY BEFORE THE BID DUE DATE.

1.5 FINAL INSPECTION

A. ALL PLANTS WILL BE INSPECTED AT THE TIME OF FINAL INSPECTION PRIOR TO RECEIVING A LANDSCAPE SUBSTANTIAL COMPLETION FOR CONFORMANCE TO SPECIFIED PLANTING PROCEDURES, AND FOR GENERAL APPEARANCE AND VITALITY. ANY PLANT NOT APPROVED BY THE PROJECT REPRESENTATIVE WILL BE REJECTED AND REPLACED IMMEDIATELY.

1.6 LANDSCAPE SUBSTANTIAL COMPLETION

A. A SUBSTANTIAL COMPLETION CERTIFICATE WILL ONLY BE ISSUED BY THE PROJECT REPRESENTATIVE FOR "LANDSCAPE AND IRRIGATION" IN THEIR ENTIRETY. SUBSTANTIAL COMPLETION WILL NOT BE PROPORTIONED TO BE DESIGNATED AREAS OF A PROJECT.

1.7 MAINTENANCE

A. PLANT MATERIAL: THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN ALL PLANTED MATERIALS IN A HEALTHY AND GROWING CONDITION FOR 30 DAYS AFTER RECEIVING A LANDSCAPE SUBSTANTIAL COMPLETION AT WHICH TIME THE GUARANTEE PERIOD COMMENCES. THIS MAINTENANCE IS TO INCLUDE MOWING, WEEDING, CULTIVATING, FERTILIZING, MONITORING WATER SCHEDULES, CONTROLLING INSECTS AND DISEASES, RE-GUYING AND STAKING, AND ALL OTHER OPERATIONS OF CARE NECESSARY FOR THE PROMOTION OF ROOT GROWTH AND PLANT LIFE SO THAT ALL PLANTS ARE IN A CONDITION SATISFACTORY AT THE END OF THE GUARANTEE PERIOD. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR FAILURE TO MONITOR WATERING OPERATIONS AND SHALL REPLACE ANY AND ALL PLANT MATERIAL THAT IS LOST DUE TO IMPROPER APPLICATION OF WATER.

1.8 GUARANTEE

A. GUARANTEE: A GUARANTEE PERIOD OF ONE YEAR SHALL BEGIN FROM END OF MAINTENANCE PERIOD AND FINAL ACCEPTANCE FOR TREES, SHRUBS, AND GROUND COVERS. ALL PLANTS SHALL GROW AND BE HEALTHY FOR THE GUARANTEE PERIOD AND TREES SHALL LIVE AND GROW IN ACCEPTABLE UPRIGHT POSITION. ANY PLANT NOT ALIVE, IN POOR HEALTH, OR IN POOR CONDITION AT THE END OF THE GUARANTEE PERIOD WILL BE REPLACED IMMEDIATELY. ANY PLANT WILL ONLY NEED TO BE REPLACED ONCE DURING THE GUARANTEE PERIOD. CONTRACTOR TO PROVIDE DOCUMENTATION SHOWING WHERE EACH PLANT TO BE REPLACED IS LOCATED. ANY OUTSIDE FACTORS, SUCH AS VANDALISM OR LACK OF MAINTENANCE ON THE PART OF THE OWNER, SHALL NOT BE PART OF THE GUARANTEE.

PART II - PRODUCTS

2.1 LANDSCAPE MATERIALS

A. TREE STAKING: ALL TREES SHALL BE STAKED FOR ONE YEAR WARRANTY PERIOD. ALL TREES NOT PLUMB SHALL BE REPLACED. STAKED TREES SHALL USE VINYL TREE TIES AND TREE STAKES TWO (2) INCH BY TWO (2) BY EIGHT (8) FOOT COMMON PINE STAKES USED AS SHOWN ON THE DETAILS.

B. TREE WRAP: TREE WRAP IS NOT TO BE USED.

C. MULCH/ROCK: SEE PLANS. ALL PLANTER BEDS TO RECEIVE A MINIMUM 3" LAYER FOR TREES, SHRUBS, AND PERENNIALS AND 1" FOR GROUNDCOVERS.

D. WEED BARRIER: DEWITT 5 OZ. WEED BARRIER FABRIC. MANUFACTURED BY DEWITT COMPANY, DEWITTCOMPANY.COM OR APPROVED EQUAL.

E. TREE, SHRUB, AND GRASS BACKFILL MIXTURE; BACKFILL MIXTURE TO BE 80% NATIVE SOIL AND 20% TOPSOIL, THOROUGHLY MIXED TOGETHER PRIOR TO PLACEMENT.

F. TOPSOIL: REQUIRED FOR TURF AREAS, PLANTER BEDS AND BACKFILL MIXTURE. ACCEPTABLE TOPSOIL SHALL MEET THE FOLLOWING STANDARDS:

a. PH: 5.5-7.5
b. EC (ELECTRICAL CONDUCTIVITY): < 2.0 MMHOS PER CENTIMETER
c. SAR (SODIUM ABSORPTION RATION); < 3.0
d. % OM (PERCENT ORGANIC MATTER): >1%
e. TEXTURE (PARTICLE SIZE PER USDA SOIL CLASSIFICATION): SAND <70%; CLAY < 30%; SILT < 70%, STONE FRAGMENTS (GRAVEL OR ANY SOIL PARTICLE GREATER THAN TWO (2) MM IN SIZE) < 5% BY VOLUME.

G. TURF SOD: ALL SOD SHALL BE 18 MONTH OLD AS SPECIFIED ON PLANS (OR APPROVED EQUAL) THAT HAS BEEN CUT FRESH THE MORNING OF INSTALLATION. ONLY SOD THAT HAS BEEN GROWN ON A COMMERCIAL SOD FARM SHALL BE USED. ONLY USE SOD FROM A SINGLE SOURCE.

H. LANDSCAPE CURB EDGING: SIX (6) INCHES BY FOUR (4) INCHES EXTRUDED CONCRETE CURB MADE UP OF THE FOLLOWING MATERIALS:

a. WASHED MORTAR SAND FREE OF ORGANIC MATERIAL.
b. PORTLAND CEMENT (SEE CONCRETE SPEC. BELOW FOR TYPE)
c. REINFORCED FIBER - SPECIFICALLY PRODUCED FOR COMPATIBILITY WITH AGGRESSIVE ALKALINE ENVIRONMENT OF PORTLAND CEMENT-BASED COMPOSITES.
d. ONLY POTABLE WATER FOR MIXING.

I. LANDSCAPE METAL EDGING: 5" ALUMINUM EDGING WITH 15" DOWELS INTO THE GROUND FOR STABILIZATION.

PART III - EXECUTION

3.1 GRADING

A. TOPSOIL PREPARATION: GRADE PLANTING AREAS ACCORDING TO THE GRADING PLAN. ELIMINATE UNEVEN AREAS AND LOW SPOTS. PROVIDE FOR PROPER GRADING AND DRAINAGE.

B. TOPSOIL PLACEMENT: SLOPE SURFACED AWAY FROM BUILDING AT TWO (2) PERCENT SLOPE WITH NO POCKETS OF STANDING WATER. ESTABLISH FINISH GRADES OF ONE (1) INCHES FOR PLANTERS BELOW GRADE AS ADJACENT PAVED SURFACES. PROVIDE NEAT, SMOOTH, AND UNIFORM FINISH GRADES. REMOVE SURPLUS SUB-SOIL AND TOPSOIL FROM THE SITE.

C. COMPACTION: COMPACTION UNDER HARD SURFACE AREAS (ASPHALT PATHS AND CONCRETE SURFACES) SHALL BE NINETY-FIVE (95) PERCENT. COMPACTION UNDER PLANTING AREAS SHALL BE BETWEEN EIGHTY-FIVE (85) AND NINETY (90) PERCENT.

3.2 TURF GRADING

A. THE SURFACE ON WHICH THE SOD IS TO BE LAID SHALL BE FIRM AND FREE FROM FOOTPRINTS, DEPRESSIONS, OR UNDULATIONS OF ANY KIND. THE SURFACE SHALL BE FREE OF ALL MATERIALS LARGER THAN 1/2" IN DIAMETER.

B. THE FINISH GRADE OF THE TOPSOIL ADJACENT TO ALL SIDEWALKS, MOW-STRIPS, ETC. PRIOR TO THE LAYING OF SOD, SHALL BE SET SUCH THAT THE CROWN OF THE GRASS SHALL BE AT THE SAME LEVEL AS THE ADJACENT CONCRETE OR HARD SURFACE. NO EXCEPTIONS.

3.3 PLANTING OPERATIONS

A. REVIEW THE EXACT LOCATIONS OF ALL TREES AND SHRUBS WITH THE PROJECT REPRESENTATIVE FOR APPROVAL PRIOR TO THE DIGGING OF ANY HOLES. PREPARE ALL HOLES ACCORDING TO THE DETAILS ON THE DRAWINGS.

B. WATER PLANTS IMMEDIATELY UPON ARRIVAL AT THE SITE. MAINTAIN IN MOIST CONDITION UNTIL PLANTED.

C. BEFORE PLANTING, LOCATE ALL UNDERGROUND UTILITIES PRIOR TO DIGGING. DO NOT PLACE PLANTS ON OR NEAR UTILITY LINES.

D. THE TREE PLANTING HOLE SHOULD BE THE SAME DEPTH AS THE ROOT BALL, AND TWO TIMES THE DIAMETER OF THE ROOT BALL.

E. TREES MUST BE PLACED ON UNDISTURBED SOIL AT THE BOTTOM OF THE PLANTING HOLE.

F. THE TREE HOLE DEPTH SHALL BE DETERMINED SO THAT THE TREE MAY BE SET SLIGHTLY HIGH OF FINISH GRADE, 1" TO 2" ABOVE THE BASE OF THE TRUNK FLARE, USING THE TOP OF THE ROOT BALL AS A GUIDE.

G. PLANT IMMEDIATELY AFTER REMOVAL OF CONTAINER FOR CONTAINER PLANTS.

H. SET TREE ON SOIL AND REMOVE ALL BURLAP, WIRE BASKETS, TWINE, WRAPPINGS, ETC. BEFORE BEGINNING AND BACKFILLING OPERATIONS. DO NOT USE PLANTING STOCK IF THE BALL IS CRACKED OR BROKEN BEFORE OR DURING PLANTING OPERATION.

I. APPLY VITAMIN B-1 ROOT STIMULATOR AT THE RATE OF ONE (1) TABLESPOON PER GALLON.

J. UPON COMPLETION OF BACKFILLING OPERATION, THOROUGHLY WATER TREE TO COMPLETELY SETTLE THE SOIL AND FILL ANY VOIDS THAT MAY HAVE OCCURRED. USE A WATERING HOSE, NOT THE AREA IRRIGATION SYSTEM. IF ADDITIONAL PREPARED TOPSOIL MIXTURE NEEDS TO BE ADDED. IT SHOULD BE A COURSER MIX AS REQUIRED TO ESTABLISH FINISH GRADE AS INDICATED ON THE DRAWINGS.

K. THE AMOUNT OF PRUNING SHALL BE LIMITED TO THE MINIMUM NECESSARY TO REMOVE DEAD OR INJURED TWIGS AND BRANCHES. ALL CUTS, SCARS, AND BRUISES SHALL BE PROPERLY TREATED ACCORDING TO THE DIRECTION OF THE PROJECT REPRESENTATIVE. PROPER PRUNING TECHNIQUES SHALL BE USED. DO NOT LEAVE STUBS AND DO NOT CUT THE LEADER BRANCH. IMPROPER PRUNING SHALL BE CAUSE FOR REJECTION OF THE PLANT MATERIAL.

L. PREPARE A WATERING CIRCLE OF 2' DIAMETER AROUND THE TRUNK. FOR CONIFERS, EXTEND THE WATERING WELL TO THE DRIP LINE OF THE TREE CANOPY. PLACE MULCH AROUND THE PLANTED TREES.

4. TURF - SOD LAYING

A. TOP SOIL AMENDMENTS: PRIOR TO LAYING SOD, COMMERCIAL FERTILIZER SHALL BE APPLIED AND INCORPORATED INTO THE UPPER FOUR (4) INCHES OF THE TOPSOIL AT A RATE OF FOUR POUNDS OF NITROGEN PER ONE THOUSAND (1,000) SQUARE FEET. ADJUST FERTILIZATION MIXTURE AND RATE OF APPLICATION AS NEEDED TO MEET RECOMMENDATIONS GIVEN BY TOPSOIL ANALYSIS. INCLUDE OTHER AMENDMENTS AS REQUIRED.

B. FERTILIZATION: THREE WEEKS AFTER SOD PLACEMENT FERTILIZE THE TURF AT A RATE OF ½ POUND OF NITROGEN PER 1000 SQUARE FEET. USE FERTILIZER SPECIFIED ABOVE. ADJUST FERTILIZATION MIXTURE AND RATES TO MEET RECOMMENDATIONS GIVEN BY TOPSOIL ANALYSIS.

C. SOD AVAILABILITY AND CONDITION: SOD IS TO BE DELIVERED TO THE SITE IN GOOD CONDITION. IT IS TO BE INSPECTED UPON ARRIVAL AND INSTALLED WITHIN 24 HOURS. SOD IS TO BE MOIST AND COOL TO ENSURE THAT DECOMPOSITION HAS NOT BEGUN AND IS TO BE FREE OF PESTS, DISEASES, OR BLEMISHES. THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE EXISTING CONDITIONS PRIOR TO ANY CONSTRUCTION. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR FURNISHING AND LAYING ALL SOD REQUIRED ON THE PLANS. HE SHALL FURNISH NEW SOD AS SPECIFIED ABOVE AND LAY IT SO AS TOO COMPLETELY SATISFY THE INTENT AND MEANING OF THE PLANS AND SPECIFICATION AT NO EXTRA COST TO THE OWNER. IN THE CASE OF ANY DISCREPANCY IN THE AMOUNT OF SOD TO BE REMOVED OR AMOUNT TO BE USED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPORT SUCH TO THE PROJECT REPRESENTATIVE PRIOR TO COMMENCING THE WORK.

D. SOD LAYING: THE SURFACE UPON WHICH THE NEW SOD TO BE LAID WILL BE PREPARED AS SPECIFIED IN THE DETAIL AND BE LIGHTLY WATERED BEFORE LAYING. AREAS WHERE SOD IS TO BE LAID SHALL BE CUT TRIMMED, OR SHAPED TO RECEIVE FULL WIDTH SOD (MINIMUM TWELVE (12) INCHES). NO PARTIAL STRIP OR PIECES WILL BE ACCEPTED.

E. SOD SHALL BE TAMPED LIGHTLY AS EACH PIECE IS SET TO ENSURE THAT GOOD CONTACT IS MADE BETWEEN EDGES AND ALSO THE GROUND. IF VOIDS OR HOLES ARE DISCOVERED, THE SOD PIECE(S) IS (ARE) TO BE RAISED AND TOPSOIL IS TO BE USED TO FILL THE AREAS UNTIL LEVEL. SOD LAID ON ANY SLOPED AREAS SHALL BE ANCHORED WITH WOODEN DOWELS OR OTHER MATERIALS WHICH ARE ACCEPTED BY THE GRASS SOD INDUSTRY.

F. SOD SHALL BE ROLLED WITH A ROLLER THAT IS AT LEAST 50% FULL IMMEDIATELY AFTER INSTALLATION TO ENSURE THE FULL CONTACT WITH SOIL IS MADE.

G. APPLY WATER DIRECTLY AFTER LAYING SOD. RAINFALL IS NOT ACCEPTABLE.

H. WATERING OF THE SOD SHALL BE THE COMPLETE RESPONSIBILITY OF THE CONTRACTOR BY WHATEVER MEANS NECESSARY TO ESTABLISH THE SOD IN AN ACCEPTABLE MANNER TO THE END OF THE MAINTENANCE PERIOD. IF AN IRRIGATION SYSTEM IS IN PLACE ON THE SITE, BUT FOR WHATEVER REASON, WATER IS NOT AVAILABLE IN THE SYSTEM. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO WATER THE SOD BY WHATEVER MEANS, UNTIL THE SOD IS ACCEPTED BY THE PROJECT REPRESENTATIVE.

I. PROTECTION OF THE NEWLY LAID SOD SHALL BE THE COMPLETE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE ACCEPTABLE VISUAL BARRIERS, TO INCLUDE BARRICADES SET APPROPRIATE DISTANCES WITH STRINGS OR TAPES BETWEEN BARRIERS, AS AN INDICATION OF NEW WORK. THE CONTRACTOR IS TO RESTORE ANY DAMAGED AREAS CAUSED BY OTHERS (INCLUDING VEHICULAR TRAFFIC), EROSION, ETC, UNTIL SUCH TIME AS THE LAWN IS ACCEPTED BY THE OWNER.

J. ALL SOD THAT HAS NOT BEEN LAID WITHIN 24 HOURS SHALL BE DEEMED UNACCEPTABLE AND WILL BE REMOVED FROM THE SITE.

3.5 WEED BARRIER

A. FOR THE HEALTH OF THE SOIL AND THE MICROORGANISMS, WEED BARRIER IS NOT RECOMMENDED. IF USE IS REQUIRED OR REQUESTED, DO NOT PLACE IN ANNUAL OR GRASS AREAS.

B. CUT WEED BARRIER BACK TO THE EDGE OF THE PLANT ROOTBALL.

C. OVERLAP ROWS OF FABRIC MIN. 6"

D. STABLE FABRIC EDGES AND OVERLAPS TO GROUND.

END OF SECTION

LANDSCAPE PLAN NOTES

GRADING AND DRAINAGE REQUIREMENTS

- AS PER CODE, ALL GRADING IS TO SLOPE AWAY FROM ANY STRUCTURE. SURFACE OF THE GROUND WITHIN 10' FEET OF THE FOUNDATION SHOULD DRAIN AWAY FROM THE STRUCTURE WITH A MINIMUM FALL OF 6"
- AS PER CODE, FINISHED GRADE WILL NOT DRAIN ON NEIGHBORING PROPERTIES
- A MINIMUM OF 6" OF FOUNDATION WILL BE LEFT EXPOSED AT ALL CONDITIONS
- LANDSCAPE CONTRACTOR TO MAINTAIN OR IMPROVE FINAL GRADE AND PROPER DRAINAGE ESTABLISHED BY EXCAVATOR, INCLUDING BUT NOT LIMITED TO ANY MAINTENANCE, PRESERVATION, OR EXAGGERATION OF SLOPES, BURMS, AND SWALES.
- LANDSCAPE CONTRACTOR IS RESPONSIBLE TO CORRECT ANY DAMAGED OR IMPROPER WATERFLOW OF ALL SWALES, BERMS, OR GRADE
- DEVICES FOR CHANNELING ROOF RUN-OFF SHOULD BE INSTALLED FOR COLLECTION AND DISCHARGE OF RAINWATER AT A MINIMUM OF 10' FROM THE FOUNDATION, OR BEYOND THE LIMITS OF FOUNDATION WALL BACKFILL; WHICHEVER DISTANCE IS GREATER

GENERAL LANDSCAPE NOTES

- LANDSCAPE CONTRACTOR SHALL HAVE ALL UTILITIES BLUE STAKED PRIOR TO DIGGING. ANY DAMAGE TO UTILITIES SHALL BE REPAIRED AT CONTRACTORS EXPENSE WITH NO ADDITIONAL COST TO THE OWNER.
- DURING THE BIDDING AND INSTALLATION PROCESS, THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR VERIFYING QUANTITIES OF ALL MATERIALS. IF DISCREPANCIES EXIST, THE PLAN SHALL DICTATE QUANTITIES TO BE USED.
- ALL PLANT MATERIAL SHALL BE PLANTED ACCORDING TO ANSI STANDARDS WITH CONSIDERATION TO INDIVIDUAL SOIL AND SITE CONDITIONS, AND NURSERY CARE AND INSTALLATION INSTRUCTIONS.
- SELECTED PLANTS WILL BE ACCORDING TO THE PLANT LEGEND. IF SUBSTITUTIONS ARE NECESSARY, PROPOSED LANDSCAPE CHANGES MUST BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO LAYING SOD.
- SHOULD THE SITE REQUIRE ADDITIONAL TOPSOIL, REFER TO SOIL TEST WHEN MATCHING EXISTING SOIL. IF A MATCHING SOIL IS NOT LOCATABLE, A 6" DEPTH OF SANDY LOAM TOPSOIL (MIXED PRIOR TO SPREADING WITH 1% ORGANIC MATTER) CAN BE INCORPORATED INTO THE EXISTING SOIL USING: THE FOLLOWING DIRECTIONS: SCARIFY TOP 6" OF EXISTING SUBSOIL AND INCORPORATE 3" OF NEW COMPOST ENRICHED TOPSOIL. SPREAD REMAINING TOPSOIL TO REACH FINISHED GRADE.
- EDGING, AS INDICATED ON PLAN, IS TO BE INSTALLED BETWEEN ALL LAWN AND PLANTER AREAS. ANY TREES LOCATED IN LAWN MUST HAVE A 4-6' TREE RING OF THE SAME EDGING.

LAWN/GRASS AREA

- SOD
  - O ALL LAWN AREAS TO RECEIVE MIN. 6" DEPTH OF QUALITY TOPSOIL. IF TOPSOIL IS PRESENT ON SITE, PROVIDE SOIL TEST TO DETERMINE SOIL QUALITY FOR PROPOSED HYDROSEEDING. FINE LEVEL ALL AREAS PRIOR TO LAYING SOD ALL. LAWN AREAS SHALL BE IRRIGATED WITH 100% COVERAGE BY POP-UP SPRAY HEADS AND GEAR-DRIVEN ROTORS. ALL DECIDUOUS AND CONIFER TREES PLANTED WITHIN SOD AREAS SHALL HAVE A FOUR FOOT [4'] DIAMETER TREE RING COVERED WITH CHOCOLATE BROWN BARK MULCH, NO SHREDDED FINES. SUBMIT SAMPLES TO BE APPROVED BY LANDSCAPE ARCHITECT AND OWNER BEFORE INSTALLATION.
- SEED
  - O **SOIL:** TEST SOIL FOR ADEQUATE FERTILITY. ANY WEEDS CURRENTLY ON THE SITE SHALL BE REMOVED BY EITHER MECHANICAL MEANS SUCH AS HAND PULLING OR SPRAYING WITH AN HERBICIDE SUCH AS GLYPHOSATE MIXED WITH A SURFACTANT. HERBICIDES SHOULD BE APPLIED BY A CERTIFIED PESTICIDE APPLICATOR . COMPACTED SOIL SHALL BE SCARIFIED TO A DEPTH OF 18 INCHES BEFORE ADDING 6" OF WEED FREE TOPSOIL WITH HIGH ORGANIC MATTER. FINE LEVEL ALL AREAS PRIOR TO HYDROSEEDING AND SET THE GRADE FOR POSITIVE DRAINAGE. TOPSOIL SHOULD BE SOFT AT TIME OF APPLICATION. FERTILIZER IS TO BE ADDED WHEN HYDROSEEDING. REFER TO SOIL TEST RESULTS AND HYDROSEEDING CONTRACTOR FOR APPLICATION RATES.
  - O **SEED**: USE SEED MIXES AS SPECIFIED BY LANDSCAPE ARCHITECT OF PURE LIVE SEED (PLS) ON A BASIS/ACRE. THE OPTIMUM TIME TO PANT IS IN NOVEMBER BEFORE THE FIRST SNOW. DO NOT SOW OVER HEAVY SNOWPACK. SEED WILL LAY DORMANT AND BE READY TO GERMINATE ONCE THE GROUND THAWS AND WARMS IN LATE WINTER. IF SEEDING IN LATE FALL IS NOT POSSIBLE, SEED BEFORE APRIL 1. CONTACT SUMMIT SEED. DARRELL@SUMMITSEEDING.COM 435-709-8003.
  - O **APPLICATION**: HYDROSEEDING SHALL CONSIST OF SEED, TACKIFIER, WOOD FIBER MULCH AND FERTILIZER IN A WATER BASED SLURRY. TANK MOUNTED TRUCK SHALL HAVE CONTINUOUS AGITATION. THE PUMP ON THE TRUCK WILL FORCE THE SLURRY THROUGH A TOP-MOUNTED DISCHARGE NOZZLE (TOWER). USE 2000 POUNDS WOOD FIBER MULCH AND 50-100 POUNDS OF TACKIFIER PER ACRE.
  - O **IRRIGATION**: ALL AREAS MUST BE KEPT MOIST WITHOUT PUDDLES OR RUNOFF USING FREQUENT DAYTIME WATER CYCLES. ADJUST AND MONITOR SPRINKLERS AND CLOCK TO ACHIEVE PROPER IRRIGATION.
- IF PERMANENT IRRIGATION IS NOT PLANNED, TEMPORARY IRRIGATION IS REQUIRED AT THE FOLLOWING SCHEDULE: FOR 8 WEEKS SOIL SHALL REMAIN DAMP DURING ESTABLISHMENT PERIOD WITHOUT PUDDLING ON SOIL SURFACE. APPLY WATER APPROXIMATELY THREE TIMES A DAY FOR 5-7 MINUTES FOR EACH IRRIGATION EVENT DEPENDING ON TEMPERATURE AND TIME OF YEAR. A SPARSE DENSITY IS EXPECTED. CONTINUE TEMPORARY IRRIGATION FOR ONE YEAR EVENTUALLY REDUCING WATER APPLICATION TO ONCE A WEEK, THEN ONCE EVERY TWO WEEKS TO FINALLY ONCE A MONTH. MONITOR PROGRESS OF ESTABLISHMENT AND ADJUST SPRINKLERS ACCORDINGLY. THE GOAL IS TO CREATE A HEALTHY STAND OF GRASSES WITH LITTLE TO NO IRRIGATION.
  - O **WEED CONTROL AND MAINTENANCE:** MANDATORY WEED CONTROL IS REQUIRED TO REDUCE COMPETITION AND WEED SEED PRODUCTION. WEEDS MUST BE KEPT UNDER CONTROL BY MECHANICALLY PULLING OR CHEMICALLY SPRAYING AS DIRECTED BY THE APPLICATOR. APPLY A BROADLEAF HERBICIDE BIANNUALLY AND ESTABLISH A CONSISTENT REGIMEN OF MOWING AND FERTILIZING TO PREVENT WEEDS FROM PRODUCING SEED. MOW ONCE IN THE SPRING AND ONCE IN THE FALL BEFORE FERTILIZATION. FERTILIZER OPTION IS SUSTAIN 4-6-4 DEPENDING ON SOIL FERTILITY. DO NOT MOW SHORTER THAN 4 INCHES. BAG ALL CUTTINGS TO REMOVE WEED SEED FROM PROPERTY. KEEP WEEDS CUT DOWN AND DO NOT LET THEM GO TO SEED. WEED SEED PRODUCTION IS THE GAUGE FOR WHEN TO MOW, WHICH GENERALLY OCCURS IN APRIL OR MAY AS WELL AS EARLY FALL DEPENDING ON TEMPERATURE AND MOISTURE. THIS PROCEDURE WILL BE REQUIRED UNTIL A HEALTHY STAND OF GRASSES IS EVIDENT AND COMPETING WELL WITH WEEDS. EXPECT FROM 1 TO 3 YEARS.
  - O **PROGANICS BIOTIC SOIL MEDIA**: WHERE CONDITIONS MAY PROHIBIT ADDING TOPSOIL, PROGANICS BIOTIC SOIL MEDIA SHOULD BE APPLIED BY HYDROSEEDER AT 3500LBS/ACRE WITH SEED AND FERTILIZER PRIOR TO THE APPLICATION OF WOOD MULCH(2000LBS/ACRE) COMBINED WITH TACKIFIER (50-100 LBS/ACRE.)
  - O **ADDING FORBS**: SHRUBS AND PERENNIALS, BY SEED OR CONTAINER, CAN BE ADDED ONCE WEEDS ARE UNDER CONTROL AND HERBICIDE IS NO LONGER NEEDED. USUALLY 1-2 YEARS AFTER HYDROSEEDING.

MULCH

- ORGANIC
  - O PLANTING AREAS TO BE FREE OF WEEDS AND RECEIVE MIN. 12" DEPTH OF QUALITY TOPSOIL. IF TOPSOIL IS PRESENT ON SITE, PROVIDE SOIL TEST TO DETERMINE SOIL QUALITY FOR PROPOSED PLANTINGS. PROVIDE 3" DEPTH OF ORGANIC MULCH TOP DRESSING. KEEP MULCH AWAY FROM TOP OF ROOT BALL OF ALL PLANT MATERIAL.
  - O IF REQUIRED BY CITY, INSTALL DEWITT 5OZ WEED BARRIER LANDSCAPE FABRIC UNDER ALL MULCH AREAS. KEEP WEED BARRIER 1 FOOT AWAY FROM EDGE OF ROOT BALL OF ALL PLANT MATERIAL. IF WEED BARRIER IS NOT REQUIRED OR INSTALLED, AT OWNER'S APPROVAL, USE TREFLAN 10 AS A PRE-EMERGENT. APPLY ACCORDING TO LABEL DIRECTIONS BY CERTIFIED PESTICIDE APPLICATOR AFTER PLANTING AND AFTER APPLYING MULCH.
  - O IF USING TREFLAN 10 WITHOUT WEED BARRIER, THIS AREA WILL ALSO NEED AN YEARLY MANAGEMENT PROGRAM. SUBMIT PROGRAM TO OWNER.
  - O ANNUAL PLANTING AREAS AS SHOWN ON PLAN TO RECEIVE 4" OF SOIL AID MATERIAL (ORGANIC MULCH). NO MULCH SHALL BE PLACED WITHIN 12" OF TREE TRUNK AND 6" WITHIN BASE OF SHRUBS AND PERENNIALS. DO NOT COVER LOW BRANCHES OF SHRUBS WITH ROCK.
- INORGANIC
  - O ROCK MULCH PLANTING AREAS TO BE FREE OF WEEDS AND RECEIVE MIN. 12" DEPTH OF QUALITY TOPSOIL. IF TOPSOIL IS PRESENT ON SITE, PROVIDE SOIL TEST TO DETERMINE SOIL QUALITY FOR PROPOSED PLANTINGS. WHERE PLANTING IS SPARSE (GREATER THAN 4' DISTANCE BETWEEN PLANTS OR 3# BETWEEN GROUPINGS), ADDITIONAL TOPSOIL IS NOT NECESSARY EXCEPT FOR BACKFILLING PLANTING HOLE. PREPARE A HOLE TWICE THE WIDTH OF THE CONTAINER, WATER IN PLANT, BACKFILL WITH A 4:1 RATIO OF SOIL TO COMPOST. TAMP LIGHTLY AND WATER AGAIN. KEEP ROCK 12" AWAY FROM TRUNK OF TREES AND 6" AWAY FROM BASE OF SHRUBS AND PERENNIALS. DO NOT COVER LOW BRANCHES OF SHRUBS WITH ROCK.
  - O IF REQUIRED BY CITY, INSTALL DEWITT 5OZ WEED BARRIER LANDSCAPE FABRIC UNDER ALL ROCK AREAS. KEEP WEED BARRIER 1 FOOT AWAY FROM EDGE OF ROOT BALL OF ALL PLANT MATERIAL. IF WEED BARRIER IS NOT REQUIRED OR INSTALLED, AT OWNER'S APPROVAL, USE TREFLAN 10 AS A PRE-EMERGENT. APPLY ACCORDING TO LABEL DIRECTIONS BY CERTIFIED PESTICIDE APPLICATOR AFTER PLANTING AND AFTER APPLYING MULCH.
  - O IF USING TREFLAN 10 WITHOUT WEED BARRIER, THIS AREA WILL ALSO NEED AN YEARLY MANAGEMENT PROGRAM. SUBMIT PROGRAM TO OWNER. UPON REQUEST, A PLANT GUIDE IS AVAILABLE WITH OUR RECOMMENDATIONS REGARDING WEED BARRIER, PLANT CARE AND MAINTENANCE.

GENERAL IRRIGATION NOTES

- A NEW UNDERGROUND, AUTOMATIC IRRIGATION SYSTEM IS TO BE INSTALLED BY CONTRACTOR IN ALL LANDSCAPED AREAS. LAWN AREAS TO RECEIVE AT LEAST 100% HEAD TO HEAD COVERAGE AND PLANTER AREAS TO RECEIVE A FULL DRIP SYSTEM TO EACH TREE AND SHRUB. POINT SOURCE DRIP OR IN-LINE DRIP TUBING TO BE SECURED AT CENTER OF ROOT BALL, NOT AGAINST TRUNK. SEE IRRIGATION PLAN.

INSTALLER RESPONSIBILITIES AND LIABILITIES

- THESE PLANS ARE FOR BASIC DESIGN LAYOUT AND INFORMATION. LANDSCAPE CONTRACTOR IS REQUIRED TO USE TRADE KNOWLEDGE FOR IMPLEMENTATION. OWNER ASSUMES NO LIABILITIES FOR INADEQUATE ENGINEERING CALCULATIONS, MANUFACTURER PRODUCT DEFECTS, INSTALLATION OF ANY LANDSCAPING AND COMPONENTS, OR TIME EXECUTION.
- LANDSCAPE CONTRACTOR IS RESPONSIBLE AND LIABLE FOR INSTALLATION OF ALL LANDSCAPING AND IRRIGATION SYSTEMS INCLUDING CODE REQUIREMENTS, TIME EXECUTIONS, INSTALLED PRODUCTS AND MATERIALS.

PLANT MATERIALS

(NOTE: PLANT QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. IN CASE OF DISCREPANCY, THE DRAWING SHALL TAKE PRECEDENCE.)

CONIFERS

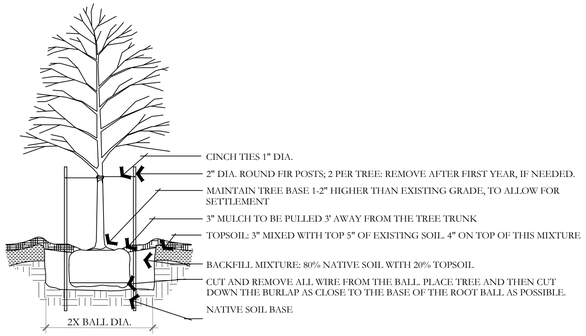
SYMBOL	CODE	QTY	CONT		BOTANICAL / COMMON NAME
	PN'A	7	B & B	6`	Pinus nigra `Arnold Sentinel` Arnold Sentinel Austrian Pine

DECIDUOUS TREES

SYMBOL	CODE	QTY	CONT		BOTANICAL / COMMON NAME
	BP'P	5	B & B	2"Cal	Betula platyphylla `Jefpark` Parkland Pillar Birch
	M'PR	2	B & B	2"Cal	Malus x `Prairie Rose` Prairie Rose Crabapple
	M'RS	2	B & B	2"Cal	Malus x `Raspberry Spear' Raspberry Spear Crabapple
	UX'F	7	B & B	2"Cal	Ulmus x `Frontier` Frontier Elm
	ZS'M	3	B & B	2"Cal	Zelkova serrata `Musashino` Musashino Zelkova

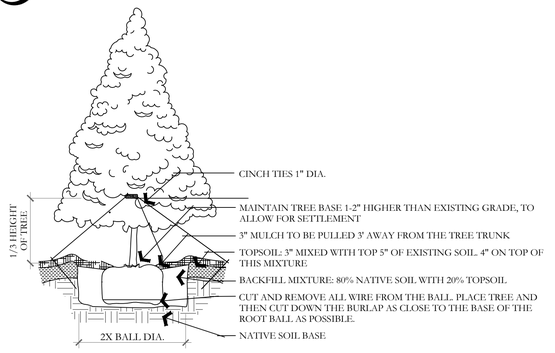
DECIDUOUS SHRUBS

SYMBOL	CODE	QTY	CONT	BOTANICAL / COMMON NAME
	AA'O	3	5 gal	Amelanchier alnifolia `



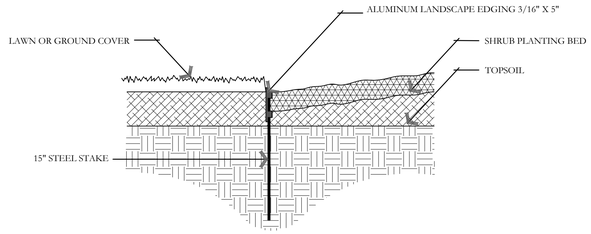
A DECIDUOUS TREE PLANTING

NOT TO SCALE



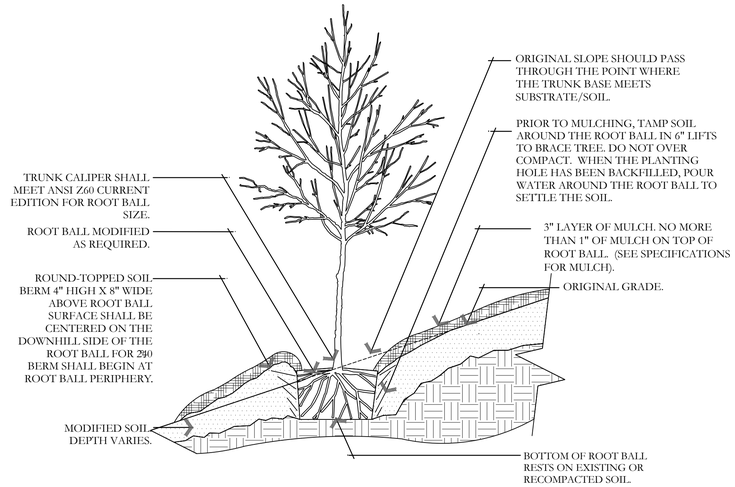
D EVERGREEN TREE PLANTING

NOT TO SCALE



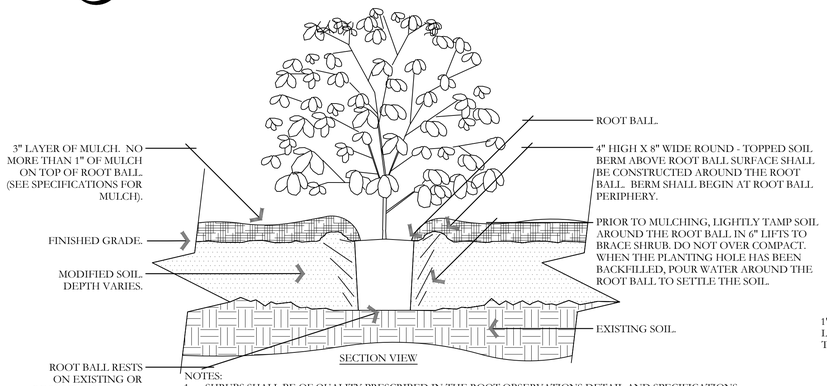
G METAL EDGING DETAIL

NOT TO SCALE



B TREE ON SLOPE 5% (20:1) TO 50% (2:1)

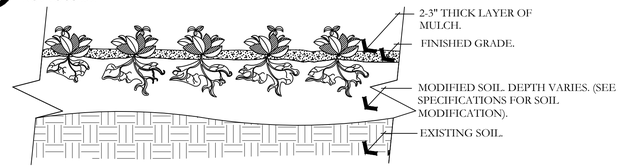
NOT TO SCALE



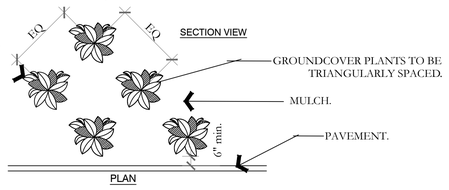
NOTES:
1. SHRUBS SHALL BE OF QUALITY PRESCRIBED IN THE ROOT OBSERVATIONS DETAIL AND SPECIFICATIONS.
2. SEE SPECIFICATIONS FOR FURTHER REQUIREMENTS RELATED TO THIS DETAIL.

E SHRUB - MODIFIED SOIL

NOT TO SCALE

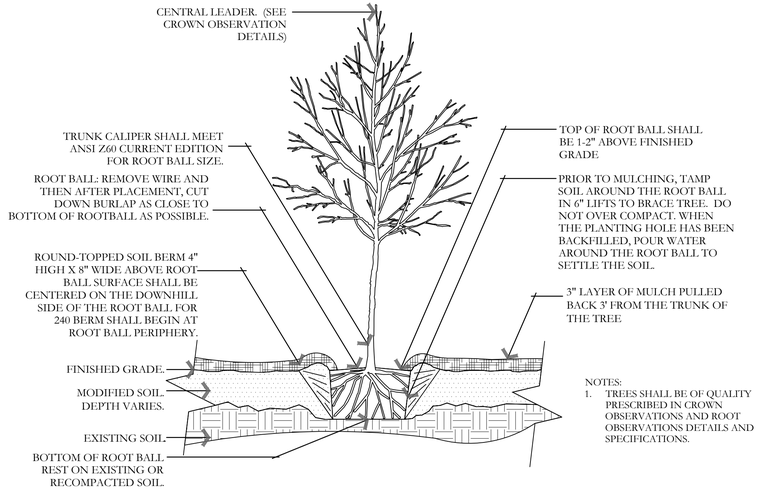


NOTES:
1- SEE PLANTING LEGEND FOR GROUNDCOVER SPECIES, SIZE, AND SPACING DIMENSION. THAT GROW
2- SMALL ROOTS AROUND, UP, OR DOWN THE ROOT BALL PERIPHERY ARE CONSIDERED A NORMAL CONDITION IN CONTAINER PRODUCTION AND ARE ACCEPTABLE HOWEVER THEY SHOULD BE ELIMINATED AT THE TIME OF PLANTING. ROOTS ON THE PERIPHERY CAN BE REMOVED AT THE TIME OF PLANTING. (SEE ROOT BALL SHAVING CONTAINER DETAIL).
3- SETTLE SOIL AROUND ROOT BALL OF EACH GROUNDCOVER PRIOR TO MULCHING.



H PERENNIAL/GROUNDCOVER PLANTING

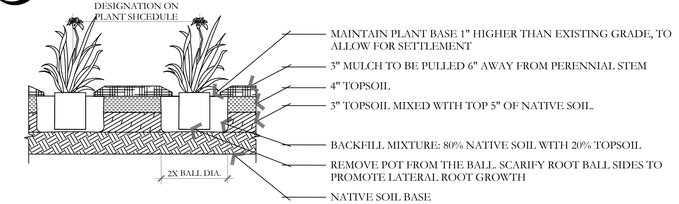
NOT TO SCALE



NOTES:
1. TREES SHALL BE OF QUALITY PRESCRIBED IN CROWN OBSERVATIONS AND ROOT OBSERVATIONS DETAILS AND SPECIFICATIONS.

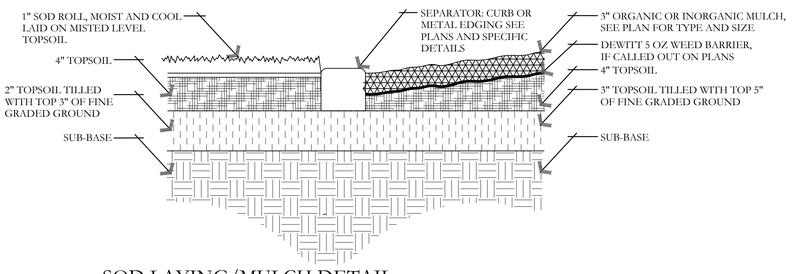
C TREE W/ BERM (EXISTING SOIL MODIFIED)

NOT TO SCALE



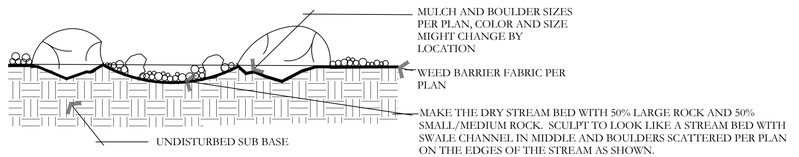
F PERENNIAL PLANTING

NOT TO SCALE



I SOD LAYING/MULCH DETAIL

NOT TO SCALE



J BOULDER AND DRY STREAM BED DETAIL

NOT TO SCALE

ISSUE DATE	PROJECT NUMBER
6/17/2026	UT26044

NO.	REVISION	DATE
1	XXXX	XX-XX-XX
2		
3		
4		

PLAN INFORMATION

** THIS PRINT FROM PKJ DESIGN GROUP IS BASED ON CIVIL AND ARCHITECT INFORMATION ISSUED ON 03/26/2026

811 BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC
1-800-662-4111
www.bluestakes.org

PROJECT INFORMATION

PH TENNIS CENTER
92 EAST 800 NORTH
OREM, UTAH

DEVELOPER / PROPERTY OWNER / CLIENT

HARRIS ARCHITECTURE
KEN HARRIS
801-377-6303

COPYRIGHT:
PKJ DESIGN GROUP

THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN AS AN INSTRUMENT OF PROFESSIONAL SERVICE IS PROPERTY OF PKJ DESIGN GROUP. IT IS NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF PKJ DESIGN GROUP.

LANDSCAPE ARCHITECT / PLANNER

PKJ DESIGN GROUP
Landscape Architecture • Planning & Visualization
3450 N. TRIUMPH BLVD. SUITE 102
LEHI, UTAH 84043 (801) 995-2217
www.pkjdesigngroup.com

LICENSE STAMP

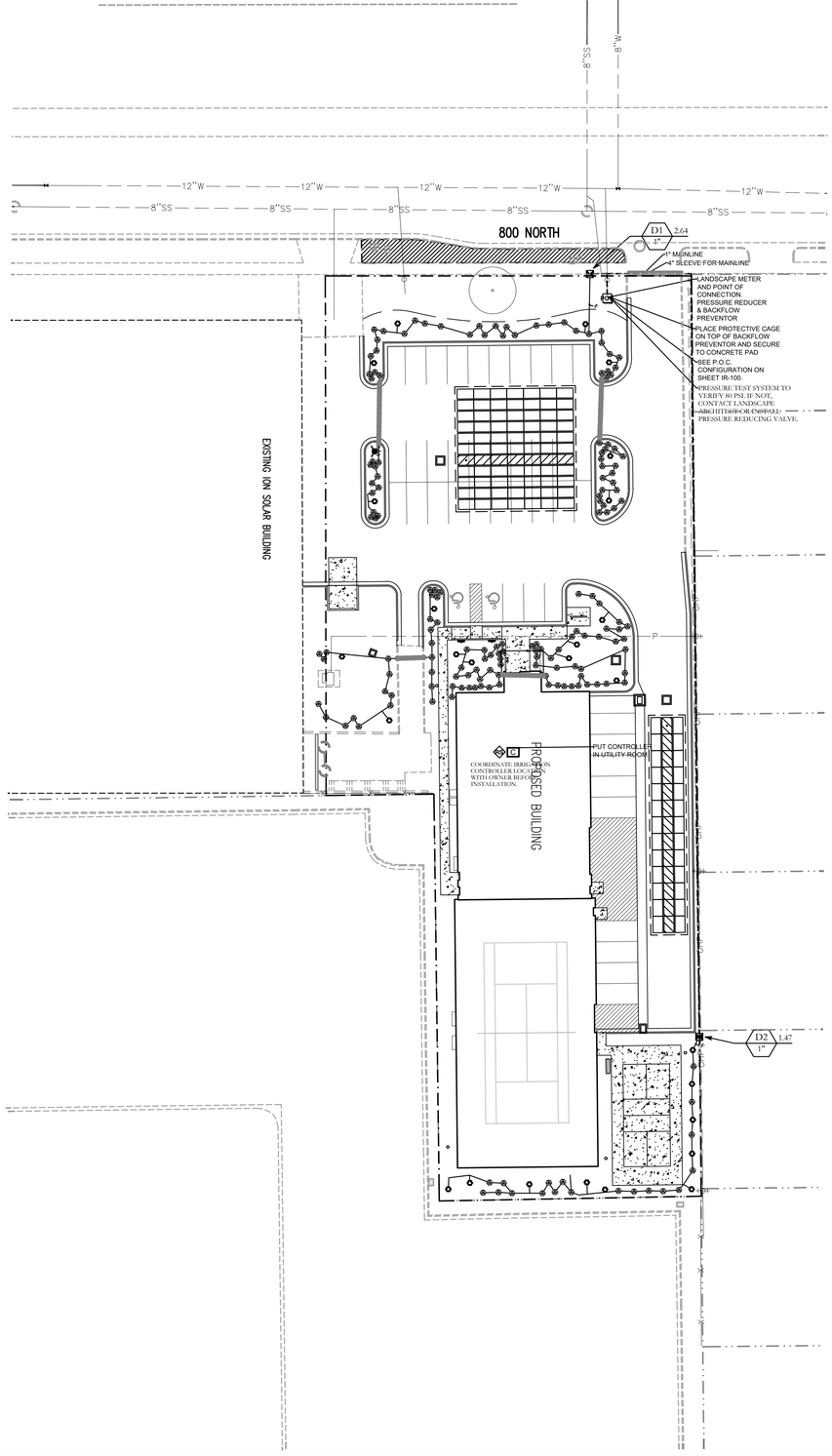
LICENSED LANDSCAPE ARCHITECT — JEROME AINSWORTH — 8128121-5301 — 6/17/2026 — ELECTRONIC SEAL — STATE OF UTAH

DRAWING INFO	
PM:	JTA
DRAWN:	ACP
CHECKED:	KBA
PLOT DATE:	6/17/2026

LANDSCAPE DETAILS

CITY PERMIT SET

LP-501



IRRIGATION LEGEND

NOTE: PLANT QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. IN CASE OF DISCREPANCY, THE DRAWING SHALL TAKE PRECEDENCE.) IF YOU NEED HELP WITH A WATER AUDIT CONSULTATION, OR A PLANT MAINTENANCE SCHEDULE, CONTACT PKJ@PKJDESIGNGROUP.COM)

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Rain Bird XCZ-100-IVMQ(2) 1" Wide Flow IVM Drip Control Kit for Commercial Applications. 1in. Ball Valve with 1in. PESBIVM Smart Valve w/ factory installed IVM-SOL 0.3-20 gpm and 1in. Pressure Regulating 40psi Quick-Check Basket Filter 0.3-20 gpm	2
	Rain Bird XFS-09-18 Drip Ring(SHRUB)	174
	Rain Bird XFS-09-18 Drip Ring(TREE)	26

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Rain Bird 44-RC 1" 1in. Brass Quick-Coupling Valve, with Corrosion-Resistant Stainless Steel Spring, Thermoplastic Rubber Cover, and 2-Piece Body.	1
	Stop and Waste Valve	1
M	Rain Bird EFB-CP-PRS-D 1" 1in. Brass Master Valve, that is Contamination Proof w/Self-Flushing Filter Screen. Globe Configuration, Reclaimed Water Compatible, and Purple Handle Cover Designates Non-Potable Water Use. With Pressure Regulator.	1
BF	Zurn 975XL 1" Reduced Pressure Backflow device	1
C	Rain Bird ESPLXIVM 60 Station, 2-Wire Controller w/ Smart Valve Technology. (1) ESPLXIVM 60-Station, Indoor/Outdoor, Plastic Wall-Mount Cabinet. System Requirements: Rain Bird LXIVM-XXX Integrated Valve Modules & 2-Wire Devices. Use Paige Electric Cable P7072D & Rain Bird WC20 Dry Splices ONLY. Ground System w/ (X) LXIVMSD Surge Device in Rain Bird Round Valve Boxes. Install Per Manufacturers Recommendations.	1
RS	Rain Bird WRZ-RC Wireless Rain Sensor Combo, includes 1 receiver and 1 rain sensor transmitter.	1
FS	Rain Bird FS-100-B 1in. Flow Sensor, Brass Model. Suggested Operating Range 10 GPM to 100 GPM. Size for Flow Not According to Pipe Size. Rain Bird Compatible Controllers: ESP-LXIVM(P) | LXD | LXME2(P) | ME3, or Controllers Accepting Custom K-Factor and Offset. Install in Rain Bird Valve Box.	1
POC	Water Meter 1"	1
	Irrigation Lateral Line: PVC Schedule 40 3/4"	1,153 lf
	Irrigation Mainline: PVC Schedule 40	382.2 lf
	Pipe Sleeve: PVC Class 200 SDR 21	107.6 lf

Valve Callout
- # — Valve Number
- # — Valve Flow
- #" — Valve Size

P.O.C. CONFIGURATION

(NOTE: PRESSURE TEST SYSTEM TO VERIFY 80 PSI. IF NOT, CONTACT LANDSCAPE ARCHITECT OR INSTALL PRESSURE REDUCING VALVE.)

- POC — SOURCE DATA
- BF — BACKFLOW PREVENTOR
- STOP AND WASTE VALVE
- M — MASTER VALVE
- FS — 1" FLOW SENSOR
- QUICK COUPLER

ISSUE DATE	PROJECT NUMBER
6/17/2026	UT26044

NO.	REVISION	DATE
1	XXXX	XX-XX-XX
2		
3		
4		

PLAN INFORMATION

** THIS PRINT FROM PKJ DESIGN GROUP IS BASED ON CIVIL AND ARCHITECT INFORMATION ISSUED ON 3/26/2026

811 BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC
1-800-662-4111
www.bluestakes.org

NORTH

0' 15' 30' 60' 120'

GRAPHIC SCALE: 1" = 30'

PROJECT INFORMATION

PH TENNIS CENTER
92 EAST 800 NORTH
OREM, UTAH

DEVELOPER / PROPERTY OWNER / CLIENT

HARRIS ARCHITECTURE
KEN HARRIS
801-377-6303

COPYRIGHT:
PKJ DESIGN GROUP

THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN AS AN INSTRUMENT OF PROFESSIONAL SERVICE IS PROPERTY OF PKJ DESIGN GROUP. IT IS NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF PKJ DESIGN GROUP.

LANDSCAPE ARCHITECT / PLANNER

PKJ DESIGN GROUP
Landscape Architecture Planning & Visualization
3450 N. TRIUMPH BLVD. SUITE 102
LEHI, UTAH 84043 (801) 995-2217
www.pkjdesigngroup.com

LICENSE STAMP

LICENSED LANDSCAPE ARCHITECT — JEREMY AINSWORTH — 8128121-5301 — 6/17/2026 — ELECTRONIC SEAL — STATE OF UTAH

DRAWING INFO	
PM:	JTA
DRAWN:	ACP
CHECKED:	KBA
PLOT DATE:	6/17/2026

IRRIGATION OVERALL PLAN

CITY PERMIT SET

IR-100

IRRIGATION PLAN SPECIFICATIONS

IRRIGATION SPECIFICATIONS

PART 1 - GENERAL

1.1 SUMMARY

WORK TO BE DONE INCLUDES ALL LABOR, MATERIALS, EQUIPMENT AND SERVICES REQUIRED TO COMPLETE THE PROJECT IRRIGATION SYSTEM AS INDICATED ON THE CONSTRUCTION DRAWINGS, AND AS SPECIFIED HEREIN. INCLUDES BUT IS NOT LIMITED TO: FURNISHING AND INSTALLING UNDERGROUND AND ABOVE GROUND SPRINKLER SYSTEM COMPLETE WITH ANY ACCESSORIES NECESSARY FOR PROPER FUNCTION AND OPERATION OF THE SYSTEM. ALL PLANT MATERIAL ON THE PROJECT SHALL BE IRRIGATED. REMOVE AND DISPOSE OF ANY EXISTING SPRINKLER SYSTEM COMPONENTS WHICH ARE DISTURBED DURING THE CONSTRUCTION PROCESS AND ARE NOT TO BE SAVED. RESTORATION OF ANY ALTERED OR DAMAGED EXISTING LANDSCAPE TO ORIGINAL STATE AND CONDITION.

1.2 SYSTEM DESCRIPTION

A. DESIGN OF IRRIGATION COMPONENTS: LOCATIONS OF IRRIGATION COMPONENTS ON CONSTRUCTION DRAWINGS MAY BE APPROXIMATE. PIPING, SLEEVING AND/OR OTHER COMPONENTS SHOWN ON CONSTRUCTION DRAWINGS MAY BE SHOWN SCHEMATICALLY FOR GRAPHIC CLARITY AND DEMONSTRATION OF COMPONENT GROUPINGS AND SEPARATIONS. ALL IRRIGATION COMPONENTS SHALL BE PLACED IN LANDSCAPED AREAS, WITH THE EXCEPTION OF POPE AND WIRE IN SLEEVING UNDER HARDSCAPES. ACTUAL ROUTING OF PIPE, WIRE OR OTHER COMPONENTS MAY BE ALTERED DUE TO SITE CONDITIONS NOT ACCOUNTED FOR IN THE DESIGN PROCESS.

B. CONSTRUCTION REQUIREMENTS: ACTUAL PLACEMENT MAY VARY AS REQUIRED TO ACHIEVE A MINIMUM OF 100% COVERAGE WITHOUT OVERSPRAY ONTO HARDSCAPE, BUILDINGS OR OTHER FEATURES.

C. LAYOUT OF IRRIGATION COMPONENTS: DURING LAYOUT AND STAKING, CONSULT WITH OWNER APPROVED REPRESENTATIVE (HEREAFTER REFERRED TO AS OAR) TO VERIFY PROPER PLACEMENT OF IRRIGATION COMPONENTS, AND TO PROVIDE CONTRACTOR RECOMMENDATIONS FOR CHANGES WHERE REVISIONS MAY BE ADVISABLE. SMALL OR MINOR ADJUSTMENTS TO SYSTEM LAYOUT ARE PERMISSIBLE TO AVOID EXISTING FIELD OBSTRUCTIONS SUCH AS UTILITY BOXES OR STREET LIGHT POLES. CONTRACTOR SHALL PLACE REMOTE CONTROL VALVES IN GROUPS AS PRACTICAL TO ECONOMIZE ON QUANTITY OF MANIFOLD ISOLATION VALVES. QUICK COUPLER VALVES SHALL BE PLACED WITH MANIFOLD GROUPS AND PROTECTED BY MANIFOLD ISOLATION VALVES. QUICK COUPLER VALVES ARE SHOWN ON CONSTRUCTION DOCUMENTS IN APPROXIMATE LOCATIONS.

1.3 DEFINITIONS

A. WATER SUPPLY: CULINARY WATER PIPING AND COMPONENTS, FURNISHED AND INSTALLED BY OTHERS TO PROVIDE IRRIGATION WATER TO THIS PROJECT, INCLUDING BUT NOT LIMITED TO BACKFLOW PREVENTOR, SADDLES, NIPPLES, SPOOLS, SHUT OFF VALVES, CORPORATION STOP VALVES, WATER METERS, PRESSURE REGULATION VALVES, AND PIPING UPSTREAM OF (OR PRIOR TO) THE POINT OF CONNECTION.

B. POINT OF CONNECTION: LOCATION WHERE THE CONTRACTOR SHALL TIE INTO THE WATER SUPPLY. MAY REQUIRE BACKFLOW PREVENTOR, SADDLE, NIPPLES, SPOOLS, ISOLATION VALVES OR STOP AND WASTE VALVE FOR LANDSCAPE IRRIGATION NEEDS AND USE.

C. MAIN LINE PIPING: PRESSURIZED PIPING DOWNSTREAM OF THE POINT OF CONNECTION TO PROVIDE WATER TO REMOTE CONTROL VALVES AND QUICK COUPLERS. NORMALLY UNDER CONSTANT PRESSURE.

D. LATERAL LINE PIPING: CIRCUIT PIPING DOWNSTREAM OF REMOTE CONTROL VALVES TO PROVIDE WATER TO SPRINKLER HEADS, DRIP SYSTEMS OR BUBBLERS.

1.4 REFERENCES

A. THE FOLLOWING STANDARDS WILL APPLY TO THE WORK OF THIS SECTION:

a. ASTM-AMERICAN SOCIETY FOR TESTING AND MATERIALS

b. IA - THE IRRIGATION ASSOCIATION: MAIN BMP DOCUMENT, LANDSCAPE IRRIGATION SCHEDULING AND WATER MANAGEMENT DOCUMENT.

1.5 SUBMITTALS

A. AT LEAST THIRTY (30) DAYS PRIOR TO ORDERING OF ANY MATERIALS, THE CONTRACTOR SHALL PROVIDE MANUFACTURER CATALOG CUT SHEET AND CURRENT PRINTED SPECIFICATIONS FOR EACH ELEMENT OR COMPONENT OF THE IRRIGATION SYSTEM. SUBMITTALS SHALL BE IN THREE RING BINDERS OR OTHER SIMILAR BOUND FORM. PROVIDE FIVE COPIES OF SUBMITTALS TO OAR FOR DISTRIBUTION. PLACE COVER OR INDEX SHEET INDICATING ORDER IN SUBMITTAL DOCUMENT. NO MATERIAL SHALL BE ORDERED, DELIVERED OR ANY WORK PRECEDED IN THE FIELD UNTIL THE REQUIRED SUBMITTALS HAVE NEED REVIEWED IN ITS ENTIRETY AND STAMPED APPROVED. DELIVERED MATERIAL SHALL MATCH THE APPROVED SAMPLES.

B. OPERATION AND MAINTENANCE MANUAL:

a. AT LEAST THIRTY (30) DAYS PRIOR TO FINAL INSPECTION, THE CONTRACTOR SHALL PROVIDE OPERATION AND MAINTENANCE MANUAL TO OAR, CONTAINING:

i. MANUFACTURER CATALOG CUT SHEET AND CURRENT PRINTED SPECIFICATIONS FOR EACH ELEMENT OR COMPONENT OF THE IRRIGATION SYSTEM.

ii. PARTS LIST FOR EACH OPERATING ELEMENT OF THE SYSTEM

iii. MANUFACTURER PRINTED LITERATURE ON OPERATION AND MAINTENANCE OF OPERATING ELEMENTS OF THE SYSTEM.

iv. SECTION LISTING INSTRUCTIONS FOR OVERALL SYSTEM OPERATION AND MAINTENANCE. INCLUDE DIRECTIONS FOR SPRING START-UP AND WINTERIZATION.

b. PROJECT RECORD COPY

i. MAINTAIN AT PROJECT SITE ONE COPY OF ALL PROJECT DOCUMENTS CLEARLY MARKED "PROJECT RECORD COPY". MARK ANY DEVIATION IN MATERIAL INSTALLATION ON CONSTRUCTION DRAWINGS. MAINTAIN AND UPDATE DRAWING AT LEAST WEEKLY. PROJECT RECORD COPY TO BE AVAILABLE TO OAR ON DEMAND.

ii. COMPLETED PROJECT AS-BUILT DRAWINGS

1. PRIOR TO FINAL INSPECTION, PREPARE AND SUBMIT TO OAR ACCURATE AS-BUILT DRAWINGS INCLUDING 2 WIRE PATH AND JUNCTION BOX LOCATIONS.
2. SHOW DETAIL AND DIMENSION CHANGES MADE DURING INSTALLATION. SHOW SIGNIFICANT DETAILS AND DIMENSIONS THAT WERE NOT SHOWN IN ORIGINAL CONTRACT DOCUMENTS.
3. FIELD DIMENSION LOCATIONS OF SLEEVING, POINTS OF CONNECTION, MAIN LINE PIPING, WIRING RUNS NOT CONTAINED IN MAIN LINE PIPE TRENCHES, VALVES AND VALVE BOXES, QUICK COUPLER VALVES.
4. DIMENSIONS ARE TO BE TAKEN FROM PERMANENT CONSTRUCTED SURFACES, FEATURES, OR FINISHED EDGES LOCATED AT OR ABOVE FINISHED GRADE.
5. CONTROLLER MAP: UPON COMPLETION OF SYSTEM, PLACE IN EACH CONTROLLER A COLOR CODED COPY OF THE AREA THAT CONTROLLER SERVICES: INDICATING ZONE NUMBER, TYPE OF PLANT MATERIAL AND LOCATION ON PROJECT THAT ZONE SERVICES. LAMINATE MAP WITH HEAT SHRINK CLEAR PLASTIC.

1.6 QUALITY ASSURANCE

A. ACCEPTANCE: DO NOT INSTALL WORK IN THIS SECTION PRIOR TO ACCEPTANCE BY OAR.

B. REGULATORY REQUIREMENTS: ALL WORK AND MATERIALS SHALL BE ACCORDING TO ANY AND ALL RULES, REGULATIONS OR CODES, WHETHER THEY ARE STATE OR LOCAL LAWS AND ORDINANCES. CONTRACT DOCUMENTS, DRAWINGS OR SPECIFICATIONS MAY NOT BE CONSTRUED OR INTERPRETED TO PERMIT WORK OR MATERIALS NOT CONFORMING TO THE ABOVE CODES.

C. ADEQUATE WATER SUPPLY: WATER SUPPLY TO THIS PROJECT EXISTS, INSTALLED BY OTHERS. CONNECTIONS TO THESE SUPPLY LINES SHALL BE BY THIS CONTRACTOR. VERIFY THAT PROPER CONNECTION IS AVAILABLE TO SUPPLY LINE AND IS OF ADEQUATE SIZE. VERIFY THAT SECONDARY CONNECTION COMPONENTS MAY BE INSTALLED IF NECESSARY. PERFORM STATIC PRESSURE TEST PRIOR TO COMMENCEMENT OF WORK AT SUPPLIED POC. NOTIFY OAR IN WRITING OF PROBLEMS ENCOUNTERED AND PRESSURE READING PRIOR TO PROCEEDING.

D. WORKMANSHIP AND MATERIALS:

a. IT IS THE INTENT OF THIS SPECIFICATION THAT ALL MATERIAL HEREIN SPECIFIED AND SHOWN ON THE CONSTRUCTION DOCUMENTS SHALL BE OF THE HIGHEST QUALITY AVAILABLE AND MEETING THE REQUIREMENTS SPECIFIED.

b. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE BEST STANDARDS OF PRACTICE RELATING TO THE TRADE.

E. CONTRACTOR QUALIFICATIONS:

a. CONTRACTOR SHALL PROVIDE DOCUMENT OR RESUME INCLUDING AT LEAST THE FOLLOWING ITEMS:

i. THAT CONTRACTOR HAS BEEN INSTALLING SPRINKLERS ON COMMERCIAL PROJECTS FOR FIVE PREVIOUS CONSECUTIVE YEARS.

ii. CONTRACTOR IS LICENSED TO PERFORM LANDSCAPE AND IRRIGATION CONSTRUCTION IN THE STATE OF THIS PROJECT.

iii. CONTRACTOR IS BONDABLE FOR THE WORK TO BE PERFORMED.

iv. REFERENCES OF FIVE PROJECTS OF SIMILAR SIZE AND SCOPE COMPLETED WITHIN THE LAST FIVE YEARS. THREE OF THE PROJECTS LISTED SHALL BE LOCAL.

v. LISTING OF SUPPLIERS WHERE MATERIALS WILL BE OBTAINED FOR USE ON THIS PROJECT.

vi. PROJECT SITE FOREMAN OR SUPERVISOR HAS AT LEAST FIVE CONSECUTIVE YEARS OF COMMERCIAL IRRIGATION INSTALLATION EXPERIENCE. THIS PERSON SHALL BE A CURRENT CERTIFIED IRRIGATION CONTRACTOR IN GOOD STANDING AS SET FORTH BY THE IRRIGATION ASSOCIATION. THIS PERSON SHALL BE ON PROJECT SITE AT LEAST 75% OF EACH WORKING DAY.

vii. EVIDENCE THAT CONTRACTOR CURRENTLY EMPLOYS WORKERS IN SUFFICIENT QUANTITIES TO COMPLETE PROJECT WITHIN TIME LIMITS THAT ARE ESTABLISHED BY THE CONTRACT.

viii. ALL GENERAL LABORERS OR WORKERS ON THE PROJECT SHALL BE PREVIOUSLY TRAINED AND FAMILIAR WITH SPRINKLER INSTALLATION AND HAVE A MINIMUM OF ONE-YEAR EXPERIENCE. THOSE WORKERS PERFORMING TASKS RELATED TO PVC PIPE SHALL HAVE CERTIFICATES DESIGNATED BELOW.

1.7 DELIVERY-STORAGE-HANDLING

A. DURING DELIVERY, INSTALLATION AND STORAGE OF MATERIALS FOR PROJECT, ALL MATERIALS SHALL BE PROTECTED FROM CONTAMINATION, DAMAGE, VANDALISM, AND PROLONGED EXPOSURE TO SUNLIGHT. ALL MATERIAL STORED AT PROJECT SITE SHALL BE NEATLY ORGANIZED IN A COMPACT ARRANGEMENT AND STORAGE SHALL NOT DISRUPT PROJECT OWNER OR OTHER TRADES ON PROJECT SITE. ALL MATERIAL TO BE INSTALLED SHALL BE HANDLED BY CONTRACTOR WITH CARE TO AVOID BREAKAGE OR DAMAGE. DAMAGED MATERIALS ATTRIBUTED TO CONTRACTOR SHALL BE REPLACED WITH NEW AT CONTRACTOR'S EXPENSE.

1.8 SEQUENCING

A. PERFORM SITE SURVEY, RESEARCH UTILITY RECORDS, CONTACT UTILITY LOCATION SERVICES. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH ALL HAZARDS AND UTILITIES PRIOR TO WORK COMMENCEMENT. INSTALL SLEEVING PRIOR TO INSTALLATION OF CONCRETE, PAVING OR OTHER PERMANENT SITE ELEMENTS. IRRIGATION SYSTEM POINT OF CONNECTION COMPONENTS, BACKFLOW PREVENTION AND PRESSURE REGULATION DEVICES SHALL BE INSTALLED AND OPERATIONAL PRIOR TO ALL DOWNSTREAM COMPONENTS. ALL MAIN LINES SHALL BE THOROUGHLY FLUSHED OF ALL DEBRIS PRIOR TO INSTALLATION OF ANY SPRINKLER HEADS.

1.9 WARRANTY

A. CONTRACTOR SHALL PROVIDE ONE YEAR WARRANTY. WARRANTY SHALL COVER ALL MATERIALS, WORKMANSHIP AND LABOR. WARRANTY SHALL INCLUDE FILLING AND OR REPAIRING DEPRESSIONS OR REPLACING TURF OR OTHER PLANTINGS DUE TO SETTLEMENT OF IRRIGATION TRENCHES OR IRRIGATION SYSTEM ELEMENTS. VALVE BOXES, SPRINKLERS OR OTHER COMPONENTS SETTLED FROM ORIGINAL FINISH GRADE SHALL BE RESTORED TO PROPER GRADE. IRRIGATION SYSTEM SHALL HAVE BEEN ADJUSTED TO PROVIDE PROPER, ADEQUATE COVERAGE OF IRRIGATED AREAS.

1.10 OWNER'S INSTRUCTION

A. AFTER SYSTEM IS INSTALLED, INSPECTED, AND APPROVED, INSTRUCT OWNER'S REPRESENTATIVES IN COMPLETE OPERATION AND MAINTENANCE PROCEDURES. COORDINATE INSTRUCTION WITH REFERENCES TO PREVIOUSLY SUBMITTED OPERATION AND MAINTENANCE MANUAL.

