



# City of Sandy

## Agenda

**Planning Commission Meeting**

**Meeting Location:** Zoom

**Meeting Date:** Monday, July 25,  
2022

**Meeting Time:** 6:30 PM

Page

### **1. MEETING FORMAT NOTICE**

This meeting will be conducted in an online format only. The Commission and members of the public will be able to view and participate in the meeting online via Zoom.

To attend the meeting online via Zoom

Please use this link: <https://us02web.zoom.us/j/84175429521>

If you would rather access the meeting via telephone, dial +1 346 248 7799. When prompted, enter the following meeting number: 841 7542 9521

### **2. ROLL CALL**

### **3. APPROVAL OF MINUTES**

3.1. Draft Minutes for June 27, 2022

[Draft Minutes - Planning Commission - 27 Jun 2022](#)

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### **4. REQUESTS FROM THE FLOOR - CITIZEN COMMUNICATION ON NON- AGENDA ITEMS**

The Commission welcomes your comments at this time. Please see the instructions below:

- If you are participating online, click the "raise hand" button and wait to be recognized.
- If you are participating via telephone, dial \*9 to "raise your hand" and wait to be recognized.

### **5. DIRECTOR'S REPORT**

### **6. PLANNING COMMISSION DISCUSSION**

### **7. NEW BUSINESS**

7.1.	<p>22-026 AP Tickle Creek Partition Appeal</p> <p><a href="#">22-026 AP Tickle Creek Partition Appeal - Pdf</a></p> <p><a href="#">Exhibits A - F (Tickle Creek Village Appeal)</a></p> <p><a href="#">Exhibit G - 22-015 MP Tickle Creek Village Partition- Final Order</a></p> <p><a href="#">Exhibits H - I (Tickle Creek Village Appeal)</a></p>	10 - 34
7.2.	<p>Public Hearing - The Riffle</p> <p><a href="#">22-012 DR VAR TREE DEV CART The Riffle Food Cart Pod Staff Report</a></p> <p><a href="#">Exhibit A - Land Use and Supplemental Applications and Signature</a></p> <p><a href="#">Exhibit B - Narrative and Supplemental Narrative</a></p> <p><a href="#">Exhibit C - Civil Plan Set</a></p> <p><a href="#">Exhibit D - Architectural Plan Set</a></p> <p><a href="#">Exhibit E - Landscape Plans</a></p> <p><a href="#">Exhibit F - Lighting Plans</a></p> <p><a href="#">Exhibit G - Color Renderings</a></p> <p><a href="#">Exhibit H - Wall Fence Sections</a></p> <p><a href="#">Exhibit I - Preliminary Storm Report</a></p> <p><a href="#">Exhibit J - Traffic Impact Study and Parking Memo</a></p> <p><a href="#">Exhibit K - Arborist Report</a></p> <p><a href="#">Exhibit L - Sight Distance Sketches</a></p> <p><a href="#">Exhibit M - DEQ Comments</a></p> <p><a href="#">Exhibit N - Fire Marshal Comments</a></p> <p><a href="#">Exhibit O - City Engineer Comments</a></p> <p><a href="#">Exhibit P - Third Party Certified Arborist Report</a></p> <p><a href="#">Exhibit Q- SandyNet Comments</a></p> <p><a href="#">Exhibit R - DKS TIA Comments</a></p> <p><a href="#">Exhibit S - ODOT Response</a></p> <p><a href="#">Exhibit T - Twin Cedars Tree Covenant 2005</a></p> <p><a href="#">Exhibit U - Twin Cedars No. 2 Plat 4260-P1</a></p> <p><a href="#">Exhibit V - Site plan with staff recommended parking modifications</a></p>	35 - 354

**8. ADJOURNMENT**



**MINUTES**  
**Planning Commission Meeting**  
**Monday, June 27, 2022 Hybrid - 39250**  
**Pioneer Blvd. and Zoom 6:30 PM**

**COMMISSIONERS PRESENT:** Hollis MacLean-Wenzel, Commissioner, Chris Mayton, Commissioner, Jan Lee, Commissioner, Breezy Poulin, Commissioner, and Darren Wegener, Commissioner

**COMMISSIONERS EXCUSED:** Jerry Crosby, Commissioner, and Steven Hook, Commissioner

**STAFF PRESENT:** Kelly O'Neill Jr., Development Services Director, Emily Meharg, Senior Planner, Shelley Denison, Associate Planner, and Chris Crean, City Attorney

**COUNCIL LIAISON PRESENT:** Rich Sheldon, Councilor

**1. MEETING FORMAT NOTICE**  
Instructions for the meeting.

**2. ROLL CALL**

**3. APPROVAL OF MINUTES**

3.1. Draft Minutes for April 25, 2022

Vice Chair Maclean-Wenzel asked for any edits. With no requested edits, Maclean-Wenzel declared the minutes approved.

**4. REQUESTS FROM THE FLOOR - CITIZEN COMMUNICATION ON NON-AGENDA ITEMS**  
None

**5. DIRECTOR'S REPORT**

Development Services Director O'Neill summarized the director's report. Mr. O'Neill told the Commission that the 4th Monday of the month, August 22, 2022, did not work for staff. The Commission agreed that August 29, 2022, would be the tentative date for the August Planning Commission meeting.

**6. PLANNING COMMISSION DISCUSSION**

Associate Planner Denison provided an overview of what a community conversation is about and how it could be accomplished at the Planning Commission. Denison then

introduced Anais Mathez with 3J Consulting. Mathez provided an overview of what a community conversation is and how the process would work at the meeting. All of the commissioners provided input on the questions in the staff report. The information from the Commissioners was captured by Denison.

Commissioner Lee asked if the Commission could create a deadline for written testimony submission. Vice Chair Maclean-Wenzel, Development Services Director O'Neill, and City Attorney Crean explained that testimony, whether oral or written, can be submitted at any point prior to the hearing, or during the scheduled applicant testimony and/or public comment periods.

## 7. OLD BUSINESS

### 7.1. **The Bornstedt Views Subdivision (21-021 SUB/VAR/TREE/HD):**

Vice Chair Maclean-Wenzel opened the public hearing on File No. 21-021 SUB/VAR/TREE/HD at 7:10 p.m. Maclean-Wenzel called for any abstentions, conflicts of interest, ex-parte contact, challenges to the jurisdiction of the Planning Commission, or any challenges to any individual member of the Planning Commission. No challenges were made, and no declarations were made by the Planning Commission.

#### **Staff Report:**

Senior Planner Meharg provided an overview of the staff report with a presentation. Commissioner Mayton asked a question in regard to lot orientation. Meharg stated that the applicant could elaborate on lot orientation. Commissioner Mayton also asked a question about landscaping associated with the retaining wall. Meharg said you could require landscaping in front of the retaining wall but that the wall is below grade and the applicant could elaborate. Commissioner Mayton also asked a question about the fire turnarounds. Meharg stated that the 50/50 financial split for the fire turnarounds just seemed equitable.

#### **Applicant Presentation:**

Tracy Brown  
17075 Fir Drive  
Sandy, OR 97055

Mr. Brown provided a summary of the applicant team. He then elaborated on the written testimony and pointed out a technical difference for the trail to the south of Maple Street. Mr. Brown then went through the recommended conditions document dated June 27, 2022.

Peter van Oss

Teragan and Associates Inc.  
3145 Westview Circle  
Lake Oswego, OR 97035

Mr. van Oss addressed the addendum to the tree protection plan, dated June 25, 2022, including the root protection zone and also the protection related to the trees along the north property line.

**Public Testimony In Favor:**

None

**Public Testimony Opposed:**

Michael Modica  
19040 Bornstedt Road  
Sandy, OR 97055

He stated that he is opposed to the proposal because of the transportation impacts and the speed of traffic on Bornstedt Road. Also has concerns about how the development will affect the trees. Wants to have a great community for children and not worry about crime.

**Public Testimony Neutral:**

Kylie Modica-Oey  
19040 Bornstedt Road  
Sandy, OR 97055

Repeated what her father stated and reiterated that there is a lot of speeding traffic in the area that has her concerned. She said that she would like to see some affordable housing built in Sandy.

Becky Hausken  
39164 Amherst Street  
Sandy, OR 97055

Moved from California because of all of the growth. She would like the City of Sandy to grow in a much smarter fashion. She also stated that removal of the trees would be terrible.

*Vice Chair Maclean-Wenzel called a recess at 8:18 PM to review written testimony from the applicant. The hearing resumed at 8:36 PM.*

**Staff Recap:**

Senior Planner Meharg and Development Services Director O'Neill provided a recap of the applicant's points presented in the applicant presentation.

**Applicant Rebuttal:**

Garrett Stephenson  
Schwabe, Williamson, and Wyatt  
1211 SW 5th  
Portland, OR 97204

Mr. Stephenson stated that he is happy that staff is agreeable to the majority of the condition modifications, but that some of the conditions they hope to have modified as per the written testimony submitted to the Planning Commission on June 27, 2022. He then stated that some of the trees could be placed into tracts.

Mac Even  
Even Better Homes  
PO Box 2021  
Gresham, OR 97030

Mr. Even stated that he is a local developer and lives close to Sandy. He elaborated on the conditions list and the proposed modifications that the applicant would be amenable to with an approval. Mr. Even also explained that fire suppression systems would cost approximately \$10,000 per house, which would be passed on to the future homeowner. He then stated he is okay with removal of the driveway apron in the right-of-way and planting of a street tree, but that removal of the asphalt on the private property could be problematic. Mr. Even said that instead of counting the 13 trees in question maybe the applicant could provide some mitigation trees at a 2:1 ratio.

Commissioner Mayton asked what if the applicant removed some of the lots along Maple Street.

Ray Moore  
All County Surveyors and Planners  
PO Box 955  
Sandy, OR 97055

Mr. Moore elaborated on the tree retention considerations and what the applicant analyzed when considering tree retention. He also stated that the applicant could remove Street B, reconfigure some of the lots along Maple Street, and lose a few of the proposed lots. Mr. Moore then stated that lots at the intersection of two local streets can face either local street.

Commissioner Mayton asked for clarification on the retaining walls on Lots 10 and 11.

Mr. Moore stated that the area on Lots 10 and 11 may or may not be a wetland, and therefore a retaining wall might be needed to preserve the natural area. Commissioner Mayton said that he would like the path north of Maple Street, but that it might be difficult due to grade and the retaining wall.

**Discussion:**

Vice Chair Maclean-Wenzel stated that the discussion with the applicant is closed for June 27, 2022, and that she would like to hear from the commissioners.

Commissioner Wegener stated he would like to see tree tracts, wants to see more spacing between driveways, and also would like more information on fire turnarounds.

Commissioner Mayton stated he would like to see the conditions move forward. He would like to see the trees preserved as proposed and would like additional mitigation trees. He also stated he would like more information on the road grade and the fire code. City Attorney Crean stated that the development code requirements are the binding code requirements, not the Fire Code.

Commissioner Maclean-Wenzel stated she would like to see the trees preserved, additional spacing between driveways, and some of the turnaround aprons eventually replaced with planter strip and street trees. She then elaborated on tree preservation and that all of the trees that are being preserved need to survive, and that tree tracts give the most potential success for tree health. Commissioner Mayton then provided additional information on tree preservation and that some of the trees will live, but there is no guarantee that all of the trees will survive. Vice Chair Maclean-Wenzel then reminded everyone of the potential density increases with HB 2001.

Commissioner Poulin said that she wants to understand the fire turnaround issues better and that she wants to understand more about payments related to the eventual fire turnaround removal. She also said that she would like additional information on tree preservation and the root protection area on abutting properties.

Meharg then elaborated on trees, including the critical root zones and the importance of protecting the roots that are critical for preservation of the trees. Commissioner Mayton then asked for additional information on tree preservation and clarity on the tree variance process. Meharg elaborated on the tree variances.

Commissioner Lee stated that she likes the option to plant new mitigation trees along the creek and wetland areas. She also agreed with the other commissioners on the previous points.

The applicant's attorney, Garrett Stephenson, asked if he could speak again. Vice Chair Maclean-Wenzel approved the request and stated that the discussion with the applicant is back open. Garrett Stephenson stated that the applicant is committed to preserving 38 of the trees, planting 26 mitigation trees in the tracts, would like to leave the fire turnarounds on the private lots, agrees with the City Attorney on the road grade being adequate per the City Development Code, and would like to keep the driveways as proposed. Mr. Stephenson then stated that instead of modifying the layout again they would like to propose some modifications to be reviewed by staff prior to the Commission hearing the matter again.

Vice Chair Maclean-Wenzel then closed the record but continued the public hearing. Mr. O'Neill and Ms. Meharg then elaborated on what input they still needed and asked some questions of the City Attorney on procedure.

Instead of reconvening to make a decision on the subdivision, the Commission decided they would pass a motion to approve the subdivision with the following modifications to the findings and conditions:

- Trees. Condition that 38 healthy trees are retained but include the planting of 26 trees at the size and species of mitigation trees in the two tree retention tracts (north end of Lot 27 and wetland/stream/tree area on Lots 10 and 11).
- Fire Turnarounds. Collect half of the payment as agreed by the City Engineer for the eventual removal of the driveway aprons, installation of curb and planter strip, and planting of street trees. Also, condition that drain systems are installed to collect runoff from the asphalt section of the turnarounds on the private lots so that water does not sheet flow across the sidewalk.
- Driveways. Require that street trees are spaced every 30 feet per the Development Code with enough soil space for adequate tree growth. Applicant will need to adjust driveway width and/or location as needed to accommodate 30 foot spacing.
- Fence Gates. Condition the installation of gates in the fences along Bornstedt Road for Lots 14-18.
- Retaining walls. Permit retaining walls on Lots 26, 10, and 11 to exceed the 4-foot maximum height in a front yard and condition the maximum



height “as approved by the City Engineer with construction plan review.”

- Maple Street grade. 12 percent on the road grade is fine as it does not exceed the 15 percent in the Development Code.

**Motion:** Motion to close the public hearing at 10:15 p.m.

Moved By: Commissioner Wegener

Seconded By: Commissioner Mayton

Yes votes: All Ayes

No votes: None

Abstentions: None

**Motion:** Motion to approve The Bornstedt Views with the findings and conditions in the staff report with the amendments as discussed with staff.

Moved By: Commissioner Poulin

Seconded By: Commissioner Wegener

Yes votes: Wegener, Poulin, Lee, Mayton, Maclean-Wenzel

No votes: None

Abstentions: None

The motion passed at 10:17 p.m.

**8. ADJOURNMENT**

Vice Chair Maclean-Wenzel adjourned the meeting at 10:18 p.m.



Vice Chair, Hollis MacLean-Wenzel



Planning Director, Kelly O'Neill Jr



## Staff Report

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**Meeting Date:** July 25, 2022  
**From** Kelly O'Neill Jr., Development Services Director  
**SUBJECT:** 22-026 AP Tickle Creek Partition Appeal

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### **BACKGROUND / CONTEXT:**

Dubarko Development Corporation owned by Gerry Engler, submitted a land use application requesting to partition Parcel 2 of Partition Plat No. 1991-152 into two (2) parcels: Parcel 1 (4.44 acres) and Parcel 2 (5.88 acres). The common lot line is proposed to the north of the development area that is being constructed with Tickle Creek Village (File No. 19-038 DR/FSH/VAR/TREE). The minor partition was reviewed according to the requirements for a Type I procedure as the land division did not create a street and the resulting parcels complied with the Development Code.

On May 24, 2022, staff approved the partition for File No. 22-015 MP with conditions (Exhibit G). The property owner appealed the staff decision on June 2, 2022, primarily for two reasons as explained in Exhibit I.

The first reason for appeal is regarding the termination of an existing sanitary sewer easement and the creation of a new sanitary sewer easement. Section 17.84.90 contains requirements for creating easements for public sanitary sewer, water, stormwater, and pedestrian/bicyclist facilities whenever these facilities are located outside the public right-of-way. As noted by the Public Works Director in File No. 19-038 DR/FSH/VAR/TREE the applicant proposed several buildings over or encroaching into the existing 20-foot-wide sanitary sewer trunk line easement and proposed to relocate approximately 500 linear feet of this line to the common drive and parking areas. The applicant was conditioned to terminate the existing 20-foot-wide sanitary sewer easement (No. 74-4252) prior to recording the plat and dedicate a minimum 15-foot-wide public sanitary sewer easement to the City of Sandy to accommodate the new sanitary sewer line that is being installed on Parcel 1. The recorded plat should identify this new public sanitary sewer easement.

The second reason for appeal is the applicant's desire to not install required right-of-way frontage improvements (i.e., curbs, sidewalks, street trees, and lighting) on Freightway Lane. Chapter 17.84 contains requirements for construction of public improvements. Section 17.84.20 (A)(1) requires installation of frontage improvements prior to approval of the final plat. As part of File No. 19-038 DR/FSH/VAR/TREE the applicant is required to improve street frontages along Dubarko Road to City standards. The frontage improvements required along Ruben Lane are already complete. Parcel 2

has frontage along a short stretch of right-of-way that was dedicated with Partition Plat No. 1991-152. This right-of-way is defined as approximately 112.79 feet on its southern line and has a 45.70-foot curve into Ruben Lane, and is detailed as Ruben Lane in some documentation, but as Freightway Lane in other documentation. This right-of-way regardless of the actual name is a local street. The applicant was conditioned to install the frontage improvements along Freightway Lane and the corner radius prior to approval of the final plat or to financially guarantee the improvements at 110 percent of the value of the improvements to be guaranteed in the form of a bond, letter of credit, set-aside agreement, cash, or another approved guarantee. The right-of-way improvements are an important step in making sure that adequate pedestrian facilities are constructed along the subject property.

**Summary of Important Dates:**

ACTION	DATE
Application for Partition Received	April 6, 2022
Application Deemed Complete	May 4, 2022
Final Order Issued for File No. 22-015 MP	May 24, 2022
Appeal Submitted	June 2, 2022
Neighborhood Notice Sent	June 23, 2022
Legal Notice Published by Pamplin Media	July 6, 2022
Planning Commission Appeal Hearing	July 25, 2022
120-Day Rule	September 1, 2022

**RECOMMENDATION:**

Staff recommends the Planning Commission hold a hearing de novo to avoid a procedural error by reviewing 'on the record'. This means that the entire partition review may be open to modification. However, staff recommends that the Planning Commission only review the two items that are being contested by the appellant.

The applicant should review the following documents:

- The applicant's original narrative and partition plat (Exhibits B and E).
- The Final Order issued for File No. 22-015 MP, which includes staff's analysis of the partition request and rationale for the decision (Exhibit G).
- The appellant's grounds for appeal narrative, which includes the appellant's reasons for appealing the staff decision. (Exhibit I).

Staff recommends the Planning Commission do one of the following:

1. Uphold the staff decision per the final order for File No. 22-015 MP.
2. Modify the staff decision.
3. Deny the partition request.

**LIST OF ATTACHMENTS/EXHIBITS:**

- A. Land Use Application Form
- B. Narrative
- C. Tickle Creek Partition email from Tracy Brown (received May 3, 2022)
- D. Topographic Survey
- E. Preliminary Partition Plat
- F. Partition Plat No. 1991-152
- G. Final Order for File No. 22-015 MP (staff issued decision)
- H. Notice of Intent to Appeal submitted by Gerry Engler
- I. Grounds for Appeal Narrative



**EXHIBIT A**

**General Land Use Application**

**1 page**

<b>Name of Project:</b>	
<b>Location or Address:</b>	

<b>Map &amp; Tax Lot #</b>	<b>T:</b>	<b>R:</b>	<b>Section:</b>	<b>Tax Lot (s):</b>
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<b>Request:</b>

I am the (check one)  owner  lessee of the property listed above, and the statements and information contained herein are in all respects true, complete and correct to the best of my knowledge and belief.

Applicant (if different than owner)	Owner
Address	Address
City/State/Zip	City/State/Zip
Email	Email
Phone	Phone
Signature	Signature 

Staff Use Only

File #:	Date:	Fee\$:	Planner:
Type of review:    Type I <input type="checkbox"/> Type II <input type="checkbox"/> Type III <input type="checkbox"/> Type IV <input type="checkbox"/>			
Has applicant attended a pre-app?    Yes <input type="checkbox"/> No <input type="checkbox"/> If yes, date of pre-app meeting:			

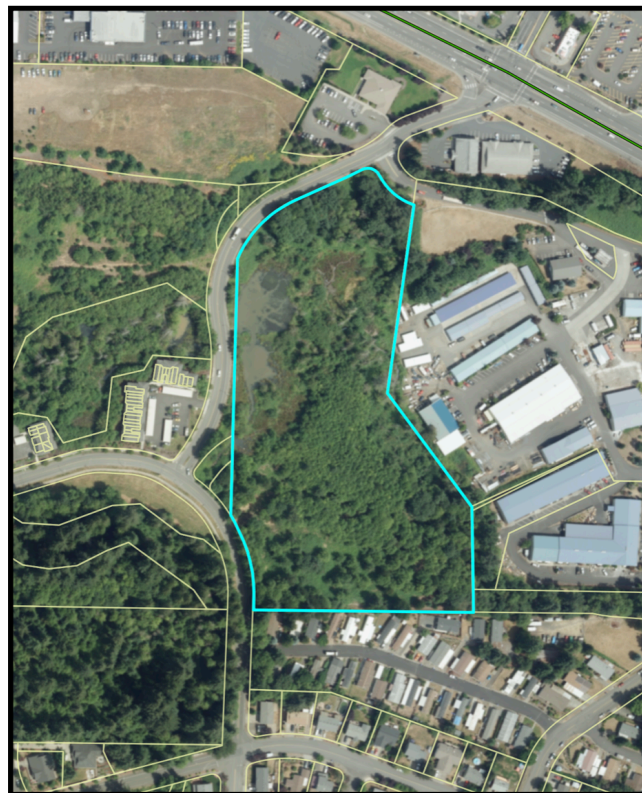
Development Services Department, 39250 Pioneer Blvd, Sandy, OR 97055, 503.489.2160

**EXHIBIT B**

Project Narrative  
for

**TICKLE CREEK VILLAGE**  
37101 Dubarko Road

Minor Partition



April 2022

## I. General Project Description

Dubarko Development Corp is seeking approval to partition the property they own into two parcels. The property is known as tax lot 3100, Township 2 South, Range 4 East, Section 14 and contains approximately 10.32 acres. The property is split zoned with the northern portion zoned R-2, Medium Density Residential and the southern portion zoned R-3, High Density Residential. Much of the property is located within the Flood and Slope Hazard Overlay and a pond/wetland is located in the center of the property.

The southern 4.23 acres of the property (37201 Dubarko Road) was approved by the City of Sandy with File No. 19-038 DR/FSH/VAR/TREE to contain 67 dwelling units in 25 buildings and associated parking and site improvements. As noted in that application, the applicant intends to partition the property in order to segregate the development site from the remainder of the property.

The proposed partition will divided the subject property into two parcels: Parcel 1 to contain 4.44 acres and the approved condominium project and Parcel 2 to contain 5.88 acres and the rest of the property. As shown on the City's Zoning Map, a significant portion of Parcel 2 is encumbered by the FSH Overlay and only a small portion of the most northerly portion of this parcel has development potential. Future development of this parcel will require an evaluation and mapping of restricted development areas on this parcel prior.

## II. Application Approval Requests

The applicant requests the following approvals with this application:

- Type I Minor Partiton

## III. Items Submitted With This Application

- Signed Land Use Application
- Exhibit A - Project Narrative
- Exhibit B - Proposed Partition Sketch
- Exhibit C - Preliminary Surveyor Partition Plat

## IV. Review of Applicable Approval Criteria

Development applications are required to meet development standards set forth in the Sandy Development Code, codified as Title 17 of the Municipal Code. The following section addresses all applicable review criteria. Pertinent code provisions are cited below followed by a response in *italics* identifying how the proposal complies with this standard. The following code chapters have been reviewed in this narrative:

<u>Section</u>	<u>Title</u>
17.30	Zoning District
17.100.40	Minor and Major Partitions

### 17.30.00 ZONING DISTRICT DESIGNATIONS

**Response:** The subject property is identified on the City of Sandy Zoning Map to be zoned R-3, High Density Residential.

### **17.30.20 RESIDENTIAL DENSITY CALCULATION PROCEDURE**

The number of dwelling units permitted on a parcel is calculated after the determination of the net site area and the acreage of any restricted development areas (as defined by Chapter 17.60). Limited density transfers are permitted from restricted development areas to unrestricted areas consistent with the provisions of the Flood and Slope Hazard Area Overlay District, Chapter 17.60.

**Response:** This section has been reviewed to confirm Parcel 1 containing the approved condominium project complies with the density range when the project was approved. As noted above, this project was approved to contain 67 units in 25 buildings. The development site as originally designed contained a gross site area of 4.23 acres. After subtracting 26,367 square feet (0.6 acres) of restricted development area (RDA) results in an unrestricted site area (USA) of 3.63 acres requiring a minimum of 36 units and a maximum of 73 units.

The R-3 zone requires a minimum of 10 and allows a maximum of 20 units per net acre. The minimum density is calculated by multiplying the USA x the required minimum density (3.63 acres x 10 = 36.3 units rounded down to 36 units)

The maximum density is determined by these two formulas using the lesser number of units.

- a. NSA (in acres) x Maximum Density of Zoning District (units/acre).  
(3.63 acres x 20 units/acre = 72.6 (rounded up to 73 units)).
- b. USA (in acres) x Maximum Density of Zoning District (units/acre) x 1.5 (maximum allowable density transfer based on Chapter 17.60)  
(3.63 x acres x 20 units/acre x 1.5 density transfer = 108.9 units (rounded to 109 units))

Parcel 1 as proposed contains a gross area of 4.44 acres. As shown on the submitted partition sketch, the majority of the additional area included in this parcel lies within a restricted development area and does not affect allowable density on this parcel. The net area of this parcel is essentially the same as in the approved design. The proposal complies with the required density range.

## **17.100 LAND DIVISION**

### **17.100.40 - MINOR AND MAJOR PARTITIONS**

Approval of a partition is required for a land division of three or fewer parcels in a calendar year. Partitions, which do not require creation or extension of a street for access, is classified as a Type I minor partition. Partitions, which require creation or extension of a street for access, are classified as Type II, major partitions.

**Response:** Based on the definition in this section, because all streets adjacent to the subject property are existing, the proposed land division is classified as a Type I, Minor Partition.



B. Application Requirements. Partition applications shall be made on forms provided by the planning department and shall be accompanied by:

1. Eight copies of the tentative plan for the minor or major partition;
2. The required fee;
3. Any data or narrative necessary to explain the application;
4. List of affected property owners.

**Response:** *The proposed Minor Partition is classified as a Type I application and does not require notice. The application package includes the rest of the items in this section.*

C. Tentative Partition Plan. The tentative plan shall be a minimum of eight and one-half by 11 inches in size and shall include the following information:

1. The date, north point, engineering scale, and legal description;
2. Name and address of the owner of record and of the person who prepared the partition plan;
3. Zoning, size and dimensions of the tract to be partitioned;
4. Size, dimensions and identification of proposed parcels (Parcel 1, Parcel 2, Parcel 3);
5. Approximate location of any structures on the tract to be partitioned, including setbacks to proposed parcel boundaries;
6. Location, names and widths of streets, sidewalks and bikeways within the tract to be partitioned and extending 400 feet beyond the tract boundaries;
7. Location, width and purpose of existing and proposed easements on the tract to be partitioned;
8. Location and size of sanitary sewer, water and stormwater drainage facilities proposed to serve the property to be partitioned;
9. Natural features such as waterways, drainage area, significant vegetation or rock outcroppings;
10. Approximate topography, particularly noting any area of steep slope;
11. A plan for future parcel redivision, if the proposed parcels are large enough to be redivided under the comprehensive plan or zoning designation.

**Response:** *All applicable items in this section are included on the proposed partition tentative plat.*

D. Approval Criteria. The Director or Planning Commission shall review the tentative plan for a minor or major partition based on the classification procedure (Type I, II or III) and the following approval criteria:

1. The proposed partition is consistent with the density, setback and dimensional standards of the base zoning district.

**Response:** *As previously reviewed with approval of File No. 19-038 and detailed in this narrative above, the proposed partition is consistent with the density, setback, and dimensional standard of the base zoning district. The proposal complies with this criteria.*

2. The proposed partition is consistent with the design standards set forth in this chapter.

**Response:** As reviewed in this narrative and shown on the submitted tentative partition plan, the proposal is consistent with the design standards in this chapter. The proposal complies with this criteria.

3. Adequate public facilities are available or can be provided to serve the proposed partition.

**Response:** Parcel 1 is served by all public facilities from Dubarko Drive. Future development of Parcel 2 will be serviced by facilities in Ruben Lane and the public portion of Freightway Lane. The proposal complies with this criteria.

4. All proposed improvements meet City standards.

**Response:** No improvements are proposed with approval of the partition request.

5. Traffic volumes shall not exceed average daily traffic (ADT) standards for local streets as detailed in Chapter 17.10, Definitions.

**Response:** Neither Dubarko Road or Ruben Lane are local streets. Traffic requirements were evaluated and approved for Parcel 1 with File No. 19-038. As noted above, Parcel 2 has limited development potential due to restricted development areas with the FSH Overlay portion of this parcel. The proposal complies with this criteria.

6. The plan preserves the potential for future redivision of the parcels, if applicable.

**Response:** Future redivision of either parcel will be limited if not impossible. The proposal complies with this criteria.

## V. Conclusion

The applicant requests a Type I minor partition approval to divide the subject property (T2S R4E Section 1400 tax lot 3100) into two parcels. The applicant has submitted this application primarily with the intent of creating a parcel for the approved Tickle Creek Condominium project separate from the rest of the property. As demonstrated in this narrative, the proposal complies with all relevant code standards and the applicant respectfully requests this application be approved.

6/21/22, 12:00 PM

City of Sandy Mail - Tickle Creek Condos Partition



## EXHIBIT C

Rebecca Casey <rcasey@ci.sandy.or.us>

### Tickle Creek Condos Partition

Tracy Brown <tbrownplan@gmail.com>

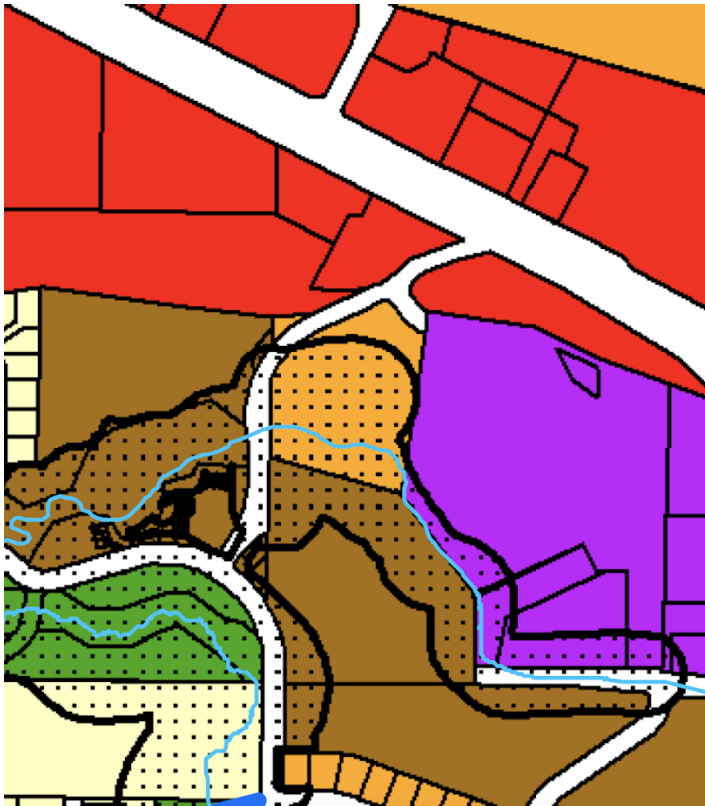
Tue, May 3, 2022 at 12:04 PM

To: "Kelly O'Neill Jr." <koneill@ci.sandy.or.us>

Cc: Rebecca Casey <rcasey@ci.sandy.or.us>, Planning <planning@ci.sandy.or.us>, GLC Homes Office <office@buildernw.com>

Hi, I just received my computer so I wanted to get back to you on your questions.

1. Do you have Sheet 2 of the preliminary partition? *The two sheets were submitted with the application are: Exhibit B - Preliminary Partition Sketch and Exhibit C - Surveyors Partition Plat. I am attaching these again.*
2. Restricted Development Area - *As shown on the Zoning Map, a portion of Parcel 2 is located outside the FSH Overlay. As such, no restricted development area is located on this portion of property and the proposal complies with Section 17.60.20 (C). We understand that a future development proposal on this property may require additional analysis if development is to occur within the FSH Overlay.*



Please let me know if you have any questions.

Tracy

**Tracy Brown Planning Consultants, LLC**

Sandy, Oregon

503-781-0453

<https://mail.google.com/mail/u/0/?ik=3ad3df1da3&view=pt&search=all&permmsgid=msg-f%3A1731833089646956353&simpl=msg-f%3A17318330896...> 1/2

6/21/22, 12:00 PM

City of Sandy Mail - Tickle Creek Condos Partition

[tbrownplan@gmail.com](mailto:tbrownplan@gmail.com)

[www.tracybrownplanningconsultants.com](http://www.tracybrownplanningconsultants.com)

On Fri, Apr 29, 2022 at 2:42 PM Kelly O'Neill Jr. <koneill@ci.sandy.or.us> wrote:

[Quoted text hidden]

[Quoted text hidden]

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**2 attachments**



**3 Proposed Partition Sketch.pdf**

1221K



**4 Surveyor Prelim Partition 03282022.pdf**

175K

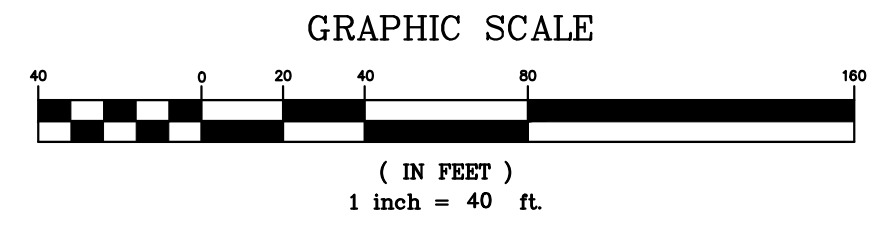
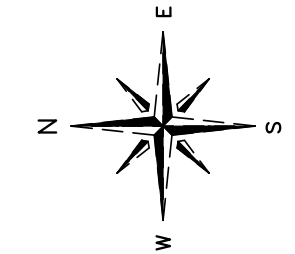
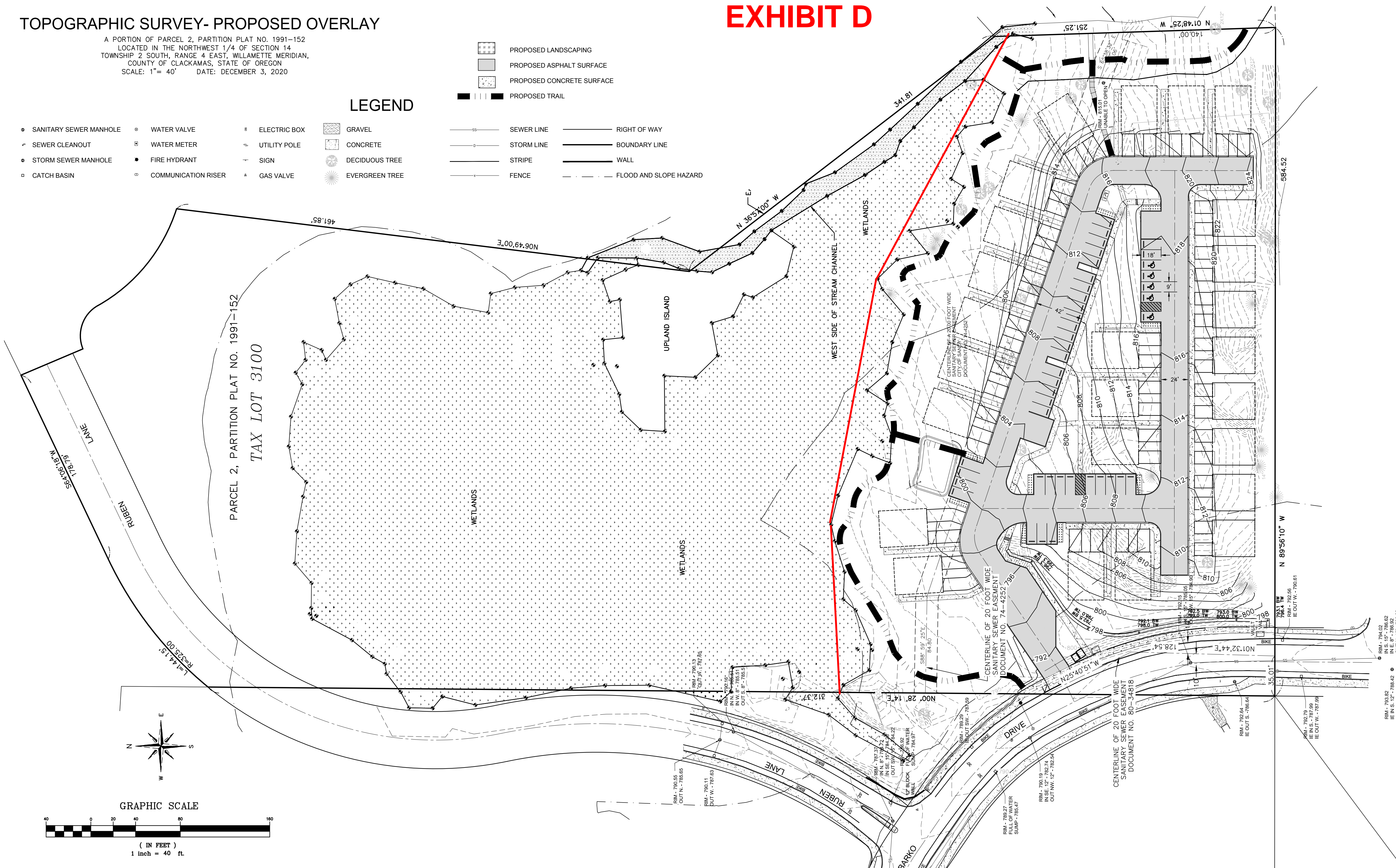
# TOPOGRAPHIC SURVEY- PROPOSED OVERLAY

A PORTION OF PARCEL 2, PARTITION PLAT NO. 1991-152  
 LOCATED IN THE NORTHWEST 1/4 OF SECTION 14  
 TOWNSHIP 2 SOUTH, RANGE 4 EAST, WILLAMETTE MERIDIAN,  
 COUNTY OF CLACKAMAS, STATE OF OREGON  
 SCALE: 1" = 40' DATE: DECEMBER 3, 2020

# EXHIBIT D

## LEGEND

- |                          |                       |                |                  |              |                          |
|--------------------------|-----------------------|----------------|------------------|--------------|--------------------------|
| ○ SANITARY SEWER MANHOLE | ○ WATER VALVE         | ■ ELECTRIC BOX | ▨ GRAVEL         | — SEWER LINE | — RIGHT OF WAY           |
| — SEWER CLEANOUT         | ○ WATER METER         | ○ UTILITY POLE | ▨ CONCRETE       | — STORM LINE | — BOUNDARY LINE          |
| ○ STORM SEWER MANHOLE    | ● FIRE HYDRANT        | — SIGN         | ○ DECIDUOUS TREE | — STRIPE     | — WALL                   |
| ○ CATCH BASIN            | ○ COMMUNICATION RISER | ● GAS VALVE    | ○ EVERGREEN TREE | — FENCE      | — FLOOD AND SLOPE HAZARD |



NOTES:  
 THIS DRAWING IS NOT A RECORD OF SURVEY  
 AND IS ONLY FOR EXHIBIT USE SHOWING EXISTING  
 AND PROPOSED CONDITIONS.