1.11 MAINTENANCE

A. FURNISH THE FOLLOWING ITEMS TO OWNER'S REPRESENTATIVE:

a. TWO QUICK COUPLER KEYS WITH HOSE SWIVELS.

b. ONE OF EACH TYPE OR SIZE OF QUICK COUPLER VALVE AND REMOTE CONTROL VALVE. FIVE PERCENT OF TOTAL QUANTITIES USED OF EACH SPRINKLER AND SPRINKLER NOZZLE.

B. PROVIDE THE FOLLOWING SERVICES:

a. WINTERIZE ENTIRE IRRIGATION SYSTEM INSTALLED UNDER THIS CONTRACT. WINTERIZE BY 'BLOW-OUT' METHOD USING COMPRESSED AIR. COMPRESSOR SHALL BE CAPABLE OF MINIMUM OF 175 CFM. THIS OPERATION SHALL OCCUR AT THE END OF FIRST GROWING SEASON AFTER NEED FOR PLANT IRRIGATION BUT PRIOR TO FREEZING. COMPRESSOR SHALL BE CAPABLE OF EVACUATING SYSTEM OF ALL WATER PRESSURE REGULATION DEVICES. COMPRESSOR SHALL BE REGULATED TO NOT MORE THAN 60 PSI. START UP SYSTEM THE FOLLOWING SPRING AFTER DANGER OF FREEZING HAS PASSED. CONTRACTOR SHALL TRAIN OWNER'S REPRESENTATIVE IN PROPER START-UP AND WINTERIZATION PROCEDURE.

PART 2 - PRODUCTS

2.1 GENERAL NOTES

A. CONTRACTOR SHALL PROVIDE MATERIALS TO BE USED ON THIS PROJECT. CONTRACTOR SHALL NOT REMOVE ANY MATERIAL PURCHASED FOR THIS PROJECT FROM THE PROJECT SITE, NOR MIX PROJECT MATERIALS WITH OTHER CONTRACTOR OWNED MATERIALS. OWNER RETAINS RIGHT TO PURCHASE AND PROVIDE PROJECT MATERIAL.

2.2 POINT OF CONNECTION

A. THE CONTRACTOR SHALL CONNECT ONTO EXISTING IRRIGATION OR WATER MAIN LINE AS NEEDED FOR POINT(S) OF CONNECTION. CONTRACTOR SHALL INSTALL NEW MAIN LINE AS INDICATED. CONNECTION MUST MEET STATE GUIDELINES

2.3 CONNECTION ASSEMBLY

A. CULINARY WATER SHALL BE USED ON THIS PROJECT. INSTALL BACKFLOW PREVENTOR AND RPZ AS NEEDED.

2.4 CONTROL SYSTEM

A. POWER SUPPLY TO THE IRRIGATION CONTROLLER SHALL BE PROVIDED FOR BY THIS CONTRACT. TO BE INSTALLED BY OWNER OR ELECTRICAL CONTRACTOR.

B. CONTROLLER SHALL BE AS SPECIFIED IN THE DRAWINGS. CONTROLLER SHALL BE SURGE PROTECTED.

a. INSTALLATION OF WALL-MOUNT CONTROLLERS: IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR THIS TASK. POWER CONFIGURATION FOR WALL-MOUNT CONTROLLERS SHALL BE 120 VAC UNLESS OTHERWISE NOTED.

b. LOCATE CONTROLLER(S) IN GENERAL LOCATION SHOWN ON CONSTRUCTION DRAWINGS. COORDINATE POWER SUPPLY AND BREAKER ALLOCATION WITH ELECTRICAL CONTRACTOR. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER CONNECTIONS TO CONTROLLERS, WHETHER THEY ARE WALL MOUNT OR PEDESTAL MOUNT. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL OR OTHER PROJECT TRADES AS NEEDED TO FACILITATE INSTALLATION OF POWER TO CONTROLLERS.

C. WIRES CONNECTING THE REMOTE CONTROL VALVES TO THE IRRIGATION CONTROLLER ARE SINGLE CONDUCTORS, TYPE PE. WIRE CONSTRUCTION SHALL INCORPORATE A SOLID COPPER CONDUCTOR AND POLYETHYLENE (PE) INSULATION WITH A MINIMUM THICKNESS OF 0.045 INCHES. THE WIRES SHALL BE UL LISTED FOR DIRECT BURIAL IN IRRIGATION SYSTEMS AND BE RATED AT A MINIMUM OF 30 VAC. PAIGE ELECTRIC CO., LP SPECIFICATION NUMBER P7079D.

a. A MINIMUM OF 36" OF ADDITIONAL WIRE SHALL BE LEFT AT EACH VALVE, EACH SPLICE BOX AND AT EACH CONTROLLER.

b. COMMON WIRE SHALL BE WHITE IN COLOR, 12 GAUGE. CONTROL WIRE SHALL BE RED IN COLOR, 14 GAUGE. SPARE WIRE SHALL BE LOOPED WITHIN EACH VALVE BOX OF THE GROUPING IT IS TO SERVICE.

D. WIRE SPLICE CONNECTORS SHALL USE 3M BRAND DBY WIRE CONNECTORS. WIRE SPLICING BETWEEN CONTROLLER AND VALVES SHALL BE AVOIDED IF AT ALL POSSIBLE. ANY WIRE SPLICES SHALL BE CONTAINED WITHIN A VALVE BOX. SPLICES WITHIN A VALVE BOX THAT CONTAINS NO CONTROL VALVES SHALL BE STAMPED 'WIRE SPLICE' OR 'WS' ON BOX LID.

2.5 SLEEVING

A. CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT EXISTING UNDERGROUND UTILITIES AND COMPONENTS. SLEEVING MINIMUM SIZE SHALL BE 2". SLEEVING 2" THROUGH 4" IN SIZE SHALL BE SCH40 PVC SOLVENT WELD. SLEEVING 6" AND LARGER SHALL BE CL 200 PVC GASKETED. SLEEVE DIAMETER SHALL BE AT LEAST TWO TIMES THE DIAMETER OF THE PIPE WITHIN THE SLEEVE. SLEEVES SHALL BE EXTENDED 6" MINIMUM BEYOND WALK OR EDGE OF PAVEMENT. WIRE OR CABLE SHALL NOT BE INSTALLED IN THE SAME SLEEVE AS PIPING, BUT SHALL BE INSTALLED IN SEPARATE SLEEVES. SLEEVE ENDS ON SLEEVE SIZES 4" AND LARGER SHALL BE CAPPED WITH INTEGRAL CORRESPONDING SIZED PVC SLIP CAP, PRESSURE FIT, UNTIL USED, TO PREVENT CONTAMINATION. SLEEVES SHALL BE INSTALLED AT APPROPRIATE DEPTHS FOR MAIN LINE PIPE OR LATERAL PIPE.

2.6 MAIN LINE PIPE

A. ALL MAIN LINE PIPE 4" AND LARGER SHALL BE CLASS 200 GASKETED BELL END. ALL MAIN LINE PIPE 3" IN SIZE AND SMALLER SHALL BE SCHEDULE 40 PVC SOLVENT WELD BELL END.

a. MAXIMUM FLOWS ALLOWED THROUGH MAIN LINE PIPE SHALL BE:

3/4"	8 GPM
1"	12 GPM
1-1/2"	30 GPM
2"	53 GPM
2-1/2"	75 GPM
3"	110 GPM
4"	180 GPM

b. MAIN LINE PIPE SHALL BE BURIED WITH 24" COVER

2.7 MAIN LINE FITTINGS

A. ALL MAIN LINE FITTINGS 3" AND LARGER SHALL BE GASKETED DUCTILE IRON MATERIAL. ALL DUCTILE IRON FITTINGS HAVING CHANGE OF DIRECTION SHALL HAVE PROPER CONCRETE THRUST BLOCK INSTALLED. ALL MAIN LINE FITTINGS SMALLER THAN 3" IN SIZE SHALL BE SCHEDULE 80 PVC.

2.8 ISOLATION VALVES

A. ISOLATION VALVES 3" AND LARGER SHALL BE WATEROUS BRAND MODEL 2500 CAST IRON GATE VALVE, RESILIENT WEDGE, PUSH ON TYPE, WITH 2" SQUARE OPERATING NUT. PLACE SLEEVE OF 6" OR LARGER PIPE OVER TOP OF VALVE VERTICALLY AND THEN EXTEND TO GRADE. PLACE 10" ROUND VALVE BOX OVER SLEEVE AT GRADE.

B. ISOLATION VALVES 2-1/2" AND SMALLER SHALL BE APOLLO BRAND 70 SERIES BRASS BALL VALVES, CONTAINED IN A CARSON STANDARD SIZE VALVE BOX. VALVES SHALL BE INSTALLED WITH SCH80 PVC TOE NIPPLES ON BOTH SIDES OF THE VALVE. VALVE SHALL BE PLACED SO THAT THE HANDLE IS VERTICAL TOWARD THE TOP OF THE VALVE BOX IN THE 'OFF' POSITION.

2.9 MANIFOLDS

A. ACTION MANIFOLD FITTINGS SHALL BE USED TO CREATE UNIONS ON BOTH SIDES OF EACH CONTROL VALVE, ALLOWING THE VALVE TO BE REMOVED FROM THE BOX WITHOUT CUTTING PIPING. VALVES SHALL BE LOCATED IN BOXES WITH AMPLE SPACE SURROUNDING THEM TO ALLOW ACCESS FOR MAINTENANCE AND REPAIR. WHERE PRACTICAL, GROUP REMOTE CONTROL VALVES IN CLOSE PROXIMITY, AND PROTECT EACH GROUPING WITH A MANIFOLD ISOLATION VALVE AS SHOWN IN DETAILS. MANIFOLD MAIN LINE (OR SUB-MAIN LINE) AND ALL MANIFOLD COMPONENTS AND ISOLATION VALVES SHALL BE AT LEAST AS LARGE AS THE LARGEST DIAMETER LATERAL SERVED BY THE RESPECTIVE MANIFOLD.

2.10 REMOTE CONTROL VALVES

A. REMOTE CONTROL VALVES SHALL BE AS SPECIFIED ON THE DRAWINGS. REMOTE CONTROL VALVES SHALL BE LOCATED SEPARATELY AND INDIVIDUALLY IN SEPARATE CONTROL BOXES.

2.11 MANUAL CONTROL VALVES

A. QUICK COUPLER VALVE SHALL BE ATTACHED TO THE MANIFOLD SUB-MAIN LINE USING A LASCO G175212 SWING JOINT ASSEMBLY WITH SNAP-LOCK OUTLET AND BRASS STABILIZER ELBOW. QUICK COUPLER VALVE SHALL BE PLACED WITHIN A CARSON 10" ROUND VALVE BOX. TOP OF QUICK COUPLER VALVE COVER SHALL ALLOW FOR COMPLETE INSTALLATION OF VALVE BOX LID, BUT ALSO ALLOW FOR INSERTION AND OPERATION OF KEY. BASE OF QUICK COUPLER VALVE AND TOP OF QUICK COUPLER SWING JOINT SHALL BE ENCASED IN ¾" GRAVEL. CONTRACTOR SHALL NOT PLACE QUICK COUPLER VALVES FURTHER THAN 200 FEET APART, TO ALLOW FOR SPOT WATERING OR SUPPLEMENTAL IRRIGATION OF NEW PLANT MATERIAL. QUICK COUPLER VALVE AT POC SHALL NOT BE ELIMINATED OR RELOCATED.

2.12 LATERAL LINE PIPE

A. ALL LATERAL PIPING SHALL BE SCHEDULE 40 PVC, SOLVENT WELD, AND BELL END. LATERAL PIPE SHALL BE BURIED WITH 12-18" OF COVER TYPICALLY. LATERAL PIPE SHALL BE ¾", 1", 1 ¼", 1 ½" OR 2" IN SIZE AS INDICATED ON CONSTRUCTION DRAWINGS.

2.13 LATERAL LINE FITTINGS

A. ALL LATERAL LINE FITTINGS SHALL BE S/40 PVC

2.14 SPRAY SPRINKLERS

A. SPRAY HEAD SPRINKLERS SHALL BE AS SPECIFIED ON THE DRAWINGS. NOZZLES SHALL BE AS SPECIFIED ON THE DRAWINGS.

2.15 RAIN BIRD VALVE BOXES

A. CARSON VALVE BOXES SHALL BE USED ON THIS PROJECT. SIZES ARE AS DIRECTED IN THESE SPECIFICATIONS, DETAIL SHEETS OR PLAN SHEETS. VALVE BOXES SHALL BE CENTERED OVER THE CONTROL VALVE OR ELEMENT THEY COVER. VALVE BOX SHALL BE SIZED LARGE ENOUGH TO ALLOW AMPLE ROOM FOR SERVICES ACCESS, REMOVAL OR REPLACEMENT OF VALVE OR ELEMENT. VALVE BOX SHALL BE SET TO FLUSH TO FINISH GRADE OF TOPSOIL OR BARKED AREAS. CONTRACTOR SHALL PROVIDE EXTENSIONS OR STACK ADDITIONAL VALVE BOXES AS NECESSARY TO BRING VALVE BOX PIT TO PROPER GRADE.

2.16 IMPORT BACKFILL

A. ALL MAIN LINE PIPE, LATERAL LINE PIPE AND OTHER IRRIGATION ELEMENTS SHALL BE BEDDED AND BACKFILLED WITH CLEAN SOIL, FREE OF ROCKS 1" AND LARGER. CONTRACTOR SHALL FURNISH AND INSTALL ADDITIONAL BACKFILL MATERIAL AS NECESSARY DUE TO ROCKY CONDITIONS. TRENCHES AND OTHER ELEMENTS SHALL BE COMPACTED AND/OR WATER SETTLED TO ELIMINATE SETTLING. DEBRIS FROM TRENCHING OPERATIONS UN-USABLE FOR FILL SHALL BE REMOVED FROM PROJECT AND DISPOSED OF PROPERLY BY CONTRACTOR.

2.17 OTHER PRODUCTS

A. SUBSTITUTION OF EQUIVALENT PRODUCTS IS SUBJECT TO THE LANDSCAPE ARCHITECT OR OAR'S APPROVAL AND MUST BE DESIGNATED AS ACCEPTED IN WRITING.

a. THE CONTRACTOR SHALL PROVIDE MATERIALS TO MAKE THE SYSTEM COMPLETE AND OPERATIONAL.

PART 3 - EXECUTION

3.1 PREPARATION

A. CONTRACTOR SHALL REPAIR OR REPLACE WORK DAMAGED BY IRRIGATION SYSTEM INSTALLATION. IF DAMAGED WORK IS NEW, REPAIR OR REPLACEMENT SHALL BE PERFORMED BY THE ORIGINAL INSTALLER OF THAT WORK. THE EXISTING LANDSCAPE OF THIS PROJECT SHALL REMAIN IN PLACE. CONTRACTOR SHALL PROTECT AND WORK AROUND EXISTING PLANT MATERIAL. COORDINATION OF TRENCH AND VALVE LOCATIONS SHALL BE LAID OUT FOR THE OAR PRIOR TO ANY EXCAVATION OCCURRING. PLANT MATERIAL DEEMED DAMAGED BY THE OAR SHALL BE REPLACED WITH NEW PLANT MATERIAL AT CONTRACTOR'S EXPENSE. CONTRACTOR SHALL NOT CUT EXISTING TREE ROOTS LARGER THAN 2" TO INSTALL THIS PROJECT. ROUTE PIPE, WIRE AND IRRIGATION ELEMENTS AROUND TREE CANOPY DRIP LINE TO MINIMIZE DAMAGE TO TREE ROOTS. CONTRACTOR SHALL HAVE NO PART OF EXISTING SYSTEM USED BY OTHER PORTIONS OF SITE LANDSCAPE WITHOUT WATER FOR MORE THAN 24 HOURS AT A TIME.

3.2 TRENCHING AND BACKFILLING

A. PULLING OF PIPE SHALL NOT BE PERMITTED ON THIS PROJECT. OVER EXCAVATE TRENCHES BOTH IN WIDTH AND DEPTH. ENSURE BASE OF TRENCH IS ROCK OR DEBRIS FREE TO PROTECT PIPE AND WIRE. GRADE TRENCH BASE TO ENSURE FLAT, EVEN SUPPORT OF PIPING. BACKFILL WITH CLEAN SOIL OR IMPORT MATERIAL. CONTRACTOR SHALL BACKFILL NO LESS THAN 2" AROUND ENTIRE PIPE WITH CLEAN, ROCK FREE FILL. MAIN LINE PIPING AND FITTINGS SHALL NOT BE BACKFILLED UNTIL OAR HAS INSPECTED AND PIPE HAS PASSED PRESSURE TESTING. PERFORM BALANCE OF BACKFILL OPERATION TO ELIMINATE ANY SETTLING.

3.3 SLEEVING

A. SLEEVE ALL PIPING AND WIRING THAT PASS UNDER PAVING OR HARDSCAPE FEATURES. WIRING SHALL BE PLACED IN SEPARATE SLEEVING FROM PIPING. SLEEVES SHALL BE POSITIONED RELATIVE TO STRUCTURES OR OBSTRUCTIONS TO ALLOW FOR PIPE OR WIRE WITHIN TO BE REMOVED IF NECESSARY.

3.4 GRADES AND DRAINAGE

A. PLACE IRRIGATION PIPE AND OTHER ELEMENTS AT UNIFORM GRADES. WINTERIZATION SHALL BE BY EVACUATION WITH COMPRESSED AIR. AUTOMATIC DRAINS SHALL NOT BE INSTALLED ON THIS PROJECT. MANUAL DRAINS SHALL ONLY BE INSTALLED AT POC WHERE DESIGNATED ON CONSTRUCTION DRAWINGS.

3.5 PVC PIPE

A. INSTALL PIPE TO ALLOW FOR EXPANSION AND CONTRACTION AS RECOMMENDED BY PIPE MANUFACTURER.

B. INSTALL MAIN LINE PIPES WITH 18" OF COVER, LATERAL LINE PIPES WITH 12" OF COVER.

C. DRAWINGS SHOW DIAGRAMMATIC OR CONCEPTUAL LOCATION OF PIPING - CONTRACTOR SHALL INSTALL PIPING TO MINIMIZE CHANGE OF DIRECTION, AVOID PLACEMENT UNDER LARGE TREES OR LARGE SHRUBS, AVOID PLACEMENT UNDER HARDSCAPE FEATURES.

D. PLASTIC PIPE SHALL BE CUT SQUARELY. BURRS SHALL BE REMOVED. SPIGOT ENDS OF PIPES 3" AND LARGER SHALL BE BEVELED.

E. PIPE SHALL NOT BE GLUED UNLESS AMBIENT TEMPERATURE IS AT LEAST 50 DEGRESS F. PIPE SHALL NOT BE GLUED IN RAINY CONDITIONS UNLESS PROPERLY TENTED. ALL SOLVENT WELD JOINTS SHALL BE ASSEMBLED USING IPS 7-11 GLUE AND P70 PRIMER ACCORDING TO MANUFACTURER'S SPECIFICATION, NO EXCEPTIONS. ALL WORKERS PERFORMING GLUE OPERATIONS SHALL PROVIDE EVIDENCE OF CERTIFICATION. GLUED MAIN LINE PIPE SHALL CURE A MINIMUM OF 24 HOURS PRIOR TO BEING ENERGIZED. LATERAL LINES SHALL CURE A MINIMUM OF 2 HOURS PRIOR TO BEING ENERGIZED AND SHALL NOT REMAIN UNDER CONSTANT PRESSURE UNLESS CURED FOR 24 HOURS.

F. APPROPRIATE THRUST BLOCKING SHALL BE PERFORMED ON FITTINGS 3" AND LARGER. ALL THREADED JOINTS SHALL BE WRAPPED WITH TEFLON TAPE OR PASTE UNLESS DIRECTED BY PRODUCT MANUFACTURER OR SEALING BY O-RING.

3.6 CONTROLLERS

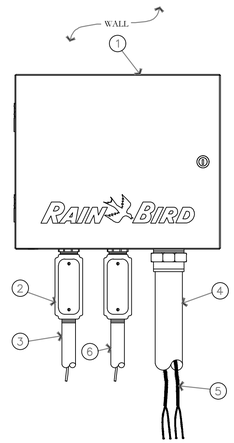
A. ALL GROUNDING FOR PEDESTAL CONTROLLERS SHALL BE AS DIRECTED BY CONTROLLER MANUFACTURER AND ASIC GUIDELINES, NOT TO EXCEED A RESISTANCE READING OF 5 OHMS.

B. LOCATE CONTROLLERS IN PROTECTED, INCONSPICUOUS PLACES, WHEN POSSIBLE. COORDINATE LOCATION OF PEDESTAL CONTROLLERS WITH LANDSCAPE ARCHITECT TO MINIMIZE VISIBILITY.

C. COORDINATE LOCATION OF WALL MOUNT CONTROLLERS WITH BUILDING OR ELECTRICAL CONTRACTOR TO FACILITATE ELECTRICAL SERVICE AND FUTURE MAINTENANCE NEEDS. WALL MOUNT SHALL BE SECURELY FASTENED TO SURFACE. IF EXTERIOR MOUNTED, WALL MOUNT CONTROLLERS SHALL HAVE ELECTRICAL SERVICE WIRE AND FIELD CONTROL WIRE IN SEPARATE, APPROPRIATE SIZED WEATHERPROOF ELECTRICAL CONDUIT, PVC PIPE SHALL NOT BE USED.

D. WIRING UNDER HARDSCAPE SURFACES SHALL BE PLACED CONTINUOUSLY IN CONDUIT. CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE SLEEVING NEEDS FOR CONDUIT OR SWEEPS ELBOWS FROM EXTERIOR TO INTERIOR OF BUILDING.

E. PEDESTAL CONTROLLERS SHALL BE PLACED UPON VIT-STRONG BOX QUICK PAD AS PER MANUFACTURER'S RECOMMENDATIONS. CONTROLLERS SHALL BE ORIENTED SUCH THAT OWNER'S REPRESENTATIVE MAINTENANCE PERSON



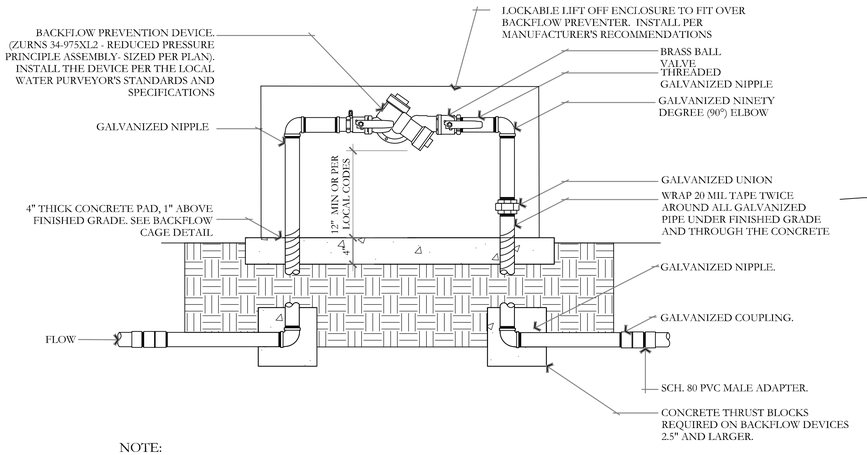
1. TWO-WIRE CONTROLLER: RAIN BIRD ESP-LXIVM/PRO IN LXMM METAL CABINET WITH OUTSIDE WALL MOUNT. INSTALL CONTROLLER AND CABINET ON WALL PER MANUFACTURER'S RECOMMENDATIONS.
2. JUNCTION BOX
3. 1-INCH CONDUIT AND FITTINGS FOR POWER SUPPLY WIRE
4. 2-INCH CONDUIT AND FITTINGS FOR TWO-WIRE CABLE
5. MAXICABLE TWO-WIRE PATH TO FIELD DEVICES, USE A DIFFERENT CABLE JACKET COLOR FOR EACH PATH.
6. 1-INCH CONDUIT AND FITTINGS FOR GROUND WIRE. ONLY FOR OUTDOOR INSTALLATIONS.

NOTES:
1. ESP-LXIVM CONTROLLER IS AVAILABLE IN TWO MODELS. THE LXIVM WITH 60 STATIONS AND THE LXIVM-PRO WITH 240 STATIONS. REFER TO THE CHART BELOW FOR DIFFERENCES BETWEEN THE TWO MODELS.
2. USE STEEL CONDUIT FOR ABOVE GRADE AND SCH 40 PVC CONDUIT FOR BELOW GRADE CONDITIONS.
3. PROVIDE PROPER GROUNDING COMPONENTS TO ACHIEVE GROUND RESISTANCE OF 10 OHMS OR LESS. IF CONTROLLER IS MOUNTED INDOORS, USE POWER SUPPLY GROUND.

KEY SPECIFICATIONS

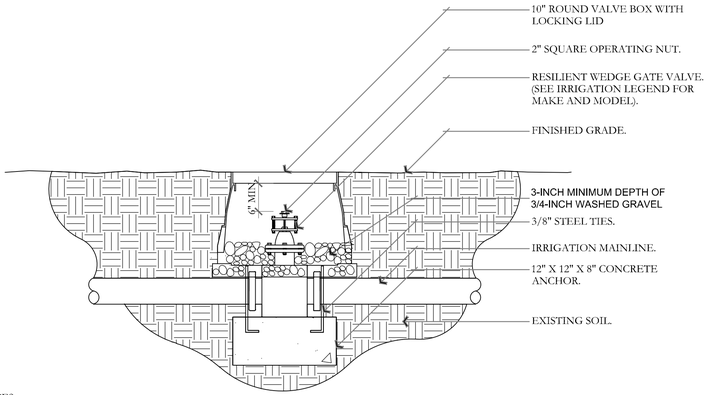
FEATURE ▶ / MODEL ▼	MAX PROGRAMS	STATIONS	MAX SIMULSTATIONS	MASTER VALVES	FLOW SENSORS	WEATHER SENSORS
LX-IVM	10	60	8	5	5	4
LX-IVM PRO	40	240	16	10	10	8

A ESP-LXIVM/PRO TWO-WIRE CONTROLLER IN METAL CABINET
NOT TO SCALE — PKJ DESIGN GROUP



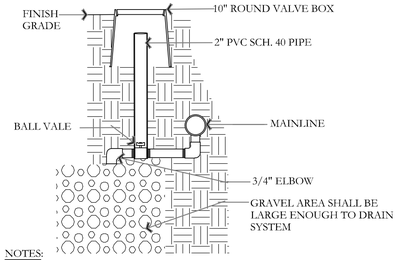
NOTE:
1. GALVANIZED NIPPLE SHALL EXTEND 12" PAST THE EDGE OF THE CONCRETE FOOTING.
2. SCH. 80 PVC MALE ADAPTER SHALL BE USED IN CONNECTION FROM GALVANIZE TO THE MAINLINE.
3. BACKFLOW PREVENTION DEVICE SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE LANDSCAPE METER.
4. BACKFLOW PREVENTION DEVICE SHALL BE LOCATED IN PLANTING AREA UNLESS APPROVED BY OWNER'S REPRESENTATIVE.
5. SEE DETAIL FOR BACKFLOW CAGE INSTALLATION.
6. ALL ASSEMBLY PARTS (THREADED NIPPLES, FITTINGS, ETC.) SHALL BE GALVANIZED OR BRASS PER LOCAL CODES AND REQUIREMENTS.
7. ALL BACKFLOW PREVENTION DEVICES SHALL HAVE FREEZE BLANKET INCLUDED UPON INSTALLATION.
8. ALL GALVANIZED CONNECTIONS SHALL TO BE MADE USING PIPE THREAD SEALANT. ALL SCH. 80 PVC TO GALVANIZED CONNECTIONS TO BE MADE USING TEFLON TAPE.

B BACKFLOW PREVENTION DETAIL
NOT TO SCALE — PKJ DESIGN GROUP



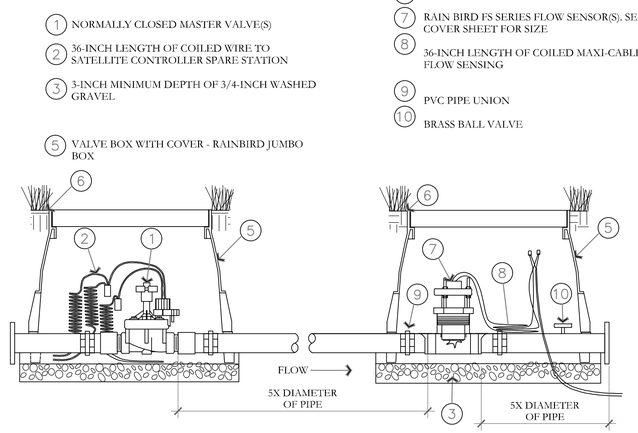
NOTES:
1. INSTALL GATE VALVE PER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
2. VALVE BOX SHALL BE WRAPPED WITH MINIMUM 3 MIL. THICK PLASTIC AND SECURE IT TO VALVE BOX USING DUCT TAPE OR ELECTRICAL TAPE.
3. VALVE BOX SHALL BE LOCATED IN PLANTING AREA.

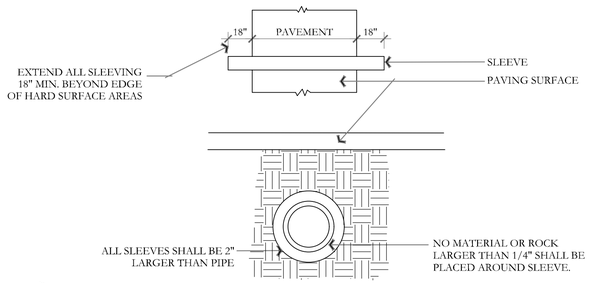
C GATE VALVE AND ANCHOR DETAIL
NOT TO SCALE — PKJ DESIGN GROUP



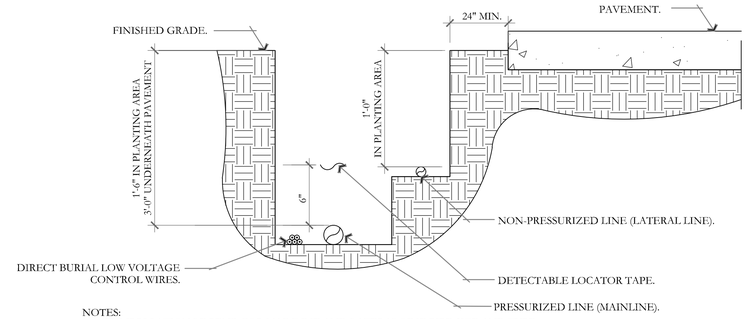
NOTES:
1. ALL FITTINGS TO BE SCH. 80 PVC
2. PROVIDE OWNER WITH KEY

F MANUAL DRAIN DETAIL
NOT TO SCALE — PKJ DESIGN GROUP



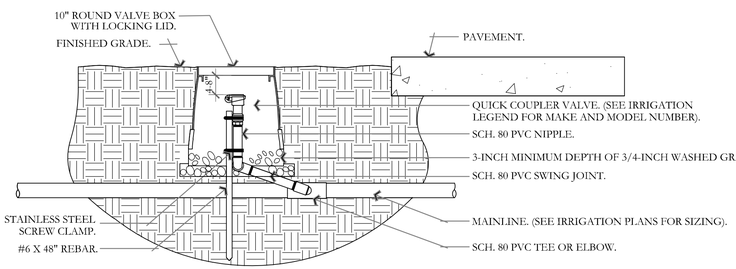


D TYPICAL SLEEVING DETAIL
NOT TO SCALE — PKJ DESIGN GROUP



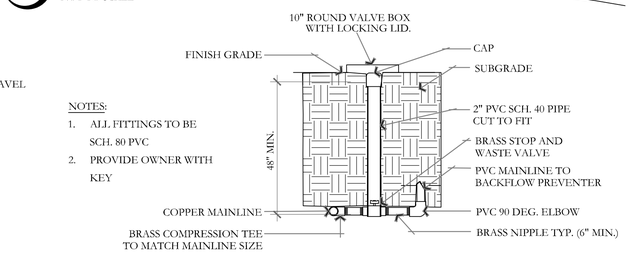
NOTES:
1. SEE IRRIGATION LEGEND FOR MAINLINE AND LATERAL LINE PIPE SIZE AND TYPE.
2. DIRECT BURIAL CONTROL WIRES SHALL BE INSTALLED IN SCH. 40 PVC ELECTRICAL CONDUIT IF REQUIRED.
3. 2-WIRE IRRIGATION WIRE SHALL BE INSTALLED IN SCH. 40 PVC ELECTRICAL CONDUIT.
4. DETECTABLE LOCATOR TAPE SHALL BE LOCATED SIX INCHES (6") ABOVE THE ENTIRE MAINLINE RUN.

E IRRIGATION TRENCHING DETAIL
NOT TO SCALE — PKJ DESIGN GROUP



NOTES:
1. ALL THREADED CONNECTIONS SHALL BE INSTALLED USING TEFLON TAPE.
2. VALVE BOX SHALL BE WRAPPED WITH A MINIMUM 3 MIL THICK PLASTIC AND SECURED TO THE VALVE BOX USING DUCT TAPE OR ELECTRICAL TAPE.
3. ALL QUICK COUPLERS SHALL BE INSTALLED A MINIMUM OF 18" OFF OF THE MAINLINE.
4. VALVE BOXES SHALL BE LOCATED IN PLANTING AREAS.

G QUICK COUPLER DETAIL
NOT TO SCALE — PKJ DESIGN GROUP



NOTES:
1. ALL FITTINGS TO BE SCH. 80 PVC
2. PROVIDE OWNER WITH KEY

H STOP AND WASTE VALVE ASSEMBLY DETAIL
NOT TO SCALE — PKJ DESIGN GROUP

I MASTER VALVE AND FLOW SENSOR DETAIL
NOT TO SCALE — PKJ DESIGN GROUP

ISSUE DATE	PROJECT NUMBER	PLAN INFORMATION	PROJECT INFORMATION	DEVELOPER / PROPERTY OWNER / CLIENT	LANDSCAPE ARCHITECT / PLANNER	LICENSE STAMP	DRAWING INFO
6/17/2026	UT26044	** THIS PRINT FROM PKJ DESIGN GROUP IS BASED ON CIVIL AND ARCHITECT INFORMATION ISSUED ON 3/26/2026	PH TENNIS CENTER 92 EAST 800 NORTH OREM, UTAH	HARRIS ARCHITECTURE KEN HARRIS 801-377-6303	PKJ DESIGN GROUP Landscape Architecture / Planning & Visualization 3450 N. TRIUMPH BLVD. SUITE 102 LEHI, UTAH 84043 (801) 995-2217 www.pkjdesigngroup.com	LICENSED LANDSCAPE ARCHITECT JEREMY AINSWORTH 8128121-5301 6/17/2026 ELECTRONIC SEAL STATE OF UTAH	PM: JTA DRAWN: ACP CHECKED: KBA PLOT DATE: 6/17/2026

NO.	REVISION	DATE
1	XXXX	XX-XX-XX
2		
3		
4		

811 BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC
1-800-662-4111
www.bluestakes.org

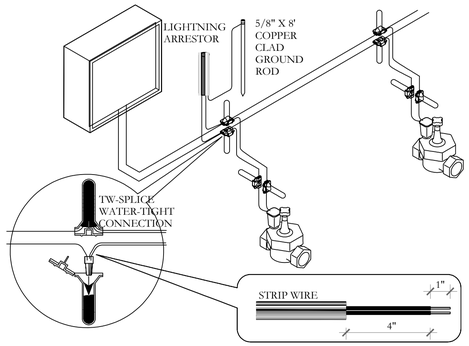
COPYRIGHT:
PKJ DESIGN GROUP

THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN AS AN INSTRUMENT OF PROFESSIONAL SERVICE IS PROPERTY OF PKJ DESIGN GROUP. IT IS NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF PKJ DESIGN GROUP.

IRRIGATION DETAILS

CITY PERMIT SET

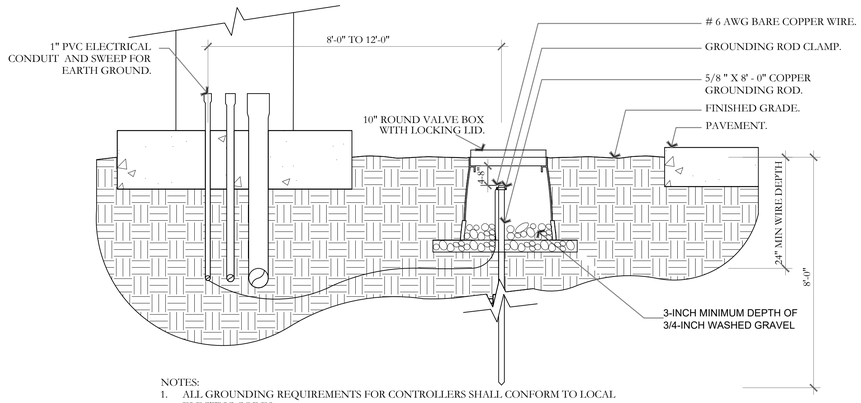
IR-501



J 2-WIRE CONNECTION DETAIL

NOT TO SCALE

PKJ DESIGN GROUP



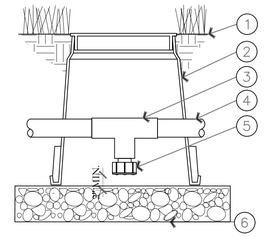
NOTES:

1. ALL GROUNDING REQUIREMENTS FOR CONTROLLERS SHALL CONFORM TO LOCAL ELECTRIC CODES.
2. GROUNDING ROD SHALL NOT BE LOCATED IN THE SAME TRENCH AS THE IRRIGATION MAINLINES OR LATERAL LINES.
3. VALVE BOX SHALL BE WRAPPED WITH A MINIMUM 3 MIL THICK PLASTIC AND SECURED TO THE VALVE BOX USING DUCT TAPE OR ELECTRICAL TAPE.
4. INSTALL GROUNDING ROD PER THE CONTROLLER MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

K GROUNDING ROD DETAIL

NOT TO SCALE

PKJ DESIGN GROUP

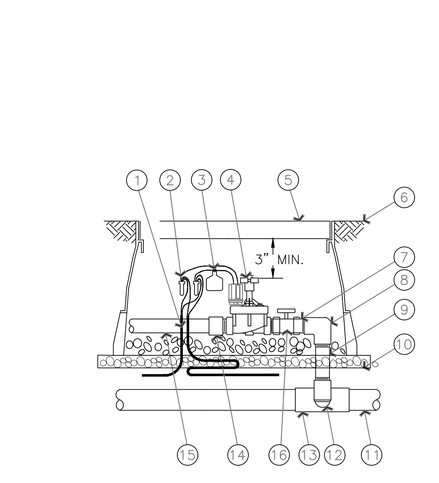


1. FINISH GRADE/TOP OF MULCH
2. VALVE BOX WITH COVER: RAIN BIRD VB-6RND
3. PVC SCH 40 TEE
4. PVC LATERAL PIPE
5. FILTERED DRAIN VALVE: RAIN BIRD 16A-FDV-075
6. 6-INCH MINIMUM DEPTH OF 3/4" WASHED GRAVEL

L MANUAL LINE DRAIN VALVE DETAIL

NOT TO SCALE

PKJ DESIGN GROUP

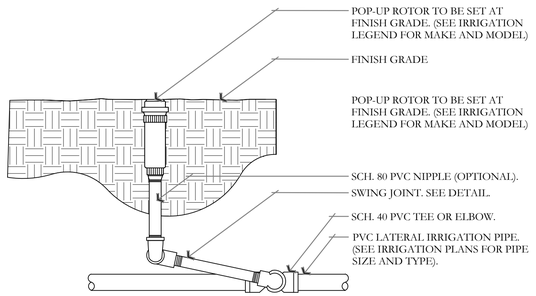


1. 36-INCH LENGTH OF 2-WIRE CABLE
2. WATERPROOF CONNECTION RAIN BIRD WC20 (TWO REQUIRED)
3. ID TAG: RAIN BIRD VID SERIES
4. REMOTE CONTROL VALVE: RAIN BIRD PEB/PESB/PESB-R WITH IVM-SOL
5. VALVE BOX WITH COVER: RAIN BIRD VB-STD
6. FINISH GRADE/TOP OF MULCH
7. PVC SCH 80 NIPPLE (CLOSE)
8. PVC SCH 40 ELL `
9. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
10. 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
11. PVC MAINLINE PIPE SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND SCH 40 ELL
12. PVC SCH 40 TEE OR ELL
13. PVC SCH 40 MALE ADAPTER
14. PVC LATERAL PIPE
15. 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
16. BRASS BALL VALVE

M ELECTRIC REMOTE-CONTROL VALVE PEB OR PESB SERIES WITH IVM-SOL

NOT TO SCALE

PKJ DESIGN GROUP



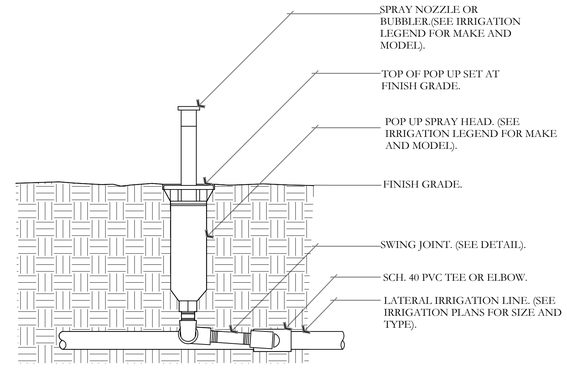
NOTES:

1. ALL THREADED CONNECTION POINTS BETWEEN SCH. 40 PVC AND SCH. 80 PVC FITTING SHALL BE INSTALLED USING TEFLON TAPE.
2. CONTRACTOR SHALL COMPACT SOIL AROUND ROTOR AND RISER PRIOR TO PLANTING, PLUGGING, SEEDING, OR LAYING OF SOD.

N ROTOR HEAD DETAIL

NOT TO SCALE

PKJ DESIGN GROUP



NOTE:

1. 4" POP UPS SHALL BE USED IN TURF AREAS.
2. CONTRACTOR SHALL SETTLE SOIL AROUND THE POP UP AFTER INSTALLATION.
3. ALL POP UP SPRAY HEADS SHALL HAVE CHECK VALVES.
4. ALL SCH. 40 PVC TO SCH. 80 PVC CONNECTIONS SHALL BE MADE USING TEFLON TAPE.

O POP UP-SPRAY HEAD DETAIL

NOT TO SCALE

PKJ DESIGN GROUP

ISSUE DATE	PROJECT NUMBER
6/17/2026	UT26044

NO.	REVISION	DATE
1	XXXX	XX-XX-XX
2		
3		
4		

PLAN INFORMATION

** THIS PRINT FROM PKJ DESIGN GROUP IS BASED ON CIVIL AND ARCHITECT INFORMATION ISSUED ON 3/26/2026

811 BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC
1-800-662-4111
www.bluestakes.org

PROJECT INFORMATION

PH TENNIS CENTER
92 EAST 800 NORTH
OREM, UTAH

DEVELOPER / PROPERTY OWNER / CLIENT

HARRIS ARCHITECTURE
KEN HARRIS
801-377-6303

COPYRIGHT:
PKJ DESIGN GROUP

THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN AS AN INSTRUMENT OF PROFESSIONAL SERVICE IS PROPERTY OF PKJ DESIGN GROUP. IT IS NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF PKJ DESIGN GROUP.

LANDSCAPE ARCHITECT / PLANNER

PKJ DESIGN GROUP
Landscape Architecture Planning & Visualization
3450 N. TRIUMPH BLVD. SUITE 102
LEHI, UTAH 84043 (801) 995-2217
www.pkjdesigngroup.com

LICENSE STAMP

LICENSED LANDSCAPE ARCHITECT — JEREMY ANDWORTH — 8128121-5301 — 6/17/2026 — ELECTRONIC SEAL — STATE OF UTAH

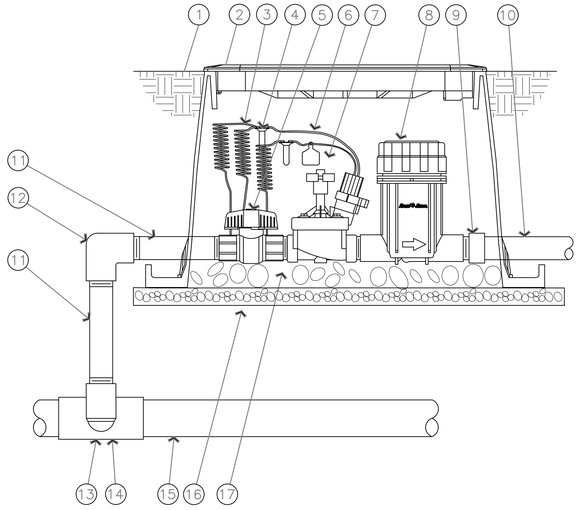
DRAWING INFO

PM:	JTA
DRAWN:	ACP
CHECKED:	KBA
PLOT DATE:	6/17/2026

IRRIGATION DETAILS

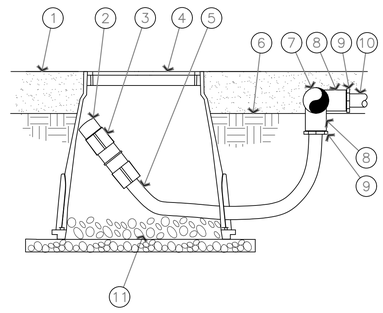
CITY PERMIT SET

IR-502



1. FINISH GRADE/TOP OF MULCH
2. VALVE BOX WITH COVER: RAIN BIRD VB-STD
3. 30-INCH LINEAR LENGTH OF WIRE, COILED
4. WATERPROOF CONNECTION: RAIN BIRD DB SERIES
5. 1-INCH BALL VALVE (INCLUDED IN XCZ-PRB-100-COM KIT)
6. ID TAG
7. REMOTE CONTROL VALVE: RAIN BIRD PESB (INCLUCED IN XCZ-PRB-100-COM KIT)
8. PRESSURE REGULATING AND FLOW INDICATING BASKET FILTER: RAIN BIRD XCZ-100-FLOW
9. PVC SCH 40 FEMALE ADAPTOR
10. LATERAL PIPE
11. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
12. PVC SCH 40 ELL
13. PVC SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND PVC SCH 40 ELL
14. PVC SCH 40 TEE OR ELL
15. MAINLINE PIPE
16. 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
17. PVC SCH 80 NIPPLE, CLOSE (INCLUDED IN XCZ-PRB-100-COM KIT)

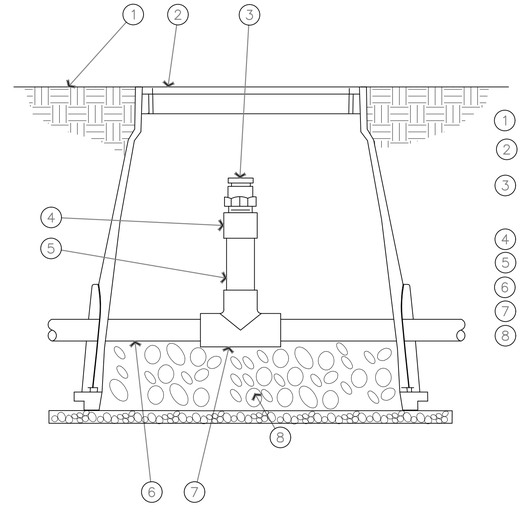
P DRIP CONTROL ZONE KIT DETAIL
NOT TO SCALE
PKJ DESIGN GROUP



1. MULCH
2. FLUSH CAP FOR EASY FIT COMPRESSION FITTINGS: POTABLE:RAIN BIRD MDCFCAP
3. EASY FIT COUPLING: RAIN BIRD MDCFCOUP
4. SUBTERRANEAN EMITTER BOX: RAIN BIRD SEB 7XB
5. ½" POLYETHYLENE TUBING: RAIN BIRD XF BLANK TUBING
6. FINISH GRADE
7. PVC EXHAUST HEADER
8. PVC SCH 40 TEE OR EL
9. BARB X MALE FITTING: RAIN BIRD XFF-MA FITTING (TYPICAL)
10. ON-SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE POTABLE: XFCV DRIPLINE
11. 3-INCH MINIMUM DEPTH OF 3/4 " WASHED GRAVEL

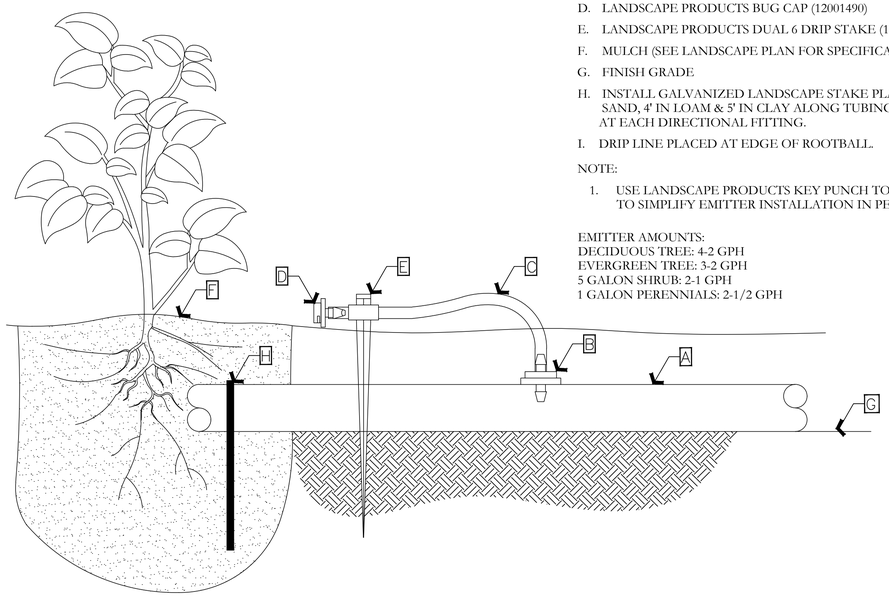
NOTE:
1. ALLOW A MINIMUM OF 6-INCHES OF DRIPLINE TUBING IN VALVE BOX IN ORDER TO DIRECT FLUSHED WATER OUTSIDE VALVE BOX.

Q ON-SURFACE DRIPLINE FLUSH POINT DETAIL
NOT TO SCALE
PKJ DESIGN GROUP



1. FINISH GRADE
2. SUBTERRANEAN EMITTER BOX: RAIN BIRD SEB 7XB
3. ½" AIR RELIEF VALVE: RAIN BIRD ARV050 TO BE INSTALLED AT HIGH POINTS IN DRIP ZONE
4. PVC SCH 40 FEMALE ADAPTER
5. PVC SCH 80 RISER
6. PVC HEADER PIPE
7. PVC SCH 40 TEE
8. 3" MINIMUM DEPTH OF 3/4" WASHED GRAVEL

R AIR RELIEF VALVE DETAIL
NOT TO SCALE
PKJ DESIGN GROUP

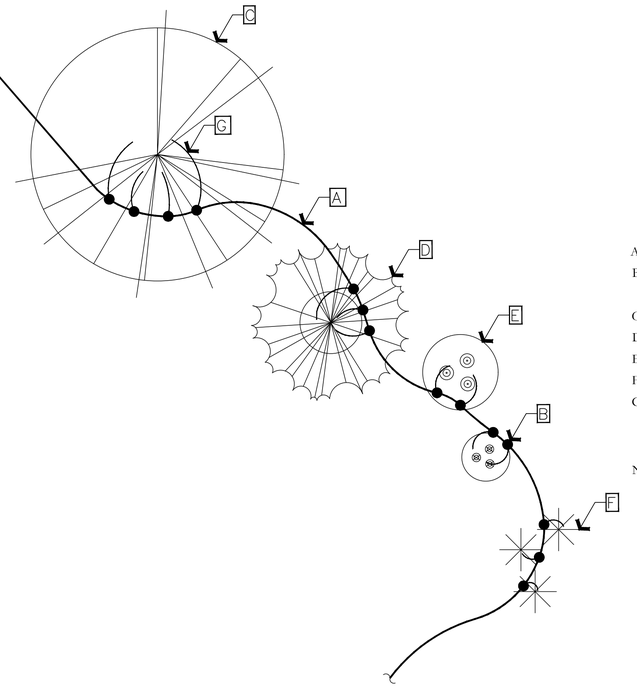


A. LANDSCAPE PRODUCTS LP710 SERIES 1/2" PE TUBING
B. LANDSCAPE PRODUCTS PC EMITTER (SEE CHART BELOW FOR MODELS AVAILABLE & FLOW DATA)
C. LANDSCAPE PRODUCTS LP SERIES 1/4" PE TUBING
D. LANDSCAPE PRODUCTS BUG CAP (12001490)
E. LANDSCAPE PRODUCTS DUAL 6 DRIP STAKE (12001602)
F. MULCH (SEE LANDSCAPE PLAN FOR SPECIFICATIONS)
G. FINISH GRADE
H. INSTALL GALVANIZED LANDSCAPE STAKE PLACED EVERY 3' IN SAND, 4' IN LOAM & 5' IN CLAY ALONG TUBING ROUTE & AT EACH DIRECTIONAL FITTING.
I. DRIP LINE PLACED AT EDGE OF ROOTBALL.

NOTE:
1. USE LANDSCAPE PRODUCTS KEY PUNCH TOOL (12001605) TO SIMPLIFY EMITTER INSTALLATION IN PE TUBING.

EMITTER AMOUNTS:
DECIDUOUS TREE: 4-2 GPH
EVERGREEN TREE: 3-2 GPH
5 GALON SHRUB: 2-1 GPH
1 GALON PERENNIALS: 2-1/2 GPH

S PC EMITTER ON PE TUBING WITH STAKE & BUG CAP
NOT TO SCALE
PKJ DESIGN GROUP



A. LANDSCAPE PRODUCTS LP710 SERIES 1/2" OR LP940 3/4" PE TUBING
B. LANDSCAPE PRODUCTS PC EMITTER (SEE CHART BELOW FOR MODELS AVAILABLE & FLOW DATA)
C. DECIDUOUS TREE
D. CONIFEROUS TREE
E. SHRUB
F. PERENNIAL
G. LANDSCAPE PRODUCTS LP SERIES 1/4" PE TUBING

NOTE:
1. USE LANDSCAPE PRODUCTS KEY PUNCH TOOL (12001605) TO SIMPLIFY EMITTER INSTALLATION IN PE TUBING.
2. EMITTERS SHALL BE LOCATED IMMEDIATELY ADJACENT TO PERENNIALS AND AT THE OUTSIDE PERIMETER OF THE PLANTING PIT OF ALL SHRUBS & TREES.
3. LOCATE EMITTERS ON UPHILL SIDE OF PLANT.
4. REFER TO LANDSCAPE & IRRIGATION PLANS FOR EMITTER QUANTITY AND DISCHARGE RATE AT EACH PLANT TYPE BASED ON RELATIVE PLANT WATER REQUIREMENTS.

T EMITTER PLACEMENT (TREES AND SHRUBS ON SAME CONTROL ZONE)
NOT TO SCALE
PKJ DESIGN GROUP

ISSUE DATE	PROJECT NUMBER	PLAN INFORMATION	PROJECT INFORMATION	DEVELOPER / PROPERTY OWNER / CLIENT	LANDSCAPE ARCHITECT / PLANNER	LICENSE STAMP	DRAWING INFO
6/17/2026	UT26044	** THIS PRINT FROM PKJ DESIGN GROUP IS BASED ON CIVIL AND ARCHITECT INFORMATION ISSUED ON 3/26/2026	PH TENNIS CENTER 92 EAST 800 NORTH OREM, UTAH	HARRIS ARCHITECTURE KEN HARRIS 801-377-6303	PKJ DESIGN GROUP Landscape Architecture Planning & Visualization 3450 N. TRIUMPH BLVD. SUITE 102 LEHI, UTAH 84043 (801) 995-2217 www.pkjdesigngroup.com	LICENSED LANDSCAPE ARCHITECT JEREMY AINSWORTH 8128121-5301 6/17/2026 ELECTRONIC SIG. STATE OF UTAH	PM: JTA DRAWN: ACP CHECKED: KBA PLOT DATE:

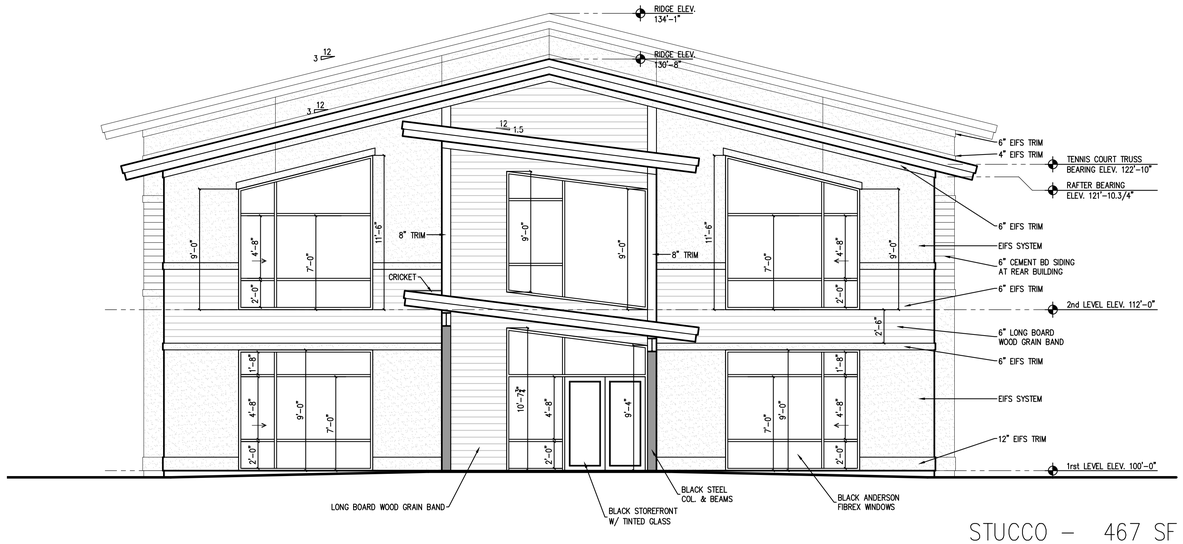
NO.	REVISION	DATE
1	XXXX	XX-XX-XX
2		
3		
4		

811 BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC
1-800-662-4111
www.bluestakes.org

COPYRIGHT:
PKJ DESIGN GROUP

THIS DOCUMENT AND THE IDEAS AND DESIGNS INCORPORATED HEREIN AS AN INSTRUMENT OF PROFESSIONAL SERVICE IS PROPERTY OF PKJ DESIGN GROUP. IT IS NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF PKJ DESIGN GROUP.

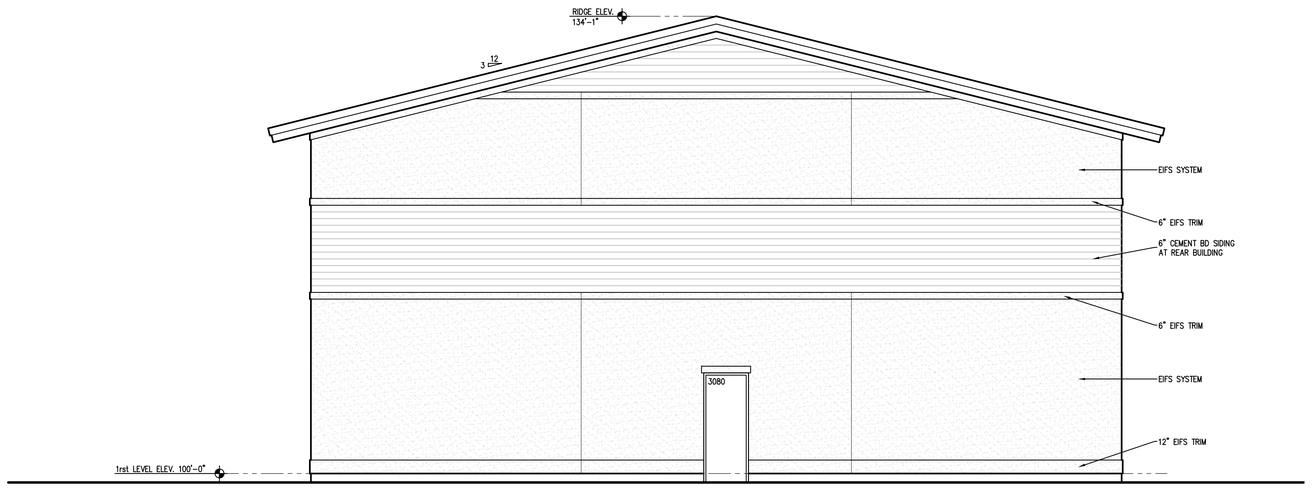
IRRIGATION DETAILS
CITY PERMIT SET
IR-503



NORTH ELEVATION

SCALE: 3/16" = 1'-0"

STUCCO – 467 SF (25%)
OTHER – 1402 SF (75%)
TOTAL – 1869 SF



STUCCO – 1281 SF (72.6%)
OTHER – 484 SF (27.4%)
TOTAL – 1765 SF

SOUTH ELEVATION

SCALE: 3/16" = 1'-0"

PRELIMINARY - NOT FOR CONSTRUCTION

REVISIONS

DRAWN BY

HARRIS ARCHITECTURE
920 EAST 800 NORTH, #201, OREM UT 84097 801-377-6303 WWW.HARRIS-ARCHITECTURE.COM

A NEW BUILDING FOR
PH TENNIS CENTER
NORTH & SOUTH ELEVATIONS

2-6-2026
OREM, UT

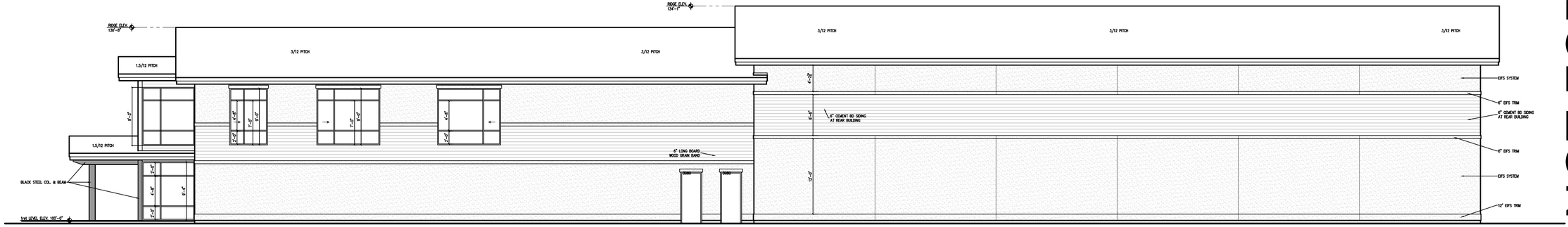
A2.0

THESE DRAWINGS OR ANY PARTS THEREOF, AS INSTRUMENTS OF SERVICE, REMAIN THE PROPERTY OF THE ARCHITECTS AND MAY NOT BE REPRODUCED OR USED ON OTHER WORK WITHOUT THEIR WRITTEN CONSENT

PLOT DATE: 5/21/2026 X:\ACAD\Rdl\PH TENNIS CENTER\PH_TC_A2-ELEV.dwg

THESE DRAWINGS OR ANY PARTS THEREOF, AS INSTRUMENTS OF SERVICE, REMAIN THE PROPERTY OF THE ARCHITECTS AND MAY NOT BE REPRODUCED OR USED ON OTHER WORK WITHOUT THEIR WRITTEN CONSENT

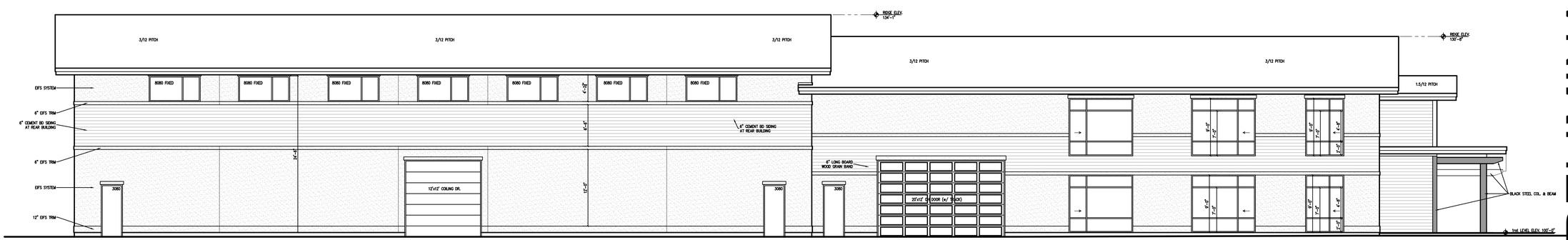
PLOT DATE: 9/21/2026 X:\ACAD\e\PH TENNIS CENTER\PH_TC_A2\3-ELEV.dwg



STUCCO – 3323 SF (69.6%)
OTHER – 1453 SF (30.4%)
TOTAL – 4776 SF

WEST ELEVATION

SCALE: 1/8" = 1'-0"



STUCCO – 1074 SF (29.4%)
OTHER – 2483 SF (69.8%)
TOTAL – 3557 SF

EAST ELEVATION

SCALE: 1/8" = 1'-0"

PRELIMINARY - NOT FOR CONSTRUCTION

REVISIONS

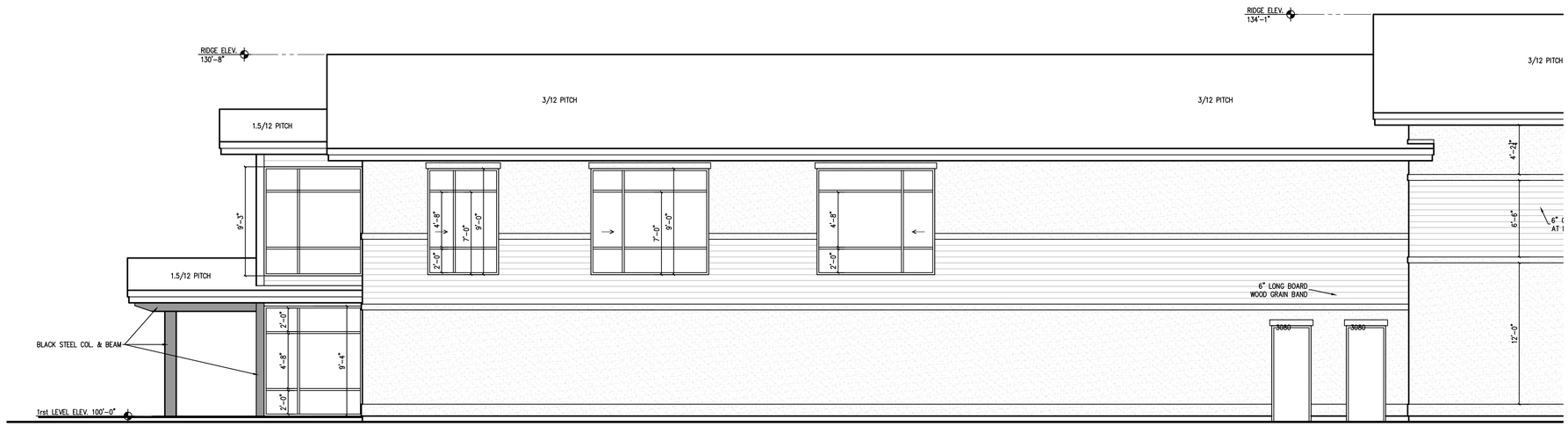
DRAWN BY

HARRIS ARCHITECTURE
920 EAST 800 NORTH, #201, OREM UT 84097 801-377-6303 WWW.HARRIS-ARCHITECTURE.COM

A NEW BUILDING FOR
PH TENNIS CENTER
EAST & WEST ELEVATIONS (OVERALL)

2-6-2026
OREM, UT

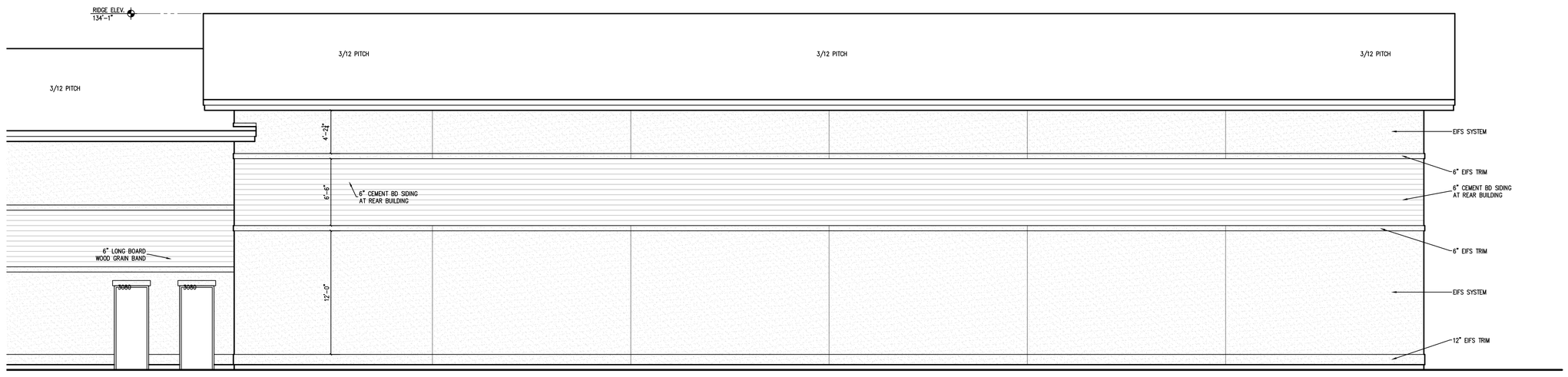
A2.1



STUCCO – 3323 SF (69.6%)
OTHER – 1453 SF (30.4%)
TOTAL – 4776 SF

WEST ELEVATION

SCALE: 3/16" = 1'-0"



WEST ELEVATION

SCALE: 3/16" = 1'-0"

PRELIMINARY - NOT FOR CONSTRUCTION

REVISIONS

DRAWN BY

HARRIS ARCHITECTURE
920 EAST 800 NORTH, #201, OREM UT 84097 801-377-6303 WWW.HARRIS-ARCHITECTURE.COM

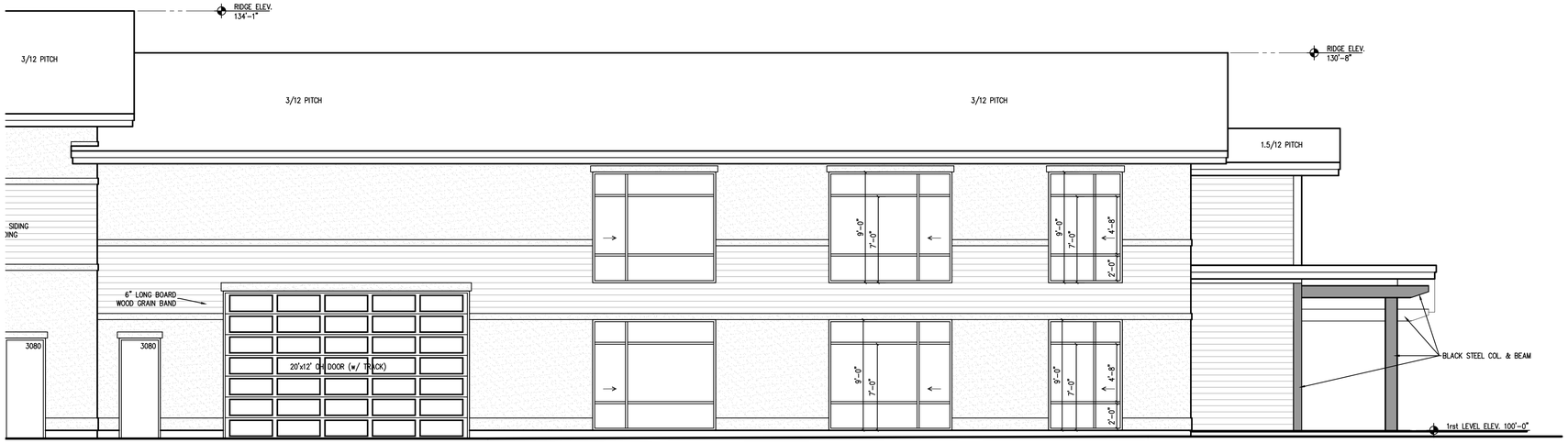
A NEW BUILDING FOR
PH TENNIS CENTER
WEST ELEVATION

2-6-2026
OREM, UT

A2.2

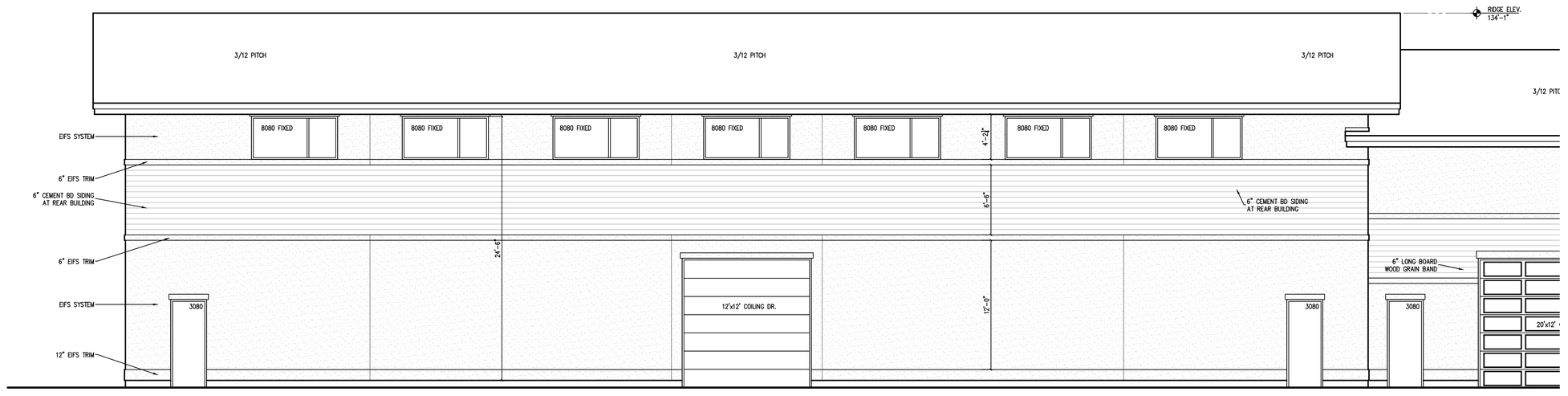
THESE DRAWINGS OR ANY PARTS THEREOF, AS INSTRUMENTS OF SERVICE, REMAIN THE PROPERTY OF THE ARCHITECTS AND MAY NOT BE REPRODUCED OR USED ON OTHER WORK WITHOUT THEIR WRITTEN CONSENT

PLOT DATE: 5/21/2026 X:\CAD\Revit\PH TENNIS CENTER\PH_TC_A2D-ELEV.dwg



EAST ELEVATION

SCALE: 3/16" = 1'-0"



STUCCO – 1074 SF (29.4%)
OTHER – 2483 SF (69.8%)
TOTAL – 3557 SF

EAST ELEVATION

SCALE: 3/16" = 1'-0"

PRELIMINARY - NOT FOR CONSTRUCTION

REVISIONS

DRAWN BY

HARRIS ARCHITECTURE
920 EAST 800 NORTH, #201, OREM UT 84097 801-377-6303 WWW.HARRIS-ARCHITECTURE.COM

A NEW BUILDING FOR
PH TENNIS CENTER
EAST ELEVATION

2-6-2026
OREM, UT

A2.3

THESE DRAWINGS OR ANY PARTS THEREOF, AS INSTRUMENTS OF SERVICE, REMAIN THE PROPERTY OF THE ARCHITECTS AND MAY NOT BE REPRODUCED OR USED ON OTHER WORK WITHOUT THEIR WRITTEN CONSENT

PLOT DATE: 5/21/2026 X:\CAD\Rel\PH TENNIS CENTER\PH_TC_A2-ELEV.dwg

Administrative	PLANNING COMMISSION August 5th, 2026	Item 4.3
	Johnson Farms Plat A 1700 S Geneva Road Preliminary Plat	**Prepared By:** Rebecca Gourley **Applicant:** Paul Washburn, Dudley and Associates

Notices:

Posted in 2 public places.