**FIRWOOD DESIGN GROUP**  
 Reliable Engineering Solutions  
 359 EAST HISTORIC COLUMBIA RIVER HIGHWAY  
 TROUTDALE, OREGON 97060  
 BUS: (503) 668-3737 • FAX: (503) 668-3788

# EXHIBIT E

# PARTITION PLAT NO. 2022-

LOCATED IN THE  
N.W. 1/4 SECTION 14, T.2S., R.4E., W.M.  
CITY OF SANDY, CLACKAMAS COUNTY, OREGON  
MARCH 22, 2022 SCALE 1"=100'  
PLANNING FILE NO. 19-038 DR/FSH/VAR/TREE  
SHEET 1 OF 2

CURVE DATA TABLE					
CURVE#	LENGTH	RADIUS	DELTA	CH. BEARING	CH. LEN.
C1	112.79'	149.62'	43°11'34"	S50°14'27"E	110.14'
C2	45.70'	30.00'	87°16'32"	S72°16'56"E	41.41'
C3	222.20'	265.00'	48°02'32"	N40°03'32"E	215.75'
C4	284.52'	325.00'	50°09'34"	S13°36'42"W	275.52'
C5	228.34'	300.00'	43°36'33"	S10°20'11"W	222.87'
C6	338.30'	400.00'	48°27'30"	N12°45'40"E	328.31'
C7	370.25'	425.00'	49°54'52"	N13°29'21"E	358.65'
C8	153.59'	330.00'	26°39'58"	N12°53'07"W	152.20'
C9	284.50'	325.00'	50°09'21"	S14°25'39"W	275.50'
C10	338.30'	400.00'	48°27'31"	N13°34'44"E	328.31'

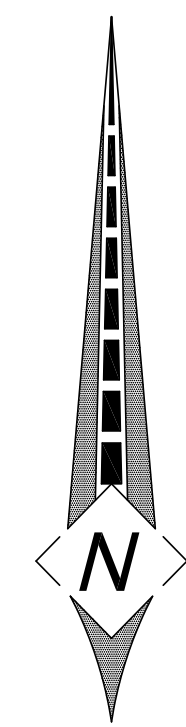
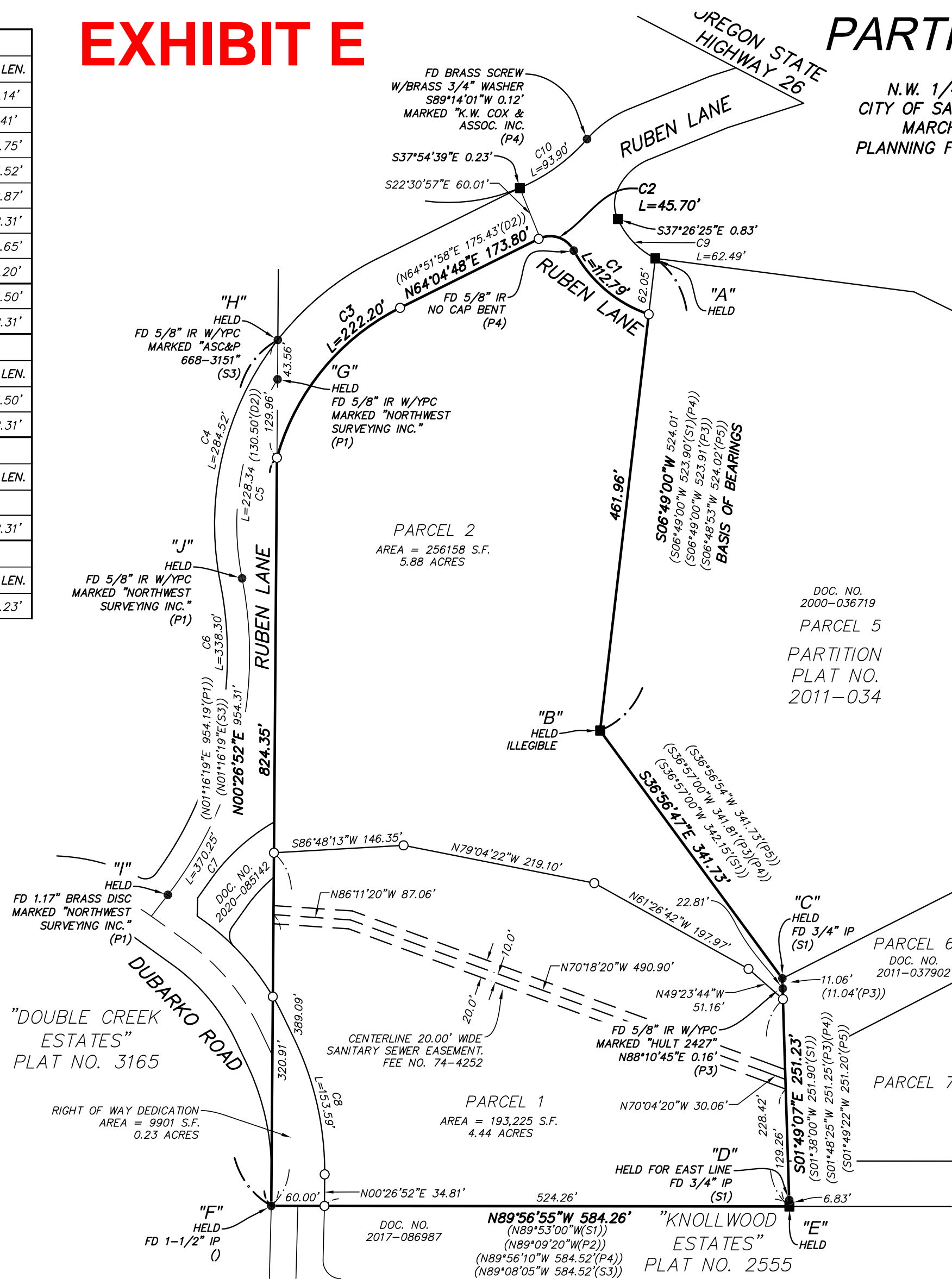
RECORD CURVE DATA TABLE (P1)					
CURVE#	LENGTH	RADIUS	DELTA	CH. BEARING	CH. LEN.
C4 DONE	284.50'	325.00'	50°09'21"	S14°25'39"W	275.50'
C6 DONE	338.30'	400.00'	48°27'31"	N13°34'44"E	328.31'

RECORD CURVE DATA TABLE (D1)					
CURVE#	LENGTH	RADIUS	DELTA	CH. BEARING	CH. LEN.
C4		325.00'			
C6	338.30'	400.00'	48°27'30"	N13°35'22"E	328.31'

RECORD CURVE DATA TABLE (D2)					
CURVE#	LENGTH	RADIUS	DELTA	CH. BEARING	CH. LEN.
C3	222.72'	265.00'	48°09'19"	N40°47'19"E	216.23'



**LEGEND:**

- SET 5/8" x 30" IRON ROD W/ RED PLASTIC CAP MARKED "CENTERLINE CONCEPTS" ON \_\_\_\_\_, 2022
- FOUND MONUMENT AS NOTED
- FOUND 5/8" IRON ROD W/ YELLOW PLASTIC CAP MARKED "K.W. COX & ASSOC. INC." FROM PARTITION PLAT NO. 1991-152

( ) = RECORD DISTANCES & BEARINGS  
 IR = IRON ROD IP = IRON PIPE  
 FD = FOUND W/ = WITH  
 YPC = YELLOW PLASTIC CAP  
 R/W = RIGHT OF WAY  
 S.F. = SQUARE FEET  
 CCPR = CLACKAMAS COUNTY PLAT RECORDS  
 DOC. NO. = DEED DOCUMENT NUMBER,  
 CLACKAMAS COUNTY DEED RECORDS  
 SN = SURVEY NUMBER, CLACKAMAS  
 COUNTY SURVEY RECORDS

S1 = SN 1013  
 S2 = SN 571  
 S3 = SN 2003-314  
 P1 = PARTITION PLAT NO. 2007-163  
 P2 = "KNOLLWOOD ESTATES" CCPR  
 P3 = PARTITION PLAT NO. 2000-037 CCPR  
 P4 = PARTITION PLAT NO. 1991-152 CCPR  
 P5 = PARTITION PLAT NO. 2011-034 CCPR  
 D1 = 2003-043345  
 D2 = 2005-086712

SIGNED ON:  
**REGISTERED PROFESSIONAL LAND SURVEYOR**

OREGON  
 JULY 13, 2004  
**TOBY G. BOLDEN**  
 60377LS

RENEWS: DECEMBER 31, 2023

**CENTERLINE CONCEPTS**  
 LAND SURVEYING, INC.  
 19376 MOLALLA AVE., SUITE 120  
 OREGON CITY, OREGON 97045  
 PHONE 503.650.0188 FAX 503.650.0189

PLOTTED: M:\PROJECTS\DUBARKO DEV-DUBARKO RD-37101\DWG\PART-C3D.dwg

# EXHIBIT F

**KENT W. COX & ASSOCIATES, INC.**  
204 N. E. KELLY AVENUE  
GRESHAM, OREGON 97030  
90-124

**PARTITION PLAT NO. 1991-152**  
SITUATED IN THE N1/2 SECTION 14, T. 2S., R. 4E., W.M.  
CLACKAMAS COUNTY, OREGON  
SURVEYED APRIL 10, 1991 SCALE 1" = 100'

SHEET  
1 OF 2

## SURVEYOR'S CERTIFICATE

I, DONALD L. MCCONNELL, BEING FIRST DULY SWORN, HEREBY DEPOSE AND SAY THAT I HAVE CORRECTLY SURVEYED AND MARKED WITH PROPER MONUMENTS THE LAND REPRESENTED ON THE ATTACHED PARTITION PLAT, THE BOUNDARY BEING DESCRIBED AS FOLLOWS:  
A TRACT OF LAND IN THE WEST ONE-HALF OF THE NORTHEAST ONE-QUARTER OF SECTION 14, TOWNSHIP 2 SOUTH, RANGE 4 EAST, WILLAMETTE MERIDIAN, CLACKAMAS COUNTY, OREGON, SAID TRACT OF LAND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A 3/4 INCH DIAMETER IRON PIPE MARKING THE NORTHWEST CORNER OF THE SOUTHWEST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER OF SAID SECTION 14, SAID IRON PIPE BEARING SOUTH 00°25'56" WEST A DISTANCE OF 1316.93 FEET FROM THE NORTHWEST CORNER OF THE NORTHEAST ONE-QUARTER OF SAID SECTION 14; THENCE SOUTH 63°13'59" EAST A DISTANCE OF 178.65 FEET TO A POINT; THENCE NORTH 26°46'01" EAST A DISTANCE OF 70.47 FEET TO A POINT IN THE NORTH LINE OF THE SOUTHWEST ONE-QUARTER OF THE NORTHEAST ONE-QUARTER OF SAID SECTION 14; THENCE SOUTH 89°57'04" EAST, ALONG LAST SAID NORTH LINE, A DISTANCE OF 30.99 FEET; THENCE NORTH 26°46'01" EAST A DISTANCE OF 70.47 FEET TO A POINT IN THE SOUTHERLY RIGHT OF WAY LINE OF STATE HIGHWAY NO. 26; THENCE SOUTH 63°13'59" EAST, ALONG SAID RIGHT OF WAY LINE, A DISTANCE OF 156.38 FEET TO AN ANGLE POINT IN SAID RIGHT OF WAY LINE; THENCE SOUTH 62°54'27" EAST, ALONG SAID RIGHT OF WAY LINE, A DISTANCE OF 210.59 FEET TO A POINT; THENCE SOUTH 72°37'20" WEST A DISTANCE OF 89.96 FEET TO A POINT; THENCE SOUTH 68°24'22" WEST A DISTANCE OF 95.07 FEET TO THE BEGINNING OF A 67.00 FOOT RADIUS CIRCULAR CURVE TO THE LEFT; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 40°11'13" A DISTANCE OF 46.99 FEET (THE LONG CHORD BEARS SOUTH 48°18'45" WEST A DISTANCE OF 46.04 FEET) TO A POINT OF COMPOUND CURVATURE AND THE BEGINNING OF A 39.00 FOOT RADIUS CIRCULAR CURVE TO THE LEFT; THENCE SOUTHERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 52°16'37" A DISTANCE OF 35.58 FEET (THE LONG CHORD BEARS SOUTH 02°04'50" WEST A DISTANCE OF 34.36 FEET) TO A POINT OF COMPOUND CURVATURE AND THE BEGINNING OF A 89.62 FOOT RADIUS CIRCULAR CURVE TO THE LEFT; THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE THROUGH A CENTRAL ANGLE OF 39°57'04" A DISTANCE OF 62.49 FEET (THE LONG CHORD BEARS SOUTH 44°02'00" EAST A DISTANCE OF 61.23 FEET) TO A POINT OF NONTANGENCY; THENCE SOUTH 06°49'00" WEST A DISTANCE OF 523.90 FEET TO A POINT; THENCE SOUTH 36°57'00" EAST A DISTANCE OF 341.81 FEET TO A POINT; THENCE SOUTH 01°48'25" EAST A DISTANCE OF 251.25 FEET TO A POINT IN THE SOUTH LINE OF THE WEST ONE-HALF OF THE NORTHEAST ONE-QUARTER OF SAID SECTION 14; THENCE NORTH 89°56'10" WEST, ALONG LAST SAID SOUTH LINE, A DISTANCE OF 584.52 FEET TO THE SOUTHWEST CORNER THEREOF; THENCE SOUTH 89°56'59" WEST, ALONG THE SOUTH LINE OF THE SOUTHEAST ONE-QUARTER OR THE NORTHWEST ONE-QUARTER OF SAID SECTION 14, A DISTANCE OF 1323.56 FEET TO THE SOUTHWEST CORNER THEREOF; THENCE NORTH 00°23'49" EAST, ALONG THE WEST LINE OF THE SOUTHWEST ONE-QUARTER OF SAID SECTION 14, A DISTANCE OF 1321.48 FEET TO THE NORTHWEST CORNER THEREOF; THENCE SOUTH 89°54'50" EAST, ALONG THE NORTH LINE OF THE SOUTHEAST ONE-QUARTER OF SAID SECTION 14, A DISTANCE OF 1325.23 FEET TO THE POINT OF BEGINNING.

*Donald L. McConnell*  
DONALD L. MCCONNELL  
PLS 859, OREGON  
SUBSCRIBED AND SWORN TO  
BEFORE ME THIS 16<sup>th</sup> DAY  
OF APRIL, 1991  
**KENT W. COX**  
NOTARY PUBLIC OREGON  
My Commission Expires 4-16-92

REGISTERED  
PROFESSIONAL  
LAND SURVEYOR

OREGON  
JULY 12, 1988  
DONALD L. MCCONNELL  
859

I CERTIFY THAT THIS TRACING IS AN EXACT COPY OF THE ORIGINAL PARTITION PLAT NO. AS SUBMITTED FOR RECORDING.

## DEDICATION

KNOW ALL PERSONS BY THESE PRESENTS THAT MICHAEL D. HOFFMAN, RUBEN E. HOFFMAN, JR. AND PORTLAND ADVENTIST MEDICAL CENTER, A NON-PROFIT OREGON CORPORATION DO HEREBY DECLARE THAT THEY ARE THE OWNERS OF THE LAND REPRESENTED ON THE ANNEXED MAP MORE PARTICULARLY DESCRIBED IN THE ACCOMPANYING SURVEYOR'S CERTIFICATE, AND HAVE CAUSED THE SAME TO BE PARTITIONED AND SURVEYED INTO PARCELS AS SHOWN ON THE ANNEXED MAP, ALL STREETS OF THE WIDTHS THEREIN SET FORTH, AND DO HEREBY DEDICATE TO THE PUBLIC AS PUBLIC HIGHWAYS FOREVER ALL STREETS SHOWN ON SAID MAP AND DO ALSO DECLARE THAT THERE ARE NO WATER RIGHTS APPURTENANT TO THIS PROPERTY.

*Michael D. Hoffman*  
MICHAEL D. HOFFMAN  
*Ruben E. Hoffman, Jr.*  
RUBEN E. HOFFMAN, JR.  
*Larry D. Dodds*  
LARRY D. DODDS  
PRESIDENT, PORTLAND ADVENTIST MEDICAL CENTER  
*R. Charles Nagale*  
R. CHARLES NAGALE  
VICE PRESIDENT, PORTLAND ADVENTIST MEDICAL CENTER

## ACKNOWLEDGMENTS

STATE OF OREGON )  
COUNTY OF CLACKAMAS )SS

KNOW ALL PERSONS BY THESE PRESENTS, ON THIS 10<sup>th</sup> DAY OF APRIL, 1991, BEFORE ME A NOTARY PUBLIC IN AND FOR SAID STATE AND COUNTY, PERSONALLY APPEARED MICHAEL D. HOFFMAN, RUBEN E. HOFFMAN, JR., WHO BEING DULY SWORN, DID SAY THAT THEY ARE THE IDENTICAL PERSONS NAMED IN THE FOREGOING INSTRUMENT, AND THAT THEY EXECUTED SAID INSTRUMENT FREELY AND VOLUNTARILY. ALSO LARRY D. DODDS AND R. CHARLES NAGALE PERSONALLY APPEARED BEFORE ME AND BEING DULY SWORN DID SAY THAT THEY ARE THE PRESIDENT AND VICE PRESIDENT, RESPECTIVELY, OF PORTLAND ADVENTIST MEDICAL CENTER, A NON-PROFIT OREGON CORPORATION, AND THAT THEY EXECUTED THE FOREGOING INSTRUMENT FREELY AND VOLUNTARILY ON BEHALF OF SAID CORPORATION.

*Enid Elizabeth Baltz*  
ENID ELIZABETH BALTZ  
NOTARY PUBLIC - OREGON  
My Commission Expires 4-26-93

## LEGEND

- FOUND 5/8" IRON ROD EXCEPT AS NOTED.
- SET 5/8"x30" IRON ROD W/YELLOW PLASTIC CAP MARKED "K. W. COX & ASSOC., INC."
- ③ CURVE IDENTIFICATION NUMBER
- B TYPICAL COURSE IDENTIFICATION LETTER
- φ SET BRASS SCREW W/WASHER MARKED "K. W. COX ASSOC. INC."

## APPROVALS

MAJOR PARTITION - #8-90-HOFFMAN  
APPROVED THIS 11 DAY OF June, 1991.

*Juan Luis Arreola*  
JUAN LUIS ARREOLA  
CITY PLANNER/ENGINEER  
CITY OF SANDY

APPROVED THIS 13 DAY OF May, 1991.

*Kimberley J. Nelson*  
KIMBERLEY J. NELSON  
CHAIRPERSON, PLANNING COMMISSION  
CITY OF SANDY

APPROVED THIS 13<sup>th</sup> DAY OF August, 1991.

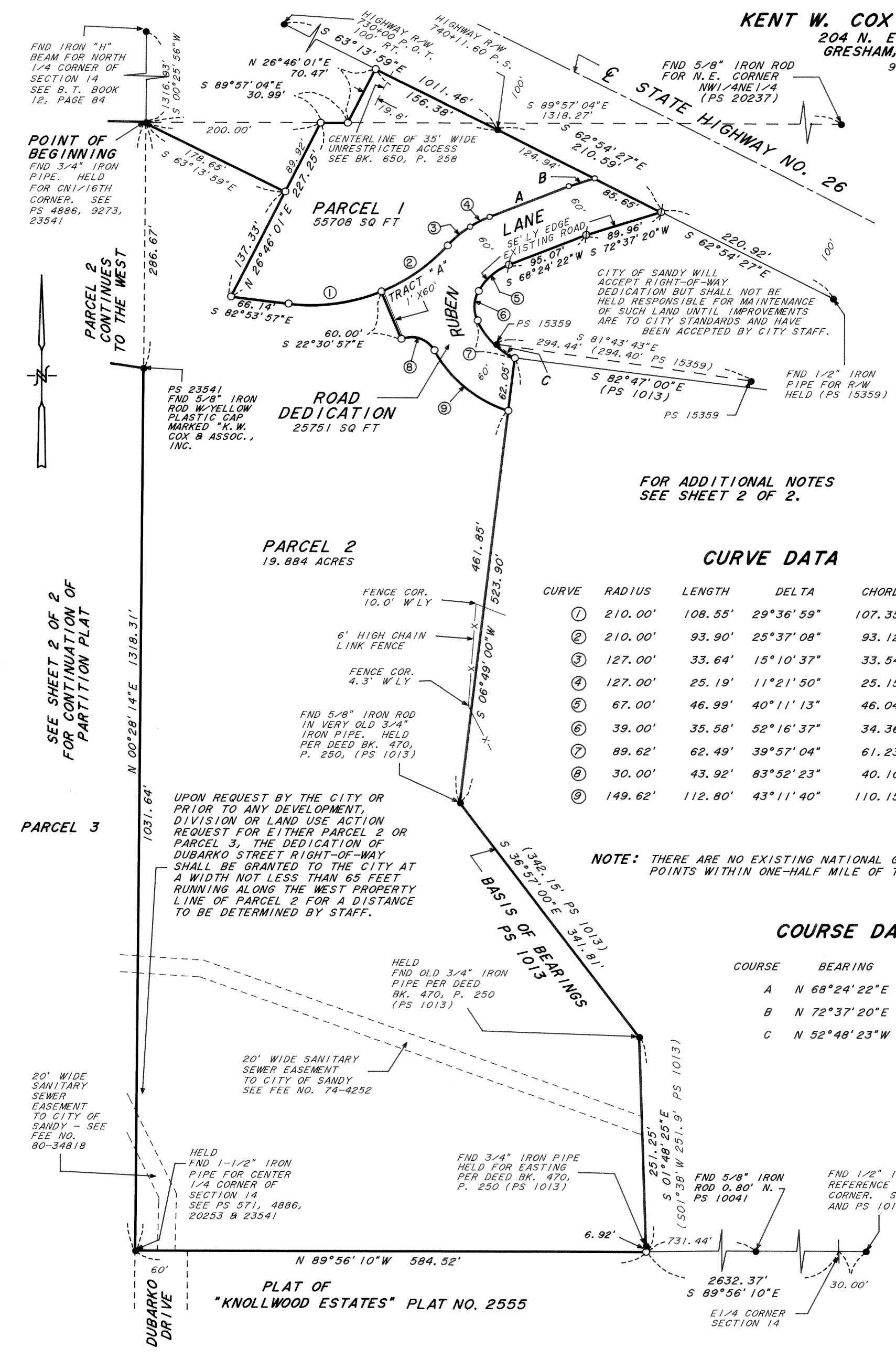
*Thomas B. Milne*  
THOMAS B. MILNE  
COUNTY SURVEYOR  
CLACKAMAS COUNTY SURVEYOR  
BY *Carl R. Hunter*, Deputy

STATE OF OREGON )  
COUNTY OF CLACKAMAS )SS

I DO HEREBY CERTIFY THAT THE ATTACHED PARTITION PLAT WAS RECEIVED FOR RECORD AND RECORDED ON THE 14 DAY OF August, 1991, AT 9:31 O'CLOCK P.M. AS PARTITION PLAT NO. 1991-152, CLACKAMAS COUNTY RECORDS.

COUNTY RECORDING OFFICE  
*John Kaufman*  
JOHN KAUFMAN - County Clerk  
BY: *Jeffrey*  
DEPUTY

PARTITION #1991-152  
91-40633  
SHEET 1 OF 2



FOR ADDITIONAL NOTES  
SEE SHEET 2 OF 2.

### CURVE DATA

CURVE	RADIUS	LENGTH	DELTA	CHORD	CH. BEARING
①	210.00'	108.55'	29°36'59"	107.35'	N 82°17'33"E
②	210.00'	93.90'	25°37'08"	93.12'	N 54°40'29"E
③	127.00'	33.64'	15°10'37"	33.54'	N 49°27'13"E
④	127.00'	25.19'	11°21'50"	25.15'	N 62°43'27"E
⑤	67.00'	46.99'	40°11'13"	46.04'	S 48°18'45"W
⑥	39.00'	35.58'	52°16'37"	34.36'	S 02°04'50"W
⑦	89.62'	62.49'	39°57'04"	61.23'	S 44°02'00"E
⑧	30.00'	43.92'	83°52'23"	40.10'	S 70°34'45"E
⑨	149.62'	112.80'	43°11'40"	110.15'	S 50°14'24"E

NOTE: THERE ARE NO EXISTING NATIONAL GEODETIC SURVEY POINTS WITHIN ONE-HALF MILE OF THIS PARTITION.

### COURSE DATA

COURSE	BEARING	DISTANCE
A	N 68°24'22"E	97.28'
B	N 72°37'20"E	31.05'
C	N 52°48'23"W	26.65'

1991-152

SHEET  
2 OF 2

**PARTITION PLAT NO. 1991-152**  
SITUATED IN THE N1/2 SECTION 14, T.2S., R.4E., W.M.  
CLACKAMAS COUNTY, OREGON  
SURVEYED APRIL 10, 1991 SCALE 1" = 100'  
90-124

**KENT W. COX & ASSOCIATES, INC.**  
204 N. E. KELLY AVENUE  
GRESHAM, OREGON 97030

**SURVEYOR'S NARRATIVE**

THE PURPOSE OF THIS SURVEY IS TO PARTITION A TRACT OF LAND DESCRIBED IN THE ACCOMPANYING SURVEYOR'S CERTIFICATE INTO THREE PARCELS ALONG WITH A DEDICATION FOR ROAD PURPOSES. I PROCEEDED BY LOCATING CONTROL FOR THE SECTION SUBDIVISION AS SHOWN ON PS 20237 AND PS 23541 ALONG WITH IRON PIPES CALLED IN DEEDS AS SHOWN HEREON. I HELD DEED PIPES AND/OR DEED ANGULAR RELATIONSHIPS TO ESTABLISH THE EAST LINE OF SUBJECT TRACT ALONG WITH THE EASTERLY LINE OF AN EXISTING ROAD FOR THE NORTHERLY PORTION OF THE EAST LINE. NORTH LINES WERE HELD PER DEEDS OF A LOT LINE ADJUSTMENT RECENTLY ACCOMPLISHED BY PROPERTY EXCHANGE DEEDS AND THE SUBDIVISIONAL LINE FOR THE NORTH LINE OF THE WESTERLY PORTION OF PARCEL 2. THE WEST AND SOUTH LINES WERE HELD AS SECTIONAL SUBDIVISION LINES. THE BOUNDARIES OF THE WESTERLY PORTION OF PARCEL 2 AND ALL OF PARCEL 3 WERE FOUND TO BE AS SHOWN ON PS 23541. THE BASIS OF BEARINGS IS PS 1013 AS SHOWN HEREON. ALL ANGLES AND DISTANCES WERE MEASURED WITH A LIETZ SET4 TOTAL STATION INSTRUMENT.

I CERTIFY THAT THIS TRACING IS AN EXACT COPY OF THE ORIGINAL PARTITION PLAT NO. \_\_\_\_\_ AS SUBMITTED FOR RECORDING.

REGISTERED PROFESSIONAL LAND SURVEYOR  
*Donald L. McConnell*  
OREGON  
JULY 12, 1968  
DONALD L. MCCONNELL  
859

NOTE: SEE PS 23541 FOR OUTBOUNDS CONTROL FOR THIS SHEET.

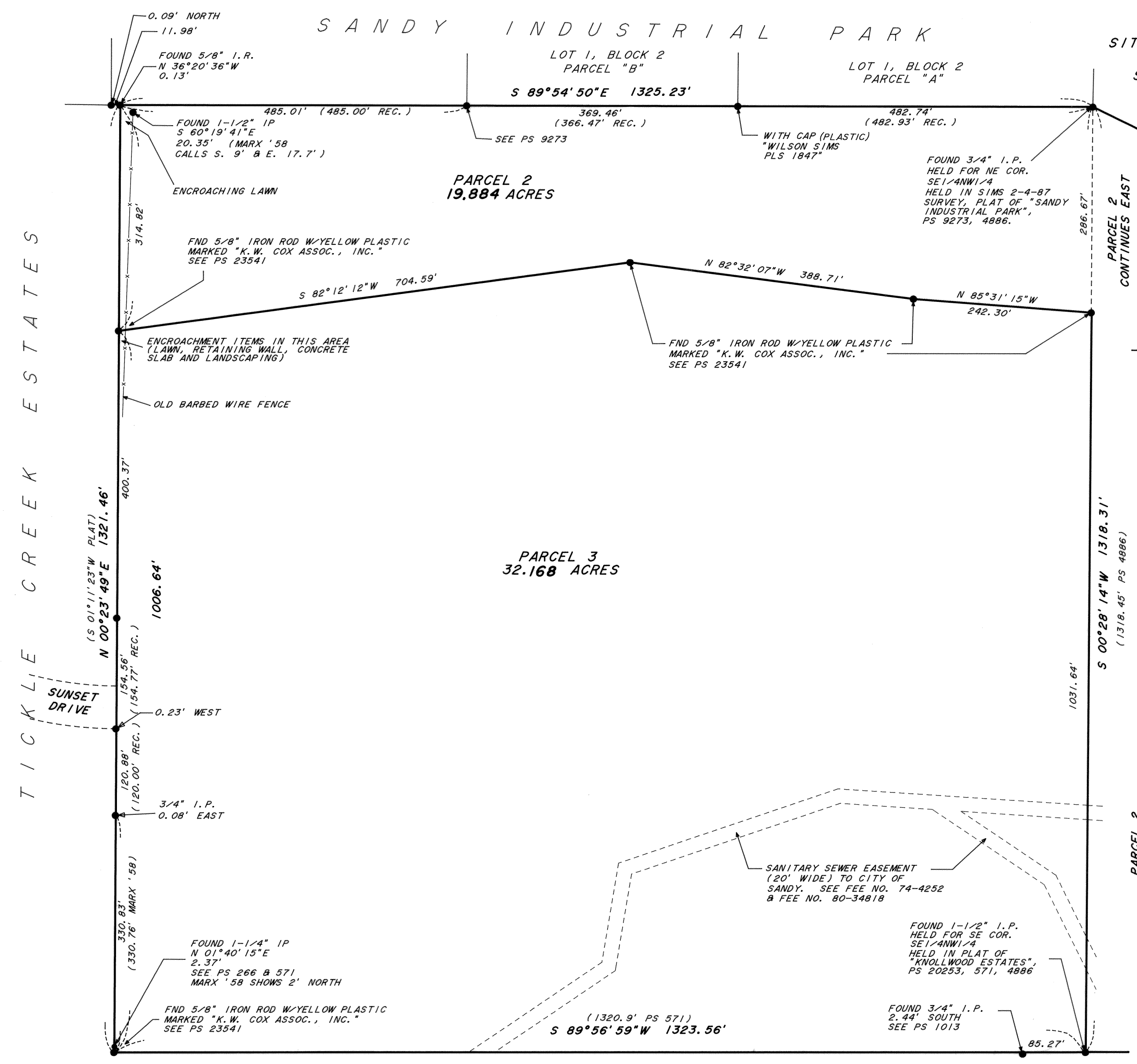
**LEGEND**

- FOUND 5/8" IRON ROD EXCEPT AS NOTED.
- SET 5/8"X30" IRON ROD W/YELLOW PLASTIC CAP MARKED "K. W. COX & ASSOC., INC."

REFERENCE DEEDS: FEE NOS. 90-52060 THROUGH 90-52063, 85-10033, 85-09146, BK. 650, P. 258, BK. 470, P. 250.

REFERENCE SURVEYS: PS 571, 1013, 4886, 10041, 10117, 20237, 20253, 23541.

PARTITION# 1991-152  
SHEET 2 OF 2



8/15/91 CAC



**FINDINGS OF FACT and FINAL ORDER  
TYPE I LAND USE DECISION**

**DATE:** May 24, 2022

**FILE NO.:** 22-015 MP

**PROJECT NAME:** Tickle Creek Village Partition

**APPLICANT:** Tracy Brown Planning Consultants, LLC

**OWNER:** Dubarko Development Corp.

**ADDRESS:** 37101 Dubarko Road

**LEGAL DESCRIPTION:** Parcel 2 of Partition Plat No. 1991-152

**ASSESSOR DESCRIPTION:** T2S R4E Section 14 Tax Lot 3100

The above-referenced proposal was reviewed as a Type I Minor Partition. The following exhibits, findings of fact, and conditions (bold text) explain the proposal and the conditions of approval.

**EXHIBITS:**

**Applicant's Submittals**

- A. Land Use Application Form
- B. Narrative
- C. Tickle Creek Partition email from Tracy Brown (received May 3, 2022)
- D. Topographic Survey
- E. Preliminary Partition Plat

**Additional Exhibits Reviewed by Staff**

- F. Partition Plat No. 1991-152

**FINDINGS OF FACT**

**General**

1. These findings are based on the applicant's original submittal received on April 6, 2022, with additional items received on May 3, 2022, and May 4, 2022. The application was deemed complete on May 4, 2022. The 120-day deadline is September 1, 2022.
2. The subject property is located at 37101 Dubarko Road to the east of Ruben Lane and north of Dubarko Road. The entire parcel contains 10.32 acres (Exhibit E).

3. The subject property has a mixed Comprehensive Plan Map designation of Medium Density Residential and High Density Residential. The property has a mixed Zoning Map designation of Medium Density Residential (R-2) and High Density Residential (R-3) and is partially overlaid by the FSH Overlay.
4. This proposed partition to Parcel 2 of Partition Plat No. 1991-152 would divide the one legal lot of record into two (2) parcels: Parcel 1 (4.44 acres) and Parcel 2 (5.88 acres). The common lot line is proposed to the north of the development area that is being constructed with Tickle Creek Village (File No. 19-038 DR/FSH/VAR/TREE).
5. This minor partition is reviewed according to the requirements for a Type I procedure as the land division does not create a street and the resulting parcels comply with the Development Code. As such, notification of the proposal is not required.

Chapters 17.38 and 17.40 – Medium Density Residential and High Density Residential

6. The subject property is 10.32 acres and has a mixed Zoning Map designation of Medium Density Residential (R-2) and High Density Residential (R-3) and is partially overlaid by the FSH Overlay. With approval of the Tickle Creek Village, it was determined that the allowable density range for Parcel 1 was between 36 and 85 dwelling units. The approved multi-family development was for 67 dwelling units. **Future development of Parcels 1 and 2 shall adhere to the density, use allowances, and development standards of the underlying zoning districts.**

Chapter 17.80 – Additional Setbacks on Collector and Arterial Streets

7. Section 17.80.10 specifies additional setbacks for structures constructed adjacent to collector and arterial streets. This applies to applicable front, rear, and side yards. Ruben Lane is a collector street and Dubarko Road is a minor arterial, therefore **future structures on Parcels 1 and 2 require a setback of 20 feet along Ruben Lane and Dubarko Road.**

Chapter 17.84 – Improvements Required with Development

8. Chapter 17.84 contains requirements for construction of public improvements. Section 17.84.20 (A)(1) requires installation of frontage improvements prior to approval of the final plat. As part of File No. 19-038 DR/FSH/VAR/TREE the applicant is required to improve street frontages along Dubarko Road to City standards. The frontage improvements required along Ruben Lane are already complete. Parcel 2 has frontage along a short stretch of right-of-way that was dedicated with Partition Plat No. 1991-152. This right-of-way is defined as approximately 112.79 feet on its southern line and has a 45.70-foot curve into Ruben Lane, and is detailed as Ruben Lane in some documentation, but as Freightway Lane in other documentation. This right-of-way regardless of the actual name is a local street. **The applicant shall install the frontage improvements along Freightway Lane and the corner radius prior to approval of the final plat, or shall financially guarantee the improvements at 110 percent of the value of the improvements to be guaranteed in the form of a bond, letter of credit, set-aside agreement, cash, or other approved guarantee.**
9. Section 17.84.90 contains requirements for creating easements for public sanitary sewer, water, stormwater, and pedestrian/bicyclist facilities whenever these facilities are located

outside the public right-of-way. As noted by the Public Works Director in File No. 19-038 DR/FSH/VAR/TREE the applicant proposed several buildings over or encroaching into the existing 20-foot-wide sanitary sewer trunk line easement and proposed to relocate approximately 500 linear feet of this line to the common drive and parking areas. **The existing 20-foot-wide sanitary sewer easement (No. 74-4252) shall be terminated prior to recording the plat and a minimum 15-foot-wide public sanitary sewer easement shall be dedicated to the City of Sandy to accommodate the new sanitary sewer line that is being installed on Parcel 1.**

Chapter 17.98 – Parking, Loading, and Access Requirements

10. Section 17.98.80 details standards for access to arterial and collector streets. Dubarko Road is a minor arterial and Ruben Lane is a collector. Parcel 1 has approved access to Dubarko Road. Parcel 2 has frontage along a short stretch of right-of-way that was dedicated with Partition Plat No. 1991-152. This right-of-way is defined as approximately 112.79 feet on its southern line, and is detailed as Ruben Lane in some documentation, but as Freightway Lane in other locations. This right-of-way regardless of the actual name is a local street. Therefore, Parcel 2 shall take access from Freightway Lane. **The tentative plat shall be revised to include a Vehicle Non-Access Reserve (VNAR) along Ruben Lane to the south of Freightway Lane.**

Chapter 17.100 – Land Division

11. Section 17.100.40(D) contains criteria for approving a partition. The proposed partition shall satisfy all five approval criteria in order for the partition to be approved.
12. Criterion one requires the proposed partition to be consistent with the density, setback, and dimensional standards of the base zoning district. Development of Parcel 1 shall follow the approval conditions in File No. 19-038 DR/FSH/VAR/TREE. Future land use approval for development of Parcel 2 will need to be consistent with the density, setback, and dimensional standards in the Sandy Municipal Code. A portion of Parcel 1 and a considerable portion of Parcel 2 are encumbered by wetlands, a stream, and steep slopes. Per Section 17.60.20 (C.) no new lot shall be platted or approved for development that is exclusively in restricted development areas as defined in Subsection 17.6.20 (A.). Based on existing FSH Overlay mapping there is a portion of Parcel 2, approximately 25,000 square feet based on Google Earth calculations, outside the FSH Overlay and therefor is outside the restricted development area. Therefore, both parcels are developable. Criterion one is satisfied.
13. Criterion two requires the proposed partition to be consistent with the design standards set forth in this chapter. All standards set forth in Chapter 17.100 of the Development Code can be satisfied with partition of the subject property. Parcel 1 received approval for multifamily housing with File No. 19-038 DR/FSH/VAR/TREE and is being constructed as Tickle Creek Village. Parcel 2 does not include any proposed development at this time. **Future development on Parcel 1 and Parcel 2 shall comply with the design standards in Chapter 17.90.** Criterion two is satisfied.
14. Criterion three requires public facilities to be adequate, available, or can be provided to serve the proposed partition. Water and sanitary sewer service is available and could be

extended by the property owner to both parcels as required. As noted by the Public Works Director in File No. 19-038 DR/FSH/VAR/TREE the applicant proposed several buildings over or encroaching into the existing 20-foot-wide sanitary sewer trunk line easement and proposed to relocate approximately 500 linear feet of this line to the common drive and parking areas. **The existing 20-foot-wide sanitary sewer easement (No. 74-4252) shall be terminated prior to recording the plat and a minimum 15-foot-wide public sanitary sewer easement shall be dedicated to the City of Sandy to accommodate the new sanitary sewer line that is being installed on Parcel 1.** Criterion three is satisfied.

15. Criterion four requires that all proposed improvements meet City standards. Section 17.84.20 (A)(1) requires installation of frontage improvements prior to approval of the final plat. All future site and frontage improvements shall be required to be developed in accordance with City standards. The improvements required with File No. 19-038 DR/FSH/VAR/TREE are solely applicable to Parcel 1. Since the improvements associated with Tickle Creek Village do not affect Parcel 2 there is no need to financially guarantee the improvements prior to recording of the plat for this subject partition. However, parcel 2 has frontage along a short stretch of right-of-way that was dedicated with Partition Plat No. 1991-152. This right-of-way is defined as approximately 112.79 feet on its southern line and has a 45.70-foot curve into Ruben Lane, and is detailed as Ruben Lane in some documentation, but as Freightway Lane in other documentation. This right-of-way regardless of the actual name is a local street. **The applicant shall install the frontage improvements along Freightway Lane and the corner radius prior to approval of the final plat, or shall financially guarantee the improvements at 110 percent of the value of the improvements to be guaranteed in the form of a bond, letter of credit, set-aside agreement, cash, or other approved guarantee.** Criterion four is satisfied.
16. Criterion five requires the plan to preserve the potential for future redivision of the parcels, if applicable. Parcel 1 could likely not be divided any further based on the approval of Tickle Creek Village. There is the potential to divide Parcel 2 further if access rights for the future division were granted from Freightway Lane. Criterion five is satisfied.

#### Chapter 17.102 – Urban Forestry

17. Section 17.102.20 contains information on the applicability of Urban Forestry regulations. The subject property is 10.32 acres and requires conformance with the tree retention requirements of Chapter 17.102. Both proposed parcels will be greater than 1 acre so any future tree removal from Parcel 1 or Parcel 2 will require compliance with Chapter 17.102 and Chapter 17.92. **No trees shall be removed from Parcels 1 or 2 prior to obtaining a Tree Removal permit from the City of Sandy.**

#### **DECISION**

For the reasons described above, the request by Dubarko Development Corp. to partition Parcel 2 of Partition Plat No. 1991-152 into two (2) parcels, containing Parcel 1 at 4.44 acres and Parcel 2 at 5.88 acres, is hereby approved as modified by the conditions listed below.

## **CONDITIONS OF APPROVAL**

### **A. Prior to signing of the Final Plat all the following conditions shall be satisfied:**

1. Terminate the existing 20-foot-wide sanitary sewer easement (No. 74-4252).
2. Install the frontage improvements along Freightway Lane and the corner radius prior to approval of the final plat, or financially guarantee the improvements at 110 percent of the value of the improvements to be guaranteed in the form of a bond, letter of credit, set-aside agreement, cash, or other approved guarantee.
3. Submit two paper copies of a revised plat with the required fee for City review. The revised partition plat shall include the following modifications:
  - Detail a Vehicle Non-Access Reserve (VNAR) along Ruben Lane to the south of Freightway Lane to restrict access for Parcel 2 to Ruben Lane.
  - Detail a minimum 15-foot-wide public sewer easement dedicated to the City of Sandy to accommodate the new sanitary sewer line on Parcel 1.
  - Provide a signature block on the partition plat for the City of Sandy Development Services Director, as well as the appropriate Clackamas County offices.
  - Remove the signature block for the City Engineer.
  - Add City of Sandy Planning File No. "22-015 MP" to the final partition plat submittal.

### **B. Within 30 days of Recording of Final Plat:**

1. Submit a digital version of the recorded partition plat as approved by the City and Clackamas County.

### **C. General Conditions of Approval:**

1. Future development of Parcel 2 requires approval of a Land Use Application in accordance with applicable regulations. Parcel 2 shall take access from Freightway Lane.
2. Future structures on Parcels 1 and 2 require a setback of 20 feet along Ruben Lane and Dubarko Road.
3. Future development of Parcels 1 and 2 shall adhere to the density, use allowances, and development standards of the underlying zoning districts and in Chapter 17.90.
4. No trees shall be removed from the subject property prior to obtaining a Tree Removal permit from the City of Sandy.

5. Successors-in-interest of the applicant shall comply with requirements of this partition approval prior to recording of the partition plat.
6. Land use approval does not connote approval of public improvement plans submitted with the land use application. Plan details shall be reviewed during the construction plan submittal phase.
7. Approval of this partition may be revoked if conditions of approval are not met. Approval does not grant authority for the unrestricted use of the site. Any use of the site may be prohibited until such time as all required improvements are completed.
8. Any conditions or regulations required by Clackamas County, Fire District No. 72, or state or federal agencies are hereby made a part of this permit and any violation of these conditions and/or regulations or conditions of this approval will result in the review of this permit and/or revocation.



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Kelly O'Neill Jr.  
Development Services Director

#### **RIGHT OF APPEAL**

A decision on a land use proposal or permit may be appealed to the Planning Commission by an affected party by filing an appeal with the Director within 12 calendar days of notice of the decision. Any person interested in filing an appeal should contact the city to obtain the form, "Notice of Appeal", and Chapter 17.28 of the Sandy Development Code regulating appeals. All applications for an appeal shall indicate the nature of the interpretation that is being appealed and the matter at issue will be a determination of the appropriateness of the interpretation of the requirements of the Code.

An application for an appeal shall contain:

1. An identification of the decision sought to be reviewed, including the date of the decision;
2. A statement of the interest of the person seeking review and that he/she was a party to the initial proceedings;
3. The specific grounds relied upon for review;
4. If de novo review or review by additional testimony and other evidence is requested, a statement relating the request to the factors listed in Chapter 17.28.50; and,
5. Payment of required filing fees.



Name of Appellant:			Phone Number:		
Email:			Address:		
Map & Tax Lot #:	T:	R:	Section:	Tax Lot(s)	

**BASIS FOR STANDING APPEAL (please check all that apply)**

Submitted written evidence during the initial review <input type="checkbox"/>
Testified orally at the hearing <input type="checkbox"/>
Participated through?

**Grounds for the Appeal:** Attach separate page(s) stating the ground for the appeal. The appeal must be based upon issues raised during the decision-making process or hearing. You must identify the issue with sufficient information so that the reviewing body understands under what the criteria within the Sandy Development Code, the Comprehensive Plan, or Statewide Land Use Goals you are appealing.

**Relevant Code Sections:** Attach separate page(s) listing the relevant code sections, which relate to the appeal application.

**Please note:**

\* If the notice fails to conform to the above requirements or is not actually received by the City (delivered to the City Manager, Development Services Director, City Recorder or their staff) within the timelines specified, the appeal is void and shall be dismissed.

\* An appeal stays an approval until resolution of the appeal.

Staff Use Only

Appeal Filed within 12 calendar days of Written Decision: Yes <input type="checkbox"/> No <input type="checkbox"/>					
Application complete: Yes <input type="checkbox"/> No <input type="checkbox"/>					
Scheduled for review before the: Planning Commission <input type="checkbox"/> City Council <input type="checkbox"/>					
File No.:		Date of Decision:		Date Notice of Decision Mailed:	
Appeal Fee:		Date Appeal Filed:		Date Set for Hearing:	

Development Services Department, 39250 Pioneer Blvd, Sandy, OR 97055, 503.489.2160

## EXHIBIT I

### NOTICE OF INTENT TO APPEAL FILE NO. 22-015 MP

Introduction: Gerry Engler, Dubarko Development Corp. as the applicant of File No. 22-015 MP appeals the Final Order for this application dated May 24, 2022.

Appeal: The applicant is appealing the following conditions in Section A of the Final Order as reviewed below.

- Conditions A1 and A3 (3rd bullet) - regarding a sanitary sewer easement.
- Condition A2 - regarding frontage improvements.

1. Conditions A1 and A3 (3rd bullet)

Section A states, *“Prior to signing of the Final Plan all of the following conditions shall be satisfied.”*

Condition A1 - *Terminate the existing 20-foot-wide sanitary sewer easement (No. 74-4552)*

Condition A3 - *Submit two paper copies of a revised plat with the required fee for City review. The revised partition plat shall included the following modifications:*

- *Detail a minimum 15-foot-wide public sewer easement dedication to the City of Sandy to accommodate the new sanitary sewer line on Parcel 1.*

**Discussion:** The applicant requests Conditions A and A3 (3rd bullet) be removed from the Final Order as similar conditions to these are already included in the Tickle Creek Condominium project approved on Parcel 1 by File No. 19-038. The applicant believes including these conditions in both Final Orders is redundant, and he is concerned having them in both documents will only create confusion in the future.

In the alternative, the applicant requests at a minimum Condition A1 be revised to allow the existing sanitary sewer easement (Document No. 74-4552) to be modified by an addendum, rather than requiring this easement to be terminated as stated in the condition. A discussion with the Clackamas County Surveyors Office has identified this as a viable method for resolving this issue. Condition A3 is included in this appeal because the applicant wants to make sure the proposed addendum strategy to include a sketch showing the new easement, also resolves this condition.

2. Condition A2 regarding completion of frontage improvements

Condition A2 requires the applicant to construct or financially guarantee frontage improvements along the portion of Freightway Lane and the corner radius abutting the subject property prior to final plat approval. The applicant has several concerns with this condition.

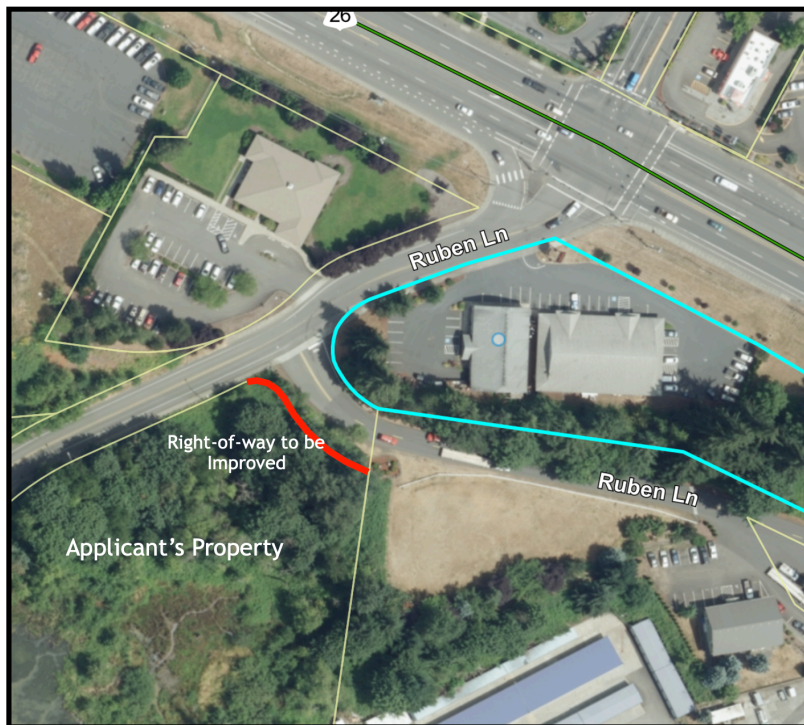
- A. Freightway Lane is a private road servicing the industrial park below. Only a small portion of the road abutting the subject property is contained in a public right-of-



way. It is unlikely the rest of Freightway Lane will ever be a public street as this is not needed to serve development in the industrial park below. As shown on the pictures below, the intersection of Freightway Lane and Ruben Lane is designed and has the appearance of a driveway rather than a street. Condition A2 as written requires the applicant to install “frontages improvements” however, the details and extent of these improvements is not clear. Fundamentally, the applicant does not believe it is reasonable or warranted to require him to improve this roadway since this street will never be extended beyond his property. For these reasons, the applicant requests this condition be removed.

- B. If the Planning Commission determines completion of these frontage improvements is warranted, the applicant requests the timing of these improvements be changed from “prior to approval of the final plat” to prior to issuance of a certificate of occupancy for a dwelling constructed on this property. The applicant has no plans at this time to develop this property and he does not want to be forced to install improvements only to then need to remove these improvements in the future to accommodate a development proposal. The applicant requests Condition A2 be eliminated or modified to read,

*Install frontage improvements along Freightway Lane and the corner radius prior to issuance of a final certificate of occupancy for a dwelling(s) approved and constructed on Parcel 2.*





**PLANNING COMMISSION STAFF REPORT  
TYPE III LAND USE PROPOSAL**

This proposal was reviewed concurrently as a Type III Design Review and Type II Food Cart Pod with seven (7) Type III variances, one design deviation, and tree removal. The following exhibits and findings of fact explain the proposal and support the staff recommendation.

**DATE:** July 18, 2022

**FILE NO.:** 22-012 DR/VAR/TREE/DEV/CART

**PROJECT NAME:** The Riffle Food Cart Pod

**APPLICANT:** Todd Hoffman

**OWNER:** Shawna Hoffman (Tax Lots 1000 and 1200); PLR Properties, LLC (Tax Lot 1100)

**PHYSICAL ADDRESS:** 37095, 37115, and 37133 Highway 26

**LEGAL DESCRIPTION:** Lots 8, 9, and 10 of Twin Cedars No. 2, otherwise known as T2SR4E14BA, Tax Lots 1000, 1100, and 1200

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**RECOMMENDATION..... 53**

## EXHIBITS

### **Applicant's Submittals:**

- A. Land Use Application, Supplemental Application, and Signed Acknowledgement by Owner of Tax Lot 1100
- B. Project Narrative (dated March 2022) & Supplemental Narrative
- C. Civil Plan Set
  - Sheet C1 - Cover Sheet
  - Sheet C2 - Topographic Survey
  - Sheet C3 – Overall Site Plan
  - Sheet C4 – Building Setbacks
  - Sheet C5 – Detailed Site Plan
  - Sheet C6 – Preliminary Utility Plan
  - Sheet C7 – Preliminary Grading and Stormwater Plan
  - Sheet C8 – Tree Survey (Onsite)
  - Sheet C9 – Tree Survey (Off-site)
  - Sheet C10 – Detailed Tree Information
- D. Architectural Plan Set
  - Sheet A2.01 – Building Footprints
  - Sheet A3.01 – Main Building Elevations
  - Sheet A3.02 – Restroom Building Elevations
  - Sheet A3.03 – Trash Enclosure Elevations
- E. Landscape Plans
  - Sheet L1 – Planting Plan
  - Sheet L2 – Planting Details & Notes
- F. Lighting Plans
  - Sheet ES.01 – Site Lighting & Photometry Plan
  - Sheet ES.02 – Luminaire Data Sheets
- G. Color Renderings
- H. Wall and Fence Sections
- I. Preliminary Storm Drainage Report (dated March 2022)
- J. Transportation Impact Study (dated March 7, 2022) and Parking Memo (dated April 19, 2022)
- K. Arborist Report (dated April 14, 2022)
- L. Line of Sight Sketches

### **Agency Comments:**

- M. DEQ (email dated June 24, 2022)
- N. Fire Marshal (dated June 24, 2022)
- O. City Engineer (dated June 24, 2022)
- P. Earth Care Designs, LLC dba Oregon Tree Care Third-Party Arborist Review (dated June 28, 2022)
- Q. SandyNet General Manager (email dated July 1, 2022)
- R. City Transportation Engineer (dated July 5, 2022)
- S. ODOT (dated July 8, 2022)

**Additional Documents Submitted by Staff:**

- T. Twin Cedars Subdivision Tree Covenant and Exhibit Map
- U. Twin Cedars No. 2 Subdivision Plat
- V. Site Plan with Staff's Parking Recommendations

## FINDINGS OF FACT

### GENERAL FINDINGS

1. These findings are based on the applicant's submittal items received on March 18, 2022, with additional items received April 21, 2022, May 12, 2022, and May 13, 2022. The application was deemed complete on May 16, 2022. The 120-day deadline is September 13, 2022.
2. This report is based upon the exhibits listed in this document, including the applicant's submittals, agency comments, and public testimony.
3. The proposal is primarily on two lots (Tax Lots 1000, Lot 8 and 1200, Lot 10) that total 1.72 acres. In addition, a portion of the parking area on Tax Lot 1000 (Lot 8) is proposed to extend onto Tax Lot 1100 (Lot 9), which is 4.78 acres, and this lot is also proposed to be encumbered with multiple required retention trees. The proposed food cart pod (Tax Lot 1200) is located at 37133 Highway 26, with additional parking proposed on 37115 Highway 26 (Tax Lot 1000) and extending onto 37095 Highway 26 (Tax Lot 1100).
4. The parcel has a Comprehensive Plan Map designation of Commercial and a Zoning Map designation of General Commercial (C-2).
5. The applicant, Todd Hoffman, submitted an application on behalf of owner Shawna Hoffman for a design review of a food cart pod with a dining facility located at 37133 Highway 26, with additional parking on 37115 Highway 26 (and extending onto 37095 Highway 26). The proposal includes 18 food cart pads, a 3,600 square foot beverage and dining building, and associated parking and landscaping. The development also includes removal of 19 trees from the subject property. In addition, the applicant is requesting the following seven (7) variances and one (1) design deviation:
  - A. Type II Variance to Section 17.44.30 to exceed the maximum 50-foot front yard setback.
  - B. Type II Variance to Section 17.90.120(D.1) to not have 50 percent of the site's street frontage be comprised of buildings placed within 20 feet of a sidewalk.
  - C. Type III Special Variance to Section 17.74.40(B.2) to exceed the 4-foot maximum height of a retaining wall and fence in a commercial front yard (east side).
  - D. Type III Special Variance to Section 17.74.40(B.4) to exceed the 8-foot maximum height of a retaining wall and fence in a commercial side yard (north side).
  - E. Type III Special Variance to Section 17.74.40(B.4) to exceed the 8-foot maximum height of a retaining wall and fence in a commercial rear yard (west side).
  - F. Type III Special Variance to Section 17.90.120(G) to not provide civic space.
  - G. Type III Special Variance to Section 17.98.10(Q) to exceed the minimum off-street vehicle parking required by Section 17.98.20 by more than 30 percent.
  - H. Type III Design Deviation to Section 17.90.120(D.3) to not have the ground floor space of the dining building face a public street or civic space with a direct pedestrian connection.

6. The City of Sandy completed the following notices:
  - A. A transmittal was sent to agencies asking for comment on June 23, 2022.
  - B. Notification of the proposed application was mailed to affected property owners within 500 feet of the subject property on June 23, 2022.
  - C. A legal notice was published in the Sandy Post on July 6, 2022.
7. At publication of this staff report, no written public comments were received.

## **DESIGN REVIEW – Chapter 17.90**

8. The proposal is subject to all the requirements for Design Review as stated in Section 17.90.00. **As required by Section 17.90.00, the reviewing body shall refer to the following objectives in evaluating Design Review requests:**
- A. Protect and enhance the city's quality of life and community image.
  - B. Encourage functional, safe, and aesthetically pleasing development, while maintaining compatibility with the surrounding built and natural environment.
  - C. Implement the Sandy Style, as described by this chapter. The Sandy Style is based on the following guiding principles:
    - i. Celebrate Sandy as the Gateway to Mount Hood through contextually appropriate landscaping and building designs.
    - ii. Protect and enhance Sandy's tree canopy, particularly along the Highway 26 Landscape Management Corridor.
    - iii. Emphasize a "village" scale and character in new development. Village scale means development is compact and walkable, building entrances are oriented to the street sidewalk or a plaza, and large building masses are broken down through a combination of design elements such as articulation, combinations of complementary building materials and detailing.
    - iv. Express elements of or reflect Cascadian architecture by adapting appropriate elements of English Arts and Crafts Style (1900—1920) and Oregon Rustic Style (1915—1940), and/or similar elements, into new buildings and exterior remodels, except in locations where this Code allows or requires a different architectural style (e.g., C-1 Historic Roadside Commercial District).
    - v. Encourage green building practices in new construction, such as the use of renewable energy (e.g., solar and wind), use of recycled materials, integration of water quality facilities in landscapes, capture of rainwater for irrigation, and similar practices.
  - D. The city considers the following elements to be incompatible with the Sandy Style. The reviewing body may deny, or require modifications to, a project with any of the following:
    - i. Excessive tree removal and/or grading that may harm existing vegetation within a designated landscape conservation area.
    - ii. Commercial development where buildings are setback from the street behind surface parking lots.
    - iii. Excessive surface parking lot paving and redundant driveways.
    - iv. Drive-up facilities adjacent to a street that interrupt pedestrian circulation patterns or create potential safety hazards.
    - v. Disjointed parking areas, confusing or unsafe circulation patterns.
    - vi. Box-like structures with large, blank, unarticulated wall surfaces.
    - vii. Building materials or colors that do not conform to this Code.
    - viii. Highly reflective surfaces or heavily tinted glass storefronts.
    - ix. Strongly thematic architectural styles, forms, colors, materials, and/or detailing, that do not conform to the Sandy Style, including some forms of franchise architectural styles associated with some chain commercial establishments.
    - x. Inadequate landscape buffers adjacent to parking lots, walkways, and streets.



- xi. Visible outdoor storage, loading, and equipment areas.

Staff finds the proposal is generally in compliance with the intent of the Sandy Style, but believes the project contains a few elements that are incompatible with Sandy Style as proposed, particularly D.3, D.5, and D.10. The incompatibilities are discussed further in Chapter 17.66 of this document as part of the analysis of the applicant's requested variance to exceed the maximum permitted parking.

- 9. Section 17.90.70 specifies that **design review approval shall be void after two (2) years from the date of the Final Order, unless the applicant has submitted plans for building permit approval.**
- 10. Section 17.90.120 contains design standards for the general commercial (C-2) zone. Section 17.90.120(A) contains standards related to site layout and access. Section 17.90.120(A.1) requires all lots to abut or have cross access to a dedicated public street. The proposed food cart pod lot (Tax Lot 1200) abuts an unimproved section of Kate Schmitz Avenue; however, the proposal does not include frontage improvements along Kate Schmitz Avenue or access from the Kate Schmitz Avenue right-of-way. As stated in the narrative (Exhibit B): "The subject property abuts a private drive created to provide access from Highway 26 to the subject properties. There is an existing sidewalk along the east side of this drive from Highway 26 to the development site."
- 11. Section 17.90.120(A.5) requires urban design details, such as raised or painted pedestrian crossings and similar devices incorporating changes in paving materials, textures or color, to be used to calm traffic and protect pedestrians in parking areas. Section 17.90.120(A.7) requires walkways from the public street sidewalk to the building entrance(s) and that crosswalks through parking lots and drive aisles shall be constructed of a material contrasting with the road surface or painted (e.g., colored concrete inlay in asphalt). As stated in the narrative, there is an existing sidewalk along the east side of the private access easement that extends from Highway 26 to the food cart pod development site (Tax Lot 1200). There is also an existing walkway along the east side of the proposed accessory parking lot (Tax Lot 1000). **The applicant shall update the plan set to detail a pedestrian crossing connecting the proposed walkway in the surface parking lot across the private access easement to the proposed walkway in the food cart pod area in compliance with the design standards of 17.90.120(A.5 and 7). The pedestrian crossing shall have a paved delineation. Staff recommends a concrete inlay speed table.**
- 12. Section 17.90.120(B) contains provisions specifying building façade articulation, pedestrian shelters, construction materials, and colors. Section 17.90.120(B.1) requires that buildings visible from an abutting public street are to be articulated, varied, and provide visual interest. The applicant submitted line of sight diagrams (Exhibit L) that demonstrate the building will not be visible from either Kate Schmitz Avenue or Highway 26 and, therefore, building articulation is not required. However, as stated in the narrative (Exhibit B) and detailed on the main building elevations (Exhibit D, Sheet A3.01), the proposed building features changes in wall planes and articulation on each elevation.

13. Section 17.90.120(B.2) requires that buildings incorporate pedestrian shelters over primary building entrances. The pedestrian shelters must extend at least 5 feet over the pedestrian area. Shelters designed with gables are preferred over flat shelters and must comply with the roof pitch standards in Section 17.90.120(C). Primary building entrances are located on the east, north, and south sides of the dining building. The dining building is proposed to have a 5-foot-deep pedestrian shelter over the east entrance and a 20-foot-deep 3:12 pitched cantilevered awning over the entirety of the north and south elevations, including the entrances. The restroom building elevations (Exhibit D, Sheet A3.02) do not detail a pedestrian shelter over the restroom building entrance. **The applicant shall update the restroom building elevations to detail a 5-foot-deep pedestrian shelter over the restroom entrance.**
14. Section 17.90.120(B.3.a) requires architecturally unified buildings. Architectural unity means buildings are related in architectural style and share some common elements, such as color scheme, materials, roof forms, and/or detailing. The applicant is proposing the primary dining facility structure as well as a restroom structure and a garbage enclosure. Per the submitted narrative (Exhibit B), “all exterior building materials on the structures are intended to convey an impression of strength and durability.” The main building elevations (Exhibit D, Sheet A3.01) detail a stone veneer base with vertical board and batten siding and a standing seam metal roof with gabled ends featuring cedar shingles, heavy timbers, and steel brackets. The restroom building (Exhibit D, Sheet A3.02) features vertical board and batten siding and a standing seam metal roof and sits atop a split face block retaining wall on the north elevation and a foundation wall on the west elevation. **The applicant shall update the west elevation of the restroom building to detail a split face finish or a broomed finish, or submit a similar alternative design to staff for review and approval. To better match the dining facility building, the applicant shall update the west and east elevations of the restroom building to detail cedar shingles in the gables with a belly band separating the shingles from the board and batten siding.** The trash enclosure (Exhibit D, Sheet A3.03) features split face CMU block walls with a black chain link fence gate with black webbing. **To better match the dining facility building, the applicant shall update the garbage enclosure to detail a split face rock veneer and a screened gate that more closely matches the black picket fence look, or submit a similar alternative design to staff for review and approval.**
15. Section 17.90.120(B.3.b) requires strong base materials on those sides of the building visible from an abutting public street. Per the submitted main building elevations (Exhibit D, Sheet A3.01) and narrative (Exhibit B), all of the main building elevations feature a 4-foot-tall stone veneer base specified as Glacier Stone Supply “Bitterroot” in compliance with this standard.
16. Section 17.90.120(B.3.d) states that siding shall consist of wood, composite-wood (e.g., concrete fiberboard, panels or shingles), stone, brick, split-faced or rusticated concrete block, concrete form liner or a combination of these materials. The applicant is proposing to use vertical board and batten siding on all four elevations of the main dining building as well as cedar shingles in the gabled portions of the east and west elevations. Section 17.90.120(B.3.d.ii) states: “Where board-and-batten siding is used, battens shall be a minimum of two-inches wide x one-inch deep and spaced 24 inches apart or closer; rough-

sawn boards (specialty panel) are preferred over panels having a resin overlay.” The main building elevations (Exhibit D, Sheet A3.01), restroom building elevations (Exhibit D, Sheet A3.02), and narrative (Exhibit B) specify that the battens are 3-inches wide by 1-inch deep and are spaced 16-inches on center in compliance with the code.

17. Section 17.90.120(B.3.e) requires building elevations facing a public street to incorporate at least three (3) Sandy Style features. The east elevation faces Kate Schmitz Avenue, and the south elevation faces Highway 26. As detailed on the main building elevation (Exhibit D, Sheet A3.01), the east elevation of the dining building features exposed heavy timbers, metal brackets, a gabled roof with cedar shingles, a metal canopy over the pedestrian entrance, and a stone base. The south elevation of the main dining building features a metal canopy, heavy timber awning supports, and a stone base. The east elevation of the restroom building features a gabled roof. **The applicant shall update the east elevation of the restroom building to detail heavy timber truss bracing with metal brackets and cedar shingles in the gables.**
18. Section 17.90.120(B.4) requires exterior building colors to include warm earth tones that conform to the Color Palette in Chapter 17.90, Appendix C. As specified in the supplemental land use application (Exhibit A) and narrative (Exhibit B), all paint colors are from the City’s approved Miller Paint Historic Collection. The shingles will be painted “Maple,” the board and batten siding “Bean Pot,” and window and door trim “Portsmouth Spice.” Per the narrative, all exposed wood trusses will be stained Valspar Semi-transparent “Cedar Natural Tone” to complement the building colors.
19. Section 17.90.120(C.1) requires gable roofs with a minimum roof pitch of 6:12 on new buildings with a span of 50 feet or less. The applicant is proposing a 6:12 roof pitch for both the dining facility building and the restroom building in compliance with the code.
20. Section 17.90.120(C.4) requires pitched roofs visible from an abutting public street to provide a secondary roof form. Per the submitted line of sight diagrams (Exhibit L), the proposed building is not visible from either Kate Schmitz Avenue or Highway 26 and therefore the secondary roof form requirement does not apply.
21. Section 17.90.120(C.5) requires visible roof materials to be wood shingle or architectural grade composition shingle, slate, or concrete tile. Metal with standing or batten seam may also be used conforming to the Color Palette in Appendix D of the Development Code. The applicant is proposing to use Metallion Industries “Light Bronze,” which is an approved roof color in Appendix D.
22. Section 17.90.120(C.6) requires all roof and wall-mounted mechanical, electrical, communications, and service equipment, including satellite dishes and vent pipes, to be screened from view from all adjacent public rights-of-way and civic spaces by parapets, walls, or by other approved means. Per the narrative (Exhibit B): “All mechanical equipment associated with the building will be located inside the building. Electrical and gas meters associated with the food carts will be mounted to the garbage enclosure wall. These facilities will not be visible from any public right-of-way or civic space.”

23. Section 17.90.120(D) contains standards related to building orientation and entrances. The intent of providing adequate building orientation and entrances is to maintain and enhance streetscapes as public spaces, emphasizing pedestrian-scale and character. Section 17.90.120(D.1) requires buildings to be oriented to a public street or civic space. This standard is met when at least 50 percent of the subject site's street frontage is comprised of building(s) placed within 20 feet of a sidewalk, walkway, or civic space and not more than 20 percent of the off-street parking is located between a building's front façade and the adjacent street(s). The proposed structure is oriented with a primary door facing the Kate Schmitz Avenue right-of-way. The applicant is requesting a Type II Variance to Section 17.90.120(D.1) to not have a building occupying 50 percent of the site's frontage within 20 feet of the Kate Schmitz Avenue right-of-way. The variance request is discussed further in Chapter 17.66 of this staff report.
24. Section 17.90.120(D.3) states that ground floor spaces shall face a public street or civic space and shall be connected to it by a direct pedestrian route (i.e., avoid out-of-direction travel). The applicant is requesting a Design Deviation to Section 17.90.120(D.3) to not have the ground floor space of the dining building face a public street or civic space with a direct pedestrian connection. The dining building will face Kate Schmitz Avenue, but the applicant is not proposing to install a sidewalk or other frontage improvements along Kate Schmitz Avenue, nor is the applicant proposing a direct pedestrian walkway to Kate Schmitz Avenue. The proposal does include a walkway that connects the north, east, and south sides of the dining structure to the existing walkway along the east side of the private access easement that connects the food cart pod property to the Highway 26 sidewalk. In addition, the narrative (Exhibit B) states that a soft surface trail will be constructed to provide a pedestrian connection between the development site and the Kate Schmitz Avenue right-of-way in order to comply with the intent of the code. **Staff recommends the Planning Commission approve the requested design deviation to Section 17.90.120(D.3) to not have the ground floor space of the dining building face a public street or civic space with a direct pedestrian connection.**
25. Section 17.90.120(D.7) requires buildings to provide at least one (1) elevation where the pedestrian environment is "activated." An elevation is "activated" when it meets the window transparency requirements in Subsection 17.90.120(E) and contains a public entrance with a pedestrian shelter extending at least five (5) feet over an adjacent sidewalk, walkway, or civic space. As stated in the narrative (Exhibit B), the applicant has identified the south building elevation as the "activated" elevation. The south elevation contains a primary building entrance with an awning extending greater than five feet over the walkway in front of the entrance. The elevation also complies with window transparency requirements in subsection 17.90.120(E) as discussed below.
26. Section 17.90.120(D.8) states that primary entrances shall be architecturally emphasized, visible from the public right-of-way, and sheltered with a canopy, overhang, or portico with a depth of at least five (5) feet. Architectural emphasis should be provided by a gabled shelter where practical, consistent with the Sandy Style. Detailing around the base of the building, such as stonework, benches, or art, should also be used to emphasize an entrance. The proposed dining facility has primary entrances on the north, south, and east elevations all of which have a pedestrian shelter with a depth of at least 5 feet. The east elevation will include

a gable roofed entry featuring heavy timbers and metal brackets. The proposal also includes a stone base along the entirety of the dining hall building.

27. Section 17.90.120(E.2) contains standards for construction and placement of ground floor windows. A building less than 10,000 square feet is required to provide 30 percent ground floor windows on the activated frontage. The windows shall contain clear glass to allow views to interior activity or display areas. The bottom edge of windows shall be no less than three (3) feet above the adjacent finished grade. Windows shall be square or vertically oriented and may consist of vertically stacked or horizontally banked window units. Windows located over a door or transom windows may be horizontally oriented. Windows with any dimension exceeding six (6) feet shall be divided to contain two or more smaller panes with real divided panes, vinyl inserts, or applied dividers. Windows shall have trim or moldings at least three (3) inches in width around them or have reveals of at least three (3) inches in depth. Casings shall consist of a drip cap, head casing, side casings, and/or sills. As noted in the narrative (Exhibit B), the applicant has designated the south elevation as the activated frontage. Per the main building south elevation (Exhibit D, Sheet A3.01), the ground floor wall area of the south elevation is 1,350 square feet and the glazed opening area, consisting of two windows, two garage doors, and one man-door, is 408 square feet, which is 30 percent of the wall area in compliance with the code. Per the narrative, all windows will be clear glass and are located at least three feet above the adjacent finished grade. All windows and door frames will be aluminum “Kawneer Dark Bronze” and the vinyl clerestory windows on the north and south elevations will be Milgard “Bronze.” In addition, all windows are proposed to include 4-inch-wide trim.
28. Section 17.90.120(E.3) contains standards for upper floor windows. The proposed dining hall building is only one-story; however, due to the height of the building it features upper story windows on the north, south, and east elevations. Per Section 17.90.120(E.3), upper story windows shall be square or vertically oriented. Individual window units shall not exceed five feet by seven feet. Any portion of a window unit with a dimension exceeding four feet shall be divided into smaller panes. At least half of all the window area in upper floors shall be made up of glass panes with dimensions no greater than two feet by three feet, unless approved by variance or adjustment. Upper story windows that have one foot by one foot grid inside double pane glass are appropriate and are encouraged. Per the narrative (Exhibit B), all upper floor windows are square (3-feet by 3-feet) and further divided into 1-foot by 1-foot grids. The frames of these windows will be vinyl Milgard “Bronze,” and the windows will include 4-inch trim painted “Portsmouth Spice” to match the ground floor windows in compliance with the code.
29. Section 17.90.120(F) contains additional landscaping and streetscape design standards, including standards for parcels along Highway 26. The food cart pod and surface parking lot properties do not have frontage on Highway 26. Landscaping requirements are discussed further in Chapter 17.92 of this staff report.
30. Section 17.90.120(G) contains requirements related to civic space. The intent of civic space is to connect buildings to the public realm and create comfortable and attractive gathering places and outdoor seating areas for customers and the public. The code requires 3 percent of the building area be developed as civic space and in no instance have an area less than 64

square feet. The proposed building is 3,600 square feet. Therefore, the required civic space is 108 square feet. The applicant is requesting a Special Variance to not provide civic space. The variance request is discussed further in Chapter 17.66 of this staff report.

31. Section 17.90.120(H) contains standards related to lighting and states that walkways and parking lots should be illuminated at 1.5 to 2.0 foot-candles. The applicant is proposing a woodchip path connecting the food cart pod area to the Kate Schmitz Avenue right-of-way. Per the City Engineer (Exhibit O), path lighting should be installed when the path is built. The path is detailed within the critical root zones of three retention trees (Trees #1, 2, and 3). **The applicant shall update the Site Lighting Plan to detail path lighting along the proposed path to the Kate Schmitz Avenue right-of-way. To prevent further impact within the critical root zones of the required retention trees, staff recommends solar path lighting; however, if electrical conduit is installed, the applicant shall bore the conduit at a minimum depth of 18-inches under the critical root zone of the required retention trees under supervision of an ISA-certified arborist.** Lighting is further reviewed in Chapter 15.30 of this document.
32. Section 17.90.120(I) contains standards related to safety and security and requires window placement that enables visibility between the building interior and exterior pedestrian and parking areas. As detailed on the main building elevations (Exhibit D, Sheet A3.01), all four sides of the building contain windows, which provides visibility between the interior of the building and the outdoor food carts.
33. Section 17.90.120(I.3) contains standards related to addressing and requires street address numbers measuring a minimum of six (6) inches high, which clearly locate buildings and their entries for patrons and emergency services. **The applicant shall provide street address numbers measuring a minimum of six (6) inches high, which clearly locates the dining facility building and its entries for patrons and emergency services. The applicant shall verify the location(s) of the address with the Building Official and emergency service providers.**
34. The intent of Section 17.90.120(J) is to promote land use compatibility and aesthetics, particularly where development abuts public spaces. Section 17.90.120(J.1) states that exterior storage of merchandise and/or materials, except as specifically authorized as a permitted accessory use, is prohibited. The applicant is not proposing outdoor storage or display areas. The applicant is proposing a garbage and recycling area, which will be screened. On June 30, 2022, staff visited two food cart pods in Troutdale and Fairview. Staff observed that a majority of the food carts in the Troutdale pod had accessory storage sheds, some of which were in the process of being constructed. Staff has concerns that the gravel areas behind the food carts will be used for external storage, which is prohibited by Section 17.90.120(J.1). **The applicant shall not store any merchandise and/or materials in the gravel areas behind the carts and/or elsewhere on the subject properties. If storage buildings are desired in the future, the applicant shall submit a separate design review application with proposed storage buildings designed to meet the Sandy Style.**
35. Section 17.90.120(J.3) states that mechanical, electrical, communications equipment including meters and transformers, and service and delivery entrances and garbage storage

areas shall be screened from view from public rights-of-way and civic spaces. Garbage storage areas are addressed in staff's response to Section 17.90.120(J.4), below. The submitted narrative (Exhibit B) states that all of the mechanical equipment associated with the building will be located inside the building. Electrical and gas meters associated with the food carts will be either located on the garbage enclosure wall or a wall constructed next to the garbage enclosure structure designed for this purpose and will not be visible from any public right-of-way or civic space. **All mechanical, electrical, and communications equipment shall be screened from view from all public rights-of-way and civic spaces.** Staff visited the Troutdale food cart pod on June 30, 2022, and noticed that the electrical equipment was highly visible from the parking lot area. **Staff recommends the Planning Commission consider requiring mechanical, electrical, and communications equipment to be screened from view from private walkways and parking areas in addition to being screened from public rights-of-way and civic spaces.**

36. Section 17.90.120(J)(4) contains standards for trash collection and recycling areas. The applicant proposes a screened garbage and recycling area to the southeast of the food cart pod area. The submitted trash enclosure elevations (Exhibit D, Sheet A3.03) detail an 8-foot-tall split face CMU block enclosure with a black chain link fence gate with black webbing. As previously discussed, **the applicant shall update the restroom building elevations to detail split face block veneer to match the main dining building and a screened gate that more closely matches the black metal picket fence look, or submit a similar alternative design to staff for review and approval.**

### **FOOD CARTS AND FENCES/RETAINING WALLS – Chapter 17.74**

37. Section 17.74.40 specifies, among other things, retaining wall and fence height in front, side, and rear yards. Retaining walls on property in commercial zones shall not exceed 4 feet in height in the front yard and 8 feet in height in rear and side yards. The Detailed Site Plan (Exhibit C, Sheet C5) details both a retaining wall and a fence on the north, south, east, and west sides of the proposed food cart pod. The combined height of the retaining wall and fence on the north, west, and east sides exceed the maximum allowed fence height in a commercial zone per Section 17.74.40(B). The applicant has requested three special variances to exceed the maximum allowed retaining wall and fence height for the north, west, and east sides of the food cart pod, which are discussed in more detail in Chapter 17.66 of this staff report. The Detailed Site Plan details the retaining wall and fence along the south side as an approximately 2- to 3-foot-tall split face block wall with a 5-foot-tall black steel or aluminum picket fence behind the retaining wall, for a combined height of 7 to 8 feet in compliance with the code. **The individual or combined height of a fence and/or retaining wall in the south (side) yard shall not exceed 8 feet.** The applicant did not specify the width of the gap between the pickets for the black steel or aluminum picket fence. **Where the pickets are required as a guard from falling, the space between pickets shall be less than 4 inches.**
38. Section 17.74.90 contains standards for food and beverage carts. The applicant proposes establishing a food cart pod to include sewer and water service, electrical connections, a garbage/recycling enclosure, a restroom facility, 18 food cart pads, and a common dining facility. **Following completion of required improvements, each food cart requesting to locate at the facility will be required to apply for a Food Cart Permit (Type I land use application) and obtain an individual City of Sandy Business License.**
39. Section 17.74.90(E.1) states that drive-through uses are not permitted. The applicant is not proposing any drive-thru uses.
40. Section 17.74.90(E.2) states that carts shall not exceed 20 feet in length, not including the trailer hitch, or be greater than 200 square feet. This would potentially allow for a 20 foot long by 10-foot-wide food cart. The Detailed Site Plan (Exhibit C, Seet C5) details 15 of the carts at a maximum cart size of 20 feet long by 8 feet wide and the remaining three food carts at 14 feet long by 8 feet wide. The maximum 8-foot width is to ensure a minimum of 5 feet of space is maintained between carts as required by Section 17.74.90(E.5). **The maximum food cart size permitted on pads 1-15 is 20 feet long by 8 feet wide. The maximum food cart size permitted on pads 16-18 is 14 feet long by 8 feet wide.**
41. Section 17.74.90(E.3) requires all carts to be placed on a paved surface. The proposal includes 18 food cart pads, all of which are located on a paved surface in compliance with this standard.
42. Sections 17.74.90(E.4-6) require carts to be located at least three feet from the public right-of-way or back of sidewalk, at least five feet from other carts, and not located within 25 feet of an active driveway entrance as measured in all directions from where the driveway enters the site at the edge of the street right-of-way. The food cart pod is located approximately 170



feet from the nearest right-of-way such that all pads are much greater than three feet from the right-of-way and no pad is located near an active driveway entrance. Fifteen of the pads are 25 feet long by 13 feet wide and are intended to contain food carts that are a maximum of 20 feet long and 8 feet wide such that each cart will be a minimum of 5 feet from an adjacent cart. The remaining three pads are detailed at approximately 19 feet long by 13 feet wide and are intended to contain food carts that are a maximum of 14 feet long by 8 feet wide such that each cart will be a minimum of 5 feet from an adjacent cart.

43. Section 17.74.90 (E.7) specifies that carts shall not occupy fire lanes or drive aisles necessary for vehicular circulation or fire/emergency vehicle access. The Sandy Fire Marshal reviewed the proposal and provided comments (Exhibit N). **The applicant shall comply with all Fire District requirements as contained in Exhibit N.**
44. Section 17.74.90(E.8) requires customer service windows to be located at least five feet from an active drive aisle. All carts are proposed to be located in a fenced in food cart pod area that will be separated from any parking areas or drive aisles.
45. Sections 17.74.90(E.9 and 10) state that carts shall not occupy pedestrian walkways, required landscape areas, or parking areas needed to meet the minimum vehicle and bicycle parking. As stated in the narrative (Exhibit B), no cart will occupy a pedestrian walkway, landscape area, or needed bicycle or vehicle parking space.
46. Section 17.74.90(E.11) requires each food cart to provide a minimum of one paved off-street parking space for employee use or provide proof of written permission from an adjacent business or property owner within 1/4 mile of the subject site allowing the food cart operator to share parking facilities. The proposal includes space for 18 food carts, which requires 18 off-street parking spaces. As stated in the narrative (Exhibit B), the proposed parking count includes the required 18 parking spaces.
47. Sections 17.74.90(E.12-15) contain design standards for food carts. **Food cart design standards will be reviewed at the time individual food cart placement permits (Type I land use application) are requested.**
48. Section 17.74.90(E.16) requires all seating areas on the subject property to be at least 10 feet from a food cart and seating areas shall be separated from parking areas by an approved fence or barrier. The proposed seating is located inside the proposed dining facility and the entire food cart pod is proposed to be located within a gated area. **Any additional seating areas on the subject property to be at least 10 feet from a food cart and seating areas shall be separated from parking areas by an approved fence or barrier.**
49. Section 17.74.90(E.17) states that food carts' signage shall comply with Chapter 15.32, Sign Code regulations and that each cart is permitted one A-frame sign. In accordance with Chapter 15.32, roof signs are prohibited. **All signage requires approval of a City sign permit in compliance with the requirements of Chapter 15.32, Sign Code.**
50. Section 17.74.90(E.18) requires auxiliary storage to be provided on site when there are four (4) or more food carts. The structure for auxiliary storage shall meet Chapter 17.90, Design

Standards. The proposal contains space for up to 18 food carts thus compliance with this standard is required. Neither the Overall Site Plan (Exhibit C, Sheet C3) nor the Detailed Site Plan (Exhibit C, Sheet C5) identify a location for the required storage structure. The dining facility footprint (Exhibit D, Sheet A2.01) details a cooler, a bar, and two vendor spaces but it does not detail a storage area. **The applicant shall provide additional information on the location and size of the required storage area if it is located in the proposed dining facility building. If the auxiliary storage structure is proposed to be an additional structure on the site, the applicant shall submit a separate design review application for the proposed storage building(s) including the proposed location and design in conformance with Sandy Style (Section 17.90.120).**

#### Fire Safety

51. Sections 17.74.90(E.19-23) contain fire safety requirements for food carts. Fire safety standards will be reviewed at the time individual food carts are requested. The Sandy Fire Marshal reviewed the proposal and provided comments (Exhibit N). **The applicant shall comply with all Fire District requirements as contained in Exhibit N.**

#### Health and Sanitation

52. Sections 17.74.90(E.24-28) contain health and sanitation requirements for food carts. Section 17.74.90(E.24) requires trash and recycling receptacles to be provided at a rate of one (1) receptacle for every food cart. Where the food cart operator proposes to provide a common seating area, a minimum of one (1) trash receptacle and one (1) recycling receptacle shall be provided in the common seating area. The plan set (Exhibit C) details a garbage and recycling enclosure for the entire food cart pod area. Per the submitted narrative (Exhibit B), garbage cans will be distributed throughout the site and within the dining structure as required. **The applicant is required to comply with the provisions of Section 17.74.90(E.24).**

53. Sections 17.74.90(E.25-26) state restrooms with handwashing facilities shall be provided for employees and customers and that sites containing more than one food cart shall provide a restroom facility on site. The proposal includes a restroom facility located in the northeast corner of the food cart pod area in compliance with this standard.

54. Section 17.74.90(E.27) states wastewater and gray water shall be disposed of properly without harm to the environment or city infrastructure. An approved disposal plan shall detail storage and removal methods. The Preliminary Utility Plan (Exhibit C, Sheet C6) details sanitary sewer, water, and stormwater service. The proposal also includes a grease interceptor that each cart will connect. **Any below or at-grade sewer connections shall be water-tight and lockable or sealable while not in use. In addition, a grease interceptor properly sized for the maximum number of carts shall be required on the sanitary sewer service for the facility.**

55. Section 17.74.90(E.28) states that food carts that require a water source, power source, or waste disposal location are permitted only where the Director has approved site plans that show safe access and location of the aforementioned provisions. Such provisions may be subject to all applicable building permits and System Development Charge requirements. The applicant proposes installing a water system and sanitary connection with a grease interceptor

for each food cart to connect to. **A backflow prevention device shall be required for the water service. The installation of sewer and water service requires approval of a City building permit. The installation of electrical service requires permit approval from Clackamas County.**

## **VARIANCES – Chapter 17.66**

56. The applicant requested the following seven (7) variances:

- A. Type II Variance to Section 17.44.30 to exceed the maximum 50-foot front yard setback.
- B. Type II Variance to Section 17.90.120(D.1) to not have 50 percent of the site's street frontage be comprised of buildings placed within 20 feet of a sidewalk.
- C. Type III Special Variance to Section 17.74.40(B.2) to exceed the 4-foot maximum height of a retaining wall and fence in a commercial front yard (east side).
- D. Type III Special Variance to Section 17.74.40(B.4) to exceed the 8-foot maximum height of a retaining wall and fence in a commercial side yard (north side).
- E. Type III Special Variance to Section 17.74.40(B.4) to exceed the 8-foot maximum height of a retaining wall and fence in a commercial rear yard (west side).
- F. Type III Special Variance to Section 17.90.120(G) to not provide civic space.
- G. Type III Special Variance to Section 17.98.10(Q) to exceed the minimum off-street vehicle parking required by Section 17.98.20 by more than 30 percent.

### **Variance A: Maximum Front Yard Setback**

57. The applicant requested a Type II Variance to Section 17.44.30 to exceed the maximum 50-foot front yard setback from Kate Schmitz Avenue.