Posted on City Webpage and City hotline.

Posted at Utah.gov/pmn.

Site Information:

General Plan Designation: **Community Commercial**

Zoning: **C2**

Total Acreage: **4.5032**

Action:

The Planning Commission is the Land Use Authority and the approving body for this item.

REQUEST: The applicant requests preliminary plat approval for the Johnson Farms Plat A to create a subdivision that matches property lines created by the Utah Department of Transportation (UDOT), and to establish Public Utility Easements (PUEs).

BACKGROUND: On March 3rd, 2026, Dudley and Associates, on behalf of Paul Washburn, applied for preliminary plat approval for the Johnson Farms Plat A. The current shape of the property, which was recently rezoned from Open Space (OS-5) to Commercial (C2), was created through a series of warranty deeds between the Johnson family and UDOT. However, since the boundary lines were established through deeds and not a subdivision, the property lacks official PUEs, a plat map, and an address. To remedy this, the applicants proposed a single-lot subdivision.

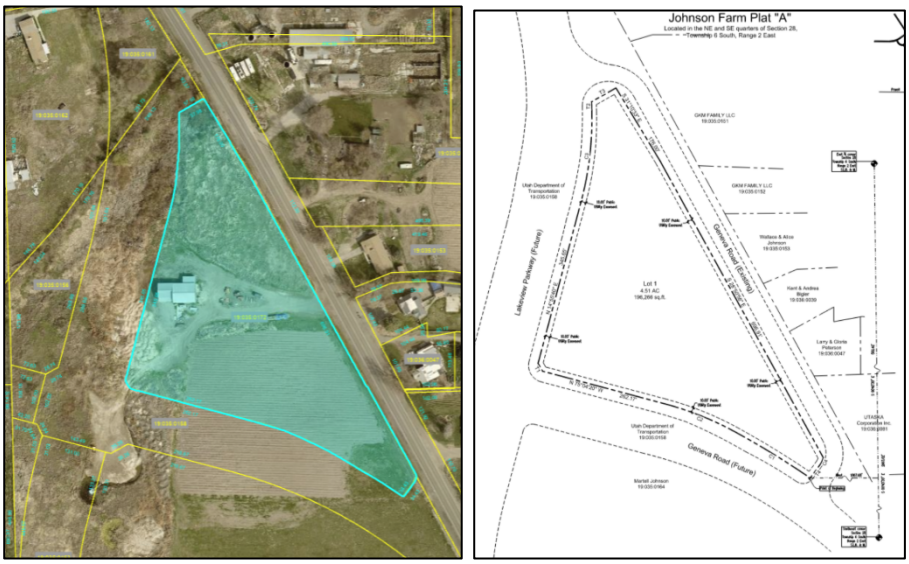


Figure one (left), Existing property lines at 1700 S Geneva Road, as deeded and recorded with Utah County; Figure Two (right), Proposed preliminary plat

REVIEW:

Zoning: The subject properties are zoned C2. The C2 zone requires a minimum lot area of 7000 ft². The proposed lot totals 196,266 ft², which meets the lot size requirement of the C2 zone.

Public Utility Easements:

General Easements - The plat establishes a general subdivision PUE, as required by section 17-7-11. The general easement provides water, sewer, and storm drainage access, as well as access to Lumen/Century Link, Comcast/Xfinity, Enbridge/Dominion Energy, Rocky Mountain Power, and Utopia Fiber. The easement is 10 ft wide and located along all property lines.

The plat does not contain any other easement designated to, or in favor of, any one particular entity, lot, or person.

DEVELOPMENT REVIEW COMMITTEE: The Development Review Committee (DRC) reviewed the preliminary plat application on Monday, July 27th, 2026. The DRC recommended approval and did not forward any specific conditions to the Planning Commission.

ACTIONS: The Planning Commission is the designated Land Use Authority for the site plan. The Commission may approve or deny the request for site plan approval or may choose to continue their consideration of the request and ask for additional information or analysis.

ALTERNATIVE MOTIONS:

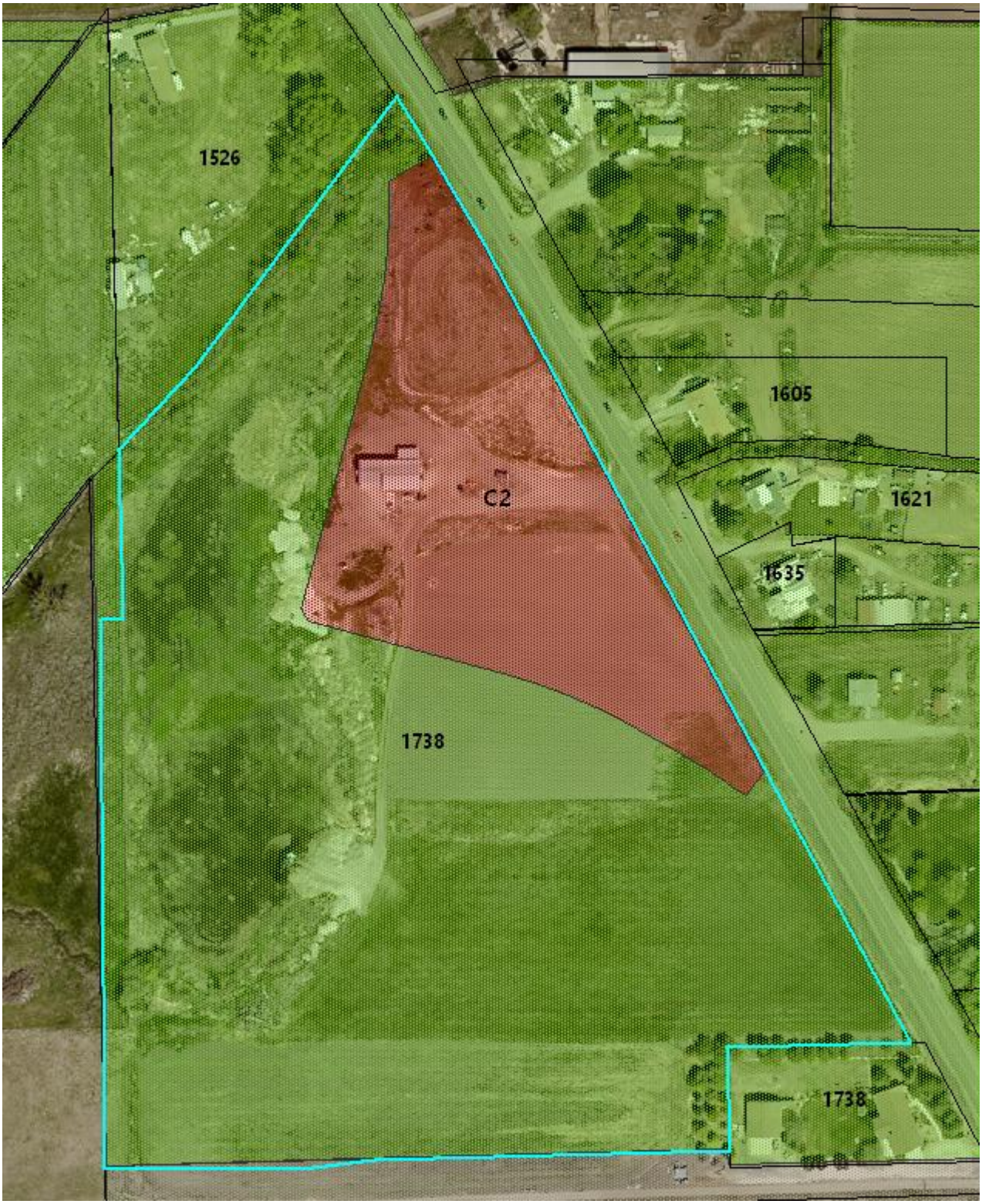
Motion to Approve or Deny -

"I move that the Planning Commission [choose **APPROVE** or **DENY]** the Preliminary Plat for Johnson Farms Plat A."

Motion to Continue the Request –

"I move that the Planning Commission continue this request to [choose appropriate date or condition]."

Johnson Farms Plat A – 1738 South Geneva Road



Vicinity & Zoning Map

C2

OS-5

Existing Lot Shape

Acres: 4.5

The Shops at Johnson Farm Plat "A"

Located in the NE and SE quarters of Section 28,
Township 6 South, Range 2 East
Salt Lake Base and Meridian

NORTH
1" = 60'

DEPARTMENT REVIEW

SEWER _____ / DATE _____

WATER _____ / DATE _____

STORM DRAIN _____ / DATE 07/22/2026

TRAFFIC _____ /DATE _____

STREET LIGHTS _____ /DATE _____

FIRE MARSHAL _____ /DATE _____

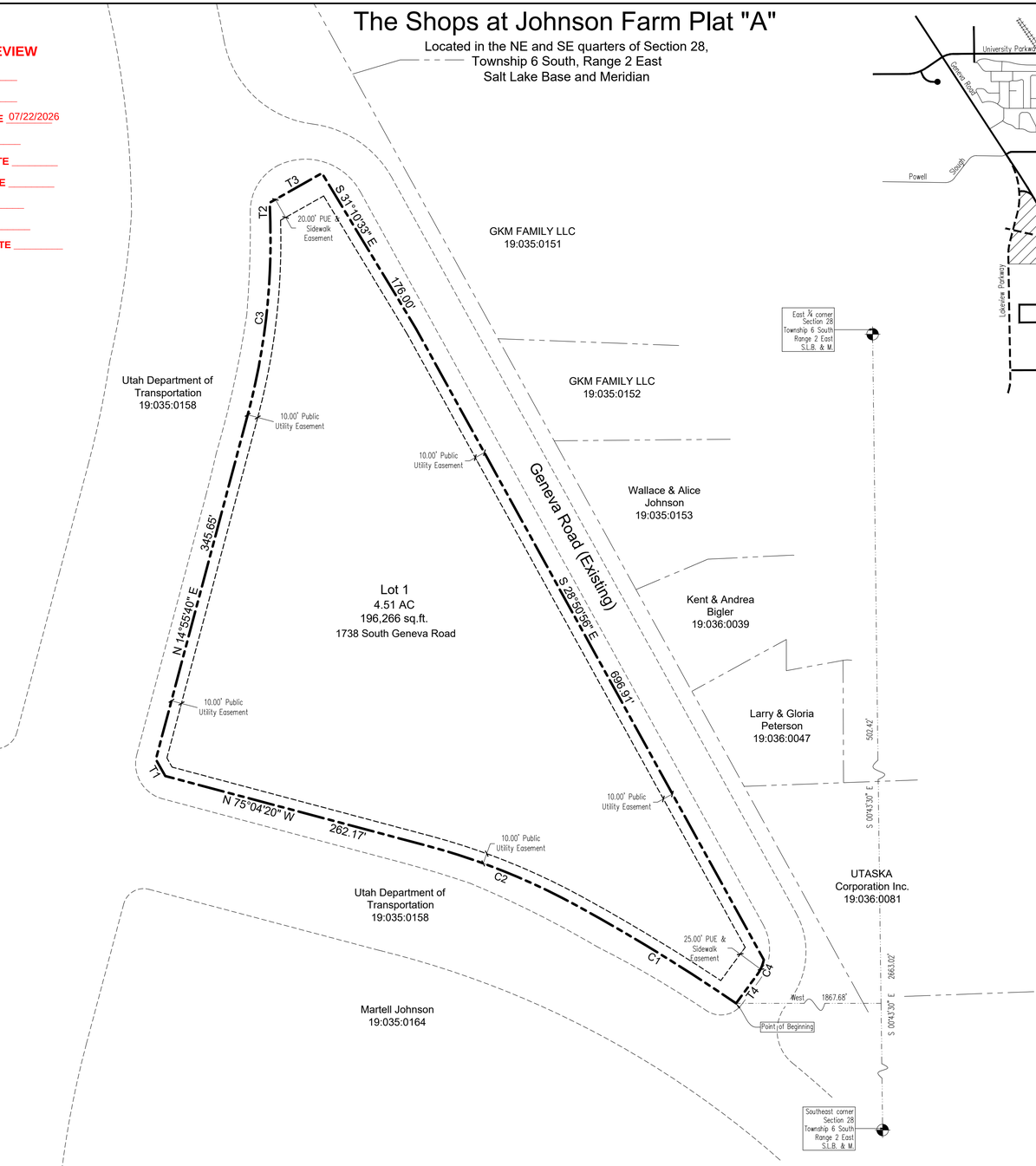
STREETS _____ /DATE _____

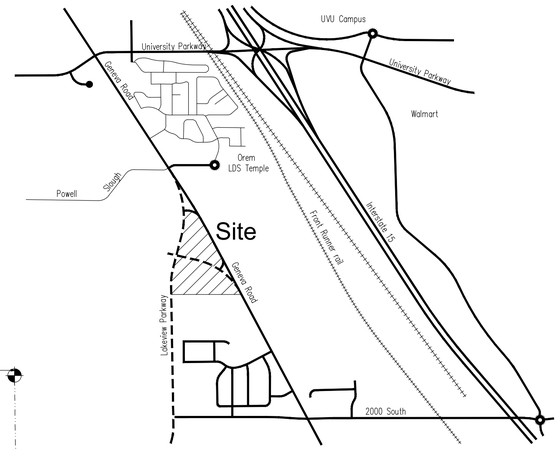
PLANNING _____ /DATE _____

CITY SURVEYOR _____ /DATE _____

Curve Data Table					
Curve	Radius	Length	Chord	Bearing	Delta
C1	1800.00'	181.47'	181.40'	N 58°28'20" W	5°46'35"
C2	650.00'	155.56'	155.18'	N 68°12'59" W	13°42'42"
C3	650.00'	187.91'	187.26'	N 06°38'45" E	16°33'51"
C4	37.50'	15.88'	15.76'	S 24°07'58" W	24°15'37"

Line Table		
Line	Length	Direction
T1	18.47'	N 29°48'33" W
T2	18.65'	N 01°38'10" W
T3	57.98'	N 60°32'35" E
T4	34.43'	S 36°15'36" W





Vicinity Map

Surveyor's Certificate

I, ROGER D. DUDLEY, do hereby certify that I am a Professional Land Surveyor and that I hold a license, Certificate No. 147089, in accordance with the Professional Engineers and Land Surveyors Licensing Act found in Title 58, Chapter 22 of the Utah Code. I further certify that by authority of the owners, I have made a survey of the tract of land shown on this plat and described below, have subdivided said tract of land into lots, streets, and easements, have completed a survey of the property described on this plat in accordance with Utah Code Section 17-73-504, have verified all measurements, and have placed monuments as represented on the plat. I further certify that every existing right-of-way and easement grant of record for underground facilities, as defined in Utah Code Section 54-8a-2, and for other utility facilities, is accurately described on this plat, and that this plat is true and correct to the best of my knowledge.

Boundary Description

Commencing at a point located South 00°43'30" East along the Section line 502.42 feet and West 1867.68 feet from the East quarter corner of Section 28, Township 6 South, Range 2 East, Salt Lake Base and Meridian; thence along UDOT right-of-way lines the following 7 courses: along the arc of a 1800.00 foot radius curve to the left 181.47 feet (chord bears North 58°28'20" West 181.40 feet), along the arc of a 650.00 foot radius curve to the left 155.56 feet (chord bears North 68°12'59" West 155.18 feet), North 75°04'20" West 262.17 feet, North 29°48'33" West 18.47 feet, North 14°55'40" East 345.65 feet, along the arc of a 650.00 foot radius curve to the left 187.91 feet (chord bears North 06°38'45" East 187.26 feet), North 01°38'10" West 18.65 feet, North 60°32'35" East 57.98 feet; thence along Geneva Road the following 2 courses: South 31°10'33" East 176.00 feet, South 28°50'56" East 696.91 feet; thence along UDOT right-of-way lines the following 2 courses: along the arc of a 37.50 foot radius curve to the right 15.88 feet (chord bears South 24°07'58" West 15.76 feet), South 36°15'36" West 34.43 feet to the point of beginning.

AREA = 196,266 sq.ft. or 4.51 acres

Basis of Bearing is South 00°43'30" East along the Section line from the East quarter corner to the Southeast corner of said Section 28.

_____ Date

_____ Surveyor (See Seal Below)

Owner's Dedication

Know all men by these presents that we, all of the undersigned owners of all the property described in the Surveyor's Certificate hereon and shown on this map, have caused the same to be subdivided into Lots, Blocks, Streets, and Easements and do hereby dedicate the streets and other public areas as indicated hereon for perpetual use of the public.

In witness hereof we have hereunto set our hands this _____ day of _____, A.D. 20___.

_____ _____
_____ _____
_____ _____
_____ _____
_____ _____

Owner's Acknowledgement (LLC)

STATE OF UTAH } S.S.
COUNTY OF UTAH }

The foregoing instrument was acknowledged before me this_____day of_____, 20___, by _____, who personally appeared before me, who being duly sworn or affirmed, did say that he/she is the _____of _____ a Limited Liability Company, and that the within and foregoing instrument was signed in behalf of said Company, and in his/her capacity as _____ of _____ Limited Liability Company.

My Commission Number _____ _____
Signed (a Notary Public Commissioned in Utah)

My Commission Expires _____ _____
Print name of Notary

Acceptance by the City of Orem

The City of Orem, County of Utah, approves this subdivision and hereby accepts the dedication of all Streets, Easements, and other parcels of land intended for public purposes for the perpetual use of the public. Signed this _____ day of _____ A.D. 20___.

Approved: _____
Community Development Director

Approved: _____ Attest: _____
City Engineer City Recorder

Occupancy Restriction Notice

The City of Orem has an Ordinance which restricts the occupancy of buildings within this subdivision. Accordingly, it is unlawful to occupy any building located within this subdivision without first having obtained a Certificate of Occupancy issued by the City.

Planning Commission Approval

Approved this _____ day of _____ , 20___, by the Orem City Planning Commission.

_____ _____ _____
Director-Secretary Chairperson, Planning Commission Resolution No.

County Recorder

Plat " A "

The Shops at Johnson Farm

Located in the NE and SE quarters of Section 28,
Township 6 South, Range 2 East
Salt Lake Base and Meridian

Subdivision

Orem City, _____ Utah County, Utah
Scale: 1" = 60 Feet

Prepared by:

Dudley and Associates, Inc.
353 East 1200 South
Orem, Utah 84058
office 801-224-1252
fax 801-224-1264

GRAPHIC SCALE

60 0 30 60 120 180
(IN FEET)
1 inch = 60 ft.

Approved as to Form

_____
City Attorney Date

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



1738 South Geneva Road Street View

Administrative	PLANNING COMMISSION August 5th, 2026 The Shops at Johnson Farms 1700 South Geneva Road Site Plan	Item 4.4 **Prepared By:** Rebecca Gourley **Applicant:** Paul Washburn, Dudley and Associates

Notices:

Posted in 2 public places.

Posted on City Webpage and City hotline.

Posted at Utah.gov/pmn.

Site Information:

General Plan Designation:

Community Commercial

Zoning: **C2**

Total Acreage: **4.5**

Action:

The Planning Commission is the Land Use Authority and the approving body for this item.

REQUEST: The applicant requests site plan approval for the construction of a new retail complex (46,300 ft^2 combined).

BACKGROUND: On March 9th, 2026, Mr. Washburn and Dudley and Associates, applied for site plan approval for the Shops at Johnson Farms. The subject property is located at approximately 1700 South Geneva Road. The property was rezoned from Open Space (OS-5) to Commercial (C2) on January 27th, 2026. A Development Agreement was included to prohibit certain commercial uses at this location. These uses are detailed later in this report.

The applicant proposes to construct a retail complex, which includes 5 commercial buildings, improvements to the right-of-way (ROW), and utility installation.

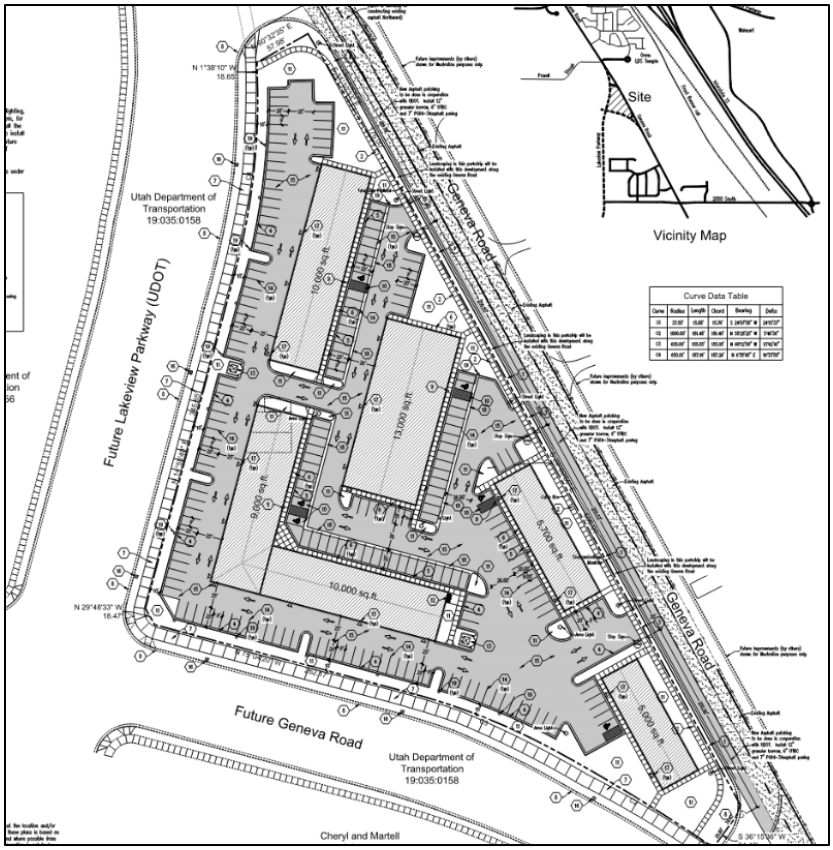


Figure one (above), The Shops at Johnson Farms site plan, as included in the Planning Commission Packet

REVIEW:

Zoning: The subject property is zoned C2 with an existing development agreement. The Development Agreement includes the following stipulations:

1. Limited Uses – The following uses are prohibited on the property:

SLU 5513 Tires and Tubes
SLU 5511 Motor Vehicles New and Used
SLU 5512 Motor Vehicle Vehicles Used
SLU 5530 Gasoline Service Station With or Without Store
SLU 5920 Cannabis Pharmacy
SLU 5940 Retail Tobacco Specialty Business
SLU 5944 Cigars – Cigarettes
SLU 6112 Pawn Shops
SLU 6214 Laundromats
SLU 6232 Tattoos & Body Piercing
SLU 6411 Automobile Wash
SLU 6412 Auto Lube and Tune Up
SLU 6413 Automobile Repair
SLU 6414 Auto Body Repair and Paint
SLU 6317 Animal Kennels and Runs
SLU 6615 Building Construction – General Contractor, Office & Storage
SLU 6625 Landscaping Services, Office & Storage
Outdoor Storage of Any kind

2. Hours of Operation – Because of the proximity of the Property to residential uses, the hours of operation for all commercial development on the Property shall be limited to 5:00 a.m. to 12:00 a.m. (midnight). No business or other commercial activity shall take place on the Property between 12:00 a.m. to 5:00 a.m.

Public Improvements: The property is located between Geneva Road and the future Lakeview Parkway.

5' sidewalks are to be installed along the eastern property line. A 12' wide concrete trail is to be installed along both the northwest and southwest property lines in coordination with UDOT. Landscaping in the park strips between the curb and all sidewalks is to be installed with this development.

Curb + gutter will be installed on the eastern property line with this development. Curb + gutter located along the northwest and southwest property lines will be installed in coordination with UDOT and may be impacted by construction schedules for the future Lakeview Parkway and Geneva Road re-routing.

Sewer, water, power, and all other utilities will be installed by the developer. All on-site sewer facilities will remain privately owned by the development.

Landscaping: This property includes 41,361 ft^2 of landscaping. The park strip landscaping includes one tree per 40 linear feet of frontage, as required by sec. 22-8-9(B). A total of 26 trees will be included in the landscaping. The landscaping plan is attached for review along with the site plan.

Access: Vehicles will access the subject property through two eastern entrances along the existing Geneva Road. UDOT has prohibited additional access points.

Parking: The zone requires 185 parking spaces, 5 of which must be ADA accessible. The proposed site layout provides 198 parking stalls, 6 of which are ADA accessible.

Elevations: The proposed building elevations match the modern farmhouse style proposed in the rezone concept plan. The complete elevations are included in the project packet for review.

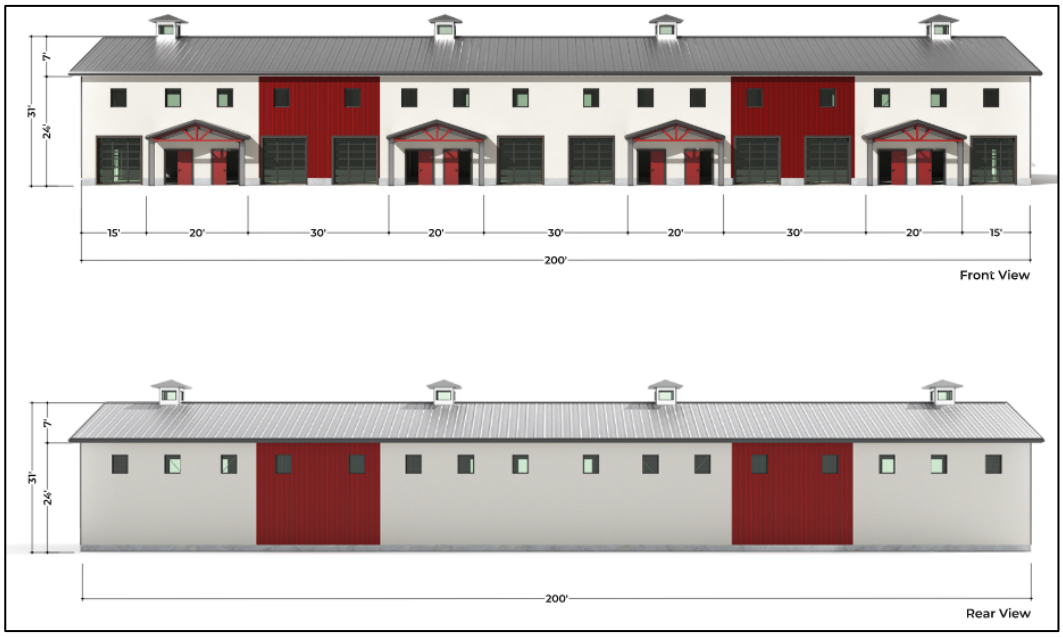


Figure 2 (above), Site plan elevations for the Shops at Johnson Farms

DEVELOPMENT REVIEW COMMITTEE: The Development Review Committee (DRC) reviewed the site plan application on Monday, July 27th, 2026. The DRC recommended approval and did not forward any specific conditions to the Planning Commission.

ACTIONS: The Planning Commission is the designated Land Use Authority for the site plan. The Commission may approve or deny the request for site plan approval or may choose to continue their consideration of the request and ask for additional information or analysis.

ALTERNATIVE MOTIONS:

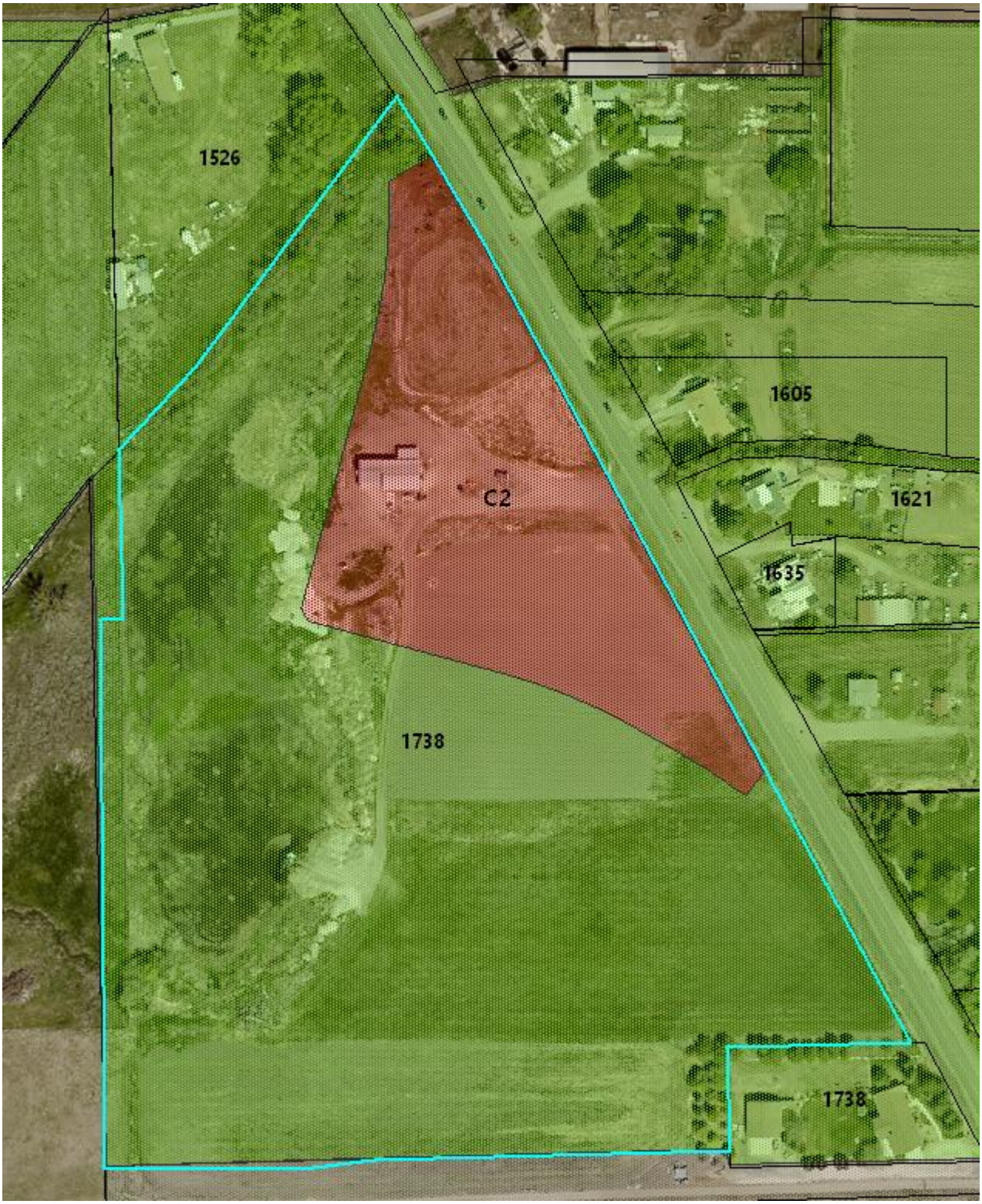
Motion to Approve or Deny -

> "I move that the Planning Commission [choose **APPROVE** or **DENY**] the Site Plan for the Shops at Johnson Farms."

Motion to Continue the Request –

"I move that the Planning Commission continue this request to [choose appropriate date or condition]."

Johnson Farms Plat A – 1738 South Geneva Road



Vicinity & Zoning Map

C2

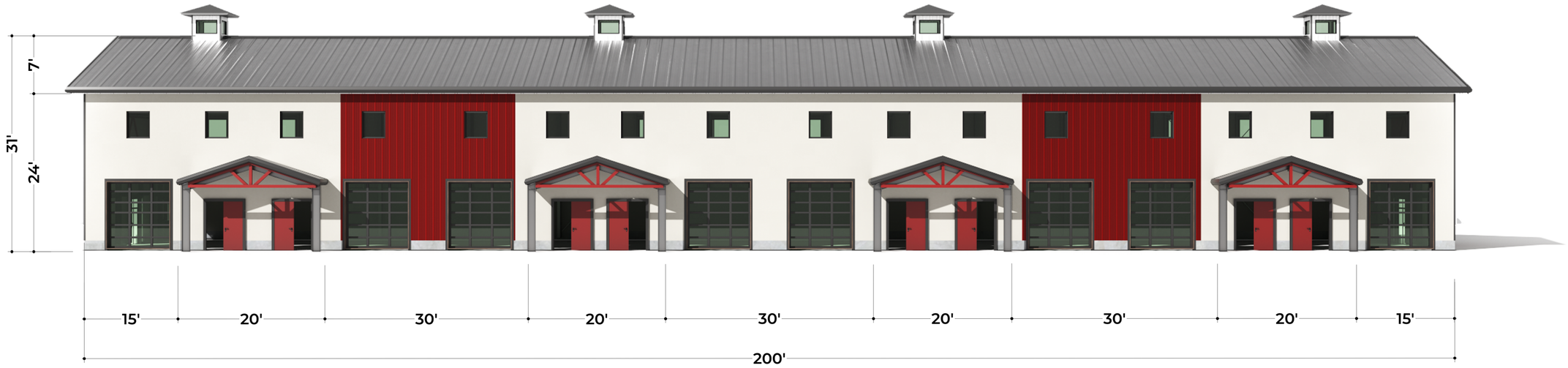
OS-5

Existing Lot Shape

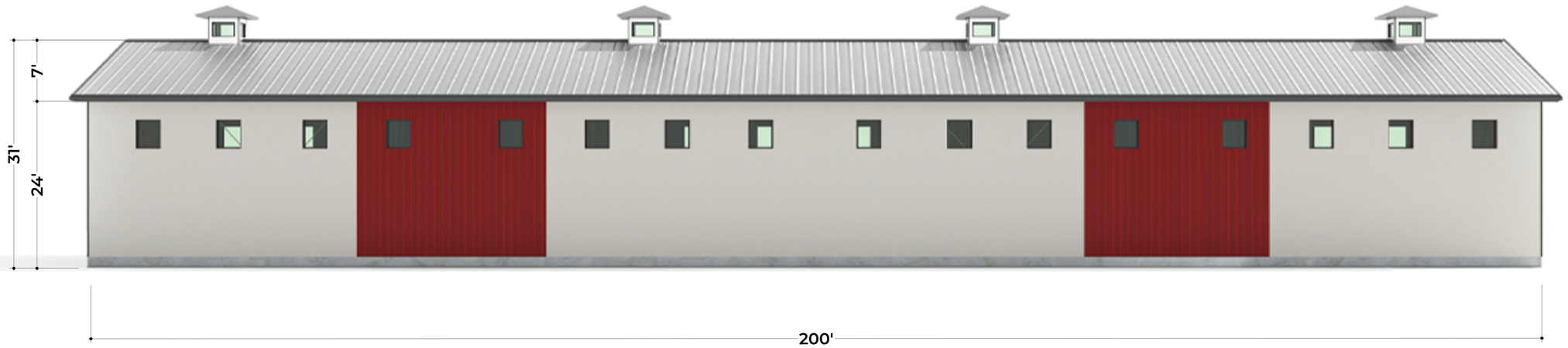
Acres: 4.5



1738 South Geneva Road Street View



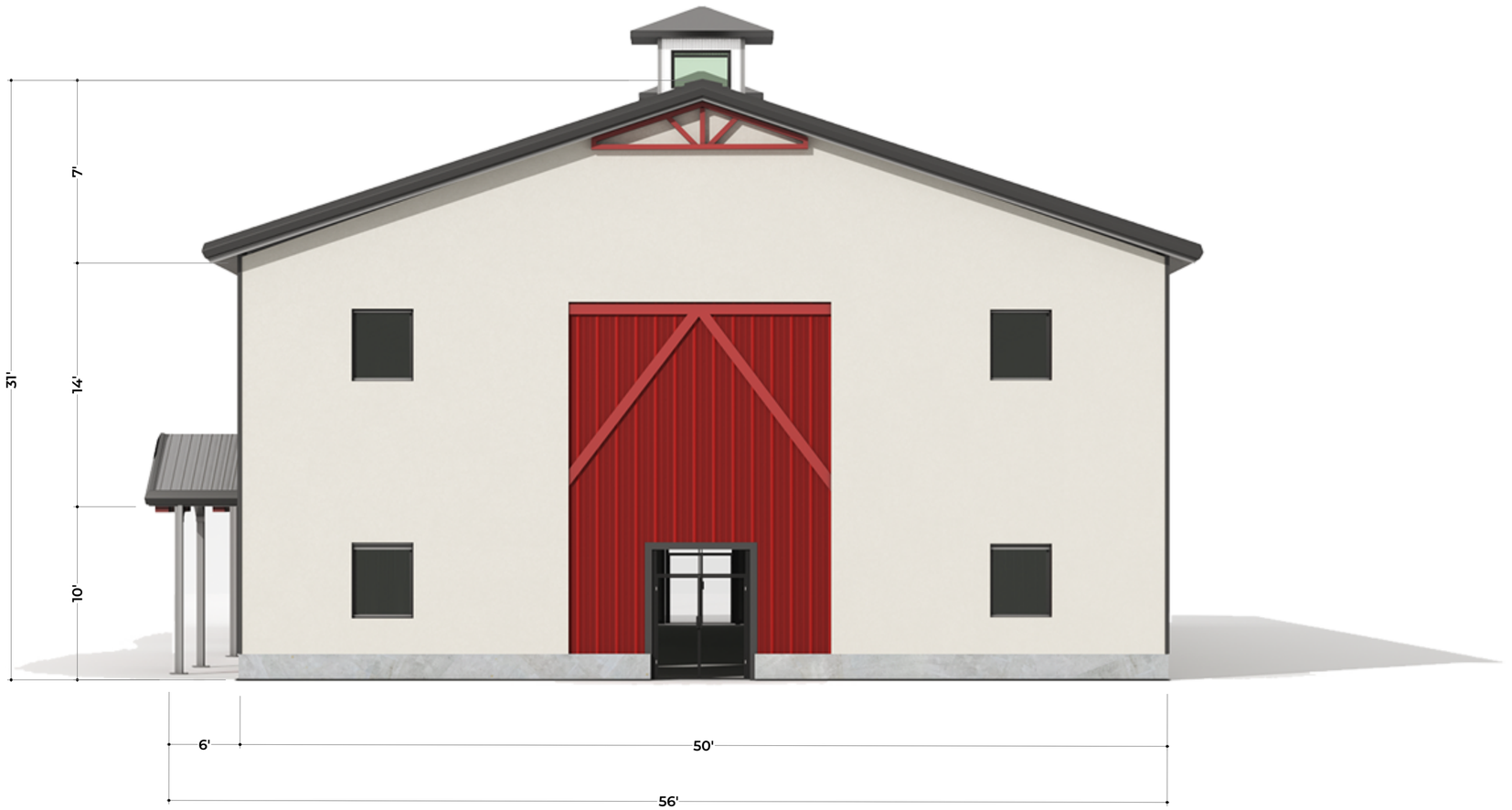
Front View



Rear View



Left View



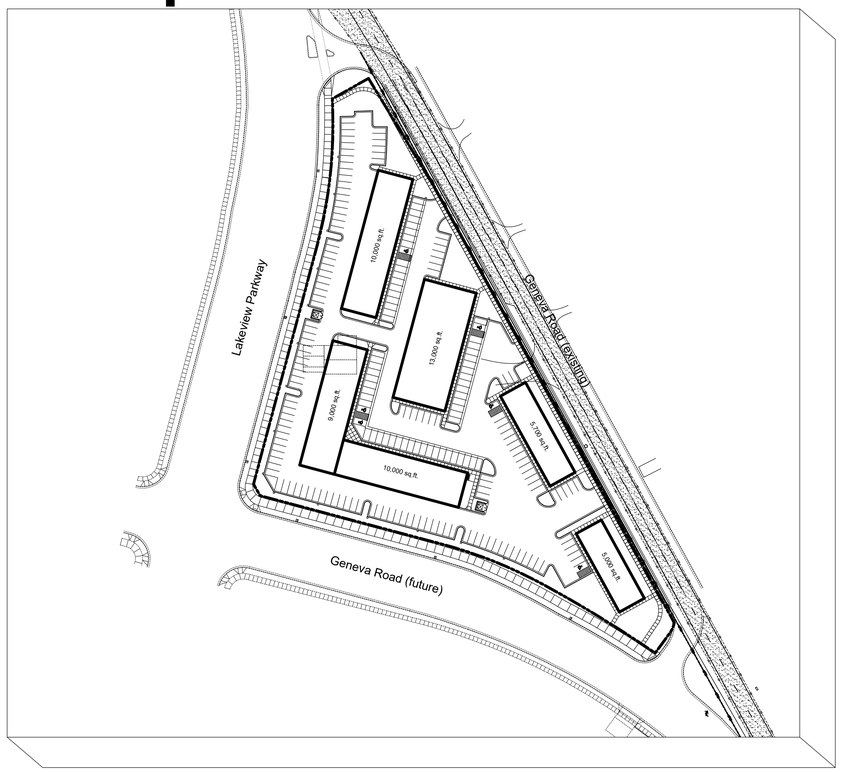
Right View

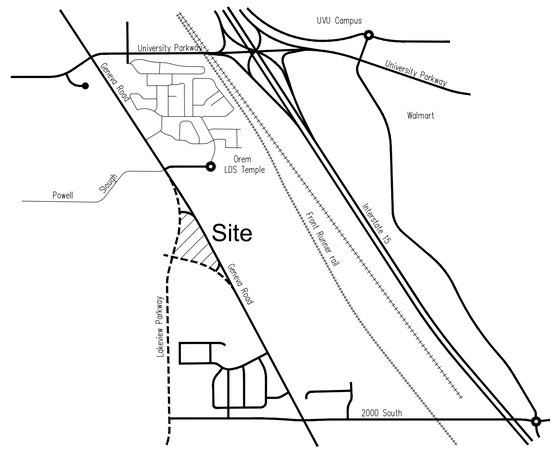


The Shops at Johnson Farm

Legend

Symbol	Description
	Proposed Sanitary Sewer Main (size noted on plan)
	Existing Sanitary Sewer Main (size noted on plan)
	Proposed Culinary Water Main (size noted on plan)
	Existing Culinary Water Main (size noted on plan)
	Existing Storm Drain pipe (size noted on plan)
	Proposed Storm Drain pipe (size noted on plan)
CTV	Cable TV utility lines
P	Existing Power lines
P	New underground Power lines
	Outside Boundary line
	Existing surface improvements
	Existing Sidewalk
	Proposed Sidewalk
4503	Existing Contour Elevation
4503	Finish Contour Elevation
4500.00 TA	Finish Spot Elevation
	Drainage Flow Direction
0.50%	Drainage slope
M	Water Meter (size noted on plan)
	Culinary Water Valve
	Fire Hydrant assembly
S	Sanitary Sewer Manhole (size noted on plan)
D	Storm Drain Manhole (size noted on plan)
	Storm Drain Box (size noted on plan)
ta	top of asphalt
tw	top of sidewalk
boc	back of top of curb
bow	back of top of sidewalk
SSMH	Sanitary Sewer Manhole
SDMH	Storm Drain Manhole
WV	Water Valve
GV	Gas valve
WM	Water Meter
eo	edge of existing asphalt
PUE	Public Utility Easement





Vicinity Map

General Notes:

"The fire protection items (fire hydrants, water mains, access roads, etc.) shown on this site plan are preliminary only. Detailed fire protection plans shall be submitted with the building plans. Plan reviews by the City of Orem Fire Prevention Bureau shall be completed prior to the issuance of a building permit. The plan reviews by the City of Orem Fire Prevention Bureau may identify additional fire protection requirements mandated by the International Fire Code. Fire hydrant foot valves shall be installed at the connection point with the main water lines."

- "All landscaped areas shall have an automatic, underground sprinkler system which includes a backflow assembly to the building. Backflow assemblies shall be installed and tested in accordance with Section 21-1-14 of the Orem City Code. Water meter sizes shall be determined by the City of Orem Building Division at the time of building permit approval or when there is a request to change the water meter size. Water meters shall be located at the back of sidewalk or curb in an area that is accessible for reading and servicing. Water meters shall not be located within areas enclosed with fences or within ten feet (10') of any existing or proposed structure."
- If required by Chapter 20 of the Orem City Code or by the applicant's Permit for Industrial Wastewater Discharge, "A sampling manhole and fat and oil separator/grease trap shall be installed in accordance with the City of Orem Standards and Specifications."
- "All signage shall comply with the requirements of the Orem City Code."
- "All utilities, including water and sewer laterals, water and sewer mains, storm water drains, stormwater sumps, sewer manholes, water valves, etc., shall not be located under covered parking areas and shall be installed according to the Orem City Code."
- "All drainage from rooftop and dumpster areas are required to drain to vegetated landscape areas unless otherwise approved by the City Engineer."Orem City Code 23-4-8(7)."

3

- "At the time of construction, the City of Orem may determine based on professional experience and judgment and at its sole discretion, the need for the Owner/Developer to pay for, remove, and replace any existing substandard improvements such as curbs, gutters, sidewalks, drive approaches, driveways, decorative concrete, wheelchair ramps, etc., or any unused drive approaches."
- "All construction shall conform to the City of Orem construction standards and specifications unless the improvement is within the UDOT right-of-way, in which case the construction shall conform to UDOT construction standards and specifications."
- All damage to City owned roads are the responsibility of the contractor to repair. Each cut in the roadway (including cores) is subject to road cut fees. Install asphalt according to the City Standard Details (see details M-1, M-9, M-10, RW-14, and RW-15).
- All damage to City owned sidewalks/concrete (lifting, cracking, cores, etc.) are the responsibility of the contractor to replace. Any concrete repair in lieu of replacement must be approved by the City. Install concrete according to the City Standard Details (see details RW-1 through RW-13 and RW-18)

Planning Department

56 North State Street
Orem, Utah 84057
Phone (801) 229-7238
Fax (801) 229-7191

Public Safety

95 East Center Street
Orem, Utah 84057
801-229-7323

Emergency 911
Utah County Animal Shelter 801-785-3442

Engineering

Engineer: Taggart Bowen
56 North State Street
Orem, Utah 84057
Phone (801) 229-7316
Fax (801) 229-7191

Building Inspection

56 North State Street
Orem, Utah 84057
Phone (801) 229-7185
Fax (801) 229-7191

Public Works Department

1450 West 550 North
Orem, Utah 84057
Phone (801) 229-7506

Gas

Dominion Energy
1640 North Mountain Springs Parkway
Springville, Utah 84663
Phone (801) 853-6585

Electricity

Rocky Mountain Power
70 North 200 East
American Fork, Utah 84003
Phone (801) 756-1220
Fax (801) 756-1274
Mark Steele

Telephone

Qwest
75 East 100 North
Provo, Utah 84606
Phone (801) 356-7050
Cell (801) 473-3385
Kasey Lunt

Cable T.V.

Comcast Cable Communications, Inc.
1350 East Miller Avenue
Salt Lake City, Utah 84106
Phone (801) 485-0500
Fax (801) 487-1887

Property Owner:

Cheryl Johnson
1738 South Geneva Road
Orem, Utah

Developer:

Ron Mortimer
%Paul Washburn
825 North 900 West
Orem, Utah 84057
801-368-4700
washburnsmith@gmail.com

Engineer/Land Surveyor:

Dudley and Associates, Inc.
353 East 1200 South
Orem, Utah 84058
801-224-1252
todd@dudley-eng.com

Site Data:

Zone = C2

Total Area = 183,236 sq.ft. or 4.21 Acres

Parking Requirements: 1 space / 250 sq.ft. building area

Spaces required = 185
Spaces provided = 198
ADA Spaces required = 5
ADA Spaces provided = 6

	Square Footage	Acreage	Percent of total
Total Area	183,236	4.21	100
Total Building / Pad Area	46,300	1.06	26
Total Hard Surface Area	95,575	2.19	54
Total Impervious Area	141,875	3.26	80
Total Landscaped Area	41,361	0.95	20

Tabulation Table

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
FAMILY CITY USA
IMPROVEMENTS INSTALLED
WITHOUT CITY INSPECTION
WILL BE REJECTED
07/15/2026

REGISTERED LAND SURVEYOR
No. 147089
Roger D. Dudley
STATE OF UTAH

REGISTERED PROFESSIONAL ENGINEER
No. 147089
Roger D. Dudley
STATE OF UTAH

Sheet Index

1.0	Cover Sheet
1.1	General Notes
	Property Survey
1.2	Demolition Plan
1.3	Existing Topography map
2.0	Site Plan
3.0	Utility Plan
Irr -1	Irrigation Plan
4.0	Grading Plan
4.1	Drainage Plan
4.2	Sub-Basin exhibit
P-1	Chamber system profile 1
P-2	Chamber system profile 2
	Dumpster Details
6.0	SWPPP
6.1	SWPPP Details
	Building Elevations (4)
L-3	Landscape Details
L-3.1	Landscaping Details
L-1.0	Planting Plan
L-2.0	Landscaping Irrigation Details
5.0	Detail Sheet
5.1	Detail Sheet
	City Details

Sheet No.
C - 1.0

UTILITY GENERAL NOTES

1. All installation and materials shall, at a minimum, conform to the current City standards, specifications, and drawings.

2. The contractor shall obtain a permit for utility construction at least 48 hours prior to construction.

3. Contractor shall coordinate with all utility companies for installation requirements and specifications.

4. All necessary inspections and/or certifications required by codes and/or utility service companies shall be preformed prior to announced building possession and the final connection of service.

5. The contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans are based on records of the various utility companies, and where possible, measurements taken in the field. The information is not to be relied on as being exact or complete. The contractor must call the appropriate utility companies at least 48 hours before any excavation to request exact field location of utilities. It shall be the responsibility of the contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plans.

6. Underground utilities shall be installed, inspected and approved before backfilling.

7. Contractor shall notify the necessary City inspectors 72 hours before connecting to any existing utility.

8. All fill material is to be in place and compacted before installation of proposed utilities.

9. Existing utilities shall be verified in field prior to installation of any new lines, any discrepancies found are to be communicated to the design engineer prior to installation.

10. All ductile and gray iron fittings shall be manufactured in accordance with the following AWWA standards: C-104 cement mortar lining, C-110 gray-iron and ductile iron joints. All fittings shall be seal coated with bituminous material. All fitting shall be 250 PSI minimum pressure rating.

11. Manholes shall be precast conforming to ASTM C-478. Concrete bases shall be poured in place or precast.

12. All utility pipes shall be bedded and backfilled in accordance with the detail drawings and site work specifications.

13. Tops of existing manholes shall be raised as necessary to be flush with proposed pavement elevations. Any existing manholes in unpaved areas shall be 6 inches above finished ground elevations with water tight lids.

14. All concrete for encasements shall have a minimum 28 day compression strength at 4000 PSI.

15. Site work contractor shall be responsible for all improvements to with 5 ft. of proposed building unless specified otherwise. Site work contractor shall coordinate with building contractor on all utility building entrance locations.

16. In the event of a vertical conflict between waterlines, sanitary lines, storm lines and gas lines (existing and proposed), the sanitary line shall be ductile iron pipe with mechanical joints at least 10 feet on both sides of crossing, the waterline shall have mechanical joints with appropriate thrust blocking as required to provide a minimum of 18-inch clearance meeting requirements of ANSI A21.10 or ANSI 21.11 (AWWA C-151) (CLASS 50).

17. Drawings do not purport to show all existing utilities. It is the responsibility of the contractor to verify all existing utilities by means of 'blue stakes', pot-holing', and/or excavation.

18. Contractor shall verify utility locations prior to subsurface work for light poles (boring etc.) and similar structures.

19. See notice requirement under general project notes.

20. The general contractor shall ensure that all sub-contractors have installed utilities in accordance with the specifications and design (line, grade, no sags, etc.) prior to scheduling close-out meetings with the city.

21. All utilities shall be pre-tested prior to the city witnessing the test to ensure that said utilities will pass during city witness of testing.

SURVEY CONTROL NOTE:

The contractor or surveyor shall be responsible for following the National Society of Professional Surveyors (NSPS) model standards for any surveying or construction layout to be completed using Dudley & Associates ALTA Survey or Dudley & Associates construction improvement plans. Prior to proceeding with construction staking, the surveyor shall be responsible for verifying horizontal and vertical control from the survey monuments and for verifying any additional control points shown provided by Dudley & Associates. The surveyor shall also use the benchmarks as shown on the plan, and verify them against no less than three existing hard improvement elevations included on these plans or on electronic data provided by Dudley & Associates. If any discrepancies are encountered, the surveyor shall immediately notify the engineer and resolve the discrepancies before proceeding with any construction staking.

PRIVATE ENGINEER'S NOTICE TO CONTRACTORS

The Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the contractor shall defend, indemnify, and hold the owner and the engineer harmless from any and all liability, real or alleged, in connection with the performance of work on this project, excepting for liability arising from the sole negligence of the owner or the engineer.

SANITARY SEWER GENERAL NOTES

1. See this sheet for general project notes.

2. All sanitary sewer construction shall be in conformance with the standards and specifications.

3. All gravity sanitary sewer lines shall be in conformance with the standards and specifications.

4. Sanitary sewer lines shall be SDR-35 PVC. Sewer line construction and materials shall conform to ASTM standards and specifications.

5. Rim elevations shown are approximate only and are not to be taken as final elevation. Pipeline contractor shall use precast concrete adjustments rings, grout, and steel shims to adjust the manhole frame to the required final grade in conformance with the standard specifications. All frames shall be adjusted to final grade prior to the final lift of asphalt.

6. All sanitary sewer main testing shall be accordance with the city standards and specifications. Copies of all test results shall provided to the engineer, the owner, and the governing authority prior to the start of the warranty period.

7. Compaction of all trenches within the project site must be attained and compaction results submitted to the Public Works Department.

8. The contractor is responsible for protecting all existing structures and improvements during installation of sanitary sewer line.

9. The contractor is responsible for the following:

   (A) Obtaining all required permits from the city or regulatory authorities at the contractors cost including permits required for work within the public right-of-way.

   (B) Restoration of any existing improvements including (but not limited to) fences, sod, landscaping, pavement, sprinkler systems.

   (C) Verification and protection of all existing utilities within the limits of construction.

   (D) Providing as-built drawings to the City and engineer.

   (E) All permitting, development, location, connecting and inspection.

   (F) Verifying all standard details conform to the current standards and specifications.

   (G) For obtaining and understanding all city, county, and state standards and specifications pertaining to the construction of sanitary sewer improvements.

   (H) Reference architectural plans for all connections to building services and verify locations as shown.

10. The contractor shall provide all materials necessary for construction or installation of all proposed improvements shown.

11. The contractor shall pothole the existing sewer main and provide an as-built elevation of the main to the engineer prior to any new construction.

12. Sanitary sewer pipes shall be bedded in accordance with standards.

STORM DRAIN GENERAL NOTES

1. The contractor shall be responsible for the following:

   (A) Obtaining all required permits from the city or regulatory authorities at the contractor's cost including permits required for work within the public right-of-way.

   (B) Restoration of any existing improvements including (but not limited to) fences, sod, landscaping, pavement, sprinklers systems.

   (C) Verification and protection of all existing utilities within the limits of construction.

   (D) Providing as-built drawings to the city and engineer.

   (E) All permitting, development, location, connection and inspection.

   (F) Scheduling all required inspections.

2. All storm drain construction shall be in conformance with standards, specifications, and plans.

3. Distances for storm drains are the horizontal distances from center of manhole or inlet to center of manhole or inlet. Therefore, distances shown on plans are approximate and could vary due to vertical alignment.

4. Rim elevations shown are approximate only and are not to be taken as final elevation. Pipeline contractor shall use precast concrete adjustments rings, grout, and steel shims to adjust the manhole frame to the required final grade in conformance with standards, specifications and plans. All frames shall be adjusted to final grade prior to the final lift of asphalt.

5. Compaction of all trenches within the project site must be attained and compaction results submitted to the engineer prior to final acceptance.

6. Storm drain pipes entering structures shall be grouted to assure connection at structure is watertight.

7. All storm drain manholes in paved areas shall be flush with pavement and shall have traffic bearing lids. Manholes in unpaved areas shall be 6" above finished grade. All storm drain lids shall be labeled "storm drain".

8. Contractors shall verify horizontal and vertical location of all existing storm drain structures, pipes, and all utilities prior to construction. Any discrepancies are to be reported to the design engineer prior to construction.

9. Storm drains shall be bedded in accordance with the City standards.

GRADING PLAN GENERAL NOTES

1. Contours shown are for finished surface paving, sidewalk, slab, or ground adjustment to sub-grade is the contractor's responsibility.

2. All disturbed areas that are un-surfaced or are not designated as landscape areas are to be seeded, fertilized, and watered until a healthy stand of grass is obtained.

3. If during the overall grading process, conditions are encountered which could indicate an unidentified situation is present, the soils engineer shall be contacted for recommendations.

4. Unless otherwise shown, no proposed slope shall exceed three (3) horizontal to one (1) vertical. All sloped areas must be protected from erosion.

5. If stripped materials consisting of vegetation and organic materials are stockpiled on the site, topsoil may be placed to a height of five feet. Silt fence shall be placed around the base of the stockpile and the stockpile shall be seeded with native seed mix immediately after stripping operations are complete.

6. On-site materials suitable for fill beneath drives and asphalt areas beyond 5' (five) of the building shall be compacted in accordance with guidelines presented in the soils report.

7. Spot elevations shall take precedence over contours and slopes shown. The contractor shall notify the engineer of the spot elevations that do not appear to be consistent with the contours and slopes. Spot elevations and specific profile design shall be used for setting elevations of curb, gutter and utilities.

8. Benchmark verification: Contractor shall use benchmarks and datums shown hereon to set project benchmark(s), by running level loop between at least two benchmarks, and shall provide survey notes of such to project engineer prior to commencing construction.

9. All utilities (manholes, valve covers, cleanouts, vaults, boxes, etc.) shall be adjusted to final grade prior to the final lift of asphalt.

10. All earth moving and placement operations shall be in conformance with the recommendations identified in the soils report. The contractor shall have a signed and sealed copy of the soils report on the site at all times.

11. The contours shown in the detention/retention pond area represent final grade. The top 6 inches of material in the detention/retention pond and berm areas shall be top soil as specified in the project standards.

12. Grades within asphalt areas shall be constructed to within 0.10 feet of the design grade. However, the contractor shall maintain positive drainage in all pavement areas and along all curbs. All curbs shall be built in accordance to the plan. Curbs or pavement areas which do not provide proper drainage must be removed and replaced at the contractor's expense.

13. Spot elevations represent flow line or top of asphalt unless otherwise noted.

14. The contractor is responsible for providing his own estimate of earthwork quantities.

15. All landscaped islands shall have a crown of topsoil prior to landscaping. Refer to landscape plan for specifications.

16. Where new curb and gutter is being constructed adjacent to existing asphalt or concrete pavement, the following shall apply: Prior to placement of any concrete, the contractor shall have a licensed surveyor verify the grade and cross slope of the curb and gutter forms. The contractor shall submit the slopes and grades to the engineer immediately of any section which does not conform to the design or typical cross section. The contractor shall be solely responsible for curb and gutter pours without the approval of the engineer.

17. The earthwork for all building foundations and slabs shall be in accordance with architectural building plans and specifications.

18. Pre-cast structures may be used at contractor's option.

19. Existing drainage structures to be inspected and repaired as needed, and existing pipes to be cleaned out to remove dirt and debris.

20. Existing grade contour intervals shown at 1 foot intervals unless otherwise noted on the plan.

21. Proposed grade contour intervals shown at 1 foot intervals unless otherwise noted on the plan.

22. If any existing structures to remain are damaged during construction, it shall be the contractor's responsibility to repair and/or replace the existing structure as necessary to return it to existing conditions or better.

23. The contractor shall adhere to all terms & conditions as outlined in the general permit for storm water discharge associated with construction activities.

24. Contractor shall adjust and/or cut existing pavement as necessary to assure a smooth fit and continuous grade.

25. Contractor shall assure positive drainage away from buildings for all natural and paved areas.

26. Topographical information taken from a topographic survey by (Dudley & Associates). If contractor does not accept existing topography as shown on the plans, without exception, he shall have made, at his expense, a topographic survey by a registered land surveyor and submit it to the owner for review.

27. All unsurfaced areas disturbed by grading operation shall receive 4 inches of topsoil. Contractor shall apply stabilization fabric to all slopes 3H:1V or steeper. Contractor shall place sod or hydroseed to disturbed areas in accordance with city/county specifications and maintain until a healthy stand of grass is obtained.

28. Construction shall comply with all applicable governing codes and be constructed to same.

29. Contractor is responsible for verifying all utilities and notifying the appropriate utility company prior to beginning construction.

30. Site work shall meet or exceed site specifications.

31. All concrete to have a minimum 28 day compression strength of 4000 PSI.

32. All drainage from the subject site is to be contained on-site. No water shall be allowed to flow onto adjacent properties without drainage easements in place.

33. The Landscape contractor is to refer to the grading and drainage plan for the placement of drainage swales and LID facilities and ensure the design is maintained.

GENERAL NOTES

1. All materials, workmanship, and construction of site improvements shall meet or exceed specifications set forth in the City Public Works Department, Regulations and applicable state and federal regulations (including ADA guidelines). Where there is a conflict between these plans and the specifications, or any applicable standards, the higher quality standard shall apply. All work with public R.O.W. or easements shall be inspected and approved by the City Public Works Inspector and/or UDOT where applicapable. Inspection services and construction certification to be provided by engineer of record.

2. The contractor is specifically cautioned that the location and/or elevation of existing utilities, as shown on these plans, is based on records of the various utility companies and where possible, measurements taken in the field, the information is not to be relied upon as being exact or complete. The contractor must call the local utility location center at least 48 hours before any excavation to requested exact field locations of the utilities. Prior to construction, the contractor shall verify pertinent locations and elevations, especially at the connection points and at potential utility conflicts. It shall be the responsibility of the contractor to relocate all existing utilities that conflict with the proposed improvements shown on these plans.

3. The contractor shall be responsible for obtaining all necessary permits from all applicable agencies. The contractor shall notify the City Public Works Inspector at least 48 hours prior to the start of any earth disturbing activity, or construction on any and all public improvements.

4. The contractor shall coordinate with City and all utility companies involved with regard to relocations or adjustments of existing utilities during construction and to assure that the work is accomplished in a timely fashion and with a minimum disruption of service. The contractor shall be responsible for contacting all parties affected by any disruption of any utility service.

5. The contractor shall have one (1) signed copy of the approved plans, one (1) copy of the appropriated standards and specifications, and a copy of any permits and extension agreements needed for the job, on-site at all times.

6. The contractor shall be responsible for all aspects of safety including, but not limited to, excavation, trenching, shoring, traffic control and security.

7. If during the construction process, conditions are encountered by the contractor, his subcontractors, or other affected parties which could indicate a situation that is not identified in the plans or specifications, the contractor shall contact the engineer immediately.

8. All references to any published standards shall refer to the latest revision of said standard, unless specifically stated otherwise.

9. The contractor shall submit a traffic control plan in accordance with the manual on uniform traffic control devices to the appropriate right-of-way authority (city, county or state) for approval, prior to any construction activities within, or affecting the right-of-way. The contractor shall be responsible for providing any and all traffic control devices as may be required buy the construction activities.

10. The contractor is responsible for providing all labor and materials necessary for the completion of the intended improvements shown on these drawings or designated to be provided, installed, constructed, removed and relocated unless specifically noted otherwise.

11. The contractor shall be responsible for keeping roadways free and clear of all construction debris and dirt tracked from the site.

12. The contractor shall be responsible for recording as-built information on a set of record drawings kept at the construction site, and available to the City Public Works Inspector at all times.

13. Dimensions for layout and construction are not to be scaled from any drawing. If pertinent dimensions are not shown, contact the consultant engineer for clarification and annotate the dimension on the as-built record drawings.

14. All structural erosion control measures shall be installed, at the limits of construction, prior to any other ground-disturbing activity. All erosion control measures shall be maintained in good repair by the contractor, until such time as the entire disturbed areas are stabilized with hard surface or landscaping.

15. The contractor shall sequence installation of utilities in such a manner as to minimize potential utility conflicts, in general, storm sewer and sanitary sewer should be constructed prior to installation of water lines and dry utilities.

16. All work within the public right-of-way is subject to the jurisdiction of the City Engineering Department Standard Details Specifications and Utah Department of Transportation Standard Details and Specifications.

17. The contractor shall submit a phasing plan for all work in all public roads and R.O.W.'s to the City before beginning any work on these streets. Contractor shall begin work only after City approves the phasing plan, and a preconstruction meeting is held between the city, the engineer and the contractor.

18. All operations conducted on the premises, including the warming up, repair, arrival, departure, or running of trucks, earthmoving equipment, construction equipment and any other associated equipment shall be limited to the period between 7:00 a.m. and 10:00 p.m. everyday, unless otherwise approved by the city.