58. Criteria A. of Section 17.66.70 states "The circumstances necessitating the variance are not of the applicant's making." The applicant is proposing to locate the dining facility 173-199 feet from the Kate Schmitz Avenue right-of-way. The narrative (Exhibit B) states that the reason the building can't be located within the maximum 50-foot setback from Kate Schmitz Avenue is because of existing topography and retention trees that were protected as part of the Twin Cedars subdivision approval. Staff finds criterion A is met.

59. Criteria B. of Section 17.66.70 states "The hardship does not arise from a violation of this Code, and approval will not allow otherwise prohibited uses in the district in which the property is located." The applicant has not violated the Code and the uses allowed on the lots will be the same with or without approval of this variance. Granting of this variance will allow a majority of the existing retention trees to remain protected on the lot. Staff finds criterion B is met.

60. Criteria C. of Section 17.66.70 states "Granting of the variance will not adversely affect implementation of the Comprehensive Plan." The variance will not have an impact on any of the policies or goals of the Comprehensive Plan. On the contrary, granting a variance to allow the proposed dining structure to be located further than 50 feet from Kate Schmitz Avenue will better protect the existing trees, which is consistent with the Comprehensive Plan Goal 5 policies for protection of natural resources. Staff finds criterion C is met.

61. Criteria D. of Section 17.66.70 states "The variance authorized will not be materially detrimental to the public welfare or materially injurious to other property in the vicinity." Approval of the variance will not be materially detrimental or injurious to other property owners in the vicinity. Staff finds criterion D is met.

62. Criteria E. of Section 17.66.70 states “The development will be the same as development permitted under this code and City standards to the greatest extent that is reasonably possible while permitting some economic use of the land.” The development will be the same as development permitted under this code and City standards to the greatest extent that is reasonably possible while permitting economic use of the land. As explained in this staff report, the proposal meets applicable code sections, or will be able to meet the code with conditions of approval. As stated in the narrative (Exhibit B), the east elevation facing the Kate Schmitz Avenue right-of-way features windows, a decorative gabled end, and a door with a pedestrian shelter. Staff finds criterion E is met.
63. Criteria F. of Section 17.66.70 states “Special circumstances or conditions apply to the property which do not apply generally to other properties in the same zone or vicinity, and result from lot size or shape (legally existing prior to the effective date of this Code), topography, or other circumstances over which the applicant has no control.” The applicant’s narrative (Exhibit B) states that the circumstances necessitating the variance are the existing topography of the site and the location of protected trees abutting the unimproved Kate Schmitz Avenue, which is at a significantly lower elevation than the majority of the site. Staff finds criterion F is met.
64. For the reasons discussed, **staff recommends the Planning Commission approve the requested variance to allow the dining facility structure to exceed the maximum 50-foot setback from Kate Schmitz Avenue.**

Variance B: Site Frontage

65. The applicant requested a Type II Variance to Section 17.90.120(D.1) to not have 50 percent of the site’s street frontage be comprised of buildings placed within 20 feet of a sidewalk.
66. Criteria A. of Section 17.66.70 states “The circumstances necessitating the variance are not of the applicant’s making.” As noted in the discussion of variance A, above, the applicant is proposing to locate the dining facility 173-199 feet from the Kate Schmitz Avenue right-of-way due to existing topography and retention trees. Locating the building within 20 feet of the future sidewalk on Kate Schmitz Avenue would require significant grading of the site and removal of protected trees. Staff finds criterion A is met.
67. Criteria B. of Section 17.66.70 states “The hardship does not arise from a violation of this Code, and approval will not allow otherwise prohibited uses in the district in which the property is located.” The applicant has not violated the Code and the uses allowed on the lots will be the same with or without approval of this variance. Approval of the variance will protect most of the existing trees located on the subject property that were required to be retained as a condition of approval of the Twin Cedars subdivision. Staff finds criterion B is met.
68. Criteria C. of Section 17.66.70 states “Granting of the variance will not adversely affect implementation of the Comprehensive Plan.” The variance will not have an impact on any of the policies or goals of the Comprehensive Plan. On the contrary, granting a variance to allow the proposed dining structure to be located further than 20 feet from the Kate Schmitz Avenue right-of-way will better protect the existing trees, which is consistent with the

Comprehensive Plan Goal 5 policies for protection of natural resources. Staff finds criterion C is met.

69. Criteria D. of Section 17.66.70 states “The variance authorized will not be materially detrimental to the public welfare or materially injurious to other property in the vicinity.” Approval of the variance will not be materially detrimental or injurious to other property owners in the vicinity. As stated in the narrative (Exhibit B), the site is designed to better protect retention trees, which will have a positive effect on the public welfare. Staff finds criterion D is met.
70. Criteria E. of Section 17.66.70 states “The development will be the same as development permitted under this code and City standards to the greatest extent that is reasonably possible while permitting some economic use of the land.” The development will be the same as development permitted under this code and City standards to the greatest extent that is reasonably possible while permitting economic use of the land. As explained in this staff report, the proposal meets applicable code sections, or will be able to meet the code with conditions of approval. Staff finds criterion E is met.
71. Criteria F. of Section 17.66.70 states “Special circumstances or conditions apply to the property which do not apply generally to other properties in the same zone or vicinity, and result from lot size or shape (legally existing prior to the effective date of this Code), topography, or other circumstances over which the applicant has no control.” As previously stated, the circumstances necessitating the variance are the existing topography of the site and the location of protected trees abutting the unimproved Kate Schmitz Avenue, which is at a significantly lower elevation than the majority of the site. Staff finds criterion F is met.
72. For the reasons discussed, **staff recommends the Planning Commission approve the requested variance to not have 50 percent of the site’s street frontage be comprised of buildings placed within 20 feet of a sidewalk.**

Variance C: Wall/Fence Height – Front Yard (East Side)

73. The applicant requested a Type III Special Variance to Section 17.74.40(B.2) to exceed the 4-foot maximum height of a retaining wall and fence in a commercial front yard (east side).
74. To be granted a Type III Special Variance, the applicant must meet one of the following criteria in Section 17.66.80:
- A. The unique nature of the proposed development is such that:
    - 1. The intent and purpose of the regulations and of the provisions to be waived will not be violated; and
    - 2. Authorization of the special variance will not be materially detrimental to the public welfare and will not be injurious to other property in the area when compared with the effects of development otherwise permitted.
  - B. The variance approved is the minimum variance needed to permit practical compliance with a requirement of another law or regulation.

- C. When restoration or replacement of a nonconforming development is necessary due to damage by fire, flood, or other casual or natural disaster, the restoration or replacement will decrease the degree of the previous noncompliance to the greatest extent possible.

75. Staff believes the requested variance to Section 17.74.40(B.2) to exceed the 4-foot maximum height of a retaining wall and fence in a commercial front yard meets Criterion A. As detailed on the Detailed Site Plan (Exhibit C, Sheet C5), the applicant is proposing a black vinyl coated chain link fence on top of a 2-foot-tall to 6-foot-tall retaining wall along the north portion of the east (front) elevation, and a chain link fence along the south portion of the east elevation. The narrative (Exhibit B) specifies that the fence would be 5-feet-tall and is proposed for security purposes, whereas the 2-foot-tall to 6-foot-tall wall is needed to hold up a portion of the site. The narrative further states: “The proposed wall and fence will be located about 160 - 180 feet west of and about 15 - 20 feet higher than the Kate Schmitz unimproved right-of-way. The Development Code does not state the intent of this standard but it is assumed the standard has to do with the aesthetic appearance of the front yard and the building.” The applicant is proposing both retaining walls and fences on all four sides of the food cart pod area. The north, south, and west retaining walls are proposed as split-face block walls and the north, south, and west fences are proposed as black steel or aluminum picket fences. Staff recommends the applicant be required to match the split face block wall and black steel or aluminum picket fence design on the east side as well to be in compliance with Section 17.90.120(B.3.a), which requires architectural unity. The proposed front yard (east) fence includes a gate. Based on the site plan, it appears the gate will be a sliding gate. Staff visited the Fairview food carts on June 30, 2022, and noticed that the sliding gate included a raised tracker on the ground and that mats had been placed over it. Staff identified that tracker as a tripping hazard and potentially not in compliance with ADA standards.

76. For the reasons discussed, **staff recommends the Planning Commission approve the requested variance to exceed the 4-foot maximum height of a retaining wall and fence in a commercial front yard (east side). The applicant shall update the plan set to detail the front (east) retaining wall and fence as a 2-foot-tall to 6-foot-tall split face block wall and a maximum 5-foot-tall black steel or aluminum picket fence, or submit a similar alternative design to staff for review and approval. A raised tracker for the sliding gate shall not be permitted.**

Variance D: Wall/Fence Height – Side Yard (North Side)

77. The applicant requested a Type III Special Variance to Section 17.74.40(B.4) to exceed the 8-foot maximum height of a retaining wall and fence in a commercial side yard (north side).

78. To be granted a Type III Special Variance, the applicant must meet one of the following criteria in Section 17.66.80:

- A. The unique nature of the proposed development is such that:
  - 1. The intent and purpose of the regulations and of the provisions to be waived will not be violated; and

2. Authorization of the special variance will not be materially detrimental to the public welfare and will not be injurious to other property in the area when compared with the effects of development otherwise permitted.

B. The variance approved is the minimum variance needed to permit practical compliance with a requirement of another law or regulation.

C. When restoration or replacement of a nonconforming development is necessary due to damage by fire, flood, or other casual or natural disaster, the restoration or replacement will decrease the degree of the previous noncompliance to the greatest extent possible.

79. Staff believes the requested variance to Section 17.74.40(B.4) to exceed the 8-foot maximum height of a retaining wall and fence in a commercial side yard meets Criterion A. As detailed on the Detailed Site Plan (Exhibit C, Sheet C5), the applicant is proposing a split face block wall with a maximum exposed height of 9.5 feet and a 5-foot-tall black steel or aluminum picket fence behind the wall. The submitted Wall and Fence Sections (Exhibit H, Section A) detail the fence approximately 1 foot back from the top of the block wall in a 7-foot-wide section of gravel between the wall and the food cart pads. As stated in the narrative (Exhibit B), the reason the retaining wall is needed is due to the existing site grade. Staff assumes the fence is needed for safety (to prevent people from falling off the wall) and is desired for security (to keep people out of the food cart pod area outside of business hours). **Where the fence pickets are required as a guard from falling, the space between pickets shall be less than 4 inches.**

80. For the reasons discussed, **staff recommends the Planning Commission approve the requested variance to exceed the 8-foot maximum height of a retaining wall and fence in a commercial side yard (north side).**

Variance E: Wall/Fence Height – Rear Yard (West Side)

81. The applicant requested a Type III Special Variance to Section 17.74.40(B.4) to exceed the 8-foot maximum height of a retaining wall and fence in a commercial rear yard (west side).

82. To be granted a Type III Special Variance, the applicant must meet one of the following criteria in Section 17.66.80:

A. The unique nature of the proposed development is such that:

1. The intent and purpose of the regulations and of the provisions to be waived will not be violated; and
2. Authorization of the special variance will not be materially detrimental to the public welfare and will not be injurious to other property in the area when compared with the effects of development otherwise permitted.

B. The variance approved is the minimum variance needed to permit practical compliance with a requirement of another law or regulation.



C. When restoration or replacement of a nonconforming development is necessary due to damage by fire, flood, or other casual or natural disaster, the restoration or replacement will decrease the degree of the previous noncompliance to the greatest extent possible.

83. Staff believes the requested variance to Section 17.74.40(B.4) to exceed the 8-foot maximum height of a retaining wall and fence in a commercial rear yard meets Criterion A. The submitted Wall and Fence Sections (Exhibit H, Sections B-D) detail the retaining wall and fence sections for the west property line west of the north food carts (Section B), dining building (Section C), and south food carts (Section D). The section west of the north food carts (Section B) includes a 6-foot-tall split face block retaining wall with a 5-foot-tall black steel or aluminum picket fence, totaling 11 feet in height. The fence is approximately 1 foot back from the top of the block wall with 6 feet of landscaping between food cart pad #1 and the fence, and an additional one foot of landscaping between the fence and the wall. In order to provide a more functional landscaping area, staff recommends the applicant update the plan set to detail the fence on top of the retaining wall with 7 feet of landscaping between food cart pod #1 and the fence/wall. The section west of the dining building (Section C) includes a 4-foot-tall split face block retaining wall with 7 feet of landscaping between the top of the retaining wall and the building, in compliance with the 8-foot maximum rear yard wall/fence requirement. The section west of the south food carts (Section D) includes a 4-foot-tall split face block retaining wall (the Detailed Site Plan details the wall as 5-foot-tall) with a 5-foot-tall black steel or aluminum picket fence, totaling 9 (or 10) feet in height. The fence abuts food cart pad #8, with one foot of landscaping between the fence and the top of the wall. As previously discussed, the reason the retaining wall is needed is due to the existing site grade. Staff assumes the fence is needed for safety (to prevent people from falling off the wall) and is desired for security (to keep people out of the food cart pod area outside of business hours).

84. For the reasons discussed, **staff recommends the Planning Commission approve the requested variance to exceed the 8-foot maximum height of a retaining wall and fence in a commercial rear yard (west side). The applicant shall update the plan set to detail the fence on top of the retaining wall with 7 feet of landscaping between food cart pod #1 and the fence/wall.**

Variance F: Civic Space

85. The applicant requested a Type III Special Variance to Section 17.90.120(G) to not provide civic space.

86. To be granted a Type III Special Variance, the applicant must meet one of the following criteria in Section 17.66.80:

- A. The unique nature of the proposed development is such that:
1. The intent and purpose of the regulations and of the provisions to be waived will not be violated; and
  2. Authorization of the special variance will not be materially detrimental to the public welfare and will not be injurious to other property in the area when compared with the effects of development otherwise permitted.

- B. The variance approved is the minimum variance needed to permit practical compliance with a requirement of another law or regulation.
- C. When restoration or replacement of a nonconforming development is necessary due to damage by fire, flood, or other casual or natural disaster, the restoration or replacement will decrease the degree of the previous noncompliance to the greatest extent possible.

87. Staff does not believe the requested variance to Section 17.90.120(G) to not provide civic space meets any of the Special Variance approval criteria. The intent of providing civic space is to connect buildings to the public realm and create comfortable and attractive gathering places and outdoor seating areas for customers and the public. Not providing a civic space is not in line with the intent and purpose of the civic space requirement nor is it necessary to permit compliance with another law or regulation. Based on the 3,600 square foot dining facility, the applicant would need to provide 108 square feet of civic space per Section 17.90.120(G.1). Section 17.90.120(G.5) states that civic spaces should abut a public right-of-way or otherwise be connected to and visible from a public right-of-way by a sidewalk or approved pedestrian access way; access ways shall be identifiable with a change in paving materials (e.g., pavers inlaid in concrete or a change in pavement scoring patterns and/or texture) or painted. Civic spaces shall not be gated or closed to public access, unless otherwise required by the City. Per Section 17.90.120(G.3), civic space improvements may include plazas, private extensions of sidewalks and walkways (i.e., to accommodate outdoor seating), public art, pedestrian-scale lighting, bus waiting areas, tourist amenities (e.g., way finding signs as approved by the city) or similar pedestrian amenities as approved through Design Review. The proposal is for a food cart pod that will be gated on all four sides and presumably closed to public access outside of business hours. The applicant is not proposing to install frontage improvements on Kate Schmitz Avenue as part of the proposal, but the food cart pod site does have frontage along the Kate Schmitz Avenue right-of-way. It is unclear whether the proposal includes any areas for outdoor seating, though none are depicted on the site plan. Staff recommends the applicant be required to provide the minimum 108 square feet of civic space in the form of outdoor seating. Staff recommends the civic space be located at the end of the proposed foot path, adjacent to the Kate Schmitz Avenue right-of-way and outside of the critical root zones of the retention trees and the 8-foot PUE. Staff recommends the civic space be required to include seating as well as landscaping and/or public art.

88. For the reasons discussed, **staff recommends the Planning Commission deny the requested variance to Section 17.90.120(G) to not provide civic space. Staff recommends the applicant be required to provide the minimum 108 square feet of civic space in the form of outdoor seating. Staff recommends the civic space be located at the end of the proposed foot path, adjacent to the Kate Schmitz Avenue right-of-way and outside of the critical root zones of the retention trees and the 8-foot PUE. Staff recommends the civic space be required to include seating as well as landscaping and/or public art.**

Variance G: Exceed Maximum Parking

89. The applicant requested a Type III Special Variance to Section 17.98.10(Q) to exceed the minimum off-street vehicle parking required by Section 17.98.20 by more than 30 percent.

90. To be granted a Type III Special Variance, the applicant must meet one of the following criteria in Section 17.66.80:
- A. The unique nature of the proposed development is such that:
    - 1. The intent and purpose of the regulations and of the provisions to be waived will not be violated; and
    - 2. Authorization of the special variance will not be materially detrimental to the public welfare and will not be injurious to other property in the area when compared with the effects of development otherwise permitted.
  - B. The variance approved is the minimum variance needed to permit practical compliance with a requirement of another law or regulation.
  - C. When restoration or replacement of a nonconforming development is necessary due to damage by fire, flood, or other casual or natural disaster, the restoration or replacement will decrease the degree of the previous noncompliance to the greatest extent possible.
91. Staff believes the requested variance to Section 17.98.10(Q) to exceed the minimum off-street vehicle parking required by Section 17.98.20 by more than 30 percent generally meets Criterion A, but not to the degree that the applicant is proposing. Section 17.98.10(Q) states that the provided parking shall not exceed the minimum parking required by Section 17.98.20 by more than 30 percent. The minimum parking requirement per Section 17.98.20 is 34 spaces, so the maximum parking allowed in accordance with Section 17.98.10(Q) is 44 spaces (10 additional spaces). The applicant is proposing to exceed the minimum parking by 35 spaces, or 103 percent, which is well over the 30 percent limit. In addition, staff has concerns regarding the location of some of the proposed parking spaces, the extra-long length of some of the proposed parking spaces, and the proposed increase in impervious surface in general. As stated in Section 17.90.00, the reviewing body is required to evaluate all design review applications based on both Sandy Style objectives and elements that are incompatible with Sandy Style; the reviewing body may deny or require modifications to a project with any of the incompatible elements. Section 17.90.00(D) lists the following parking lot related elements as being incompatible with Sandy Style:
- Excessive surface parking lot paving (D.3)
  - Disjointed parking areas, confusing or unsafe circulation patterns (D.5)
  - Inadequate landscape buffers adjacent to parking lots (D.10)

Staff believes that exceeding the minimum required parking by 103 percent results in excessive surface parking lot paving. Tax Lots 1000 and 1200 are currently vacant and vegetated. The proposal includes 35 more parking spaces than needed, resulting in significantly more impervious surface than needed. Tax Lot 1000 is proposed to be almost entirely paved for parking, with just the bare minimum of the required landscaping provided. Staff acknowledges the applicant's desire to provide extra-long parking spaces for oversized vehicles but finds that 13 extra-long spaces is unnecessary. The proposal for Tax Lot 1200 includes a parking area located in the southeast portion of the site, which is within the original tree protection area detailed in the 2005 Tree Covenant. To accommodate the

proposed parking on Tax Lot 1200, the applicant is proposing to remove 10 trees. In addition, the proposed encroachment into the critical root zone of retention Tree #9 is detailed at the maximum 25 percent; the entirety of that encroachment is due to the proposed parking lot.

Staff also believes the proposal includes unsafe parking spaces, particularly the 10 parking spaces proposed on the north side of Tax Lot 1000 that extend partially onto Tax Lot 1100. Staff pointed out this concern to the applicant and the applicant submitted a parking stall memorandum (Exhibit J) with the incompleteness submittal. The City Transportation Engineer (Exhibit R) reviewed the proposal along with the supplemental parking memo and noted that vehicles would enter and exit the 10 stalls directly from the drive aisle. The City Transportation Engineer further noted that the submitted parking stall response memo does not demonstrate that the inclusion of the 10 stalls will not result in issues and recommended that the following be a condition of approval: "The development shall remove the 10 parking stalls on the north side of the proposed parking lot at 37115 US 26. The parking layout shall be designed so that all parking maneuvers will be internal to the parcel." In addition to the safety concerns, the location of the 10 parking stalls on the north side of Tax Lot 1000 does not comply with Section 17.92.80, which requires a minimum 5-foot landscaping buffer between parking areas and adjacent properties. It's also unclear whether the proposed location of the eastern two parking spaces along the north side of Tax Lot 1000 provides a sufficient vision clearance area for the intersection of the east-west and north-south 25-foot access easements. Staff also has concerns about whether there's sufficient space for a vehicle to safely pull out of the southeasternmost proposed parking space on Tax Lot 1200.

Staff also believes the landscape buffers adjacent to the parking lots are inadequate. As previously stated, Section 17.92.80 requires a minimum 5-foot landscaping buffer between parking areas and adjacent properties, which is not met along the north side of Tax Lot 1000 adjacent to the 10 parking spaces proposed to be accessed directly from the drive aisle. The Overall Site Plan (Exhibit C, Sheet C3) also appears to be detailing the required landscape buffers at 4 or 4.5 feet in width, instead of the 5-foot minimum width required by Section 17.92.10(D).

**92. Staff recommends the Planning Commission approve 20 parking stalls on Tax Lot 1200 and 36 on Tax Lot 1000, for a total of 56 parking stalls, which is 22 spaces, or 65 percent, more than the minimum requirement of 34 parking spaces. Specifically, staff recommends the Planning Commission require the applicant to update the Plan Set as follows (see staff recommendation in Exhibit V):**

- **Remove the proposed parking stall to the west of Tree #9 on Tax Lot 1200 and retain existing natural area landscaping.**
- **Remove the southeasternmost proposed parking stall on Tax Lot 1200 and replace with landscaping.**
- **Remove the 10 proposed parking stalls on Tax Lot 1000 that are accessed directly from the 25-foot access easement, replace with landscaping, and retain the 4 existing adjacent trees.**
- **Reduce the proposed extra-long parking stalls on Tax Lot 1000 by 7 feet (from 25 feet in length to 18 feet in length, i.e., standard sized spaces), replace with**

**landscaping, and adjust the adjacent parking aisle accordingly, including removal of the southernmost parking stall in the western parking bay.**

**If the Planning Commission decides to approve any of the extra-long parking stalls, staff recommends no more than 3 extra-long stalls be permitted. If the Planning Commission approves any of the 10 proposed parking spaces accessed from the 25-foot access easement, the applicant shall complete a stormwater analysis for Tax Lot 1100 (Lot 9) to determine if the existing stormwater facility can accommodate this additional impervious surface, and if not, the parking spaces shall be removed, or the stormwater facility shall be modified to accommodate the additional stormwater.**

### **ZONING and SETBACKS – Chapters 17.44 and 17.80**

93. The applicant proposes constructing a food cart pod and associated dining facility on Tax Lot 1200 (Lot 10 of the Twin Cedars subdivision) as permitted in the general commercial (C-2) zoning district per Section 17.44.10(B.1.e). The applicant also proposes constructing a surface parking lot on Tax Lot 1000 (Lot 8). A surface parking lot is not a primary use permitted outright, but rather an accessory use allowed per Section 17.44.10(C.3). The accessory parking lot is needed to meet the minimum parking requirement for the food cart pod. **The applicant shall record a shared parking covenant that runs with the land and is nonrevocable between Lots 10 and 8 of Twin Cedars.** The covenant shall be nonrevocable as the parking on Lot 10 does not have the minimum parking required of the proposed facility.
94. Section 17.44.30(A) contains the development requirements for the C-2 zoning district, which include a 20 percent minimum landscaping requirement, a 55-foot maximum structure height, and a 10-foot minimum and 50-foot maximum front yard setback. Chapter 17.80 contains additional setback requirements on collector and arterial streets. Section 17.80.20 requires all structures to have a minimum setback of 20 feet to collector and arterial streets. Kate Schmitz Avenue is classified as a collector street and, thus, all structures will need to be set back at least 20 feet from Kate Schmitz Avenue.
95. Landscaping is discussed further in Chapter 17.92 of this staff report. As detailed on the submitted elevations (Exhibit D, Sheet A3.01), the proposed dining facility is 27-feet-7 3/8-inches in height in compliance with the Sandy Development Code. As stated in the narrative (Exhibit B), the proposed building is located approximately 173 to 199 feet from Kate Schmitz Avenue. The applicant is requesting a variance to allow the front yard setback to exceed the 50-foot maximum. The variance request is discussed further in Chapter 17.66 of this staff report.
96. Section 17.44.30(B) contains special setback standards for side or rear yards that abut a more restrictive zoning district. Tax Lot 1200 abuts a property zoned R-2, medium density residential, on its east (side yard) property line. Section 17.44.30(B.1) states that a property abutting a more restrictive zoning district shall have the same yard setback as required by the abutting district and that an additional ten feet shall be added for each ten-foot increment in building height over 35 feet. The minimum side yard setback in the R-2 zone is 5 feet. The proposed building is less than 35 feet in height; thus, the minimum side yard setback along the east property line of Tax Lot 1200 is 5 feet. No buildings are proposed along the east property line of Tax Lot 1200. A parking area is proposed along the south portion of the east property line and is set back 5 feet from the property line in compliance with the code.

## **TRANSPORTATION AND IMPROVEMENTS – Chapter 17.84**

97. Section 17.84.20 pertains to timing of required improvements. Section 17.84.20(A.2) states that where a land division is not proposed, the site shall have required public and franchise utility improvements installed or financially guaranteed in accordance with the provisions of Chapter 17 prior to temporary or final occupancy of structures. The applicant is not proposing to install frontage improvements as part of this application. There is an existing gap between the constructed portion of Kate Schmitz Avenue along the Goodwill site (Tax Lot 500) and the proposed food cart pod parcel (Tax Lot 1200). The property between Goodwill and the proposed food cart pod parcel is zoned R-2, Medium Density Residential, and is owned by the Oregon Trail School District. Staff do not anticipate this parcel developing any time soon based on the zoning and ownership. Therefore, staff is supportive of the applicant financially guaranteeing the improvements rather than installing them with the proposed food cart pod development. Kate Schmitz Avenue is identified as a collector street in the TSP. The City Engineer (Exhibit O) reviewed the proposal and notes: “A fee-in-lieu charge or a non-remonstrance agreement should be required for the development of the street frontage on Kate Schmitz Avenue. The property frontage is 76 feet long and the developer would be responsible for improving the roadway to local residential standards. The additional cost to construct the roadway to collector standards would be an SDC eligible expense. The engineer should provide a cost estimate for this frontage.” **The applicant shall financially guarantee the required Kate Schmitz Avenue improvements in accordance with the provisions of Chapter 17 prior to temporary or final occupancy of structures. The financial guarantee shall be in the amount of 110 percent of the Engineer estimate for the cost of half-street improvements to Collector Street standards for the entire 75.87 feet of frontage on Kate Schmitz Avenue.**
98. Section 17.84.30 includes pedestrian and bicycle requirements. Section 17.84.30(A.2) requires all proposed sidewalks on arterial or collector streets to be six feet wide and separated from curbs by a tree planting area that is a minimum of five feet in width. As required by Section 17.84.30(B), safe and convenient pedestrian and bicyclist facilities that strive to minimize travel distance to the extent practicable shall be provided in conjunction with new development. As previously discussed, the applicant is not proposing to install frontage improvements along the Kate Schmitz Avenue right-of-way as part of this application and will be providing a financial guarantee instead. The applicant is proposing a 5-foot-wide soft surface path connecting the food cart pod area to the Kate Schmitz Avenue right-of-way. When the Kate Schmitz Avenue sidewalk is installed in the future, the path will connect the sidewalk to the proposed food cart pod development. Currently, there are a number of trails located within or adjacent to the Kate Schmitz Avenue right-of-way in the vicinity of where the proposed 5-foot-wide path will end. To improve connectivity, **the applicant shall connect the proposed 5-foot-wide soft surface trail to an existing trail in the vicinity of the Kate Schmitz Avenue right-of-way. The applicant shall submit the proposed connection for review and approval by the Parks Director.**
99. This finding analyzes the Transportation Impact Study (TIS).
- A. The applicant submitted a Transportation Impact Study (Exhibit J) from Lancaster Mobley, dated March 7, 2022, as well as a Parking Stalls Memorandum from Lancaster Mobley dated April 19, 2022. According to the TIS, the proposed development would

generate up to 12 site trips during the morning peak hour, 57 trips during the evening peak hour, and 566 average weekday trips.

- B. The City Transportation Engineer (Exhibit R) reviewed the TIS and provided the following comments:
- i. **The development shall contribute System Development Charges toward citywide impacts.**
  - ii. The City Transportation Engineer reviewed Lancaster Mobley’s response to concerns surrounding the 10 parking stalls on the north side of the proposed parking lot at 37115 US 26 and noted that vehicles would enter and exit these stalls directly from the drive aisle. Staff had expressed concerns about the proposed stalls backing into the existing 25-foot access easement. The City Transportation Engineer finds that the applicant’s response does not demonstrate that the inclusion of the 10 stalls will not result in issues identified by the City. **The applicant shall update the Plan Set to remove the 10 parking stalls on the north side of the proposed parking lot at 37155 US 26. The parking layout shall be designed so that all parking maneuvers will be internal to the parcel.**
  - iii. The City Transportation Engineer included a comment that bicycle parking shall be provided per Sandy Development Code 17.98.20. The applicant is proposing 4 bicycle parking spaces, which complies with the minimum requirement. Bicycle parking is discussed further in Chapter 17.98 of this document.
  - iv. Page 20 of the study states that alternate mobility standards apply along US 26 between Orient Drive and Ten Eyck Road. No alternate mobility standards have been adopted and typical mobility standards apply. **The applicant shall update the TIS as needed to apply typical mobility standards.**
- C. ODOT (Exhibit S) reviewed the TIS and provided the following comments in a letter dated July 8, 2022:
- i. The site of this proposed land use action is adjacent to US 26. ODOT has permitting authority for this facility and an interest in ensuring that this proposed land use is compatible with its safe and efficient operation. **The applicant shall contact the District Contact, Robbie Cox, at D2CAP@odot.oregon.gov to determine permit requirements and obtain application information.**
  - ii. ODOT determined that the Change of Use criteria in OAR 734-051-3020 are met and a new State Highway Approach Road Permit is required for access to the highway. **The applicant shall obtain a Permit to Construct a State Highway Approach Road from ODOT for access to the state highway. Truck turning templates shall be provided as needed to ensure vehicles can enter and exit the approach safely. A sight distance evaluation shall be provided to demonstrate that adequate intersection sight distance is provided and meets ODOT sight distance standards. Site access to the state highway is regulated by OAR 734.51. Application for a Permit to Construct a State Highway Approach. Note: It may take 2 to 3 months to process a State Highway Approach Road Permit.**
- D. The City Engineer (Exhibit O) reviewed the TIS and provided the following comment: “...driveway to the shopping center operates at a LOS F with existing conditions and at buildout, which is typically an unacceptable service level. Is this acceptable because it is a private shopping center or is that typical for a commercial center?” Staff reached out to



the City's Transportation Engineer for input and received the following response: "Along US 26 the city uses ODOT's mobility standard which is based on volume/capacity ratio and not LOS. While the LOS of F does indicate a long average delay, the volume to capacity ratio meets the ODOT mobility standard. So the reason this LOS is acceptable is because for development that impacts intersections along US 26 the adopted standard does not consider the LOS but the v/c ratio."

100. Sections 17.84.50(F and G) require public streets to be improved to City standards along the entire frontage of the property. Kate Schmitz Avenue is identified as a collector street in the TSP and is therefore required to be improved to collector street City standards. As previously discussed, the applicant is not proposing to install frontage improvements as part of this application but rather will be providing financial guarantee. **The applicant shall financially guarantee the required Kate Schmitz Avenue improvements in accordance with the provisions of Chapter 17 prior to temporary or final occupancy of structures. The financial guarantee shall be in the amount of 110 percent of the Engineer estimate for the cost of half-street improvements to Collector Street standards for the entire 75.87 feet of frontage on Kate Schmitz Avenue.**
101. The plat for Twin Cedars No. 2 (Exhibit U) details a 1-foot-wide access control strip along the Kate Schmitz Avenue right-of-way and states: "All access control strips are in favor of the City of Sandy. Access control strips or portions there of shall be relinquished by the City of Sandy when abutting public street is constructed and accepted by the City of Sandy." The City is not relinquishing the access control strip along the 75.87 feet of Kate Schmitz Avenue.

## **PARKING, LOADING, AND ACCESS REQUIREMENTS – Chapter 17.98**

57. Section 17.98.10(Q) pertains to maximum parking allowed and states that Commercial or Industrial zoned properties shall not be permitted to exceed the minimum off-street vehicle parking required by Section 17.98.20 by more than 30 percent. The applicant is requesting a Special Variance to Section 17.98.10(Q) to exceed the minimum parking requirement by more than 30 percent. The variance request is discussed further in Chapter 17.66 of this staff report.
58. Section 17.98.20 contains off-street parking requirements. The proposed use is a food cart pod with a dining facility. Per Section 17.74.90.(E.11), each food cart shall provide a minimum of one paved off-street parking space for employee use or provide proof of written permission from an adjacent business or property owner within one-quarter mile of the subject site allowing the food cart operator to share parking facilities. The proposal includes space for 18 food carts, which requires 18 off-street parking spaces. In addition, the proposal includes a 3,600 square foot dining facility. Per Section 17.98.20(A.10), eating or drinking establishments require 1 parking space per 250 square feet of gross floor area or 1 parking space per 4 fixed seats or stools, plus 1 per 2 employees. The applicant's narrative (Exhibit B) states that the anticipated number of dining facility employees at the largest shift is 4, which requires 2 off-street parking spaces. The 3,600 square foot building requires 14 parking spaces ( $3,600/250=14.4$  rounded down to 14). Therefore, the total required number of off-street parking spaces for the food cart pod and dining facility is 34 ( $18+14+2=34$ ). The applicant is proposing 69 parking spaces, which exceeds the minimum by 35 spaces, or 103 percent. As discussed in Section 17.98.10(Q), above, the applicant is requesting to exceed the minimum parking requirement by more than 30 percent, which is discussed in Chapter 17.66 of this staff report.
59. Based on the required 34 parking spaces, two (2) bicycle parking spaces are required. The Detailed Site Plan (Exhibit C, Sheet C5) details four (4) bicycle parking spaces located at the southeast corner of the dining facility (south elevation) around the corner from the main entrance (east elevation). Section 17.98.160 contains requirements related to bicycle parking facilities. Per Section 17.98.160(B) each required bicycle parking space shall be at least two and one-half feet by six feet; vertical or upright bicycle storage structures are exempted from the parking space length. An access aisle of at least five feet wide shall be provided and maintained beside or between each row of bicycle parking. Staff has concerns about the location of the proposed bicycle parking area in relation to maintaining adequate space and pedestrian flow between the bicycle parking and the order counter. During staff's June 30, 2022, site visit to the Troutdale food carts, staff observed that the bicycle parking spaces were vertical spaces installed on the building façade. **Staff recommends the bicycle parking spaces be relocated to the east elevation so they're closer to the main entrance and aren't between the building and the food carts, or that they be installed as vertical spaces on the south façade.**
60. Section 17.98.40 contains standards related to shared use of parking facilities. Section 17.98.40(A) specifies that required parking facilities may be located on an adjacent parcel of land or separated only by an alley or local street, provided the adjacent parcel is maintained in the same ownership as the use it is required to serve or a shared parking agreement that can only be released by the Director is recorded in the deed records of Clackamas County.

The 18 food cart pod proposal requires a minimum of 34 parking spaces. The applicant is proposing 22 parking spaces on the food cart pod parcel (Tax Lot 1200, Lot 10) and 47 parking spaces in the accessory surface parking lot (Tax Lot 1000, Lot 8). **The applicant shall record a shared parking covenant that runs with the land and is nonrevocable between Lots 10 and 8 of Twin Cedars.** The covenant shall be nonrevocable as the parking on Lot 10 does not have the minimum parking required of the proposed facility.

61. Section 17.98.60 includes standards on parking lot design, size, and access. Section 17.98.60(A) requires parking lots to be constructed with a durable hard surface such as concrete or asphalt. Per the submitted narrative (Exhibit B) all parking and maneuvering areas will be surfaced with asphalt.
62. Section 17.98.60(B) contains standards for the size of parking spaces. The Overall Site Plan (Exhibit C, Sheet C3) identifies 69 parking spaces, with 22 located on the same parcel as the food cart pod (Tax Lot 1200, Lot 10), and 47 located on Tax Lot 1000 or Lot 8 (10 of which extend partially onto Tax Lot 1100, Lot 9). The proposed parking spaces include 34 standard parking spaces at 9 feet by 18 feet, 13 extra-long parking spaces at 9 feet by 25 feet, 19 compact parking spaces at 8 feet by 18 feet. All parking spaces meet the minimum size requirements, with the compact spaces being two feet longer than required, and the extra-long spaces being seven feet longer than required. Both the compact spaces and the extra-long spaces are longer than what is required by the code, resulting in less landscaping, more impervious surface, and increased stormwater management needs, which is discussed further in Chapter 17.66 of this document in the analysis of the applicant's request to exceed the maximum parking permitted. The proposal also includes three (3) ADA parking spaces, one of which has a passenger side aisle. **Signage associated with the ADA parking spaces shall meet the head clearance distance requirement in the Building Code. All approved parking spaces shall be clearly delineated with painted lines and the entrance and exit driveways shall be signed or marked with paint.**
63. Section 17.98.60(C) contains standards on parking lot aisle width. All parking aisles are proposed to meet or exceed the minimum aisle width standards for one-way and two-way parking aisles. The Overall Site Plan (Exhibit C, Sheet C3) details all parking aisles at 25 feet wide.
64. Section 17.98.80(A) requires access from a lower functional order street. Tax Lot 1200 has 75.87 feet of frontage on Kate Schmitz Avenue, a collector street; however, the Kate Schmitz right-of-way adjacent to Tax Lot 1200 is unimproved, as is the portion of Kate Schmitz Avenue east of Tax Lot 1200. Therefore, both subject parcels (Tax Lots 1000 and 1200) are proposed to be accessed from Highway 26 via an existing private access easement located on Tax Lot 1100. The City Engineer (Exhibit O) reviewed the proposal and notes that the accessor map appears to indicate a 5.5-foot strip of land on Lot 9 (Tax Lot 1100) separates Tax Lot 1000 from the 25-foot access easement. **The applicant shall provide confirmation of the right to access Tax Lots 1000 and 1200 via the 25-foot access easement and whether the applicant has the legal right to cross the 5.5-foot strip on Lot 9 (Tax Lot 1100).**

65. Section 17.98.120 contains landscaping and screening provisions for parking areas. Section 17.98.120(A) requires screening of parking areas containing 4 or more spaces. Section 17.92.80 requires buffering in conjunction with issuance of construction permits for parking areas containing four or more spaces, loading areas, and vehicle maneuvering areas. Boundary plantings shall be used to buffer these uses from adjacent properties and the public right-of-way. On-site plantings shall be used between parking bays, as well as between parking bays and vehicle maneuvering areas. A balance of low-lying ground cover and shrubs, and vertical shrubs and trees shall be used to buffer the view of these facilities. Section 17.92.10(D) states that planter and boundary areas used for required plantings shall have a minimum diameter of five feet (two and one-half foot radius, inside dimensions). Where the curb or the edge of these areas are used as a tire stop for parking, the planter or boundary plantings shall be a minimum width of seven and one-half feet. The proposal includes a parking area located southeast of the proposed food cart pod on Lot 1200 and an additional parking area on Lot 1000 (with 10 spaces proposed to extend onto Lot 1100). The Overall Site Plan (Exhibit C, Sheet C3) and Landscape Plan (Exhibit E, Sheet L1) detail boundary plantings between the parking areas and adjacent properties as well as plantings between parking bays and vehicle maneuvering areas. The Overall Site Plan details the landscaping buffers at 5-feet; however, that appears to include the curb. Neither the Overall Site Plan nor the Landscape Plan detail wheel stops, which is discussed in more detail below. **The applicant shall update the Plan Set to detail planter and boundary areas in the parking lot at a minimum diameter of five feet (two and one-half foot radius, inside dimensions).**
66. Section 17.98.120(B) requires parking in a commercial district that adjoins a residential district to include a site-obscuring screen that is at least 80 percent opaque when viewed horizontally from between 2 and 8 feet above the average ground level. The screening shall be composed of materials that are an adequate size so as to achieve the required degree of screening within three years after installation. The property to the east of the proposed food cart pod parcel is zoned R-2, Medium Density Residential. The Overall Site Plan (Exhibit C, Sheet C3) details a 5-foot-wide landscaping buffer east of the parking area on Tax Lot 1200 adjacent to the R-2 parcel; however, the Landscape Plan (Exhibit D, Sheet L1) does not detail landscaping in this area. **The applicant shall update the Landscape Plan to detail a minimum 5-foot-wide landscaping buffer with a site-obscuring screen that is at least 80 percent opaque when viewed horizontally from between 2 and 8 feet above the average ground level. The screening shall be composed of materials that are an adequate size so as to achieve the required degree of screening within three years after installation.**
67. Section 17.98.120(C) requires parking facilities to include at least 10 percent landscaping. The Landscape Plan (Exhibit E, Sheet L1) details multiple landscape planter bays in each parking lot area but do not include a landscaping analysis for the parking area. **The applicant shall submit additional information regarding landscaping in the parking areas to ensure that the 10 percent minimum landscaping is met.**
68. Section 17.98.120(D) restricts parking bays to no more than 20 spaces and requires landscape planters at the ends of each parking bay that have a minimum width of five feet and a minimum length of 17 feet for a single depth bay and 34 feet for a double bay. Each planter shall contain one major structural tree and ground cover. The Landscape Plan (Exhibit E,

Sheet L1) details planter bays at the ends of a majority of the parking bays that are at least five feet in width by 17 feet in length with one major structural tree and ground cover; however, there are multiple planter bays that do not meet the minimum 5-foot by 17-foot requirement and/or do not detail one major structural tree and groundcover. **The applicant shall update the Landscape Plan to detail a landscape planter at the end of each parking bay at a minimum width of 5-feet and a minimum length of 17-feet, exclusive of curb, with one major structural tree and ground cover.**

69. Section 17.98.120(E) states that parking area setbacks shall be landscaped with major trees, shrubs, and ground cover. Section 17.92.80 requires parking area buffers to contain a balance of low-lying ground cover and shrubs, and vertical shrubs and trees. The submitted Landscape Plan (Exhibit E, Sheet L1) details landscaping buffers between parking areas and adjacent properties; however, a majority are detailed to only contain creeping raspberry groundcover. **The applicant shall update the Landscape Plan to detail a mix of groundcover, shrubs, and trees in the required landscaping buffers between parking areas and adjacent properties.**
70. Section 17.98.120(F) requires wheel stops or other methods to protect landscaped areas and pedestrian walkways. Neither the Overall Site Plan (Exhibit C, Sheet C3) nor the Landscape Plan (Exhibit E, Sheet L1) detail wheel stops in any of the proposed parking spaces. Section 17.98.120(F) allows parking to project over an internal sidewalk provided a minimum clearance of five feet for pedestrian circulation is maintained. Section 17.92.10(D) states that where the curb or the edge of a required planter or boundary area is used as a tire stop for parking, the planter or boundary plantings shall be a minimum width of seven and one-half feet. **The applicant shall update the Plan Set to either detail wheel stops in the parking spaces adjacent to landscaping and walkways to protect landscaping and pedestrian walkways, or shall update the Plan Set to detail a minimum planting area of 7.5 feet, exclusive of curb, adjacent to all parking spaces that use the curb as a tire stop and a minimum clearance of 5 feet for pedestrian walkways that are adjacent to parking spaces that use the curb as a tire stop.**
71. Section 17.98.130 requires that all parking and vehicular maneuvering areas shall be paved with asphalt or concrete. As required by Section 17.98.130, **all parking, driveway, and maneuvering areas shall be constructed of asphalt, concrete, or other approved material.**
72. Section 17.98.140 requires parking areas, aisles, and turnarounds to provide adequate provisions for on-site collection of stormwater to eliminate sheet flow onto sidewalks, public rights-of-way, and abutting private property. **The applicant shall comply with the requirements of Section 13.18 of the Sandy Municipal Code. If any of the parking spaces that are partially on Tax Lot 1100 (Lot 9) are approved by the Planning Commission, the applicant shall complete a stormwater analysis for Tax Lot 1100 (Lot 9) to determine if the existing stormwater facility can accommodate this additional impervious surface, and if not, the parking spaces shall be removed, or the stormwater facility shall be modified to accommodate the additional stormwater.**

73. Section 17.98.150 requires lighting to be provided in all required off-street parking areas. The applicant submitted a lighting fixture schedule for new site lighting, and a photometric plan. These submittals are reviewed in Chapter 15.30 of this document.
74. Section 17.98.190 contains minimum standards for off-street loading facilities for commercial and industrial developments and states that all commercial and industrial uses that anticipate loading and unloading of products/materials shall provide an off-street area for loading/unloading of products/materials. The submitted narrative (Exhibit B) states that the proposed use does not warrant a separate designated loading area.

### **UTILITIES – Chapters 17.84 and 15.30**

75. Section 17.84.60 outlines the requirements of public facility extensions. The applicant submitted a Preliminary Utility Plan (Exhibit C, Sheet C6) which shows the location of proposed water, sanitary sewer, and stormwater drainage facilities for Tax Lot 1200. The Utility Plan did not include proposed utilities for Tax Lot 1000. The surface parking lot on Tax Lot 1000 contains multiple landscape planters that are required to be irrigated. **The applicant shall submit an updated Utility Plan detailing water service to Tax Lot 1000.**
76. The City Engineer (Exhibit O) reviewed the proposal and anticipates all utilities are private; however, if they are public, the CDS manhole at detention pipe No. 1 would need to be relocated from under food cart No. 8 to ensure access for maintenance. Regardless of whether the utilities are public or private, **staff recommends the applicant update the plan set to relocate the CDS manhole at detention pipe No. 1 from under food cart No. 8 so it can be accessed for maintenance.**
77. Broadband vault/conduit infrastructure are required for all new developments. The SandyNet General Manager reviewed the proposal and provided comments (Exhibit Q). **The applicant shall provide SandyNet with a set of PGE utility and street/sidewalk lighting plans to design and return a SandyNet broadband deployment plan to overlay in the dry utility shared trench. SandyNet will provide requirements for layout and acceptable materials for the developer/contractor. SandyNet shall be contacted after installation of infrastructure and coordinated for onsite inspection before backfilling the common trench. Please send plans for SandyNet design to Greg Brewster gbrewster@ci.sandy.or.us, 503-953-4604. On site contact for general questions and inspection will be Ron Yow, ryow@ci.sandy.or.us, 541-514-9771.**
78. Franchise utilities will be provided as required in Section 17.84.80. The location of these utilities shall be identified with building permit plans and installed or guaranteed prior to the site receiving a certificate of occupancy. **All franchise utilities shall be installed underground. The developer shall make all necessary arrangements with franchise utility providers.**
79. Section 17.84.90 outlines requirements for land for public purposes. The application does not include dedication of any land. The City finds that land dedication is not necessary with this application.
80. Eight-foot-wide public utility easements (PUE) are required along all property lines abutting a public right-of-way. Tax lot 1200 (Lot 10) contains frontage on Kate Schmitz Avenue; however, the Twin Cedars subdivision plat does not detail an 8-foot PUE along Kate Schmitz Avenue. **The applicant shall record an eight-foot-wide public utility easement along the entirety of the Kate Schmitz Avenue right-of-way of Tax Lot 1200 (Lot 10 of Twin Cedars subdivision).**
81. Section 17.84.100 outlines the requirements for mail delivery facilities. **The location and type of mail delivery facilities shall be coordinated with the City Engineer and the Post Office as part of the construction plan process.**

82. The Fire Marshal (Exhibit N) reviewed the proposal and provided general comments as well as comments related to fire apparatus access and firefighting water supplies. **The applicant shall adhere to the following Fire Marshal requirements:**
- A. **Construction documents for proposed fire apparatus access, location of fire lanes, access easements, security gates across fire apparatus access roads and construction documents and hydraulic calculations for fire hydrant systems shall be submitted to the Fire District for review and approval prior to construction. For reference of requirements, applicants may review the Fire Code Application Guide.**
  - B. **Where fire apparatus access roads or a water supply for fire protection are required to be installed, such protection shall be installed and made serviceable prior to and during the time of construction except where approved alternative methods of protection are provided.**
  - C. **Buildings shall be provided with approved address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property, including monument signs.**
  - D. **A key lock box for building and/or gate access may be required. If required, the Fire District uses KNOX brand boxes. To order a KNOX box, padlock, or key switch that is keyed for the Sandy Fire District, please visit Sandy Fire's website (<https://www.knoxbox.com/Products> for ordering information.**
  - E. **An emergency vehicle access and maintenance agreement may be needed as a condition of approval.**
  - F. **For private fire service water mains and/or fire hydrant systems, please contact Sandy Fire District when performing a pressure test to verify system integrity, when flushing the system, and conducting a flow test.**
  - G. **On-site fire hydrants and mains shall be provided.**
  - H. **An automatic fire sprinkler system may be required if the fire area of the Group A-2 occupancy (dining facility) has an occupant load of 100 or more.**
  - I. **Each new fire hydrant installed shall be ordered in an OSHA safety red finish and have a 4-inch non-threaded metal faced hydrant connection with cap installed on the steamer port (4 ½-inch NST x 4-inch Storz Adaptor). If a new building, structure, or dwelling is already served by an existing hydrant, the existing hydrant shall also be OSHA safety red and have a 4-inch non-threaded metal faced hydrant connection with cap installed.**
  - J. **The applicant shall adhere to all other requirements of the Sandy Fire District.**
83. **All site runoff shall be detained such that post-development runoff does not exceed the predevelopment runoff rate for the 2, 5, 10 and 25 year storm events. Stormwater quality treatment shall be provided for all site drainage per the standards in the City of Portland Stormwater Management Manual (COP SWMM). The City Engineer (Exhibit O) finds that the stormwater report is acceptable; however, even though the post developed runoff is less than the predeveloped runoff, the post developed runoff enters the conveyance system whereas the predeveloped flow does not. The applicant shall verify the capacity of the existing stormwater system. In addition, if any of the parking spaces that are partially on Tax Lot 1100 (Lot 9) are approved by the Planning Commission, the applicant shall complete a stormwater analysis for Tax Lot 1100 (Lot 9) to determine if**



**the existing stormwater facility can accommodate this additional impervious surface, and if not, the parking spaces shall be removed, or the stormwater facility shall be modified to accommodate the additional stormwater.**

84. Chapter 15.30 contains the City of Sandy's Dark Sky Ordinance. **Downward facing, full cut-off lighting shall be required. Lights shall not exceed 4,125 Kelvins or 591 nanometers to minimize negative impacts on wildlife and human health.** The applicant submitted lighting plans and lighting fixture cut sheets (Exhibit F, Sheets ES.01 and ES.02). All lighting fixtures are detailed at 4,000 Kelvins in compliance with the code.
85. Section 15.30.060(D) states that all outdoor lighting systems shall be designed and operated so that the area ten feet beyond the property line of the premises receives no more than one-quarter of a foot-candle of light from the premises lighting system. The submitted Site Lighting and Photometry Plan (Exhibit F, Sheet ES.01) details foot candles extending 10 feet beyond the property lines. Light trespass onto adjacent properties is detailed to exceed the 0.25 foot-candle maximum on the east, west, and south sides of Tax Lot 1200 and possibly on the south side of Tax Lot 1000. **The applicant shall update the Photometric Plan such that the area ten feet beyond the property line of the premises receives no more than one-quarter of a foot-candle of light from the premises lighting system.**

## **URBAN FORESTRY – 17.102**

86. In addition to the landscaping requirements of Chapter 17.92, Chapter 17.102 contains Urban Forestry regulations. An Arborist Report prepared by Todd Prager of Teragan & Associates and dated April 14, 2022, is included as Exhibit K. The arborist inventoried all trees 6-inches and greater diameter at breast height (DBH). The inventory of trees proposed to be retained is included in Exhibit C, Sheet C10 and the Tree Retention and Protection Plan is shown in Exhibit C, Sheets C8 and C9.
87. The subject properties are part of the Twin Cedars subdivision. The Twin Cedars subdivision required retention of a minimum of 25 trees as detailed in the 2005 Tree Covenant (Exhibit T). Twenty-four of the 25 retention trees were located on Tax Lot 1200 with the remaining retention tree located on Tax Lot 1000. The 24 retention trees on Tax Lot 1200 were all located in a tree protection area on the east side of the lot and were protected by tree protection fencing installed at the dripline plus 5 feet as detailed on Plate Nos. 3 and 4 of the Tree Covenant for the Twin Cedars Subdivision (Exhibit T). As stated in the Tree Covenant, none of the 25 retention trees shall be removed without first obtaining approval from the City and removal of any of the 25 trees shall only be allowed upon determination by a qualified professional that the tree is diseased, dead, dying, or otherwise hazardous to persons or property in a way that can only be remediated by complete removal of the tree. The retention tree on Tax Lot 1000 was located in the middle of the lot and was previously removed in conjunction with File No. 17-070 TREE, discussed below. Staff does not have record of any tree removal permits being processed for removal of any of the 24 retention trees on Lot 1200. The submitted Onsite Tree Survey (Exhibit C, Sheet C8) details 24 trees on Tax Lot 1200; however, a majority do not correspond to the trees identified in the Tree Covenant and many were likely planted since the 2005 covenant or were too small at the time the covenant was recorded to be included in the 2005 inventory, which only included trees 8-inches or greater DBH. Based on the 2005 Tree Covenant and the current tree survey, staff believes approximately 10 of the original 24 retention trees on Tax Lot 1200 trees may still be present (Trees #1, 4, 5, 6, 7, 8, 9, 14, 22, and 23), with two of them no longer being in good condition (Trees #14 and 22). Tree #14 is a 23-inch DBH Doug fir in fair condition that is proposed for removal to accommodate construction of the proposed parking lot and trash/recycling enclosure on Tax Lot 1200. Tree #22 is a 23-inch DBH black cottonwood in fair condition and is proposed to be retained. It is unclear what happened to the other 14 retention trees identified on Tax Lot 1200. Based on Google Earth aerial imagery, staff believes some of the required retention trees may have been removed between July and August 2012 in connection with staging for the Fresenius Clinic construction. If any of the retention trees were removed, the property owner at that time should have submitted a tree removal application in compliance with the 2005 Tree Covenant, in which case, any approved removal of trees would have required mitigation at a 2:1 ratio. To staff's knowledge, this never occurred. As part of the current application, the applicant is proposing 14 retention trees on Tax Lot 1100 as alternates to the missing 14 retention trees; however, 9 of the 14 trees are located in the parking lot and not in a natural grouping of retention trees similar to the retention tree area detailed in the 2005 Tree Covenant. The remaining 5 proposed retention trees on Tax Lot 1100 (Trees #82-86) are grouped together in a natural area setting similar to what was required

in the 2005 Tree Covenant; thus, staff is supportive of these proposed alternative retention trees. **Staff recommends that the removal of the missing 14 retention trees from Tax Lot 1200 be processed concurrently with this application through a hazard tree removal permit, as required by the 2005 Tree Covenant. Staff recommends that the Planning Commission approve Trees #82-86 as alternate retention trees for 5 of the removed retention trees and that the remaining 9 removed retention trees be mitigated at a 2:1 ratio either through planting 18 new mitigation trees on the subject properties, paying a fee-in-lieu of \$500 per mitigation tree, or a combination of the two. Staff believes there is sufficient space to plant approximately 5-6 mitigation trees on Tax Lot 1100 in the natural area adjacent to and north of Trees #82-86. Staff further believes there is sufficient space to plant approximately 7-8 mitigation trees on Tax Lot 1200 within the proposed natural tree protection area outside of the CRZ of the proposed retention trees and away from the Kate Schmitz Avenue right-of-way. Thus, staff recommends the applicant be required to plant 12 mitigation trees (5 on Tax Lot 1100 and 7 on Tax Lot 1200) and pay a fee-in-lieu of \$500 per tree for the remaining 6 mitigation trees.**

88. The City processed a tree removal permit request to remove the retention tree identified on Tax Lot 1000 in 2017 (File No. 17-070 TREE). The tree, detailed as a 36-inch DBH cedar on Plate No. 2 of the Tree Covenant for the Twin Cedars Subdivision (Exhibit T), was requested to be removed due to its central location on Tax Lot 1000. In addition, the arborist report submitted with that application determined that the tree had a large area of *Phellinus weirii* (but rot), which would eventually lead to structural failure. The final order for File No. 17-070 TREE included the following conditions of approval:

Condition C. If the tree is removed the following shall be submitted within 30 days of tree removal:

1. Submit a site plan detailing the species, size, and location of the mitigation tree to be planted on the subject property. The mitigation tree shall be a native evergreen at least 6 feet in height and shall be planted per the City of Sandy standard planting detail. The applicant shall plant the tree in a location on the site that will not be impacted by future development of the site. Per Sections 17.92.10(C) and 17.102.50(B)(1), future construction shall not encroach within 5 feet outside of the dripline or 10 feet from the trunk of the tree, whichever is greater.
2. Submit a site plan detailing the species, size, and location of native ground cover, or submit additional information demonstrating that there are no areas with exposed soil resulting from the removal of the redcedar tree for Planning staff review and approval.
3. Submit payment of a \$400 fee-in-lieu of mitigation tree.

Condition D. If the tree is removed the following shall be complete within 60 days of tree removal:

1. Install the required native mitigation tree (double staked) per the approved site plan.
2. Install the required native groundcover (unless additional information was submitted and approved by Planning staff that demonstrates there are no areas with exposed soil resulting from the removal of the redcedar tree).
3. Record a tree protection covenant specifying protection of the mitigation tree planted on the site limiting future removal without submittal of an Arborist's Report and City approval. This document shall include a sketch identifying the location of the required mitigation tree and shall be recorded with Clackamas County. The tree protection covenant shall be submitted to the City for review and approval prior to recording. Per the tree protection covenant, proposed future removal of the mitigation tree will not be allowed without submittal of an Arborist's Report and City approval. Prior to obtaining City approval in the future, the applicant shall also be required to pay a third-party arborist review fee for any retention trees proposed for removal from the Twin Cedars subdivision in the future.

#### Condition E. General Conditions of Approval

1. The applicant shall ensure all plants and trees survive in good condition and shall replace dead or dying plants/trees. The applicant shall not anchor anything to the mitigation tree, compact the soil under the dripline, or otherwise harm or damage the mitigation tree.
2. Future tree removal from the Twin Cedars subdivision shall require additional permit approvals and if a permit is not obtained prior to removal of a tree, this violation may be subject to a fine per occurrence as specified in Section 17.06.80.
3. Successors-in-interest of the applicant shall comply with requirements of this final order. In the event the applicant should sell or lease the property upon which the condition contained in this document apply, the sale or lease will be subject to the restrictions and conditions described herein. The conditions shall run with the land and are binding on applicant's heirs, personal representatives, successors and assigns.

The applicant for File No. 17-070 TREE removed the cedar tree. Staff received payment of the fee-in-lieu for the second mitigation tree on February 2, 2018, but does not have record of any of the other conditions being met. **The applicant shall satisfy all conditions of File No. 17-070 TREE. Based on the City Transportation Engineer's recommendation to require removal of the 10 parking spaces on the north side of Tax Lot 1000 that access the 25-foot access easement directly, staff believes there would be sufficient space to plant the required mitigation tree in the northern portion of Tax Lot 1000; however, staff would be supportive of planting the mitigation tree in the natural area on either Tax Lot 1100 or 1200 adjacent to the**

**clump of proposed retention trees. Due to the presence of *Phellinus weirii* in the cedar tree that was removed, the applicant shall submit additional information from the project arborist or another TRAQ-certified arborist regarding the selection of a less susceptible mitigation tree species, treatment of the site, and/or documentation that the proposed planting location is no longer *P. weirii* infested for staff review and approval.**

89. All 25 of the trees proposed to be retained were evaluated by the project arborist to be in good condition, over 11-inch DBH, and not considered nuisance species based on the inventory completed in March and June of 2021. The Arborist Report was reviewed by a third-party reviewer. The third-party review was conducted by Damien Carré of Earth Care Designs, LLC dba Oregon Tree Care and is dated June 28, 2022 (Exhibit P). The review included a site visit and visual ground assessment of the condition of the trees conducted on June 27, 2022. Of the 25 trees proposed for retention by the applicant, all were found to be in good condition with the exception of Tree #10, a 13-inch DBH western redcedar that was determined to have a large wound 4-feet above the ground and poor structure. The Offsite Tree Survey (Exhibit C, Sheet C9) notes that there are 18 trees on Tax Lot 1100 that meet the tree retention requirements, 14 of which are proposed for retention. The remaining four (4) that meet the tree retention requirements but are not proposed as retention trees are Trees #91, 92, 93, and 94, all of which are conifers located adjacent to the parking area along the north property line of Tax Lot 1100. All four trees are already proposed to be retained as detailed on the Offsite Tree Survey. The Third-Party Arborist Review (Exhibit P) evaluated Trees #91-94 based on their proximity to the property line and determined the following:

- Tree #91: property line is located 5 feet from the tree and is within the minimum root protection zone; if not granted entry onto adjacent property, sufficient tree protection fencing could not be installed; no concerns about tree canopy or parking lot
- Tree #92: property line is located 5 feet from the tree and is within the minimum root protection zone; if not granted entry onto adjacent property, sufficient tree protection fencing could not be installed; no concerns about tree canopy or parking lot
- Tree #93: property line is located 7 feet from the tree and outside the minimum root protection zone; there is enough space to install sufficient tree protection fencing; no concerns about tree canopy or parking lot
- Tree #94: property line is located 7 feet from the tree and outside the minimum root protection zone; there is enough space to install sufficient tree protection fencing; no concerns about tree canopy or parking lot

Based on the third-party evaluation, Trees #91 and 92 would not be able to be adequately protected with tree protection fencing installed on the subject property; however, Trees #93 and 94 are located far enough from the property line that their minimum root protection zone is entirely on the subject property. Both Trees #93 and 94 are 11-inch DBH incense cedars. As previously discussed, staff does not believe the trees in the parking lot on Tax 1100 meet the intent of the tree retention standards or the recorded 2005 Tree Covenant. Based on the analysis of the current survey and 2005 Tree Covenant, staff believes Tree #22 was one of the original retention trees. Tree #22 is in

fair condition and would not qualify as a retention tree currently, but Tree #22 is not evaluated to be a hazard tree and is proposed to be retained. Thus, **staff recommends the Planning Commission allow Tree #22 to remain as a retention tree and to be identified in the updated tree covenant in place of Tree #10.**

90. Fourteen (14) trees proposed for retention are conifer trees located on Tax Lot 1100. These trees are located in and around the existing parking lot and range in size from 11 inches DBH to 16 inches DBH. The remaining 11 proposed retention trees are located on Tax Lot 1200 and include seven deciduous bigleaf maple trees and four conifer trees. The seven bigleaf maple trees range in size from 17-inches DBH to 26-inches DBH, with one bigleaf maple (Tree #7) co-dominant at ground level and specified at 18- and 7-inches DBH. The four (4) conifers range in size from 13-inches DBH to 59-inches DBH. The 13-inch DBH tree is Tree #10, which was assessed to no longer be in good condition; the remaining three (3) conifers proposed as retention trees on Tax Lot 1200 range in size from 21-inches DBH to 59-inches DBH.

91. Staff has concerns that the nine (9) trees proposed for retention on Tax Lot 1100 that are in the parking lot landscape planters and buffers may have been impacted by compacted soils and/or lack of adequate soil volume. Staff also questions whether trees located in required parking lot landscape buffers meet the intent of a retention tree. Staff has additional concerns about whether proposed retention Trees #88, 89, 90, and 95, all of which are located in the existing parking lot landscape planters or buffers, will be able to be adequately protected due to their close proximity to the north and west property lines of Tax Lot 1100. The Third-Party Arborist Review (Exhibit P) assessed parking lot concerns as well as root/tree protection concerns. The review determined that there is no concern regarding impact of the already established parking lot on the 9 trees proposed for retention in the parking lot landscaping planters. The review also identified the following concerns related to minimum root protection zones of 3 of the 4 trees located in close proximity to the west or north property line:

- Tree # 88: property line is located 3 feet from the tree and is within the minimum root protection zone; if not granted entry onto adjacent property, sufficient tree protection fencing could not be installed; no concerns about tree canopy or parking lot
- Tree #90: property line is located 1 foot from the tree and is within the minimum root protection zone; if not granted entry onto adjacent property, sufficient tree protection fencing could not be installed; if the canopy were to be cut back to the property line by the adjacent owner, the tree would no longer be expected to grow to maturity; no parking lot concerns
- Tree #95: property line is 0 feet from the tree and is within the minimum root protection zone; if not granted entry onto adjacent property, sufficient tree protection fencing could not be installed; if the canopy were to be cut back to the property line by the adjacent owner, the tree would no longer be expected to grow to maturity; no parking lot concerns

The third-party analysis determined that proposed retention Trees #88, 90, and 95 cannot be adequately protected based on the tree protection fencing that can be installed on the

subject property. Based on staff's analysis of the 2005 Tree Covenant and the missing retention trees, staff recommends that the Planning Commission approve Trees #82-86 as alternate retention trees for 5 of the removed retention trees and that the remaining 9 removed retention trees be mitigated at a 2:1 ratio either through planting 18 new mitigation trees on the subject properties, paying a fee-in-lieu of \$500 per mitigation tree, or a combination of the two. Staff believes there is sufficient space to plant approximately 5 or 6 mitigation trees on Tax Lot 1100 in the natural area adjacent to and north of Trees #82-86. Staff further believes there is sufficient space to plant approximately 7 or 8 mitigation trees on Tax Lot 1200 within the proposed natural tree protection area outside of the CRZ of the proposed retention trees and away from the Kate Schmitz Avenue right-of-way. Thus, staff recommends the applicant be required to plant 12 mitigation trees (5 on Tax Lot 1100 and 7 on Tax Lot 1200) and pay a fee-in-lieu of \$500 per tree for the remaining 6 mitigation trees. If the Planning Commission decides to allow the parking lot trees to count as retention trees, staff recommends the Planning Commission limit the parking lot retention trees to Trees #76, 77, 78, 79, 87, and 89, and require the applicant to plant 6 mitigation trees instead of retaining Trees #88, 90, and 95. Staff recommends these 6 additional trees be planted on the east side of Lot 1200 in the area outside of the critical root zones of the retention trees and set back at least 20 feet from the Kate Schmitz Avenue right-of-way or in the northeast natural area portion of Lot 1100, near Trees #85 and 86.

92. The Arborist Report (Exhibit K) provides recommendations for protection of retained trees including identification of the recommended tree protection zone for these trees as detailed on Attachment 1 of the report. The submitted Onsite Tree Survey (Exhibit C, Sheet C8) details the critical root zones of the proposed retention trees at 1 foot per 1-inch DBH but does not detail the minimum root protection zone (0.5 feet per 1-inch DBH). It appears that the proposed parking lot construction may come close to the minimum root protection zone of Tree #9. **In compliance with the project arborist's recommendations, the applicant shall install tree protection fencing as detailed on Attachment 1 of the Arborist Report. All fencing shall be installed outside of the minimum root protection zones of all trees to be retained, including Tree #9. The tree fencing shall be installed prior to any development activity on the site, including earthwork, tree removal, and erosion control measures, in order to protect the trees and the soil around the trees from disturbance. Erosion control fencing shall be installed outside of the tree protection area fencing. The applicant shall not relocate or remove the tree protection fencing prior to certificates of occupancy. The tree protection fencing shall be 6-foot-tall chain link or no-jump horse fencing supported with metal posts placed no farther than 10 feet apart installed flush with the initial undisturbed grade. The applicant shall affix a laminated sign (minimum 8.5 inches by 11 inches, placed every 75 feet or less) to the tree protection fencing with the following information as recommended by the project arborist:**

**TREE PROTECTION ZONE, DO NOT REMOVE OR ADJUST THE APPROVED LOCATION OF THIS TREE PROTECTION FENCING,  
Please contact the City's Planning Division and the project arborist if alterations to the approved location of the tree protection fencing are**

necessary. Planning Division – [planning@cityofsandy.com](mailto:planning@cityofsandy.com). [Name],  
Project Arborist – [Phone Number].

No construction activity shall occur within the tree protection zone, including, but not limited to, grading, clearing, excavation, access, stockpiling, or dumping or storage of materials such as building supplies, soil, waste items, equipment, or parked vehicles. The applicant shall request an inspection of tree protection measures with City staff and the project arborist prior to any tree removal, grading, or other construction activity on the site. Up to 25 percent of the area between the minimum root protection zone of 0.5 feet per 1-inch DBH and the critical root zone of 1 foot per 1-inch DBH may be able to be impacted without compromising the tree, provided the work is monitored by a qualified arborist. The applicant shall retain an arborist on site to monitor any construction activity within the critical root protection zones of the retention trees or trees on adjacent properties that have critical root protection zones that would be impacted by development activity on the subject property. Additional impacts within the critical root zones of the retention trees that are not detailed in the Plan Set shall not be permitted.

93. The submitted Onsite Tree Survey (Exhibit C, Sheet C8) details trees proposed to be retained and trees proposed for removal. The survey details Tree #61 as being retained; however, the Arborist Report (Exhibit K) notes that Tree #61 will need to be removed due to root zone impacts from the proposed driveway. **The applicant shall not remove any trees that aren't marked for removal with the exception of Tree #61, which may be removed based on the project arborist's recommendation. Tree removal shall be completed without the use of vehicles or heavy equipment in the tree protection zone. Trunks and branches of adjacent trees shall not be contacted during tree removal. Removal of any trees from within the critical root zones of protected retention trees shall be completed under the supervision of the project arborist and the applicant shall fell the trees to be removed away from the trees to be retained so they do not contact or otherwise damage the trunks or branches of the trees to be retained. Prior to receiving a certificate of occupancy, the applicant shall submit a post-construction arborist report prepared by the project arborist or other TRAQ certified arborist to assess whether any of the retention trees were damaged during construction. If retention trees were damaged and need to be replaced, the mitigation ratio shall be 4:1.**
94. The Arborist Report (Exhibit K) from Teragan and Associates, Inc. and the third-party review from Earth Care Designs, LLC dba Oregon Tree Care (Exhibit P) include recommendations for additional protection measures related to tree removal as well as tree protection recommendations for the trees to be retained. **The applicant shall adhere to recommendations contained in the arborist report and third-party arborist review as follows:**
- As detailed in Attachment 1 of the Arborist Report, apply a 4-inch layer of wood chips or compost within the critical root zones of Trees #1 and 9 prior to construction to help retain soil moisture during construction and compensate for root removal with construction.



- Adjust grading on Lot 1000 to outside of the minimum root protection zones of the three existing trees on the adjacent property to the west as detailed in Attachment 1 of the Arborist Report.
- Install tree protection fencing outside of the minimum root protection zones of the five existing trees on the adjacent property to the south of Tax Lot 1000 as detailed in Attachment 1 of the Arborist Report.
- Install the soft surface path that connects the food cart pod area to the Kate Schmitz Avenue right-of-way by hand and without excavating below the existing soil grade.
- The project arborist shall be onsite to oversee and document retaining wall construction and root pruning adjacent to Trees #1, 49, and 50 to ensure the proper protection or pruning of roots.
- Remove Tree #11 due to root zone impacts and either retain the stump or carefully surface grind.
- Retain the existing sidewalk adjacent to the trees on the east side of the 25-foot private access easement adjacent to Tax Lot 1200 to provide additional protection of their root zones.
- Fell the trees to be removed away from the trees to be retained so they do not contact or otherwise damage the trunks or branches of the trees to be retained. No vehicles or heavy equipment shall be permitted within the tree protection zones during tree removal operations. No excavation of soil shall be done within the trees RPZ without Arborist supervision. Demolition should be done by hand to minimize compaction of soil and tree roots. Air Spading is recommended prior to any excavation. A Certified Arborist must be on site to monitor and/or perform any root pruning that may be deemed necessary.
- The stumps of the trees to be removed from within the tree protection zones shall either be retained in place or stump ground to protect the root systems of the trees to be retained.
- Care will need to be taken to not contact or otherwise damage the crowns of the trees that may extend into the construction area.
- All preserved trees should be monitored annually for changes and/or signs of stress after construction activities are completed.
- Shift sediment fencing to outside the tree protection zones. If erosion control is required inside the tree protection zones, use straw wattles to minimize root zone disturbance of the trees to be retained.
- Notify all contractors of tree protection procedures. For successful tree protection on a construction site, all contractors must know and understand the goals of tree protection. Hold a tree protection meeting with all contractors to explain the goals of tree protection. Have all contractors sign memoranda of understanding regarding the goals of tree protection. The memoranda should include a penalty for violating the tree protection plan. The penalty should equal the resulting fines issued by the local jurisdiction plus the appraised value of the tree(s) within the violated tree protection zone per the current Trunk Formula Method as outline in the current edition of the Guide for Plant Appraisal by the Council of Tree & Landscape Appraisers. The penalty should be paid to the owner of the property.
- The trees should be protected from any cutting, skinning, or breaking of branches, trunks, or woody roots.

- The project arborist should be notified prior to the cutting of woody roots from trees that are to be retained to evaluate and oversee the proper cutting of roots with sharp cutting tools. Air spading is a less invasive option and is recommended. Do not use an excavator to pull or cut roots. Dig out around the exposed or severed root by hand prior to cutting. Only use tree pruning tools with sharpened blades to provide a clean cut. Tree pruning to compensate for potential root loss may be recommended before root pruning. Cut roots should be immediately covered with soil or mulch to prevent them from drying out. Trees that have roots cut should be provided supplemental water during the summer months.
- Any necessary passage of utilities through the tree protection zones should be by means of tunneling under woody roots by hand digging or boring with oversight by the project arborist.
- After Construction, carefully landscape the areas within the tree protection zones. Do not allow trenching for irrigation or other utilities within the tree protection zones. Carefully plant new plants within the tree protection zones. Avoid cutting the woody roots of trees that are retained. Do not install permanent irrigation within the tree protection zones unless it is drip irrigation to support a specific planting or the irrigation is approved by the project arborist. Provide adequate drainage within the tree protection zones and do not alter soil hydrology significantly from existing conditions for the trees to be retained. Provide for the ongoing inspection and treatment of insect and disease populations that are capable of damaging the retained trees and plants. The retained trees may need to be fertilized if recommended by the project arborist. Any deviation from the recommendations in this section should receive prior approval from the project arborist.

**95. To ensure protection of the required retention trees, the applicant shall record an updated tree protection covenant specifying protection of the approved retention trees on the subject properties as well as the additional required mitigation trees and limiting removal without submittal of an Arborist's Report and City approval. The covenant shall detail the species and locations of the mitigation trees and retention trees as well as the critical root zones of each retention tree at 1 foot per 1-inch DBH. This covenant shall be finalized after the post-construction arborist report.**

## **LANDSCAPING AND SCREENING – Chapter 17.92**

96. Section 17.92.10 contains general provisions for landscaping. As required by Section 17.92.10(C), trees over 25-inches circumference measured at a height of 4.5 feet above grade are considered significant and should be preserved to the greatest extent practicable and integrated into the design of a development. Trees to be retained shall be protected from damage during construction by a construction fence located five feet outside the dripline. A 25-inch circumference tree measured at 4.5 feet above grade has roughly an eight-inch diameter at breast height (DBH). Tree protection fencing and tree retention are discussed in more detail in the Urban Forestry, Chapter 17.102 section of this document.
97. **Per Section 17.92.10(D), planter and boundary areas used for required plantings shall have a minimum diameter of five feet (two and one-half foot radius, inside dimensions). Where the curb or the edge of these areas are used as a tire stop for parking, the planter or boundary plantings shall be a minimum width of seven and one-half feet.**
98. Per Section 17.92.10(L), **all landscaping shall be continually maintained, including necessary watering, weeding, pruning, and replacing. The natural area on Tax Lot 1200 shall be maintained in a way that does not cause negative impacts within the critical root zones of the retention trees or newly planted trees; no heavy machinery shall be permitted within the natural area.** Landscaping will be maintained or otherwise enforced by Code Enforcement.
99. Section 17.92.20 contains minimum landscaping area requirements. The subject property is zoned General Commercial, C-2. Section 17.92.20 requires that a minimum of 20 percent of the site be landscaped in the General Commercial (C-2) zoning district. The submitted Cover Sheet (Exhibit C, Sheet C1) details 42 percent of the food cart pod lot (Tax Lot 1200) as natural area and 4 percent as improved landscaping area. The surface parking lot (Tax Lot 1000) includes 20 percent improved landscaping area.
100. Section 17.92.30 states that planting of trees is required for all parking lots with four or more parking spaces, public street frontages, and along private drives more than 150 feet long. Parking lot trees are required at 1 tree per 8 spaces. Tax Lot 1000 contains 47 parking spaces, which requires a minimum of 6 parking lot trees. The Landscape Plan (Exhibit E, Sheet L1) details planting 6 parking lot trees on Tax Lot 1000. In addition, the plans detail retaining two of the three existing maple trees along the west property line and removing all six existing maple trees along the north property line of Tax Lot 1000 adjacent to the east-west 25-foot access easement. Trees along the north property line of Tax Lot 1000 are discussed further in Chapter 17.66 of this document in the analysis of the applicant's request to exceed the maximum allowed parking. The Landscape Plan details a new tree along the 25-foot access easement on the west side of Tax Lot 1000 but does not detail retention of Tree #62, which is detailed to be retained in the Plan Set (Exhibit C). **The applicant shall update the Landscape Plan to detail retention of Tree #62 as well as the additional tree detailed to be planted, provided there is sufficient space to plant the additional tree north of the proposed driveway cut and south of Tree #62.** Tax Lot 1200 contains 22 parking spaces, which requires 3 parking

lot trees. The Landscape Plan details planting 3 parking lot trees on Tax Lot 1200. In addition, two of the retention trees (Trees #9 and 10) are located in the northern landscape bay east of the ADA parking spaces. However, as previously stated, in order to be in compliance with Section 17.98.120(D), **the applicant shall update the Landscape Plan to detail one major structural tree and ground cover in the landscape planters at each end of each parking bay.** The applicant is proposing to retain all 5 existing trees on the east side of the north-south 25-foot access easement adjacent to Tax Lot 1200.

101. The applicant is proposing to mass grade the buildable portion of the site. This will remove topsoil and will heavily compact the existing soil. To maximize the success of the trees required to be planted, **the applicant shall aerate and amend the soil within the planting areas on the buildable portion of the site to a depth of 3 feet prior to planting the trees. The applicant shall submit a letter from the project landscaper confirming that the soil has been aerated and amended prior to planting the trees.**
102. Section 17.92.40 requires that all landscaping shall be irrigated, either with a manual or automatic system. The narrative (Exhibit B) states that the details of the irrigation system will be determined with building plans. The groundcover planting detail (Exhibit E, Sheet L2) shows sprinkler heads a minimum of 12 inches from plants. **The applicant shall submit details on the proposed automatic irrigation system with building plans. As required by Section 17.92.140, the applicant shall be required to maintain all vegetation planted in the development for two (2) years from the date of completion, and shall replace any dead or dying plants during that period.**
103. Section 17.92.50 specifies the types and sizes of plant materials that are required when planting new landscaping. Trees are typically required to be a minimum caliper of 1.5-inches measured 6 inches from grade if deciduous, or 5 feet in height if coniferous. Shrubs are required to be a minimum of one gallon in size or two feet in height when measured immediately after planting. **All trees planted on the site shall be a minimum of 1.5-inches in caliper measured 6 inches above the ground and shall be planted per the City of Sandy standard planting detail. The applicant shall replace the tree planting details (Exhibit E, Sheet L2) with the City of Sandy standard tree planting detail. Trees shall be planted, staked, and bark mulch, vegetation, or other approved material installed prior to occupancy. Tree ties shall be loosely tied twine or other soft material and shall be removed after one growing season (or a maximum of 1 year). All shrubs shall be a minimum of one gallon in size or 2-feet in height when measured immediately after planting.**
104. Section 17.92.50(B) encourages the use of native plant materials or plants acclimatized to the Pacific Northwest where possible. The Landscape Plan (Exhibit E, Sheet L1) includes one proposed native tree. The remaining proposed plants are not native to the Pacific Northwest but are also not nuisance species.
105. Section 17.92.60 requires revegetation in all areas that are not landscaped or remain as natural areas. The applicant did not submit any plans for re-vegetation of areas damaged through grading/construction, although most of the areas affected by grading will be improved. **Exposed soils shall be covered by mulch, sheeting, temporary seeding or**

**other suitable material following grading or construction to maintain erosion control for a period of two (2) years.**

106. Section 17.92.130 contains standards for a performance bond. The applicant has the option to defer the installation of trees and other landscaping for weather-related reasons. Staff recommends the applicant utilize this option rather than planting trees and landscaping during the dry summer months. Consistent with the warranty period in Section 17.92.140, staff recommends a two-year maintenance and warranty period for trees and landscaping. **If the applicant chooses to postpone tree and/or landscaping installation, the applicant shall post a performance bond equal to 120 percent of the cost of the trees/landscaping, assuring planting within 6 months. The cost of the trees shall be based on the average of three estimates from three landscaping contractors; the estimates shall include as separate items all materials, labor, and other costs of the required action, including a two-year maintenance and warranty period.**

**EROSION CONTROL – Chapters 15.44 and 8.04**

107. A separate Grading and Erosion Control Permit will be required prior to any site grading. **The applicant shall submit a grading and erosion control permit and request an inspection of installed devices prior to any additional grading onsite.** Section 15.44.50 contains requirements for maintenance of a site including re-vegetation of all graded areas. **All erosion control and grading shall comply with Section 15.44 of the Municipal Code. The proposed development is greater than one acre which typically requires approval of a DEQ 1200-C Permit.**
108. **All the work within the public right-of-way and within the paved area should comply with American Public Works Association (APWA) and City requirements as amended.**
109. Recent development has sparked unintended rodent issues in surrounding neighborhoods. Prior to development of the site, **the applicant shall have a licensed pest control agent evaluate the site to determine if rat eradication is needed. The result of the evaluation shall be submitted to staff.**
110. DEQ (Exhibit M) reviewed the proposal and noted that they found no environmental contamination sites on the subject property.

## RECOMMENDATION

Staff recommends the Planning Commission **approve** the food cart pod request **with conditions as outlined in the staff report**.

Staff further recommends the Planning Commission **approve** the following requested variances and design deviation:

- A. Type II Variance to Section 17.44.30 to exceed the maximum 50-foot front yard setback.
- B. Type II Variance to Section 17.90.120(D.1) to not have 50 percent of the site's street frontage be comprised of buildings placed within 20 feet of a sidewalk.
- C. Type III Special Variance to Section 17.74.40(B.2) to exceed the 4-foot maximum height of a retaining wall and fence in a commercial front yard (east side).
  - The applicant shall update the plan set to detail the front (east) retaining wall and fence as a 2-foot-tall to 6-foot-tall split face block wall and a maximum 5-foot-tall black steel or aluminum picket fence, or submit a similar alternative design to staff for review and approval. A raised tracker for the sliding gate shall not be permitted.
- D. Type III Special Variance to Section 17.74.40(B.4) to exceed the 8-foot maximum height of a retaining wall and fence in a commercial side yard (north side).
- E. Type III Special Variance to Section 17.74.40(B.4) to exceed the 8-foot maximum height of a retaining wall and fence in a commercial rear yard (west side).
  - The applicant shall update the plan set to detail the fence on top of the retaining wall with 7 feet of landscaping between food cart pod #1 and the fence/wall.
- G. Type III Special Variance to Section 17.98.10(Q) to exceed the minimum off-street vehicle parking required by Section 17.98.20 by more than 30 percent.
  - Staff recommends the Planning Commission approve 20 parking stalls on Tax Lot 1200 and 36 on Tax Lot 1000, for a total of 56 parking stalls, which is 22 spaces, or 65 percent, more than the minimum requirement of 34 parking spaces. Specifically, staff recommends the Planning Commission require the applicant to update the Plan Set as follows (see staff recommendation in Exhibit V):
    - Remove the proposed parking stall to the west of Tree #9 on Tax Lot 1200 and retain existing natural area landscaping.
    - Remove the southeasternmost proposed parking stall on Tax Lot 1200 and replace with landscaping.
    - Remove the 10 proposed parking stalls on Tax Lot 1000 that are accessed directly from the 25-foot access easement, replace with landscaping, and retain the 4 existing adjacent trees.
    - Reduce the proposed extra-long parking stalls on Tax Lot 1000 by 7 feet (from 25 feet in length to 18 feet in length, i.e., standard sized spaces), replace with landscaping, and adjust the adjacent parking aisle accordingly, including removal of the southernmost parking stall in the western parking bay.

- If the Planning Commission decides to approve any of the extra-long parking stalls, staff recommends no more than 3 extra-long stalls be permitted. If the Planning Commission approves any of the 10 proposed parking spaces accessed from the 25-foot access easement, the applicant shall complete a stormwater analysis for Tax Lot 1100 (Lot 9) to determine if the existing stormwater facility can accommodate this additional impervious surface, and if not, the parking spaces shall be removed, or the stormwater facility shall be modified to accommodate the additional stormwater.