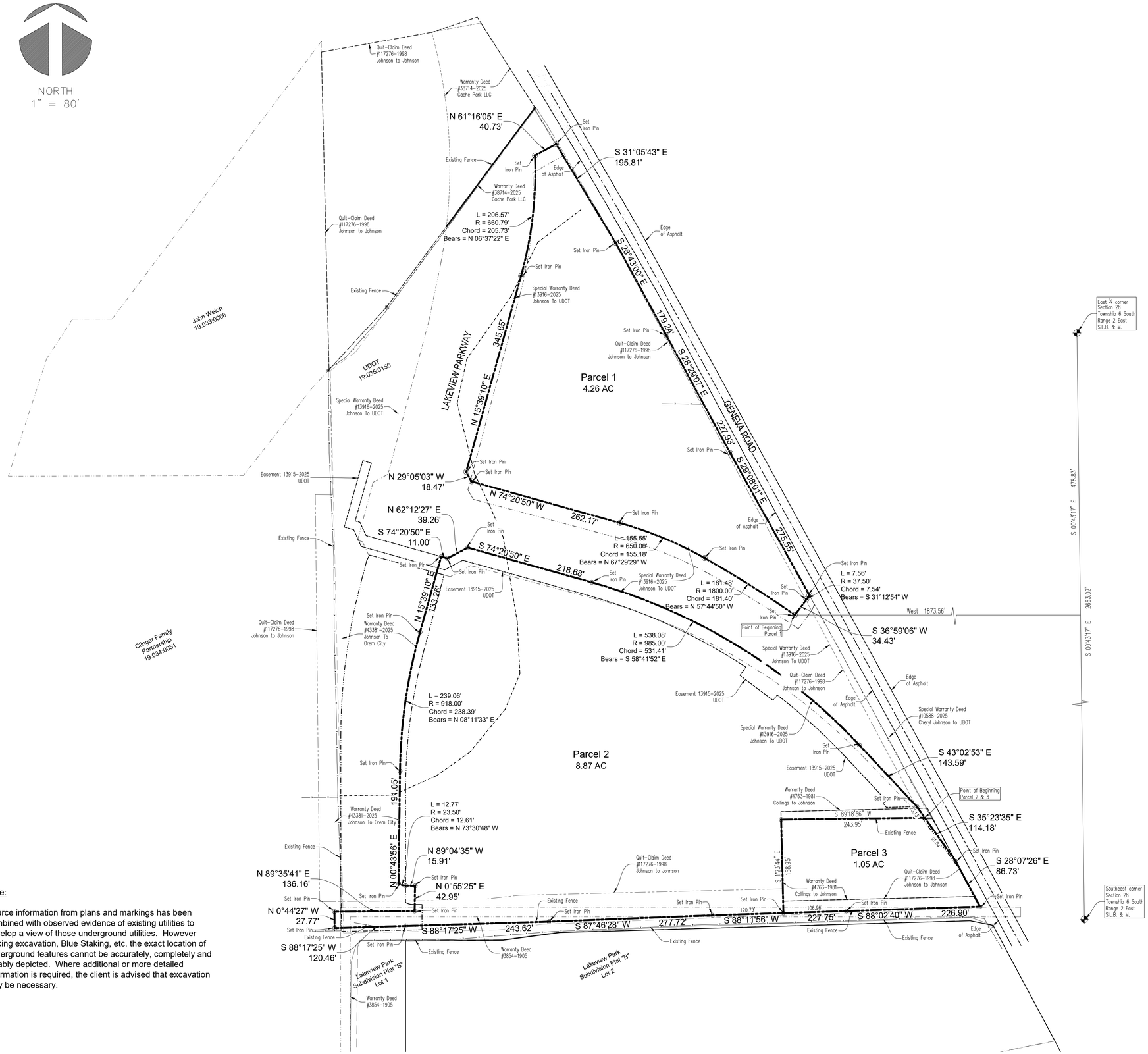
19. It is the responsibility of the contractor to coordinate all utility relocations consistent with the contractor's schedule for this project. Whether shown or not shown as it relates to the construction activities contemplated in these plans.

20. Contractor shall be responsible for obtaining all temporary power and water to the sire, paying all fees excluding tap fees and system development fees, referring to the geotechnical report prepared by (EarthTec Testing and Engineering P.C.)

21. In general, limits of site work are up to (and excluding) constructing sidewalks.

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
FAMILY CITY USA
IMPROVEMENTS INSTALLED
WITHOUT CITY INSPECTION
WILL BE REJECTED
07/15/2026

Sheet No.
C - 1.1



Note:

Source information from plans and markings has been combined with observed evidence of existing utilities to develop a view of those underground utilities. However lacking excavation, Blue Staking, etc. the exact location of underground features cannot be accurately, completely and reliably depicted. Where additional or more detailed information is required, the client is advised that excavation may be necessary.

CHERYL JOHNSON
SURVEY DESCRIPTIONS
OREM, UTAH
AUGUST 1, 2025

PARCEL 1

Commencing at a point located South 00°43'17" East along the Section line 478.83 feet and West 1873.56 feet from the East quarter corner of Section 28, Township 6 South, Range 2 East, Salt Lake Base and Meridian; thence along the arc of a 1800.00 foot radius curve to the left 181.48 feet (chord bears North 57°44'50" West 181.40 feet); thence along the arc of a 650.00 foot radius curve to the left 155.55 feet (chord bears North 67°29'29" West 155.18 feet); thence North 74°20'50" West 262.17 feet; thence North 29°05'03" West 18.47 feet; thence along Lakeview Parkway the following 3 courses: North 15°39'10" East 345.65 feet, along the arc of a 660.79 foot radius curve to the left 206.57 feet (chord bears North 06°37'22" East 205.73 feet), North 61°16'05" East 40.73 feet; thence along Geneva Road the following 4 courses: South 31°05'43" East 195.81 feet, South 28°43'00" East 179.24 feet, South 28°29'07" East 227.93 feet, South 29°08'01" East 275.55 feet; thence along the arc of a 37.50 foot radius curve to the left 7.56 feet (chord bears South 31°12'54" West 7.54 feet); thence South 36°59'06" West 34.43 feet to the point of beginning.

AREA=4.26 acres

PARCEL 2

Commencing at a point located South 00°43'17" East along the Section line 823.32 feet and West 1657.16 feet from the East quarter corner of Section 28, Township 6 South, Range 2 East, Salt Lake Base and Meridian; thence South 89°18'56" West along a fence line 243.95 feet; thence South 01°23'44" East 158.95 feet; thence South 88°11'56" West 120.79 feet; thence South 87°46'28" West 277.72 feet; thence along a fence line the following 2 courses: South 88°17'25" West 243.62 feet, South 88°17'25" West 120.46 feet; thence North 00°44'27" West 27.77 feet; thence North 89°35'41" East 136.16 feet; thence North 00°55'25" East 42.95 feet; thence North 89°04'35" West 15.91 feet; thence along the arc of a 23.50 foot radius curve to the right 12.77 feet (chord bears North 73°30'48" West 12.61 feet); thence along Lakeview Parkway the following 3 courses: North 00°43'56" East 191.05 feet, along the arc of a 918.00 foot radius curve to the right 239.06 feet (chord bears North 08°11'33" East 238.39 feet), North 15°39'10" East 133.26 feet; thence South 74°20'50" East 11.00 feet; thence North 62°12'27" East 39.26 feet; thence South 74°20'50" East 218.68 feet; thence along the arc of a 985.00 foot radius curve to the right 538.08 feet (chord bears South 58°41'52" East 531.41 feet); thence South 43°02'53" East 143.59 feet; thence South 35°23'35" East 23.13 feet to the point of beginning.

AREA=8.87 acres

PARCEL 3

Commencing at a point located South 00°43'17" East along the Section line 823.32 feet and West 1657.16 feet from the East quarter corner of Section 28, Township 6 South, Range 2 East, Salt Lake Base and Meridian; thence along Geneva Road the following 2 courses: South 35°23'35" East 91.04 feet, South 28°07'26" East 86.73 feet; thence South 88°02'40" West along a fence line 226.90 feet; thence South 88°11'56" West along a fence line 106.96 feet; thence North 01°23'44" West 158.95 feet; thence North 89°18'56" East 243.95 feet to the point of beginning.

AREA=1.05 acres

Surveyor's Certificate

We, Dudley and Associates of Orem Utah, do hereby certify that we are Professional Land Surveyors and hold Utah State Certificates as prescribed by the Laws of the State of Utah and that we have made a survey of the following described property.

We further certify that the attached Plat correctly shows the true dimensions of the property surveyed.

5-15-2025 Roger D. Dudley, PLS. No. 147089
Date

Surveyor:

Dudley and Associates, Inc.
353 East 1200 South
Orem, Utah 84058
801-224-1252

Client: Name

Cheryl Johnson

Location of Survey:

Located in the Southeast quarter Section 28, Township 6 South, Range 2 East , Salt Lake Base and Meridian.

Basis of Bearing:

Utah State Plane Coordinate System, Utah Central Zone. See Drawing

Purpose of Survey:

To identify physical boundaries and deed lines in relationship to adjacent owners.

Control Monuments:

21/2" brass cap found at the South quarter corner of said Section 28.

Notes:
Property corners are set with ½" rebar with plastic cap stamped RLS 147089 unless otherwise noted. Deed lines shown, if given a basis of bearing, have been rotated to basis of bearing as stated hereon. If no basis of bearing was given, none was assumed.

Date filed with County_____

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
07/15/2026

GRAPHIC SCALE
80 0 40 80 160 320
(IN FEET)
1 inch = 80 ft.

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

CHERYL JOHNSON

Record of Survey

OREM CITY Utah

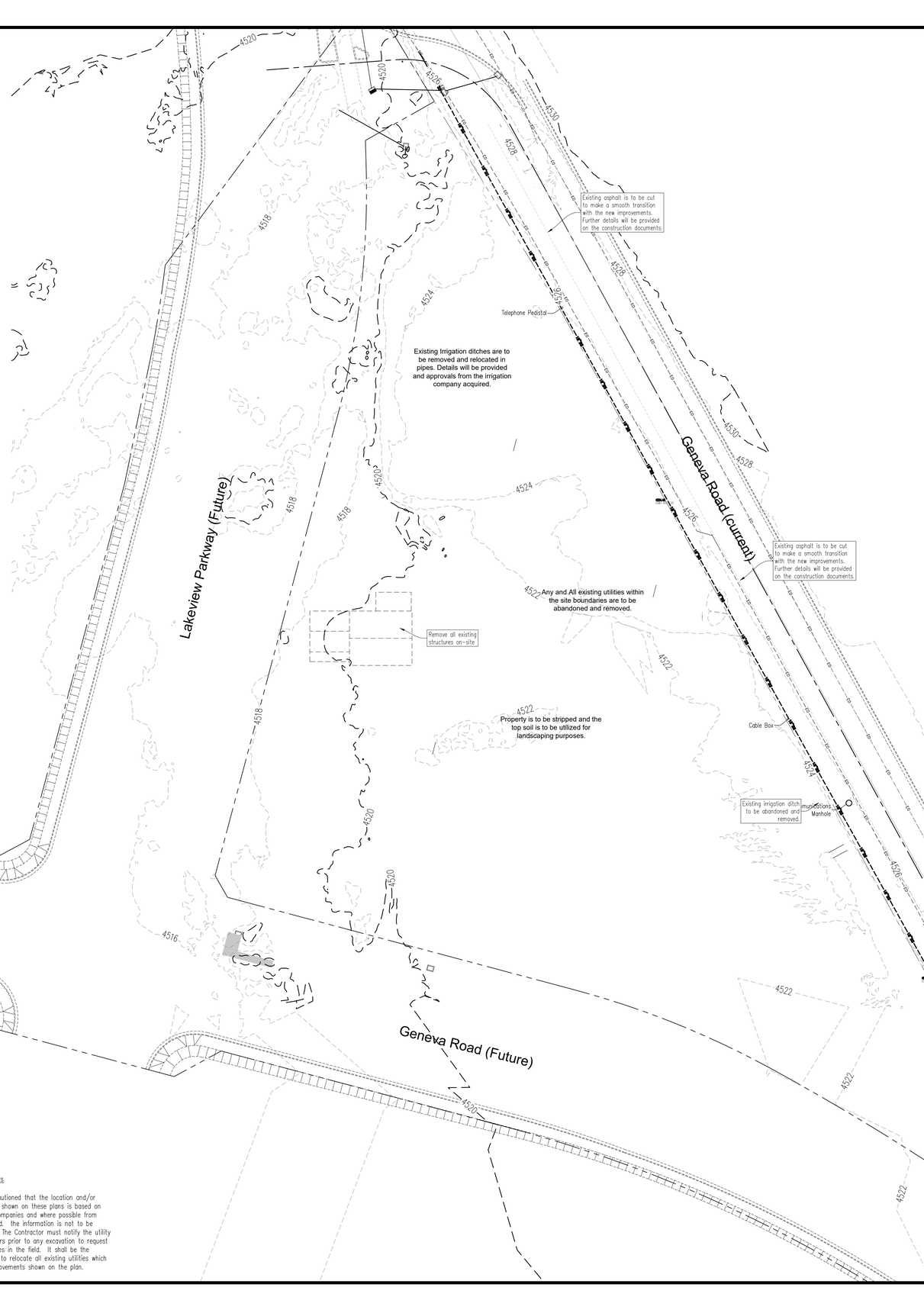
PROFESSIONAL LAND SURVEYOR No. 147089 Roger D. Dudley STATE OF UTAH

Revisions

Date 2-3-2026
Scale 1"=80'
By BHT
Tracing No. L -

Sheet No. S - 1

NORTH
1" = 40'



Know what's below. Call 811 before you dig.
BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC.
www.bluestakes.org
1-800-662-4111

CAUTION!!! Notice to contractors

The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and where possible from measurements taken in the field. The information is not to be considered exact or complete. The Contractor must notify the utility location center at least 48 hours prior to any excavation to request the exact location of the utilities in the field. It shall be the responsibility of the Contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plan.

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM FAMILY CITY USA
IMPROVEMENTS INSTALLED
WITHOUT CITY INSPECTION
WILL BE REJECTED
07/15/2026

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

Johnson Farm

Demolition Plan

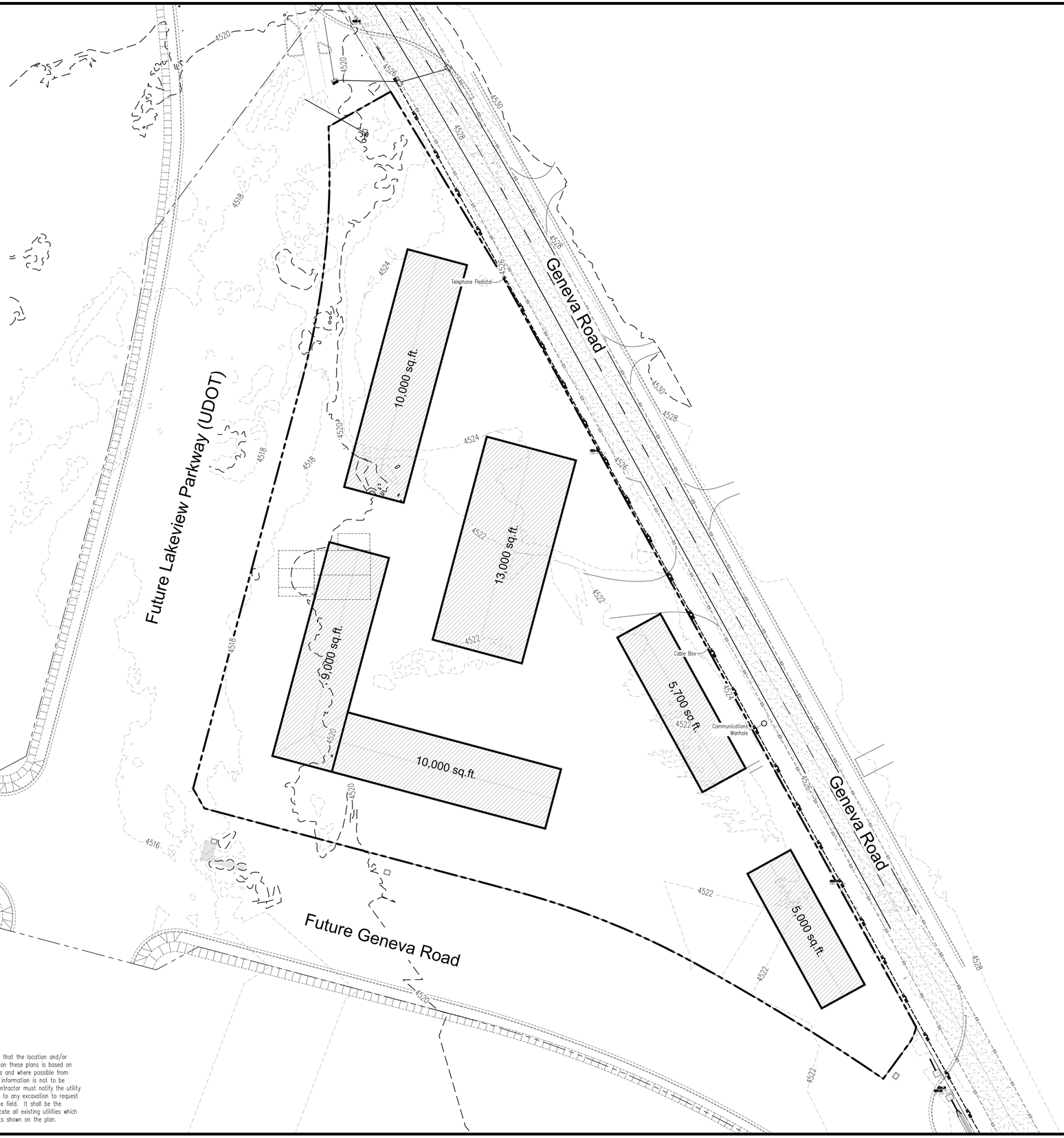
Orem Utah

Revisions

Date
3-6-2026
Scale
1" = 40'
By
TD
Tracing No.
L - 14939

Sheet No.
C - 1.2

NORTH
1" = 40'



GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

Know what's below. Call 811 before you dig.
BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC.
www.bluestakes.org
1-800-662-4111

CAUTION!!! Notice to contractors

The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and where possible from measurements taken in the field. the information is not to be considered exact or complete. The Contractor must notify the utility location center at least 48 hours prior to any excavation to request the exact location of the utilities in the field. It shall be the responsibility of the Contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plan.

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED
WITHOUT CITY INSPECTION
WILL BE REJECTED
07/15/2026

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

The Shops at Johnson Farm

Existing Contour Map

Orem Utah

Revisions

Date	3-27-2026
Scale	1" = 40'
By	TD
Tracing No.	L - 14939

Sheet No.
C - 1.3

NORTH
1" = 40'

For future Geneva Road Improvements UDOT will construct the curb and gutter, street lighting, and drainage inlets with a future project. The Developer will bond, with the City of Orem, for landscaping within the parkstrips in this area and the developer will be required to install the landscaping after the UDOT Improvement are installed. Developer will also be required to install approved UDOT Fill Material a minimum width of 8' from the shared use path to the future back of curb, and to taper fill material from back of curb to match existing with UDOT approved slope.

Developer will also be required to install landscape irrigation sleeving with junction boxes under the shared-use path.



GENEVA ROAD CROSS SECTION

Utah Department of Transportation 19:035:0156

Utah Department of Transportation 19:035:0158

Future Lakeview Parkway (UDOT)

Geneva Road

Future Geneva Road

Utah Department of Transportation 19:035:0158

Cheryl and Martell Johnson 19:035:0164

N 60°32'35" E 57.98'

N 1°38'10" W 18.65'

S 31°40'35" E 176.00'

N 14°55'40" E 345.65'

N 29°48'33" W 18.47'

N 75°04'20" W 262.17'

S 28°59'56" E 636.37'

S 36°15'36" W 34.43'

10,000 sq.ft.

13,000 sq.ft.

9,000 sq.ft.

10,000 sq.ft.

5,700 sq.ft.

5,000 sq.ft.

Existing Asphalt (UDOT is currently re-constructing existing asphalt Northward)

Future improvements (by others) shown for illustration purposes only.

New Asphalt patching to be done in cooperation with UDOT. Install 12" granular borrow, 6" UTBC and 7" PG64-34asphalt paving

Existing Asphalt

Landscaping in this parkstrip will be installed with this development along the existing Geneva Road

Telephone Pedestal

Street Light

Stop Sign

Area Light

Curb Box

Communications Manhole

Future improvements (by others) shown for illustration purposes only.

Existing Asphalt

New Asphalt patching to be done in cooperation with UDOT. Install 12" granular borrow, 6" UTBC and 7" PG64-34asphalt paving

Landscaping in this parkstrip will be installed with this development along the existing Geneva Road

Street Light

Area Light

Stop Sign

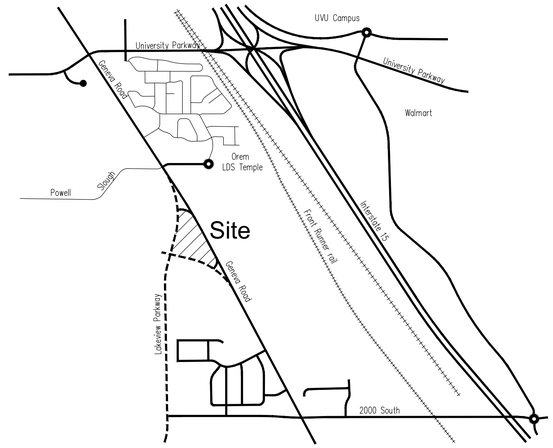
Future improvements (by others) shown for illustration purposes only.

Existing Asphalt

New Asphalt patching to be done in cooperation with UDOT. Install 12" granular borrow, 6" UTBC and 7" PG64-34asphalt paving

Street Light

Existing Asphalt



Vicinity Map

Site Data:

Zone = C2

Total Area = 183,236 sq.ft. or 4.21 Acres

Parking Requirements: 1 space / 250 sq.ft. building area

Spaces required = 185
Spaces provided = 198
ADA Spaces required = 5
ADA Spaces provided = 6

	Square Footage	Acreage	Percent of total
Total Area	183,236	4.21	100
Total Building / Pad Area	46,300	1.06	26
Total Hard Surface Area	95,575	2.19	54
Total Impervious Area	141,875	3.26	80
Total Landscaped Area	41,361	0.95	20

Tabulation Table

Curve Data Table					
Curve	Radius	Length	Chord	Bearing	Delta
C1	37.50'	15.88'	15.76'	S 24°07'58" W	24°15'37"
C2	1800.00'	181.48'	181.40'	N 58°28'20" W	5°46'36"
C3	650.00'	155.55'	155.18'	N 68°12'59" W	13°42'41"
C4	650.01'	187.91'	187.26'	N 6°38'45" E	16°33'50"

KEYED NOTES

1. Const. 30" Type B-1 UDOT Standard curb & gutter.
2. Const. 6' concrete sidewalk.
3. Const. UDOT standard GW-4 Flared Driveway.
4. Const. 24" curb and gutter. (carry curb)
5. Const. 24" curb and gutter. (shed curb)
6. Const. 5' Sidewalk.
7. Install 12' wide concrete trail in coordination with UDOT
8. Install 30" type B-1 curb and gutter in coordination with UDOT..
9. Const. ADA ramp with necessary signage.
10. Const. ADA stalls and isle (2% max. grade).
11. Landscaped Area (refer to landscaping plan for details).
12. Bicycle parking rack.
13. Masonry enclosed, solid waste dumpster's with sight obscuring gates. Materials to be consistent with building materials.
14. Parking Striping (white paint)
15. Asphalt Paving
16. Install Street Lights in coordination with UDOT and Orem City.
17. Area Lights (Wall pack mounted on building) Owner to determine type.
18. 36" Rolled Gutter
19. Curb-cut drain apron

Property to be dedicated to UDOT

APPROVED FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM FAMILY CITY USA
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
07/15/2026

Note:

No driveway or drive access may be located within twenty-five feet of an existing fence which is greater than three (3) feet in height.

All Area lights (pole lights and wall packs) final location, type, etc. are to be determined by the owner and electrical designer. Shown only for illustration purposes.

GRAPHIC SCALE

40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

Know what's below. Call 811 before you dig.
BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC.
www.bluestakes.org
1-800-662-4111

CAUTION!! Notice to contractors

The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and where possible from measurements taken in the field. the information is not to be considered exact or complete. The Contractor must notify the utility location center at least 48 hours prior to any excavation to request the exact location of the utilities in the field. It shall be the responsibility of the Contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plan.

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

The Shops at Johnson Farm
Orem Utah

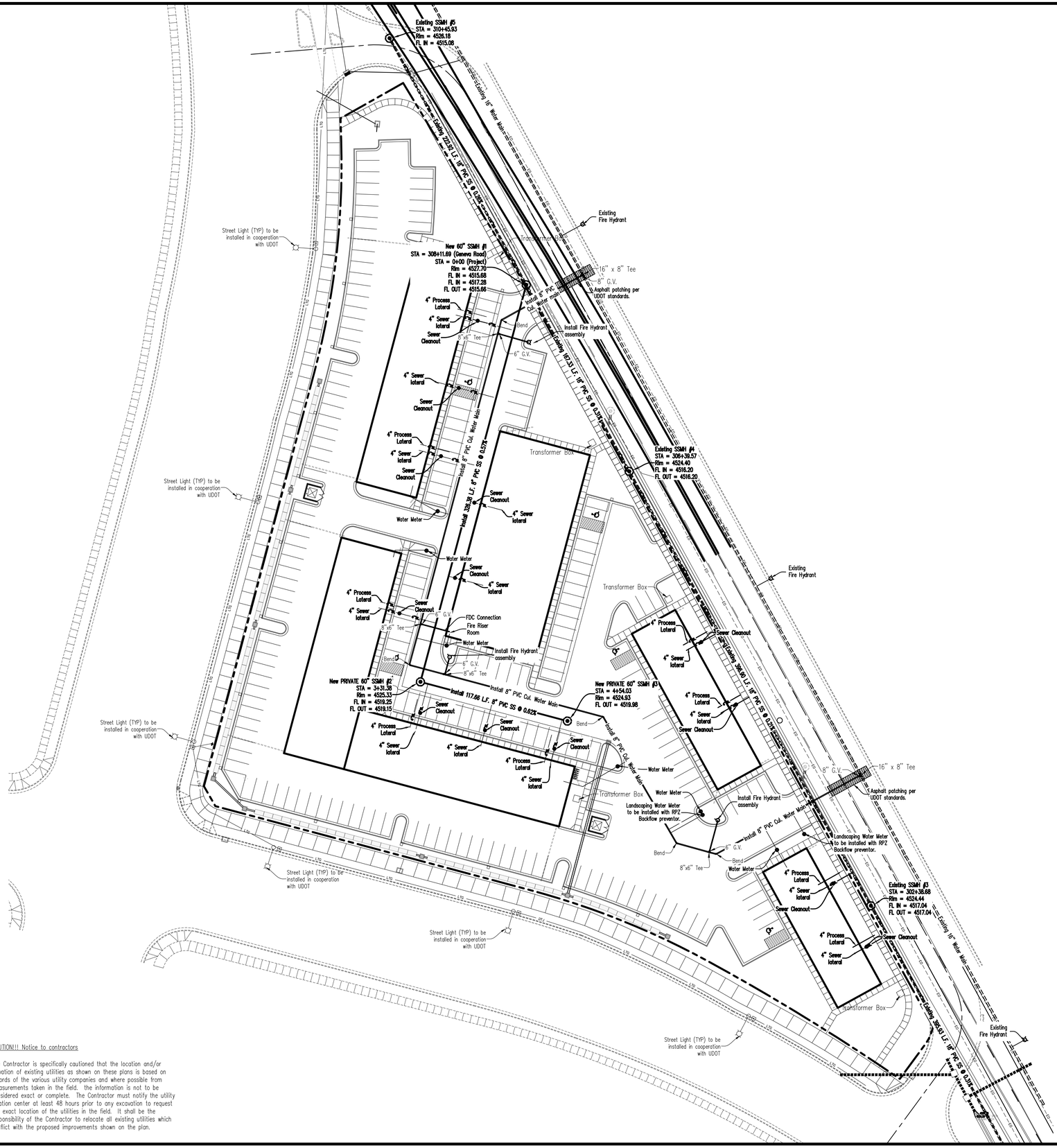
Site Plan

Revisions

Date	5-7-2026
Scale	1" = 40'
By	TD
Tracing No.	L - 14939

Sheet No.
C - 2.0

NORTH
1" = 40'



Note:

Source information from plans and markings has been combined with observed evidence of existing utilities to develop a view of those underground utilities. However lacking excavation, Blue Staking, etc. the exact location of underground features cannot be accurately, completely and reliably depicted. Where additional or more detailed information is required, the client is advised that excavation may be necessary.

Prior to construction, the contractor is to coordinate the utility locations, size, and condition for connection. Any discrepancies are to be reported to the design engineer.

At least 3 feet of horizontal separation and 1 foot of vertical separation is required from city utilities.

All water meter sizes are to be 1" unless otherwise specified on the plan.

All metallic water fittings require wax tape.

All internal sewer facilities are to be "PRIVATE"

Transformer locations are preliminary only. Coordinate further with Electrician and Power Company. Locations subject to change.

All existing water wells must be deleted and capped by a State of Utah licensed well driller.

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
FAMILY CITY USA
IMPROVEMENTS INSTALLED
WITHOUT CITY INSPECTION
WILL BE REJECTED
07/15/2026

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

Know what's below. 811
Call 811 before you dig.
BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC.
www.bluestakes.org
1-800-662-4111

CAUTION!!! Notice to contractors

The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and where possible from measurements taken in the field. the information is not to be considered exact or complete. The Contractor must notify the utility location center at least 48 hours prior to any excavation to request the exact location of the utilities in the field. It shall be the responsibility of the Contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plan.

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

The Shops at Johnson Farm
Orem Utah

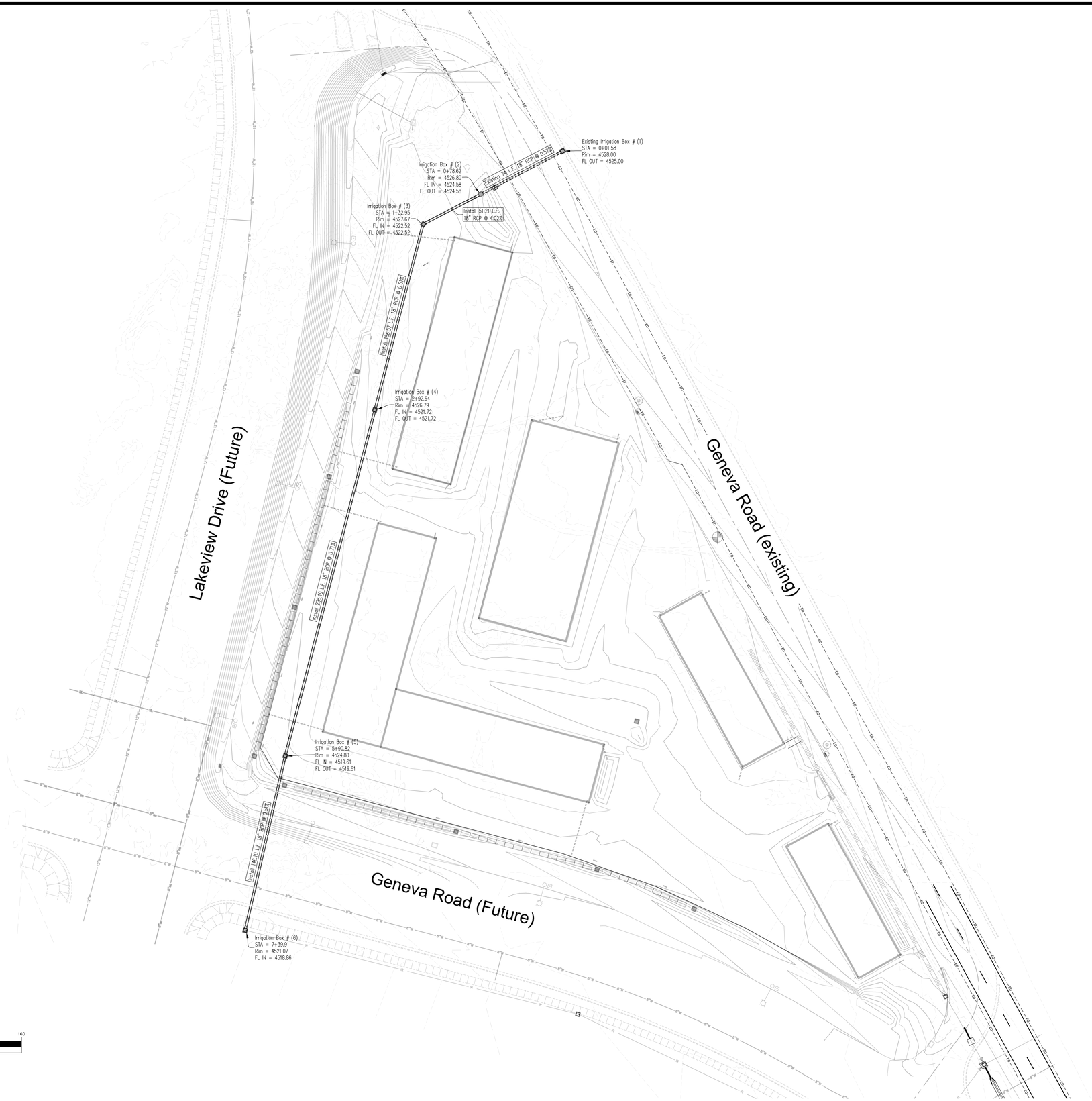
Utility Plan

Revisions

Date	5-27-2026
Scale	1" = 40'
By	TD
Tracing No.	L - 14939

Sheet No.
C - 3.0

NORTH
1" = 40'



GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

Notes:

All work is to be done as per Lake Bottom Irrigation Company standards.

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED
WITHOUT CITY INSPECTION
WILL BE REJECTED
07/15/2026

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

The Shops at Johnson Farms

IRRIGATION DESIGN EXHIBIT

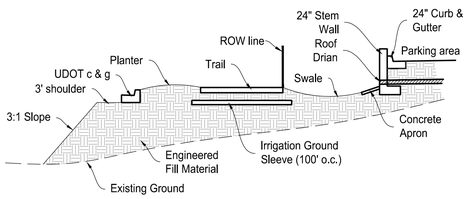
Orem Utah

Revisions

Date	6-17-2026
Scale	1" = 40'
By	TD
Tracing No.	I - 14939

Sheet No.
Irr 1.0

NORTH
1" = 40'



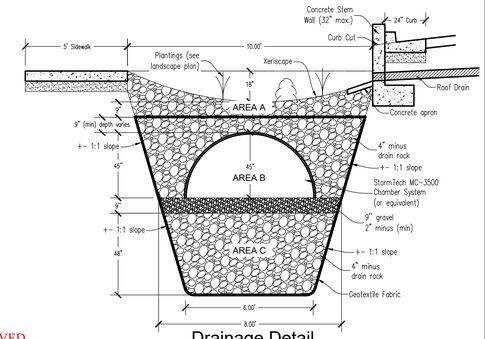
The Developer shall install the trail, including underground sleeves for future landscaping improvements. Landscaping located between the trail and the street-side curb and gutter shall be deferred for future installation by others.

The street-side curb and gutter shall also be deferred for future installation by others. However, the Developer shall install the necessary fill material at the time the trail is constructed.

The curb and gutter grades and location is being coordinated with UDOT and JUB Engineers.



Roof Drain Detail

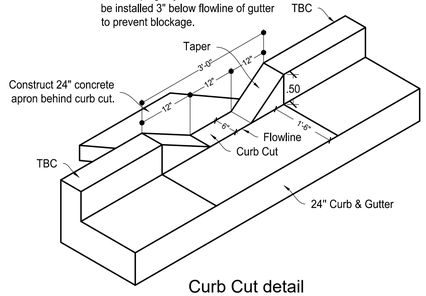


Drainage Detail

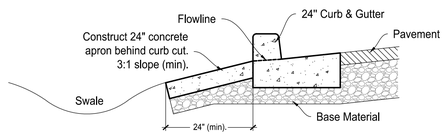
Storage Calculations
Area A = (Does not contribute to storage calculations)
Area B (Chamber System) = 27.9 CF/LF
Area C (Trickle Trench) = 11.20 CF/LF
Area around chamber = 5.07 CF/LF
TOTAL STORAGE = 44.7 CF/LF

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM FAMILY CITY USA
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
07/15/2026

Note:
Landscaping adjacent to curb cut is to be installed 3" below flowline of gutter to prevent blockage.



Curb Cut detail
(Not to scale)



NOTES:

Along future Geneva Road corridors Developer will be required to coordinate with UDOT design and survey team to stake the shared-use path before construction and provide as-built verification that the path was constructed correctly to both UDOT and Orem City.

Until the future storm drainage system is in place within the future Geneva Road alignment, UDOT cannot accept any storm drainage runoff from the site. Therefore, UDOT request that whatever storm drainage solution is implemented does not provide any drainage into the property acquired for the future Geneva Road alignment.

Source information from plans and markings has been combined with observed evidence of existing utilities to develop a view of those underground utilities. However lacking excavation, Blue Staking, etc. the exact location of underground features cannot be accurately, completely and reliably depicted. Where additional or more detailed information is required, the client is advised that excavation may be necessary.

Prior to construction, the plumbing plans must be coordinated with the the engineer the final design locations for, Roof Drain locations, sewer lateral locations and sizing, water meter and water service lateral locations, power and gas locations. Any discrepancies with the approved plans are to be reported to the design engineer.

All roof drainage and dumpster areas are to be routed through on-site landscaping where possible, for pre-treatment prior to infiltration into underground soils or connection to any city storm drain system.

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

Know what's below. 811
Call 811 before you dig.
BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC.
www.bluestakes.org
1-800-662-4111

CAUTION!!! Notice to contractors

The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and where possible from measurements taken in the field. the information is not to be considered exact or complete. The Contractor must notify the utility location center at least 48 hours prior to any excavation to request the exact location of the utilities in the field. It shall be the responsibility of the Contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plan.

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

The Shops at Johnson Farm
Orem Utah

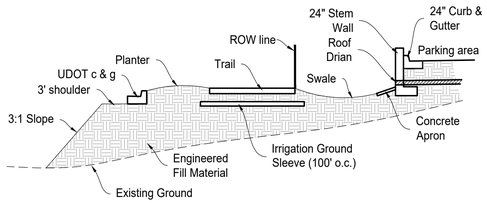
Grading Drainage Plan

Revisions

Date	6-2-2026
Scale	1" = 40'
By	TD
Tracing No.	L - 14939

Sheet No.
C - 4.0

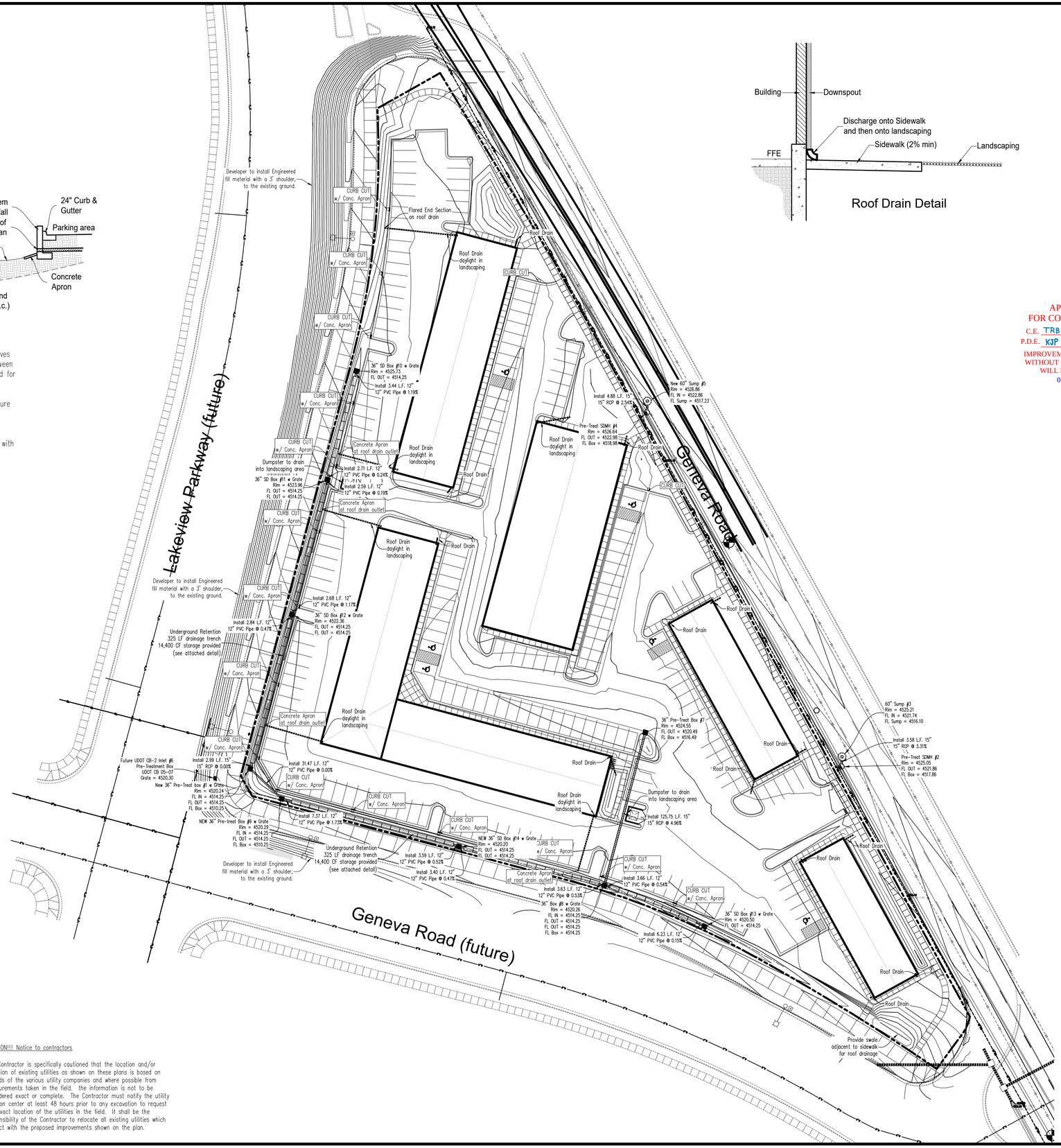
NORTH
1" = 40'



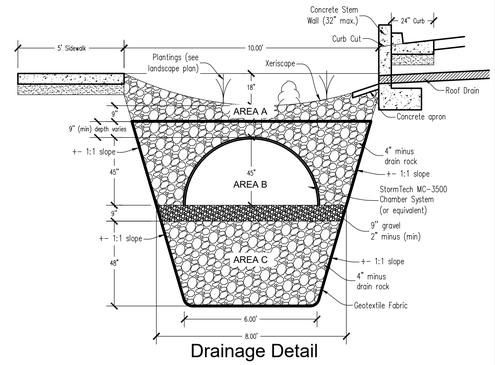
The Developer shall install the trail, including underground sleeves for future landscaping improvements. Landscaping located between the trail and the street-side curb and gutter shall be deferred for future installation by others.

The street-side curb and gutter shall also be deferred for future installation by others. However, the Developer shall install the necessary fill material at the time the trail is constructed.

The curb and gutter grades and location is being coordinated with UDOT and JUB Engineers.



Roof Drain Detail

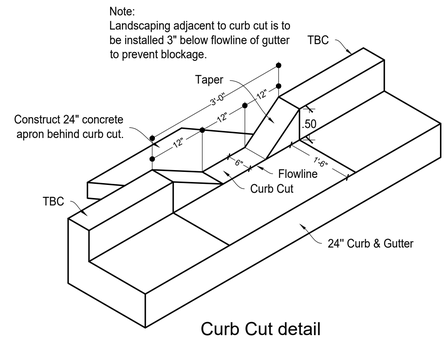


Drainage Detail

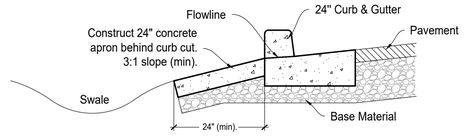
APPROVED FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
07/15/2026

Storage Calculations
Area A = (Does not contribute to storage calculations)
Area B (Chamber System) = 27.9 CF/LF
Area C (Trickle Trench) = 11.20 CF/LF
Area around chamber = 5.07 CF/LF
TOTAL STORAGE = 44.7 CF/LF

Note:
Landscaping adjacent to curb cut is to be installed 3" below flowline of gutter to prevent blockage.



Curb Cut detail
(Not to scale)



NOTES:

Along future Geneva Road corridors Developer will be required to coordinate with UDOT design and survey team to stake the shared-use path before construction and provide as-built verification that the path was constructed correctly to both UDOT and Orem City.

Until the future storm drainage system is in place within the future Geneva Road alignment, UDOT cannot accept any storm drainage runoff from the site. Therefore, UDOT request that whatever storm drainage solution is implemented does not provide any drainage into the property acquired for the future Geneva Road alignment.

Source information from plans and markings has been combined with observed evidence of existing utilities to develop a view of those underground utilities. However lacking excavation, Blue Staking, etc. the exact location of underground features cannot be accurately, completely and reliably depicted. Where additional or more detailed information is required, the client is advised that excavation may be necessary.

Prior to construction, the plumbing plans must be coordinated with the the engineer the final design locations for, Roof Drain locations, sewer lateral locations and sizing, water meter and water service lateral locations, power and gas locations. Any discrepancies with the approved plans are to be reported to the design engineer.

All roof drainage and dumpster areas are to be routed through on-site landscaping where possible, for pre-treatment prior to infiltration into underground soils or connection to any city storm drain system.

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

Know what's below. Call 811 before you dig.
BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC.
www.bluestakes.org
1-800-662-4111

CAUTION!!! Notice to contractors

The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and where possible from measurements taken in the field. the information is not to be considered exact or complete. The Contractor must notify the utility location center at least 48 hours prior to any excavation to request the exact location of the utilities in the field. It shall be the responsibility of the Contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plan.

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

The Shops at Johnson Farm
Orem Utah

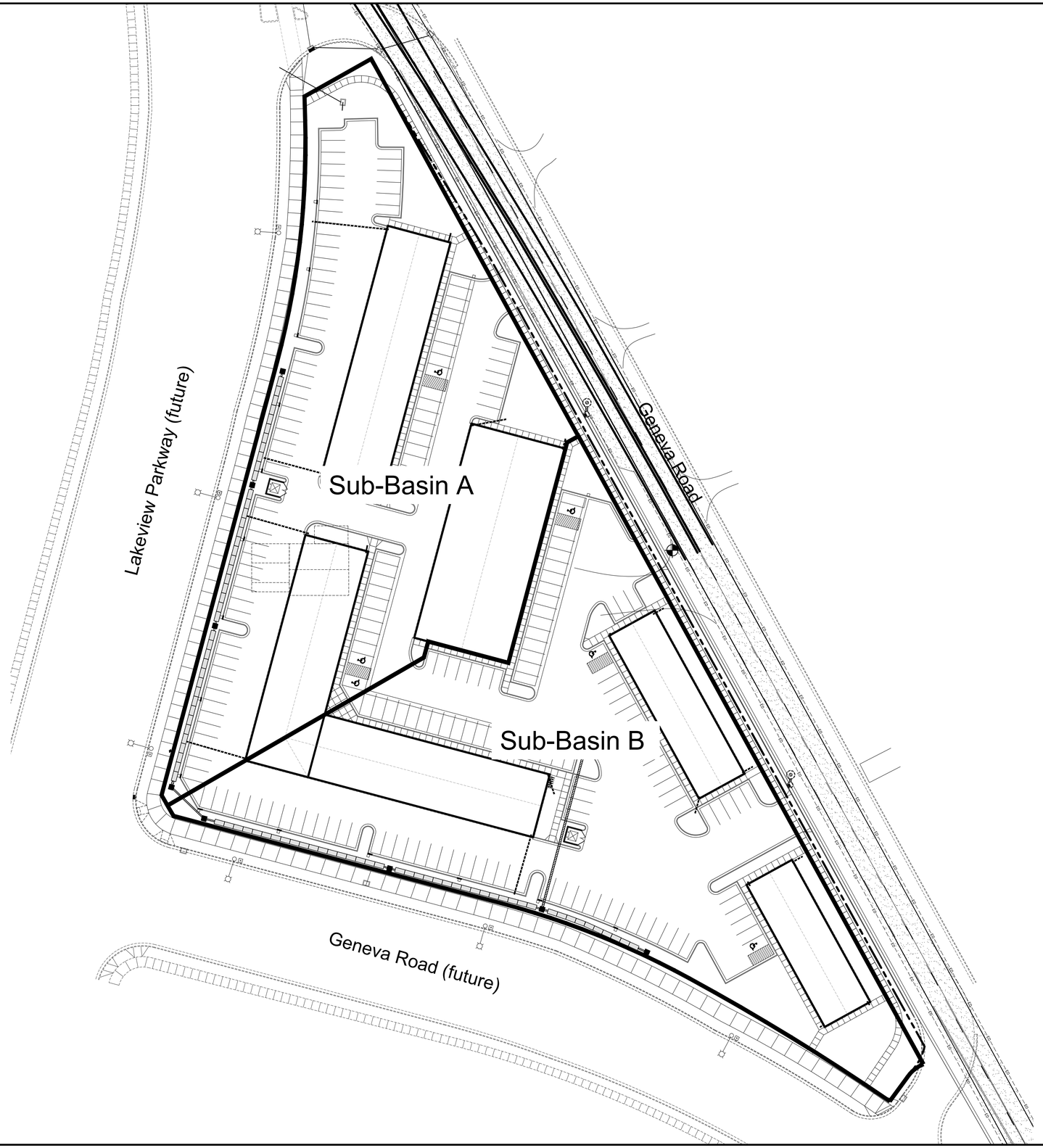
Drainage Plan

Revisions

Date
6-2-2026
Scale
1" = 40'
By
TD
Tracing No.
L - 14939

Sheet No.
C - 4.1

NORTH
1" = 40'



	Square Footage	Acreage	Percent of total
Total Area	91,081	2.09	100
Total Building / Pad Area	30,750	0.71	34
Total Hard Surface Area	44,868	1.03	49
Total Impervious Area	75,618	1.74	83
Total Landscaped Area	15,463	0.35	17

Sub-Basin A (Northerly)

	Square Footage	Acreage	Percent of total
Total Area	99,877	2.29	100
Total Building / Pad Area	21,950	0.50	22
Total Hard Surface Area	50,707	1.16	51
Total Impervious Area	72,657	1.67	73
Total Landscaped Area	27,220	0.62	27

Sub-Basin B (Southerly)

	Square Footage	Acreage	Percent of total
Total Area	190,958	4.38	100
Total Building / Pad Area	52,700	1.21	28
Total Hard Surface Area	95,575	2.19	50
Total Impervious Area	148,275	3.40	78
Total Landscaped Area	42,683	0.98	22

Overall Project

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
FAMILY CITY USA
IMPROVEMENTS INSTALLED
WITHOUT CITY INSPECTION
WILL BE REJECTED
07/15/2026

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

CAUTION!!! Notice to contractors

The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and where possible from measurements taken in the field. the information is not to be considered exact or complete. The Contractor must notify the utility location center at least 48 hours prior to any excavation to request the exact location of the utilities in the field. It shall be the responsibility of the Contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plan.



DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

The Shops at Johnson Farm

Sub-Basin Diagram

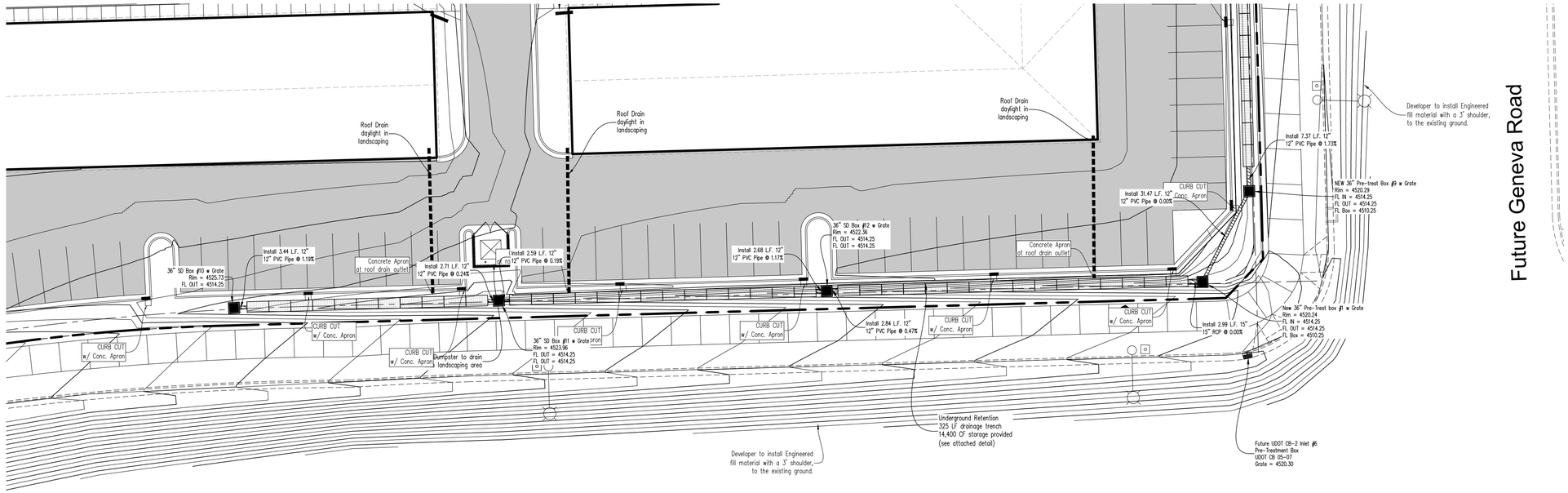
Orem Utah

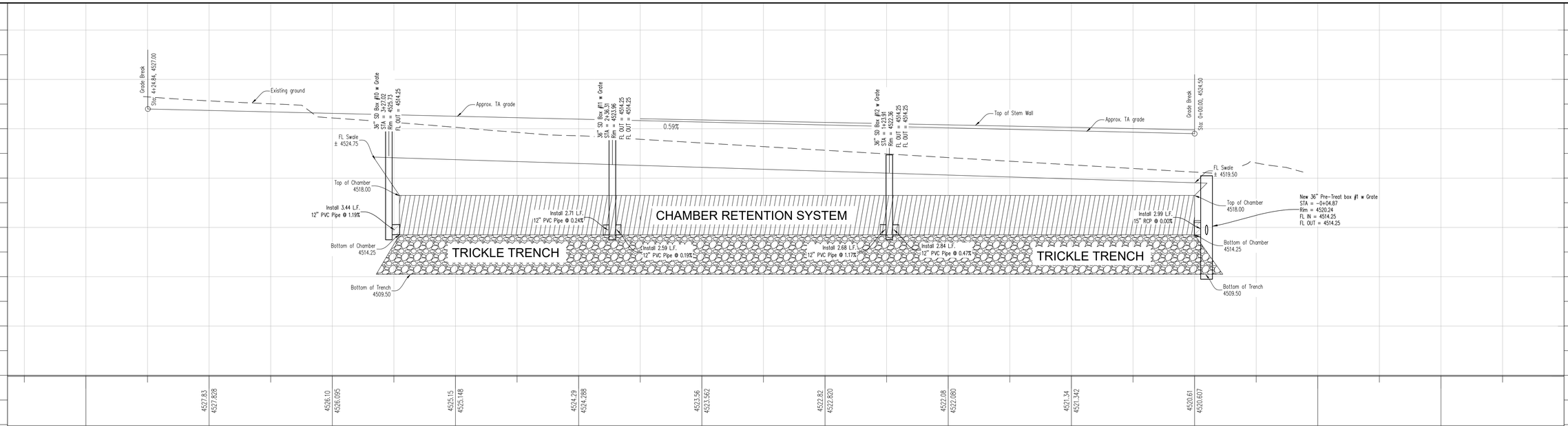
Revisions

Date
6-2-2026
Scale
1" = 40'
By
TD
Tracing No.
L - 14939

Sheet No.
C - 4.2

NORTH
1" = 20'





APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
FAMILY CITY USA
IMPROVEMENTS INSTALLED
WITHOUT CITY INSPECTION
WILL BE REJECTED
07/15/2026

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

Retention Profile

The Shops at Johnson Farms

Orem Utah

Revisions

Date
5-20-2026
Scale
1" = 20'
By
TD
Tracing No.
L - 14939

Sheet No.
P - 1

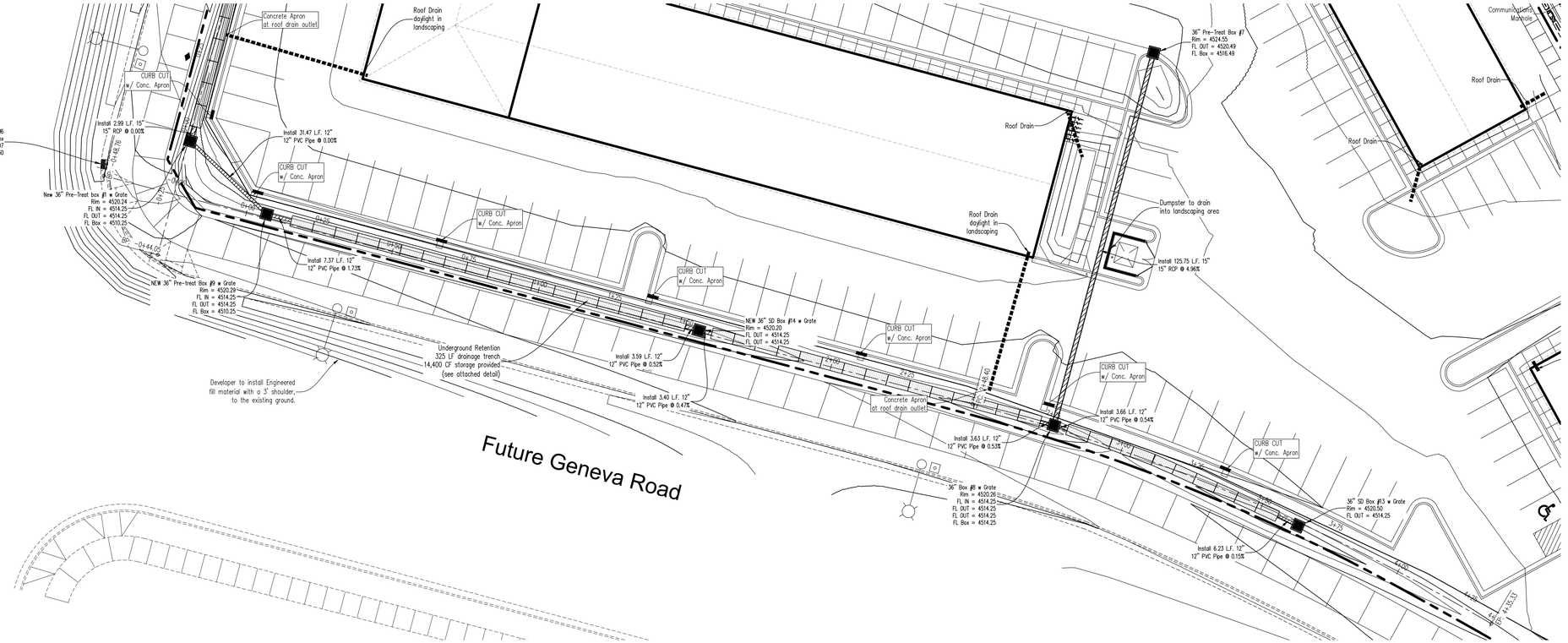
Know what's below. Call 811 before you dig.
811
BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC.
www.bluestakes.org
1-800-662-4111

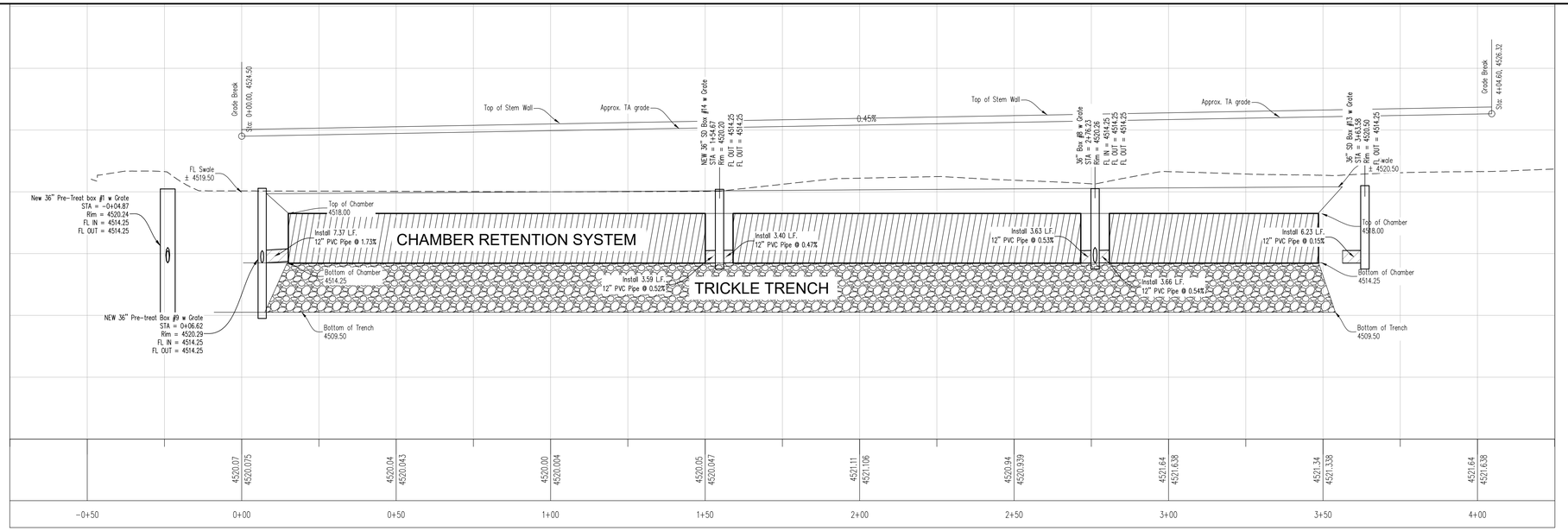
CAUTION!!! Notice to contractors

The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and where possible from measurements taken in the field. the information is not to be considered exact or complete. The Contractor must notify the utility location center at least 48 hours prior to any excavation to request the exact location of the utilities in the field. It shall be the responsibility of the Contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plan.

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

NORTH
1" = 20'





DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

The Shops at Johnson Farms

Orem Utah

Retention Profile

Revisions

Date
5-20-2026
Scale
1" = 20'
By
TD
Tracing No.
L - 14939

Sheet No.
P - 2

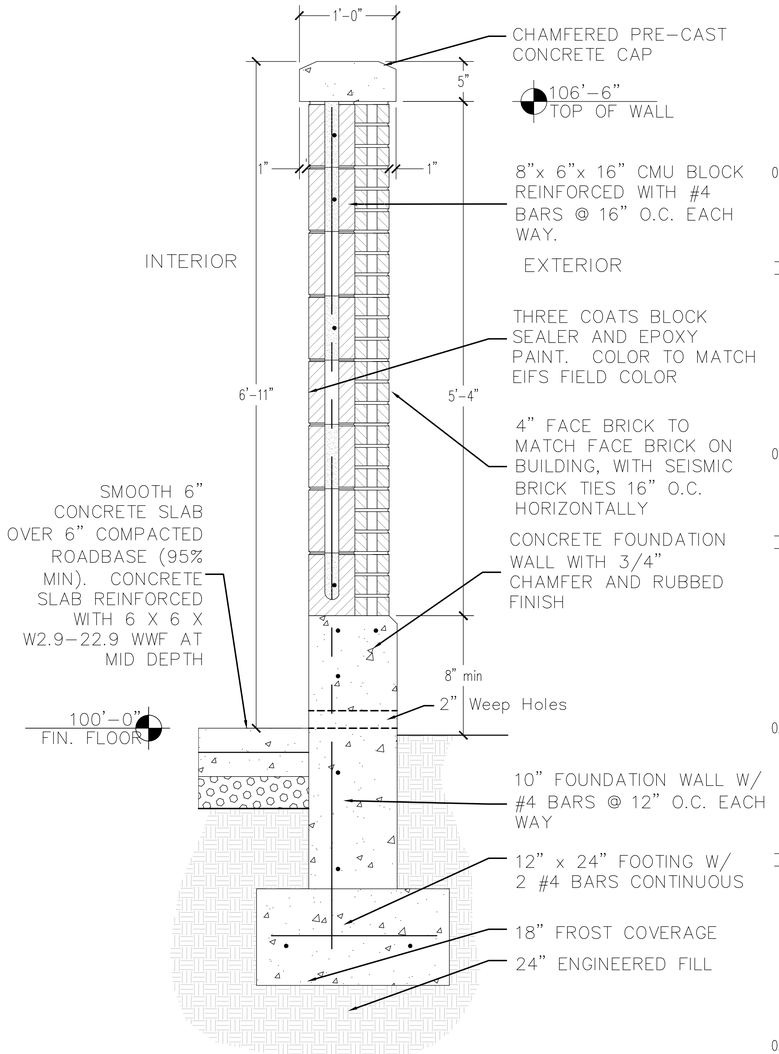
Know what's below. Call 811 before you dig.
BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC.
www.bluestakes.org
1-800-662-4111

CAUTION!!! Notice to contractors

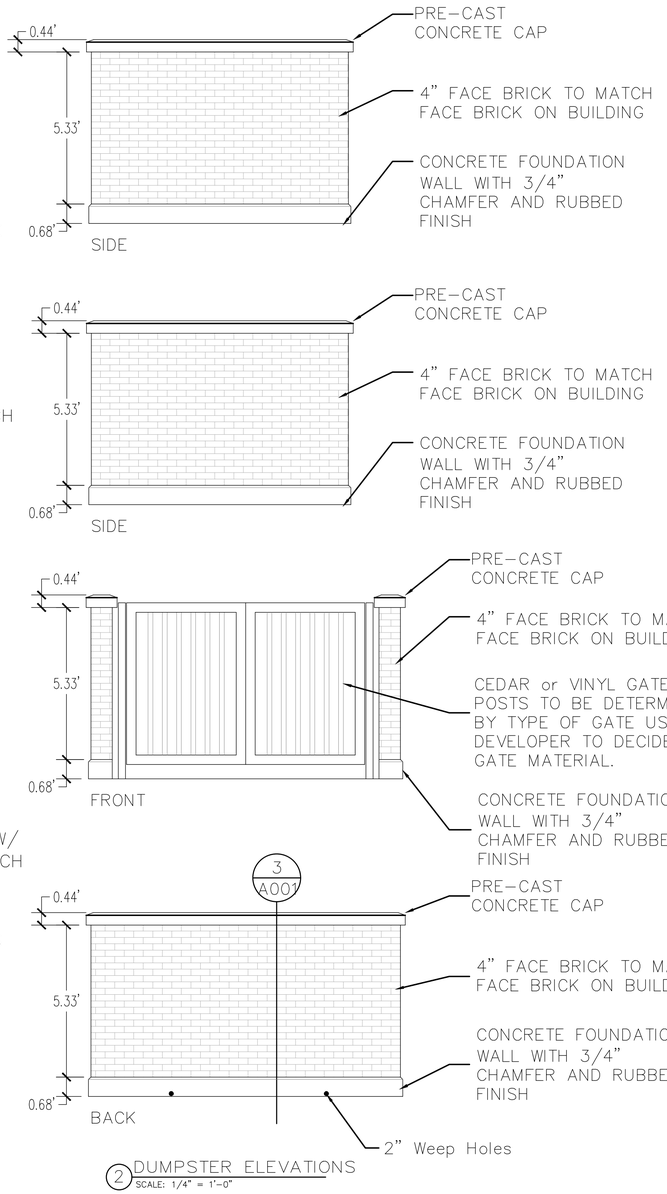
The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and where possible from measurements taken in the field. the information is not to be considered exact or complete. The Contractor must notify the utility location center at least 48 hours prior to any excavation to request the exact location of the utilities in the field. It shall be the responsibility of the Contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plan.

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM FAMILY CITY USA
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
07/15/2026

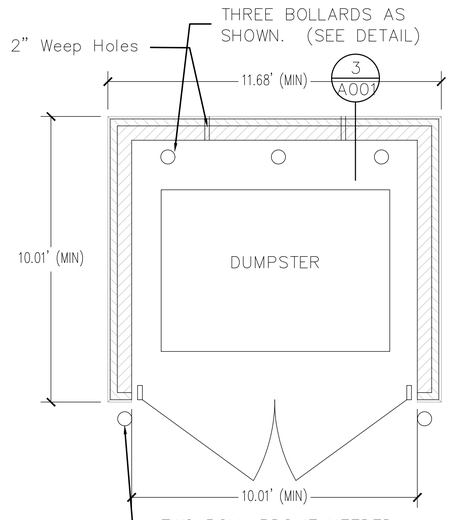
GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.



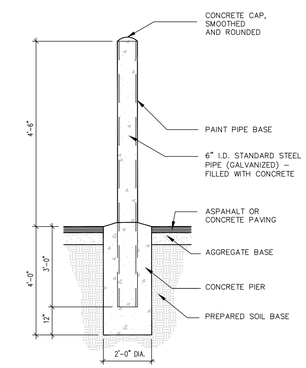
3 DUMPSTER ENCLOSURE WALL SECTION
NOT TO SCALE



2 DUMPSTER ELEVATIONS
SCALE: 1/4" = 1'-0"



1 DUMPSTER PLAN
SCALE: 1/4" = 1'-0"



B CONCRETE BOLLARD
Not to Scale

APPROVED FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
07/15/2026

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

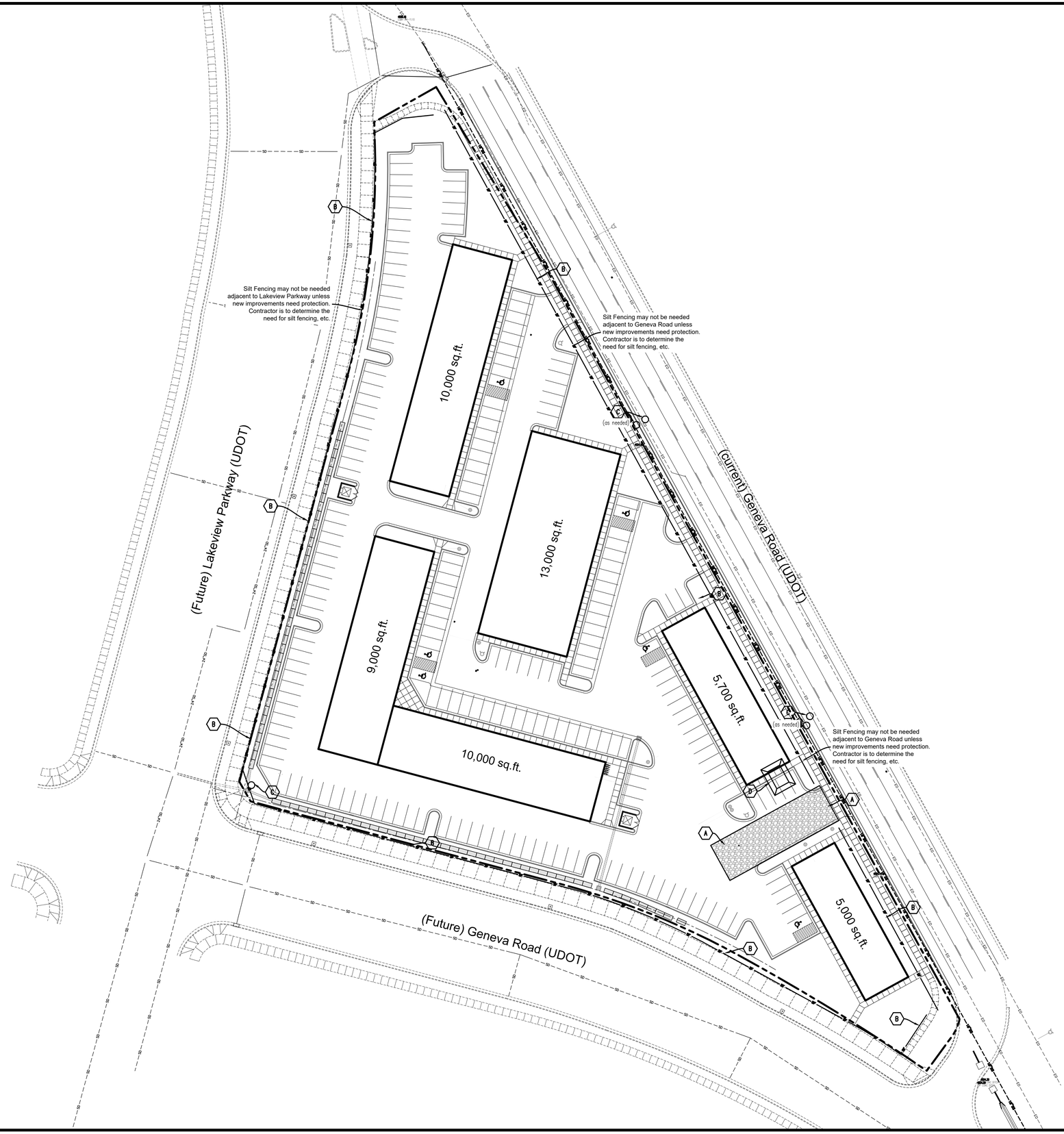
The Shops at Johnson Farm
Utah
Dumpster Detail
orem

Revisions

Date	
Date	
Scale	
Scale	
By	
TD	
Tracing No.	
L -	

Sheet No.
S - 1

NORTH
1" = 40'



Storm Water Management Note:

The disturbed area of the project = 4.21 Acres and therefore a State UPDES Storm Water General Permit from the Division of Water Quaity is required. BMP's are required to be in place prior to any construction activity.