H. Type III Design Deviation to Section 17.90.120(D.3) to not have the ground floor space of the dining building face a public street or civic space with a direct pedestrian connection.

Staff recommends the Planning Commission **deny** the following requested variance:

- F. Type III Special Variance to Section 17.90.120(G) to not provide civic space.
- Staff recommends the applicant be required to provide the minimum 108 square feet of civic space in the form of outdoor seating. Staff recommends the civic space be located at the end of the proposed foot path, adjacent to the Kate Schmitz Avenue right-of-way and outside of the critical root zones of the retention trees and the 8-foot PUE. Staff recommends the civic space be required to include seating as well as landscaping and/or public art.

Additional Staff Recommendations

1. Staff recommends the Planning Commission consider requiring mechanical, electrical, and communications equipment to be screened from view from private walkways and parking areas in addition to being screened from public rights-of-way and civic spaces.
2. Staff recommends the bicycle parking spaces be relocated to the east elevation so they're closer to the main entrance and aren't between the building and the food carts, or that they be installed as vertical spaces on the south façade.
3. Staff recommends the applicant update the plan set to relocate the CDS manhole at detention pipe No. 1 from under food cart No. 8 so it can be accessed for maintenance.
4. Staff recommends that the removal of the missing 14 retention trees from Tax Lot 1200 be processed concurrently with this application through a hazard tree removal permit, as required by the 2005 Tree Covenant. Staff recommends that the Planning Commission approve Trees #82-86 as alternate retention trees for 5 of the removed retention trees and that the remaining 9 removed retention trees be mitigated at a 2:1 ratio either through planting 18 new mitigation trees on the subject properties, paying a fee-in-lieu of \$500 per mitigation tree, or a combination of the two. Staff believes there is sufficient space to plant approximately 5-6 mitigation trees on Tax Lot 1100 in the natural area adjacent to and north of Trees #82-86. Staff further believes there is sufficient space to plant approximately 7-8 mitigation trees on Tax Lot 1200 within the proposed natural tree protection area outside of the CRZ of the proposed retention trees and away from the Kate Schmitz Avenue right-of-way. Thus, staff recommends the applicant be required to plant 12 mitigation trees (5 on Tax Lot 1100 and 7 on Tax Lot 1200) and pay a fee-in-lieu of \$500 per tree for the remaining 6 mitigation trees.
5. Staff recommends the Planning Commission allow Tree #22 to remain as a retention tree and to be identified in the updated tree covenant in place of Tree #10.



## EXHIBIT A



**General Land Use Application**

**1 page**

<b>Name of Project:</b>	The Riffle Food Cart Pod
<b>Location or Address:</b>	37115 and 37133 Highway 26

<b>Map &amp; Tax Lot #</b>	<b>T:</b> 2S	<b>R:</b> 4E	<b>Section:</b> 14BA	<b>Tax Lot (s):</b> 1000, 1200
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<b>Request:</b> Type III Design Review, a Type II Adjustment, two Type II Variances, two Type III Design Deviation Requests, and a Type III Special Variance to develop the site with 18 food cart pads, a 3,600 square foot beverage and dining building, and associated parking and landscaping.
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I am the (check one)  owner  lessee of the property listed above, and the statements and information contained herein are in all respects true, complete and correct to the best of my knowledge and belief.

Applicant (if different than owner) Todd Hoffman	Owner Shawna Hoffman
Address P.O. Box 1016	Address P.O. Box 1016
City/State/Zip Sandy, OR 87055	City/State/Zip Sandy, OR 87055
Email toddrhoffman@gmail.com	Email hoffmanshawna@gmail.com
Phone (503) 863-1131	Phone (503) 928-2091
Signature	Signature

Staff Use Only

File #: <small>22-012 DR/VAR/ADI</small>	Date: <b>3/18/22</b>	Fee\$: <b>13,035</b>	Planner: <b>Emily Meharg</b>
Type of review:    Type I <input type="checkbox"/> Type II <input type="checkbox"/> Type III <input checked="" type="checkbox"/> Type IV <input type="checkbox"/>			
Has applicant attended a pre-app?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, date of pre-app meeting: _____			

Development Services Department, 39250 Pioneer Blvd, Sandy, OR 97055, 503.489.2160



Supplemental Design Review &  
Conditional Use Permit Application

5 pages

Name of Project	
Location or Address	
Type of Business	
Products Manufactured	
Hours of Operation	
No. of Employees per Shift	
Total Size Site	
Total Bldg. Sq. Footage	

**PROJECT SUMMARY**


Development Services Department, 39250 Pioneer Blvd, Sandy, OR 97055, 503.489.2160



**USES WITHIN BUILDING (sq. footage)**

Offices:		Shop:		Storage:	
Kitchen:		Laundry:		Rest Rooms:	
Other:					

**OCCUPANCY & CONSTRUCTION TYPE**  
(List all occupancies by sq. footage)

UBC Occupancy Rating:	
UBC Type of Construction:	
Will fire sprinklers be installed in the building? Yes <input type="checkbox"/> No <input type="checkbox"/>	

**SITE ANALYSIS DATA**

Type	Lot Coverage (Sq. Feet)	Lot Coverage (Percent of Site)
Buildings:		
Parking Lots and Driveways:		
Private Walks and Pedestrian Ways:		
Landscaping - Improved Area:		
Landscaping - Natural Areas:		
Storm Water Detention, Retention & Bioswale Area:		
Other: (describe)		



**CONSTRUCTION MATERIAL DETAILS**

Color and Type of Siding Materials:	
Color and Type of Trim Materials:	
Color and Type of Roof Materials:	
Color and Type of Exterior Doors:	
Color and Type of Exterior Stairs, Balconies & Railings:	
Trash & Recycling Enclosure: (describe type, colors, height)	
Type of Lighting Fixture: Pole:	
Type of Lighting Fixture: Wall Mounted:	
Fencing: (height & type)	
Mailboxes: (location & type)	
Private Pedestrian Walkways (type of surfacing)	
Recreational Amenities: (describe type & location)	
Other Site Elements: (describe)	



**TYPE OF IRRIGATION SYSTEM**

(Describe type and brand of irrigation system to be installed. Formal irrigation plans must be submitted with constructions plans)


**PROPOSED SOIL AMENDMENTS**

(Describe soil conditions and proposed plans for soil treatment & Amendments)


**ADDITIONAL LANDSCAPING INFORMATION**




**LANDSCAPE MATERIALS**

Quantity	Type - Include botanical & common names (Plants must be keyed to landscape plan)	Size	Height	Spacing

April 18, 2022

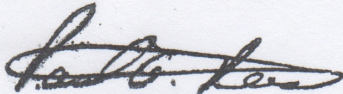
City of Sandy Planning,

RE: The Riffle Food Cart Project

I am the property owner of 24E14BA tax lot 1100 containing the Mount Hood Athletic Club. I understand the City of Sandy has asked for my signature as the owner of this property regarding improvements on the south of the westerly access drive and tree retention on tax lot 1100 proposed by Todd Hoffman for The Riffle Food Cart Project.

I am aware of the proposed improvements and tree retention and I agree with these items.

Please let me know if you have any questions or require additional information.

A handwritten signature in black ink, appearing to read "Paul Reed", written over a horizontal line.

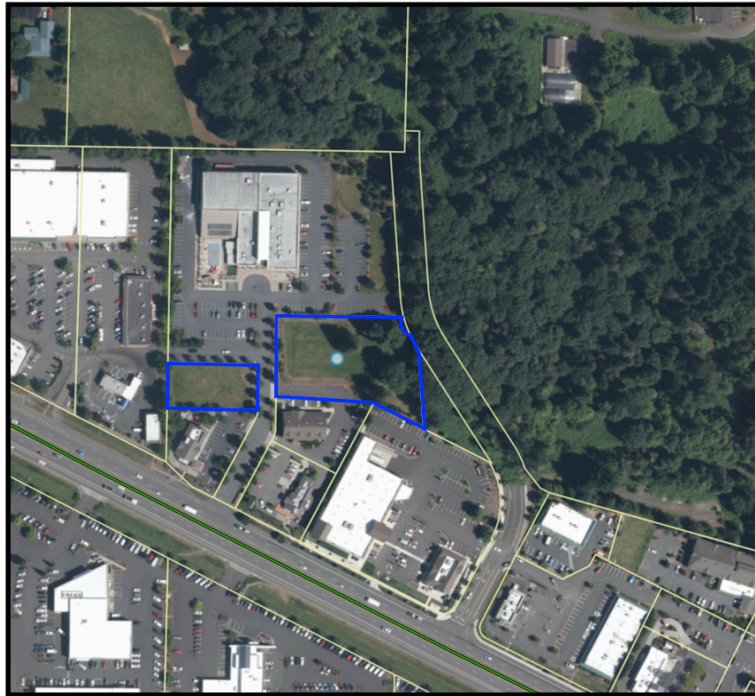
Paul Reed, PLR Properties, LLC

**EXHIBIT B**

**Project Narrative  
for**

**The Riffle  
A Premier Food Cart Court**

**37115 and 37133 Highway 26, Sandy, Oregon  
(24E 14BA tax lots 1000 and 1200)**



**Prepared by  
Tracy Brown Planning Consultants, LLC  
March, 2022**



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## I. General Project Description

The applicant, Todd Hoffman requests land use approval to construct “The Riffle” food cart court. The subject property is located at 37115 and 37133 Highway 26, Sandy, OR (24E14BA tax lots 1000 and 1200). The property is accessed by a private drive off Highway 26 created as part of the Twin Cedars Subdivision Improvements. An additional access is also provided through the shopping center west of the site. Tax lot 1200 on the east side of the private drive borders a small portion of the unimproved Kate Schmitz Avenue right-of-way. This tax lot also contains several trees protected as part of the subdivision approval. No trees are proposed to be removed with development of the site. Tax lot 1000 directly west of tax lot 1200 on the west side of the drive does not contain any protected trees.

The subject property contains approximately 1.72 acres total (tax lot 1000, 0.43 acres and tax lot 1200, 1.29 acres). Both properties are currently vacant and have never contained structures. The site is zoned C-2, General Commercial and the proposed food cart development and eating and drinking establishment are permitted outright uses in the zone.

Development on tax lot 1200 includes the construction of food cart pads with utilities to accommodate up to 18 food carts. In addition, a 3,600 square foot building to contain beverage service and dining tables and a separate restroom building will be constructed on the development site. Vehicle will be provided on both tax lot 1200 with the building and on tax lot 1000 across the private drive from the building and bicycle parking will be provided under the awning of the building. Tax lot 1000 will be used exclusively for vehicle parking. Additional site improvements on tax lot 1200 include the construction of a “soft surface” trail from the development site to the Kate Schmitz right-of-way, a garbage enclosure, site lighting, and landscaping. The proposed alignment and construction type of the proposed trail is designed to minimize grading and compaction of the root zone of protected trees in this area.

The applicant attended pre-application conferences with the City on May 6, 2021.

## II. Application Approval Requests

The applicant is requesting the following approvals with this application:

- Type II food cart permit, and
- Type III design review to construct a food cart court with an eating and drinking establishment and associated site improvements.

In addition, as discussed below, the applicant has determined the additional approvals are necessary in order to facilitate development of the proposed project:

- Type II adjustment to Section 17.74.40(B)(4) to the maximum 8-foot wall height in a side yard (north side) by 20 percent.

- Type II variance to Section 17.44.30 to the maximum 50 foot front setback on Kate Schmitz Road;
- Type II Variance to Section 17.90.120 (D)(1) regarding building orientation and percent of street frontage including buildings;
- Type III design deviation to Section 17.90.120 (D)(3) requiring ground floor spaces to face a public street or civic space; and
- Type III Special Variance to Section 17.98.10(Q) regarding the maximum allowed parking on a site.

### **III. Items Submitted With This Application**

- General Land Use Application
- Supplemental Design Review Application
- Notification List and Mailing Labels
- Exhibit A - Project Narrative
- Exhibit B - Civil Plans
  - Sheet C1 - Cover Sheet
  - Sheet C2 - Topographic Survey
  - Sheet C3 - Overall Site Plan
  - Sheet C4 - Building Setbacks
  - Sheet C5 - Detail Site Plan
  - Sheet C6 - Preliminary Utility Plan
  - Sheet C7 - Preliminary Grading Plan
  - Sheet C8 - Tree Survey On-site
  - Sheet C9 - Tree Survey Off-site
  - Sheet C10 - Detailed Tree Information
- Exhibit C - Architectural Plans
  - Sheet A2.01 - Floor Plans
  - Sheet A3.01 - Building Elevations
  - Sheet A3.02 - Restroom Elevations
  - Sheet A3.03 - Trash Enclosure Elevations
  - Rendering East Elevation
  - Rendering West Elevation
- Exhibit D - Landscape Plan
- Exhibit E - Photometric Analysis
- Exhibit F - Preliminary Stormwater Report
- Exhibit G - Traffic Impact Study

### **IV. Review of Applicable Approval Criteria**

Development applications are required to meet standards set forth in the Sandy Development Code, codified as Title 17 of the Municipal Code. The following section addresses all applicable review criteria. Pertinent code provisions are cited below in plain text followed by a response identifying how the proposal complies with this standard in *italics*.

<u>Chapter</u>	<u>Title</u>
17.44	General Commercial (C-2)
17.66	Adjustments & Variances
17.74	Accessory Development - Additional Provisions and Procedures
17.80	Additional Setbacks on Collector and Arterial Streets
17.84	Improvements Required with Development
17.90	Design Standards
17.92	Landscaping and Screening
17.98	Parking, Loading, and Access Requirements
17.102	Urban Forestry
15.30	Dark Sky Ordinance

## **CHAPTER 17.44 - GENERAL COMMERCIAL (C-2)**

### **17.44.00 INTENT**

This district is intended to provide for a wide range of commercial activities in a community scale shopping center and for commercial uses and related services and businesses, which require large land areas for structures and parking facilities and direct automobile access. This district is not intended for exclusively residential uses, although mixed-use developments are encouraged.

### **17.44.10 PERMITTED USES**

- B. Primary Uses Permitted Outright in buildings with less than 60,000 square ft. of gross floor area:
1. Retail businesses, including but not limited to:
    - e. *Eating and drinking establishments including fast-food and high-turnover sit down restaurants;*  
**Response:** *The applicant proposes constructing a food cart development to accommodate 18 food carts and a 3,600 square foot building to be used for beverage service and dining, a restroom building and additional site improvements and landscaping on tax lot 1200. The proposed use is permitted outright in this zone. Development on tax lot 1000 includes vehicle parking and landscaping. This use is an accessory use to the primary use and is permitted outright in the C-2 zone.*
- C. Accessory Uses Permitted Outright:
1. A use customarily incidental and subordinate to a use permitted outright;
  2. Outdoor product display or storage of merchandise covering no more than 20 percent of the total lot area;
  3. Parking lot or garage (when associated with development).  
**Response:** *As shown on the Site Plan, tax lot 1000 across the private drive from the primary site is proposed to be developed as a parking lot to serve the proposed development. This use is an accessory use to the primary use on tax lot 1200 and is also permitted outright.*

**17.44.30 DEVELOPMENT STANDARDS**

Standard	Requirement	Proposed
Lot Area	No Minimum	The total site area contains 57,069sf (1.72 acres)
Lot Dimension	No Minimum	complies
Setbacks ** Front .....	10 ft. minimum; 50 ft. maximum	Kate Schmitz is considered the front lot line. The proposed building is located 173 - 199 feet from this street. A variance is requested. Complies Complies N/A
Side .....	None	
Rear .....	None	
Corner .....	15 ft.	
Outside Display/Sale Lot Area	80%	No outside display is proposed.
Lot Coverage - Impervious	No maximum	complies
Landscaping	20% (includes required civic space in Section 17.90.120)	41% of the site will contain either formal or natural landscaping. Complies
Structure Height	45 ft.	Approx. 26 ft 7 in - Complies
Off-Street Parking	See Chapter 17.98	See Chapter 17.98 below
Design Review Standards	See Section 17.90.120	See Section 17.90.120 below

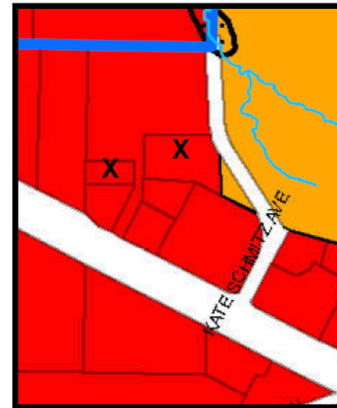
\*\* - Unless abutting a more restrictive zoning district, or as required under Section 17.90.120 Design Standards for C-2.

**Response:** As shown on the table above, the proposed development complies with all standards with the exception of the 50 foot maximum front setback. Only tax lot 1200 contains frontage on the unimproved right-of-way of Kate Schmitz Avenue. As such, this street is defined as the front yard. The proposed building is located about 173 - 199 feet from this property line. As shown on submitted plans, site constraints including site topography (slope) and the location of preserved trees prevent compliance with this standard. For these reasons, a Type II Variance to this standard has been requested as reviewed in Chapter 17.66 below.

**B. Special Setbacks - Side or Rear Yard Abutting a More Restrictive District**

1. Property abutting a more restrictive zoning district shall have the same yard setback as required by the abutting district. An additional 10 ft. shall be added for each 10 foot increment in building height over 35 ft;

2. Measurement of the height transition area shall be made between the foundation of the proposed building and the property line of the abutting district;
3. When the proposed structure has different sections that have different heights, the height transition area shall be measured for each vertical surface as if it were to be freestanding. The building then must be located on the site so that no section is closer to the abutting property line than it would be if the section was free-standing;
4. The required buffering and screening and utilities may be located within the height transition area. Off-street parking, accessory structures and incidental development may be located within the height transition area but not any areas designated as buffering and screening area.



**Response:** As shown on the zoning map to the right, the subject properties are bordered on all sides by C-2 zoned property with the exception of the eastern line of tax lot 1200, which borders R-2 zoned property. The proposed project is located such that no additional setbacks are required.

#### CHAPTER 17.66 - ADJUSTMENTS AND VARIANCES

As reviewed in this narrative, the proposal complies with all relevant code criteria with the exception of the following:

- Section 17.44.30 maximum 50 foot front setback;
- Section 17.74.40(B)(4) to exceed the maximum 8-foot wall height in a side yard (north side) by 20 percent;
- Section 17.90.120(D)(1) building orientation and percent of street frontage including buildings;
- Section 17.90.120(D)(3) requiring ground floor spaces to face a public street or civic space: and,
- Section 17.98.10(Q) maximum allowed parking.

For this reason, the following are also requested with this application:

- Type II adjustment to Section 17.74.40(B)(4) to exceed the maximum 8-foot wall height in a side yard (north side) by 20 percent.
- Type II variance to Section 17.44.30 to exceed the maximum 50 foot front setback on Kate Schmitz Road.
- Type II Variance to Section 17.90.120 (D)(1) regarding building orientation and percent of street frontage including buildings.
- Type III Special Variance to Section 17.98.10(Q) to exceed maximum allowed parking by more than 30 percent.
- Type III design deviation to Section 17.90.120 (D)(3) requiring ground floor spaces to face a public street or civic space.

The narrative below first reviews the Type II adjustment, followed by the two Type II Variances, then the Type III Special Variance, and finally the narrative reviews the Type III Design Deviation request.

#### **17.66.30 TYPE II ADJUSTMENTS**

Except in the case of a nonconforming development or use, the Director may grant or deny an adjustment under the Type II procedure if the request involves only the expansion or reduction by not more than 20 percent of one or more quantifiable provisions of this Code.

**Response:** As shown on submitted plans, a portion of the wall along the north property line of tax lot 1200 is 9 feet tall. For this reason, the applicant requests a 20 percent adjustment to exceed the 8-foot maximum wall height in Section 17.74.40(B)(4) by 1.5 feet (20 percent). The reason for this request is due to the existing site grade.

#### **17.66.40 Type I AND II ADJUSTMENT CRITERIA**

- A. The proposed development will not be contrary to the purposes of this chapter, policies of the Comprehensive Plan, and any other applicable policies and standards adopted by the City;

**Response:** The proposal to increase the wall height is due to site specific conditions and will not be contrary to the purposes of this chapter or any plans or policies. The proposal complies with this criteria.

- B. The proposed development will not substantially reduce the amount of privacy enjoyed by users of nearby structures when compared to the same development located as specified by this Code;

**Response:** The proposal to increase the wall height by 1.5 feet will have no affect on the amount of privacy enjoyed by users of nearby structures. The proposal complies with this criteria.

- C. The proposed development will not adversely affect existing physical systems and natural systems, such as traffic, drainage, dramatic land forms, or parks; and

**Response:** The proposed wall will have not affect on the facilities and conditions in this criteria. The proposal complies with this criteria.

- D. Architectural features of the proposed development will be compatible to the design character of existing structures on adjoining properties and on the proposed development site.

**Response:** As shown on submitted plans, the proposed wall will be constructed using split faced block. The difference in appearance between an 8-foot wall in compliance with the standard and the proposed 9.5 foot will have a marginally different appearance. The proposal complies with this criteria.

#### **17.66.70 TYPE II VARIANCE CRITERIA**

The authority to grant a variance does not include authority to approve a development that is designed, arranged or intended for a use not otherwise approvable in the location. The criteria are as follows:

**Request:** *As reviewed in this narrative, the applicant is requesting Type II variances to both Sections 17.44.30 and 17.90.120(D)(1). The circumstances necessitating these variances are both due to site constraints associated with site topography and the location of trees on tax lot 1200 protected as part of the Twin Cedars Subdivision approval. Each variance is reviewed separately below.*

**Variance No. 1 - Section 17.44.30.** *This section requires buildings in the C-2 zone to contain a 50 foot maximum front setback. The only abutting public right-of-way is the undeveloped Kate Schmitz right-of-way of tax lot 1200. This east property line is considered the front lot line. As shown on the Site Plan, the proposed building will be located 173 - 199 feet from and about 15 - 20 feet higher than the undeveloped right-of-way.*

*As reviewed below, the reasons for this request is due to topographic characteristics of the site and the location of required protected trees on the site. Given these constraints, placement of the building within 50 feet of this right-of-way is not possible without considerable excavation, fill, construction of walls and the removal of protected trees. As designed, the proposed building will be located near the access private drive on the most visible and prominent part of the site.*

- A. The circumstances necessitating the variance are not of the applicant's making.  
**Response:** *The circumstances necessitating this variance are due to the existing topography of the site and location of protected trees. As shown on the submitted Site Plan, construction of a building in compliance with this section would required the removal of the majority of protected trees located on the lot. The proposal complies with this criteria.*
  
- B. The hardship does not arise from a violation of this Code, and approval will not allow otherwise prohibited uses in the district in which the property is located.  
**Response:** *Approval of this variance will allow construction of proposed improvements without removing protected trees or causing excessive excavation within the root protection zone of these trees. The proposal complies with this criteria.*
  
- C. Granting of the variance will not adversely affect implementation of the Comprehensive Plan.  
**Response:** *Approval of the requested variance will not adversely affect implementation of the Comprehensive Plan. On the contrary, approval of this variance ensures the subject property is developed in accordance with the goals and policies of the Plan. The proposal complies with this criteria.*
  
- D. The variance authorized will not be materially detrimental to the public welfare or materially injurious to other property in the vicinity.



**Response:** *The proposed Site Plan to protect retained trees will have a positive affect on the public welfare. Required compliance with this standard will cause these trees to be removed and cause excessive grading and fill. The proposal complies with this criteria.*

- E. The development will be the same as development permitted under this Code and City standards to the greatest extent that is reasonably possible while permitting some economic use of the land.

**Response:** *As shown on submitted plans, the east elevation of the building facing the Kate Schmitz right-of-way features windows, and door with canopy. In addition, this elevation features a gable end with decorative bracing and metal fasteners to enhance its appearance. The proposal complies with this criteria.*

- F. Special circumstances or conditions apply to the property which do not apply generally to other properties in the same zone or vicinity, and result from lot size or shape (legally existing prior to the effective date of this Code), topography, or other circumstances over which the applicant has no control.

**Response:** *The circumstances necessitating this variance is due to the existing topography of the site and location of protected trees abutting an unimproved right-of-way at a significantly lower elevation than the majority of the site. As shown on the submitted Site Plan, construction of a building in compliance with this section would require the removal of the majority of protected trees located on the lot. These conditions are unique to the subject property and the proposal complies with this criteria.*

**Variance No. 2 - Section 17.90.120(D)(1).** *This section requires buildings to be oriented to a public street or civic space with at least 50 percent of the site street frontage comprised of building(s) within 20 feet of a sidewalk. As noted in the narrative for Variance No. 1 above, site constraints and protected trees, require the building to be setback 173 - 199 feet from the Kate Schmitz undeveloped right-of-way. For these reasons, compliance with this section is not possible.*

- A. The circumstances necessitating the variance are not of the applicant's making.  
**Response:** *The circumstances necessitating this variance are due to the inherent topography of the site and location of protected trees. The proposal complies with this criteria.*
- B. The hardship does not arise from a violation of this Code, and approval will not allow otherwise prohibited uses in the district in which the property is located.  
**Response:** *Approval of this variance will allow construction of proposed improvements without removing protected trees or causing excessive excavation within the root protection zone of these trees. The proposal complies with this criteria.*
- C. Granting of the variance will not adversely affect implementation of the Comprehensive Plan.

**Response:** Approval of the requested variance will not adversely affect implementation of the Comprehensive Plan. On the contrary, approval of this variance ensures the subject property is developed in accordance with the goals and policies of the Plan. The proposal complies with this criteria.

- D. The variance authorized will not be materially detrimental to the public welfare or materially injurious to other property in the vicinity.

**Response:** The proposed Site Plan is designed to protect retained trees and for this reason the plan will have a positive affect on the public welfare. Required compliance with this standard will require removal of these trees and cause excessive grading and fill. The proposal complies with this criteria. Approval of the variance will not be materially detrimental to the public welfare or injurious to other property in the vicinity of the subject property. The proposal complies with this criteria.

- E. The development will be the same as development permitted under this Code and City standards to the greatest extent that is reasonably possible while permitting some economic use of the land.

**Response:** As shown on submitted plans, the east elevation of the building facing the Kate Schmitz right-of-way features windows and a door with canopy. In addition, this elevation features a gable end with decorative bracing and metal fasteners to enhance its appearance. The proposal complies with this criteria.

- F. Special circumstances or conditions apply to the property which do not apply generally to other properties in the same zone or vicinity, and result from lot size or shape (legally existing prior to the effective date of this Code), topography, or other circumstances over which the applicant has no control.

**Response:** The circumstances necessitating this variance is due to the existing topography of the site and location of protected trees abutting an unimproved right-of-way at a significantly lower elevation than the majority of the site. As shown on the submitted Site Plan, construction of a building in compliance with this section would require the removal of the majority of protected trees located on the lot. These conditions are unique to the subject property and the proposal complies with this criteria.

#### **Section 17.66.80 - TYPE III SPECIAL VARIANCES**

The Planning Commission may grant a special variance waiving a specified provision for under the Type III procedure if it finds that the provision is unreasonable and unwarranted due to the specific nature of the proposed development. In submitting an application for a Type III Special Variance, the proposed development explanation shall provide facts and evidence sufficient to enable the Planning Commission to make findings in compliance with the criteria set forth in this section while avoiding conflict with the Comprehensive Plan.

**Response:** The applicant requests a Special Variance to exceed the maximum allowed parking standard. As specified in Section 17.98.10(Q), the maximum allowed parking for a commercially zoned property, shall not exceed the minimum off-street

parking required by Section 17.98.20 by more than 30 percent. As reviewed in Section 17.98.20 below, off-street parking requirements require a minimum of 34 parking spaces for the proposed use. As shown on the Site Plan, a total of 69 parking spaces are proposed, 35 spaces (about 103 percent) more than the minimum required parking. The applicant believes this request is warranted given the popularity of this type of use and the lack of available on-street parking in the vicinity of the proposed development.

One of the following sets of criteria shall be applied as appropriate.

A. The unique nature of the proposed development is such that:

1. The intent and purpose of the regulations and of the provisions to be waived will not be violated; and

**Response:** *The request to exceed the maximum parking standard is warranted given the proposed use and limited on-street parking options. The applicant desires to be a good neighbor and does not want to burden neighboring properties with customers of the development parking in adjacent parking lots. The proposal complies with this criteria.*

2. Authorization of the special variance will not be materially detrimental to the public welfare and will not be injurious to other property in the area when compared with the effects of development otherwise permitted.

**Response:** *The proposal to allow an increase in parking is intended to provide an overall benefit to the public welfare by providing sufficient parking for customers of the proposed development as well as minimizing parking conflicts with adjoining properties. The proposal complies with this criteria.*

B. The variance approved is the minimum variance needed to permit practical compliance with a requirement of another law or regulation.

**Response:** *The proposal is the minimum variance needed to accommodate the popularity of the proposed use and use of the property as proposed. The proposal complies with this criteria.*

C. When restoration or replacement of a nonconforming development is necessary due to damage by fire, flood, or other casual or natural disaster, the restoration or replacement will decrease the degree of the previous noncompliance to the greatest extent possible.

**Response:** *The proposed use is a new use and this criteria is not applicable.*

#### **Deviation to the Design Standards in Chapter 17.90**

**Request:** *As reviewed in Chapter 17.90 below, the applicant also requests a Type III design deviation to Section 17.90.120 (D)(3). The circumstances necessitating this design deviation is the same as the two Type II variances reviewed above: site constraints associated with site topography and the location of trees on tax lot 1200 protected as part of the Twin Cedars Subdivision approval. For these reasons, compliance with this section is not practical.*

**Design Deviation - Section 17.90.120(D)(3).** *This section requires ground floor spaces to face a public street or civic space and be connected to it by a direct pedestrian route. As shown on the Site Plan, the proposed building will be located 173 - 199 feet from and about 15 - 20 feet higher than the Kate Schmitz undeveloped right-of-way. As such, the applicant requests a Design Deviation to this section given the considerable distance and elevation difference between the building and the public right-of-way. As shown on the Site Plan, instead of a direct connection, a meandering, soft surfaced pedestrian trail, is proposed to be constructed connecting the development site to the Kate Schmitz right-of-way.*

*The intent of Section 17.90.120(D) Building Orientation and Entrances is:*

*Intent: To maintain and enhance General Commercial and Industrial streetscapes as public spaces, emphasizing pedestrian-scale and character in new development, consistent with the Sandy Style. (Figures 17.90.120-A, 17.90.120-B, 17.90.120-D, 17.90.120-E, 17.90.120-F, 17.90.120-G, and 17.90.120-H) and representative photos in Appendix E.*

- A. The circumstances necessitating the variance are not of the applicant's making.  
**Response:** *The circumstances necessitating this deviation is due to the inherent topography of the site, location of protected trees and the considerable distance between the building and this unimproved right-of-way.*
- B. The hardship does not arise from a violation of this Code, and approval will not allow otherwise prohibited uses in the district in which the property is located.  
**Response:** *Approval of this deviation will allow construction of proposed improvements without removing protected trees and causing excessive excavation and expense.*
- C. Granting of the variance will not adversely affect implementation of the Comprehensive Plan.  
**Response:** *Approval of the requested deviation will not adversely affect implementation of the Comprehensive Plan. On the contrary, approval of this variance ensures the subject property is developed in accordance with the goals and policies of the Plan.*
- D. The variance authorized will not be materially detrimental to the public welfare or materially injurious to other property in the vicinity.  
**Response:** *Approval of the requested deviation will not be materially detrimental to the public welfare or injurious to other property in the vicinity of the subject property.*
- E. The development will be the same as development permitted under this Code and City standards to the greatest extent that is reasonably possible while permitting some economic use of the land.

**Response:** As shown on submitted plans, the proposed pedestrian will be designed to conform with existing grades to provide a relatively direct, but more pleasant pedestrian experience.

- F. Special circumstances or conditions apply to the property which do not apply generally to other properties in the same zone or vicinity, and result from lot size or shape (legally existing prior to the effective date of this Code), topography, or other circumstances over which the applicant has no control.

**Response:** The circumstances necessitating this design deviation is due to the existing topography of the site and location of protected trees abutting an unimproved right-of-way at a significantly lower elevation than the majority of the site. As shown on the submitted Site Plan, hard surfaced, direct, pedestrian from the building to the Kate Schmitz right-of-way would cause extensive damage to the root zone of protect trees. These conditions are unique to the subject property and the proposal complies with this criteria.

## CHAPTER 17.74 - ACCESSORY DEVELOPMENT—ADDITIONAL PROVISIONS AND PROCEDURES

### 17.74.40 FENCES AND WINDSCREENS

#### B. Fences—Commercial/Industrial.

1. Fences on corner lots. Any fence or retaining wall, constructed upon or adjacent to any property line that abuts two or more intersecting streets, shall not exceed three feet in height within the clear vision area.
2. Fences in a front yard (Commercial). The height of a fence or retaining wall in a front yard shall not exceed four feet.
3. Fences in a front yard (Industrial). The height of a fence or retaining wall in a front yard shall not exceed six ft.
4. Fences—Side and Rear Yards. The height of a fence or retaining wall adjacent to a side or rear yard or a side or rear property line shall not exceed eight feet.
5. Sight Obscuring Hedges. Trees or shrubs that form a sight-obscuring hedge shall comply with the same height requirement as a fence within the clear vision area. Deciduous trees separated by at least 15 feet may grow to any height.

**Response:** As shown on the Site Plan, no wall is proposed along the front property line adjacent to the Kate Schmitz right-of-way. Due to site conditions, a wall is proposed around the site perimeter (rear and side property lines) adjacent to the food cart area ranging in height from 2-3-feet along the south line, 5-feet along the west line, and up to 11-feet along the north line. As specified in Section 17.74.40(B)(4) above, the maximum wall height adjacent to a side or rear property line is 8-feet. For this reason, the applicant requests a Type II Adjustment to this section to allow the proposed 9.5-foot tall wall. As shown on the plan, the proposed fence located behind the wall is five feet tall in compliance with this standard.

- F. Fences in excess of six feet in height require a building permit.

*Response: The applicant is aware a building permit will be required for a wall taller than six feet in height.*

#### **17.74.90 FOOD AND BEVERAGE CARTS**

- A. Intent. The purpose of these regulations is to permit food and beverage carts on a year-round basis where eating and drinking establishments are permitted outright.
- B. Applicability. The provisions of this section apply to food and beverage carts used in the preparation and/or sales of food and beverage items to the general public. Drive-through uses are not permitted as food carts under this section. Carts must be mobile units but are not permitted to operate from a motorized vehicle. An example of a mobile unit that meets this standard includes a trailer modified for the purpose of selling food (but not a food truck or RV).

*Response: The requirements of this Section are applicable to the proposed application.*

- C. Permit Required.
  - 1. Food and Beverage Carts are required to obtain a Food Cart Permit and a City of Sandy Business License prior to operating.
  - 2. The initial permit review for a Food Cart Permit shall follow a Type II review procedure per the requirements of Chapter 17.18.
  - 3. Food Cart permits are valid for the calendar year in which they are issued and will be renewed through a Type I procedure, except if the use was the subject of a City Code Enforcement action. If an enforcement action has occurred, the use shall be reviewed at the time of renewal following the Type II review procedure.

*Response: This application includes a Type II Food Cart Permit request. In addition, the applicant understands each food and beverage cart will require its own permit prior to placement as specified in this section.*

- D. Submission Requirements. An application for a permit to allow operation of one or more food carts on private property shall be on forms provided by the Director and include materials listed as follows:
  - 1. A completed General Land Use Application and application fee.
  - 2. List and mailing labels for property owners within 200 feet of the subject property.
  - 3. Site plan drawn to scale including:
    - a. Site dimensions.
    - b. Relationship of the site to adjoining properties, streets, alleys, structures, public utilities, and drainage ways.
    - c. Number and location of food carts on the site.
    - d. Individual square footage of all food carts.
    - e. Accessible pedestrian route clearances.
    - f. Size, location, and clearances of customer seating areas.
    - g. Vehicular circulation and access points.
    - h. Parking, maneuvering and loading areas.
    - i. Location and design elevation of all structures.

- j. Location and specification of landscaped areas.
  - k. Location and specifications of food cart pads.
  - l. Location and design of fences and walls.
  - m. Number and location of trash and recycling areas.
  - n. Location and type of auxiliary storage.
4. Pictures or architectural elevations of proposed food cart(s).
  5. Proximity to bathroom and written permission, if applicable.
  6. Disposal plan for wastewater and gray water.
  7. Exterior lighting plan indicating location, size, height, typical design, material, color, and method of illumination.
  8. Written verification that the food cart has been inspected and meets applicable County Health regulations.
  9. Any additional information that may be required by the Director to properly evaluate the proposed site plan.
  10. The Director may waive any of the requirements above where determined that the information required is unnecessary to properly evaluate the proposal.

*Response: The applicant requests approval to develop an 18 cart food cart development including construction of a 3,600 square foot building and associated improvements and parking. All of the items required by this section regarding site development have been included. Items in this section regarding the design of specific food carts will be submitted as part of a permit request for each cart.*

E. Standards for Food and Beverage Carts. An application for a food and beverage cart shall be reviewed for compliance with the following standards:

Location and Design.

1. Drive-through uses are not permitted in food carts.
2. Carts shall not exceed 20 feet in length, not including the trailer hitch, or be greater than 200 square feet.

*Response: No drive-through carts are proposed and no cart greater than 20 feet in length is proposed in compliance with these sections.*

3. All carts shall be placed on a paved surface such as but not limited to concrete, asphalt or pavers, or other approved material excluding gravel. If new paved surface is added to a site to accommodate a cart, the parking area shall comply with applicable parking design standards contained in Chapter 17.98.

*Response: All carts will be placed on a paved pad as required.*

4. Carts shall be located at least three feet from the public right-of-way or back of sidewalk, whichever provides the greater distance from the public right-of-way.
5. Carts shall be located at least five feet away from other carts.

*Response: As shown on submitted plans, all carts will be located at least three feet from a public right-of-way and five feet from each other.*

6. Carts shall not be located within 25 feet of an active driveway entrance as measured in all directions from where the driveway enters the site at the edge of the street right-of-way.

**Response:** *As shown on submitted plans, the nearest cart to the parking lot entrance is about 25 feet from this driveway.*

7. Carts shall not occupy fire lanes or drive aisles necessary for vehicular circulation or fire/emergency vehicle access.

**Response:** *No cart will occupy a fire lane or drive aisle.*

8. Customer service windows shall be located at least five feet from an active drive aisle used by cars.

9. Carts shall not occupy pedestrian walkways or required landscape areas.

10. Carts shall not occupy parking needed to meet minimum vehicle and bicycle parking requirements per Chapter 17.98. Blocking automobile access to parking spaces shall be considered occupying the spaces.

**Response:** *All customer service windows will be located at least five feet from an active drive aisle and no cart will occupy a pedestrian walkway, landscape area, or needed parking space.*

11. Each food cart shall provide a minimum of one paved off-street parking space for employee use or provide proof of written permission from an adjacent business or property owner within one-quarter mile of the subject site allowing the food cart operator to share parking facilities.

**Response:** *The proposed parking count assumes one off-street parking space is provided for an employee of each food cart.*

12. The exterior surfaces of all carts shall be clean and free from dents, rust, peeling paint, and deterioration, and windows shall not be cracked or broken. Day-glo and highly reflective colors are prohibited.

13. Each cart shall provide an awning for shelter to customers with a minimum clearance of seven feet between the ground and the awning.

14. Tents and canopies shall not have not tears, mold, or broken or non-functioning supports and shall be securely anchored.

15. Carts shall limit the visual effect of accessory items not used by customers, including but not limited to tanks, barrels, etc. by screening with a site-obscuring fence or landscaping, or containing them within a small storage shed.

**Response:** *The details of these sections will be evaluated as part of the permit review process for each individual food cart.*

16. All seating areas shall be located on the subject property at least ten feet from a food cart and seating areas shall be separated from parking areas by an approved fence or barrier.

**Response:** *All seating is proposed on the same tax lot as food carts in compliance with this section.*



17. Signage shall comply with Chapter 15.32, Sign Code regulations. Each cart is permitted one A-frame sign.

**Response:** *All signage will comply with the required of Chapter 15.32 and a separate sign permit will be secured prior to placing any signage.*

18. Auxiliary storage shall be provided on site when there are four or more food carts. The structure for auxiliary storage shall meet Chapter 17.90, Design Standards.

**Response:** *As shown on the Detailed Site Plan, each cart will be provided with a small auxiliary storage shed. This shed will be sided with board and batten siding, painted "Bean Pot" to match the board and batten color on the primary structure and will contain a minimum 3:12 pitch standing seam "Light Bronze" metal shed roof, pitched downwards towards the cart.*

#### Fire Safety.

19. Carts shall meet Fire Code requirements regarding distances from other structures or combustible materials.

20. Any cooking device within a food cart that creates grease-laden vapors shall provide an approved hood and extinguishing system, or be the type with a self-closing lid as approved by the Fire Marshall.

21. Appropriate fire extinguishers are required.

22. Propane tanks shall be stored and handled properly and be located at least ten feet from combustible vegetation and trash receptacles and 20 feet from a potential ignition source. Propane tanks shall remain outdoors and be secured from falling.

23. Carts shall not have any internal floor space available to customers.

**Response:** *The requirements of these sections will be evaluated with each individual food cart as part of the permit process.*

#### Health and Sanitation.

24. Trash and recycle receptacles shall be provided on site, and must be emptied and maintained. Trash and recycle receptacles shall be provided at a rate of one receptacle for every food cart. Where the food cart operator proposes to provide a common seating area a minimum of one trash receptacle and one recycle receptacle shall be provided in the common seating area.

**Response:** *A garbage enclosure is provided for the entire complex as shown on the submitted plan. Garbage cans will be distributed throughout the site and within the dining structure as required.*

25. Restrooms with handwashing facilities shall be provided for employees and customers. The restroom can be on-site or within one-quarter mile or a five-minute walk (such as at a neighboring business) and must be available during the cart's hours of operation. If the restroom is not on-site, the food cart operator shall submit written permission from an adjacent business or property owner where the facility is located.

26. Sites containing more than one food cart shall provide a restroom facility on-site.

*Response: A restroom building is provided as required.*

27. Wastewater and gray water shall be disposed of properly without harm to the environment or city infrastructure. An approved disposal plan shall detail storage and removal methods.

28. Food carts that are fully contained; i.e., carts that provide their own water, power, and waste disposal, are permitted with no additional utility considerations beyond the permitting process and site plan approval described herein. Food carts that require a water source, power source, or waste disposal location are permitted only where the Director has approved site plans that show safe access and location of the aforementioned provisions. Such provisions may be subject to all applicable building permits and System Development Charge requirements.

*Response: As shown on the Utility Plan, each cart will be connected to sewer and water service as required.*

## **CHAPTER 17.80 - ADDITIONAL SETBACKS ON COLLECTOR & ARTERIAL STREETS**

### **17.80.20 SPECIFIC SETBACKS**

Any structure located on streets listed above or identified in the Transportation System Plan as arterials or collectors shall have a minimum setback of 20 feet measured from the property line. This applies to applicable front, rear and side yards.

*Response: Kate Schmitz Avenue is identified in the City's Transportation System Plan as a collector street. As shown on the Site Plan, no buildings are proposed within 20 feet of this right-of-way.*

## **CHAPTER 17.84 - IMPROVEMENTS REQUIRED WITH DEVELOPMENT**

### **17.84.20 TIMING OF IMPROVEMENTS**

A. All improvements required by the standards in this chapter shall be installed concurrently with development as follows:

*Response: All improvements will be completed prior to occupancy*

2. Where a land division is not proposed, the site shall have required public and franchise utility improvements installed or financially guaranteed in accordance with the provisions of Chapter 17 prior to temporary or final occupancy of structures.

*Response: A land division is not proposed. The subject lots were previously created as part of the Twin Cedars Subdivision*

### **17.84.30 PEDESTRIAN AND BICYCLIST REQUIREMENTS**

A. Sidewalks shall be required along both sides of all arterial, collector, and local streets, as follows:

1. Sidewalks shall be a minimum of 5 ft. wide on local streets. The sidewalks shall be separated from curbs by a tree planting area that provides separation between sidewalk and curb, unless modified in accordance with Subsection 3 below.

**Response:** *The subject property does not abut a local street.*

2. Sidewalks along arterial and collector streets shall be separated from curbs with a planting area, except as necessary to continue an existing curb-tight sidewalk. The planting area shall be landscaped with trees and plant materials approved by the City. The sidewalks shall be a minimum of 6 ft. wide.

**Response:** *As noted above, the subject property abuts the unimproved right-of-way of Kate Schmitz Avenue identified in the TSP as a collector street.*

4. The timing of the installation of sidewalks shall be as follows:

**Response:** *No improvements are proposed to the unimproved Kate Schmitz right-of-way. The applicant understands the city may require a fee in lieu payment to defer construction of this improvement.*

#### **17.84.50 STREET REQUIREMENTS**

A. Traffic evaluations may be required of all development proposals in accordance with the following:

1. A proposal establishing the scope of the traffic evaluation shall be submitted for review to the City Engineer. The evaluation requirements shall reflect the magnitude of the project in accordance with accepted traffic engineering practices. Large projects should assess all nearby key intersections. Once the scope of the traffic evaluation has been approved, the applicant shall present the results with and an overall site development proposal. If required by the City Engineer, such evaluations shall be signed by a Licensed Professional Civil Engineer or Licensed Professional Traffic Engineer licensed in the State of Oregon.
2. If the traffic evaluation identifies level-of-service conditions less than the minimum standard established in the Transportation System Plan, improvements and funding strategies mitigating the problem shall be considered concurrent with a development proposal.

**Response:** *The City of Sandy required the applicant to provide a traffic impact study with this application. The applicant contracted with a Traffic Engineer to complete this study.*

#### **17.84.60 PUBLIC FACILITY EXTENSIONS**

A. All development sites shall be provided with public water, sanitary sewer, broadband (fiber), and storm drainage.

**Response:** *The site will be connected to all of these utilities as appropriate.*

B. Where necessary to serve property as specified in "A" above, required public facility installations shall be constructed concurrent with development.

**Response:** *This section is not applicable.*

- C. Off-site public facility extensions necessary to fully serve a development site and adjacent properties shall be constructed concurrent with development.

*Response: This section is not applicable.*

- D. As necessary to provide for orderly development of adjacent properties, public facilities installed concurrent with development of a site shall be extended through the site to the edge of adjacent property(ies).

*Response: This section is not applicable since no public facilities will be installed.*

- E. All public facility installations required with development shall conform to the City's facilities master plans.

*Response: This section is not applicable.*

- F. Private on-site sanitary sewer and storm drainage facilities may be considered provided all the following conditions exist:

1. Extension of a public facility through the site is not necessary for the future orderly development of adjacent properties;
2. The development site remains in one ownership and land division does not occur (with the exception of land divisions that may occur under the provisions of 17.84.50 F above);
3. The facilities are designed and constructed in accordance with the Uniform Plumbing Code and other applicable codes, and permits and/or authorization to proceed with construction is issued prior to commencement of work.

*Response: All utilities will be private.*

#### **17.84.70 PUBLIC IMPROVEMENT PROCEDURES**

*Response: No public improvements are proposed.*

#### **17.84.80 FRANCHISE UTILITY EXTENSIONS**

These standards are intended to supplement, not replace or supersede, requirements contained within individual franchise agreements the City has with providers of electrical power, telephone, cable television, and natural gas services (hereinafter referred to as "franchise utilities").

*Response: Franchise utilities will be installed as needed according the requirements of this section.*

#### **17.84.90 LAND FOR PUBLIC PURPOSES**

- A. Easements for public sanitary sewer, water, storm drain, pedestrian and bicycle facilities shall be provided whenever these facilities are located outside a public right-of-way in accordance with the following:

*Response: No easements for the purposes identified in this section are proposed.*

### **CHAPTER 17.90 DESIGN STANDARDS**

#### **17.90.10 APPLICABILITY**

The provisions of this chapter apply to all zones and uses as follows except as specified in Sections 17.90.10(B), (C), (D), (E), and (F) below:

- A. All construction within a Commercial or Industrial Zoning District or a non-residential use in a Residential Zoning District including the following:
1. New construction;
  2. Replacement of a building that is destroyed as specified in Section 17.08.30;
  3. Addition to an existing building;
  4. Exterior alterations other than general maintenance on an existing building;
  5. Site improvements including changes to landscaping, parking, civic spaces, etc.

**Response:** *The proposal includes construction of a food and beverage service and dining structure. As such, the requirements of this chapter are applicable.*

### **17.90.120 GENERAL COMMERCIAL AND INDUSTRIAL (C-2 and I-1) AND NON-RESIDENTIAL USES IN RESIDENTIAL ZONES DESIGN STANDARDS**

Development in the C-2 and I-1 districts and non-residential uses in a residential zone shall conform to all of the following standards, as applicable. Where a conflict exists between the requirements of this Chapter and any other code provision, this Chapter shall prevail.

#### **A. Site Layout and Access.**

Intent: To provide for compact, walkable development, and to design and manage vehicle access and circulation in a manner that supports pedestrian safety, comfort and convenience. (Figures 17.90.120-A and 17.90.120-B)

1. All lots shall abut or have cross access to a dedicated public street.  
**Response:** *The subject property abuts a private drive created to provide access from Highway 26 to the subject properties. There is an existing sidewalk along the east side of this drive from Highway 26 to the development site.*
2. All lots that have access to a public alley shall provide for an additional vehicle access from that alley.  
**Response:** *The subject property does not abut an alley and this section is not applicable*
3. Off-street parking shall be located to the rear or side of buildings with no portion of the parking lot located within required setbacks or within 10-feet of the public right-of-way, as shown in Figure 17.90.120-A. When access must be provided directly from a public right-of-way, driveways for ingress or egress shall be limited to one per 150 ft. For lots with frontage of less than 150 ft. or less, shared access may be required.  
**Response:** *Due to site topography and location of existing protected trees it is not possible to locate the building within 50 of the front property line (Kate Schmitz) as required. As shown on the Site Plan, despite this condition, no parking will be located between the proposed building and the Kate Schmitz right-of-way 173 - 199 feet to the east. The proposal complies with this standard.*

4. Adjacent parking lots shall be connected to one another when the City determines it is practicable to do so. Developments shall avoid creating barriers to inter-parcel circulation.  
**Response:** *The subject property is connected by an existing private drive. No improvements other than those proposed are warranted.*
5. Urban design details, such as raised or painted pedestrian crossings and similar devices incorporating changes in paving materials, textures or color, shall be used to calm traffic and protect pedestrians in parking areas.  
**Response:** *The layout of the proposed development as shown on the Site Plan does not require any of these design treatments.*
6. Parking lots may include public alley accessed garages at the rear property line, except where a setback is required for vision clearance or to conform to other city standards.  
**Response:** *This section is not applicable.*
7. Walkways from the public street sidewalk to the building entrance(s) are required. Crosswalks through parking lots and drive aisles shall be constructed of a material contrasting with the road surface or painted (e.g., colored concrete inlay in asphalt).  
**Response:** *The proposed pedestrian circulation plan as shown on the Site Plan does not conflict with any vehicle maneuvering area. The proposal complies with this standard.*
8. Connection to Adjacent Properties: The location of any real improvements to the property must provide for a future street and pedestrian connection to adjacent properties where the City determines this is practicable and necessary. Where openings occur between buildings adjacent to Highway 26, pedestrian ways should connect the street sidewalk to any internal parking areas and building entrances. Development should avoid creating barriers to pedestrian circulation.  
**Response:** *The subject properties are served by an existing private drive with existing access easements to the east and west. The proposal complies with this standard.*
9. Joint use of access points and interconnections and cross-over easements between parcels shall be required, where the City determines it is practicable and necessary. A development approval may be conditioned to require a joint use access easement and interconnecting driveways or alleys to comply with access spacing and other applicable code requirements.  
**Response:** *No additional joint use or cross-over easements are warranted.*
10. Through lots may be permitted with two access points, one onto each abutting street, where necessary to serve a centralized, shared parking facility. Such

access points must conform to the above access spacing requirements and parking must be internalized to the property.

**Response:** *This section is not applicable.*

11. Free-standing buildings shall be connected to one another with a seamless pedestrian network that provides access to building entrances and adjacent civic spaces.

**Response:** *A sidewalk system is proposed to provide access within the subject building and between the parking area west of the access drive and the proposed building/food carts.*

12. Minimum parking requirements are contained in Chapter 17.98. For developments containing more than 150 parking spaces, at least 20 percent of all parking spaces shall be constructed of permeable materials such as permeable asphalt, permeable concrete, pavers, and/or similar materials as approved by the City.

**Response:** *Parking requirements are evaluated in Chapter 17.98. The proposal contains 69 vehicle parking spaces in two lot areas, considerably less than 150 parking spaces requiring additional construction details in this section. This section is not applicable.*

#### **B. Building Facades, Materials, and Colors**

Intent: To provide building façades, materials and colors consistent with the Sandy Style. For purposes of interpreting the Sandy Style, representative illustrations and photos are provided. (Figures 17.90.120-C, 17.90.120-D, 17.90.120-E, 17.90.120-F, 17.90.120-G, 17.90.120-H, and 17.90.120-I; and the Color Palette and representative photos provided in the Appendix E.)

1. Articulation. The Sandy Style includes asymmetrical building forms, which by definition require buildings to be articulated, varied, and provide visual interest. This standard is met by dividing elevations visible from an abutting public street or pedestrian way into smaller areas or planes to minimize the appearance of bulk as follows:
  - a. All elevations visible from an abutting public street or pedestrian way shall be divided into distinct planes of no more than 40 lineal feet long to include the following:

**Response:** *The subject property is located adjacent to a private pedestrian walkway. As shown on the submitted Site Plat, the eastern and northern elevations of the proposed building are located about 173 - 199 feet west and about 15 - 20 feet higher than the Kate Schmitz unimproved right-of-way to the east. In addition, several protected trees with low hanging branches are located between the Kate Schmitz right-of-way and the proposed building further blocking this elevation from being viewed from the right-of-way. The western and southern building elevations are located about 360 feet from the Highway 26 right-of-way, further away than is reasonable to require compliance with this section. In addition, the existing Starbucks and Fresenius Medical buildings located between*

*Highway 26 and the proposed building will block the majority of the building from being viewed from the highway. With these findings, the proposed building will not be reasonably “visible” from an abutting public street or right-of-way and the requirements of this section are not applicable. Regardless, as shown on the submitted Building Elevations, the proposed building features changes in wall planes and articulation on each building elevation.*

- 1) Wall planes meeting this standard shall include a feature or variation in the wall plane that are those that are entirely separated from other wall planes by a recessed or projecting section of the structure that projects or recedes at least six (6) inches from the adjacent plane, for a length of at least four (4) feet. Changes in plane may include but are not limited to recessed entries, bays, secondary roof forms (e.g., gables, lower roof sheds, dormers and towers), building bases, canopies, awnings, projections, recesses, alcoves, pergolas, porticos, roof overhangs, or other features consistent with the Sandy Style.

***Response:*** *As reviewed above, the requirements of this section are not applicable. As shown on submitted Building Elevations, all elevations feature pedestrian awnings projecting from the wall surface.*

- 2) Wall planes shall incorporate at least one visually contrasting and complementary change in materials or changes in texture or patterns, including trim, moldings, or other ornamental devices.

***Response:*** *All elevations contain a combination of stone and siding material and all windows are proposed to contain trim or are adjacent to a stone accent in compliance with this standard.*

- 3) The lower and upper floors of multi-storied buildings shall be delineated by using pedestrian shelters, changes in siding materials, heavy timbers, or natural wood accents (e.g. brackets, paneling, or other detailing).

***Response:*** *The proposed building contains a single story and this section is not applicable.*

2. Pedestrian Shelters. Buildings must incorporate pedestrian shelters, as follows:

***Response:*** *As reviewed below, the proposal complies with all of the standards in this section.*

- a. Pedestrian shelters shall be provided over the building’s primary entrance(s) and all pedestrian areas (i.e., sidewalks, and civic spaces) abutting the subject building, where pedestrians are likely to use these facilities.

***Response:*** *None of the building elevations abut parking areas, sidewalks, or civic spaces. Regardless, the proposed building features pedestrian shelters on all building elevations. These features address the requirements of this standard.*



- b. Features such as canopies, arcades, awnings, roofs overhangs, covered porches, alcoves, and/or porticoes are required to protect pedestrians from the rain and sun.

**Response:** *The proposed design includes a canopy along the entire north and south building elevations and at the doors on the east elevation.*

- c. Pedestrian shelters must extend at least five (5) feet over the pedestrian area.

**Response:** *As shown on submitted building elevations, all pedestrian shelters extend at least five feet over the adjoining pedestrian area.*

- d. Shelters designed with gables (e.g., over building entrances) are preferred over flat shelters, and must comply with the roof pitch standards in Section 17.90.120(C). Dome or bubble shaped awnings are not permitted.

**Response:** *The proposed awnings on the north and south elevations feature a 3:12 pitch to provide weather protection between the food carts and the dining building. The awnings on the east elevation features a 3.5:12 pitch to provide covering over this doors and add visual interest to this elevation. The proposal complies with this section.*

- 3. Building Materials. Exterior building materials shall convey an impression of strength and durability consistent with the Sandy Style, as follows:

- a. Buildings on the same site shall be architecturally unified. Architectural unity means buildings are related in architectural style and share some common elements, such as color scheme, materials, roof forms, and/or detailing. Unity does not mean repetition or mirroring of building elevations.

**Response:** *All exterior building materials used on the structures are intended to convey an impression of strength and durability. The proposal complies with this standard.*

- b. Strong base materials such as natural stone (e.g., basalt, granite, river stone), split-faced rusticated concrete block, brick, or concrete form liner replicating these materials are required. Cultured stone may be allowed if it has a stone texture and is similar in appearance and durability to natural stone. A building's base must extend at least 36 inches but not more than 60 inches above the adjacent finished grade and be included on those sides of the building visible from an abutting public street. If the site contains a grade differential making construction of a minimum 36-inch base impracticable, the reviewing body may allow portions of the base to be less than 36-inches.

**Response:** *All elevations feature a continuous 48-inch high base of Glacier Stone Supply, "Bitterroot" stone in compliance with this standard.*

- c. Foundations shall be designed to match the scale of the building being supported. Sheathing the foundation structure with base materials and wall siding are examples of methods which accomplish this purpose.

**Response:** *All of the foundation material will be covered by the proposed base material in compliance with the standard.*

- d. Siding shall consist of wood, composite-wood (e.g., concrete fiberboard, panels or shingles), stone, brick, split-faced or rusticated concrete block, concrete form liner or a combination of these materials. Stucco, synthetic stucco, or metal are only permitted as specified below. Vinyl, plastic or similar siding is not permitted.

**Response:** *Proposed siding materials include a combination of composite board and batten as the base material and shingles in the upper part of the gable ends. Cultured stone, Glacier Stone Supply, "Bitterroot", will be applied as the base on all elevations.*

- 1) Where wood siding is used, it shall consist of horizontal (e.g., lap, v-groove, or tongue-and-groove) siding, vertical (board and batten) siding, shingles, or combinations thereof. Vertical grooved (i.e., T1-11) sheet siding and similar materials are prohibited.

**Response:** *Areas covered with wood-like materials include a board and batten and shingles. No vertical grooved sheet siding is proposed in compliance with this standard.*

- 2) Where board-and-batten siding is used, battens shall be a minimum of 2-inches wide x 1-inch deep and spaced 24 inches apart or closer; rough-sawn boards (specialty panel) are preferred over panels having a resin overlay.

**Response:** *Areas covered with board and batten siding feature three-inches wide by one-inch deep battens spaced 16-inches on center apart in compliance with this standard.*

- 3) Where masonry siding is used, it shall consist of brick, stone, or rusticated concrete block, and must incorporate decorative patterns over not less than 15 percent of every elevation where it is used. Examples of decorative patterns include multicolored masonry units, such as brick, stone, or cast stone, in layered or geometric patterns or split-faced concrete block to simulate a rusticated stone-type construction. Changes in pattern should be used to accentuate breaks in building stories, corners, windows, and building tops (e.g., parapets where flat roofs are allowed).

**Response:** *No masonry is proposed. Stone veneer will be used as a base material only. The proposal complies with the standard.*

- 4) Where metal siding is used, it shall be used as an accent only, comprising not more than 30 percent of the surface area of the building

elevation (e.g., wainscoting or other accent paneling). Metal must be architectural grade and have a non-reflective (burnished or painted) finish conforming to the Color Palette in Appendix C. Metal may also be used for flashing, gutters, downspouts, brackets, lighting, and signage and similar functional elements.

**Response:** *No metal siding is proposed. Metal will be used for roofing and to cover all awnings. As noted below, the color of this material has been selected from the city's approved color palette.*

- 5) Where stucco or synthetic stucco is used, it shall only be used as an accent comprising not more than 30 percent of the surface of the building elevation.

**Response:** *No stucco or synthetic stucco is proposed.*

- 6) Where concrete form liner is used, it shall be limited to patterns replicating horizontal wood siding, stone, or brick as shown in Appendix H and shall not include ribbed, fluted, or similar patterns.

**Response:** *Concrete form liner is not proposed.*

- e. Building elevations facing a public street shall incorporate at least three (3) of the following features: Using these features may also address other code requirements, such as those related to building articulation, change in relief, pedestrian shelters, storefront elements.

- 1) Exposed, heavy timbers;
- 2) Exposed natural wood color beams, posts, brackets and/or trim (e.g., eaves or trim around windows);
- 3) Natural wood color shingles (e.g., used as siding or to accent gable ends);
- 4) Metal canopies;
- 5) Heavy metal brackets (e.g., cast iron or similar appearance), which may be structural brackets or applied as cosmetic detailing, and/or;
- 6) Similar features, consistent with the Sandy Style.

**Response:** *Only the east and south building elevations face a public street (Kate Schmitz Avenue and Highway 26). As noted above, the proposed building will be located 173 - 199 feet from Kate Schmitz Avenue and 360 - 369 feet from Highway 26. Because of this distance and other factors (trees, grade separation, and existing buildings) the building will be mostly obscured from viewing these elevations and the detailed features specified in this section are unlikely to be visible from these streets. Regardless, the east building elevation features heavy timbers, brackets, natural wood (composite) shingles, metal canopies, and stone base materials. The south elevation features a metal canopy, heavy timbers, and a stone base. Both elevations comply with this section.*

- f. Materials required on elevations visible from an abutting public street must turn the building corner and incorporate appropriate transitions onto

elevations not requiring these materials for a distance of not less than four (4) feet.

**Response:** *As noted above, no building elevation will be reasonably visible from an abutting public street (Kate Schmitz Avenue or Highway 26). Regardless, required materials are provided on all building elevations and all materials turn the corner of the building in compliance with this standard.*

4. Colors. Building exteriors shall comply with the following standards:

- a. Permitted colors include warm earth tones (tans, browns, reds, grays and greens) conforming to Color Palette in Appendix C.

**Response:** *All painted surfaces (shingles, horizontal siding and trim) are proposed to be painted with colors selected from the City's approved Miller Paint Historic Color Collection. The shingles on the gable end of the west and east elevations will be painted "Maple", board and batten siding on all elevations will be painted, "Bean Pot", and window and door trim will be painted "Portsmouth Spice. All exposed wood trusses will be stained Valspar Semi-transparent "Cedar Natural Tone" to complement the building colors.*

- b. High-intensity primary colors, metallic colors and black, may be utilized as trim and detail colors only, not to exceed one percent (1%) of the surface area of any elevation. Such color shall not be used as primary wall colors.

**Response:** *None of these colors are proposed.*

- c. Day-glow colors, highly reflective colors, and similar colors are not permitted.

**Response:** *None of these colors are proposed.*

### C. Roof Pitch, Materials, and Parapets

Intent: To provide roof forms and detailing consistent with the Sandy Style. For purposes of interpreting the Sandy Style, representative illustrations and photos are provided. (Figures 17.90.120-D, 17.90.120-E, 17.90.120-F, 17.90.120-G, 17.90.120-H, and 17.90.120-I and representative photos in Appendix E)

1. Except as provided in subsections 17.90.120(C)(8), below, pitched (gabled or hipped) roofs are required on all new buildings with a span of 50-feet or less. Gable and hipped roof forms must achieve a pitch not less than the following:

Zoning District	Primary Roof Forms (minimum)	Secondary Roof Forms (minimum)
C-2 and I-1	6:12	4:12

**Response:** *As shown on submitted Building Elevations, the proposed building features a 6:12 pitched roof in compliance with this standard. As discussed below, because of the building's location and site specific conditions, no secondary roof forms are warranted or proposed.*

2. As provided above, “Primary Roof Forms” are those that individually comprise 20 percent or more of the total surface area of a roof elevation. Secondary roof forms (e.g., dormers, towers, cupolas, etc.) are those that comprise less than 20 percent of the roof elevation. See also, Section 17.74.20 Vertical Projections.
3. When practicable, buildings shall be oriented so the gable end of the roof faces the abutting street.

**Response:** *As shown on the Site Plan, the proposed building is oriented with the gable end facing the unimproved Kate Schmitz Avenue right-of-way even though this street is located 173 - 199 feet from and about 15 - 20 feet lower in elevation than the proposed building.*

4. Pitched roofs visible from an abutting public street shall provide a secondary roof form (e.g. dormer) in the quantity specified below. Secondary roof forms may be located anywhere on the roof, although grouping these features is preferred.

Roof Length	Number of Secondary Roof Forms
30-40 feet	1
41-80 feet	2
81 feet and greater	4

**Response:** *As discussed above, because of the building’s location and the location of existing structure and tree, none of the building elevations will be reasonably “visible” from an abutting public street. The closest public street abutting the subject property is the undeveloped Kate Schmitz right-of-way. As shown on the Site Plan, the east building elevation will be located 173 - 199 feet and 15 - 20 feet higher than this undeveloped right-of-way. The building will be located about 360 - 369 feet away from Highway 26 and will be blocked by existing buildings (Starbucks and Fresenius Medical Center). For this reason, secondary roof forms are not warranted or required.*

5. Visible roof materials must be wood shingle or architectural grade composition shingle, slate, or concrete tile. Metal with standing or batten seam may also be used conforming to the Color Palette in Appendix D.

**Response:** *Roof and awning materials are proposed to be Metallion Industries, Light Bronze” standing seam roofing. This color is selected from the adopted color palette.*

6. All roof and wall-mounted mechanical, electrical, communications, and service equipment, including satellite dishes and vent pipes, shall be screened from view from all adjacent public rights-of-way and civic spaces by parapets, walls or by other approved means. Roof plans and elevations must show proposed

equipment locations, approximate dimensions, and line of sight from public rights-of-way and civic spaces. The reviewing body may require additional equipment setbacks, screen walls, or other mitigation to ensure compliance.

**Response:** *All mechanical equipment associated with the building will be located inside the building. Electrical and gas meters associated with the food carts will be mounted to the garbage enclosure wall. These facilities will not be visible from any public right-of-way or civic space.*

7. A-frame buildings and Mansard-style roofs are not permitted.

**Response:** *The proposed roof form is a gable roof form and is not an A-frame or a Mansard-style roof form.*

8. Exception to Pitched Roof: When a building requires a roof span greater than 50-feet, or the internal function of the building or a portion of the building make construction of a pitched roof impractical, the reviewing body may allow an alternative roof form. An alternative roof form includes an “applied pitched roof” or flat roof constructed over the building or portion of the building as specified below. An example when a pitched roof is considered impractical would be the need to have large rooftop stove vents over the kitchen portion of a restaurant. Roof forms constructed under this exception shall comply with the standards below.

- a. Applied Pitched Roof: An “applied pitched roof” is the preferred alternative roof form and shall be considered first. An “applied pitched roof” is a roof form with the general appearance of a pitched roof in terms of materials, pitch, and overhang, but does not extend all the way from the eave of the building to the ridge of the roof as a typical pitched roof. An “applied pitched roof” shall be constructed according to the following:

- 1) For buildings with a span of less than 50 feet, the “applied pitched roof” shall extend at least 50 percent of the distance from the eave to the ridge as if had been constructed as a pitched roof;
- 2) For buildings with a span of 50 feet or greater, the applied pitched roof shall extend at least 12 feet from eave.
- 3) The reviewing body may require buildings with a span of 50 feet or greater to include an “applied pitched roof” in lieu of a flat roof along street facing elevations.

**Response:** *These sections are not applicable.*

- b. Flat Roof: Flat roofs shall comply with the following standards:

- 1) Sandy Style stepped parapets and detailed coursing shall be provided on those elevations visible from a public street. Parapets shall be varied so that the length of a parapet does not exceed 40 feet without a change in the parapet height of at least 2 feet or as necessary to hide rooftop equipment.
- 2) Average parapet height shall not exceed 15 percent of the supporting wall height, and the maximum parapet height shall not at any point exceed one-third (1/3) of the height of the supporting wall;

- 3) A cornice projecting at least six (6) inches from the building face shall be provided at the roofline of all elevations visible from public rights-of-way;
- 4) Parapet corners shall be stepped and the parapet be designed to emphasize the center or primary entrance(s), unless the primary entrance is at the corner of the building;

**Response:** *These sections are not applicable.*

#### **D. Building Orientation and Entrances**

Intent: To maintain and enhance General Commercial and Industrial streetscapes as public spaces, emphasizing pedestrian-scale and character in new development, consistent with the Sandy Style. (Figures 17.90.120-A, 17.90.120-B, 17.90.120-D, 17.90.120-E, 17.90.120-F, 17.90.120-G, and 17.90.120-H) and representative photos in Appendix E.

1. Buildings shall be oriented to a public street or civic space. This standard is met when at least 50 percent of the subject site's street frontage is comprised of building(s) placed within 20 feet of a sidewalk, walkway or civic space and not more than 20 percent of the off-street parking on a parcel as required by SDC 17.98, tract or area of land is located between a building's front façade and the adjacent street(s).

**Response:** *As noted above, the proposed building will be located 173 - 199 feet from the unimproved Kate Schmitz Avenue right-of-way. In addition, protected trees and a grade separation will further obscure the building from being viewed from this right-of-way. For these reasons, compliance with this section is not possible and the applicant is requesting a variance to this section as reviewed in Chapter 17.66 above.*

2. Where parking is placed between a front façade and a street, a landscaped berm and/or architectural features, such as a knee wall, colonnade, arbor, trellis and/or similar device, shall be placed behind the sidewalk to partially screen the parking area from the sidewalk. The partial screen shall be designed to achieve at least 50 percent opacity at the time of installation, with openings for walkways connecting to the building's primary entrance.

**Response:** *As shown on the Site Plan, parking is located between the East building elevation and the Kate Schmitz right-of-way, however, no parking is proposed directly between this facade and the right-of-way. The proposal complies with the intent of this section.*

3. Ground floor spaces shall face a public street or civic space and shall be connected to it by a direct pedestrian route (i.e., avoid out-of-direction travel).

**Response:** *As discussed in Chapter 17.66 above, a variance to this Section has been requested. To comply with the intent of this section, as shown on the Site Plan, a soft service trail will be constructed to provide a pedestrian connection between the development site and the Kate Schmitz right-of-way.*

4. Buildings located at the intersection of two streets shall use a corner building entrance; where a corner entrance is not practical due to the internal functioning of the building space or due to physical constraints of the site (e.g., topography, accessibility, or similar circumstances), a building entrance must be provided within forty feet of the corner. The building corner must use detailing that emphasizes the corner location and is consistent with the Sandy Style. Examples of acceptable detailing include a rounded or chamfered (beveled) corner, weather protecting canopy, plaza, sculpture, and/or similar pedestrian-oriented features.

**Response:** *The subject property is not located at a street intersection and this section is not applicable.*

5. For structures greater than 40,000 gross square feet, there shall be at least two (2) clearly articulated public entrances on the structure; at least one such entrance shall be visible from a public street and connected to that street by a pedestrian sidewalk or walkway.

**Response:** *The proposed building contains 3,600 square feet and this standard is not applicable.*

6. Retail buildings shall provide at least one customer entrance for every 200 lineal feet of anchor store space along at least one of the building's street-facing elevation(s). Such entrances may be oriented to a public street or designated civic space. Where ancillary stores or offices are provided, entrances to those spaces must be placed not more than 40 feet apart on average. For example, a 300 foot long building with one anchor store and four ancillary stores would provide no fewer than two anchor space entrances spaced not more than 200 feet apart and four ancillary entrances placed not more than 40 feet apart on average.

**Response:** *The proposed building is not a retail building and this section is not applicable.*

7. Buildings shall provide at least one (1) elevation where the pedestrian environment is "activated". An elevation is "activated" when it meets the window transparency requirements in subsection 17.90.120(E), below, and contains a public entrance with a pedestrian shelter extending at least five (5) feet over an adjacent sidewalk, walkway or civic space.

**Response:** *The south building elevation is identified as the "activated" elevation. This elevation contains a building entrance and an awning extending greater than five feet over the sidewalk in front of this entrance. As detailed below, this elevation also complies with window transparency requirements in subsection 17.90.120(E) below. The proposal complies with this section.*

8. Primary entrances must be architecturally emphasized and visible from the public right-of-way and shall be sheltered with a canopy, overhang, or portico with a depth of at least five (5) feet. Architectural emphasis should be



provided by a gabled shelter where practical, consistent with the Sandy Style. Detailing around the base of the building, such as stonework, benches or art, should also be used to emphasize an entrance.

**Response:** *All building elevations except the west elevation will serve as entrances and include pedestrian awnings in compliance with this section.*

#### E. Windows

Intent: To promote business vitality, public safety and aesthetics through effective window placement and design, consistent with the Sandy Style. (Figures 17.90.120-A, 17.90.120-B, 17.90.120-D, 17.90.120-E, 17.90.120-F, 17.90.120-G, and 17.90.120-H)

1. Unified Design. Building plans must provide for unity in window placement and design so that all sides of a building relate to one another and multiple buildings on a development site relate to one another.

**Response:** *All building elevations are proposed to relate to one another as required by this standard.*

2. Ground Floor Windows. The ground floor elevation of all new buildings shall contain ground floor display areas, windows, and doorways on the “activated” frontage as follows:

Building Size	Percentage Windows Required
0 - 10,000 sq. ft.	30 percent of elevation
10,000 sq. ft. - 30,000 sq. ft.	25 percent of elevation
Greater than 30,000 sq. ft.	20 percent of elevation

**Response:** *As noted above, the applicant has designated the south building elevation of the 3,600 square foot building as the “activated” frontage. As shown on the South Building Elevation, 30.2 percent of this elevation is proposed in clear window glass and doors (1,350 square feet/408 square feet) in compliance with this standard.*

- a. Windows shall contain clear glass to allow views to interior activity or display areas. The bottom edge of windows shall be no less than three (3) feet above the adjacent finished grade. Where the internal functions of a building preclude windows at this height, the reviewing body may allow windows above or below this height. Display boxes affixed to a building’s exterior are not counted in meeting the above standard.

**Response:** *All windows will be clear glass and are located at least three feet above the adjacent finished grade in compliance with this standard. All windows and door frames will be Aluminum, “Kawneer Dark Bronze” and vinyl clerestory windows on the north and south elevations will be Milgard “Bronze”.*

- b. Windows shall be square or vertically oriented and may consist of vertically stacked or horizontally banked window units. Windows located over a door or transom windows may be horizontally oriented.

**Response:** *All proposed windows are square or divided into vertically oriented units in compliance with this standard. Transom windows located over doors are horizontally oriented as permitted. The proposal complies with this standard.*

- c. Windows with any dimension exceeding six (6) feet shall be divided to contain two or more smaller panes with real divided panes, vinyl inserts, or applied dividers.

**Response:** *No windows are proposed to exceed six feet in any dimension without being divided into smaller panes.*

- d. Windows shall have trim or moldings at least three (3) inches in width around them, or have reveals of at least three (3) inches in depth. Casings shall consist of a drip cap, head casing, side casings, and/or sills.

**Response:** *As detailed on the Building Elevations, all windows are proposed to include 4-inch wide window trim in compliance with this section. Trim will be painted Miller Paint "Portsmouth Spice" in compliance with the approved color palette.*

### 3. Upper Floor Window Standards.

- a. The reviewing authority may require buildings exceeding 20 feet in height to provide upper-story windows along the "activated" frontage. Such windows may be required for attic space, or applied to roof forms where no second story exists, to meet the articulation requirements under Section 17.90.120(B)(1).

**Response:** *As shown on the submitted floor plan, the proposed building contains a single story, but the building features a sill height of 20-feet 10-inches. For this reason the requirements of this section are applicable. As reviewed above, the south building elevation is considered the "activated" frontage.*

- b. Windows shall be square or vertically oriented. Individual window units shall not exceed five (5) feet by seven (7) feet. Any portion of a window unit with a dimension exceeding four (4) feet shall be divided into smaller panes.

**Response:** *All upper floor windows are square (3-feet x 3-feet) and further divided into smaller panes. These frames of these windows will be vinyl Milgard "Bronze".*

- c. At least half of all the window area in upper floors shall be made up of glass panes with dimensions no greater than two (2) feet by three (3) feet, unless approved by variance or adjustment. Upper story windows that have

one (1) foot by one (1) foot grid inside double pane glass are appropriate and are encouraged.

**Response:** *All upper story windows are divided into 1-foot by 1-foot grids in compliance with this section.*

- d. Window trim and moldings shall be compatible with those used on the ground floor.

**Response:** *All windows will include 1x4-inch trim in compliance with this section. Trim will be painted Miller Paint "Portsmouth Spice" in compliance with the approved color palette.*

#### 4. Prohibited Windows.

- a. Darkly tinted windows, mirrored windows, and similar windows are prohibited adjacent to street sidewalks, civic spaces and walkways.

**Response:** *As noted on the Building Elevations, all windows are proposed to be clear glass.*

- b. Glass curtain windows are not permitted facing public right-of-ways, except where the reviewing body finds that such windows are consistent with the Sandy Style.

**Response:** *No glass curtain windows are proposed.*

#### F. Landscaping and Streetscape Design

Intent: To promote business vitality, public safety and aesthetics through effective landscaping and streetscape design, consistent with the Sandy Style, and to provide for a continuous pedestrian network that promotes pedestrian safety, comfort and convenience, and provides materials and detailing consistent with the Sandy Style. (See Figures 17.90.120-J and 17.90.120- K and Appendix G)

- 1. The provisions of Chapter 17.92 Landscaping and Screening General Standards shall apply.

**Response:** *A Landscape Plan in compliance with requirements of Chapter 17.92 is included with the submittal package.*

- 2. Parcels abutting Highway 26 shall provide a landscape buffer comprising not less than 30 percent of the highway frontage, to a depth of not less than 20 feet. Within the buffer, existing trees shall be preserved to the extent practicable. New trees, shrubs, and groundcover shall be planted to create a landscape buffer and partial visual screen along the highway as specified below or as approved by the reviewing authority. If approved in writing by the Oregon Department of Transportation, this buffer may be located within the public right-of-way. Any new or modified access must fall outside the designated buffer. Landscape plans shall indicate proposed landscaping, signage and other proposed development.

**Response:** *The site does not abut Highway 26 and this section is not applicable.*

3. Landscape buffer plantings shall contain a mixture of both deciduous and evergreen species selected from the list below and shall be of a sufficient quantity to provide a partial buffer within two years from the date they are planted:
  - Trees - Deciduous (minimum 1 1/2-inch caliper) -Autumn Blaze Maple, Red Sunset Maple, Scarlet Oak. Evergreen (minimum 8-10 feet) - Hogan Cedar, Incense Cedar, Western Red Cedar, Douglas fir.
  - Small Trees/Shrubs - Vine Maple, Serviceberry, Chinese Kousa Dogwood, Red flowering Currant, Ceanothus 'Blue Blossom', Rhododendron, Pacific Wax Myrtle.
  - Groundcover - Kinnickinick, Salal, Low Oregon Grape, Coastal Strawberry, Rock Rose.

**Response:** *This section is not applicable.*

4. All service and storage areas must be screened from view from all adjacent rights-of-way. (See Figure 17.90.120-K below.)

**Response:** *The proposed trash enclosure will be screened from view by existing buildings (Goodwill, Starbucks, and Fresenius Medical).*

#### G. Civic Space

Intent: To connect buildings to the public realm and create comfortable and attractive gathering places and outdoor seating areas for customers and the public, consistent with Sandy's Downtown Streetscape Design. (See Figures 17.90.120-L and 17.90.120-M).

**Response:** *The subject property only abuts the undeveloped Kate Schmitz right-of-way. As shown on the submitted Site Plan, the proposed building will be located at least 173 feet from this future road. The area between the building and this right-of-way contains a number of trees required to be protected. For these reason, the requirements of this section are not applicable.*

1. Not less than three (3) percent of the building area of every development shall be improved as civic space.
2. All civic spaces shall have dimensions of not less than eight (8) feet across and have a surface area of not less than 64 square feet. No civic space is required if the size of this space results in an area of less than 64 square feet.
3. Civic space improvements may include plazas, private extensions of sidewalks and walkways (i.e., to accommodate outdoor seating), public art, pedestrian-scale lighting, bus waiting areas, tourist amenities (e.g., way finding signs as approved by the city) or similar pedestrian amenities as approved through Design Review.
4. The highest priority locations for civic space are those areas with the highest pedestrian activity (e.g., street corners and mid-block pedestrian access ways) that have a western or southern exposure.

**Response:** *As noted above, the proposed building is located a considerable distance from any public right-of-way. For this reason, there is no location meeting the requirements of this section.*

5. Civic spaces should abut a public right-of-way or otherwise be connected to and visible from a public right-of-way by a sidewalk or approved pedestrian access way; access ways shall be identifiable with a change in paving materials (e.g., pavers inlaid in concrete or a change in pavement scoring patterns and/or texture) or painted. Where a right-of-way connection is not possible, the owner must provide a public access way easement to the civic space. Civic spaces shall not be gated or closed to public access, unless otherwise required by the city.
6. The reviewing authority may consider the voluntary provision of civic space or pedestrian amenities in quantities exceeding the minimum standards of this code in approving an adjustment or variance.
7. Exceptions:
  - a. Building additions and remodels subject to Type I Design Review are not required to set aside or improve civic space, though they are encouraged to do so.

**Response:** *These sections are not applicable.*

#### H. Lighting

Intent: To promote business vitality, public safety and aesthetics through effective outdoor lighting, consistent with the Sandy Style. (Figures 17.90.120-G, 17.90.120-H, and 17.90.120-M)

1. Streetscape lighting shall conform to Chapter 15.30 Dark Sky Ordinance.  
**Response:** *A Lighting Plan is included with the submittal package.*
2. Exterior lighting must be an integral part of the architectural design and must complement any ornamental street lighting and remain in context with the overall architectural character of the district. On-site light fixtures conforming to the Sandy Style are encouraged.  
**Response:** *All light fixtures will be full cutoff Sandy Style fixtures. The design of perimeter parking lot lighting will comply with the requirements of Chapter 15.30, Dark Sky Ordinance. Gooseneck light fixtures on the west and east elevations are proposed to light "The Riffle" sign and will be painted matte black.*
3. Lighting must be adequate for safety purposes. Walkways and parking lots should be illuminated at 1.5 - 2.0 foot candles.  
**Response:** *The photometric analysis is designed to comply with this standard.*

#### I. Safety and Security

Intent: To promote natural surveillance of public spaces for safety and security.

1. Locate windows in a manner that enables tenants, employees and police to watch over pedestrian, parking and loading areas.  
**Response:** *The proposed use involves both inside dining and outside food cart/ordering) components that will ensure all areas of the site are visible.*

*The applicant intends to install surveillance cameras to allow viewing of all areas around the building.*

2. In commercial, public and semipublic development, including civic spaces, locate windows in a manner that enables surveillance of interior activity from the public right-of-way.

**Response:** *As noted above, a civic space is not required and this section is not required.*

3. Provide street address numbers measuring a minimum of six (6) inches high, which clearly locates buildings and their entries for patrons and emergency services.

**Response:** *Street address numbers complying with this standard will be installed.*

4. Locate, orient and select on-site lighting to facilitate surveillance of on-site activities from the public right-of-way and other public areas.

**Response:** *The lighting plan will be designed to ensure the site is sufficiently lite to ensure safety and security.*

#### J. External Storage

Intent: To promote land use compatibility and aesthetics, particularly where development abuts public spaces. (Figure 17.90.120-K)

1. The exterior storage of merchandise and/or materials, except as specifically authorized as a permitted accessory use, is prohibited.

**Response:** *No exterior storage of merchandise or materials is proposed.*

2. Where such storage is allowed, it must be screened from view from public rights of way and civic spaces at least eight (8) feet and not more than 10 feet unless the screen is a continuation of the building wall.

**Response:** *This section is not applicable.*

3. Mechanical, electrical, and communications equipment including meters and transformers, service and delivery entrances, and garbage storage areas shall be screened from view from all public rights-of-way and civic spaces.

**Response:** *All mechanical equipment associated with the building will be located inside the building. Electrical and gas meters associated with the food carts will be either located on the garbage enclosure wall or a wall constructed next to this structure designed for this purpose. These facilities will not be visible from any public right-of-way or civic space.*

4. Trash collection and recycling storage areas must be located within the structure or otherwise screened from view in an enclosed facility. Such facilities must be screened from view from all public rights of way and civic spaces behind a screening wall constructed to match the materials used on the primary building(s) on the subject site.