NOTES:

This plan is to be used to control storm water runoff and reduce pollutants in storm water runoff until construction is complete and the subject site is in operation.

THE FOLLOWING BEST MANAGEMENT PRACTICES (BMP'S) ARE TO BE USED AS A PART OF THE CONSTRUCTION SITE STORM WATER MANAGEMENT PLAN FOR THIS SITE

1. Contaminated or Erodible Surface Areas (CESA) Prevent the discharge, pollutants, and storm water from contaminated or erodible surface areas by maintaining undisturbed site until construction of Phase II is completed.

2. Dust Controls (DC) Dust control measures including vegetation, seeding, etc. to stabilize site from wind erosion and reduce dust until site is completely developed.

3. Detention/Infiltration Device Maintenance (DIDM) Detention basin and accompanying facilities will be regularly maintained and corrected to promote effective storm drain pollutant removal for pond, piping, and boxes.

4. Material Storage (MS) Any hazardous, toxic, or chemical substances will be stored and controlled inside building areas. No control substances will be discharged into storm water or sewage systems.

5. Portable Toilets (PT) Temporary on site sanitary facilities will be furnished and maintained during all construction activity until on site facilities are constructed and usable.

6. Stabilized Construction Entrance and Wash Area (SCEWA) A stabilized pad of crushed stone located at the construction entrance as shown will be provided and maintained during all construction activities.

7. Spill Cleanup (SCU) All on site materials used in construction will be maintained on site to prevent harmful materials from entering off site receiving waters.

8. Silt Fencing (SF) placed on the perimeter of the project where there is potential runoff from site to adjacent streets, or properties.

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
07/15/2026

- A → Construct Stabilized Construction Entry (See Detail SCE)
- B → Construct Silt Fencing as needed to prevent runoff onto existing street, adjacent properties and existing ditch. (See detail SF)
- C → Install Filter Fabric in existing downstream and/or recently installed inlet boxes or manholes to prevent silt buildup.

  Portable toilet locations are to be determined by the contractor.
- D → Contractor concrete washout basin (see detail CWM).
- E → Material Storage Area (see detail MS)

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

CAUTION!!! Notice to contractors

The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and where possible from measurements taken in the field. the information is not to be considered exact or complete. The Contractor must notify the utility location center at least 48 hours prior to any excavation to request the exact location of the utilities in the field. It shall be the responsibility of the Contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plan.

Know what's below. 811
Call 811 before you dig.
BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC.
www.bluestakes.org
1-800-662-4111

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

The Shops at Johnson Farms
Orem Utah

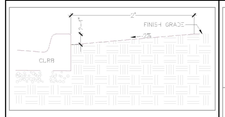
SWPPP

Revisions

Date	5-15-2026
Scale	1" = 40'
By	TD
Tracing No.	L - 14939

Sheet No.
C - 6

BMP: Curb Sedimentation Trap — CST



Description:
A temporary sediment trap formed by excavation behind the curb

Application:
- Interception of runoff containing sediment from the lot during construction
- Retain sediment on the lot during construction

Installation/Application Criteria:
- Excavate soil behind curb to a depth of 2-4 inches
- Create slope of 2% from finished grade to curb for a distance of approximately 2 feet

Limitations:
No limitations

Maintenance:
- Inspect after each rainfall event
- Remove accumulated sediment as it reaches 2/3 height of available storage

Objectives:
- ☐ Housekeeping Practices
- ☐ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☑ Control Site Perimeter
- ☑ Control Internal Erosion

Dudley & Associates, Inc.
Engineers Planners Surveyors
353 East 1200 South
Orem, Utah

Targeted Pollutants
- ☐ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☑ Oil & Grease
- ☐ Floatable Materials
- ☐ Other Waste

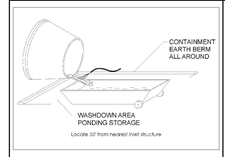
Pollutant Impact
- ☐ High Impact
- ☑ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- $ Capital Costs
- $ O & M Costs
- $$ Maintenance
- $ Training

Relative Costs
- $$$ High
- $$ Medium
- $ Low

Adapted from Salt Lake County BMP Manual and Paradigm Engineering BMP Fact Sheet (Cut Back Curb)

BMP: Concrete Waste Management — CWM



Description:
Prevent or reduce the discharge of pollutants to storm water from concrete waste by conducting washout off-site, performing on-site washout in a designated area, and training employees and subcontractors.

Application:
This technique is applicable to all types of sites.

Installation/Application Criteria:
- Store dry materials under cover, away from drainage areas.
- Minimize excess mixing of fresh concrete, mortar or cement on-site.
- Perform washout of concrete trucks off-site or in designated areas only.
- Do not wash out concrete trucks into storm drains, open ditches, streets, or streams.
- Do not allow excess concrete to be dumped on-site, except in designated areas.
- When washing concrete to remove fine particles and expose the aggregate, avoid creating runoff by draining the water within a bermed or level area. (See Earth Berm Barrier information sheet.)
- Train employees and subcontractors in proper concrete waste management.

Limitations:
- Off-site washout of concrete wastes may not always be possible.

Maintenance:
- Inspect subcontractors to ensure that concrete wastes are being properly managed.
- If using a temporary pit, dispose hardened concrete on a regular basis.

Objectives:
- ☐ Housekeeping Practices
- ☐ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☐ Control Site Perimeter
- ☐ Control Internal Erosion

Dudley & Associates, Inc.
Engineers Planners Surveyors
353 East 1200 South
Orem, Utah

Targeted Pollutants
- ☐ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☐ Oil & Grease
- ☐ Floatable Materials
- ☑ Other Waste

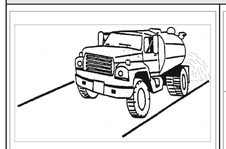
Pollutant Impact
- ☐ High Impact
- ☐ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- $$ Capital Costs
- $$ O & M Costs
- $$ Maintenance
- $ Training

Relative Costs
- $$$ High
- $$ Medium
- $ Low

Adapted from Salt Lake County BMP Manual

BMP: Dust Controls — DC



Description:
Dust control measures are used to stabilize soil from wind erosion and reduce dust by construction activities.

Application:
Dust control is useful in any construction area where dust is generated. Street sweeping is limited to areas that are paved.

Installation/Application Criteria:
- Water may be sprayed on the ground surface to moisten dry soils, making it less susceptible to wind erosion. Repeat as needed. At no time should the site be irrigated to the point that runoff begins to flow.
- Two kinds of street weepers are common: brush and vacuum. Vacuum sweepers are more efficient and work best when the area is dry.
- Mechanical equipment should be operated according to the manufacturers' recommendations and should be inspected regularly.

Limitations:
- Water sprayed from water trucks must be done at a rate such that the water is absorbed in the soil; if excessive amounts of water are used, it may run off, carrying soil with it.
- Street sweeping is labor and equipment intensive and may not be effective for all pollutants.

Maintenance:
- If excess water results from water spraying, dust-contaminated waters should not be allowed to run off site. Areas may need to be resprayed to keep dust from spreading.

Objectives:
- ☑ Housekeeping Practices
- ☐ Contain Waste
- ☑ Minimize Disturbed Areas
- ☑ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☐ Control Site Perimeter
- ☐ Control Internal Erosion

Dudley & Associates, Inc.
Engineers Planners Surveyors
353 East 1200 South
Orem, Utah

Targeted Pollutants
- ☐ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☐ Oil & Grease
- ☐ Floatable Materials
- ☐ Other Waste

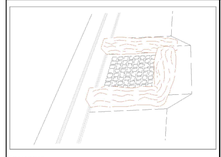
Pollutant Impact
- ☐ High Impact
- ☐ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- $ Capital Costs
- $ O & M Costs
- $$ Maintenance
- $$ Training

Relative Costs
- $$$ High
- $$ Medium
- $ Low

Adapted from Pleasant Grove City Stormwater Technical Manual and Best Management Practices

BMP: Inlet Protection – Wattle — IP-W



Description:
Sediment barrier erected around storm drain inlet.

Application:
Construct at storm drainage inlets located down-gradient of areas to be disturbed by construction.

Installation/Application Criteria:
- Provide up-gradient sediment controls, such as silt fence during construction of inlet
- When construction of curb and gutter and roadways is complete, install gravel filled or straw wattles around perimeter of inlet

Limitations:
- Recommended maximum contributing drainage area of one acre
- Requires shallow slopes adjacent to inlet

Maintenance:
- Inspect inlet protection following storm event and at a minimum of once every 14 days
- Remove accumulated sediment when it reaches 4 inches in depth
- Look for bypassing or undercutting and repair or realign as needed

Objectives:
- ☑ Housekeeping Practices
- ☐ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☑ Control Site Perimeter
- ☐ Control Internal Erosion

Dudley & Associates, Inc.
Engineers Planners Surveyors
353 East 1200 South
Orem, Utah

Targeted Pollutants
- ☐ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☐ Oil & Grease
- ☑ Floatable Materials
- ☐ Other Waste

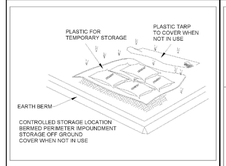
Pollutant Impact
- ☐ High Impact
- ☑ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- $$ Capital Costs
- $ O & M Costs
- $$ Maintenance
- $ Training

Relative Costs
- $$$ High
- $$ Medium
- $ Low

Adapted from Salt Lake County BMP Manual

BMP: Material Storage — MS



Description:
Controlled storage of on-site materials.

Application:
- Storage of hazardous, toxic, and all chemical substances.
- Any construction site with outside storage of materials.

Installation/Application Criteria:
- Designate a secured area with limited access as the storage location. Ensure no waterways or drainage paths are nearby.
- Construct compacted earthen berm (See Earth Berm Barrier Information Sheet), or similar perimeter containment around storage location for impoundment in the case of spills.
- Ensure all on-site personnel utilize designated storage area. Do not store excessive amounts of material that will not be utilized on site.
- For active use of materials away from the storage area ensure materials are not set directly on the ground and are covered when not in use. Protect storm drainage during use.

Limitations:
- Does not prevent contamination due to mishandling of products.
- Spill Prevention and Response Plan still required.
- Only effective if materials are actively stored in controlled location.

Maintenance:
- Inspect daily and repair any damage to perimeter impoundment or security fencing.
- Check materials are being correctly stored (i.e. standing upright, in labeled containers, tightly capped) and that no materials are being stored away from the designated location.

Objectives:
- ☑ Housekeeping Practices
- ☐ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☐ Control Site Perimeter
- ☐ Control Internal Erosion

Dudley & Associates, Inc.
Engineers Planners Surveyors
353 East 1200 South
Orem, Utah

Targeted Pollutants
- ☐ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☑ Oil & Grease
- ☐ Floatable Materials
- ☐ Other Waste

Pollutant Impact
- ☐ High Impact
- ☑ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- $$ Capital Costs
- $$ O & M Costs
- $$$ Maintenance
- $$$ Training

Relative Costs
- $$$ High
- $$ Medium
- $ Low

Adapted from Salt Lake County BMP Manual

BMP: Preservation of Existing Vegetation — PEV



Description:
Carefully planned preservation of existing vegetation minimizes the potential of removing or injuring existing trees, vines, SHRUBS,or grasses that serve as erosion controls.

Application:
This technique is applicable to all types of sites. Areas where preserving vegetation can be particularly beneficial are floodplains, wetlands, stream banks, steep slopes, and other areas where erosion controls would be difficult to establish, install, or maintain.

Installation/Application Criteria:
- Clearly mark, flag or fence vegetation or areas where vegetation should be preserved.
- Prepare landscaping plans which include as much existing vegetation as possible and state proper care during and after construction.
- Define and protect with berms, fencing, signs, etc. a setback area from vegetation to be preserved.
- Do not prepare landscape plans which do not include plant species that compete with the existing vegetation.
- Do not locate construction traffic routes, spoil piles, etc. where significant adverse impact on existing vegetation may occur.

Limitations:
- Requires forward planning by the owner/developer, contractor and design staff.
- For sites with diverse topography, it is often difficult and expensive to save existing trees while grading the site satisfactorily for the planned development.
- May not be cost effective with high land costs.

Maintenance:
- Inspection and maintenance requirements for protection of vegetation are low.
- Maintenance of native trees or vegetation should conform to landscape plan specifications.

Objectives:
- ☐ Housekeeping Practices
- ☐ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☒ Protect Slopes/Channels
- ☐ Control Site Perimeter
- ☐ Control Internal Erosion

Dudley & Associates, Inc.
Engineers Planners Surveyors
353 East 1200 South
Orem, Utah

Targeted Pollutants
- ☐ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☐ Oil & Grease
- ☐ Floatable Materials
- ☐ Other Waste

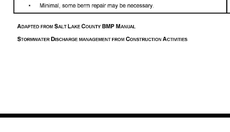
Pollutant Impact
- ☐ High Impact
- ☑ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- $$$ Capital Costs
- $ O & M Costs
- $$ Maintenance
- $ Training

Relative Costs
- $$$ High
- $$ Medium
- $ Low

Adapted from Salt Lake County BMP Manual

BMP: Portable Toilets — PT



Description:
Temporary on-site sanitary facilities for construction personnel.

Application:
All sites with no permanent sanitary facilities or where permanent facility is too far from activities.

Installation/Application Criteria:
- Locate portable toilets in convenient locations throughout the site.
- Prepare level, gravel surface and provide clear access to the toilets for servicing and for on-site personnel.
- Construct earth berm perimeter (See Earth Berm Barrier Information Sheet), control for spill/protection leak.

Limitations:
- No limitations.

Maintenance:
- Portable toilets should be maintained in good working order by licensed service with daily observation for leak detection.
- Regular waste collection should be arranged with licensed service.
- All waste should be deposited in sanitary sewer system for treatment with appropriate agency approval.

Objectives:
- ☐ Housekeeping Practices
- ☒ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☐ Control Site Perimeter
- ☐ Control Internal Erosion

Dudley & Associates, Inc.
Engineers Planners Surveyors
353 East 1200 South
Orem, Utah

Targeted Pollutants
- ☐ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☐ Oil & Grease
- ☐ Floatable Materials
- ☒ Other Waste

Pollutant Impact
- ☐ High Impact
- ☑ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- $$ Capital Costs
- $ O & M Costs
- $$ Maintenance
- $ Training

Relative Costs
- $$$ High
- $$ Medium
- $ Low

Adapted from Salt Lake County BMP Manual

BMP: Stabilized Construction Entrance — SCE



Description:
A stabilized pad of crushed stone located where construction traffic enters or leaves the site from or to paved surface.

Application:
At any point of ingress or egress at a construction site where adjacent traveled way is paved. Generally applies to sites over 2 acres unless special conditions exist.

Installation/Application Criteria:
- Clear and grub area and grade to provide maximum slope of 2%.
- Compact subgrade and place filter fabric if desired (recommended for entrances to remain for more than 3 months).
- Place coarse aggregate, 1 to 2-1/2 inches in size, to a minimum depth of 8 inches.

Limitations:
- Requires periodic top dressing with additional stones.
- Should be used in conjunction with street sweeping on adjacent public right-of-way.

Maintenance:
- Inspect daily for loss of gravel or sediment buildup.
- Inspect adjacent roadway for sediment deposit and clean by sweeping or shoveling.
- Repair entrance and replace gravel as required to maintain control in good working condition.
- Expand stabilized area as required to accommodate traffic and prevent erosion at driveways.

Objectives:
- ☑ Housekeeping Practices
- ☐ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☐ Control Site Perimeter
- ☐ Control Internal Erosion

Dudley & Associates, Inc.
Engineers Planners Surveyors
353 East 1200 South
Orem, Utah

Targeted Pollutants
- ☐ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☐ Oil & Grease
- ☐ Floatable Materials
- ☐ Other Waste

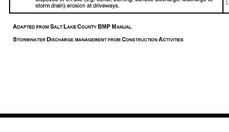
Pollutant Impact
- ☐ High Impact
- ☑ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- $$ Capital Costs
- $ O & M Costs
- $$$ Maintenance
- $ Training

Relative Costs
- $$$ High
- $$ Medium
- $ Low

Adapted from Salt Lake County BMP Manual

BMP: Silt Fence — SF



Description:
A temporary sediment barrier consisting of entrenched filter fabric stretched across and secured to supporting posts.
Application:
- Perimeter control: place barrier at down-gradient limits of disturbance
- Sediment barrier: place barrier at toe of slope or soil stockpile
- Protection of existing waterways: place barrier at top of stream bank
- Inlet protection: place fence surrounding catchbasins

Installation/Application Criteria:
- Place posts 6 feet apart on center along contour (or use preassembled unit) and drive 2 feet minimum into ground. Excavate an anchor trench immediately up-gradient of posts.
- Secure wire mesh (14 gage min. with 6-inch openings) to upslope side of posts. Attach with heavy duty 1 inch long wire staples, tie wires or hog rings.
- Lay filter cloth in trench, run until along length of barrier and drape over barrier. Secure fabric to mesh with twine, staples, or similar; with trailing edge extending into anchor trench.
- Backfill trench over filter fabric to anchor.

Limitations:
- Recommended maximum drainage area of 0.5 acre per 100 feet of fence
- Recommended maximum up-gradient slope length of 150 feet
- Recommended maximum uphill grade of 2:1 (50%)
- Recommended maximum flow rate of 0.5 cfs
- Ponding should not be allowed behind fence

Maintenance:
- Inspect immediately after any rainfall and at least daily during prolonged rainfall.
- Look for runoff bypassing ends of barriers or undercutting barriers.
- Repair or replace damaged areas of the barrier and remove accumulated sediment.
- Reanchor fence as necessary to prevent shortcutting.
- Remove accumulated sediment when it reaches ½ the height of the fence.

Objectives:
- ☐ Housekeeping Practices
- ☐ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☐ Control Site Perimeter
- ☑ Control Internal Erosion

Dudley & Associates, Inc.
Engineers Planners Surveyors
353 East 1200 South
Orem, Utah

Targeted Pollutants
- ☐ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☐ Oil & Grease
- ☐ Floatable Materials
- ☐ Other Waste

Pollutant Impact
- ☐ High Impact
- ☑ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- $$ Capital Costs
- $$ O & M Costs
- $$ Maintenance
- $ Training

Relative Costs
- $$$ High
- $$ Medium
- $ Low

Adapted from Salt Lake County BMP Manual

BMP: Surface Roughening — SR



Description:
Rough preparation of working areas leaving depressions and uneven surface. Depressions should be done parallel to contours

Application:
Surface roughening is appropriate for all construction that will not be receiving impervious cover within 14 days and that will be exposed less than 60 days (seed areas to be open in excess of 60 days).

Installation/Application Criteria:
- Surface should be left in rough condition during initial earthwork activity.
- Surfaces that have become smoothed or compacted due to equipment traffic should be roughened by use of disks, spring harrows, teeth on front end loader, or similar, operating along the contours of the slope. Tracking (by crawler tractor driving up and down slope) may also be used to provide depressions parallel to contours.
- Avoid compaction of soils during roughening as this inhibits plant growth and promotes storm water runoff. Limit tracked machinery to sandy soil.
- Seed or mulch areas to be exposed in excess of 60 days.
- Employ dust controls. (See Dust Control Detail Sheet).

Limitations:
- Will not withstand heavy rainfall.
- Slopes steeper than 2:1 (50%) should be benched (see Benching Detail Sheet).

Maintenance:
- Inspect following any storm event and at a minimum of weekly.
- If erosion in the form of rills (small waterways formed by runoff) is evident, perform machine roughening of area.
- For vegetated slopes reseed areas that are bare or have been reworked.

Objectives:
- ☐ Housekeeping Practices
- ☒ Contain Waste
- ☒ Minimize Disturbed Areas
- ☒ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☐ Control Site Perimeter
- ☒ Control Internal Erosion

Dudley & Associates, Inc.
Engineers Planners Surveyors
353 East 1200 South
Orem, Utah

Targeted Pollutants
- ☐ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☐ Oil & Grease
- ☐ Floatable Materials
- ☐ Other Waste

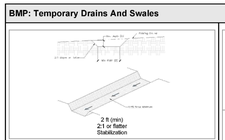
Pollutant Impact
- ☐ High Impact
- ☑ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- $$ Capital Costs
- $$ O & M Costs
- $$ Maintenance
- $ Training

Relative Costs
- $$$ High
- $$ Medium
- $ Low

Adapted from Salt Lake County BMP Manual

BMP: Temporary Drains And Swales — TDS



Description:
Temporary drains and swales are used to divert off-site runoff around the construction site, divert runoff from stabilized areas around disturbed areas, and direct runoff into sediment.

Application:
Temporary drains and swales are appropriate for diverting any upslope runoff around unstabilized or disturbed areas of the construction site.
Prevent slope failures. Prevent damage to adjacent property. Prevents erosion and transport of sediments into water ways. Increases the potential for infiltration. Diverts sediment-laden runoff into sediment basins or traps.

Installation/Application Criteria:
- Temporary drainage swales used effectively convey runoff and avoid erosion if built properly:
- Size temporary drainage swales using local drainage design criteria. A permanent drainage channel must be designed by a professional engineer (see the local drainage design criteria for proper design).
- At a minimum, the drain/swale should conform to pre-development drainage patterns and capacities.
- Construct the drain/swale with an uninterrupted, positive grade to a stabilized outlet. Provide erosion protection or energy dissipation measures if the flow out of the drain or swale can reach an erosive velocity.

Limitations:
- Temporary drains and swales or any other diversion of runoff should not adversely impact upstream or downstream properties.
- Temporary drains and swales must conform to local floodplain management requirements.

Maintenance:
- Inspect weekly and after each rain.
- Repair any erosion immediately.
- Remove sediment which builds up in the swale and restricts its flow capacity.

Objectives:
- ☐ Housekeeping Practices
- ☐ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☒ Protect Slopes/Channels
- ☒ Control Site Perimeter
- ☒ Control Internal Erosion

Dudley & Associates, Inc.
Engineers Planners Surveyors
353 East 1200 South
Orem, Utah

Targeted Pollutants
- ☐ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☐ Oil & Grease
- ☐ Floatable Materials
- ☒ Other Waste

Pollutant Impact
- ☐ High Impact
- ☑ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- $$$ Capital Costs
- $ O & M Costs
- $$ Maintenance
- $ Training

Relative Costs
- $$$ High
- $$ Medium
- $ Low

Adapted from Salt Lake County BMP Manual

BMP: Vehicle And Equipment Cleaning — VEC



Description:
Prevent or reduce the discharge of pollutants to storm water from vehicle and equipment cleaning by using off-site facilities, washing in designated, contained areas only, eliminating discharges to the storm drain by infiltrating or recycling the wash water, and/or training employees and subcontractors

Application:
<text here>

Installation/Application Criteria:
- Use off-site commercial washing businesses as much as possible.
- Where washing must occur outdoors or in areas where wash water flows onto paved surfaces or into drainage pathways can pollute storm water. If you wash a large number of vehicles or pieces of equipment, consider conducting this work at an off-site commercial business. These businesses are better equipped to handle and dispose of the wash waters properly. Performing this work off-site can also be economical by eliminating the need for a separate washing operation at your site.
- If washing must occur on-site , use designated, bermed wash areas to prevent wash water contact with storm water, creeks, rivers, and other water bodies. The wash area can be sloped for wash water collection and subsequent infiltration into the ground.
- Use as little water as possible to avoid having to install erosion and sediment controls for the wash area. Use phosphate-free biodegradable soaps. Educate employees and subcontractors on pollution prevention measures. Do not permit steam cleaning on-site. Steam cleaning can generate significant pollutant concentrations.

Limitations:
- Even phosphate-free, biodegradable soaps have been shown to be toxic to fish before the soap degrades.
- Sending vehicles/equipment off-site should be done in conjunction with Stabilized Construction Entrance.

Maintenance:
- Minimal, some berm repair may be necessary.

Objectives:
- ☐ Housekeeping Practices
- ☐ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☐ Control Site Perimeter
- ☑ Control Internal Erosion

Dudley & Associates, Inc.
Engineers Planners Surveyors
353 East 1200 South
Orem, Utah

Targeted Pollutants
- ☐ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☐ Oil & Grease
- ☐ Floatable Materials
- ☐ Other Waste

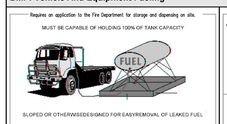
Pollutant Impact
- ☐ High Impact
- ☑ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- $$ Capital Costs
- $ O & M Costs
- $$$ Maintenance
- $ Training

Relative Costs
- $$$ High
- $$ Medium
- $ Low

Adapted from Salt Lake County BMP Manual

BMP: Vehicle And Equipment Fueling — VEF



Description:
Prevent fuel spills and leaks, and reduce their impacts to storm water by using off-site facilities, fueling in designated areas only, enclosing or covering stored fuel, implementing spill controls, and training employees and subcontractors.

Application:
All construction sites.

Installation/Application Criteria:
- Designate one or several waste collection areas with easy access for construction vehicles and personnel. Ensure no waterways or storm drainage inlets are located near the waste collection areas.
- Construct compacted earthen berm (See Earth Berm Barrier Information Sheet), or similar perimeter containment around collection area for impoundment in the case of spills and to trap any windblown trash.
- Use water tight containers with covers to remain closed when not in use. Provide separate containers for different waste types where appropriate and label clearly.
- Ensure all on site personnel are aware of and utilize designated waste collection area properly and for intended use only (e.g. all toxic, hazardous, or regulated materials shall be properly disposed of regardless of construction waste generated).
- Arrange for periodic pickup, transfer and disposal of collected waste at an authorized disposal location. Include regular Porto-potty service in waste management activities.

Limitations:
- On-site personnel are responsible for correct disposal of waste.

Maintenance:
- Discuss waste management procedures at progress meetings.
- Collect site trash daily and deposit in covered containers at designated collection areas.
- Check containers for leakage or inadequate covers and replace as needed.
- Randomly check disposed materials for any unauthorized waste (e.g. toxic materials).
- During daily site inspections check that waste is not being incorrectly disposed of on-site (e.g. burial, burning, surface discharge, discharge to storm drain) erosion at driveways.

Objectives:
- ☑ Housekeeping Practices
- ☐ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☐ Control Site Perimeter
- ☐ Control Internal Erosion

Dudley & Associates, Inc.
Engineers Planners Surveyors
353 East 1200 South
Orem, Utah

Targeted Pollutants
- ☐ Sediment
- ☐ Nutrients
- ☑ Toxic Materials
- ☑ Oil & Grease
- ☐ Floatable Materials
- ☐ Other Waste

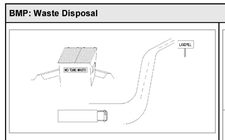
Pollutant Impact
- ☐ High Impact
- ☐ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- $$ Capital Costs
- $ O & M Costs
- $$ Maintenance
- $ Training

Relative Costs
- $$$ High
- $$ Medium
- $ Low

Adapted from Salt Lake County BMP Manual

BMP: Waste Disposal — WD



Description:
Controlled storage and disposal of solid waste generated by construction activities.

Application:
All construction sites.

Installation/Application Criteria:
- Designate one or several waste collection areas with easy access for construction vehicles and personnel. Ensure no waterways or storm drainage inlets are located near the waste collection areas.
- Construct compacted earthen berm (See Earth Berm Barrier Information Sheet), or similar perimeter containment around collection area for impoundment in the case of spills and to trap any windblown trash.
- Use water tight containers with covers to remain closed when not in use. Provide separate containers for different waste types where appropriate and label clearly.
- Ensure all on site personnel are aware of and utilize designated waste collection area properly and for intended use only (e.g. all toxic, hazardous, or regulated materials shall be properly disposed of regardless of construction waste generated).
- Arrange for periodic pickup, transfer and disposal of collected waste at an authorized disposal location. Include regular Porto-potty service in waste management activities.

Limitations:
- On-site personnel are responsible for correct disposal of waste.

Maintenance:
- Discuss waste management procedures at progress meetings.
- Collect site trash daily and deposit in covered containers at designated collection areas.
- Check containers for leakage or inadequate covers and replace as needed.
- Randomly check disposed materials for any unauthorized waste (e.g. toxic materials).
- During daily site inspections check that waste is not being incorrectly disposed of on-site (e.g. burial, burning, surface discharge, discharge to storm drain) erosion at driveways.

Objectives:
- ☑ Housekeeping Practices
- ☑ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☐ Control Site Perimeter
- ☐ Control Internal Erosion

Dudley & Associates, Inc.
Engineers Planners Surveyors
353 East 1200 South
Orem, Utah

Targeted Pollutants
- ☐ Sediment
- ☐ Nutrients
- ☐ Toxic Materials
- ☐ Oil & Grease
- ☐ Floatable Materials
- ☐ Other Waste

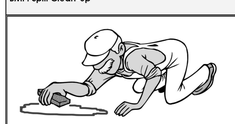
Pollutant Impact
- ☐ High Impact
- ☑ Medium Impact
- ☐ Low or Unknown Impact

Implementation Requirements
- $$$ Capital Costs
- $$$ O & M Costs
- $$$ Maintenance
- $$$ Training

Relative Costs
- $$$ High
- $$ Medium
- $ Low

Adapted from Salt Lake County BMP Manual

BMP: Spill Clean-Up — SCU



Description:
Practices to clean-up leakage/spillage of on-site materials that may be harmful to receiving waters.

Application:
All sites

General:
- Store controlled materials within a storage area.
- Educate personnel on prevention and clean-up techniques.
- Designate an Emergency Coordinator responsible for employing preventative practices and for providing spill response.
- Maintain a supply of clean-up equipment on-site and post a list of local response agencies with phone numbers.

Methods:
- Clean-up spills/leaks immediately and remediate cause.
- Use as little water as possible. NEVER HOSE DOWN OR BURY SPILL CONTAMINATED MATERIALS.
- Use rags or absorbent material for clean-up. Excavate contaminated soils. Dispose of clean-up material and soil as hazardous waste.
- Document all spills with date, location, substance, volume, actions taken and other pertinent data.
- Contact local Fire Department and State Division of Environmental Response and Remediation (Phone #801-536-4100) for any spill of reportable quantity.

Objectives
- ☐ Housekeeping Practices
- ☒ Contain Waste
- ☐ Minimize Disturbed Areas
- ☐ Stabilize Disturbed Areas
- ☐ Protect Slopes/Channels
- ☐ Control Site Perimeter
- ☐ Control Internal Erosion

Dudley & Associates, Inc.
Engineers Planners Surveyors
353 East 1200 South
Orem, Utah

Adapted from Salt Lake County BMP Fact Sheet

Targeted Pollutants
- ☐ Sediment
- ☐ Nutrients
- ■ Toxic Materials
- ■ Oil & Grease
- ☐ Floatable Materials
- ☐ Other Waste

■ High Impact
☒ Medium Impact
☐ Low or Unknown Impact

Implementation Requirements
- ■ Capital Costs
- ☐ O&M Costs
- ☒ Maintenance
- ■ Training

■ High ☒ Medium ☐ Low

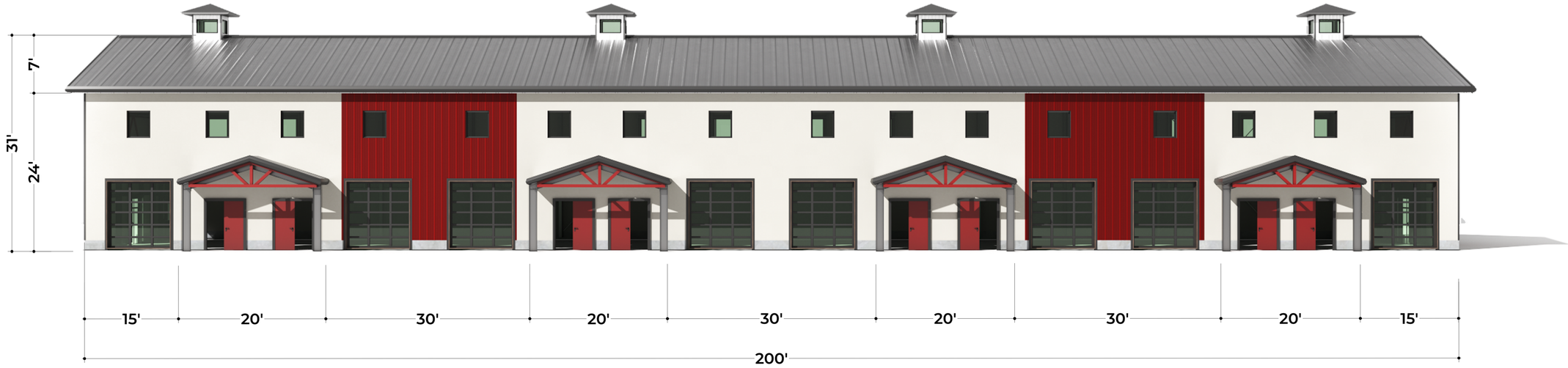
APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
FAMILY CITY USA
IMPROVEMENTS INSTALLED
WITHOUT CITY INSPECTION
WILL BE REJECTED
07/15/2026

EROSION CONTROL NOTES:

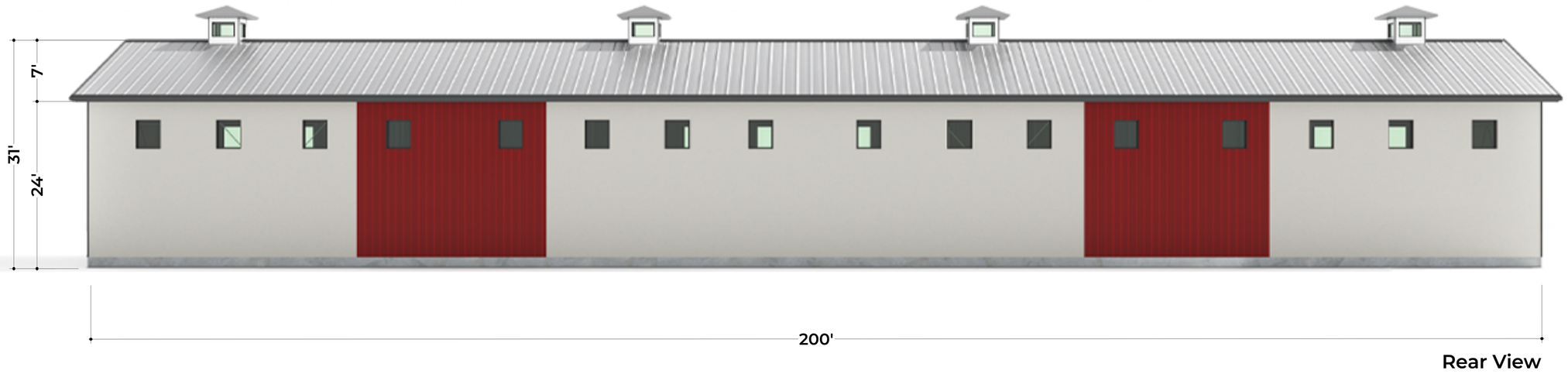
1. CONTROLLING SEDIMENT TRANSPORT AND PREVENTING AND/OR CORRECTING PROBLEMS ASSOCIATED WITH EROSION AND RUNOFF PROCESSES THAT COULD OCCUR BOTH DURING AND AFTER PROJECT CONSTRUCTION WILL BE CLOSELY MONITORED. PERIODIC MAINTENANCE AND INSPECTION OF SEDIMENT CONTROL DEVICES WILL BE SCHEDULED. PARTICULAR ATTENTION SHALL BE GIVEN TO EXISTING DRAINAGE PATTERNS THAT RUN THROUGH DISTURBED AREAS AND OVER EXTREME SLOPES. THESE PATTERNS WILL BE IDENTIFIED TO ISOLATE PROBLEM AREAS WHERE WATER WILL CONCENTRATE. PROVISIONS SHALL BE MADE TO CHANNEL RUNOFF AWAY FROM NEW OR EXISTING IMPROVEMENTS TO PREVENT UNDERMINING AND GENERAL SITE EROSION. THESE PROVISIONS SHALL BE STABILIZED AND SHALL REMAIN IN PLACE UNTIL THE PERMANENT STORM DRAINAGE FACILITIES ARE INSTALLED AND FUNCTIONAL.

2. EROSION CONTROL - A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN PREPARED IN ACCORDANCE WITH THE UTAH POLLUTANT DISCHARGE ELIMINATION SYSTEM (UPDES) PERMIT FOR CONSTRUCTION, OUTLINING HOW EROSION AND SILTATION WILL BE CONTROLLED. A NOTICE OF INTENT (NOI) HAS BEEN SUBMITTED TO OBTAIN THE UPDES CONSTRUCTION PERMIT. A COPY OF THE PLAN MUST BE ON SITE AT ALL TIMES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING THE PLAN AND INSTALLING AND MAINTAINING THE EROSION CONTROL FACILITIES WITH EACH PHASE OF WORK. SHOULD SILT LEAVE THE SITE OR EROSION OCCURS, IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO TAKE CORRECTIVE ACTION AND REPAIR ANY DAMAGE CAUSED BY THE SILT OR EROSION IMMEDIATELY. ALL COSTS ASSOCIATED WITH THE MODIFICATION AND APPROVAL OF THE PLAN WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.

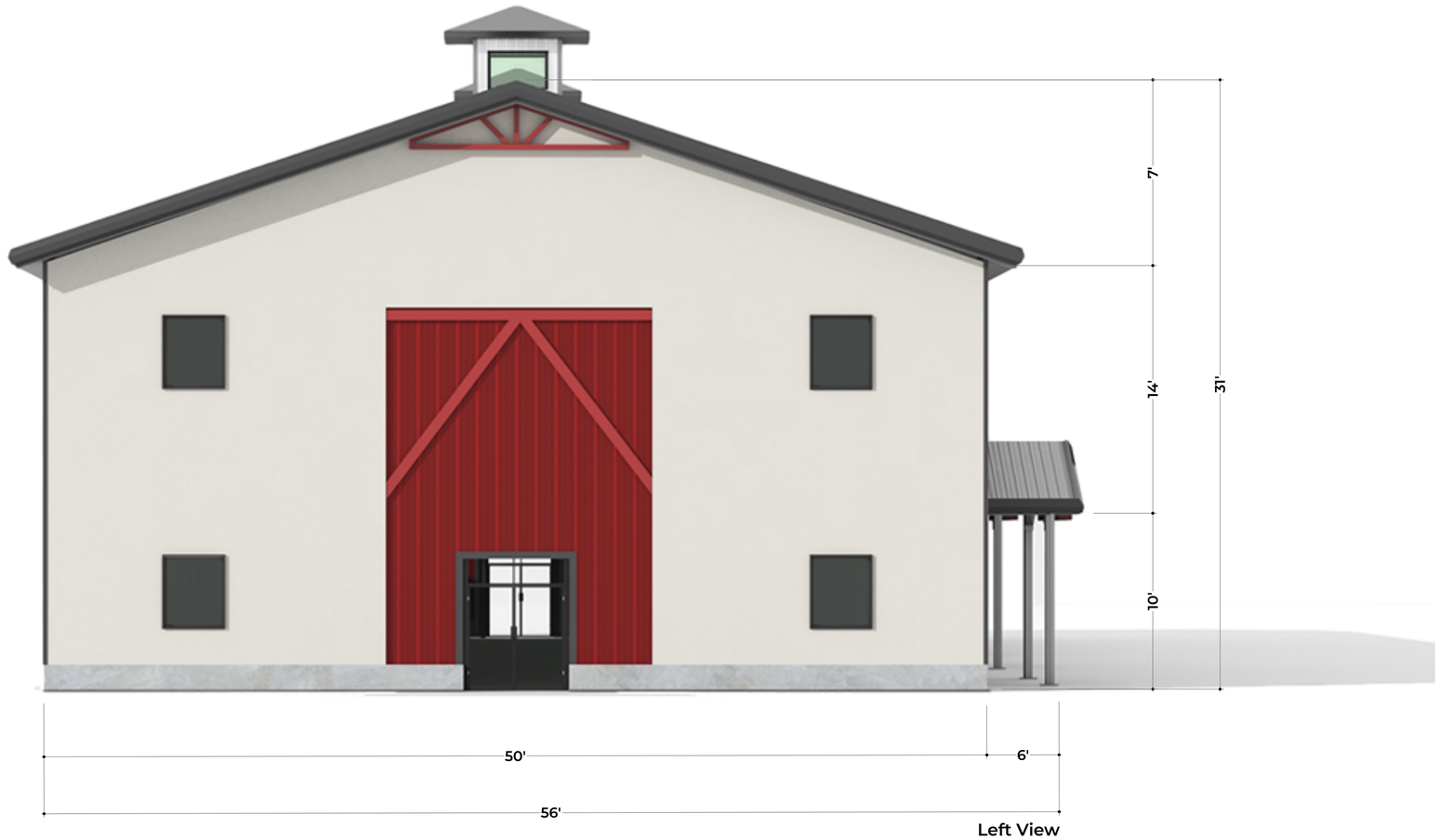
3. BEFORE CONSTRUCTION BEGINS, TH



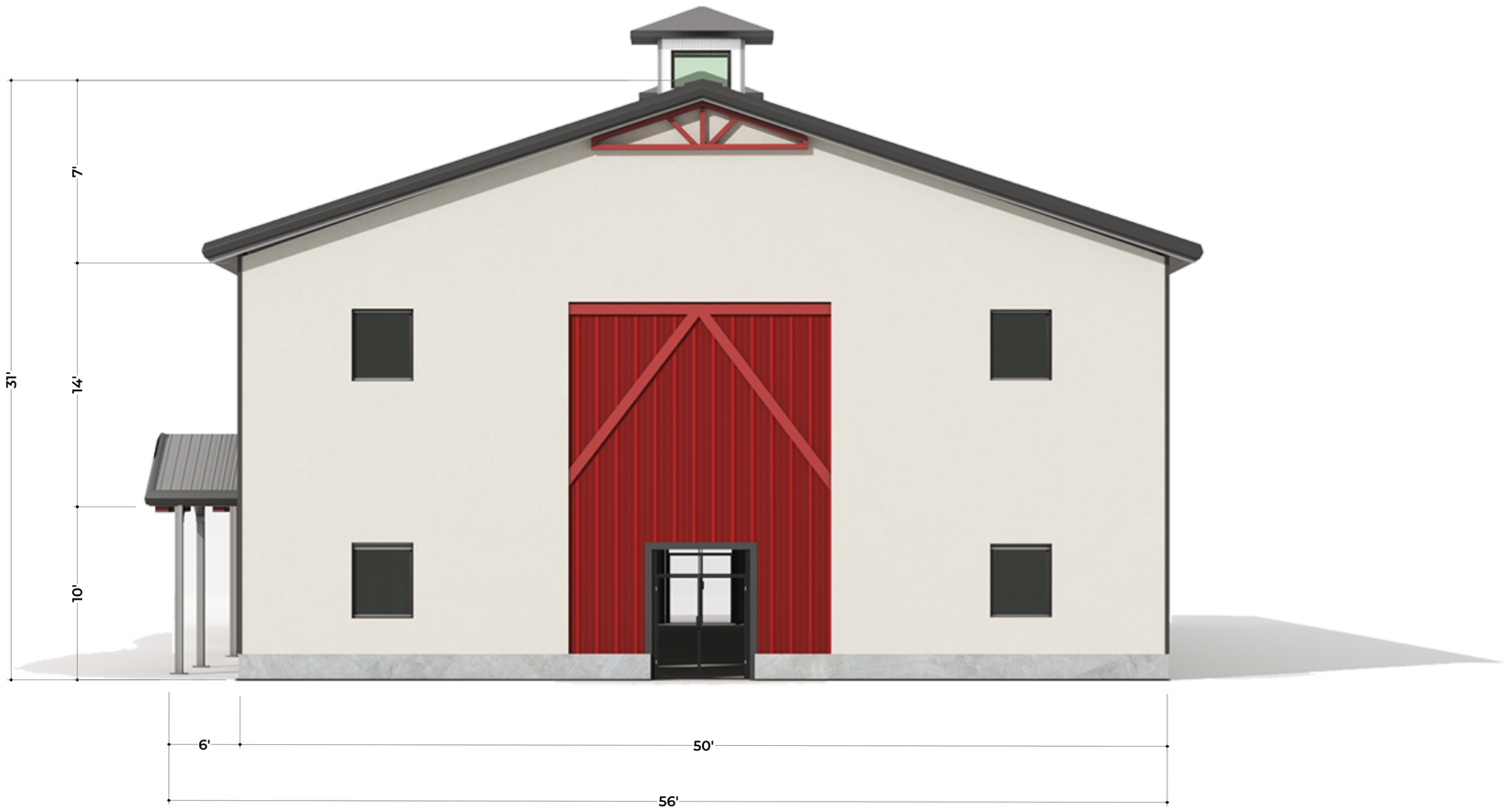
Front View



Rear View



Left View



Right View





PLANT SCHEDULE

BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QUANTITY
ACER PLATINOIDES	SUGAR MAPLE	2" CALIPER	BALL & BURLAP	18
RHUS AROMATICA VAR. TRILOBATA	OAKLEAF SUMAC	15 GALLON	BALL & BURLAP	8
THUJA STANDISHII X PLICATA	GREEN GIANT ARBORVITEA	8' TO 10'	BALL & BURLAP	17
HEMEROCALLIS 'STELLA' HEMEROCALLIS 'EL DIABLO'	'STELLA DE ORO' DAYLIL 'EL DIABLO' DAYLILY	3 GALLON 3 GALLON	PLASTIC CONT. PLASTIC CONT.	34 35
JUNIPERUS HORIZONTALIS	CREEPING JUNIPER	3 GALLON	PLASTIC CONT.	13
COTONEASTER SUECICUS 'CORAL BEAUTY'	COTONEASTER SHRUB	3 GALLON	PLASTIC CONT.	62
SPRIREA JAPONICA 'GOLD MOUND'	GOLD MOUND SPIREA	5 GALLON	PLASTIC CONT.	21
PINUS MUGO 'PUMILIO' OR THUJA OCCIDENTALIS 'HETZ MIDGET'	DWARF MUGO PINE DWARF THUJA	5 GALLON 5 GALLON	PLASTIC CONT. PLASTIC CONT.	40 40
CORNUS SERICEA	RED TWIG DOGWOOD	3 GALLON	PLASTIC CONT.	33
SALVIA NEMOROSA 'MAY NIGHT'	BLUE SAGE	3 GALLON	PLASTIC CONT.	101
SALIX REPENS VAR. ARGENTEA	CREEPING SILVER WILLOW	5 GALLON	PLASTIC CONT.	33
PRUNUS X CISTENA	CISTENA PLUM	5 GALLON	PLASTIC CONT.	52

1	LANDSCAPING IN THIS PARKSTRIP TO BE COORDINATED & INSTALLED WHEN UDOT FINISHES IMPROVEMENTS ALONG FUTURE LAKEVIEW PARKWAY & FUTURE GENEVA ROAD
	DECORATIVE ROCK 4 INCH MINUS 4" TO 6" DEPTH

EXISTING FIRE HYDRANT ASSEMBLY

FIRE HYDRANT ASSEMBLY

WATER METER

LANDSCAPING WATER METER TO BE INSTALLED W/ RPZ BACKFLOW PREVENTER

NOTE:

MAINTAIN 3' HORIZONTAL AND 10' VERTICAL SEPARATION FROM THE EDGE OF ALL WATER METERS AND FIRE HYDRANTS FROM ALL TREES, SHRUBS AND DEEP ROOTED VEGETATION.

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED
WITHOUT CITY INSPECTION
WILL BE REJECTED
07/15/2026

Note:

No driveway or drive access may be located within twenty-five feet of an existing fence which is greater than three (3) feet in height.

All Area lights (pole lights and wall packs) final location, type, etc. are to be determined by the owner and electrical designer. Shown only for illustration purposes.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

T:\Land Projects 3\Detail Sheet\Bluestake LOGO.tif

CAUTION!! Notice to contractors

The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and where possible from measurements taken in the field. the information is not to be considered exact or complete. The Contractor must notify the utility location center at least 48 hours prior to any excavation to request the exact location of the utilities in the field. It shall be the responsibility of the Contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plan.

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

The Shops at Johnson Farm
Orem Utah

LANDSCAPE PLANTING PLAN

Revisions

Date	7/15/2026
Scale	1" = 40'
By	TD
Tracing No.	L - 14939

Sheet No.
L - 1.0



LEGEND

- WATER METER
- RPZ BACKFLOW ASSEMBLY
- FILTER / PRESSURE REGULATOR
  COMMERCIAL GRADE 1" CONTROL VALVE
  ACTION MANIFOLD
- C — HUNTER PRO-HC600 SMART WIFI IRRIGATION CONTROLLER 6 ZONE OUTDOOR SPRINKLER TIMER, WEATHER BASED SCHEDULING, FLOW SENSOR READY, TOUCH SCREEN.
- 1" PVC PIPE SCHEDULE 40 PVC
- 3/4" POLY DISTRIBUTION LINE
- 3" PVC SCHEDULE 40 CONDUIT SLEEVE
- SCHEDULE 40 1" PVC COMPONENT 90° ELBOW SS
- SCHEDULE 40 1" PVC COMPONENT 90° TEE SS
- SCHEDULE 40 1" PVC COMPONENT 45° ELBOW SS
- LATERAL LINE 3/4" POLY COMPRESSION FITTING
- LATERAL LINE 3/4" POLY COMPRESSION FITTING
- PVC TO POLY TRANSITION FITTING
- POLY DISTRIBUTION LINE TUBING CLOSURE @ END OF ZONE

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
07/15/2026

Note:

No driveway or drive access may be located within twenty-five feet of an existing fence which is greater than three (3) feet in height.

All Area lights (pole lights and wall packs) final location, type, etc. are to be determined by the owner and electrical designer. Shown only for illustration purposes.

GRAPHIC SCALE

40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

T:\Land Projects 3\Detail Sheet\Bluestake LOGO.tif

CAUTION!!! Notice to contractors

The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and where possible from measurements taken in the field. the information is not to be considered exact or complete. The Contractor must notify the utility location center at least 48 hours prior to any excavation to request the exact location of the utilities in the field. It shall be the responsibility of the Contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plan.

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

The Shops at Johnson Farm

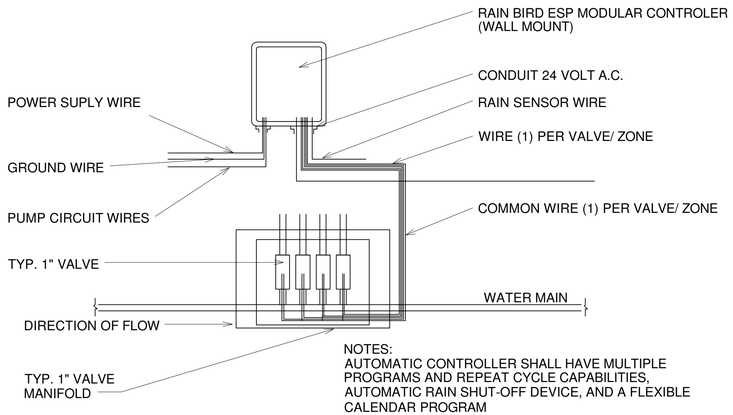
LANDSCAPE IRRIGATION PLAN

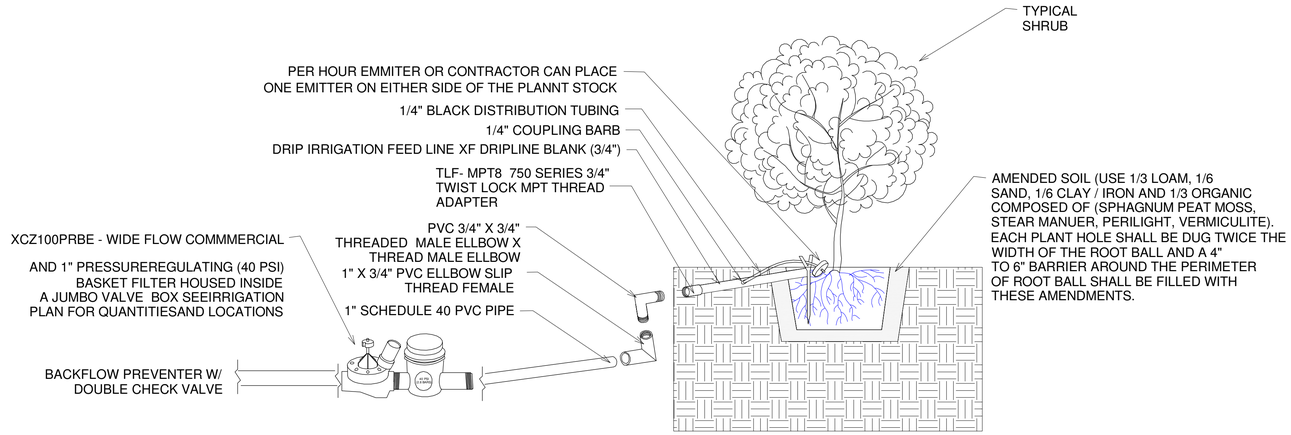
Orem Utah

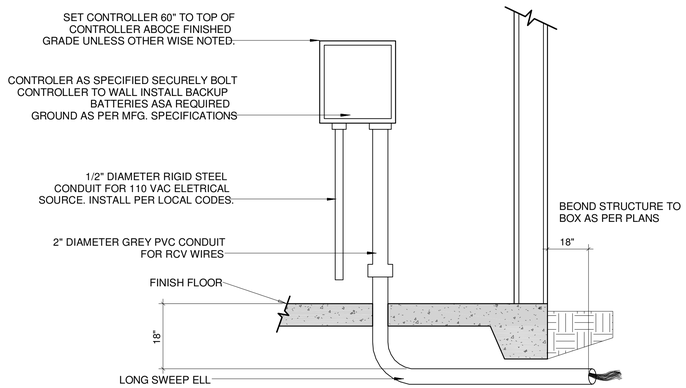
Revisions

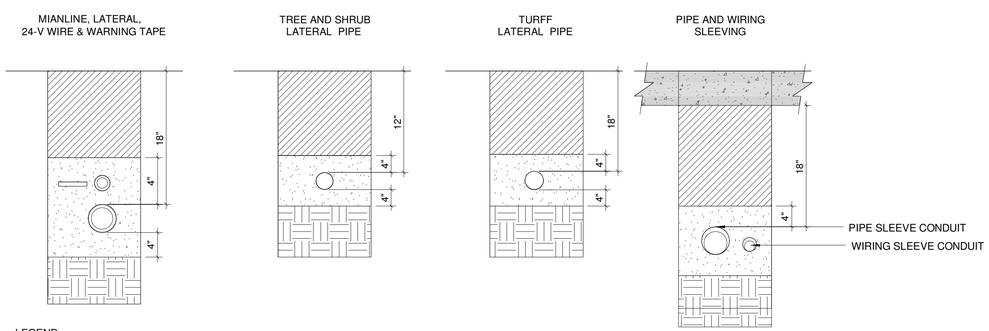
Date	7/15/2026
Scale	1" = 40'
By	TD
Tracing No.	L - 14939

Sheet No.
L - 2.0









LEGEND:

- EXCAVATED MATERIAL
- PIPE COVERING MATERIAL
- NATIVE MATERIAL
- NON-POTABLE WARNING TAPE
- PIPE

NOTES:

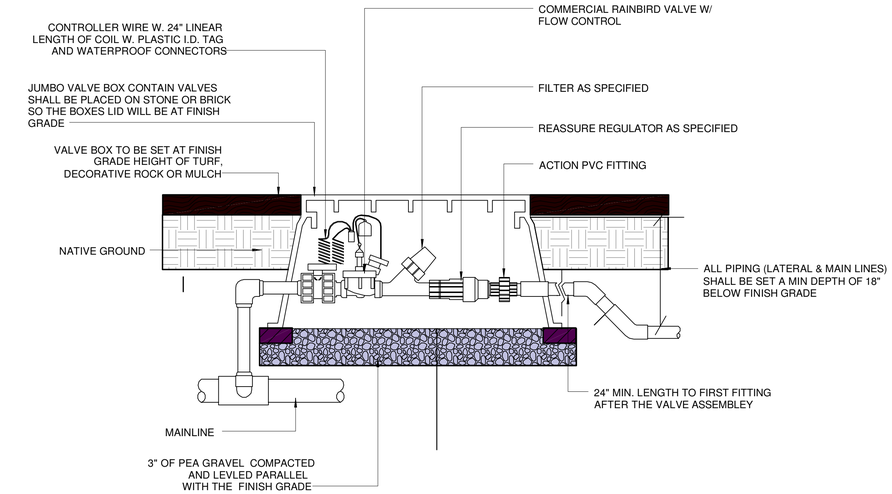
SLEEVE ALL PIPE AND WIRE SEPARATELY.

ALL PIPE TO BE INSTALLED PER MANUFACTURE'S SPECIFICATIONS. "SNAKE" UNSLEEVED PLASTICPIPE IN TRENCH. PROVIDE A MIN. OF 2" CLEARENCE TO SIDE OF TRENCH AND BETWEEN PIPES.

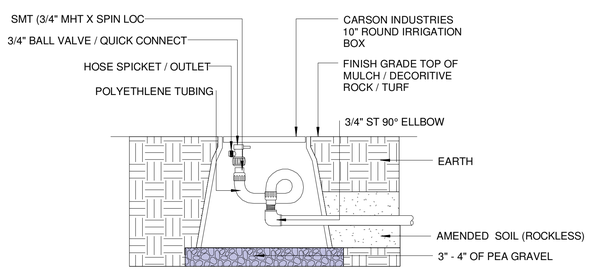
ALL 120-V WIRING SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS. TAPE AND BUNDLE 24-V WIRE EVERY 10' AND PROVIDE LOOSE 20" LOOP AT ALL CHANGES OF DIRECTION OVER 30 DEGREES.

ALL IRRIGATION MAINLINE WITHIN 5' FROM BACK OF CURB SHALL BE INSTALLED WITH A MINIMUM OF 36" DEPTH OF COVER (UDOT RIGHT-OF-WAY).

LAY NON-POTABLE WARNING TAPE 6" ABOVE MAINLINE.



VALVE BOX DETAIL WITH INLINE FILTER AND PRESSURE REDUCER



APPROVED FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM FAMILY CITY USA
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
07/15/2026

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

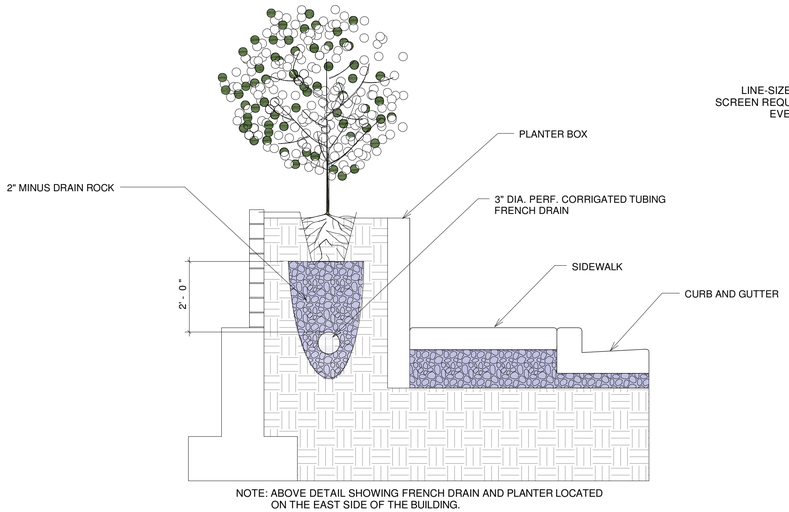
The Shops at Johnson Farm
Orem Utah

LANDSCAPE DETAILS

Revisions

Date	7/15/2026
Scale	1" = 40'
By	TD
Tracing No.	L - 14939

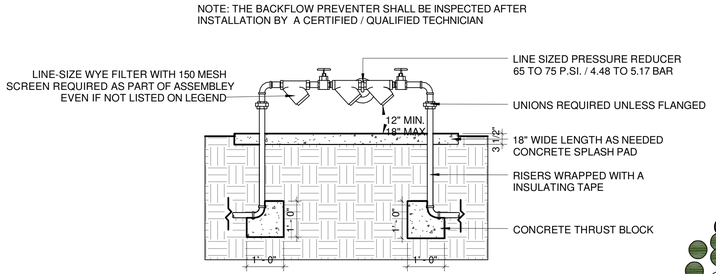
Sheet No.
L - 3.0



NOTE: ABOVE DETAIL SHOWING FRENCH DRAIN AND PLANTER LOCATED ON THE EAST SIDE OF THE BUILDING.

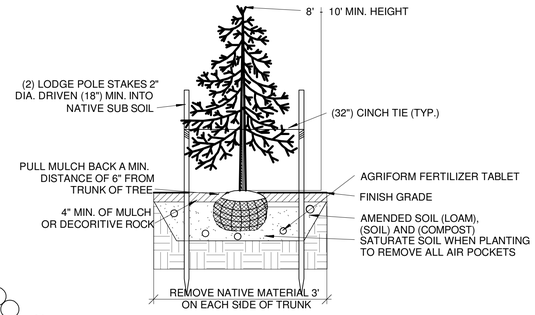
RAISED PLANTER DETAIL

NOTE: THE BACKFLOW PREVENTER SHALL BE INSPECTED AFTER INSTALLATION BY A CERTIFIED / QUALIFIED TECHNICIAN

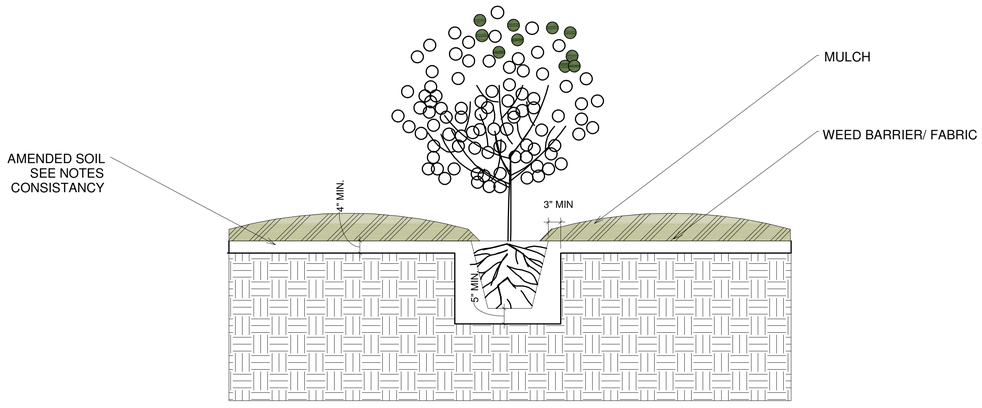


RPZ BACKFLOW PREVENTER DETAIL

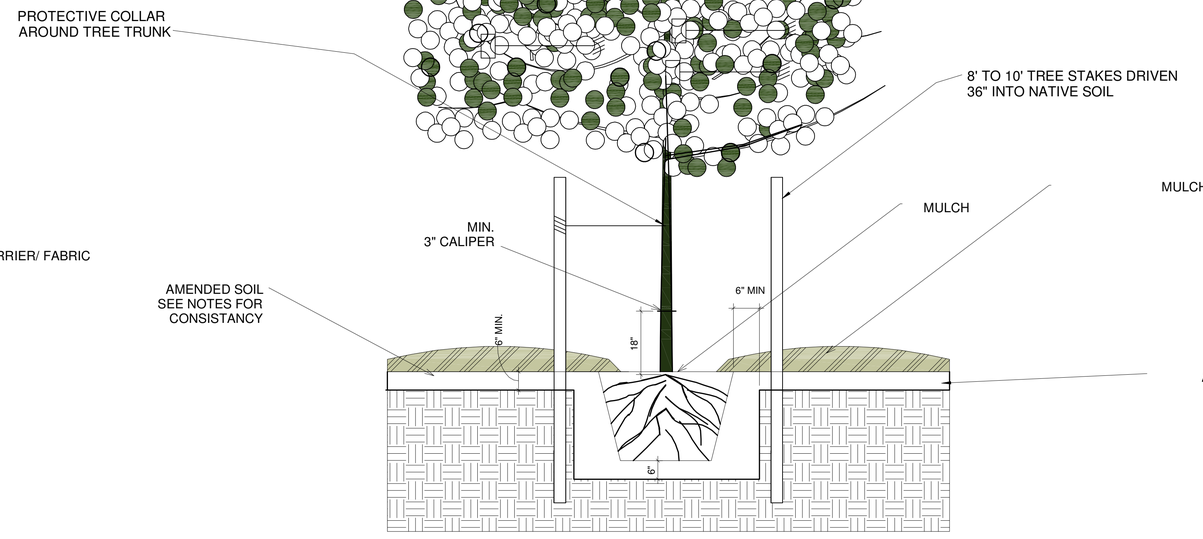
NOT DRAWN TO SCALE:



CONIFERUOUS DETAIL



TYPICAL SHRUB PLANTING DETAIL 3 GALLON CONTAINER



TYPICAL TREE PLANTING DETAIL 2" CALIPER

APPROVED FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
07/15/2026

SPECIFICATIONS:

1. THIS IRRIGATION DESIGNS DIAGRAMMATIC. IT IS DESIGNED USING AN ASSUMED MINIMUM PRESSURE AT THE POINT OF CONNECTION OF 75 PSI. THE CONTRACTOR SHALL VERIFY THE PRESSURE PRIOR TO CONSTRUCTION AND INFORM OWNER IF PRESSURE IS LOWER THAN DESIGN PRESSURE.
2. DRIP LATERAL LINES ARE NOT SHOWN GOING TO EVERY PLANT FOR DESIGN CLARIFICATION ONLY. THE CONTRACTOR SHALL ENSURE ALL PLANTS RECEIVE DRIP IRRIGATION. EQUIPMENT, PIPING AND VALVES, ETC. SHOWN WITHIN PAVED AREAS ARE SHOWN FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED WITHIN THE PLANTING AREAS. LOCATE VALVES AND BFPS WITHING SHRUB AREAS SO THAT THEY ARE VISUALLY UNOBTRUSIVE.
3. ALL PVC PIPE SHALL HAVE A MINIMUM PRESSURE RATING OF 200 P.S.I. ALL POLYETHLENE PIPE TO BE MANUFACTURED BY RAINBIRD.
4. ALL CONDUIT/SLEEVES SHALL BE A MIMIMUM OF TWO TIMES THE DIAMETER OF THE LINE SIZE. REFER TO LONG SWEEP NOTE.
5. CONTROLLER WIRES THAT ARE DIRECT BURIED SHALL BE BUNDLED AND TIED OR WRAPPED EVERY TEN FEET DURING INSTALLATION WIRES SHALL HAVE A 24" LOOP TIED AT ALL DIRECTION CHANGES GREATER THAN 30 DEGREES AND BE UNTIED PRIOR TO TRENCH FILL IN.
6. FLUSH CAPS SHALL BE PLACED IN A VALVE BOX AT THE END OF ALL LANDSCAPE LATERALS.
7. ALL VALVES, PRESSURE REFULATORS AND OTHER DEVICES SHALL BE PLACED IN AN APPROPRIATELY SIZED VALVE BOX WITH A MINIMUM OF 3" OF PEA GRAVEL.
8. THESE NOTES ARE TO BE USED FOR GENERAL REFERENCE IN CONJUNCTION WITH, AND AS A SUPPLEMNT TO THE WRITTEN SPECIFICATIONS, APPROVEDD ADDENDA, AND CHANGE ORDERS ASSOCIATED WITH THESE LANDSCAPE IMPROVEMENT DOCUMENTS.
9. A QUALIFIED SUPERVISOR SHALL BE PRESENT ON SITE AT ALL TIMES DURING CONSTRUCTION.
10. BEFORE WORK BEGINS ON THE PROJECT THE IRRIGATION CONTRACTOR SHALL REVIEW THE PROJECT WITH THE OWNER'S AUTHORIZED REPRESENTATIVE AND/OR OWNER.
11. IRRIGATION CONTRACTORS SHALL INSPECT WITH THE OWNER'S AUTHORIZED REPRESENTATIVE AND / OR OWNER. ALL EXISTING CONDITIONS PRIOR TO THE START OF ANY WORK THE CONTRACTOR SHALL BE RESPONSIBLE UNDER THIS CONTRACT TO REPAIR AND OR REPLACE AT THEIR EXPENSE, ANY STRUCTURES, FENCES, WALLS, PLANT MATERIAL, OR OTHER ITEMS ARE AS WILL BE RESTORED ORIGINAL CONDITION TO THE SATISFACTION OF THE OWNER'SAUTHORIZED REPRESENTATIVE AND / OR OWNER.
12. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ALL IRRIGATION LOCATIONS WITH OTHER TRADES PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FAMILARIZE THEMSELVES WITH THE LOCATIONS OF EXISTING AND FUTURE UNDERGROUND SERVICES AND IMPROVEMENTS WHICH MAY CONFLICT WITH THE WORK TO BE DONE. PRIOR TO THE START OF WORK ALL UNDERGROUND UTILITIES ARE TO BE LOCATED AND PROTECTED. THE INITIAL CALL AND FUTURE UPDATES TO BLUE STAKES AT 811.
13. ALL HARDSCAPE, WALLS AND SIGNAGE MUST BE STAKED AND APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO CONSTRUCTION.
14. VERIFY CRITICAL DIMENSIONS, REFERENCE POINT LOCATIONS AND CONSTRUCTION CONDITIONS PRIOR TO INITIATING CONSTRUCTION. NOTIFY THE OWNER AND LANDSCAPE ARCHITECT SHOULD CONFLICTS ARISE.
15. IRRIGATION CONTRACTOR SHALL PROCIDE BARRICADES AND TRAFFIC CONTROL ALONG PUBLIC STREETS IF REQUIRED DURING CONSTRUCTION.

- ALL DECIDUOUS TREES SHALL BE 3" CALIPER MIN. CONIFEROUS TREES SHALL BE 8' TO 10' MIN
- AMENDED SOIL WITH BE 1/3 LOAM, 1/3 SAND AND 1/3 ORGANIC PEAT OR OTHER COMPOST.
- WEED BARRIER TO BE PLACED ON TOP OF AMENDED SOIL FASTEND WITH 6" PINS AND COVERED WITH 4" OF MULCH OR OTHER COMPARABLE ALTERNATE. CUT 6" RADIUS AROUND SHRUBS AND 18" RADIUS AROUND TREES, LEAVING ROOM FOR FUTURE GROWTH. WHEN TREE IS PLANTED IN AN AREA WITH GRASS CUT A 30" TREE RING AROUND THE TRUNK TO ALLOW THE TREE TO BREATH AND LOWER MAINTAINANCE. ALL TREES STAKED FOR FIRST YEAR TO INSURE PROPER GROWTH HABITS (STRAIT).

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

The Shops at Johnson Farm

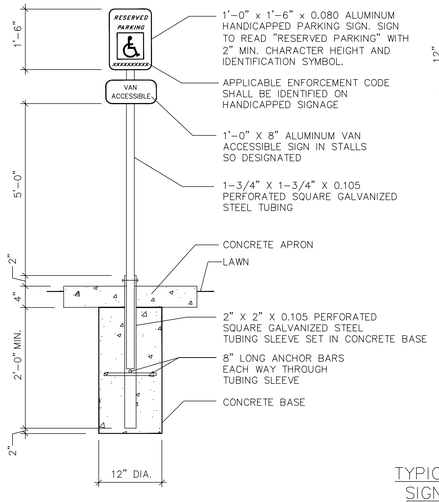
LANDSCAPE DETAILS

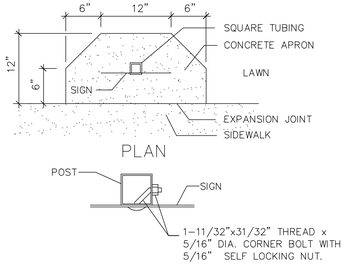
Orem Utah

Revisions

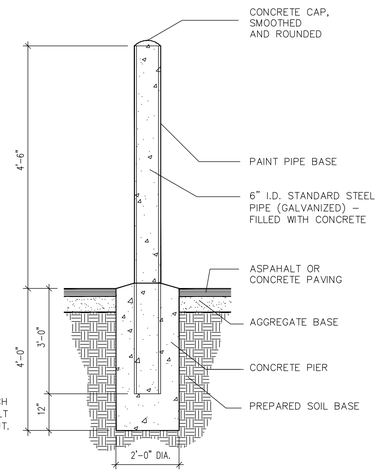
Date	7/15/2026
Scale	1" = 40'
By	TD
Tracing No.	L - 14939

Sheet No. L - 3.1

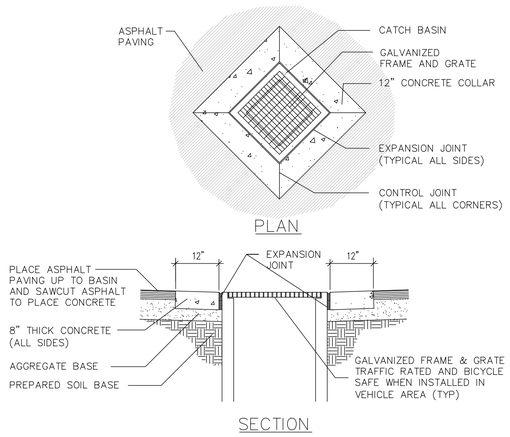




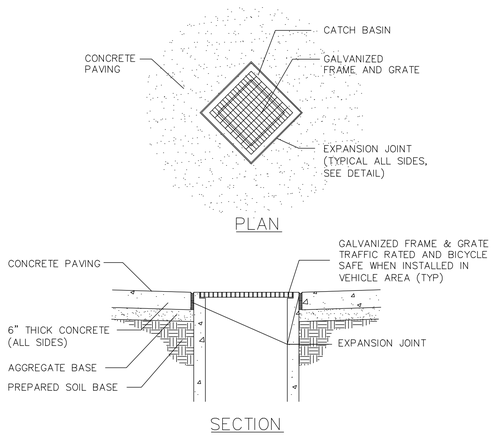
TYPICAL HANDICAPPED PARKING SIGN MOUNTING AND ANCHOR



B CONCRETE BOLLARD
Not to Scale

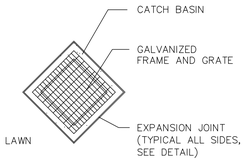


C BASIN IN ASPHALT WITH 12" CONCRETE COLLAR
NOT TO SCALE

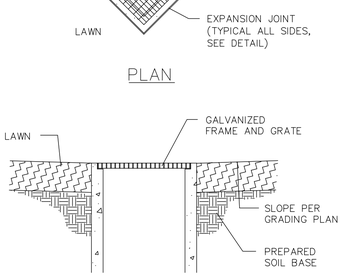


D BASIN IN CONCRETE PAVING
Not to Scale

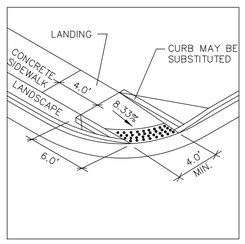
A HANDICAP PARKING SIGN
Not to Scale



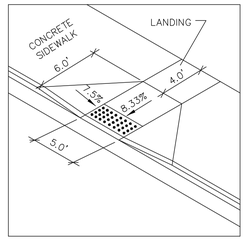
NOTES:
1. PROVIDE DETECTABLE WARNING PANELS PER ADA REQUIREMENTS. (MINIMUM OF 2' DEEP BY THE WIDTH OF RAMP).
2. ALL LANDINGS MUST HAVE 1:48 CROSS SLOPE AND RUNNING SLOPE. LANDING MUST BE AS WIDE AS THE RAMP.
3. CROSS SLOPE ON RAMP MUST BE 1:48 OR LESS.
4. COUNTER SLOPES OF ADJOINING GUTTERS AND PAVING ADJACENT TO THE CURB RAMP SHALL NOT BE STEEPER THAN 1:20.

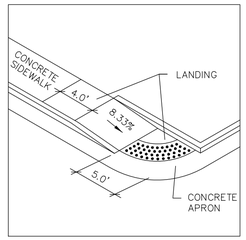


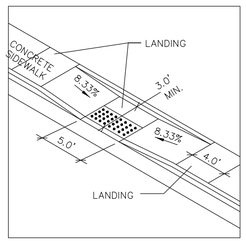
E BASIN IN LANDSCAPE
Not to Scale

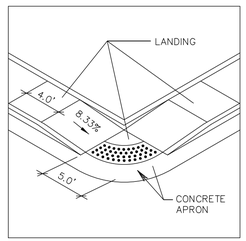


F CURB RAMPS
Not to Scale



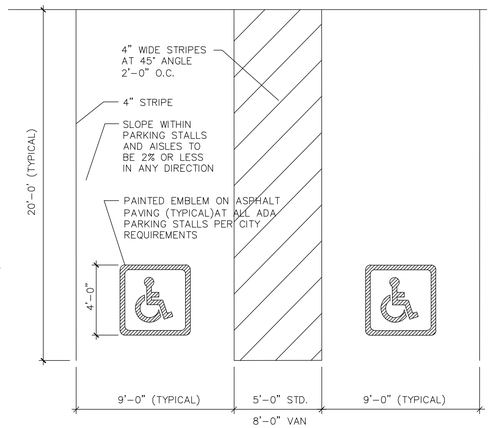






1 1/2" DIA. POST AT 6'-0" MAX. – EXTEND POST 2" ABOVE HANDRAIL AS A SKATEBOARD DETERRENT
1 1/4" METAL HANDRAIL WITH HANDRAIL BRACKETS
1 1/2" DIA. POST AT 6'-0" MAX. – EXTEND POST 2" AS A SKATEBOARD DETERRENT
1'-0"
TREAD DEPTH
2"
1'-0"
34" MIN - 38" MAX
8" MIN.
1 1/4" METAL HANDRAIL WITH HANDRAIL BRACKETS
STAIRS
ANCHOR HANDRAILS TO CONCRETE IN CORE DRILLED HOLES FILLED WITH GROUT

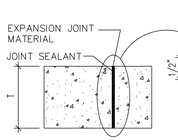
G SITE HANDRAIL DETAIL
1" = 1'-0"

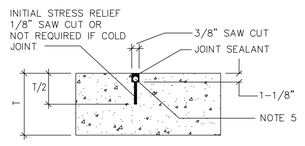


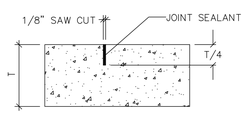
H ADA PARKING
Not to Scale

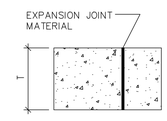
CONCRETE PAVING NOTES WHERE CONCRETE PAVING IS USED:

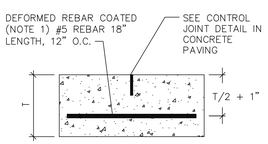
1. REINFORCEMENT: ASTM A 615, GRADE 60, EPOXY COATED DEFORMED STEEL REBAR OR SMOOTH STEEL DOWELS WITH DIAMETER AND LENGTH AS INDICATED.
   A. SPACE REBAR AND DOWELS AT 12 TO 15 INCHES ON CENTER.
   B. GREASE DOWELS TO PROVIDE MOVEMENT IN EXPANSION JOINTS.
   C. KEEP TIE BARS IN THE VERTICAL CENTER OF THE CONCRETE SLAB AND PERPENDICULAR TO THE JOINT DURING CONCRETE PLACEMENT.
2. SAWING: KEEP AT LEAST 3 WORKING POWER SAWS ON-SITE WHEN CONCRETE IS BEING PLACED. SAW CRACK CONTROL JOINTS (CONTRACTION JOINTS) BEFORE SHRINKAGE CRACKING TAKES PLACE. DO NOT TEAR OR RAVEL CONCRETE DURING SAWING. IN COOL WEATHER, THE JOINT SAWING MAY BE DELAYED ONLY FOR THE TIME REQUIRED TO PREVENT TEARING AND RAVELING THE CONCRETE. CUT JOINTS TO DIMENSIONS RECOMMENDED BY SEALANT MANUFACTURER AND APPROVED BY ENGINEER.
3. JOINTS: LAY OUT JOINTS TO AID CONSTRUCTION AND CONTROL RANDOM CRACKING.
   A. JOINT SPACING SHALL BE 12 FEET MAXIMUM ON CENTER IN BOTH DIRECTIONS.
   B. EXTEND TRANSVERSE CONTROL JOINTS CONTINUOUSLY ACROSS THE FULL WIDTH OF THE CONCRETE. MAKE THE JOINTS COINCIDE WITH CURB AND GUTTER JOINTS.
   C. MAKE ADJUSTMENTS IN JOINT LOCATIONS TO MEET INLET OR MANHOLE LOCATIONS.
   D. EXPANSION JOINTS SHALL BE PLACED WHERE CONCRETE ABUTS A BUILDING WALL, SIDEWALK, CURB, GUTTER OR ANY IMMOVABLE STRUCTURE.
4. JOINT FILLER: BITUMINOUS (ASPHALT OR TAR) MASTIC, ASTM D994. FORMED AND ENCASED BETWEEN 2 LAYERS OF BITUMINOUS SATURATED FELT OR 2 LAYERS OF GLASS-FIBER FELT EXTENDING TO THE BOTTOM OF THE CONCRETE SLAB.
5. BACKER ROD: ROUND RODS. IT MUST BE OVERSIZED APPROXIMATELY 25 PERCENT TO FIT TIGHTLY INTO EACH JOINT AND COMPATIBLE WITH HOT POURED SEALANT.
6. JOINT SEALANT: HOT APPLIED, ASPHALT BASE TYPE, ASTM D 3405. REMOVE DIRT, OIL, AND CURING COMPOUNDS FROM JOINT RESERVOIR. SEAL JOINTS IMMEDIATELY AFTER CLEANING.

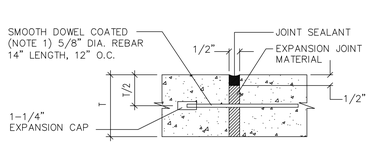


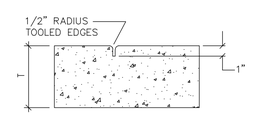












J CONCRETE PAVING JOINT DETAILS
Not to Scale

K EXPANSION AND CONTROL JOINT
Not to Scale

APPROVED FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
07/15/2026

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

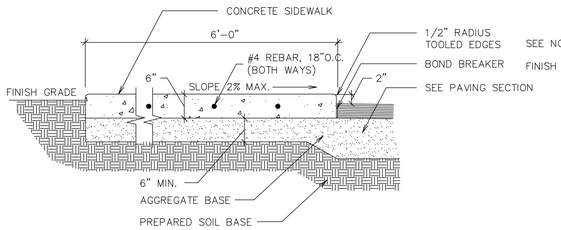
The Shops at Johnson Farm
Orem Utah

DETAIL SHEET

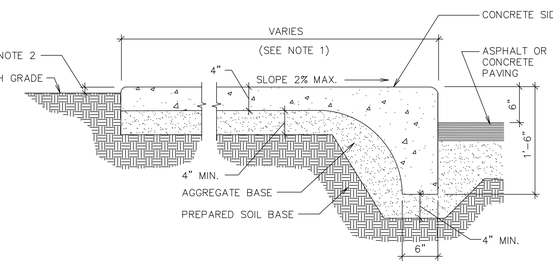
Revisions

Date	
Scale	
By	TD
Tracing No.	L -

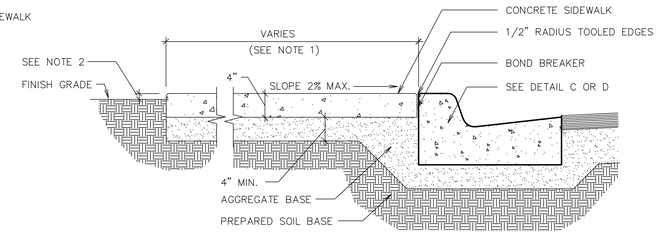
Sheet No. C - 5



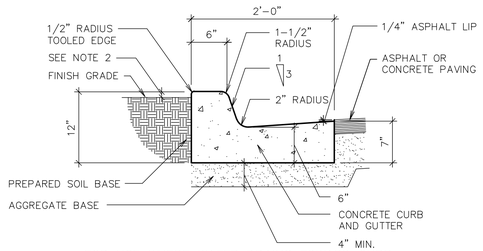
T APRON DETAIL
1" = 1'-0"



A INTEGRAL SIDEWALK & CURB
1" = 1'-0"

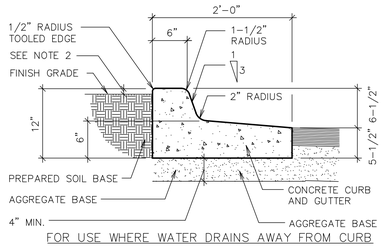


B SIDEWALK, CURB AND GUTTER
1" = 1'-0"



FOR USE WHERE WATER DRAINS TOWARD CURB

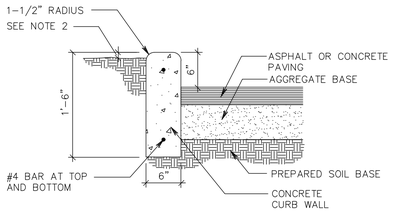
C CURB AND GUTTER
1" = 1'-0"



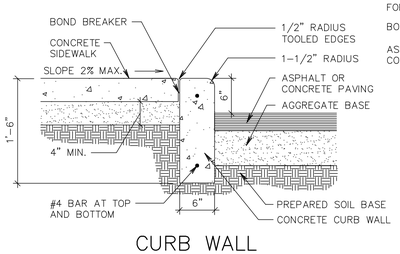
FOR USE WHERE WATER DRAINS AWAY FROM CURB

OPEN FACE CURB AND GUTTER
1" = 1'-0"

D

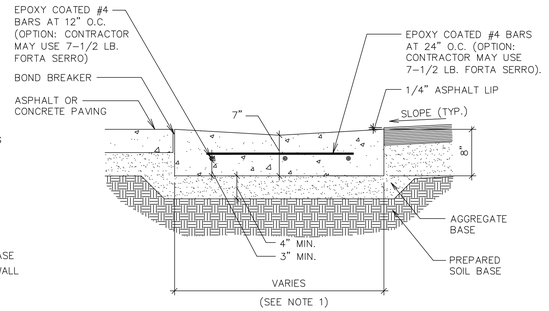


E CURB WALL
1" = 1'-0"

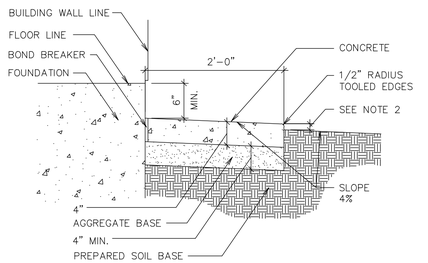


CURB WALL WITH SIDEWALK
1" = 1'-0"

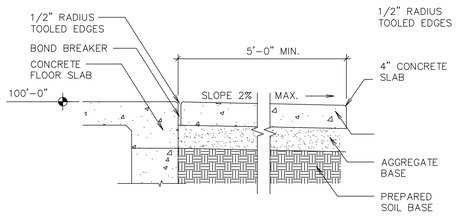
F



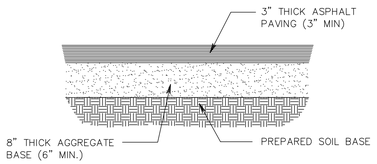
G CONCRETE WATERWAY
1" = 1'-0"



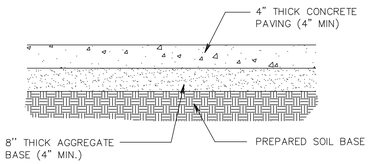
H APRON ADJACENT TO BUILDING
1" = 1'-0"



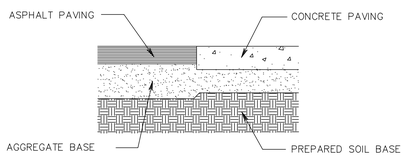
J ENTRY AT DOOR
1" = 1'-0"



K ASPHALT PAVING
1" = 1'-0"



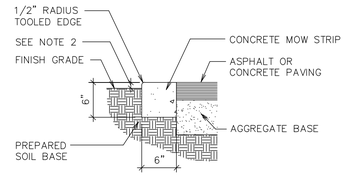
L CONCRETE PAVING
1" = 1'-0"



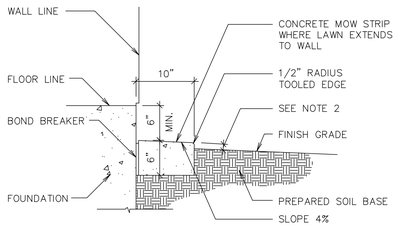
REFER TO DETAILS K AND L FOR AGGREGATE BASE AND PAVING

JOINT BETWEEN ASPHALT AND CONCRETE PAVING
1" = 1'-0"

M

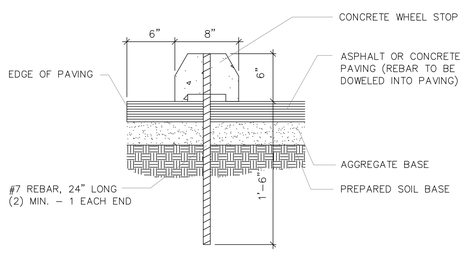


N MOW STRIP
1" = 1'-0"

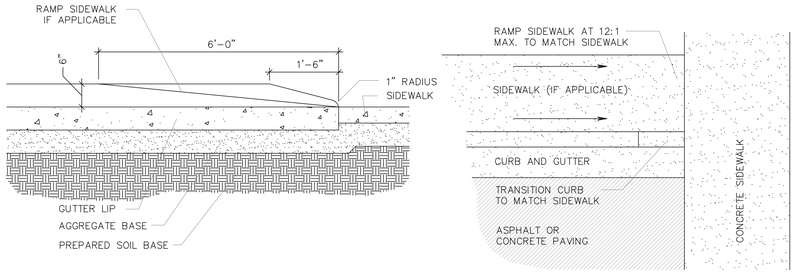


MOW STRIP ADJACENT TO STORAGE BUILDING, AND MECHANICAL ENCLOSURES

P MOW STRIP
1" = 1'-0"

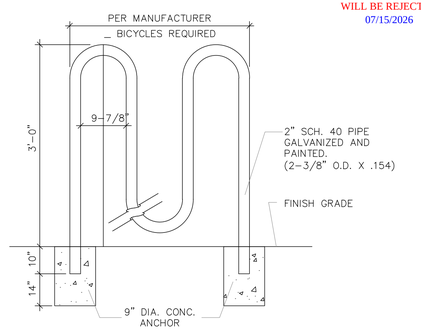


Q TYPICAL CONCRETE WHEEL STOP
Not to Scale



SECTION PLAN

R CURB TRANSITION
Not to Scale



S BICYCLE RACK
Not to Scale

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
FAMILY CITY USA
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
07/15/2026

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

DETAIL SHEET
Orem Utah

Revisions

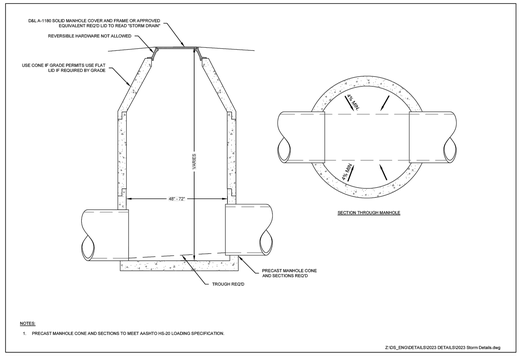
Date

Scale

By
TD

Tracing No.
L -

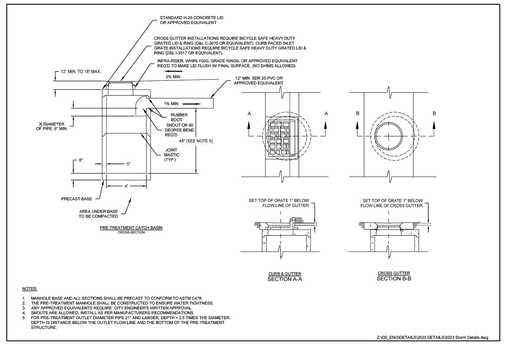
Sheet No.
C - 5.1



NOTES:
1. PRECAST MANHOLE CONE AND SECTIONS TO MEET AASHTO HS-20 LOADING SPECIFICATION.

Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Storm Details.dwg

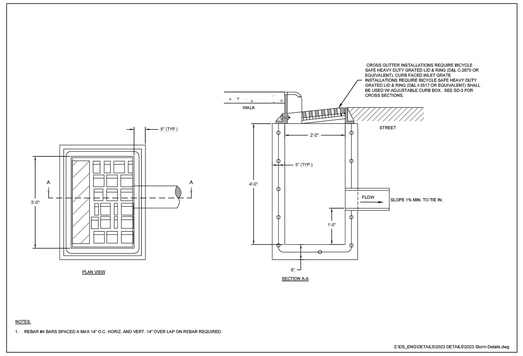
OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	48" - 72" PRECAST STORM DRAIN MANHOLE	REV. 4/2024 SD-1



NOTES:
1. MANHOLE BASE AND ALL SECTIONS SHALL BE PRECAST TO CONFORM TO ASTM C478.
2. ALL JOINTS SHALL BE WATERTIGHT USING RUBBER GASKETS TO CONFORM TO ASTM C443.
3. ANY APPROVED EQUIVALENTS REQUIRE CITY ENGINEER'S WRITTEN APPROVAL.
4. SHOUTS ARE ALLOWED. INSTALL AS PER MANUFACTURERS RECOMMENDATIONS.
5. FOR PRE-TREATMENT OUTLET DIAMETER PIPE 21" AND LARGER, DEPTH = 2.5 TIMES THE DIAMETER. DEPTH IS DISTANCE BELOW THE OUTLET FLOW LINE AND THE BOTTOM OF THE PRE-TREATMENT STRUCTURE.

Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Storm Details.dwg

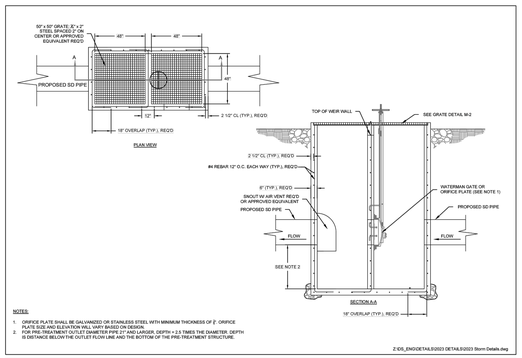
OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	PRE-TREATMENT CATCH BASIN	REV. 4/2024 SD-2



NOTES:
1. REBAR #4 BARS SPACED A MAX 14" O.C. HORIZ. AND VERT. 14" OVER LAP ON REBAR REQUIRED.

Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Storm Details.dwg

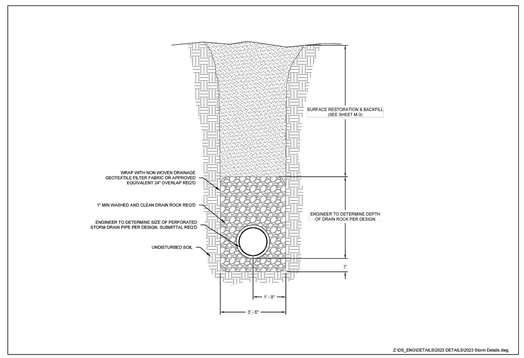
OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	STANDARD CATCH BASIN	REV. 4/2024 SD-4



NOTES:
1. ORIFICE PLATE SHALL BE GALVANIZED OR STAINLESS STEEL WITH MINIMUM THICKNESS OF 3/ ORIFICE PLATE SIZE AND ELEVATION WILL VARY BASED ON DESIGN.
2. FOR PRE-TREATMENT OUTLET DIAMETER PIPE 21" AND LARGER, DEPTH = 2.5 TIMES THE DIAMETER. DEPTH IS DISTANCE BELOW THE OUTLET FLOW LINE AND THE BOTTOM OF THE PRE-TREATMENT STRUCTURE.

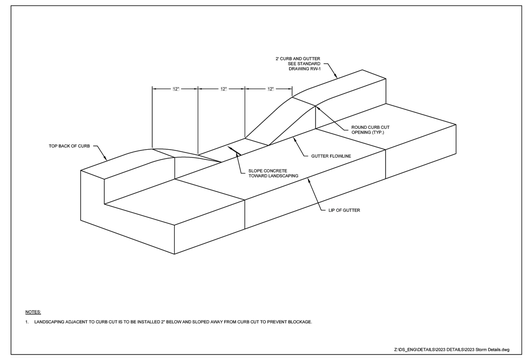
Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Storm Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	OUTLET CONTROL STRUCTURE	REV. 4/2024 SD-5



Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Storm Details.dwg

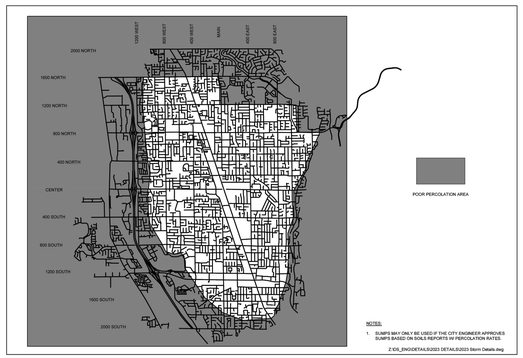
OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	GROUNDWATER TRENCH	REV. 4/2024 SD-6



NOTES:
1. LANDSCAPING ADJACENT TO CURB CUT IS TO BE INSTALLED 2" BELOW AND SLOPED AWAY FROM CURB CUT TO PREVENT BLOCKAGE.

Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Storm Details.dwg

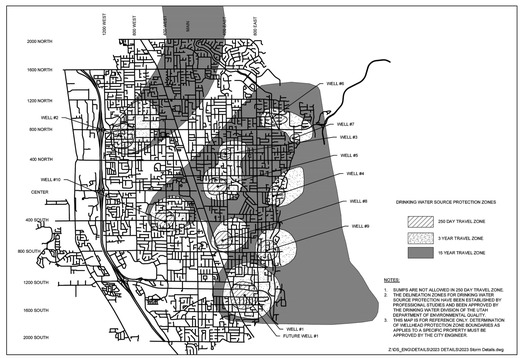
OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	CURB CUT	REV. 4/2024 SD-7



NOTES:
1. SUMPS MAY ONLY BE USED IF THE CITY ENGINEER APPROVES SUMPS BASED ON SOILS REPORTS W/ PERCOLATION RATES.

Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Storm Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	POOR PERCOLATION MAP	REV. 4/2024 SD-8



NOTES:
1. SUMPS ARE NOT ALLOWED IN 250 DAY TRAVEL ZONE.
2. THE DELINEATION ZONES FOR DRINKING WATER PROTECTION ZONES HAVE NOT BEEN APPROVED BY THE APPROPRIATE STATE AGENCIES APPROVED BY THE DRINKING WATER DIVISION OF THE UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY.
3. THIS MAP IS FOR REFERENCE ONLY. DETERMINATION OF ZONES FOR SPECIFIC PROPERTIES SHALL AS APPLIED TO A SPECIFIC PROPERTY MUST BE APPROVED BY THE CITY ENGINEER.

Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Storm Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	DRINKING WATER SOURCE PROTECTION ZONES	REV. 4/2024 SD-9

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
07/15/2026

Dudley and Associates, Inc.
Engineers Planners Land Surveyors
353 East 1200 South
Orem, Utah 84058
801-224-1252

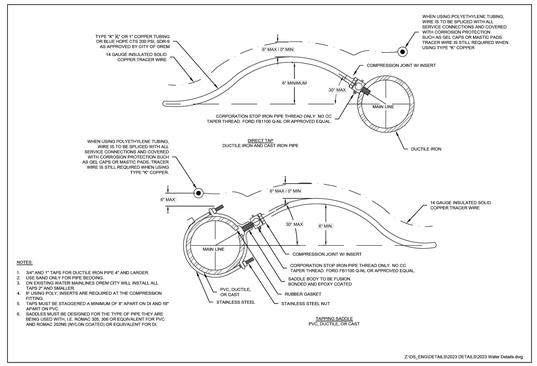
Detail Sheet

Orem City Utah

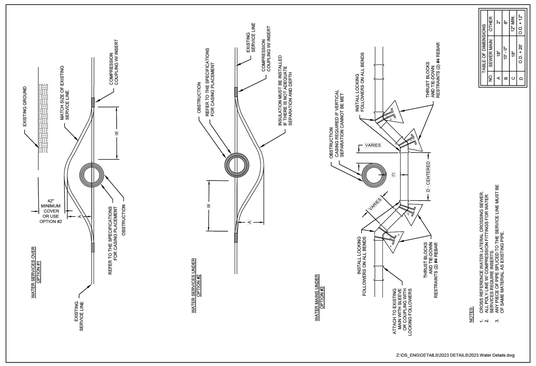
REVISIONS

DATE	
SCALE	not to scale
BY	
TRACING NO.	L -

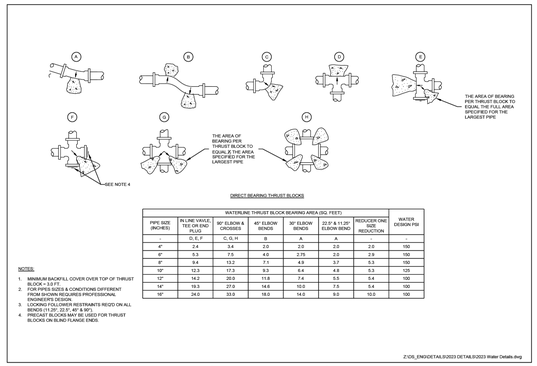
SHEET No.



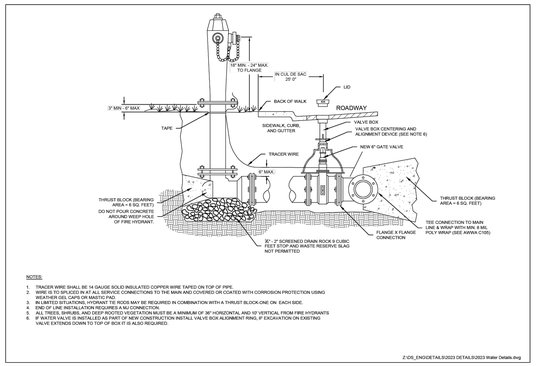
OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	WATERMAIN TAPS	REV. 4/2024 W-10



OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	WATERLINE LOOP	REV. 4/2024 W-9



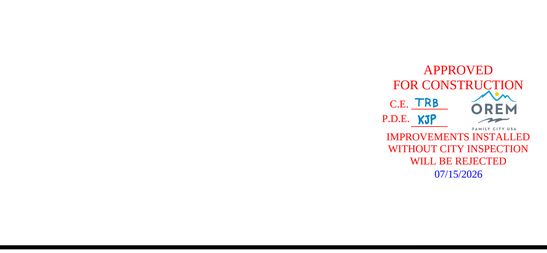
OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	THRUST BLOCK SIZES	REV. 4/2024 W-8



OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	FIRE HYDRANT ASSEMBLY	REV. 4/2024 W-7

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	3/4" & 1" SERVICE LINE INSTALLATION	REV. 4/2024 W-13

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	FIRE LINE PLAN	REV. 4/2024 W-12



OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	TRACER WIRE DETAILS	REV. 4/2024 W-11

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	PVC PIPE REQUIRED - MAP	REV. 4/2024 W-16

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	RPZ BACKFLOW PREVENTER	REV. 4/2024 W-23

APPROVED FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM FAMILY CITY USA
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
07/15/2026

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

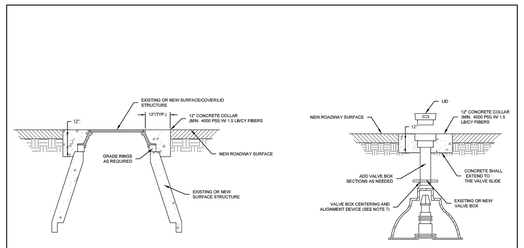
DETAIL SHEET

Orem Utah

Revisions

Date	
Scale	
By	TD
Tracing No.	L -

Sheet No. C -

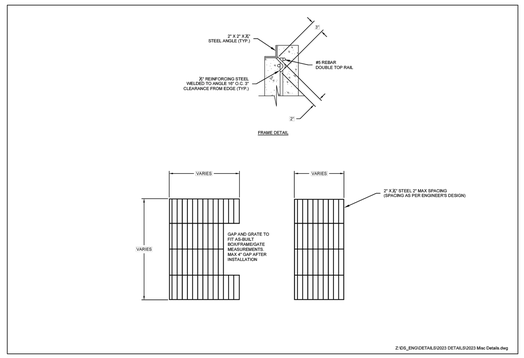


NOTES:

1. CONCRETE COLLARS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 33.06.14 OF THE SPECIFICATIONS.
2. SURFACE/COVER/LIDS STRUCTURES SHALL BE BURIED NO MORE THAN 10 CONTINUOUS CALENDAR DAYS.
3. KEEP UP TO 14" LOW WHEN LEVELING HARDWARE DURING COLLAR INSTALLATION.
4. 2 CONCRETE RISERS ARE ALLOWED (MAX. 12" OF CONCRETE) AND MAX. 3" OF METAL GRADE RINGS ALLOWED.
5. NO BRICK OR BLOCK ALLOWED.
6. IF CONCRETE COLLAR DEPTH IS LESS THAN 12" USE ASPHALT COLLARS. ASPHALT COLLARS WILL ONLY BE ALLOWED WITH PRIOR APPROVAL FROM THE PROJECT MANAGER (MIN. 12" WIDE AND 6" THICK).
7. 8" WATER VALVE IS INSTALLED AS A PART OF NEW CONSTRUCTION INSTALL VALVE BOX ALIGNMENT RING. IF EXCAVATION ON EXISTING VALVE EXTENDS DOWN TO TOP OF BOX IT IS ALSO REQUIRED.

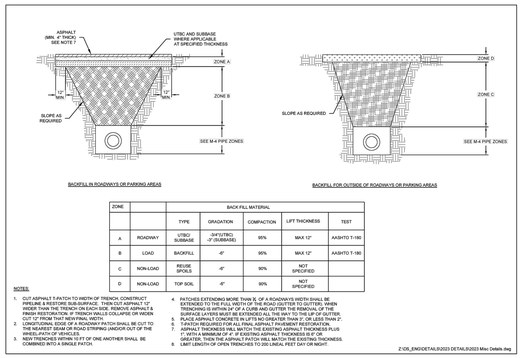
Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Misc Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	ADJUST STRUCTURES TO GRADE	REV. 4/2024 M-1



Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Misc Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	BOX FRAME AND GRATE	REV. 4/2024 M-2



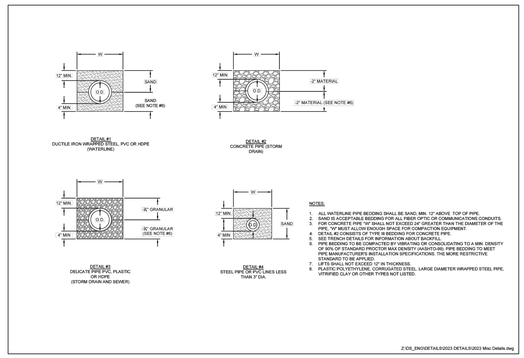
ZONE		BACK FILL MATERIAL				
		TYPE	GRADATION	COMPACTION	LIFT THICKNESS	TEST
A	ROADWAY	UTBC/ SUBBASE	-3/4"(UTBC) -3" (SUBBASE)	95%	MAX 12"	AASHTO T-180
B	LOAD	BACKFILL	4"	95%	MAX 12"	AASHTO T-180
C	NON-LOAD	REUSE SPOILS	4"	90%	NOT SPECIFIED	
D	NON-LOAD	TOP SOIL	4"	90%	NOT SPECIFIED	

NOTES:

1. CUT ASPHALT Y-PATCH TO WIDTH OF TRENCH. CONSTRUCT PIPELINE & RESTORE SUB-SURFACE. THEN CUT ASPHALT 12" WIDER THAN THE TRENCH ON EACH SIDE. REMOVE ASPHALT & FINISH RESTORATION. 3" TRENCH VALLEY COLLAPSE OR WIDEN CUT IF ASPHALT IS NOT REMOVED.
2. LONGITUDINAL EDGE OF A ROADWAY Y-PATCH SHALL BE CUT TO THE NEAREST SEAM OR ROAD STRIPING (AND/OR OUT OF THE WHEEL PATH OF TRAFFIC).
3. NEW TRENCHES WITHIN 10 FT OF ONE ANOTHER SHALL BE COMBINED INTO A SINGLE PATCH.
4. PATCHES EXTENDING MORE THAN 8_ OF A ROADWAY'S WIDTH SHALL BE EXTENDED TO THE FULL WIDTH OF THE ROAD (GUTTER TO GUTTER). WHEN TRENCHING IS WITHIN 24" OF A CURB AND GUTTER THE REMOVAL OF THE SURFACE LAYERS MUST BE EXTENDED ALL THE WAY TO THE LIP OF GUTTER.
5. ALL ASPHALT CUTS SHALL BE SAW CUT AND SHALL BE 1" DEEP MIN. 2"
6. Y-PATCH REQUIRED FOR ALL FINAL ASPHALT PAVEMENT RESTORATION.
7. ASPHALT THICKNESS WILL MATCH THE EXISTING ASPHALT THICKNESS PLUS 1" OVERLAY. IF THE EXISTING ASPHALT THICKNESS IS 4" OR GREATER, THEN THE ASPHALT PATCH WILL MATCH THE EXISTING THICKNESS.
8. LIMIT LENGTH OF OPEN TRENCHES TO 200 LINEAL FEET DAY OR NIGHT.

Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Misc Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	TRENCH DETAILS	REV. 4/2024 M-3

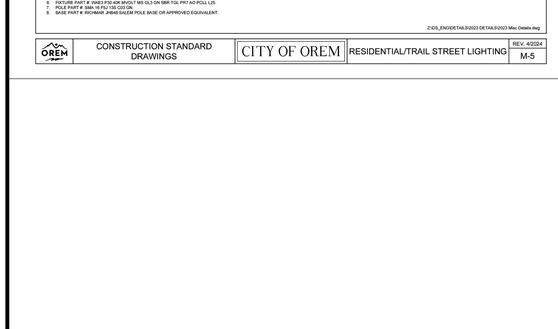


NOTES:

1. ALL WATERLINE PIPE BEDDING SHALL BE SAND. MIN. 12" ABOVE TOP OF PIPE.
2. SAND IS ACCEPTABLE BEDDING FOR ALL FIBER OPTIC OR COMMUNICATIONS CONDUITS.
3. TRENCH WIDTH SHALL BE SUFFICIENT TO PROVIDE 12" MIN. CLEAR FROM THE DIAMETER OF THE PIPE, "W" MUST ALLOW ENOUGH SPACE FOR COMPACTION EQUIPMENT.
4. DETAIL #2 CONSISTS OF TYPE III BEDDING FOR CONCRETE PIPE.
5. SEE TRENCH DETAILS FOR INFORMATION ABOUT BACKFILL.
6. PIPE BEDDING TO BE COMPACTED BY VIBRATING OR CONSOLIDATING TO 3 MIN. DENSITY
7. PIPE BEDDING MATERIAL AND METHODS SHALL CONFORM TO AND ACCORDING TO MEET PIPE MANUFACTURER'S INSTALLATION SPECIFICATIONS. THE MORE RESTRICTIVE STANDARD TO BE APPLIED.
8. MIN. COVER OVER PIPE SHALL BE 3' IN THICKNESS.
9. PLASTIC POLYVETHYLENE, CORRUGATED STEEL, LARGE DIAMETER WRAPPED STEEL PIPE, VITRIFIED CLAY OR OTHER TYPES NOT LISTED.

Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Misc Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	PIPE ZONES	REV. 4/2024 M-4

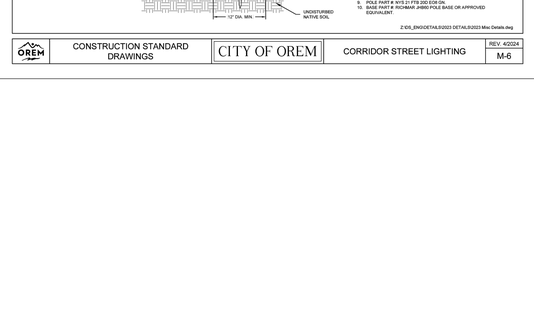


NOTES:

1. USE THE INLINE FUSE HOLDER APPROVED BY CITY.
2. USE SINGLE CONDUCTOR COPPER CABLE NO. 10 AWG TYPE THWN, THW, OR THWN, FOR ALL CONDUCTORS.
3. FURNISH POWER SOURCE AND INSTALL AS SHOWN.
4. USE NO. 10 AWG SOLID BARE COPPER GROUND WIRE FROM GROUND ROD TO GROUND SPLICE.
5. WHEN LIGHTS ARE CONNECTED IN SERIES INSTALL JUNCTION BOX NEXT TO EACH LIGHT POLE BASE.
6. FIXTURE PART # MPLS PASS 40K MVOLT TG3 GSM ON PRT PLL L30.
7. POLE PART #: SMA 16 FSJ 135 CGS GN.
8. BASE PART #: RICHMAR JHB48 SALEM POLE BASE OR APPROVED EQUIVALENT.

Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Misc Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	RESIDENTIAL/TRAIL STREET LIGHTING	REV. 4/2024 M-5

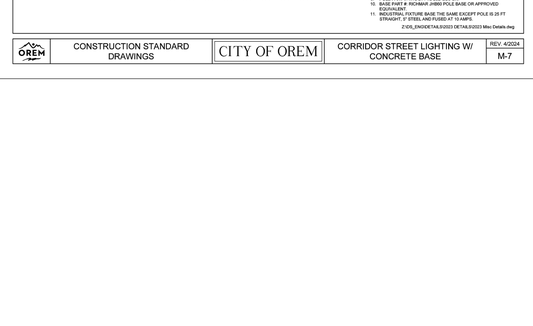


NOTES:

1. USE THE INLINE FUSE HOLDER APPROVED BY CITY.
2. USE SINGLE CONDUCTOR COPPER CABLE NO. 10 AWG TYPE THWN, THW, OR THWN, FOR ALL CONDUCTORS.
3. FURNISH POWER SOURCE AND INSTALL AS SHOWN.
4. USE NO. 10 AWG SOLID BARE COPPER GROUND WIRE FROM GROUND ROD TO GROUND SPLICE.
5. WHEN LIGHTS ARE CONNECTED IN SERIES INSTALL JUNCTION BOX NEXT TO EACH LIGHT POLE BASE.
6. FIXTURE PART # MPLS PASS 40K MVOLT TG3 GSM ON PRT PLL L30.
7. ARM ADAPTER PART #: BHDF GSM ON
8. ROADWAY ARM PART #: OLC 40IN 14 TN ON.
9. POLE PART #: NTS 21 FTB 200 EGK GN.
10. BASE PART #: RICHMAR JHB60 POLE BASE OR APPROVED EQUIVALENT

Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Misc Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	CORRIDOR STREET LIGHTING	REV. 4/2024 M-6

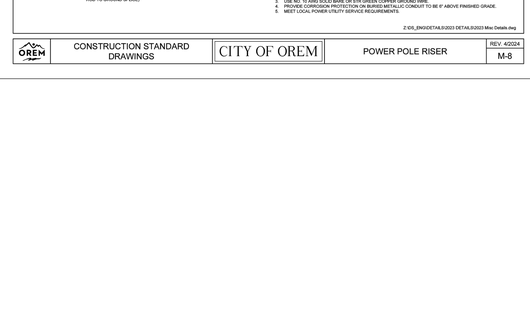


NOTES:

1. USE THE INLINE FUSE HOLDER APPROVED BY CITY.
2. USE SINGLE CONDUCTOR COPPER CABLE NO. 10 AWG TYPE THWN, THW, OR THWN, FOR ALL CONDUCTORS.
3. FURNISH POWER SOURCE AND INSTALL AS SHOWN.
4. USE NO. 10 AWG SOLID BARE COPPER GROUND WIRE FROM GROUND ROD TO GROUND SPLICE.
5. WHEN LIGHTS ARE CONNECTED IN SERIES INSTALL JUNCTION BOX NEXT TO EACH LIGHT POLE BASE.
6. FIXTURE PART # MPLS PASS 40K MVOLT TG3 GSM ON PRT PLL L30.
7. ARM ADAPTER PART #: BHDF GSM ON
8. ROADWAY ARM PART #: OLC 40IN 14 TN ON.
9. POLE PART #: NTS 21 FTB 200 EGK GN.
10. BASE PART #: RICHMAR JHB60 POLE BASE OR APPROVED EQUIVALENT
11. INDUSTRIAL FIXTURE BASE THE SAME EXCEPT POLE IS 25 FT STRAIGHT, 5" STEEL AND FUSED AT 10 AMPS.

Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Misc Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	CORRIDOR STREET LIGHTING W/ CONCRETE BASE	REV. 4/2024 M-7



NOTES:

1. USE SINGLE CONDUCTOR COPPER CABLE NO. 10 AWG TYPE THWN, THW, OR THWN, FOR ALL CONDUCTOR.
2. USE NO. 10 AWG SOLID BARE COPPER GROUND WIRE.
3. PROVIDE CORROSION PROTECTION ON BURIED METALLIC CONDUIT TO BE 6" ABOVE FINISHED GRADE.
4. MEET LOCAL POWER UTILITY SERVICE REQUIREMENTS.

Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Misc Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	POWER POLE RISER	REV. 4/2024 M-8

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
FAMILY CITY USA
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
07/15/2026

Dudley and Associates, Inc.
Engineers Planners Land Surveyors
353 East 1200 South
Orem, Utah 84058
801-224-1252

Detail Sheet

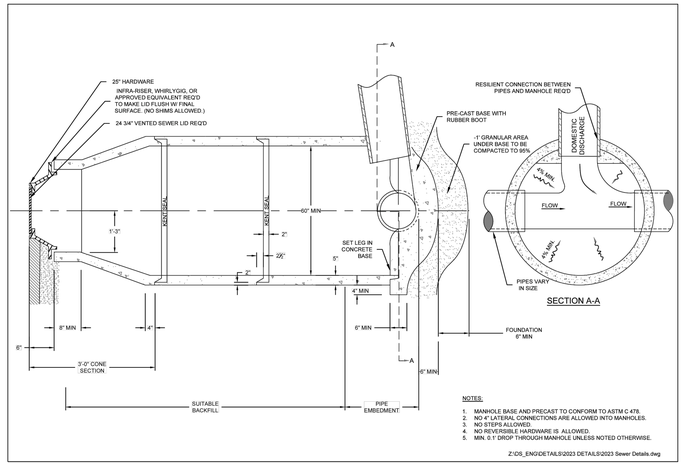
Utah

Orem City

REVISIONS

DATE	
SCALE	not to scale
BY	
TRACING NO.	L -

SHEET No.

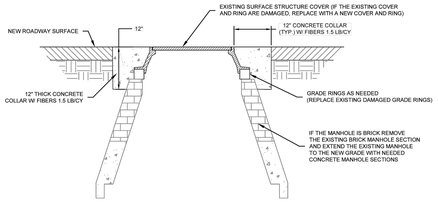


NOTES:

1. MANHOLE BASE AND PRECAST TO CONFORM TO ASTM C 478.
2. NO 4" LATERAL CONNECTIONS ARE ALLOWED INTO MANHOLES.
3. NO STEPS ALLOWED.
4. NO REVERSIBLE HARDWARE IS ALLOWED.
5. MIN. 0.1' DROP THROUGH MANHOLE UNLESS NOTED OTHERWISE.

Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Sewer Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	PRECAST SEWER MANHOLE	REV. 4/2024 SS-1

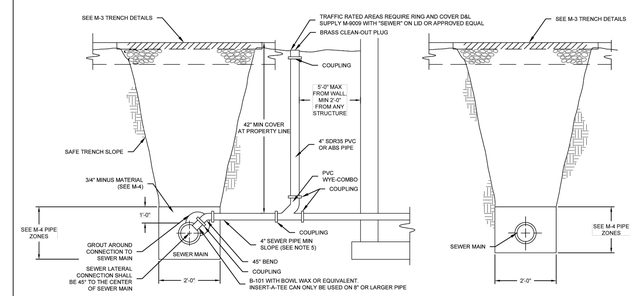


NOTES:

1. CONCRETE COLLARS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 33 05 14 THE SPECIFICATIONS.
2. SURFACE/COVERS/LIDS STRUCTURES SHALL BE BURIED NO MORE THAN 10 CONTINUOUS CALENDAR DAYS.
3. KEEP LID 1/4" LOW WHEN LEVELING HARDWARE DURING COLLAR INSTALLATION.
4. 2 CONCRETE RISERS ARE ALLOWED (MAX. 12" OF CONCRETE) AND MAX. 3" OF METAL GRADE RINGS ALLOWED.
5. REVERSIBLE HARDWARE IS NOT ALLOWED.

Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Sewer Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	RECONSTRUCT BRICK MANHOLE	REV. 4/2024 SS-2

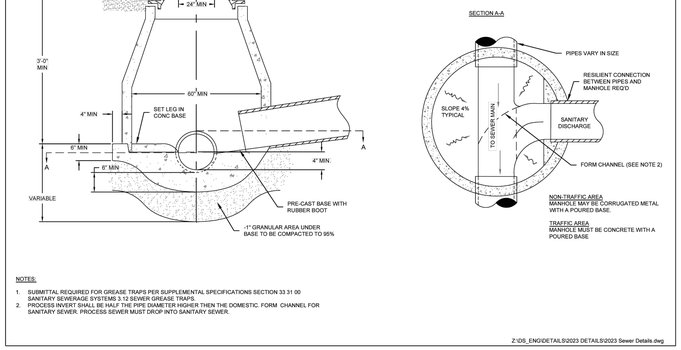


NOTES:

1. CLEANOUT REQ'D EVERY 75.
2. INSTALL ADDITIONAL CLEANOUT REQ'D 5'-0" MAX. FROM WALL OF BUILDING STRUCTURE.
3. CLEANOUT REQ'D 2' MIN. TO 4' MAX. FROM PROPERTY LINE.
4. IF FERNCO'S ARE USED THEY ARE REQUIRED TO BE SHEAR BANDS OR APPROVED EQUAL.
5. ALL SEWER LATERALS ARE REQUIRED TO HAVE A MINIMUM OF 2.0% SLOPE. A 1.0% MINIMUM SLOPE MAY BE ALLOWED FOR THE FOLLOWING TYPES OF PIPE:
   - SDR-35 PVC PIPE FOR 6" DIAMETER AND LARGER.
   - ABS OR SCHEDULE 40 PVC PIPE FOR 4" DIAMETER.
6. IF THE DIAMETER OF THE SEWER LATERAL PIPE IS GREATER THAN HALF THE SIZE OF THE SEWER MAIN LINE PIPE A MANHOLE SHALL BE PLACED AT THE MAIN LINE CONNECTION.

Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Sewer Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	SEWER LATERAL CONNECTION	REV. 4/2024 SS-3

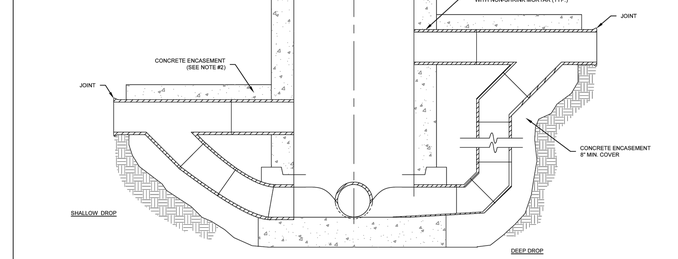


NOTES:

1. SUBMITTAL REQUIRED FOR GREASE TRAPS PER SUPPLEMENTAL SPECIFICATIONS SECTION 33 31 00 SANITARY SEWERAGE SYSTEMS 3.12 SEWER GREASE TRAPS.
2. PROCESS INVERT SHALL BE HALF THE PIPE DIAMETER HIGHER THEN THE DOMESTIC FORM CHANNEL FOR SANITARY SEWER. PROCESS SEWER MUST DROP INTO SANITARY SEWER.

Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Sewer Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	GREASE TRAP SAMPLING MANHOLE	REV. 4/2024 SS-5



NOTES:

1. CONCRETE PLACED AGAINST UNDISTURBED MATERIAL OR SHEETING.
2. EXTEND CASEMENT TO FIRST JOINT BEYOND EXCAVATION FOR DROP CONNECTION.
3. DROP PIPE TO BE SAME DIAMETER AS SEWER DISCHARGING INTO MANHOLE FOR SEWERS UP TO AND INCLUDING 12" SIZE.
4. IF THE ELEVATION DIFFERENCE FROM FLOWLINE IN TO FLOWLINE OUT IS 12" TO 24" USE SHALLOW DROP DETAIL. IF IT IS GREATER THAN 24" USE DEEP DROP DETAIL.
5. SEE MANHOLE DETAIL SS-1 FOR MORE DETAILS ON MANHOLE CONSTRUCTION.

Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Sewer Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	DROP MANHOLE SECTION	REV. 4/2024 SS-4

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
FAMILY CITY USA
IMPROVEMENTS INSTALLED
WITHOUT CITY INSPECTION
WILL BE REJECTED
07/15/2026

Dudley and Associates, Inc.
Engineers Planners Land Surveyors
353 East 1200 South
Orem, Utah 84058
801-224-1252

Detail Sheet

Orem City Utah

REVISIONS

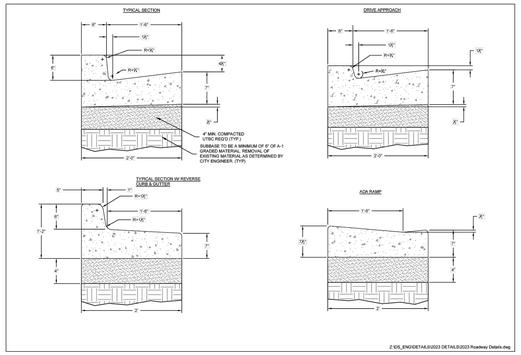
DATE
5-7-2026

SCALE
not to scale

BY

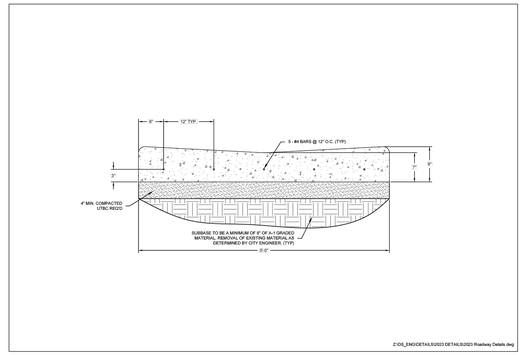
TRACING NO.
L -

SHEET No.



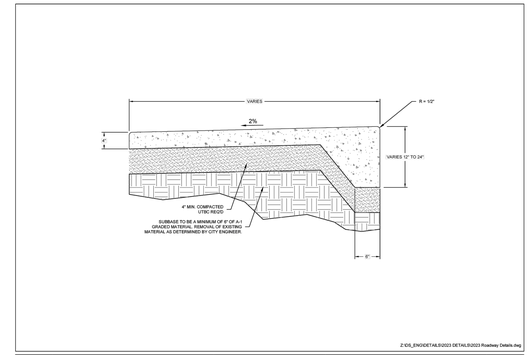
Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Roadway Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	2' CURB & GUTTER	REV. 4/2024 RW-1



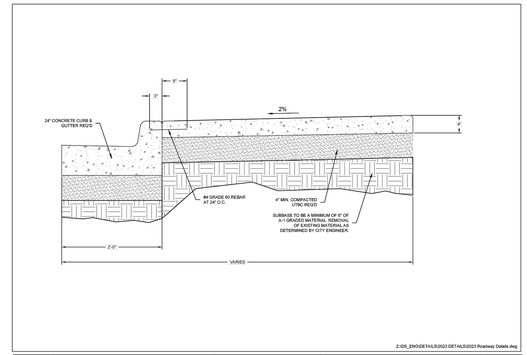
Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Roadway Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	5' CONCRETE CROSS GUTTER	REV. 4/2024 RW-2



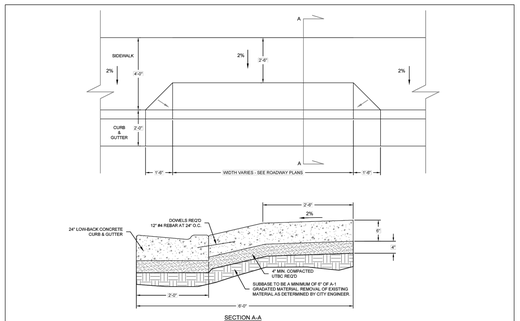
Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Roadway Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	THICKENED EDGE SIDEWALK	REV. 4/2024 RW-3



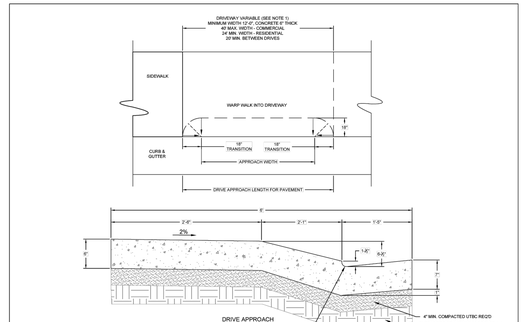
Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Roadway Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	CONCRETE CURB, GUTTER & SIDEWALK	REV. 4/2024 RW-4



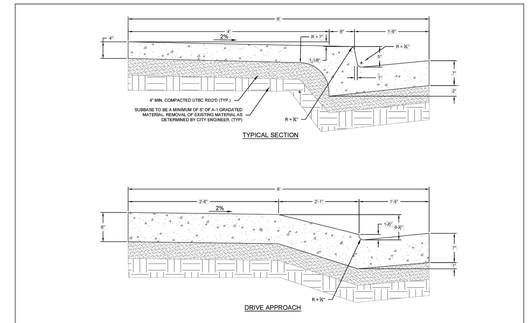
Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Roadway Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	6' CURB, GUTTER & SIDEWALK DRIVE APPROACH	REV. 4/2024 RW-5



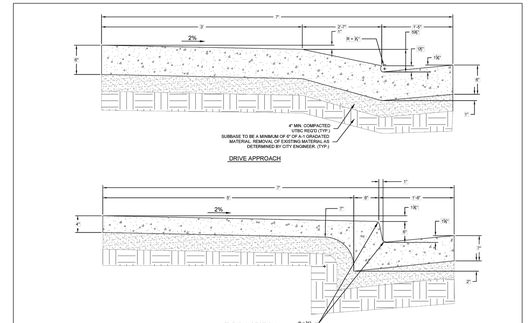
Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Roadway Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	COMBINATION DRIVE APPROACH	REV. 4/2024 RW-6



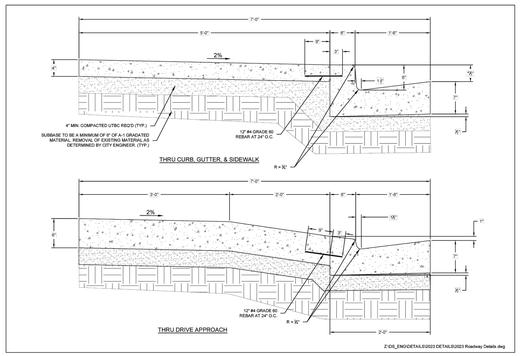
Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Roadway Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	6' MONOLITHIC CURB, GUTTER, AND SIDEWALK CROSS SECTIONS	REV. 4/2024 RW-7



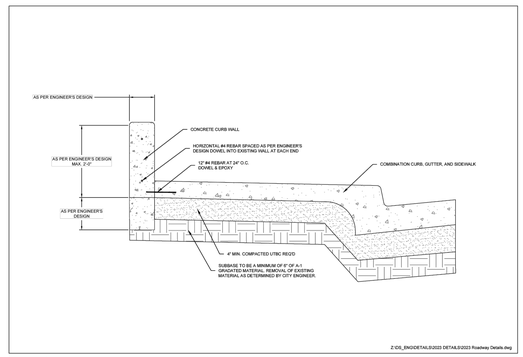
Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Roadway Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	7" MONOLITHIC CURB, GUTTER, AND SIDEWALK CROSS SECTIONS	REV. 4/2024 RW-8



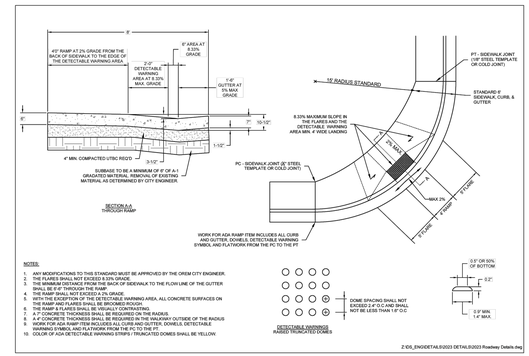
Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Roadway Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	7" CURB, GUTTER, AND SIDEWALK CROSS SECTIONS	REV. 4/2024 RW-9



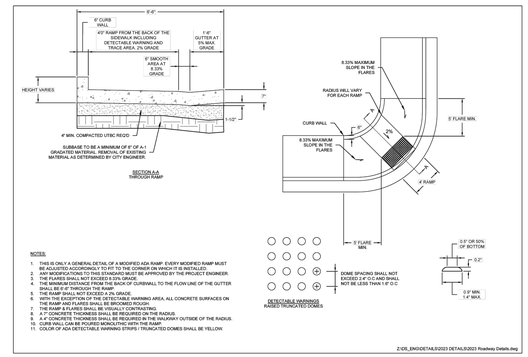
Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Roadway Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	CURB WALL	REV. 4/2024 RW-10



Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Roadway Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	ADA RAMP	REV. 4/2024 RW-11



Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Roadway Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	MODIFIED ADA RAMP	REV. 4/2024 RW-12

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED
WITHOUT CITY INSPECTION
WILL BE REJECTED
07/15/2026

Dudley and Associates, Inc.
Engineers Planners Land Surveyors
353 East 1200 South
Orem, Utah 84058
801-224-1252

Detail Sheet

Orem City Utah

REVISIONS

DATE	
SCALE	not to scale
BY	
TRACING NO.	L -

SHEET No.



PLANT SCHEDULE

	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QUANTITY
	ACER PLATINOIDES	SUGAR MAPLE	2" CALIPER	BALL & BURLAP	18
	RHUS AROMATICA VAR. TRILOBATA	OAKLEAF SUMAC	15 GALLON	BALL & BURLAP	8
	THUJA STANDISHII X PLICATA	GREEN GIANT ARBORVITEA	8' TO 10'	BALL & BURLAP	17
	HEMEROCALLIS 'STELLA' HEMEROCALLIS 'EL DIABLO'	'STELLA DE ORO' DAYLIL 'EL DIABLO' DAYLILY	3 GALLON 3 GALLON	PLASTIC CONT. PLASTIC CONT.	34 35
	JUNIPERUS HORIZONTALIS	CREEPING JUNIPER	3 GALLON	PLASTIC CONT.	13
	COTONEASTER SUECICUS 'CORAL BEAUTY'	COTONEASTER SHRUB	3 GALLON	PLASTIC CONT.	62
	SPRIREA JAPONICA 'GOLD MOUND'	GOLD MOUND SPIREA	5 GALLON	PLASTIC CONT.	21
	PINUS MUGO 'PUMILIO' OR THUJA OCCIDENTALIS 'HETZ MIDGET'	DWARF MUGO PINE DWARF THUJA	5 GALLON 5 GALLON	PLASTIC CONT. PLASTIC CONT.	40 40
	CORNUS SERICEA	RED TWIG DOGWOOD	3 GALLON	PLASTIC CONT.	33
	SALVIA NEMOROSA 'MAY NIGHT'	BLUE SAGE	3 GALLON	PLASTIC CONT.	101
	SALIX REPENS VAR. ARGENTEA	CREEPING SILVER WILLOW	5 GALLON	PLASTIC CONT.	33
	PRUNUS X CISTENA	CISTENA PLUM	5 GALLON	PLASTIC CONT.	52

1	LANDSCAPING IN THIS PARKSTRIP TO BE COORDINATED & INSTALLED WHEN UDOT FINISHES IMPROVEMENTS ALONG FUTURE LAKEVIEW PARKWAY & FUTURE GENEVA ROAD
	DECORATIVE ROCK 4 INCH MINUS 4" TO 6" DEPTH

- EXISTING FIRE HYDRANT ASSEMBLY
- FIRE HYDRANT ASSEMBLY
- WATER METER
- LANDSCAPING WATER METER TO BE INSTALLED W/ RPZ BACKFLOW PREVENTER

NOTE:

MAINTAIN 3' HORIZONTAL AND 10' VERTICAL SEPARATION FROM THE EDGE OF ALL WATER METERS AND FIRE HYDRANTS FROM ALL TREES, SHRUBS AND DEEP ROOTED VEGETATION.

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED
WITHOUT CITY INSPECTION
WILL BE REJECTED
07/15/2026

Note:

No driveway or drive access may be located within twenty-five feet of an existing fence which is greater than three (3) feet in height.

All Area lights (pole lights and wall packs) final location, type, etc. are to be determined by the owner and electrical designer. Shown only for illustration purposes.

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

T:\Land Projects 3\Detail Sheet\Bluestake LOGO.tif

CAUTION!! Notice to contractors

The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and where possible from measurements taken in the field. the information is not to be considered exact or complete. The Contractor must notify the utility location center at least 48 hours prior to any excavation to request the exact location of the utilities in the field. It shall be the responsibility of the Contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plan.

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

The Shops at Johnson Farm
Orem Utah

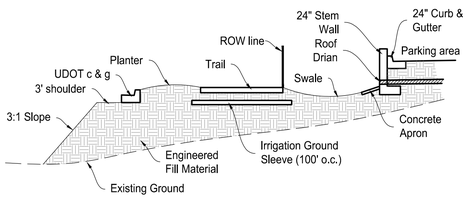
LANDSCAPE PLANTING PLAN

Revisions

Date	7/15/2026
Scale	1" = 40'
By	TD
Tracing No.	L - 14939

Sheet No.
L - 1.0

NORTH
1" = 40'



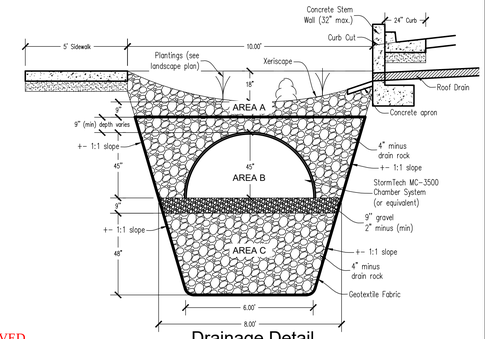
The Developer shall install the trail, including underground sleeves for future landscaping improvements. Landscaping located between the trail and the street-side curb and gutter shall be deferred for future installation by others.

The street-side curb and gutter shall also be deferred for future installation by others. However, the Developer shall install the necessary fill material at the time the trail is constructed.

The curb and gutter grades and location is being coordinated with UDOT and JUB Engineers.



Roof Drain Detail

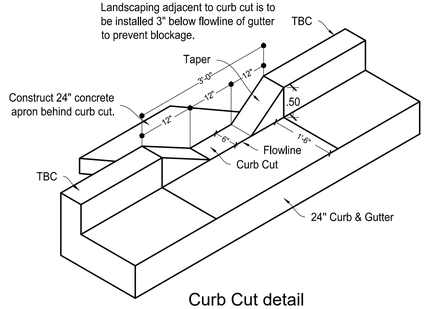


Drainage Detail

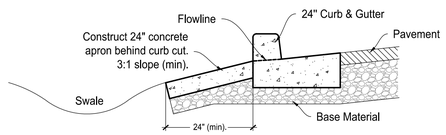
Storage Calculations
Area A = (Does not contribute to storage calculations)
Area B (Chamber System) = 27.9 CF/LF
Area C (Trickle Trench) = 11.20 CF/LF
Area around chamber = 5.07 CF/LF
TOTAL STORAGE = 44.7 CF/LF

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM FAMILY CITY USA
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
07/15/2026

Note:
Landscaping adjacent to curb cut is to be installed 3" below flowline of gutter to prevent blockage.



Curb Cut detail
(Not to scale)



NOTES:

Along future Geneva Road corridors Developer will be required to coordinate with UDOT design and survey team to stake the shared-use path before construction and provide as-built verification that the path was constructed correctly to both UDOT and Orem City.

Until the future storm drainage system is in place within the future Geneva Road alignment, UDOT cannot accept any storm drainage runoff from the site. Therefore, UDOT request that whatever storm drainage solution is implemented does not provide any drainage into the property acquired for the future Geneva Road alignment.

Source information from plans and markings has been combined with observed evidence of existing utilities to develop a view of those underground utilities. However lacking excavation, Blue Staking, etc. the exact location of underground features cannot be accurately, completely and reliably depicted. Where additional or more detailed information is required, the client is advised that excavation may be necessary.

Prior to construction, the plumbing plans must be coordinated with the the engineer the final design locations for, Roof Drain locations, sewer lateral locations and sizing, water meter and water service lateral locations, power and gas locations. Any discrepancies with the approved plans are to be reported to the design engineer.

All roof drainage and dumpster areas are to be routed through on-site landscaping where possible, for pre-treatment prior to infiltration into underground soils or connection to any city storm drain system.

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

Know what's below. 811
Call 811 before you dig.
BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC.
www.bluestakes.org
1-800-662-4111

CAUTION!!! Notice to contractors

The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and where possible from measurements taken in the field. the information is not to be considered exact or complete. The Contractor must notify the utility location center at least 48 hours prior to any excavation to request the exact location of the utilities in the field. It shall be the responsibility of the Contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plan.

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

The Shops at Johnson Farm
Orem Utah

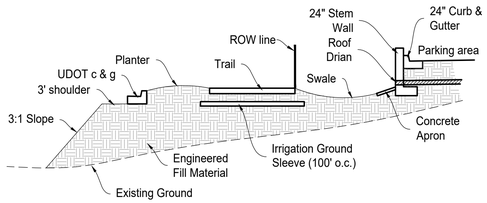
Grading Drainage Plan

Revisions

Date	6-2-2026
Scale	1" = 40'
By	TD
Tracing No.	L - 14939

Sheet No.
C - 4.0

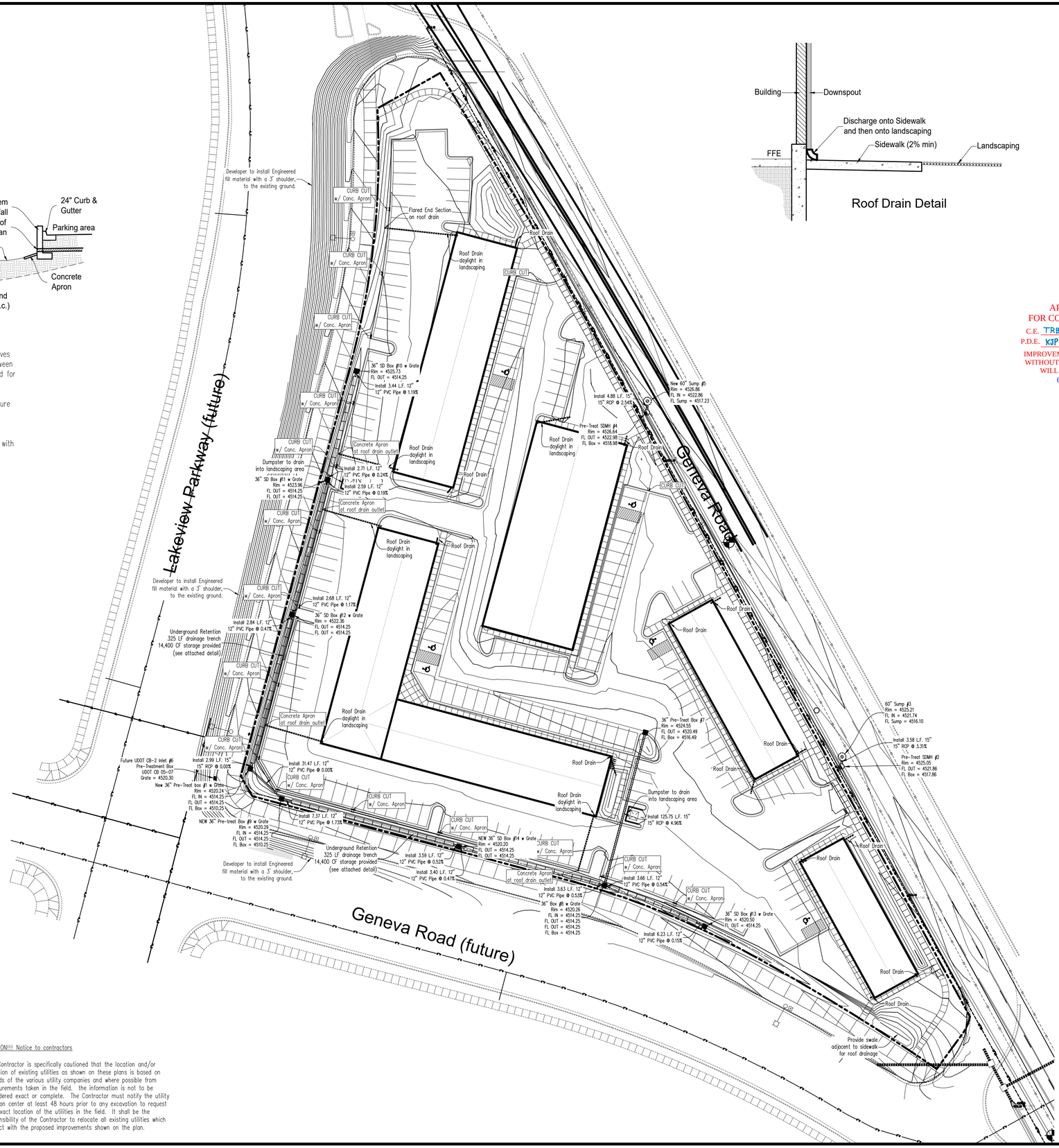
NORTH
1" = 40'



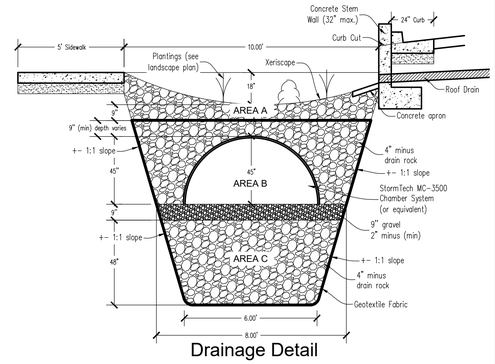
The Developer shall install the trail, including underground sleeves for future landscaping improvements. Landscaping located between the trail and the street-side curb and gutter shall be deferred for future installation by others.

The street-side curb and gutter shall also be deferred for future installation by others. However, the Developer shall install the necessary fill material at the time the trail is constructed.

The curb and gutter grades and location is being coordinated with UDOT and JUB Engineers.



Roof Drain Detail

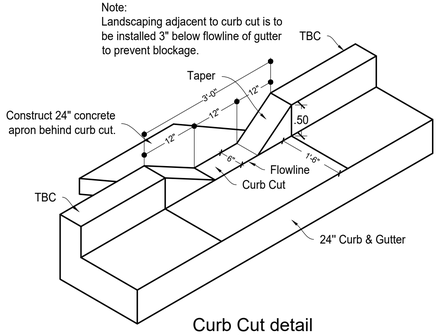


Drainage Detail

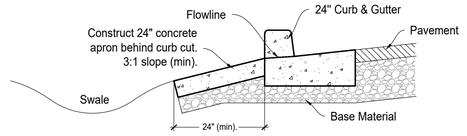
Storage Calculations
Area A = (Does not contribute to storage calculations)
Area B (Chamber System) = 27.9 CF/LF
Area C (Trickle Trench) = 11.20 CF/LF
Area around chamber = 5.07 CF/LF
TOTAL STORAGE = 44.7 CF/LF

APPROVED FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
07/15/2026

Note:
Landscaping adjacent to curb cut is to be installed 3" below flowline of gutter to prevent blockage.



Curb Cut detail
(Not to scale)



NOTES:

Along future Geneva Road corridors Developer will be required to coordinate with UDOT design and survey team to stake the shared-use path before construction and provide as-built verification that the path was constructed correctly to both UDOT and Orem City.

Until the future storm drainage system is in place within the future Geneva Road alignment, UDOT cannot accept any storm drainage runoff from the site. Therefore, UDOT request that whatever storm drainage solution is implemented does not provide any drainage into the property acquired for the future Geneva Road alignment.

Source information from plans and markings has been combined with observed evidence of existing utilities to develop a view of those underground utilities. However lacking excavation, Blue Staking, etc. the exact location of underground features cannot be accurately, completely and reliably depicted. Where additional or more detailed information is required, the client is advised that excavation may be necessary.

Prior to construction, the plumbing plans must be coordinated with the the engineer the final design locations for, Roof Drain locations, sewer lateral locations and sizing, water meter and water service lateral locations, power and gas locations. Any discrepancies with the approved plans are to be reported to the design engineer.

All roof drainage and dumpster areas are to be routed through on-site landscaping where possible, for pre-treatment prior to infiltration into underground soils or connection to any city storm drain system.

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

Know what's below. Call 811 before you dig.
BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC.
www.bluestakes.org
1-800-662-4111

CAUTION!!! Notice to contractors

The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and where possible from measurements taken in the field. the information is not to be considered exact or complete. The Contractor must notify the utility location center at least 48 hours prior to any excavation to request the exact location of the utilities in the field. It shall be the responsibility of the Contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plan.

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

The Shops at Johnson Farm
Orem Utah

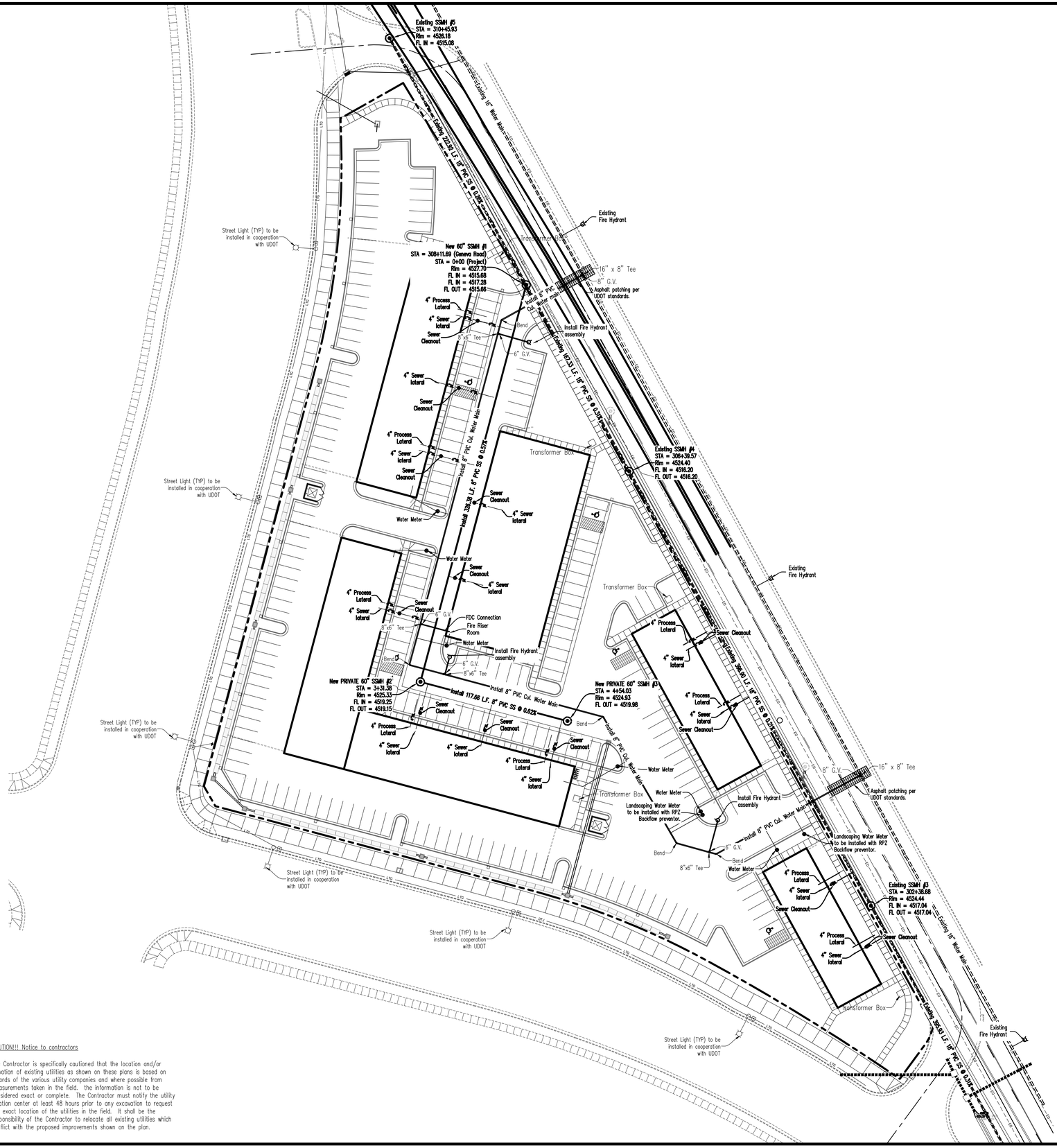
Drainage Plan

Revisions

Date
6-2-2026
Scale
1" = 40'
By
TD
Tracing No.
L - 14939

Sheet No.
C - 4.1

NORTH
1" = 40'



Note:

Source information from plans and markings has been combined with observed evidence of existing utilities to develop a view of those underground utilities. However lacking excavation, Blue Staking, etc. the exact location of underground features cannot be accurately, completely and reliably depicted. Where additional or more detailed information is required, the client is advised that excavation may be necessary.

Prior to construction, the contractor is to coordinate the utility locations, size, and condition for connection. Any discrepancies are to be reported to the design engineer.

At least 3 feet of horizontal separation and 1 foot of vertical separation is required from city utilities.

All water meter sizes are to be 1" unless otherwise specified on the plan.

All metallic water fittings require wax tape.

All internal sewer facilities are to be "PRIVATE"

Transformer locations are preliminary only. Coordinate further with Electrician and Power Company. Locations subject to change.

All existing water wells must be deleted and capped by a State of Utah licensed well driller.

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
FAMILY CITY USA
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
07/15/2026

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

Know what's below. 811
Call 811 before you dig.
BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC.
www.bluestakes.org
1-800-662-4111

CAUTION!! Notice to contractors

The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and where possible from measurements taken in the field. the information is not to be considered exact or complete. The Contractor must notify the utility location center at least 48 hours prior to any excavation to request the exact location of the utilities in the field. It shall be the responsibility of the Contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plan.

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

The Shops at Johnson Farm

Utility Plan

Orem Utah

Revisions

Date
5-27-2026
Scale
1" = 40'
By
TD
Tracing No.
L - 14939

Sheet No.
C - 3.0

NORTH
1" = 40'

Existing asphalt is to be cut to make a smooth transition with the new improvements. Further details will be provided on the construction documents.

Telephone Pedistal

Existing Irrigation ditches are to be removed and relocated in pipes. Details will be provided and approvals from the irrigation company acquired.

Geneva Road (current)

Lakeview Parkway (Future)

Existing asphalt is to be cut to make a smooth transition with the new improvements. Further details will be provided on the construction documents.

Any and All existing utilities within the site boundaries are to be abandoned and removed.

Remove all existing structures on-site

Property is to be stripped and the top soil is to be utilized for landscaping purposes.

Cable Box

Existing irrigation ditch to be abandoned and removed.

Telephone Manhole

Existing asphalt is to be cut to make a smooth transition with the new improvements. Further details will be provided on the construction documents.

Geneva Road (Future)

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
FAMILY CITY USA
IMPROVEMENTS INSTALLED
WITHOUT CITY INSPECTION
WILL BE REJECTED
07/15/2026

GRAPHIC SCALE
40 0 20 40 80 160
(IN FEET)
1 inch = 40 ft.

Know what's below. 811
Call 811 before you dig.
BLUE STAKES OF UTAH
UTILITY NOTIFICATION CENTER, INC.
www.bluestakes.org
1-800-662-4111

CAUTION!!! Notice to contractors

The Contractor is specifically cautioned that the location and/or elevation of existing utilities as shown on these plans is based on records of the various utility companies and where possible from measurements taken in the field. The information is not to be considered exact or complete. The Contractor must notify the utility location center at least 48 hours prior to any excavation to request the exact location of the utilities in the field. It shall be the responsibility of the Contractor to relocate all existing utilities which conflict with the proposed improvements shown on the plan.

DUDLEY AND ASSOCIATES
ENGINEERS PLANNERS SURVEYORS
353 EAST 1200 SOUTH, OREM, UTAH
801-224-1252

Johnson Farm

Demolition Plan

Orem Utah

Revisions

Date
3-6-2026
Scale
1" = 40'
By
TD
Tracing No.
L - 14939

Sheet No.
C - 1.2

Administrative	PLANNING COMMISSION August 5th, 2026 **Valor Homes** 1301 West 400 South Preliminary Approval, 1 lot subdivision in the M2 Zone.	**Item 4.5** **Prepared By:** Grace Bjarnson **Applicant:** Valor Homes

Notices:

Posted in 2 public places.

Posted on City Webpage and City hotline.

Posted at Utah.gov/pmn.

Site Information:

General Plan Designation: **Manufacturing**

Neighborhood: **Sunset Heights West**

Zoning: **M2**

Total Acreage: **.336 acres**

Action:

The Planning Commission is the Land Use Authority for this item.

REQUEST: The applicant requests preliminary subdivision approval for a 1-lot subdivision in the M2 zone.

BACKGROUND: In the Spring of 2025, Katie Larson from Valor Homes applied for site plan approval for a new office location at 1301 W. 400 South.

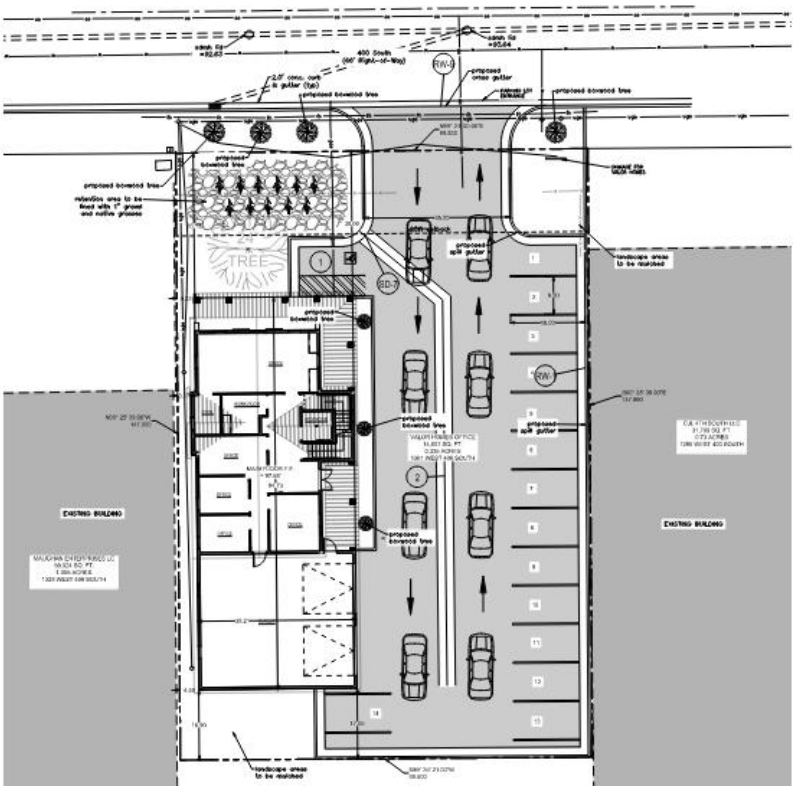


Figure 1:Subject Property, Site Plan

During the review process it was discovered that the location was not a part of any subdivision registered at the county. Traditionally preliminary plat review and approval take place before or at the same time a site plan is reviewed and approved. However, due to road construction and utility upgrade timing in the area, it was best for construction on the site to move forward. The site plan was approved on 05/26/2025 with the condition that a preliminary and final plat would be submitted and recorded at the county.

REVIEW & ANALYSIS: Creation of the 1-lot subdivision also vacates a right-of-way easement to the lot behind.

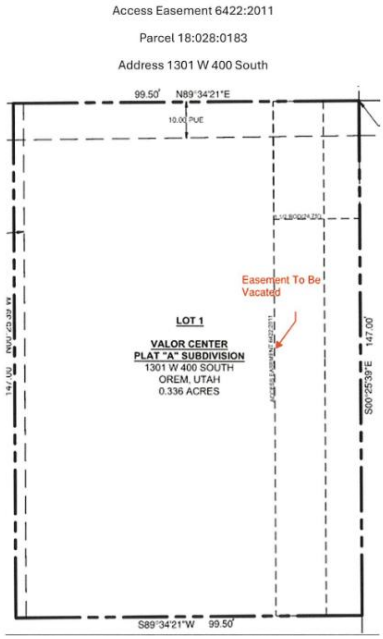


Figure 2: Subject Property, Plat



Figure 3: Subject Property, Location

Zoning – The subject property is zoned M2, Manufacturing. With approximately .336 acres and 100 ft of frontage, it meets the minimum requirements for an M2 lot.

Access & Public Improvements – The subject property is accessed from 400 South. As part of site plan construction, public right-of-way (ROW) improvements have been installed including sidewalks and landscaping.

Easements – The proposed subdivision maintains previously established easements on the west side of the property while vacating the right-of-way easement located on the east of the property, through to the lot behind it. The lot behind has been combined with the lot to the west and has no need for the right-of-way easement through the subject property.

Site Plan – The site plan has already been approved, and complies with requirements for parking, landscaping, access, etc. Construction is near completion, and the tenant has asked for a temporary certificate of occupancy to allow use of the building and site while the subdivision is approved and recorded at the County. Once recorded, the final certificate of occupancy will be granted.

DEVELOPMENT REVIEW COMMITTEE: The Preliminary Subdivision has cleared the technical reviews, and the Development Review Committee (DRC) voted to move it forward to Planning Commission review during their public meeting on Monday, July 20th, 2026.

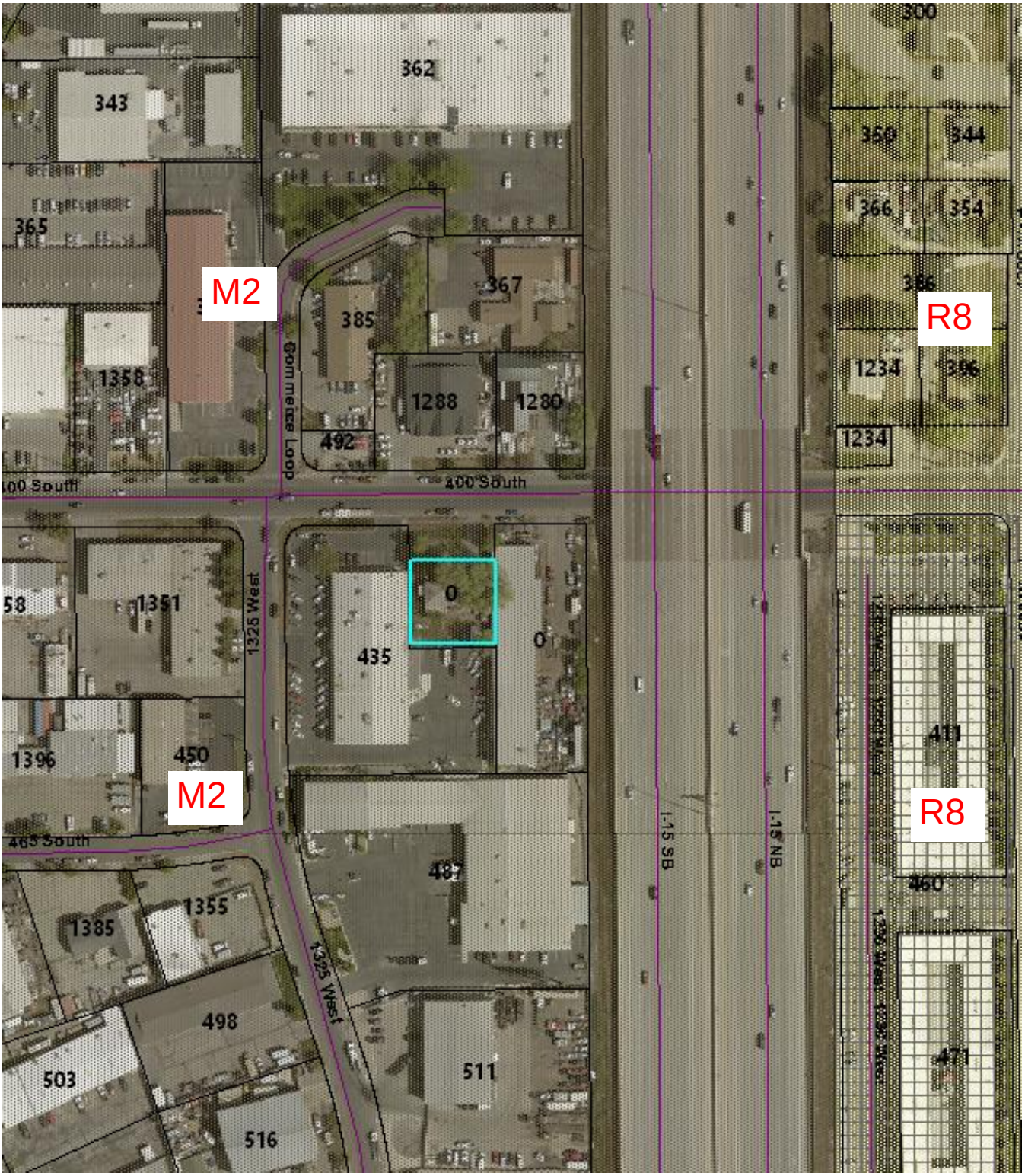
ACTIONS: The Planning Commission is the designated Land Use Authority for preliminary subdivisions. The Commission may approve or deny the request for a preliminary subdivision or may choose to continue their consideration of the request and ask for additional information or analysis. If the preliminary subdivision is approved, a final subdivision application will be reviewed for compliance by city staff and then prepared for recording.

Alternative Motions –

- "I move that the Planning Commission [choose: **APPROVE** or **DENY**] the Preliminary Approval for the Valor Homes Subdivision."

- "I move that the Planning Commission continue this request to [choose appropriate date or condition]."

Valor Homes Plat A – 1301 W 400 South

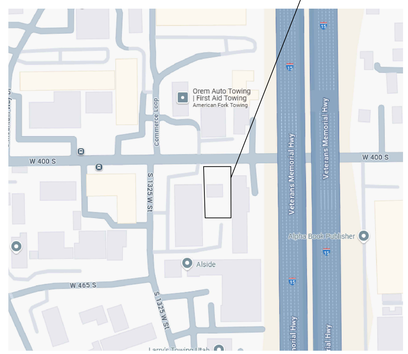


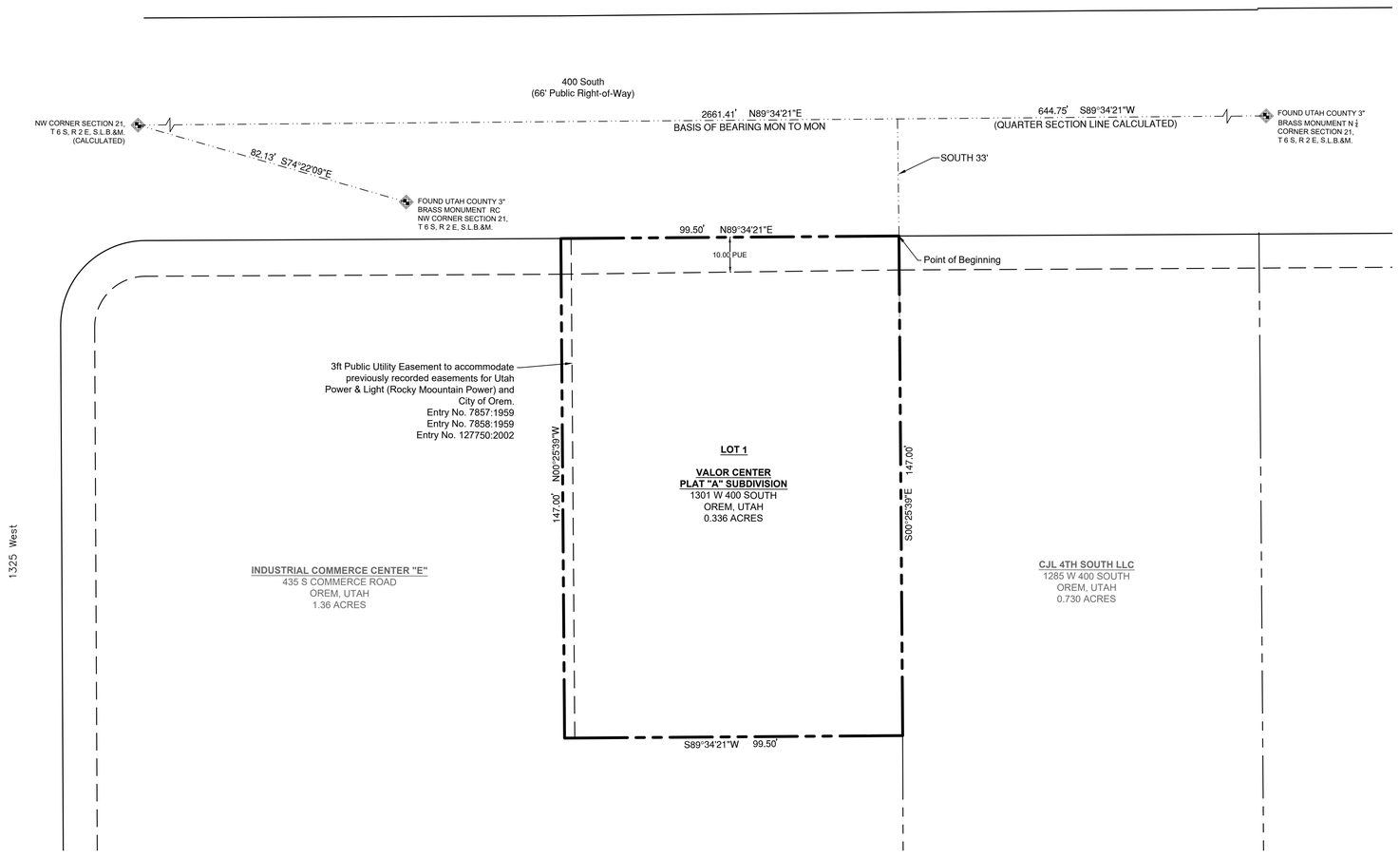
Vicinity & Zoning Map
Zone: M2
Acres: .366

VALOR CENTER PLAT "A" SUBDIVISION

SITUATE IN THE NORTHWEST QUARTER SECTION 21, TOWNSHIP 6 SOUTH, RANGE 2 EAST, SALT LAKE BASE & MERIDIAN.
1301 WEST 400 SOUTH, OREM CITY, UTAH COUNTY, UTAH

VICINITY MAP





SURVEYOR'S CERTIFICATE

I, LEIF E. ANDERSON, PLS, HOLDING LICENSE NUMBER 4854555-2201 WORKING FOR YORK ENGINEERING, DO HEREBY CERTIFY THAT I AM A LICENSED PROFESSIONAL LAND SURVEYOR IN THE STATE OF UTAH AND THAT I HOLD CERTIFICATE NO. 4854555-2201, IN ACCORDANCE WITH TITLE 58, CHAPTER 22, OF THE PROFESSIONAL ENGINEERS AND LAND SURVEYORS ACT; I FURTHER CERTIFY THAT BY THE AUTHORITY OF THE OWNERS I HAVE MADE A SURVEY OF THE PROPERTY DESCRIBED ON THIS SUBDIVISION PLAT IN ACCORDANCE WITH SECTION 17-73-504 AND HAVE VERIFIED ALL MEASUREMENTS; THAT THE REFERENCE MONUMENTS SHOWN ON THIS PLAT ARE LOCATED AS INDICATED AND ARE SUFFICIENT TO RETRACE OR REESTABLISH THIS PLAT; AND THAT THE INFORMATION SHOWN HEREIN IS SUFFICIENT TO ACCURATELY ESTABLISH THE LATERAL BOUNDARIES OF THE HEREIN DESCRIBED TRACT OF REAL PROPERTY; AND THAT THIS PLAT OF

VALOR CENTER PLAT"A" SUBDIVISION

IN UTAH COUNTY, AND 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 OF THE UTAH COUNTY RECORDERS OFFICE; I FURTHER CERTIFY THAT THE REQUIREMENTS OF ALL APPLICABLE STATUTES AND ORDINANCES OF THE CITY OF OREM, CONCERNING ZONING REQUIREMENTS REGARDING LOT MEASUREMENTS HAVE BEEN COMPLIED WITH.

SIGNED THIS ____ DAY OF _____, 20__

LEIF E. ANDERSON, PLS # 4854555-2201

BOUNDARY DESCRIPTION

Beginning at a point which is S 89°34' 20" W 644.75 FT and SOUTH 33 FT from the NORTH Quarter CORNER of Section 21 T6S R2E SLB& M to the Point of Beginning, Thence S 0°25'39" E 147.00 FT; Thence S 89°34'21" W 99.50 FT; Thence N 0°25'39" W 147.00 FT; Thence N 89°34'21" E 99.50 FT to the POINT OF BEGINNING. The basis of Bearing is from the NORTH QUARTER CORNER of Section 21 T6S R2E SLB& M to the NORTHWEST CORNER of Section 21 T6S R2E SLB& M, S 89°34'21"W 2661.41' Measured. Contains 14,627 square feet or 0.336 acres, and 1 lot.

OWNER'S DEDICATION AND CONSENT TO RECORD

Known all men by these present that the undersigned are the owner(s) of the hereon described tract of land and hereby cause the same to be divided into lots, and streets together with easements as set forth hereafter to be known as: VALOR CENTER PLAT "A" SUBDIVISION
The undersigned owner(s) hereby dedicate to Orem City all those tracts of land designated on this plat as streets, the same to be used as public thoroughfares forever. The undersigned owner(s) also hereby convey to any and all public utility companies a perpetual, non-exclusive easement over the public utility easements shown on this plat, the same to be used for drainage and the installation, maintenance and operation of utility service lines and facilities.

In witness whereof I/we have hereunto set my/our hand this ____ day of _____A.D., 20____.

OWNER(S) SIGNATURE(S) _____

OWNER(S) NAME(S) : Eric Harper

CORPORATE ACKNOWLEDGMENT

STATE OF UTAH }S.S.
County of UTAH

On this ____ day of _____, 2026, personally appeared before me

_____ , whose identity is personally known to me (or proven on
[Signer Name]
the basis of satisfactory evidence) and who by me is duly sworn/affirmed, and did say that he is the

_____ of _____ and that this document was signed by him on behalf
[Title of Signer] [LLC Name]

of _____ in accordance with _____'s governing documents
[LLC Name] [LLC Name]

and said _____ acknowledged to me that said LLC executed the same."
[Signer Name]

Witness my hand and official seal.

_____
NOTARY PUBLIC

ACCEPTANCE BY THE CITY OF OREM

The City of Orem, County of Utah, Approved this subdivision and hereby accepts the dedication of all streets, easements, and other parcels of land intended for public purposes for the perpetual use of the public this _____ day of _____ 2026.

Approved:_____ Attest:_____
City Engineer City Recorder

Approved:_____
Community Development Director

VALOR CENTER PLAT "A" SUBDIVISION

SITUATE IN THE NORTHWEST QUARTER SECTION 21, TOWNSHIP 6 SOUTH, RANGE 2 EAST, SALT LAKE BASE & MERIDIAN.
1301 WEST 400 SOUTH, OREM CITY, UTAH COUNTY, UTAH

DESIGNED BY:	KTC
DRAWN BY:	JFA
CHECKED BY:	LEA
SCALE:	1" = 20'
DATE:	06/19/2026
PROJECT NUMBER:	26-PR-012
SHEET	1 OF 1

York Engineering
Structural Design and Analysis
4883 Old Highway Rd Suite A
Morgan, Utah 84050
(801) 876-3501

SURVEYOR'S SEAL — PROFESSIONAL LAND SURVEYOR, LEIF E. ANDERSON, 4854555-2201, 07/15/2025, State of Utah

NOTORY'S SEAL

CITY-COUNTY ENGINEER SEAL

CLERK-RECORDER SEAL

APPROVED AS TO FORM

ON THIS____ DAY OF_____ A.D. 20____

_____
City Attorney

UTAH COUNTY RECORDER

ENTRY # _____ FEE PAID _____

FILED FOR RECORD AND RECORDED THIS_____
DAY OF _____ A.D. 20_____AT _____

IN BOOK_____ OF _____

_____
COUNTY RECORDER

BY: _____ DEPUTY

VALOR HOMES OFFICE BUILDING

SITUATE IN THE NORTH WEST QUARTER OF SECTION 21 TOWNSHIP 6 SOUTH, RANGE 2 EAST, SALT LAKE BASE & MERIDIAN
1301 WEST 400 SOUTH, OREM, UTAH COUNTY, UTAH

LEGEND

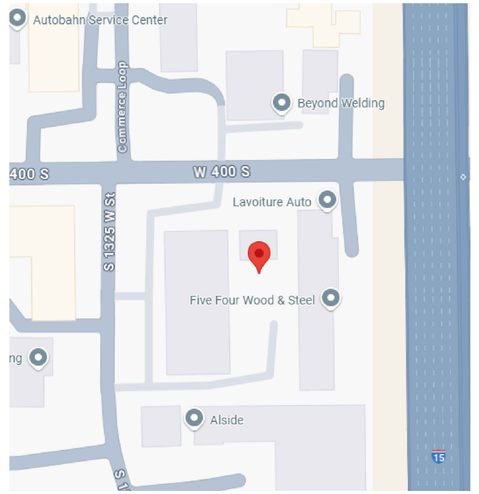
Survey Limits	Rod Found
Adjacent Lot Line	Telephone Pedestal
Property Line	Telephone Manhole
Subdivision Boundary	Telephone Box
Right of Way	Fire Hydrant
Centerline Road	Water Valve
Easement Line	Water Meter
Proposed Contour	Electric Pedestal
Existing Contour	Monument
Sanitary Sewer and Manhole	Fiber Optic Marker
Storm Line and Manhole	Electric Transformer
Waterline	Light Pole
Underground Electric Line	Irrigation Control Valve
Underground Fiber Optic Line	Rivet in Curb Found
Underground Gas Line	Utility Pole
Asphalt	Sign
Fence Wire	
Vinyl Fence	

VALOR HOMES OFFICE BUILDING (1 LOT)			
	SQUARE FOOTAGE	ACREAGE	% TOTAL AREA
TOTAL AREA	14,607	0.335	100
TOTAL BUILDING AREA	3,640	0.084	24.9
TOTAL IMPERVIOUS AREA	11,856	0.272	81.2
TOTAL LANDSCAPE AREA	2,751	0.063	18.8
AREA TO ROW	1,185	0.027	
TOTAL PARKING SPACES	15		

SETBACKS	
EAST	N/A
WEST	N/A
NORTH	20'
SOUTH	N/A

VALOR HOMES OFFICE BUILDING	
SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	DEMOLITION PLAN
3	SITE PLAN
4	UTILITY PLAN
5	EXISTING HYDROLOGY PLAN
6	GRADING AND DRAINAGE PLAN
7	ROOF DRAIN PLAN
8	STORM DRAIN DETAILS
9	LANDSCAPE PLAN

VICINITY MAP
Scale 1" = 100'



N
W E
S

LICENSED PROFESSIONAL ENGINEER
5/1/2025
KELBY MAX YORK
No. 7829413
STATE OF UTAH

Structural Design and Analysis
1426 East 750 North #200
Orem, Utah 84097
(801) 876-3501
York Engineering

INFORMATION

APPLICANT/PROPERTY OWNER:
ERIC HARPER
998 N 1200 W, Orem, UT 84057
801-836-4451

DESIGNER/DEVELOPER:
VALOR HOMES
998 N 1200 W, Orem, UT 84057
801-376-8855
eharper@valorhomes.com

STRUCTURAL ENGINEERING, CIVIL ENGINEERING, AND SURVEYING:
YORK ENGINEERING
TANNER CLEMENTS STRUCTURAL ENGINEER
KELBY YORK CIVIL ENGINEER
SHAUN COREY SURVEYOR
14203 Minuteman Drive #200, Draper, UT 84020
801-876-3501

NOTES:

1.) CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND INVERT ELEVATIONS OF EXISTING MANHOLES AND OTHER UTILITIES BEFORE STAKING OR CONSTRUCTING ANY NEW UTILITY LINES.
2.) CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND INVERT ELEVATIONS OF EXISTING MANHOLES AND OTHER UTILITIES BEFORE STAKING OR CONSTRUCTING ANY NEW SEWER LINES.
3.) CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND INVERT ELEVATIONS OF EXISTING MANHOLES AND OTHER UTILITIES BEFORE STAKING OR CONSTRUCTING ANY NEW STORM DRAIN LINES.
4.) MAINTAIN A MINIMUM OF FIVE FEET OF COVER OVER ALL WATER LINES.
5.) EXISTING UTILITIES HAVE BEEN NOTED TO THE BEST OF ENGINEER'S KNOWLEDGE, HOWEVER IT IS THE OWNER'S AND CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITIES IN FIELD AND NOTIFY CITY ENGINEER AND CITY IF DISCREPANCIES EXIST PRIOR TO CONTINUING ANY CONSTRUCTION.
6.) POST-ACCEPTANCE ALTERATIONS TO LIGHTING PLANS OR INTENDED SUBSTITUTIONS FOR ACCEPTED LIGHTING EQUIPMENT SHALL BE SUBMITTED TO THE CITY FOR REVIEW AND ACCEPTANCE.
7.) THE CITY RESERVES THE RIGHT TO CONDUCT POST-INSTALLATION INSPECTIONS TO VERIFY COMPLIANCE WITH THE CITY'S REQUIREMENTS AND ACCEPTED LIGHTING PLAN COMMITMENTS, AND IF DEEMED APPROPRIATE BY THE CITY, TO REQUIRE REMEDIAL ACTION AT NO EXPENSE TO THE CITY.
8.) ALL EXTERIOR LIGHTING SHALL MEET IESNA FULL-CUTOFF CRITERIA.
9.) CONTRACTOR RESPONSIBLE FOR OBTAINING OREM CITY CONSTRUCTION MANUAL AND FOLLOWING ALL OF OREM CITY'S SPECIFICATIONS.
10.) CONTRACTOR RESPONSIBLE FOR FOLLOWING ALL SOILS RECOMMENDATIONS.
11.) CONTRACTOR RESPONSIBLE TO VERIFY CIVIL SITE PLAN AND BUILDING DIMENSIONS MATCHES THE ARCHITECTURAL PLAN.
12.) ALL CONSTRUCTION SHALL COMPLY WITH THE STANDARD TECHNICAL SPECIFICATIONS AND DRAWINGS FOR THE CITY OF OREM, UTAH.
13.)THE CITY OF OREM IS NOT RESPONSIBLE FOR THE MAINTENANCE OF PARK-STRIPS, ENTRANCES, PLANTERS, INCLUDING IRRIGATION SYSTEMS. ADJACENT PROPERTY OWNER TO MAINTAIN.
14.) ALL SANITARY SEWER SHALL BE CONSTRUCTED AS PER THE WATER SERVICE DISTRICT.
15.) THE FIRE PROTECTION ITEMS (FIRE HYDRANTS, WATER MAINS, ACCESS ROADS, ETC.) SHOWN ON THIS SITE PLAN ARE PRELIMINARY ONLY. DETAILED FIRE PROTECTION PLANS SHALL BE SUBMITTED WITH THE BUILDING PLANS. PLAN REVIEWS BY THE CITY OF OREM FIRE PREVENTION BUREAU SHALL BE COMPLETED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT. THE PLAN REVIEWS BY THE CITY OF OREM FIRE PREVENTION BUREAU MAY IDENTIFY ADDITIONAL FIRE PROTECTION REQUIREMENTS MANDATED BY THE INTERNATIONAL FIRE CODE. FIRE HYDRANT FOOT VALVES SHALL BE INSTALLED AT THE CONNECTION POINT WITH THE MAIN WATER LINES.
16.)ALL LANDSCAPED AREAS SHALL HAVE AN AUTOMATIC, UNDERGROUND SPRINKLER SYSTEM WHICH INCLUDES A BACKFLOW ASSEMBLY TO THE BUILDING. BACKFLOW ASSEMBLIES SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH SECTION 21-1-14 OF THE OREM CITY CODE. WATER METER SIZES SHALL BE DETERMINED BY THE CITY OF OREM BUILDING DIVISION AT THE TIME OF BUILDING PERMIT APPROVAL OR WHEN THERE IS A REQUEST TO CHANGE THE WATER METER SIZE. WATER METERS SHALL BE LOCATED AT THE BACK OF SIDEWALK OR CURB IN AN AREA THAT IS ACCESSIBLE FOR READING AND SERVICING. WATER METERS SHALL NOT BE LOCATED WITHIN AREAS ENCLOSED WITH FENCES OR WITHIN TEN FEET (10') OF ANY EXISTING OR PROPOSED STRUCTURE.
17.)IF REQUIRED BY CHAPTER 20 OF THE OREM CITY CODE OR BY THE APPLICANT'S PERMIT FOR INDUSTRIAL WASTEWATER DISCHARGE, "A SAMPLING MANHOLE AND FAT AND OIL SEPARATOR/GREASE TRAP SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF OREM STANDARDS AND SPECIFICATIONS.
18.)ALL SIGNAGE SHALL COMPLY WITH THE REQUIREMENTS OF THE OREM CITY CODE.
19.)ALL UTILITIES, INCLUDING WATER AND SEWER LATERALS, WATER AND SEWER MAINS, STORM WATER DRAINS, STORMWATER SUMPS, SEWER MANHOLES, WATER VALVES, ETC., SHALL NOT BE LOCATED UNDER COVERED PARKING AREAS AND SHALL BE INSTALLED ACCORDING TO THE OREM CITY CODE.
20.)ALL DRAINAGE FROM ROOFTOP AND DUMPSTER AREAS ARE REQUIRED TO DRAIN TO VEGETATED LANDSCAPE AREAS UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER." OREM CITY CODE 23-4-8(7).
21.)AT THE TIME OF CONSTRUCTION, THE CITY OF OREM MAY DETERMINE BASED ON PROFESSIONAL EXPERIENCE AND JUDGMENT AND AT ITS SOLE DISCRETION, THE NEED FOR THE OWNER/DEVELOPER TO PAY FOR, REMOVE, AND REPLACE ANY EXISTING SUBSTANDARD IMPROVEMENTS SUCH AS CURBS, GUTTERS, SIDEWALKS, DRIVE APPROACHES, DRIVEWAYS, DECORATIVE CONCRETE, WHEELCHAIR RAMPS, ETC., OR ANY UNUSED DRIVE APPROACHES.
22.)ALL CONSTRUCTION SHALL CONFORM TO THE CITY OF OREM CONSTRUCTION STANDARDS AND SPECIFICATIONS UNLESS THE IMPROVEMENT IS WITHIN THE UDOT RIGHT-OF-WAY, IN WHICH CASE THE CONSTRUCTION SHALL CONFORM TO UDOT CONSTRUCTION STANDARDS AND SPECIFICATIONS.
23.)ALL DAMAGE TO CITY OWNED ROADS ARE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR. EACH CUT IN THE ROADWAY (INCLUDING CORES) IS SUBJECT TO ROAD CUT FEES. INSTALL ASPHALT ACCORDING TO THE CITY STANDARD DETAILS (SEE DETAILS M-1, M-9, M-10, RW-14, AND RW-15).
24.)ALL DAMAGE TO CITY OWNED SIDEWALKS/CONCRETE (LIFTING, CRACKING, CORES, ETC.) ARE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE. ANY CONCRETE REPAIR IN LIEU OF REPLACEMENT MUST BE APPROVED BY THE CITY. INSTALL CONCRETE ACCORDING TO THE CITY STANDARD DETAILS (SEE DETAILS RW-1 THROUGH RW-13 AND RW-18).
25.) THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN IN THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON A S BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
26.) THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY: THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS: THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF WORK ON THE PROJECT.

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
05/06/2025

Blue Stakes of UTAH 811
BlueStakes.org

COVER SHEET
VALOR HOMES OFFICE BUILDING
1301 WEST 400 SOUTH
OREM CITY, UTAH COUNTY, UTAH

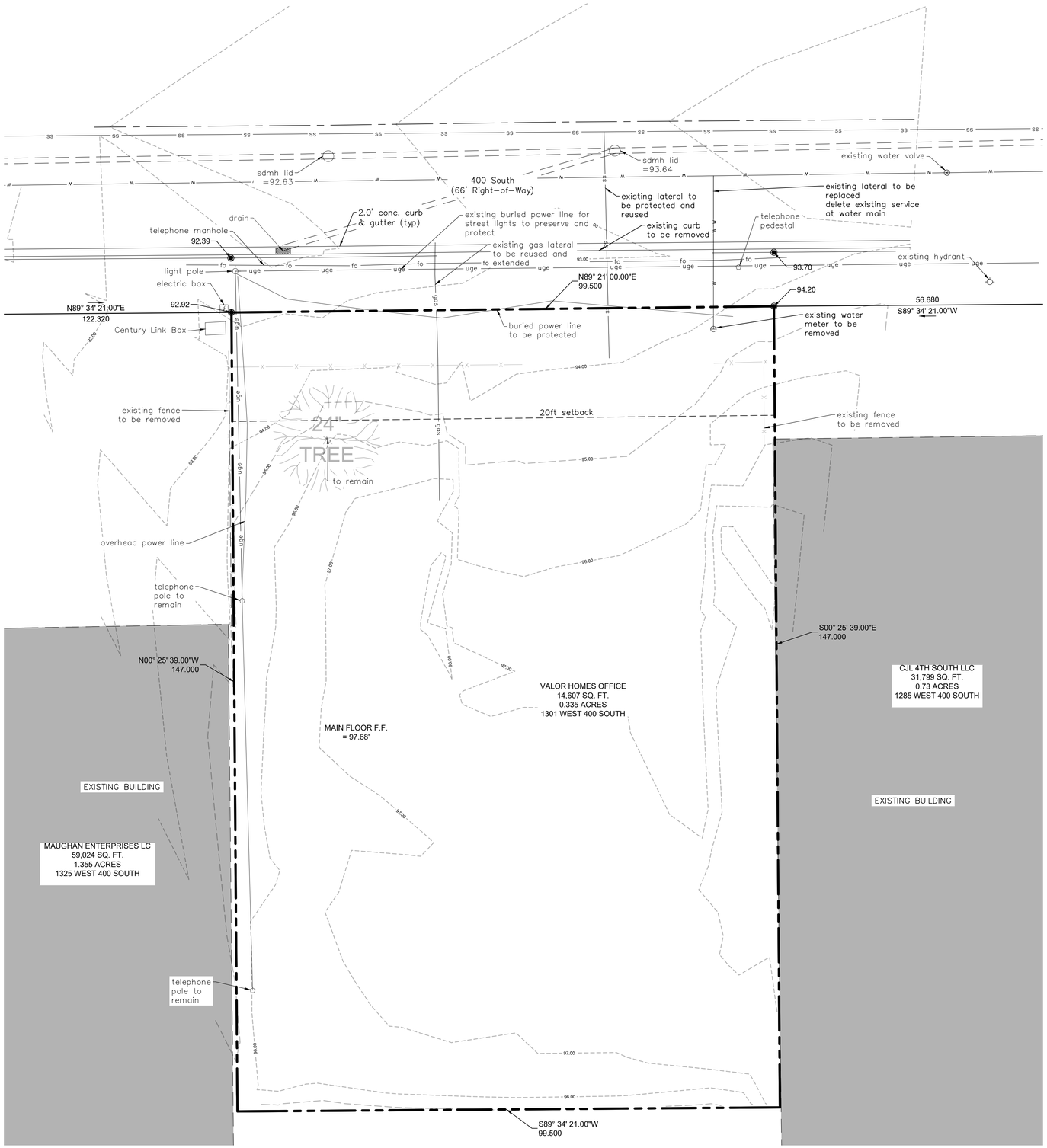
REVISIONS

DESIGNED BY:	KTC
DRAWN BY:	KTC
CHECKED BY:	KMY
SCALE:	
DATE:	5/1/2025
PROJECT NUMBER:	NA

SHEET
1 OF 9

DEMOLITION PLAN

SITUATE IN THE NORTH WEST QUARTER OF SECTION 21
TOWNSHIP 6 SOUTH, RANGE 2 EAST, SALT LAKE BASE & MERIDIAN
1301 WEST 400 SOUTH, OREM, UTAH COUNTY, UTAH



NOTES:

1.) VERTICAL DATA (CONTOURS AND/OR SPOT ELEVATIONS) SHOWN HEREON ARE BASED ON THE FOOT EQUIVALENT ELEVATION OF 100.00', FOUND FENCE POST AT SOUTH WEST PROPERTY CORNER OF SAID 1301 WEST 400 SOUTH (SUBJECT PROPERTY), COLLECTED WITH GPS ON THE UTAH VRS NETWORK (GEOID G2012BU0).
2.) THIS TOPOGRAPHIC SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF SHAUN COREY, PLS FROM AN ACTUAL GROUND SURVEY MADE UNDER MY SUPERVISION; THAT THE IMAGERY AND/OR ORIGINAL DATA WAS OBTAINED ON FEBRUARY 28, 2025.
3.) THIS TOPOGRAPHIC SURVEY PLAT WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT OR TITLE REPORT AND ALL EASEMENTS AND ENCUMBRANCES THAT MIGHT BE DISCLOSED IN A TITLE SEARCH MAY NOT BE SHOWN.
4.) PROPERTY LINES SHOWN HERON ARE COMPILED FROM RECORD INFORMATION FOR REFERENCE ONLY. NO BOUNDARY SURVEY WAS PERFORMED BY YORK ENGINEERING.
5.) THIS TOPOGRAPHIC SURVEY PLAT IS NOT PROOF OF OWNERSHIP.
6.) THIS TOPOGRAPHIC SURVEY PLAT MAKES NO ASSUMPTIONS AS TO ANY UNWRITTEN RIGHTS THAT MAY EXIST BY AND BETWEEN THE ADJOINING LAND OWNERS.
7.) THIS TOPOGRAPHIC SURVEY PLAT WAS PREPARED FOR VALOR HOMES. YORK ENGINEERING ASSUMES NO LIABILITY FOR REUSE OR MODIFICATION OF THIS DOCUMENT.
8.) CONTOUR INTERVAL: 1'
9.) ALL CONSTRUCTION TO BE DONE ACCORDING TO CITY STANDARDS AND SPECIFICATIONS
10.) CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
11.) UTILITY LOCATIONS SHOWN HEREON ARE BASED UPON ABOVE GROUND FACILITIES AND EXISTING BLUE STAKE MARKINGS FOUND ON SITE AT THE TIME OF SURVEY. UTILITIES SHOWN HEREON ARE BASED ON FIELD OBSERVATION ONLY.
12.) NOTIFY BLUE STAKE (801) 208-2100 OR BLUESTAKES.ORG.

LEGEND

Survey Limits	Rod Found
Adjacent Lot Line	Telephone Pedestal
Property Line	Telephone Manhole
Subdivision Boundary	Telephone Box
Right of Way	Fire Hydrant
Centerline Road	Water Valve
Easement Line	Water Meter
90 Proposed Contour	Electric Pedestal
90.00 Existing Contour	Monument
Sanitary Sewer and Manhole	Fiber Optic Marker
Storm Line and Manhole	Electric Transformer
Waterline	Light Pole
Underground Electric Line	Irrigation Control Valve
Underground Fiber Optic Line	Rivet in Curb Found
Underground Gas Line	Utility Pole
Asphalt	Sign
Fence Wire	
Vinyl Fence	

N
W E
S

10 0 10 20 30

Scale 1" = 10'

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
05/06/2025

Blue Stakes of UTAH 811 Bluestakes.org

LICENSED PROFESSIONAL ENGINEER
5/1/2025
KELBY MAX YORK
No. 7229413
STATE OF UTAH

Structural Design and Analysis
1426 North 1200 West
Orem, Utah 84057
(801) 876-3501
York Engineering

DEMOLITION PLAN
VALOR HOMES OFFICE
1301 WEST 400 SOUTH
OREM CITY, UTAH COUNTY, UTAH

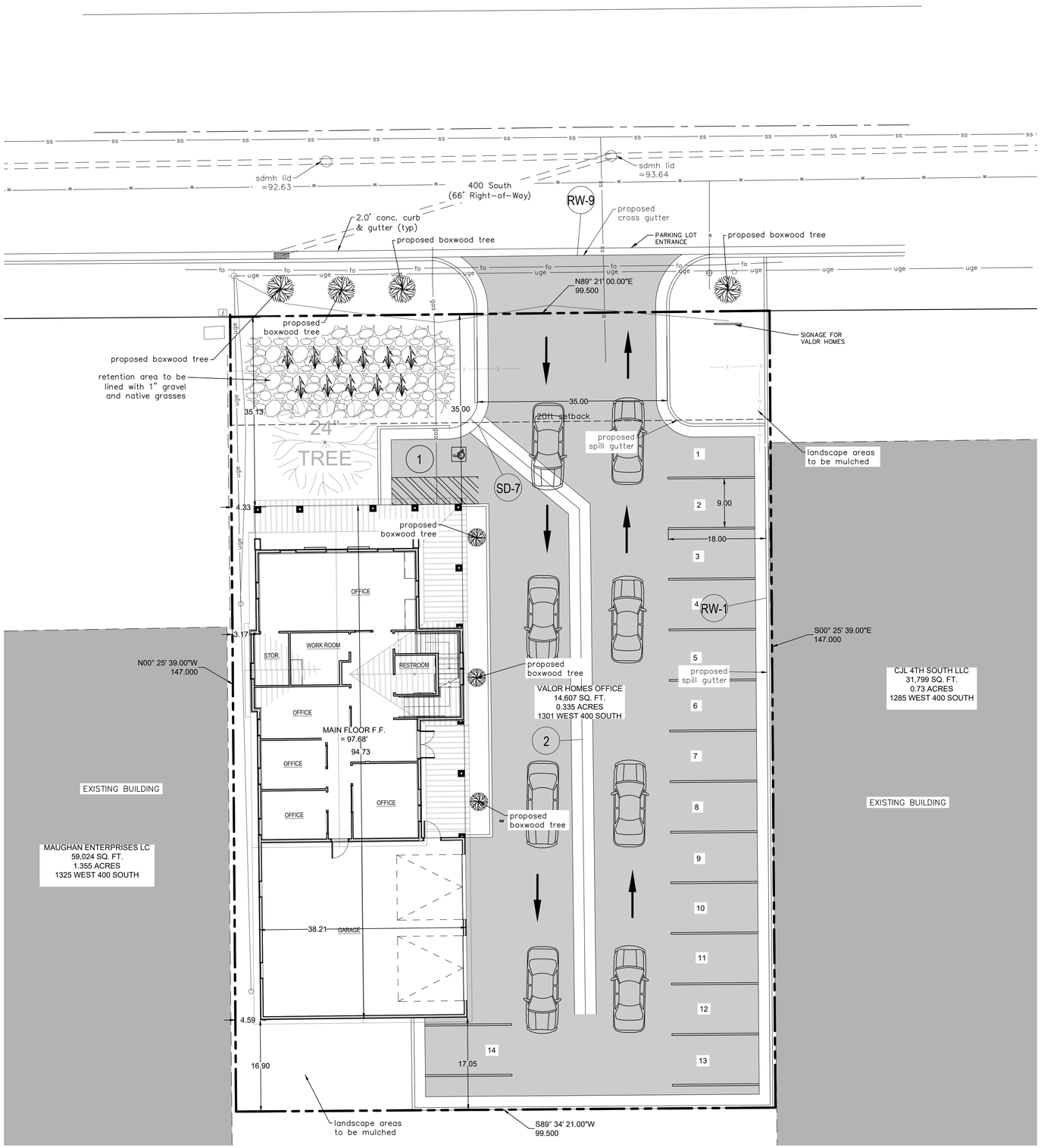
REVISIONS

DESIGNED BY:	KTC
DRAWN BY:	KTC
CHECKED BY:	SGC
SCALE:	1" = 10'
DATE:	5/1/2025
PROJECT NUMBER:	NA

SHEET
2 OF 9

SITE PLAN

SITUATE IN THE NORTH WEST QUARTER OF SECTION 21
TOWNSHIP 6 SOUTH, RANGE 2 EAST, SALT LAKE BASE & MERIDIAN
1301 WEST 400 SOUTH, OREM, UTAH COUNTY, UTAH



NOTES:

1.) VERTICAL DATA (CONTOURS AND/OR SPOT ELEVATIONS) SHOWN HEREON ARE BASED ON THE FOOT EQUIVALENT ELEVATION OF 100.00', FOUND FENCE POST AT SOUTH WEST PROPERTY CORNER OF SAID 1301 WEST 400 SOUTH (SUBJECT PROPERTY), COLLECTED WITH GPS ON THE UTAH VRS NETWORK (GEOID G2012BU0).
2.) THIS TOPOGRAPHIC SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF SHAUN COREY, PLS FROM AN ACTUAL GROUND SURVEY MADE UNDER MY SUPERVISION; THAT THE IMAGERY AND/OR ORIGINAL DATA WAS OBTAINED ON FEBRUARY 28, 2025.
3.) THIS GRADING AND DRAINAGE PLAN WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT OR TITLE REPORT AND ALL EASEMENTS AND ENCUMBRANCES THAT MIGHT BE DISCLOSED IN A TITLE SEARCH MAY NOT BE SHOWN.
4.) PROPERTY LINES SHOWN HERON ARE COMPILED FROM RECORD INFORMATION FOR REFERENCE ONLY. NO BOUNDARY SURVEY WAS PERFORMED BY YORK ENGINEERING.
5.) THIS GRADING AND DRAINAGE PLAN IS NOT PROOF OF OWNERSHIP.
6.) THIS GRADING AND DRAINAGE PLAN MAKES NO ASSUMPTIONS AS TO ANY UNWRITTEN RIGHTS THAT MAY EXIST BY AND BETWEEN THE ADJOINING LAND OWNERS.
7.) THIS GRADING AND DRAINAGE PLAN WAS PREPARED FOR VALOR HOMES. YORK ENGINEERING ASSUMES NO LIABILITY FOR REUSE OR MODIFICATION OF THIS DOCUMENT.
8.) CONTOUR INTERVAL: 1'
9.) ALL CONSTRUCTION TO BE DONE ACCORDING TO CITY STANDARDS AND SPECIFICATIONS
10.) CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
11.) UTILITY LOCATIONS SHOWN HEREON ARE BASED UPON ABOVE GROUND FACILITIES AND EXISTING BLUE STAKE MARKINGS FOUND ON SITE AT THE TIME OF SURVEY. UTILITIES SHOWN HEREON ARE BASED ON FIELD OBSERVATION ONLY.
12.) NOTIFY BLUE STAKE (801) 208-2100 OR BLUESTAKES.ORG.
13.) NO DRIVEWAY OR DRIVE ACCESS MAY BE LOCATED WITHIN TWENTY-FIVE FEET (25') OF AN EXISTING FENCE WHICH IS GREATER THAN THREE FEET (3') IN HEIGHT.

PARKING STALLS	
PROVIDED STALLS	14
REQUIRED STALLS	14
PROVIDED ADA STALLS	1
REQUIRED ADA STALLS	1

LEGEND

Survey Limits		Rod Found	
Adjacent Lot Line		Telephone Pedestal	
Property Line		Telephone Manhole	
Subdivision Boundary		Telephone Box	
Right of Way		Fire Hydrant	
Centerline Road		Water Valve	
Easement Line		Water Meter	
90	Proposed Contour	Electric Pedestal	
90.00	Existing Contour	Monument	
ss	Sanitary Sewer and Manhole	Fiber Optic Marker	
st	Storm Line and Manhole	Electric Transformer	
w	Waterline	Light Pole	
uge	Underground Electric Line	Irrigation Control Valve	
fo	Underground Fiber Optic Line	Rivet in Curb Found	
gas	Underground Gas Line	Utility Pole	
	Asphalt	Sign	
X X	Fence Wire		
	Vinyl Fence		

DETAIL CALLOUTS

RW-1 — 2' CURB & GUTTER DETAIL
NTS
TYPICAL DETAIL

RW-9 — 7' CURB, GUTTER, AND SIDEWALK CROSS SECTIONS
NTS
TYPICAL DETAIL

SD-7 — CURB CUT DETAIL
NTS
TYPICAL DETAIL

1 — ADA STALL DETAIL
NTS
TYPICAL DETAIL, USE WHEN APPLIES

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED
WITHOUT CITY INSPECTION
WILL BE REJECTED
05/06/2025

10 0 10 20 30
Scale 1" = 10'

N W E S

Blue Stakes of UTAH 811 Bluestakes.org

LICENSED PROFESSIONAL ENGINEER
5/1/2025
KELBY MAX YORK
No. 7229413
STATE OF UTAH

Structural Design and Analysis
1426 West 820 North
Orem, Utah 84057
(801) 876-3501

York Engineering

SITE PLAN
VALOR HOMES OFFICE
1301 WEST 400 SOUTH
OREM CITY, UTAH COUNTY, UTAH

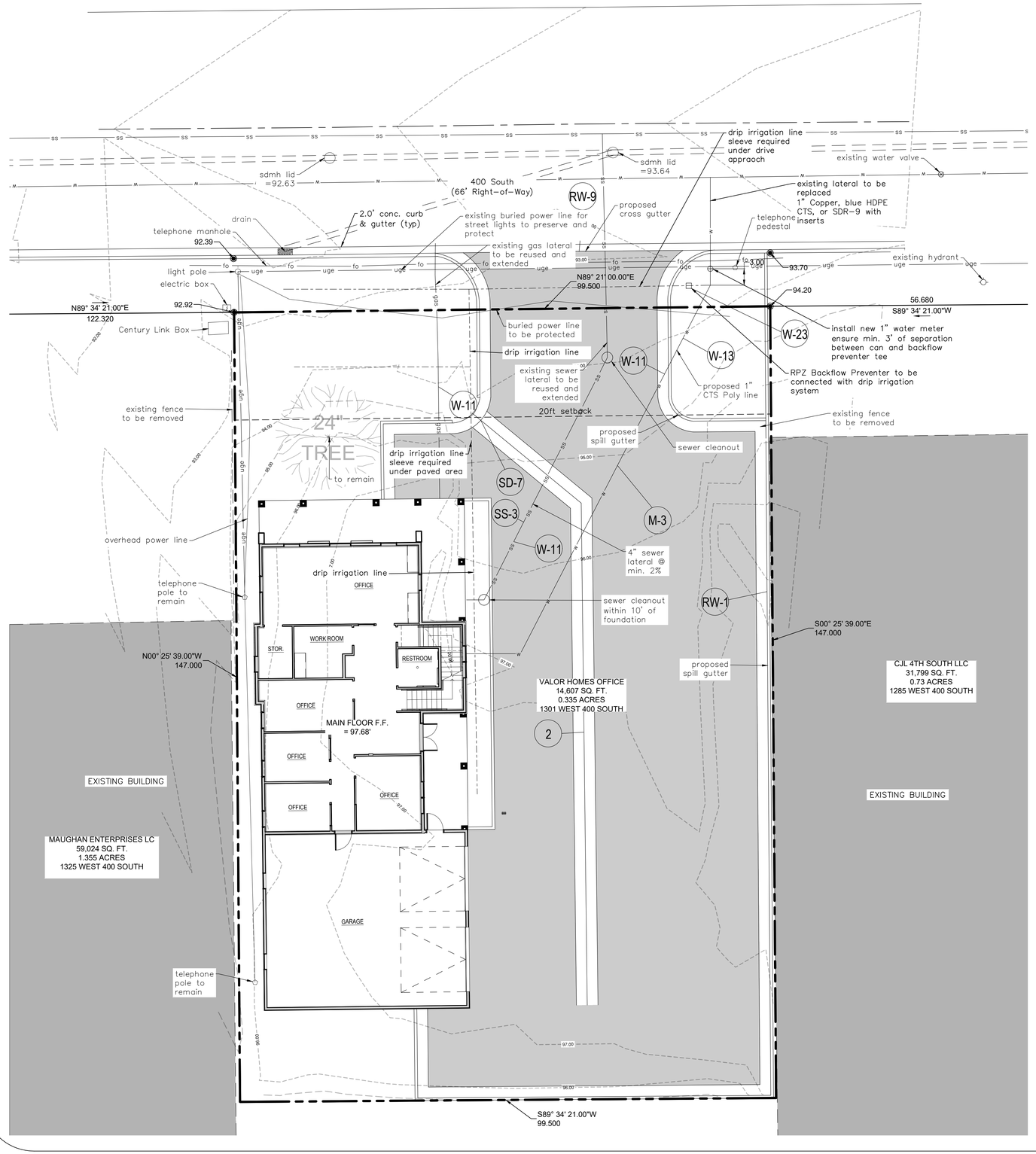
REVISIONS

DESIGNED BY:	KTC
DRAWN BY:	KTC
CHECKED BY:	KMY
SCALE:	1" = 10'
DATE:	5/1/2025
PROJECT NUMBER:	NA

SHEET
3 OF 9

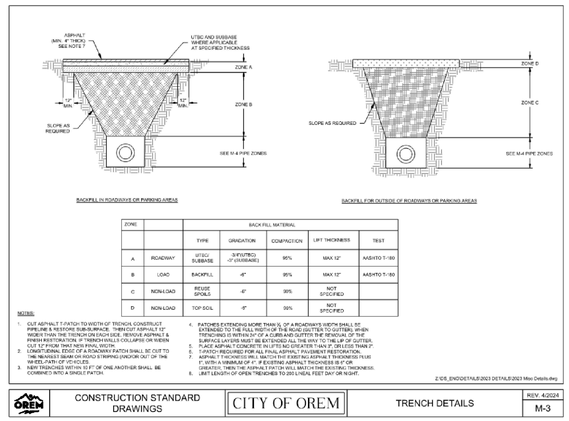
UTILITY PLAN

SITUATE IN THE NORTH WEST QUARTER OF SECTION 21
TOWNSHIP 6 SOUTH, RANGE 2 EAST, SALT LAKE BASE & MERIDIAN
1301 WEST 400 SOUTH, OREM, UTAH COUNTY, UTAH



NOTES:

1.) CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND INVERT ELEVATIONS OF EXISTING MANHOLES AND OTHER UTILITIES BEFORE STAKING OR CONSTRUCTING ANY NEW UTILITY LINES.
2.) MAINTAIN A MINIMUM OF FIVE FEET OF COVER OVER ALL WATER LINES.
3.) CONTRACTOR RESPONSIBLE FOR FOLLOWING ALL OF OREM CITY'S SPECIFICATIONS.
4.) CONTRACTOR RESPONSIBLE FOR FOLLOWING ALL SOILS RECOMMENDATIONS.
5.) CONTRACTOR RESPONSIBLE TO VERIFY CIVIL SITE PLAN AND BUILDING DIMENSIONS MATCHES THE ARCHITECTURAL PLAN.
6.) ALL WORK CONFORMS TO OREM CITY DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS.
7.) ALL DAMAGED SIDEWALK AND CURBING/GUTTER, ALONG PROPERTY FRONT, MUST BE REPLACED PER OREM CITY STANDARD.
8.) ALL SANITARY SEWER SHALL BE CONSTRUCTED AS PER OREM CITY STANDARDS.
9.) ALL UTILITY TRENCHES MUST BE COVERED BY A SINGLE ASPHALT PATCH AND EXTEND THE FULL WIDTH OF THE ROAD.
10.) THERE MUST BE 10 FEET OF HORIZONTAL SEPARATION BETWEEN WATERLINE AND ALL OTHER WET UTILITIES.
11.) SEWER CLEANOUTS TO BE LOCATED EVERY 100 FEET.
12.)AT LEAST THREE FEET OF HORIZONTAL SEPARATION AND ONE FOOT OF VERTICAL SEPARATION MUST BE MAINTAINED FROM CITY UTILITIES.
13.) WHEN A SEWER LINE OR LATERAL CROSSES A CULINARY WATER LINE/LATERAL, THERE MUST BE AT LEAST 18 INCHES OF VERTICAL SEPARATION AT 90 DEGREES, WITH THE WATER BEING ABOVE THE SEWER.
14.) TRACER WIRE MUST BE INLCUDED ON ALL WATER LINES/LATERALS.
15.) ALL UTILITIES SHALL NOT BE LOCATED UNDER COVERED PARKING AREAS AND SHALL BE INSTALLED ACCORDING TO THE OREM CITY CODE. THESE UTILITIES INCLUDE BUT ARE NOT LIMITED TO: WATER AND SEWER LATERALS, WATER AND SEWER MAINS, STORMWATER SUMPS, SEWER MANHOLES, WATER VALVES AND METER, AND FIRE HYDRANTS.
16.) THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN IN THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
17.) THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS: THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF WORK ON THE PROJECT.
18.) ALL UTILITY TRENCHING MUST BE PER OREM CITY STANDARDS.
19.) MAINTAIN 3 FEET OF HORIZONTAL AND 10 FEET OF VERTICAL SEPARATION OF THE EDGE OF METER CAN FROM ALL TREES, SHRUBS, AND DEEP ROOTED VEGETATION.



ZONE		BACK FILL MATERIAL				
		TYPE	GRADATION	COMPACTION	LIFT THICKNESS	TEST
A	ROADWAY	UTBC/ SUBBASE	3/4"(UTBC) -0"(SUBBASE)	95%	MAX 12"	AASHTO T-180
B	LOAD	BACKFILL	-6"	95%	MAX 12"	AASHTO T-180
C	NON-LOAD	REUSE SPOILS	-6"	90%	NOT SPECIFIED	
D	NON-LOAD	TOP SOIL	-9"	70%	NOT SPECIFIED	

NOTES:
1. CUT ASPHALT T-PATCH TO WIDTH OF TRENCH, CONSTRUCT PIPELINE & RESTORE SUB-SURFACE. THEN CUT ASPHALT 12" BEYOND EACH SIDE OF TRENCH & RESTORE ASPHALT & RPAIR RESTORATION. IF TRENCH WALLS COLLAPSE OR WIDEN CUT 12" FROM THAT NEW FINAL WIDTH.
2. LONGITUDINAL JOINT OF A ROADWAY PATCH SHALL BE CUT TO THE NEAREST SEAM OR ROAD STRIPING (ANDOR OUT OF THE WHEEL PATH OF VEHICLES.
3. NEW TRENCHES WITHIN 10 FT OF ONE ANOTHER SHALL BE COMBINED INTO A SINGLE PATCH.
4. PATCHES EXTENDING MORE THAN 1/2 OF A ROADWAY'S WIDTH SHALL BE EXTENDED TO THE FULL WIDTH OF THE ROAD (GUTTER TO GUTTER). WHEN THE PATCH EXTENDS TO A CURB & GUTTER, THE ASPHALT PATCH AND SURFACE LAYERS MUST BE EXTENDED ALL THE WAY TO THE LIP OF GUTTER.
5. PLACE ASPHALT CONCRETE IN LIFTS NO GREATER THAN 3", OR LESS THAN 2".
6. T-PATCH REQUIRED FOR ALL FINAL ASPHALT PAVEMENT RESTORATION.
7. ASPHALT THICKNESS SHALL MATCH THE EXISTING ASPHALT THICKNESS TO BE REPLACED, WITH A MINIMUM OF 4". IF EXISTING ASPHALT THICKNESS IS 4" OR GREATER, THEN THE ASPHALT PATCH WILL MATCH THE EXISTING THICKNESS.
8. LIMIT LENGTH OF OPEN TRENCHES TO 200 LINEAL FEET DAY OR NIGHT.

Z:\DS_ENG\DETAILS\2023 DETAILS\2023 Misc Details.dwg

OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	TRENCH DETAILS	REV. 4/2024 M-3

LEGEND

- Survey Limits
- Adjacent Lot Line
- Property Line
- Subdivision Boundary
- Right of Way
- Centerline Road
- Easement Line
- 90.00 Existing Contour
- ss Sanitary Sewer and Manhole
- Storm Line and Manhole
- w Waterline
- uge Underground Electric Line
- fo Underground Fiber Optic Line
- gas Underground Gas Line
- Asphalt
- x Fence Wire
- Fence Wood
- Rod Found
- Telephone Pedestal
- Telephone Manhole
- Telephone Box
- Fire Hydrant
- Water Valve
- Water Meter
- Electric Pedestal
- Monument
- Fiber Optic Marker
- Electric Transformer
- Light Pole
- Irrigation Control Valve
- Rivet in Curb Found
- Utility Pole
- Sign

DETAIL CALLOUTS

- RW-1 2' CURB & GUTTER DETAIL — NTS, TYPICAL DETAIL
- RW-9 7' CURB, GUTTER, AND SIDEWALK CROSS SECTIONS — NTS, TYPICAL DETAIL
- W-11 TRACER WIRE DETAILS — NTS, TYPICAL DETAIL
- W-13 3/4" & 1" SERVICE LINE INSTALLATION — NTS, TYPICAL DETAIL
- W-23 RPZ BACKFLOW PREVENTER — NTS, TYPICAL DETAIL
- SS-3 SEWER LATERAL CONNECTION — NTS, TYPICAL DETAIL
- M-3 TRENCH DETAILS — NTS, TYPICAL DETAIL
- M-4 PIPE ZONES — NTS, TYPICAL DETAIL

APPROVED FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
05/06/2025

10 0 10 20 30
Scale 1" = 10'

N W E S

Blue Stakes of UTAH 811 — BlueStakes.org

5/1/2025
LICENSED PROFESSIONAL ENGINEER
KELBY MAX YORK
No. 7829413
STATE OF UTAH

Structural Design and Analysis
1426 East 750 North #300
Orem, Utah 84097
(801) 876-3501
York Engineering

UTILITY PLAN
VALOR HOMES OFFICE
1301 WEST 400 SOUTH
OREM CITY, UTAH COUNTY, UTAH

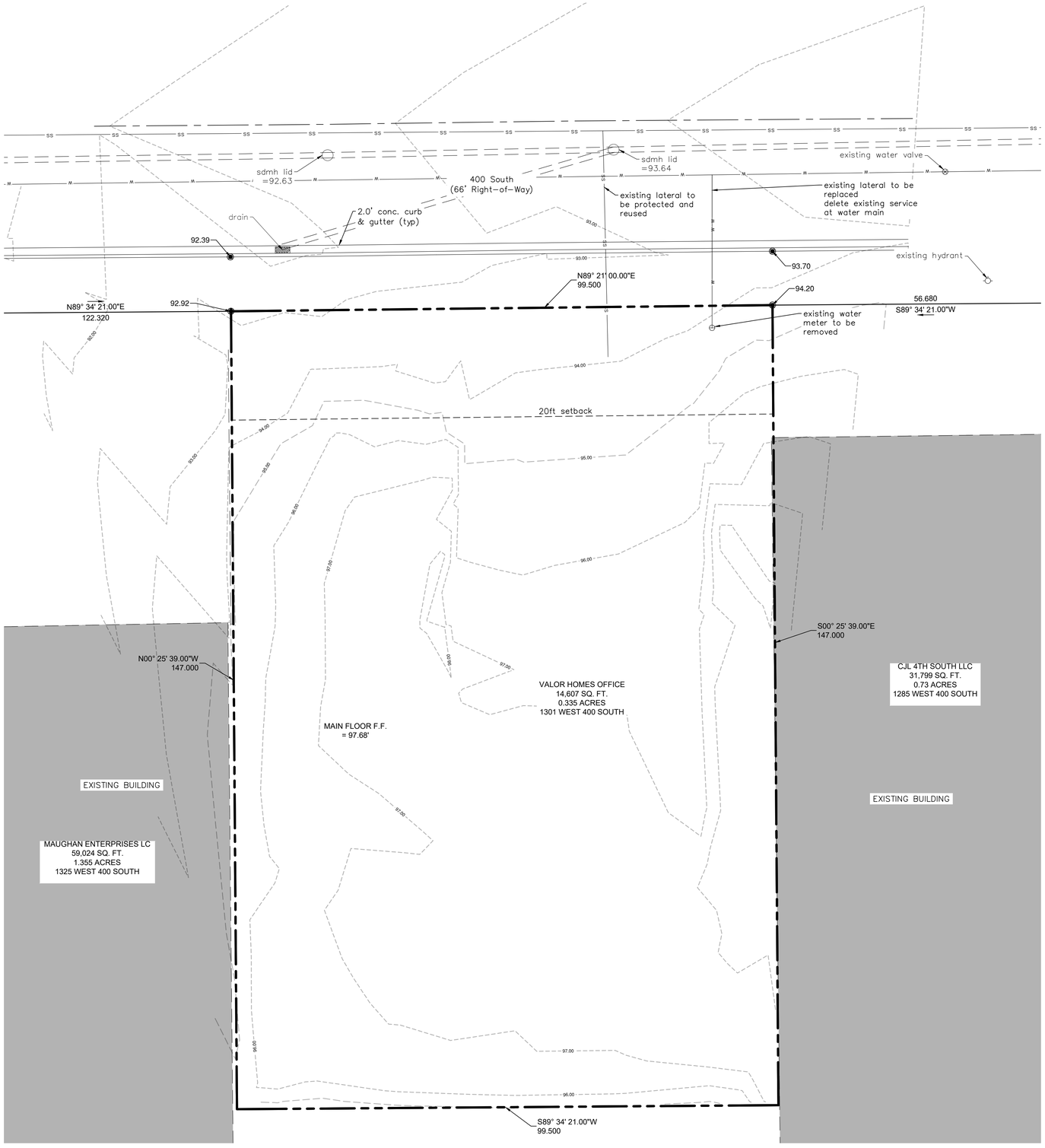
REVISIONS

DESIGNED BY:	KTC
DRAWN BY:	KTC
CHECKED BY:	KMY
SCALE:	1" = 10'
DATE:	5/1/2025
PROJECT NUMBER:	NA

SHEET 4 OF 9

EXISTING HYDROLOGY PLAN

SITUATE IN THE NORTH WEST QUARTER OF SECTION 21
TOWNSHIP 6 SOUTH, RANGE 2 EAST, SALT LAKE BASE & MERIDIAN
1301 WEST 400 SOUTH, OREM, UTAH COUNTY, UTAH



LEGEND

Survey Limits	Rod Found
Adjacent Lot Line	Telephone Pedestal
Property Line	Telephone Manhole
Subdivision Boundary	Telephone Box
Right of Way	Fire Hydrant
Centerline Road	Water Valve
Easement Line	Water Meter
Proposed Contour	Electric Pedestal
Existing Contour	Monument
Sanitary Sewer and Manhole	Fiber Optic Marker
Storm Line and Manhole	Electric Transformer
Waterline	Light Pole
Underground Electric Line	Irrigation Control Valve
Underground Fiber Optic Line	Rivet in Curb Found
Underground Gas Line	Utility Pole
Asphalt	Sign
Fence Wire	
Vinyl Fence	

N
W E
S

10 0 10 20 30

Scale 1" = 10'

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED
WITHOUT CITY INSPECTION
WILL BE REJECTED
05/06/2025

Blue Stakes of UTAH 811
BlueStakes.org

LICENSED PROFESSIONAL ENGINEER
5/1/2025
KELBY MAX YORK
No. 7829413
STATE OF UTAH

Structural Design and Analysis
1426 South 1430 West
Orem, Utah 84058
(801) 876-3501
York Engineering

EXISTING HYDROLOGY PLAN
VALOR HOMES OFFICE
1301 WEST 400 SOUTH
OREM CITY, UTAH COUNTY, UTAH

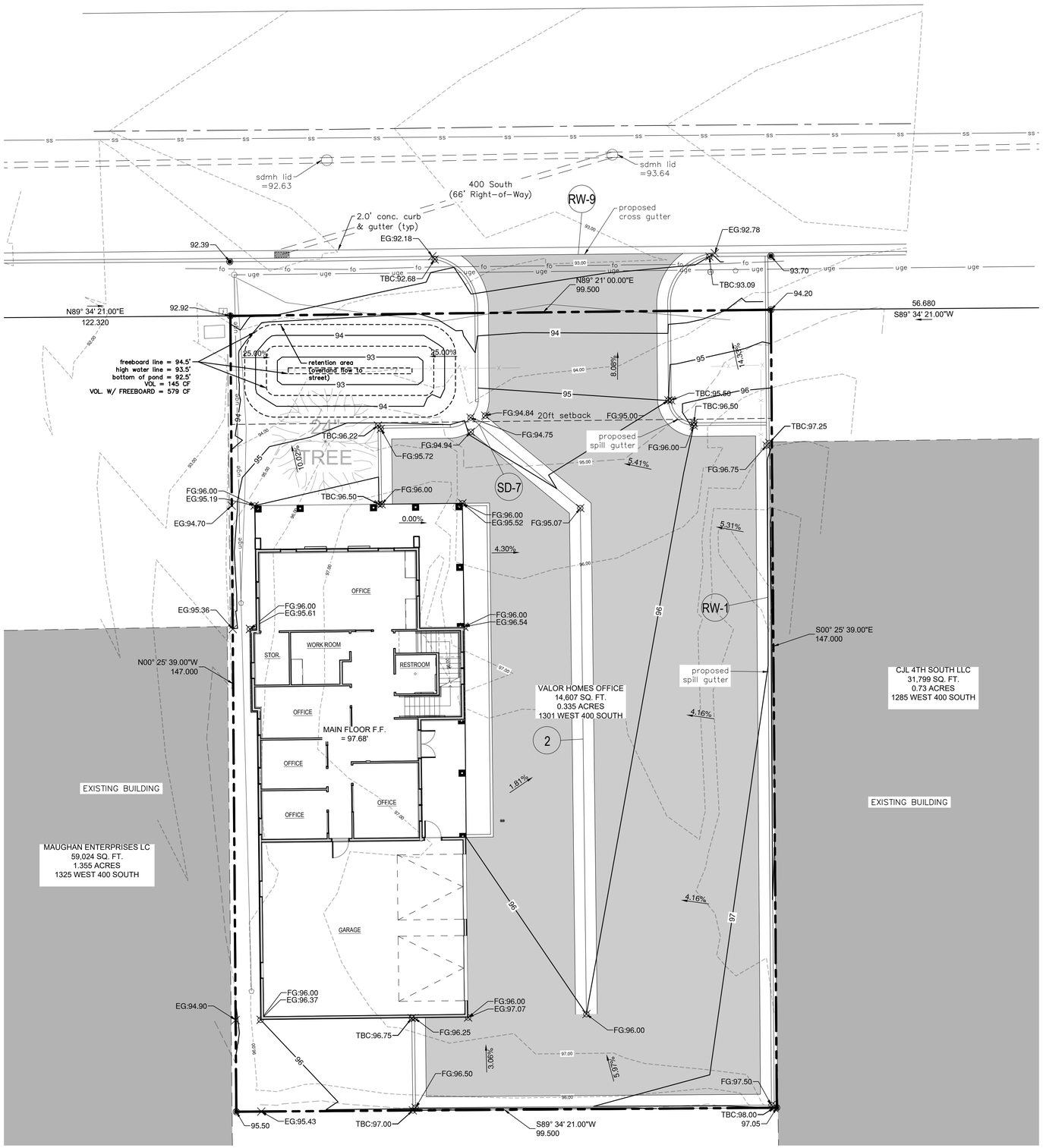
REVISIONS

DESIGNED BY:	KTC
DRAWN BY:	KTC
CHECKED BY:	KMY
SCALE:	1" = 10'
DATE:	5/1/2025
PROJECT NUMBER:	NA

SHEET
5 OF 9

GRADING AND DRAINAGE PLAN

SITUATE IN THE NORTH WEST QUARTER OF SECTION 21
TOWNSHIP 6 SOUTH, RANGE 2 EAST, SALT LAKE BASE & MERIDIAN
1301 WEST 400 SOUTH, OREM, UTAH COUNTY, UTAH



NOTES:

1.) VERTICAL DATA (CONTOURS AND/OR SPOT ELEVATIONS) SHOWN HEREON ARE BASED ON THE FOOT EQUIVALENT ELEVATION OF 100.00', FOUND FENCE POST AT SOUTH WEST PROPERTY CORNER OF SAID 1301 WEST 400 SOUTH (SUBJECT PROPERTY), COLLECTED WITH GPS ON THE UTAH VRS NETWORK (GEOID G2012BU0).
2.) THIS TOPOGRAPHIC SURVEY WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF SHAUN COREY, PLS FROM AN ACTUAL GROUND SURVEY MADE UNDER MY SUPERVISION; THAT THE IMAGERY AND/OR ORIGINAL DATA WAS OBTAINED ON FEBRUARY 28, 2025.
3.) THIS GRADING AND DRAINAGE PLAN WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT OR TITLE REPORT AND ALL EASEMENTS AND ENCUMBRANCES THAT MIGHT BE DISCLOSED IN A TITLE SEARCH MAY NOT BE SHOWN.
4.) PROPERTY LINES SHOWN HERON ARE COMPILED FROM RECORD INFORMATION FOR REFERENCE ONLY. NO BOUNDARY SURVEY WAS PERFORMED BY YORK ENGINEERING.
5.) THIS GRADING AND DRAINAGE PLAN IS NOT PROOF OF OWNERSHIP.
6.) THIS GRADING AND DRAINAGE PLAN MAKES NO ASSUMPTIONS AS TO ANY UNWRITTEN RIGHTS THAT MAY EXIST BY AND BETWEEN THE ADJOINING LAND OWNERS.
7.) THIS GRADING AND DRAINAGE PLAN WAS PREPARED FOR VALOR HOMES. YORK ENGINEERING ASSUMES NO LIABILITY FOR REUSE OR MODIFICATION OF THIS DOCUMENT.
8.) CONTOUR INTERVAL: 1'
9.) ALL CONSTRUCTION TO BE DONE ACCORDING TO CITY STANDARDS AND SPECIFICATIONS
10.) CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
11.) UTILITY LOCATIONS SHOWN HEREON ARE BASED UPON ABOVE GROUND FACILITIES AND EXISTING BLUE STAKE MARKINGS FOUND ON SITE AT THE TIME OF SURVEY. UTILITIES SHOWN HEREON ARE BASED ON FIELD OBSERVATION ONLY.
12.) NOTIFY BLUE STAKE (801) 208-2100 OR BLUESTAKES.ORG.

PreConstruction Weighted "C"		
Pervious Area (Acres) =	0.261	C_P = 0.45
Roof Area (Acres) =	0.036	C_I = 0.85
Paved Area (Acres) =	0.038	C_I = 0.9
Total Area (Acres) =	0.335	**$C_{W(pre)}$ = 0.544**
PostConstruction Weighted "C"		
Pervious Area (Acres) =	0.082	C_P = 0.45
Roof Area (Acres) =	0.089	C_I = 0.85
Paved Area (Acres) =	0.163	C_I = 0.9
Total Area (Acres) =	0.335	**$C_{W(post)}$ = 0.776**

100-Year Pre-Construction Rainfall Peak Flow		
C_W = 0.544		
I =	0.020833333	inches per hour
A_T = 0.335		acres
$Q_{(pre)}$ = 0.003795233		**cubic feet per second**
100-Year Post-Construction Rainfall Peak Flow		
C_W = 0.776		
I =	0.020833333	inches per hour
A_T = 0.335		acres
$Q_{(post)}$ = 0.005418325		**cubic feet per second**
Post-Construction Volume		
$Q_{(post)}$ = 0.005418325		**cubic feet per second**
Volume = 468.1432644		**cubic feet for 24 hours**

Net Post-Construction Volume	
$Q_{(post)}$-$Q_{(pre)}$ = 0.001623091	**cubic feet per second**
Volume = 140.2351033	**cubic feet for 24 hours**

LEGEND

- Survey Limits
- Adjacent Lot Line
- Property Line
- Subdivision Boundary
- Right of Way
- Centerline Road
- Easement Line
- Proposed Contour
- Existing Contour
- Sanitary Sewer and Manhole
- Storm Line and Manhole
- Waterline
- Underground Electric Line
- Underground Fiber Optic Line
- Underground Gas Line
- Asphalt
- Fence Wire
- Vinyl Fence
- Rod Found
- Telephone Pedestal
- Telephone Manhole
- Telephone Box
- Fire Hydrant
- Water Valve
- Water Meter
- Electric Pedestal
- Monument
- Fiber Optic Marker
- Electric Transformer
- Light Pole
- Irrigation Control Valve
- Rivet in Curb Found
- Utility Pole
- Sign

DETAIL CALLOUTS

RW-1 — 2' CURB & GUTTER DETAIL — NTS TYPICAL DETAIL
RW-9 — 7' CURB, GUTTER, AND SIDEWALK CROSS SECTIONS — NTS TYPICAL DETAIL
SD-7 — CURB CUT DETAIL — NTS TYPICAL DETAIL
2 — 4' CONCRETE PAN DETAIL — NTS TYPICAL DETAIL, USE WHEN APPLIES

Scale 1" = 10'

APPROVED FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
05/06/2025

Blue Stakes of UTAH 811 bluestakes.org

LICENSED PROFESSIONAL ENGINEER
5/1/2025
KELBY MAX YORK
No. 7829413
STATE OF UTAH

Structural Design and Analysis
1426 East 750 North #200
Orem, Utah 84097
(801) 876-3501
York Engineering

GRADING AND DRAINAGE PLAN
VALOR HOMES OFFICE
1301 WEST 400 SOUTH
OREM CITY, UTAH COUNTY, UTAH

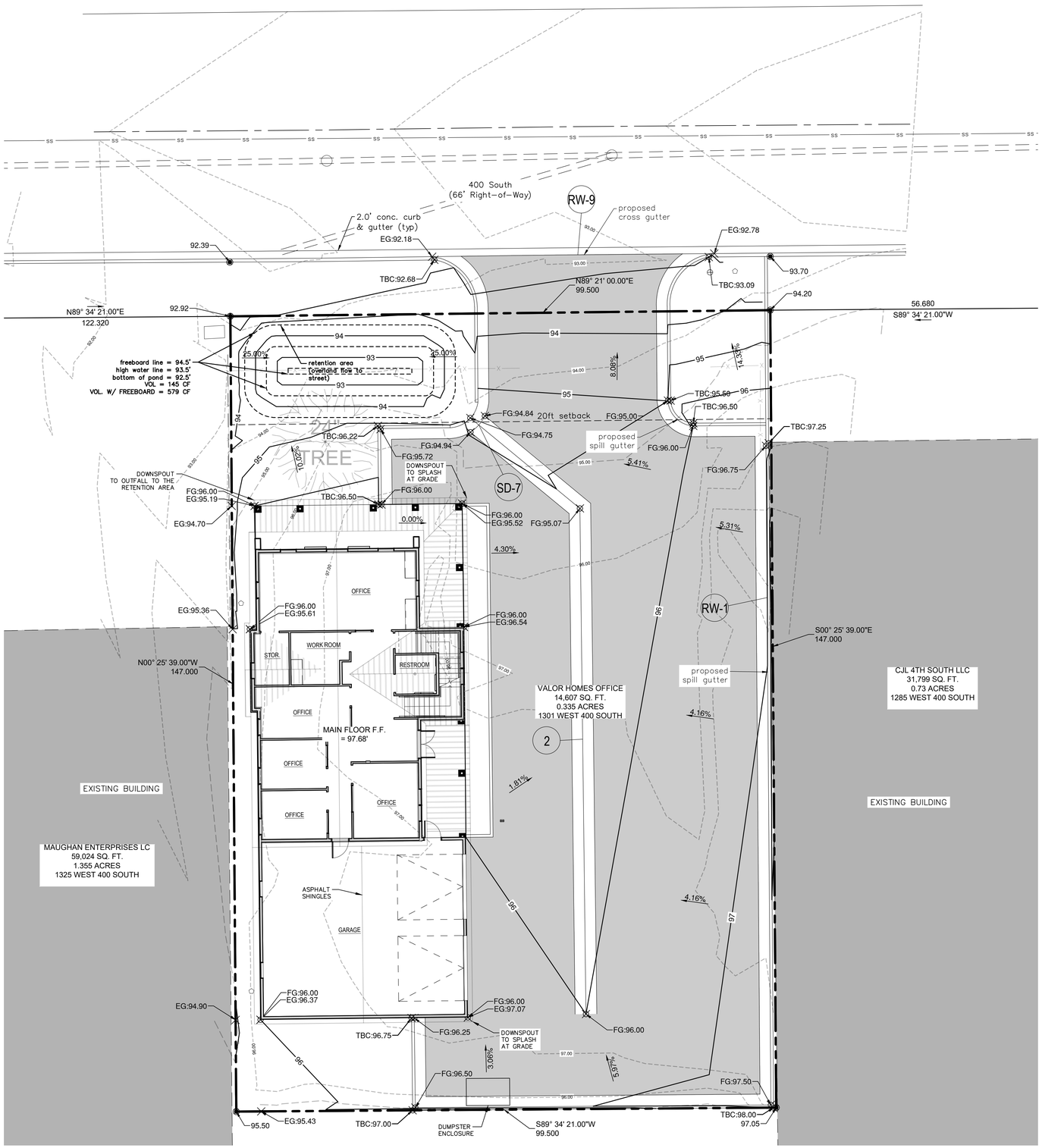
REVISIONS

DESIGNED BY:	KTC
DRAWN BY:	KTC
CHECKED BY:	KMY
SCALE:	1" = 10'
DATE:	5/1/2025
PROJECT NUMBER:	NA

SHEET 6 OF 9

ROOF DRAINAGE PLAN

SITUATE IN THE NORTH WEST QUARTER OF SECTION 21
TOWNSHIP 6 SOUTH, RANGE 2 EAST, SALT LAKE BASE & MERIDIAN
1301 WEST 400 SOUTH, OREM, UTAH COUNTY, UTAH



DETAIL CALLOUTS

RW-1 — 2' CURB & GUTTER DETAIL
NTS
TYPICAL DETAIL

RW-9 — 7' CURB, GUTTER, AND SIDEWALK CROSS SECTIONS
NTS
TYPICAL DETAIL

SD-7 — CURB CUT DETAIL
NTS
TYPICAL DETAIL

LEGEND

- Survey Limits
- Adjacent Lot Line
- Property Line
- Subdivision Boundary
- Right of Way
- Centerline Road
- Easement Line
- 90 — Proposed Contour
- 90.00 — Existing Contour
- ss — Sanitary Sewer and Manhole
- Storm Line and Manhole
- w — Waterline
- uge — Underground Electric Line
- fo — Underground Fiber Optic Line
- gas — Underground Gas Line
- Asphalt
- X — Fence Wire
- Vinyl Fence
- Rod Found
- Telephone Pedestal
- Telephone Manhole
- Telephone Box
- Fire Hydrant
- Water Valve
- Water Meter
- Electric Pedestal
- Monument
- Fiber Optic Marker
- Electric Transformer
- Light Pole
- Irrigation Control Valve
- Rivet in Curb Found
- Utility Pole
- Sign

N
W E
S

10 0 10 20 30
Scale 1" = 10'

APPROVED
FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED
WITHOUT CITY INSPECTION
WILL BE REJECTED
05/06/2025

Blue Stakes of UTAH 811
Bluestakes.org

LICENSED PROFESSIONAL ENGINEER
5/1/2025
KELBY MAX YORK
No. 7829413
STATE OF UTAH

Structural Design and Analysis
1423 West 1200 North
Orem, Utah 84057
(801) 876-3501
York Engineering

ROOF DRAINAGE PLAN
VALOR HOMES OFFICE
1301 WEST 400 SOUTH
OREM CITY, UTAH COUNTY, UTAH

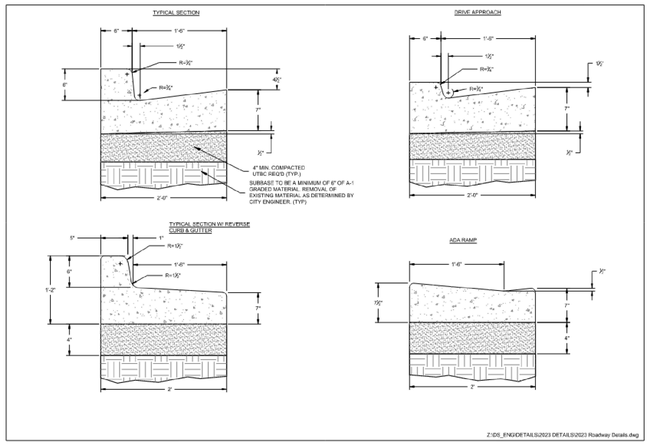
REVISIONS

DESIGNED BY:	KTC
DRAWN BY:	KTC
CHECKED BY:	KMY
SCALE:	1" = 10'
DATE:	5/1/2025
PROJECT NUMBER:	NA

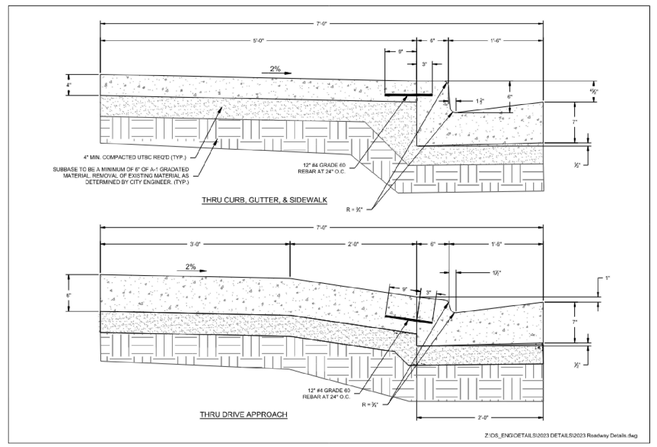
SHEET
7 OF 9

STORM DRAIN DETAILS

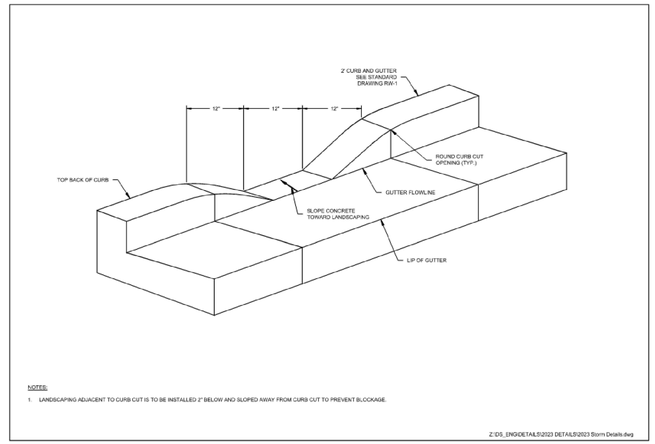
SITUATE IN THE NORTH WEST QUARTER OF SECTION 21
TOWNSHIP 6 SOUTH, RANGE 2 EAST, SALT LAKE BASE & MERIDIAN
1301 WEST 400 SOUTH, OREM, UTAH COUNTY, UTAH



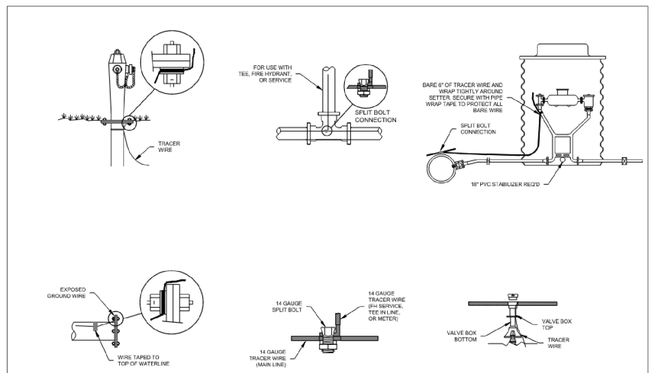
OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	2' CURB & GUTTER	REV. 4/2024 RW-1



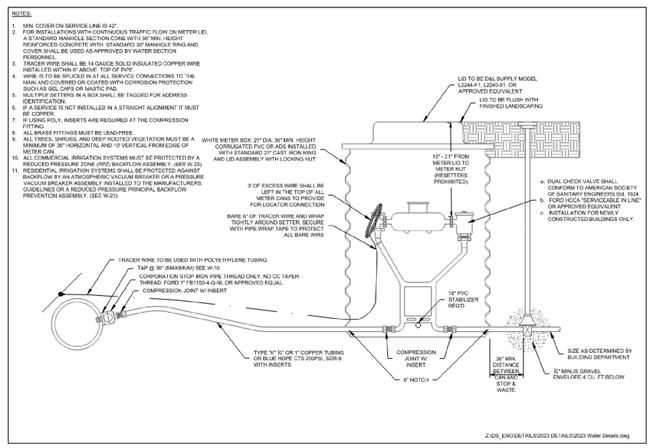
OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	7' CURB, GUTTER, AND SIDEWALK CROSS SECTIONS	REV. 4/2024 RW-9



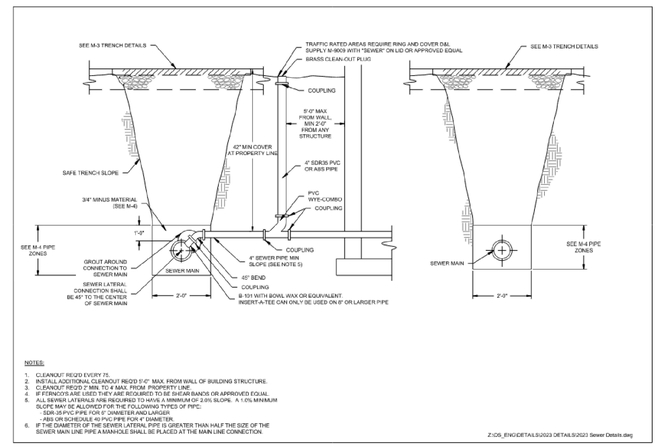
OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	CURB CUT	REV. 4/2024 SD-7



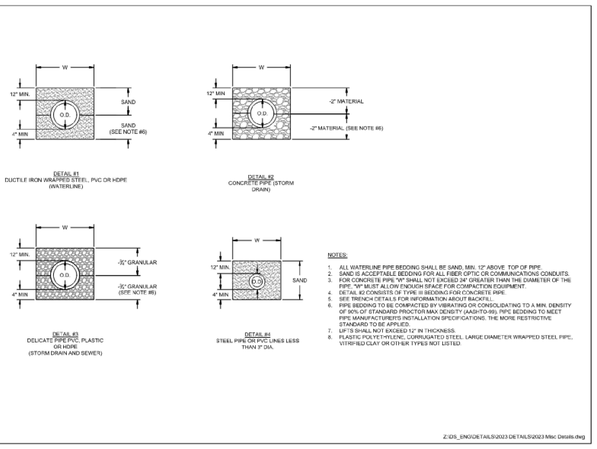
OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	TRACER WIRE DETAILS	REV. 4/2024 W-11



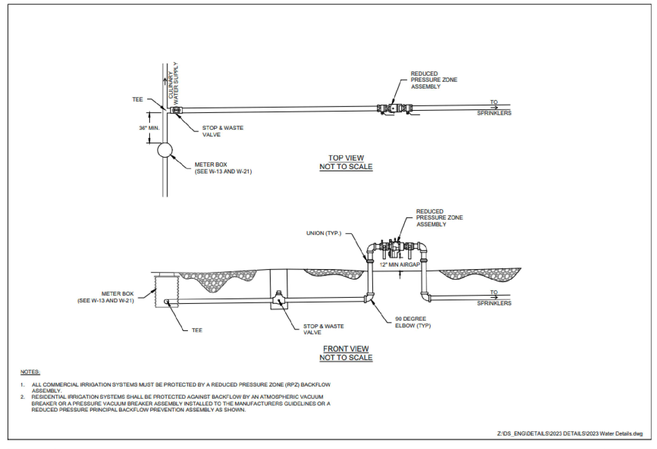
OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	3/4" & 1" SERVICE LINE INSTALLATION	REV. 4/2024 W-13



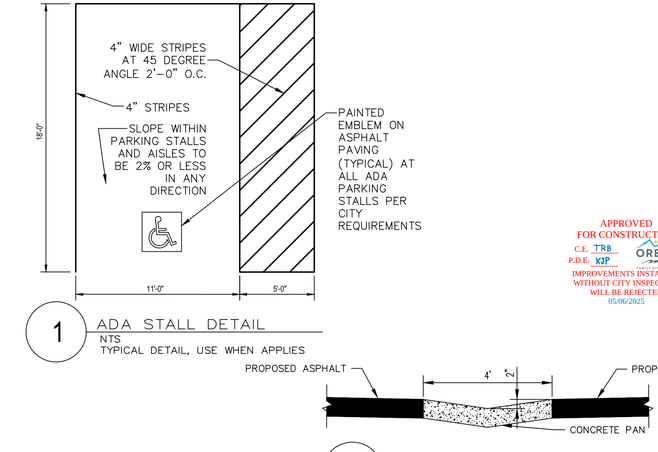
OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	SEWER LATERAL CONNECTION	REV. 4/2024 SS-3



OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	PIPE ZONES	REV. 4/2024 M-4



OREM	CONSTRUCTION STANDARD DRAWINGS	CITY OF OREM	RPZ BACKFLOW PREVENTER	REV. 4/2024 W-23



APPROVED FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
05/06/2025

LICENSED PROFESSIONAL ENGINEER
5/1/2025
KELBY MAX YORK
No. 7829413
STATE OF UTAH

Structural Design and Analysis
1424 East 300 North
Orem, Utah 84097
(801) 876-3501
York Engineering

REVISIONS

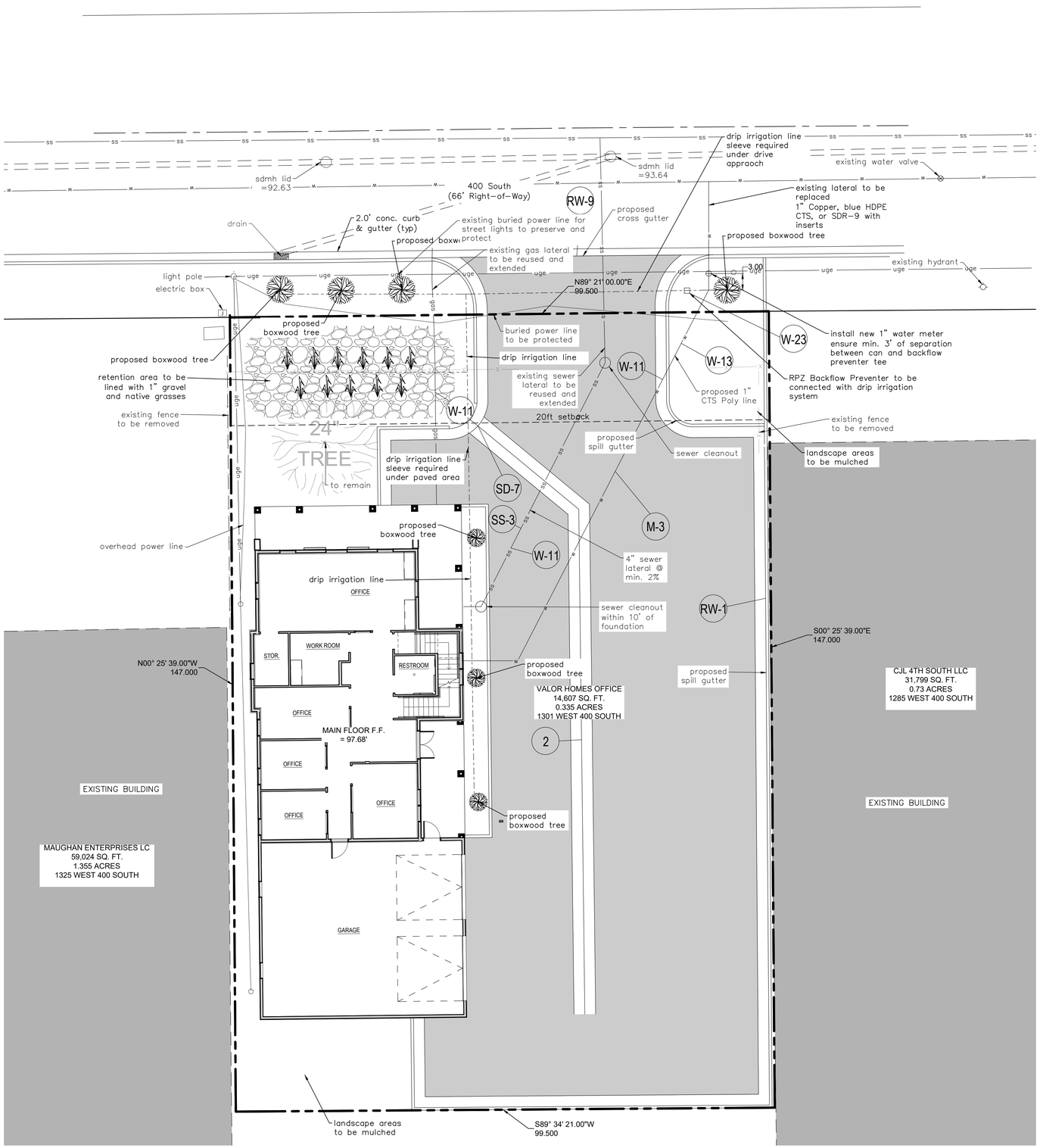
DESIGNED BY:	KTC
DRAWN BY:	KTC
CHECKED BY:	KMY
SCALE:	1" = 10'
DATE:	5/1/2025
PROJECT NUMBER:	NA

SHEET 8 OF 9

STORM DRAIN DETAILS
VALOR HOMES OFFICE
1301 WEST 400 SOUTH
OREM CITY, UTAH COUNTY, UTAH

LANDSCAPE PLAN

SITUATE IN THE NORTH WEST QUARTER OF SECTION 21
TOWNSHIP 6 SOUTH, RANGE 2 EAST, SALT LAKE BASE & MERIDIAN
1301 WEST 400 SOUTH, OREM, UTAH COUNTY, UTAH



NOTES:

1.) CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND INVERT ELEVATIONS OF EXISTING MANHOLES AND OTHER UTILITIES BEFORE STAKING OR CONSTRUCTING ANY NEW UTILITY LINES.
2.) MAINTAIN A MINIMUM OF FIVE FEET OF COVER OVER ALL WATER LINES.
3.) CONTRACTOR RESPONSIBLE FOR FOLLOWING ALL OF OREM CITY'S SPECIFICATIONS.
4.) CONTRACTOR RESPONSIBLE FOR FOLLOWING ALL SOILS RECOMMENDATIONS.
5.) CONTRACTOR RESPONSIBLE TO VERIFY CIVIL SITE PLAN AND BUILDING DIMENSIONS MATCHES THE ARCHITECTURAL PLAN.
6.) ALL WORK CONFORMS TO OREM CITY DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS.
7.) ALL DAMAGED SIDEWALK AND CURBING/GUTTER, ALONG PROPERTY FRONT, MUST BE REPLACED PER OREM CITY STANDARD.
8.) ALL SANITARY SEWER SHALL BE CONSTRUCTED AS PER OREM CITY STANDARDS.
9.) ALL UTILITY TRENCHES MUST BE COVERED BY A SINGLE ASPHALT PATCH AND EXTEND THE FULL WIDTH OF THE ROAD.
10.) THERE MUST BE 10 FEET OF HORIZONTAL SEPARATION BETWEEN WATERLINE AND ALL OTHER WET UTILITIES.
11.) SEWER CLEANOUTS TO BE LOCATED EVERY 100 FEET.
12.)AT LEAST THREE FEET OF HORIZONTAL SEPARATION AND ONE FOOT OF VERTICAL SEPARATION MUST BE MAINTAINED FROM CITY UTILITIES.
13.) WHEN A SEWER LINE OR LATERAL CROSSES A CULINARY WATER LINE/LATERAL, THERE MUST BE AT LEAST 18 INCHES OF VERTICAL SEPARATION AT 90 DEGREES, WITH THE WATER BEING ABOVE THE SEWER.
14.) TRACER WIRE MUST BE INLCUDED ON ALL WATER LINES/LATERALS.
15.) ALL UTILITIES SHALL NOT BE LOCATED UNDER COVERED PARKING AREAS AND SHALL BE INSTALLED ACCORDING TO THE OREM CITY CODE. THESE UTILITIES INCLUDE BUT ARE NOT LIMITED TO: WATER AND SEWER LATERALS, WATER AND SEWER MAINS, STORMWATER SUMPS, SEWER MANHOLES, WATER VALVES AND METER, AND FIRE HYDRANTS.
16.) THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN IN THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION FOR UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
17.) THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF WORK ON THE PROJECT.
18.) ALL UTILITY TRENCHING MUST BE PER OREM CITY STANDARDS.
19.) MAINTAIN 3 FEET OF HORIZONTAL AND 10 FEET OF VERTICAL SEPARATION OF THE EDGE OF METER CAN FROM ALL TREES, SHRUBS, AND DEEP ROOTED VEGETATION.

DETAIL CALLOUTS

- RW-1 — 2' CURB & GUTTER DETAIL — NTS — TYPICAL DETAIL
- RW-9 — 7' CURB, GUTTER, AND SIDEWALK CROSS SECTIONS — NTS — TYPICAL DETAIL
- SD-7 — CURB CUT DETAIL — NTS — TYPICAL DETAIL
- W-11 — TRACER WIRE DETAILS — NTS — TYPICAL DETAIL
- W-13 — 3/4" & 1" SERVICE LINE INSTALLATION — NTS — TYPICAL DETAIL
- W-23 — RPZ BACKFLOW PREVENTER — NTS — TYPICAL DETAIL
- SS-3 — SEWER LATERAL CONNECTION — NTS — TYPICAL DETAIL
- M-3 — TRENCH DETAILS — NTS — TYPICAL DETAIL
- M-4 — PIPE ZONES — NTS — TYPICAL DETAIL
- 2 — 4' CONCRETE PAN DETAIL — NTS — TYPICAL DETAIL, USE WHEN APPLIES

LEGEND

	Survey Limits		Rod Found
	Adjacent Lot Line		Telephone Pedestal
	Property Line		Telephone Manhole
	Subdivision Boundary		Telephone Box
	Right of Way		Fire Hydrant
	Centerline Road		Water Valve
	Easement Line		Water Meter
90	Proposed Contour		Electric Pedestal
90.00	Existing Contour		Monument
ss	Sanitary Sewer and Manhole		Fiber Optic Marker
	Storm Line and Manhole		Electric Transformer
w	Waterline		Light Pole
uge	Underground Electric Line		Irrigation Control Valve
fo	Underground Fiber Optic Line		Rivet in Curb Found
gas	Underground Gas Line		Utility Pole
	Asphalt		Sign
X	Fence Wire		
	Vinyl Fence		

N
W E
S

10 0 10 20 30
Scale 1" = 10'

APPROVED FOR CONSTRUCTION
C.E. TRB
P.D.E. KJP
OREM
IMPROVEMENTS INSTALLED WITHOUT CITY INSPECTION WILL BE REJECTED
05/06/2025

Blue Stakes of UTAH 811 — Bluestakes.org

LICENSED PROFESSIONAL ENGINEER — 5/1/2025 — KELBY MAX YORK — No. 7829413 — STATE OF UTAH

Structural Design and Analysis
1426 N. Main Street #300
Orem, Utah 84057
(801) 876-3501
York Engineering

LANDSCAPE PLAN
VALOR HOMES OFFICE
1301 WEST 400 SOUTH
OREM CITY, UTAH COUNTY, UTAH

REVISIONS

DESIGNED BY:	KTC
DRAWN BY:	KTC
CHECKED BY:	KMY
SCALE:	1" = 10'
DATE:	5/1/2025
PROJECT NUMBER:	NA

SHEET 9 OF 9

VALOR HOMES

998 North 1200 West
Orem, UT 84057

ANDREA ALLEN
UTAH COUNTY RECORDER
2026 Jul 16 10:41 AM FEE 0.00 BY LM
RECORDED FOR OREM CITY

Right-of-Way / Easement Release or Consent

Property Address: 1301 W 400 South, Orem, Utah
Lot 1 – Valor Center Plat "A" Subdivision
Maughan Enterprises, L.C.

Maughan Enterprises does not object to Valor Homes moving forward with the planned improvements and construction within the area shown on the attached exhibit, subject to your prior verbal approval.

Consent to Construction / Non-Objection
Maughan Enterprises, L.C. acknowledges and consents to Valor Homes proceeding with construction and improvements within the referenced area and confirms it has no objection to the proposed use of the property as shown on the attached exhibit.

Release of Interest
Maughan Enterprises, L.C. hereby releases and relinquishes any right, title, or interest it may have in the referenced right-of-way/easement area affecting the above-described property.

Dated this 9th day of July, 2026.

Valor Homes

Eric Harper, Owner

STATE OF UTAH
COUNTY OF UTAH

On this 9th day of July, 2026, personally appeared Eric Harper, whose identity is personally known to me or proved on the basis of satisfactory evidence and who by me duly sworn or affirm, did say he/she is Owner of Valor Homes and said document was signed by him/her on behalf of said Limited Liability Company by Authority of its Bylaws or Resolution of its Board of Directors, and said Eric Harper acknowledged to me said Limited Liability Company executed the same.

Witness my hand and official seal.

Notary Public

BERGUNDY LOWE
NOTARY PUBLIC•STATE OF UTAH
My Commission Expires January 4. 2027
COMMISSION NUMBER 728582

Dated this 9th day of July, 2026.

Maughan Enterprises, L.C.

Michael K. Maughan, Manager

STATE OF UTAH
COUNTY OF UTAH

On this 9th day of July, 2026, personally appeared Michael K. Maughan, whose identity is personally known to me or proved on the basis of satisfactory evidence and who by me duly sworn or affirm, did say he/she is Manager of Maughan Enterprises, L.C. and said document was signed by him/her on behalf of said Limited Liability Company by Authority of its Bylaws or Resolution of its Board of Directors, and said Michael K. Maughan acknowledged to me said Limited Liability Company executed the same.

Witness my hand and official seal.

Notary Public

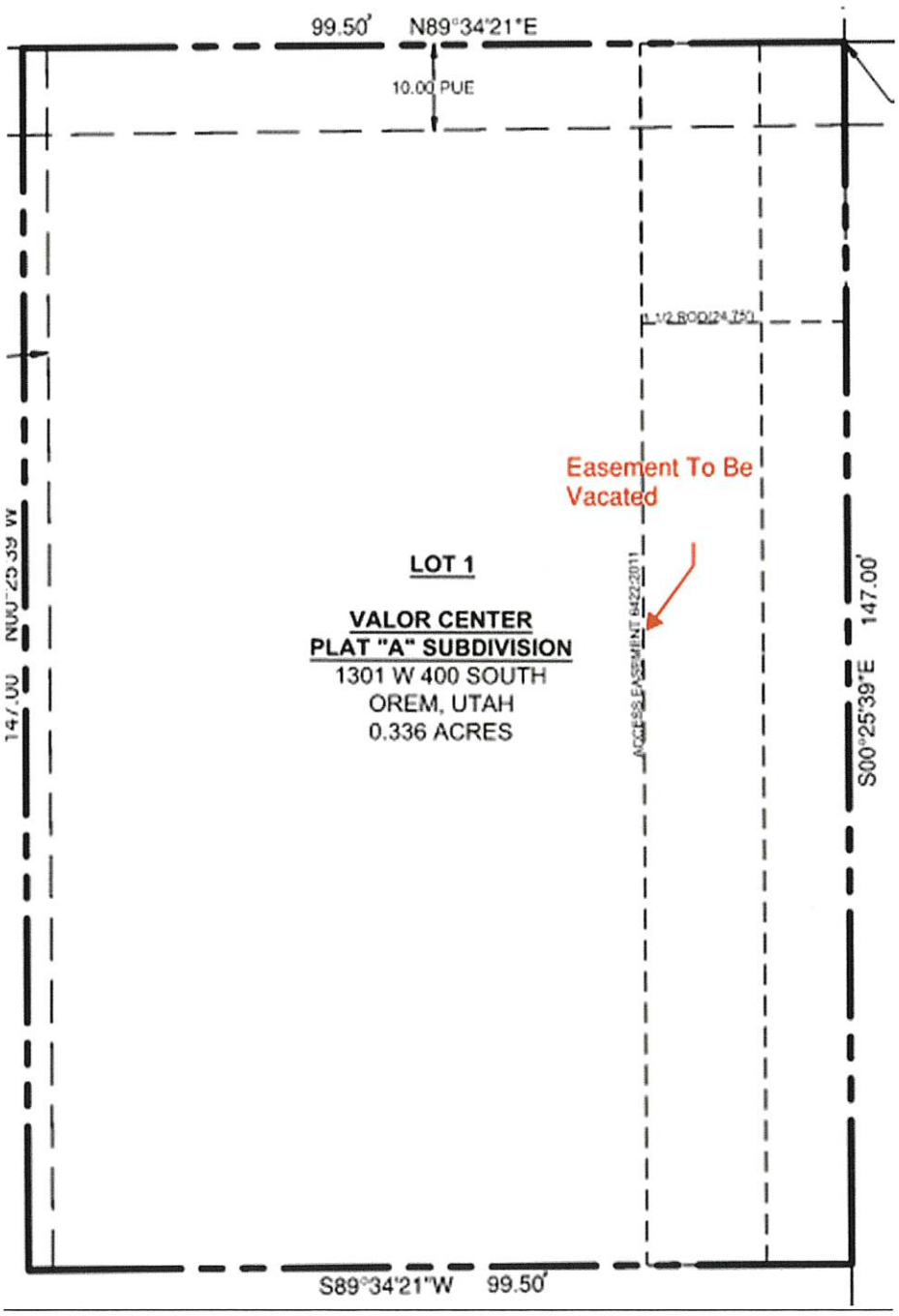
BERGUNDY LOWE
NOTARY PUBLIC•STATE OF UTAH
My Commission Expires January 4, 2027
COMMISSION NUMBER 728582

Exhibit A

Access Easement 6422:2011

Parcel 18:028:0183

Address 1301 W 400 South



Legislative

Planning Commission

August 5th , 2026

PUBLIC HEARING – TEXT AMENDMENT

Amend the text of Orem City Code Chapters 19, 21, and 22 in order to align definitions and terms with proposed Section 22-26-11, Accessory Dwelling Units.

Item 5.1:
Text Amendment, Chapter 19, 21, & 22 – aligning definitions with proposed 22-6-11

Prepared By:
Jared Hall

Notices

Posted in 2 public places

Posted on City Webpage and City hotline

Posted at Utah.gov/pmn

Action

The Commission may:

Recommend APPROVAL or DENIAL of the proposed amendment to the City Council or may CONTINUE the hearing to a future date to allow for further review or changes.

REQUEST: The Planning Division requests that the Planning Commission forward a recommendation to the City Council to amend the text of sections of code in Chapters 19, 21, and 22 in order to align the use of definitions related to the proposed Section 22-26-11, Accessory Dwelling Units.

BACKGROUND: Earlier this year, the Utah State Legislature passed a bill that included a requirement that cities such as Orem allow detached accessory dwelling units as permitted uses on single-family residential properties that are at least 11,000 ft^2 or larger. The statute gives the City till October 1st, 2026, to comply. The proposed text of a new section, 22-6-11, was reviewed by the Planning Commission in public hearing on July 15th, 2026, and was subsequently recommended to the City Council. In review, it has come to our attention that in several other sections of code, the term "Accessory Apartments" and some other related language will still be in use and will now be in conflict with the updated term "Accessory Dwelling Units" which is defined in its place in proposed Section 22-6-11. These proposed text amendments are not substantive: they are intended only to make the terms used in the larger code the same as in the new proposed section for accessory dwelling units. A document containing the redline and strikeout versions of these sections is attached to this report for your review. A brief summary of the different sections follows.

REVIEW & SUMMARY: Current regulations for accessory apartments can be found in the Orem City Code at 22-6-9(I). 22-6-9 is "Regulations Governing Particular Uses". Accessory Apartments have been found under subsection "I". The proposal moving forward to City Council is the creation of a new section, 22-6-11, where the regulations for both attached and detached accessory dwellings can be enumerated. To make the codes understandable, the term that had been previously used, "Accessory Apartments" was changed to "Accessory Dwelling Units." Making this change has impacts that reach into other sections. Almost all changes proposed here are the updating of the term "Accessory Apartment" to "Accessory Dwelling Unit". Others are updating references to the new proposed Section 22-6-11 which will replace 22-6-9(I). The changes are reviewed briefly in the following.

Chapter 19, Traffic – In Section 19-5-3, definitions, the definition for "Dwelling" contains a reference to "accessory apartments" which has been changed to "accessory dwelling units".

Chapter 21, Water – There are two definitions in Section 21-1-2 that reference "accessory apartments"; Accessory Apartments and Multiple Family Residence. Additionally, there are two references in Section 21-1-3(B) (3) regarding requirements to connect water meters. In all cases the references have been adjusted to reflect "accessory dwelling units".

Chapter 22. Zoning – There are multiple references that must be changed in this chapter:

- 22-2-1. Definitions – The definition of "Accessory Apartment" has been changed to "Accessory Dwelling Unit" and the language has been changed slightly to better reflect the language of proposed 22-6-11. The definition for "Dwelling, Single-family" contains a reference to accessory apartments which has been modified to "accessory dwelling unit".

- 22-6-8. Zone Development Standards – Single-family development standards contain a reference to "Accessory Apartments" which has been changed to "Accessory Dwelling Units".

- 22-6-9(F) Home Day Care Services – Child & Adult (SLU Code 6263) – part 6 of this section references a prohibition on home day care services operating from a home with an "accessory apartment", so the term has been updated to "accessory dwelling unit".

- 22-6-9(M) Residential Preschool (SLU Code 6265) – part 4 of this section references a prohibition on residential preschools in homes with an "accessory apartment', so the term has been updated to "accessory dwelling unit".

- 22-7-4 Planned Residential Developments (PRD) – part D references a prohibition on "accessory apartments" in PRDs, so the term has been updated to "accessory dwelling units".

- Article 22-11. PD Zone – The PD-16, PD-17, PD-19, PD-20, PD-22, and PD-43 Zones all contain multiple references to "accessory apartments" which have been updated to "accessory dwelling units". Additionally, a reference to the required plans for permitting an accessory dwelling unit has been updated to reflect the new citation of the same part in proposed Section 22-6-11.

- Article 22-14. Supplementary Regulations – The home occupation standards are found in Section 22-14-15(D, and part 7 references limits for home occupations where properties contain "accessory apartments". That reference has been updated to "accessory dwelling units".

- Appendix A. Standard Land Uses – The table of standard land use (SLU) codes includes SLU 1111 "Accessory Apartments", which has been updated to "Accessory Dwelling Units". The table also references which zones allow the use, and refers to Section 22-6-9(F), which has been updated to Section 22-6-11.

STATE REQUIRED PROCESS FOR LAND USE AMENDMENTS:
For land use amendments like the requested text amendments in this application, Utah State Code states that the "planning commission shall… review and recommend to the [Orem City Council ("Council")] a proposed land use regulation that represents the planning commission's recommendation for regulating the use and development of land within all or any part of the area of the municipality. See Utah Code 10-9a-502(1)(d)(i).

The Council "may not make any amendment [to the land use ordinance or zoning map] unless the Council… first submits the amendment to the planning commission for the planning commission's recommendation." See Utah Code 10-9a-503(2).

ALTERNATIVE ACTIONS:
After review and consideration of the application the Planning Commission may:

Recommend Approval or Denial for the requested amendments to the City Council; or

Continue the Request to a future date for further review, additional information, or public comment.

ALTERNATIVE MOTIONS:

Motion to Approve or Deny
"I move that the Planning Commission forward a recommendation of **[choose APPROVAL** or **DENIAL]** to the Orem City Council for the proposed amendments to Chapters 19, 21, and 22, aligning definitions and terms with proposed Section 22-6-11, Accessory Dwelling Units."

Motion to Continue the Request
"I move that the Planning Commission continue this request for further consideration to (choose another date as appropriate)."

TEXT AMENDMENT, OREM CITY CODE CHAPTERS 19, 21, and 22: aligning definitions related to proposed Section 22-6-11, Accessory Dwelling Units.

CHAPTER 19. TRAFFIC

Article 19-5. Residential Parking Permit Program.

19-5-3. Definitions.

Dwelling shall mean any building, structure, or portion thereof which is occupied as, or designed or intended for occupancy as a residence by one or more families, but not including hotels, motels, bed and breakfast establishments, or residential or commercial buildings which are required to have off-street parking spaces such as apartments, condominium complexes, accessory ~~apartments~~ dwelling units, etc.

CHAPTER 21. WATER

Article 21-1. Water Services.

21-1-2. Definitions. The following words used in this Chapter shall have the following meanings unless a different meaning clearly appears from the context.

Accessory ~~Apartment~~ Dwelling Unit. ~~An apartment with an accessory apartment~~ a single-family dwelling which is subordinate to the primary dwelling on the same lot or parcel and which has a permit from the City of Orem.

Multiple family residence. A residential building having more than one living unit, if the living units are not separately owned or titled. Examples of multiple family residences include townhouses, duplexes, dormitories and apartments. ~~Accessory apartments~~ Accessory Dwelling Units are excluded from the definition of "multiple family residence."

21-1-3. Connection required.

21-1-3(B)(3). Accessory ~~apartments~~ Dwelling Units. Accessory Dwelling Units shall be metered in one of the following ways:

a. Common meter. The accessory ~~apartment~~ dwelling unit and the main dwelling are served by a common water meter. The bill for the water service shall be in the name of the owner of the main dwelling.

DRAFT

b. Separate meters. The accessory ~~apartment~~ dwelling unit and the main dwelling are metered separately. The bill for each water service shall be in the name of the owner of the main dwelling

CHAPTER 22. ZONING

Article 22-2. Definitions

22-2-1. Definitions.

For the purpose of this Chapter, certain words and terms are defined as follows:

Accessory ~~Apartment~~ Dwelling Unit shall mean a single-family dwelling which is subordinate to the primary dwelling on the same lot or parcel, which has its own eating, sleeping, and sanitation facilities~~, within a single-family dwelling~~.

Dwelling, Single-family shall mean a building or structure, or portion thereof, which is designed for a single dwelling unit and occupied by, or intended to be occupied by, a single family. Single-family dwellings may include accessory ~~apartments~~ dwelling units.

Article 22-6. Residential Zones

22-6-8. Zone Development Standards.

F. **Single Family.** Only one (1) single family dwelling may be constructed per lot in a residential zone. A single family dwelling shall only be occupied by one single family or by a group home conforming to the requirements listed in Section 22-6-9(A), (B), (C), (D) or (E). Only one (1) single family shall occupy an ~~accessory apartment~~ accessory dwelling unit.

22-6-9. Regulations Governing Particular Uses.

F. Home Day Care Services-Child & Adult (SLU Code 6263). Home Day Care Services include a (1) Home Adult Day Care Facility, (2) Home Child Day Care, Small, (3) Home Child Day Care, Medium, and (4) Home Child Day Care, Large, as defined in Section 22-2-1. Home Day Care Services are permitted in residential zones subject to the following requirements:

6. No Home Day Care Service may be operated in a dwelling that has an ~~accessory apartment~~ dwelling unit.

M. Residential Preschool (SLU Code 6265). Preschools operating in residential zones are subject to the following requirements:

4. No Home Preschool Service may be operated in a dwelling that has an ~~accessory apartment~~ dwelling unit.

Article 22-7. Planned Residential Developments (PRD)

22-7-4. Where Allowed, Types and Uses.

D. ~~Accessory apartments~~ Accessory dwelling units shall not be permitted in PRDs.

Article 22-11. PD Zone

22-11-28. PD-16 Zone, 400 South 1800 West.

E. Prohibited uses. Any use not specifically listed in subparagraphs (C) and (D) above shall be prohibited.

Except as provided in Section 22-6-9(C) of this Chapter, ~~accessory apartments~~ accessory dwelling units shall not be permitted within any attached dwelling.

22-11-29. PD-17 Zone, 1120 South Between 20 East and 150 East.

M. Development Standards and Requirements. The following development standards and requirement shall be required with all PD-17 developments.

15. ~~Accessory Apartments~~ Accessory Dwelling Units. ~~Accessory apartments~~ Accessory dwelling units are not permitted within the PD-17 Zone.

22-11-31. PD-19 Zone, South Rim PRD, 1755 South 750 East.

B. Development Standards.

1. PRD Ordinance. The development standards and requirements set forth in Article 22-7 of the Orem City Code shall apply to the PD-19 zone except as expressly modified below.

2.

d. ~~Accessory Apartments~~ Accessory Dwelling Units. ~~Accessory apartments~~ Accessory dwelling units are not permitted within the PD-19 Zone.

22-11-32. PD-20, Jameson Pointe PRD, 1559 South 850 East.

B. Development Standards

1. PRD Ordinance. The development standards set forth in Article VII, PRD Ordinance, of CHAPTER 22 of the Orem City Code shall apply to the PD-20 Zone, except for building setbacks which are established by the Final Development Plan in Appendix N.

2. ~~Accessory Apartments~~ Accessory Dwelling Units. ~~Accessory apartments~~ Accessory dwelling units are not permitted within the PD-20 Zone

22-11-35. PD-22 Zone, Urban Village.

P. ~~Accessory Apartments~~ Accessory Dwelling Units. ~~Accessory apartments~~ Accessory dwelling units shall be allowed in the PD-22 zone only under the following circumstances:

1. Allowed only in Townhouses. An accessory ~~apartment~~ dwelling unit shall be allowed only in a "townhouse" style unit (non-stacked), and only in a unit that is attached to another unit on one side only.

2. Allowed only in Original Construction. An accessory ~~apartment~~ dwelling unit shall be allowed only when the ~~apartment~~ unit is designated in a plat/site plan that is approved prior to completion of original construction and the issuance of a certificate of occupancy for the unit in which it is located. An accessory ~~apartment~~ dwelling unit may not be added to a townhouse after the first certificate of occupancy is issued for that unit.

3. Owner Occupancy Required. An accessory ~~apartment~~ dwelling unit shall be allowed only in owner-occupied townhouses as the term "owner-occupied" is defined in section 22-6-9(I)(1).

4. Number of Units. No more than one (1) accessory ~~apartment~~ dwelling unit shall be allowed in a townhouse.

5. Parking. An accessory ~~apartment~~ dwelling unit shall be treated as an additional unit for purposes of calculating the number of parking stalls required in the development.

6. Size. An accessory ~~apartment~~ dwelling unit shall be at least 300 square feet in size and no larger than 900 square feet.

DRAFT

7. Building entrance. A separate entrance to the accessory ~~apartment~~ dwelling unit shall not be allowed on the front facade of the unit in which it is located. The entrance to the accessory ~~apartment~~ dwelling unit shall be located on the side of the unit in which it is located.

8. Compliance with Building Code. All construction shall comply with all building code requirements in effect at the time of construction.

9. Utility Meters. A townhouse with an accessory ~~apartment~~ dwelling unit shall have no more than two (2) meters for each water, gas, and electricity utility service and each meter shall be in the property owner's name.

10. Permit. Any person constructing or causing the construction of a townhouse that has an accessory ~~apartment~~ dwelling unit must obtain an accessory ~~apartment~~ dwelling unit permit from the ~~Development Services~~ Community Development Department and shall comply with the requirements of section ~~22-6-9(I)(8)(a-c)~~ 22-6-11(C)(7)(a-c).

22-11-56. PD-43 (Auburn Meadows) 2000 South Geneva.

H. Development Standards and Requirements. The following development standards shall apply to all development in the PD-43 zone.

1. Accessory ~~Apartments~~ Dwelling Units. Accessory ~~apartment~~ dwelling units are not permitted in the PD-43 zone.

Article 22-12. Overlay Zones.

22-12-7. Affordable Senior Housing (ASH) Overlay Zone.

O. Development Standards and Requirements. The following development standards and requirements apply to all affordable senior housing developments in the ASH zone.

17. Accessory ~~Apartments~~ Dwelling Units. Accessory ~~apartments~~ dwelling units are not permitted within the ASH zone.

Article 22-14. Supplementary Regulations.

22-14-15. Home Occupation Requirements.

D. Home Occupations. As a matter of public policy, commercial and industrial activities should be conducted in zones where such activities are specifically permitted. Except as

otherwise specifically provided, it shall be unlawful to conduct a business or occupation in a residential dwelling unless a home occupation permit has been issued by the City. The Director of Finance may issue a home occupation permit to allow limited business activities to be conducted within a residential dwelling located in any zone in the City if the following requirements are met:

7. A home occupation may be allowed in a residential structure with an accessory ~~apartment~~ dwelling unit (whether in the main dwelling, accessory ~~apartment~~ dwelling unit, or both) only if the home occupation does not have (1) customers who come to the home, (2) deliveries to the home, or (3) an employee who lives outside the home. The existence of any of the above three factors after issuance of a home occupation permit shall be grounds for revocation of the permit.

APPENDIX A.

SLU		R5	R6	R 6.5	R7.5	R8	R12	R20	OS5 / ROS	PO	C1	C2	C3	HS	M1	M2	CM	BP

1000	RESIDENTIAL																		
1100	All Personal Residences, NEC	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
1110	Single Family	P	P	P	P	P	P	P	P	N	N	N	N	N	N	N	N	N	N
1111	Accessory ~~Apartments~~ Dwelling Units	N	See Sec. ~~22-6-9(F)~~ 22-6-11							N	N	N	N	N	N	N	N	N	N
1112	Condominiums	See Sec. 22-7								N	N	N	N	N	N	N	N	N	