**Response:** *The Site Plan shows the location of the proposed trash and recycling enclosure to the east of the southern bank of food carts. This enclosure will be constructed using complementary materials to the proposed structure and will be screened from view by the food carts and by plant materials as shown on the Landscape Plan.*

5. Exceptions to the above provisions may be allowed through Design Review where no other practical alternative exists and such equipment is made to be visually subordinate to the proposed building and landscape, for example, through the use of common materials for screening walls or landscape berms. The reviewing body may require additional setbacks, screening walls or other mitigation, for aesthetic reasons and to minimize odors or noise impacts on adjoining properties, public rights-of-way or civic spaces.

**Response:** *No exceptions to these standards are proposed or required.*

## **CHAPTER 17.92 LANDSCAPING AND SCREENING GENERAL STANDARDS - ALL ZONES**

**Response:** *As noted above, because of site constraints with the proposed stormwater detention facility and the nature of the proposed use, no onsite landscaping is proposed with this application. The proposal includes landscaping within the public right-of-way in the location of the removed approach on Proctor Blvd.*

### **17.92.10 GENERAL PROVISIONS**

- A. Where landscaping is required by this Code, detailed planting plans shall be submitted for review with development applications. No development may commence until the Director or Planning Commission has determined the plans comply with the purposes clause and specific standards in this chapter. All required landscaping and related improvements shall be completed or financially guaranteed prior to the issuance of a Certificate of Occupancy.

**Response:** *A Landscape Plan containing the details of the proposed landscape planting is included. The applicant understands that all required landscaping shall be completed or financially guaranteed prior to the issuance of a final Certificate of Occupancy.*

- B. Appropriate care and maintenance of landscaping on-site and landscaping in the adjacent public right-of-way is the right and responsibility of the property owner, unless City ordinances specify otherwise for general public and safety reasons. If street trees or other plant materials do not survive or are removed, materials shall be replaced in kind within 6 months.

**Response:** *All required landscape materials will be taken care of as specified in this section.*

- C. Significant plant and tree specimens should be preserved to the greatest extent practicable and integrated into the design of a development. Trees of 25-inches or greater circumference measured at a height of 4-1/2 ft. above grade are considered significant. Plants to be saved and methods of protection shall be

indicated on the detailed planting plan submitted for approval. Existing trees may be considered preserved if no cutting, filling, or compaction of the soil takes place between the trunk of the tree and the area 5-ft. outside the tree's drip line. Trees to be retained shall be protected from damage during construction by a construction fence located 5 ft. outside the dripline.

**Response:** *The subject property contains trees protected as part of the Twin Cedars Subdivision approval. All preserved trees on the site will be protected. These trees will be protected during construction by tree protection fencing as required.*

- D. Planter and boundary areas used for required plantings shall have a minimum diameter of 5-ft. (2-1/2 ft. radius, inside dimensions). Where the curb or the edge of these areas are used as a tire stop for parking, the planter or boundary plantings shall be a minimum width of 7-1/2 ft.

**Response:** *All planter areas have a minimum depth of five feet. All vehicle parking spaces adjacent to a landscape planter will include wheel stops to protect landscape materials as required.*

- E. In no case shall shrubs, conifer trees, or other screening be permitted within vision clearance areas of street, alley, or driveway intersections, or where the City Engineer otherwise deems such plantings would endanger pedestrians and vehicles.

**Response:** *The Landscape Plan will be modified as required to address vision clearance requirements necessary.*

- F. Landscaped planters and other landscaping features shall be used to define, soften or screen the appearance of off-street parking areas and other activity from the public street. Up to 35 percent of the total required landscaped area may be developed into pedestrian amenities, including, but not limited to sidewalk cafes, seating, water features, and plazas, as approved by the Director or Planning Commission.

**Response:** *A landscape planter is proposed at the end of all parking bays to help define and soften the appearance of these areas.*

- G. Required landscaping/open space shall be designed and arranged to offer the maximum benefits to the occupants of the development as well as provide visual appeal and building separation.

**Response:** *As noted above, about 41 percent of the site will contain either formal or natural landscaping. All landscaped areas are designed to enhance the appearance of the site to provide visual appeal and interest.*

- H. Balconies required for entrances and exits shall not be considered as open space except where such exits and entrances are for the sole use of the unit.

- I. Roofed structures shall not be included as open space except for open unenclosed public patios, balconies, gazebos, or other similar structures or spaces.

**Response:** *These sections are not applicable.*



J. Driveways and parking areas shall not be included as open space.

**Response:** *None of these areas are included in site landscaping calculations.*

K. All areas not occupied by paved roadways, walkways, patios, or buildings shall be landscaped.

**Response:** *As shown on the Landscape Plan all areas not occupied by buildings and paved surfaces will be landscaped or left in their natural condition.*

L. All landscaping shall be continually maintained, including necessary watering, weeding, pruning and replacing.

**Response:** *All landscaping is intended to be maintained as required.*

#### **17.92.20 MINIMUM IMPROVEMENTS - LANDSCAPING AND SCREENING**

The minimum landscaping area of a site to be retained in landscaping shall be as follows: C - 2 General Commercial - 20%

**Response:** *As shown on the Landscape Plan and Site Plan, the site contains both formal and natural landscape areas. About 30,776 square feet (41 percent) of the 1.72 acre total site is proposed to be in either formal or natural landscaping. The area of landscaping exceeds the 20 percent minimum landscaping required in the C-2 zone.*

#### **17.92.30 REQUIRED TREE PLANTINGS**

Planting of trees is required for all parking lots with 4 or more parking spaces, public street frontages, and along private drives more than 150 feet long. Trees shall be planted outside the street right-of-way except where there is a designated planting strip or City adopted street tree plan.

The City maintains a list of appropriate trees for street tree and parking lot planting situations. Selection of species should be made from the city-approved list. Alternate selections may be approved by the Director following written request. The type of tree used shall determine frequency of trees in planting areas. Trees in parking areas shall be dispersed throughout the lot to provide a canopy for shade and visual relief.

**Response:** *The proposed development contains more than four parking spaces. A Landscape Plan is included with the submitted plan set. This plan identifies all proposed formal landscaping. Other landscaped areas will be left in their natural condition.*

#### **17.92.40 IRRIGATION**

Landscaping shall be irrigated, either with a manual or automatic system, to sustain viable plant life.

**Response:** *All formal landscape areas will be irrigated using either a manual or automatic system. The details of this system will be determined with building plans.*

#### **17.92.50 TYPES AND SIZES OF PLANT MATERIALS**

- A. At least 75% of the required landscaping area shall be planted with a suitable combination of trees, shrubs, or evergreen ground cover except as otherwise authorized by Chapter 17.92.10 F.
- B. Plant Materials. Use of native plant materials or plants acclimatized to the Pacific Northwest is encouraged where possible.
- C. Trees shall be species having an average mature spread of crown greater than 15 feet and having trunks which can be maintained in a clear condition with over 5 feet of clear wood (without branches). Trees having a mature spread of crown less than 15 feet may be substituted by grouping the same so as to create the equivalent of a 15-foot crown spread.
- D. Deciduous trees shall be balled and burlapped, be a minimum of 7 feet in overall height or 1 1/2 inches in caliper measured 6 inches above the ground, immediately after planting. Bare root trees will be acceptable to plant during their dormant season.
- E. Coniferous trees shall be a minimum five feet in height above ground at time of planting.
- F. Shrubs shall be a minimum of 1 gallon in size or 2 feet in height when measured immediately after planting.
- G. Hedges, where required to screen and buffer off-street parking from adjoining properties shall be planted with an evergreen species maintained so as to form a continuous, solid visual screen within 2 years after planting.
- H. Vines for screening purposes shall be a minimum of 1 gallon in size or 30 inches in height immediate after planting and may be used in conjunction with fences, screens, or walls to meet physical barrier requirements as specified.
- I. Groundcovers shall be fully rooted and shall be well branched or leafed. If used in lieu of turf in whole or in part, ground covers shall be planted in such a manner as to provide complete coverage in one year.
- J. Turf areas shall be planted in species normally grown as permanent lawns in western Oregon. Either sod or seed are acceptable. Acceptable varieties include improved perennial ryegrasses and fescues used within the local landscape industry.
- K. Landscaped areas may include architectural features or artificial ground covers such as sculptures, benches, masonry or stone walls, fences, rock groupings, bark dust, decorative hard paving and gravel areas, interspersed with planted areas. The exposed area developed with such features shall not exceed 25% of the required landscaped area. Artificial plants are prohibited in any required landscape area.

*Response: The submitted Landscape Plan has been designed in accordance with the standards of this section. All trees deciduous trees will be at least 1.5-inch caliper, coniferous trees at five feet in height, shrubs will be one to five gallons, groundcover will be four inch pots and spaced 24-inches on-center as appropriate. The submitted Landscape Plan complies with these standards.*

#### **17.92.70 LANDSCAPING BETWEEN PUBLIC RIGHT-OF-WAY AND PROPERTY LINES**

Except for portions allowed for parking, loading, or traffic maneuvering, a required setback area abutting a public street and open area between the property line and the roadway in the public street shall be landscaped. That portion of the landscaping

within the street right-of-way shall not count as part of the lot area percentage to be landscaped.

*Response: Offsite landscaping is not counted toward required landscaping. No offsite areas are proposed to contain landscaping.*

#### **17.92.80 BUFFER PLANTING - PARKING, LOADING AND MANEUVERING AREAS**

Buffer plantings are used to reduce building scale, provide transition between contrasting architectural styles, and generally mitigate incompatible or undesirable views. They are used to soften rather than block viewing. Where required, a mix of plant materials shall be used to achieve the desired buffering effect. Buffering is required in conjunction with issuance of construction permits for parking areas containing 4 or more spaces, loading areas, and vehicle maneuvering areas.

Boundary plantings shall be used to buffer these uses from adjacent properties and the public right-of-way. On-site plantings shall be used between parking bays, as well as between parking bays and vehicle maneuvering areas. A balance of low-lying ground cover and shrubs, and vertical shrubs and trees shall be used to buffer the view of these facilities. Decorative walls and fences may be used in conjunction with plantings, but may not be used by themselves to comply with buffering requirements. Exception: truck parking lots are exempt from parking bay buffer planting requirements.

*Response: As shown on submitted plans, all parking spaces will be buffered by a landscaped planter.*

#### **17.92.90 SCREENING (HEDGES, FENCES, WALLS, BERMS)**

Screening is used where unsightly views or visual conflicts must be obscured or blocked and where privacy and security are desired. Fences and walls used for screening may be constructed of wood, concrete, stone, brick, and wrought iron, or other commonly used fencing/wall materials. Acoustically designed fences and walls are also used where noise pollution requires mitigation.

- A. Height and Opacity. Where landscaping is used for required screening, it shall be at least 6 ft. in height and at least 80 percent opaque, as seen from a perpendicular line of sight, within 2 years following establishment of the primary use of the site.
- B. Chain Link Fencing. A chain link fence with slats shall qualify for screening only if a landscape buffer is also provided in compliance with Section 17.92.00 above.
- C. Height Measurement. The height of hedges, fences, walls, and berm shall be measured from the lowest adjoining finished grade, except where used to comply with screening requirements for parking, loading, storage, and similar areas. In these cases, height shall be measured from the finished grade of such improvements. Screening is not permitted within vision clearance areas.
- D. Berms. Earthen berms up to 6 ft. in height may be used to comply with screening requirements. Slope of berms may not exceed 2:1 and both faces of the slope shall be planted with ground cover, shrubs, and trees.

*Response: No areas requiring screening are proposed or are warranted. As shown on the Site Plan, a fence is proposed around the perimeter of the food cart development and building to provide after hours security.*

#### **17.92.100 SCREENING OF SERVICE FACILITIES**

Site-obscuring shrubbery or a berm, wall or fence shall be placed along a property line between residential and commercial and industrial zones and around unsightly areas such as trash and recycling areas, gas meters, ground level air conditioning units, disc antennas exceeding 36 inches in diameter and equipment storage or an industrial or commercial use with outside storage of equipment or materials.

*Response: All service facilities are proposed to be screened with landscape materials as shown on the Landscape Plan.*

#### **17.92.110 OUTDOOR STORAGE**

All outdoor storage areas for commercial, industrial, public and semi-public uses are to be entirely screened by a sight obscuring fence, vegetative materials, or other alternative deemed appropriate by the Director. Exceptions to the preceding requirements include: new or used cars, cycles and trucks (but not including car parts or damaged vehicles); new or used boat sales; recreational vehicle sales; new or used large equipment sales or rentals; manufactured home

*Response: No outdoor storage is proposed.*

### **CHAPTER 17.98 PARKING, LOADING, AND ACCESS REQUIREMENTS**

#### **17.98.10 GENERAL PROVISIONS**

- A. Provision and Maintenance. The provision of required off-street parking for motor vehicles and bicycles, and loading facilities for motor vehicles is a continuing obligation of the property owners. Building permits or other permits will only be issued after review and approval of site plans showing location of permanent access, parking and loading facilities.
- B. Unspecified Requirements. Vehicle and bicycle parking requirements for uses not specified in this chapter shall be determined by the Director based upon the requirements of similar specified uses.
- C. New Structure or Use. When a structure is constructed or a new use of land is commenced, on-site vehicle and bicycle parking and loading spaces shall be provided in accordance with Section 17.98.20 below or as otherwise modified through a planned development or specific area plan.

*Response: All of these sections have been reviewed and the proposal addresses these requirements.*

- D. Alteration of Existing Structures. When an existing structure is altered to the extent that the existing use is intensified, on-site vehicle and bicycle parking shall be provided in the amount required for such intensification.
- E. Increased Intensity. When increased intensity requires no more than 2 vehicle spaces, no additional parking facilities shall be required. However, the effects of changes, additions, or enlargements shall be cumulative. When the net effect of one or more changes generates a need for more than two spaces, the additional

required spaces shall be provided. Additional spaces shall be required for the intensification but not for the original use.

- F. Change in Use. When an existing structure or use of land is changed in use from one use to another use as listed in Section 17.98.20 below and the vehicle and bicycle parking requirements for each use type are the same; no additional parking shall be required. However, where a change in use results in an intensification of use in terms of number of vehicle and bicycle parking spaces required, additional parking space shall be provided in an amount equal to the difference between the number of spaces required for the existing use and number of spaces required for the more intensive use.

**Response:** *These sections are not applicable as the proposal is for a new use and building. The site is currently vacant.*

- G. Time of Completion. Required parking spaces and loading areas shall be improved and available for use prior to issuance of a temporary occupancy and/or final building inspection.

**Response:** *All required parking will be constructed prior to temporary or final occupancy.*

- H. Inoperative Motor Vehicles. In any residential district, all motor vehicles incapable of movement under their own power or lacking legal registration shall be completely screened from public view.

- I. Truck Parking. In residential zoning districts, no overnight parking of trucks or other equipment on wheels or tracks exceeding a 1-ton capacity used in the conduct of a business activity shall be permitted except vehicles and equipment necessary for farming and truck gardening on the premises where such use is conducted.

- J. Mixed Uses. In the case of mixed uses, the total required vehicle and bicycle parking shall be the sum of requirements of individual uses computed separately.

- K. Conflicting Parking Requirements. When a building or use is planned or constructed in such a manner that more than one standard is applicable, the use that requires the greater number of parking spaces shall govern.

**Response:** *These sections are not applicable.*

- L. Availability of Parking Spaces. Required vehicle and bicycle parking spaces shall be unobstructed, available for parking of vehicles and bicycles of residents, customers, patrons, and employees only, and shall not be used for storage of vehicles or materials or for parking of vehicles and bicycles used in conducting the business or use and shall not be used for sale, repair, or servicing of any vehicle or bicycle.

**Response:** *All proposed vehicle and bicycle parking spaces will be available for customers, patrons, and employees only as required.*

- N. Location of Required Parking.

- 1. Off-street vehicle parking required for residential uses, except for residential uses in the Central Business District, shall be provided on the development site

of the primary structure. Except where permitted by 17.98.40 below, required parking for all other uses in other districts shall be provided on the same site as the use or upon abutting property.

2. May be utilized in the C-1 Zoning District to meet the minimum parking requirements as specified in Section 17.98.30 (B).
3. Bicycle parking required for all uses in all districts shall be provided on the development site in accordance with Section 17.98.160 below.

**Response:** *Vehicle parking will provided on both tax lot 1200, the site containing the building and food carts and on tax lot 1000 across the private drive from this facility. Bicycle parking is provided on tax lot 1200 under the building awning.*

- P. Fractions. When the sum of the required vehicle and bicycle parking spaces is a fraction of a space (0.5 or more of a space) a full space shall be required.

**Response:** *The calculation of required vehicle and bicycle parking has been rounded according to the requirements in this section.*

- Q. Maximum Parking Allowed. Commercial or Industrial zoned properties shall not be permitted to exceed the minimum off-street vehicle parking required by Section 17.98.20 by more than 30 percent.

**Response:** *Section 17.98.20 reviewed below requires 34 parking spaces. As shown on the Site Plan, 69 vehicle parking spaces are proposed exceeding minimum parking by 35 spaces. This number represent an increase of parking by about 103 percent over the minimum standard. For this reason, the applicant requests a Type III Special Variance to exceed the maximum parking allowed by this section as reviewed in Chapter 17.66.*

#### **17.98.20 OFF-STREET PARKING REQUIREMENTS**

- A. Off Street Parking Requirements. Off street parking shall conform to the following standards:

1. All square footage measurements are gross square feet of total floor area.
2. 18 lineal inches of bench shall be considered 1 seat.
3. Except as otherwise specified, parking for employees shall be provided based on 1 space per 2 employees for the largest shift in addition to required parking specified in Sections A6-A9 below.
4. Where less than 5 parking spaces are required, then only one bicycle space shall be required except as otherwise modified in Sections 5-9 below.
5. In addition to requirements for residential off street parking, new dwellings shall meet the on-street parking requirements in Section 17.98.200.

**Response:** *The proposal complies with these requirements as applicable.*

8.

Commercial Uses	Number of Parking Spaces	Number of Bicycle Spaces
Food Carts per Section 17.74.70(EE)(11)	1 per food cart	
Eating and drinking establishments	1 per 250 sq. ft., plus 1 per 2 employees	5% or 2 whichever is greater
<b>Required Parking</b>	<ul style="list-style-type: none"> <li>• 18 food carts = 18 spaces per Section 17.74.90(E)(11)</li> <li>• 3,600 sq. ft./250 = 14.4, rounded down to 14 spaces.</li> </ul>	
	Number of employees = 4/2 2 parking spaces required	
<b>Total Parking Required</b>	<b>18 + 14 + 2 = 34 spaces required</b>	34 x .05 = 1.7 (2 spaces required)
<b>Proposed Parking</b>	<b>69 spaces total ( 47 standard, 19 compact, and 3 ADA spaces)</b>	<b>4 spaces proposed (7 x .05 = 3.5)</b>

*Response: As shown on the table above, the 18 food carts and 3,600 square foot eating and drinking establishment building, require a minimum of 34 vehicle parking spaces and two bicycle parking spaces. This calculation is based on the size of the proposed building in addition to four employees anticipated on the largest shift. As shown on the Site Plan, 69 vehicle parking spaces (47 standard, 19 compact, three ADA spaces) and four bicycle parking spaces are proposed. As noted above, the applicant has requested a Type III Special to exceed the maximum parking standard in Section 17.98.10(Q) as reviewed in Chapter 17.66 above.*

**17.98.50 SETBACKS**

- A. Parking areas, which abut a residential zoning district, shall meet the setback of the most restrictive adjoining residential zoning district.
- B. Required parking shall not be located in a required front or side yard setback area abutting a public street except in industrial districts. For single family and two-family dwellings, required off-street parking may be located in a driveway.
- C. Parking areas shall be setback from a lot line adjoining a street the same distance as the required building setbacks. Regardless of other provisions, a minimum setback of 5 feet shall be provided along the property fronting on a public street. The setback area shall be landscaped as provided in this code.

*Response: No parking is proposed to abut a residential zone and no parking is proposed within a required front or side yard setback area.*

**17.98.60 DESIGN, SIZE AND ACCESS**

All off-street parking facilities, vehicular maneuvering areas, driveways, loading facilities, accessways, and private streets shall conform to the standards set forth in this section.

**A. Parking Lot Design.** All areas for required parking and maneuvering of vehicles shall have a durable hard surface such as concrete or asphalt.

*Response: All parking and maneuvering areas will be surfaced with asphalt.*

**B. Size of Space.**

1. A standard parking space shall be 9 feet by 18 feet.
2. A compact parking space shall be 8 feet by 16 feet.
3. Handicapped parking spaces shall be 13 feet by 18 feet. Accessible parking shall be provided for all uses in compliance with the requirements of the State of Oregon (ORS 447.233) and the Americans with Disabilities Act.
4. Parallel parking spaces shall be a length of 22 feet.
5. No more than 35 percent of the parking stalls shall be compact spaces.

*Response: All proposed parking spaces are designed in compliance with these standards. Twenty-two parking spaces (31 percent) are proposed as compact spaces in compliance with this standard.*

**C. Aisle Width.**

*Response: All proposed parking spaces comply with these standards.*

#### **17.98.70 ON-SITE CIRCULATION**

- A. Groups of more than three (3) parking spaces shall be permanently striped.
- B. Backing and Maneuvering. Except for a single family dwelling or two family dwelling, groups of more than 3 parking spaces shall be provided with adequate aisles or turnaround areas so that all vehicles enter the right-of-way (except for alleys) in a forward manner. Parking spaces shall not have backing or maneuvering movements for any of the parking spaces occurring across public sidewalks or within any public street, except as approved by the City Engineer. Evaluations of requests for exceptions shall consider constraints due to lot patterns and impacts to the safety and capacity of the adjacent public street, bicycle and pedestrian facilities.

*Response: All proposed parking will be permanently striped and the site has sufficient space to allow for all vehicles to turn-around to exit the site in a forward manner. No vehicles spaces are located near a public right-of-way.*

#### **17.98.80 ACCESS TO ARTERIAL AND COLLECTOR STREETS**

- A. Location and design of all accesses to and/or from arterials and collectors (as designated in the Transportation System Plan) are subject to review and approval by the City Engineer. Where practical, access from a lower functional order street may be required. Accesses to arterials or collectors shall be located a minimum of 150 ft. from any other access or street intersection. Exceptions may be granted by the City Engineer. Evaluations of exceptions shall consider posted speed of the street on which access is proposed, constraints due to lot patterns, and effects on safety and capacity of the adjacent public street, bicycle and pedestrian facilities.
- B. No development site shall be allowed more than one access point to any arterial or collector street (as designated in the Transportation System Plan) except as



approved by the City Engineer. Evaluations of exceptions shall consider posted speed of street on which access is proposed, constraints due to lot patterns, and effects on safety and capacity of the adjacent public street, bicycle and pedestrian facilities.

- C. When developed property is to be expanded or altered in a manner that significantly affects on-site parking or circulation, both existing and proposed accesses shall be reviewed under the standards in A and B above. As a part of an expansion or alteration approval, the City may require relocation and/or reconstruction of existing accesses not meeting those standards.

*Response: Highway 26 is classified as a Major Arterial. Although Kate Schmitz Avenues is classified as a Collector Street, this right-of-way is currently unimproved. The subject properties will be access from either the private drive constructed and permitted as part of the Twin Cedars Subdivision or from the west through the existing shopping center. A traffic signal is located to the west of the site that can be accessed through this shopping center. A traffic impact study is included with the application package.*

#### **17.98.100 DRIVEWAYS**

- A. A driveway to an off-street parking area shall be improved from the public roadway to the parking area a minimum width of 20 feet for a two-way drive or 12 feet for a one-way drive but in either case not less than the full width of the standard approach for the first 20 feet of the driveway.
- B. A driveway for a single-family dwelling shall have a minimum width of 10 feet.
- C. A driveway for a two-family dwelling shall have a minimum width of 20 feet. A driveway approach must be constructed in accordance with applicable city standards and the entire driveway must be paved with asphalt or concrete.
- D. Driveways, aisles, turnaround areas and ramps shall have a minimum vertical clearance of twelve feet for their entire length and width but such clearance may be reduced in parking structures.
- E. No driveway shall traverse a slope in excess of 15 percent at any point along the driveway length.
- F. The location and design of the driveway shall provide for unobstructed sight per the vision clearance requirements. Requests for exceptions to these requirements will be evaluated by the City Engineer considering the physical limitations of the lot and safety impacts to vehicular, bicycle, and pedestrian traffic.

*Response: Both tax lots will be accessed by an existing private drive developed as part of the subdivision improvements or from the shopping center access to the west of the site. The proposal complies with the minimum standards in this section.*

#### **17.98.110 VISION CLEARANCE**

- A. Except within the Central Business District, vision clearance areas shall be provided at intersections of all streets and at intersections of driveways and alleys with streets to promote pedestrian, bicycle, and vehicular safety. The extent of vision clearance to be provided shall be determined from standards in Chapter 17.74 and taking into account functional classification of the streets involved,

type of traffic control present at the intersection, and designated speed for the streets.

- B. Traffic control devices, streetlights, and utility installations meeting approval by the City Engineer are permitted within vision clearance areas.

*Response: None of these items are within vision clearance areas.*

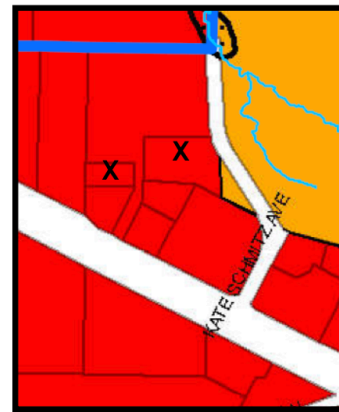
#### **17.98.120 LANDSCAPING AND SCREENING**

- A. Screening of all parking areas containing 4 or more spaces and all parking areas in conjunction with an off-street loading facility shall be required in accordance with zoning district requirements and Chapter 17.98. Where not otherwise specified by district requirement, screening along a public right-of-way shall include a minimum 5-ft. depth of buffer plantings adjacent to the right-of-way.

*Response: The proposal includes 69 parking spaces. All parking spaces are located a considerable distance from a public right-of-way and additional screening has not been identified. The proposal complies with this standard.*

- B. When parking in a commercial or industrial district adjoins a residential zoning district, a sight-obscuring screen that is at least 80% opaque when viewed horizontally from between 2 and 8 feet above the average ground level shall be required. The screening shall be composed of materials that are an adequate size so as to achieve the required degree of screening within 3 years after installation.

*Response: As shown on the diagram to the right, the subject property abuts a small sliver of R-3 zoned property that is a remnant when the Kate Schmitz right-of-way was dedicated by the Oregon Trail School as part of a former land use action. The size and location of this property is likely to remain undeveloped under this zone for many years. For this reason, compliance with this section is not required.*



- C. Except for a residential development which has landscaped yards, parking facilities shall include landscaping to cover not less than 10% of the area devoted to parking facilities. The landscaping shall be uniformly distributed throughout the parking area and may consist of trees, shrubs, and ground covers.

*Response: The Landscape Plan shows landscaping within and along the edge of all paved areas.*

- D. Parking areas shall be divided into bays of not more than 20 spaces in parking areas with 20 or more spaces. Between, and at the end of each parking bay, there shall be planters that have a minimum width of 5 feet and a minimum length of 17 feet for a single depth bay and 34 feet for a double bay. Each planter shall contain one major structural tree and ground cover. Truck parking and loading areas are exempt from this requirement.

**Response:** All parking areas are divided into bays containing fewer than 20 parking spaces. A planter in compliance with this section is proposed at each end of all parking bays.

- E. Parking area setbacks shall be landscaped with major trees, shrubs, and ground cover as specified in Chapter 17.92.

**Response:** As shown on the submitted Landscape Plan, all parking area setbacks will be landscaped in compliance with Chapter 17.92.

- F. Wheel stops, bumper guards, or other methods to protect landscaped areas shall be provided. No vehicle may project over a property line or a public right-of-way. Parking may project over an internal sidewalk, but a minimum clearance of 5 feet for safe pedestrian circulation is required.

**Response:** As shown on the Site Plan, wheel stops are proposed in front of all parking spaces to prevent vehicles from encroaching on sidewalks and landscaping.

#### **17.98.130 PAVING**

- A. Parking areas, driveways, aisles and turnarounds shall be paved with concrete, asphalt or comparable surfacing, constructed to city standards for off-street vehicle areas.
- B. Gravel surfacing shall be permitted only for areas designated for non-motorized trailer or equipment storage, propane or electrically powered vehicles, or storage of tracked vehicles.

**Response:** As shown on submitted plans all driving surfaces will be paved with asphalt.

#### **17.98.140 DRAINAGE**

Parking areas, aisles and turnarounds shall have adequate provisions made for the on-site collection of drainage waters to eliminate sheet flow of such waters onto sidewalks, public rights-of-way and abutting private property.

**Response:** A preliminary stormwater management plan is provided as part of the application package. This plan has been designed in accordance with the City of Sandy Stormwater Management requirements. As shown on the submitted Utility Plan all roof and parking lot stormwater water will be routed to the proposed stormwater detention tank.

#### **17.98.150 LIGHTING**

Artificial lighting shall be provided in all required off-street parking areas. Lighting shall be directed into the site and shall be arranged to not produce direct glare on adjacent properties. Light elements shall be shielded and shall not be visible from abutting residential properties. Lighting shall be provided in all bicycle parking areas so that all facilities are thoroughly illuminated and visible from adjacent sidewalks or vehicle parking lots during all hours of use.

*Response: As noted above, the applicant proposes installing new lighting to illuminate the site. All site lighting will be designed and installed in accordance with Chapter 15.30, Dark Sky Ordinance standards.*

#### **17.98.160 BICYCLE PARKING FACILITIES**

Multi-family developments, industrial, commercial and community service uses, transit transfer stations, and park and ride lots shall meet the following standards for bicycle parking facilities. The intent of this section is to provide secure bicycle parking that is visible from a building's primary entrance and convenient to bicyclists.

##### **A. Location.**

1. Bicycle parking shall be located on-site, convenient to primary building entrances, and have direct access to both the public right-of-way and to the main entrance of the principal structure.
2. Bicycle parking areas shall be visible from building interiors where possible.
3. For facilities with multiple buildings or parking lots, bicycle parking shall be located in areas of greatest use and convenience to bicyclists.
4. If the bicycle parking area is located within the vehicle parking area, the bicycle facilities shall be separated from vehicular maneuvering areas by curbing or other barrier to prevent damage to parked bicycles.
5. Curb cuts shall be installed to provide safe, convenient access to bicycle parking areas.

*Response: A ranch to accommodate four bicycle parking spaces is provided under the awning on the south side of the building. This proposal complies with this standard.*

##### **B. Bicycle Parking Space Dimensions.**

1. Each required bicycle parking space shall be at least 2 1/2 feet by 6 feet. If covered, vertical clearance of 7 feet must be provided.
2. An access aisle of at least 5 feet wide shall be provided and maintained beside or between each row of bicycle parking. Vertical or upright bicycle storage structures are exempted from the parking space length.

*Response: The four proposed bicycle parking spaces comply with the space dimension requirements of this section.*

##### **C. Security.**

1. Bicycle parking facilities shall offer security in the form of either a lockable enclosure in which the bicycle can be stored or a stationary object (i.e., a "rack") upon which the bicycle can be located.
2. Racks requiring user-supplied locks shall accommodate both cable and U-shaped locks. Racks shall be designed and installed to permit the frame and both wheels to be secured, with removal of the front wheel, or the frame and one wheel to be secured, if both wheels remain on the bicycle.
3. Bicycle racks shall be securely anchored to the ground or a structure and shall be designed to hold bicycles securely by means of the bicycle frame.
4. All outdoor bicycle parking facilities shall provide adequate shelter from precipitation where possible.

*Response: Proposed bicycle parking includes an anchored rack so that bicycles can be securely locked. These spaces will be provided with weather protection by the awning overhang.*

#### **17.98.190 OFF-STREET LOADING FACILITIES**

- A. The minimum area required for commercial and industrial loading spaces is as follows:
  - 1. 250 square feet for buildings of 5,000 to 19,999 square feet of gross floor area.
  - 2. 500 square feet for buildings of 20,000 to 49,999 square feet of gross floor area
  - 3. 750 square feet for buildings in excess of 50,000 square feet of gross floor area.
- B. The required loading berth shall be not less than 10 feet in width by 35 feet in length and shall have an unobstructed height clearance of 14 feet.
- C. Loading areas shall be screened from public view from public streets and adjacent properties except in industrial districts and shall require the same screening as parking lots.
- D. Sufficient space for turning and maneuvering of vehicles shall be provided on the site in accordance with the standard specifications established by the City Engineer.
- E. Entrances and exits shall be provided at locations approved in accordance with applicable ordinances and statutes.
- F. No off-street loading facilities shall be required where buildings abut a public alley in such a manner that loading operations can be conducted from said alley in accordance with applicable traffic and parking ordinances.

*Response: The proposed use does not warrant a separate designated loading area.*

### **CHAPTER 17.102 - URBAN FORESTRY**

#### **17.102.20 - APPLICABILITY**

This chapter applies only to properties within the Sandy Urban Growth Boundary that are greater than one acre including contiguous parcels under the same ownership.

- A. General: No person shall cut, harvest, or remove trees 11 inches DBH or greater without first obtaining a permit and demonstrating compliance with this chapter.
  - 1. As a condition of permit issuance, the applicant shall agree to implement required provisions of this chapter and to allow all inspections to be conducted.
  - 2. Tree removal is subject to the provisions of Chapter 15.44, Erosion Control, Chapter 17.56, Hillside Development, and Chapter 17.60 Flood and Slope Hazard.

*Response: The standards of this chapter are applicable to the proposed development. Tree preservation on the subject property was required as part of the Twin Cedars Subdivision approval and a Restrictive Covenant (Document Nos. 2005-083010 and 2005-082102) was recorded with this project. Sheet 3 of this document identifies trees preserved on tax lot 1200. The original tree protection covenant showed 25 trees to be protected. A current Inventory of the site reveals only 11 of these trees remain on the property. The applicant is engaged in contract to purchase the property from the original owner and*

*has no knowledge as to the reasons fewer than the required tree count remains. With this in mind, the owner Mt. Hood Athletic Club (former owner of subject property) has indicated his willingness to protect an additional 14 trees on the lot containing the athletic club (tax lot 1100). A Tree Survey showing both onsite and offsite trees and a detailed tree inventory are included with the application package. The applicant is aware a new Tree Protection Restrictive Covenant showing these trees will need to be recorded as a Condition of Approval of the subject application.*

#### **17.102.50 - TREE RETENTION AND PROTECTION REQUIREMENTS**

- A. Tree Retention: The landowner is responsible for retention and protection of trees required to be retained as specified below:
1. At least three trees 11 inches DBH or greater are to be retained for every one-acre of contiguous ownership.
  2. Retained trees can be located anywhere on the site at the landowner's discretion before the harvest begins. Clusters of trees are encouraged.
  3. Trees proposed for retention shall be healthy and likely to grow to maturity, and be located to minimize the potential for blow-down following the harvest.
  4. If possible, at least two of the required trees per acre must be of conifer species.
  5. Trees within the required protected setback areas may be counted towards the tree retention standard if they meet these requirements.

*Response: All protected trees on the site will be retained and protected.*

- B. Tree Protection Area: Except as otherwise determined by the Planning Director, all tree protection measures set forth in this section shall be instituted prior to any development activities and removed only after completion of all construction activity. Tree protection measures are required for land disturbing activities including but not limited to tree removal, clearing, grading, excavation, or demolition work.
1. Trees identified for retention shall be marked with yellow flagging tape and protected by protective barrier fencing placed no less than 10 horizontal feet from the outside edge of the trunk.
  2. Required fencing shall be a minimum of six feet tall supported with metal posts placed no farther than ten feet apart installed flush with the initial undisturbed grade.
  3. No construction activity shall occur within the tree protection zone, including, but not limited to dumping or storage of materials such as building supplies, soil, waste items, equipment, or parked vehicles.

*Response: The submitted tree protection plan indicates that retained trees are proposed to be protected in accordance with the requirements of this section.*

#### **17.102.60 - TREE REPLANTING REQUIREMENTS**

1. All areas with exposed soils resulting from tree removal shall be replanted with a ground cover of native species within 30 days of harvest during the active growing season, or by June 1st of the following spring.
2. All areas with exposed soils resulting from tree removal occurring between October 1 and March 31 shall also be covered with straw to minimize erosion.
3. Removal of hazard trees as defined shall be replanted with two native trees of quality nursery stock for every tree removed.
4. Tree Removal allowed within the FSH Overlay District shall be replanted with two native trees of quality nursery stock for every tree removed.
5. Tree Removal not associated with a development plan must be replanted following the provisions of OAR Chapter 629, Division 610, Section 020-060  
*Response: The requirements of this section are not applicable to the proposal.*

**17.102.70 - VARIANCES**

*Response: The submitted plan is designed in compliance with the standards in this chapter and a variance to these standards is not requested or required.*

**CHAPTER 15.30 - DARK SKY ORDINANCE**

15.30.000 Purpose.

The purpose of the Sandy Dark Sky Ordinance is to regulate outdoor lighting in order to reduce or prevent light pollution. This means to the extent reasonably possible the reduction or prevention of glare and light trespass, the conservation of energy, and promotion of safety and security. (Ord. 2002-11)

*Response: All new light fixtures will be designed and installed in accordance with these regulations. A photometric analysis and lighting fixture cut-sheets are included with the application package.*

**V. Conclusion**

The applicant, Todd Hoffman requests land use approval to construct “The Riffle” food cart court. The subject property is located at 37115 and 37133 Highway 26, Sandy, OR (24E14BA tax lots 1000 and 1200). The property is accessed by a private drive off Highway 26 created as part of the Twin Cedars Subdivision Improvements. An additional access is provided through the shopping center west of the site. Tax lot 1200 on the east side of the private drive borders a small portion of the unimproved Kate Schmitz Avenue right-of-way. This tax lot also contains several trees protected as part of the subdivision approval. No protected trees are proposed to be removed with development of the site. Tax lot 1000 directly west of tax lot 1200, on the west side of the drive, does not contain any protected trees.

Development on tax lot 1200 includes the construction of 18 food cart pads with utilities to accommodate food carts. In addition, a 3,600 square foot building to contain beverage service and dining tables and a separate restroom building will be constructed. Vehicle and bicycle parking will be provided on both tax lot 1200 with the building and on tax lot 1000 across the private drive from the building.

As reviewed in this narrative, the proposal complies with all relevant code criteria with the exception of the following sections:

- Section 17.74.40(B)(4) maximum 8-foot wall height in a side yard;
- Section 17.44.30 maximum 50 foot front setback;
- Section 17.90.120(D)(1) building orientation and percent of street frontage including buildings; and,
- Section 17.90.120(D)(3) requiring ground floor spaces to face a public street or civic space: and,
- Section 17.98.10(Q) maximum allowed parking.

For the reasons discussed in Chapter 17.66 above, the applicant requests approval of a Type II Adjustment to Section 17.74.40(B)(4), two Type II Variances to Sections 17.44.30 and 17.90.120(D)(1), a Type III Design Deviations to Section 17.90.120(D)(3), and a Type III Special Variance to Section 17.98.10(Q).

As shown on submitted plans and demonstrated in this narrative, the proposal complies with all applicable code sections and the applicant requests the application be approved.



**The Riffle**  
**File No. 22-012**  
**Supplemental Narrative**

**Section 17.66.80 - TYPE III SPECIAL VARIANCES**

The Planning Commission may grant a special variance waiving a specified provision for under the Type III procedure if it finds that the provision is unreasonable and unwarranted due to the specific nature of the proposed development. In submitting an application for a Type III Special Variance, the proposed development explanation shall provide facts and evidence sufficient to enable the Planning Commission to make findings in compliance with the criteria set forth in this section while avoiding conflict with the Comprehensive Plan.

**Response:** *The applicant requests the following additional Special Variances as reviewed below.*

- *Section 17.74.40(B)(2) to exceed the 4-foot tall wall and fence standard in a commercial front yard.*
- *Section 17.90.12(G) regarding the provision of civic space.*

**Special Variance - Section 17.74.40(B)(2)**

One of the following sets of criteria shall be applied as appropriate.

A. The unique nature of the proposed development is such that:

1. The intent and purpose of the regulations and of the provisions to be waived will not be violated; and

**Response:** *The applicant requests a Special Variance to exceed the maximum height of a wall or fence allowed in a front yard. Section 17.74.40(B)(2) requires the height of a fence or wall in the front yard of commercial developments shall not exceed four feet. The eastern property line of tax lot 1200 is considered the front line/yard because this is the only property line abutting a public right-of-way. As shown on submitted plans a 2-6-foot wall is needed to hold up a portion of the building site and a 5-foot fence is proposed in this yard for security purposes. The proposed wall and fence will be located about 160 - 180 feet west of and about 15 - 20 feet higher than the Kate Schmitz unimproved right-of-way. The Development Code does not state the intent of this standard but it is assumed the standard has to do with the aesthetic appearance of the front yard and the building. Given the unique location and physical conditions of the proposal, approval of this request will not violate the intent of this code. The proposal complies with this criteria.*

2. Authorization of the special variance will not be materially detrimental to the public welfare and will not be injurious to other property in the area when compared with the effects of development otherwise permitted.

**Response:** *The proposed wall and fence will be located approximately 160 - 180 feet from the front lot line adjacent to the unimproved Kate Schmitz right-of-way. The proposal will have no affect on the public welfare or will it be injurious*

to other property in the area. Approval of this request is necessary to develop the site as proposed given required tree protection and to provide safety and security to owners of the food carts on the site. The proposal complies with this criteria.

- B. The variance approved is the minimum variance needed to permit practical compliance with a requirement of another law or regulation.  
**Response:** *The requested variance is the minimum needed to allow development of the site as proposed and to provide security for the site. The subject property is located next to a densely wooded area to the east and the applicant is concerned this location requires the proposed fencing. The proposal complies with this criteria.*
- C. When restoration or replacement of a nonconforming development is necessary due to damage by fire, flood, or other casual or natural disaster, the restoration or replacement will decrease the degree of the previous noncompliance to the greatest extent possible.  
**Response:** *The proposed use is a new use and this criteria is not applicable.*

**Special Variance - Section 17.90.120(G)**

One of the following sets of criteria shall be applied as appropriate.

- A. The unique nature of the proposed development is such that:
1. The intent and purpose of the regulations and of the provisions to be waived will not be violated; and  
**Response:** *The applicant requests a Special Variance to Section 17.90.120(G) requiring commercial developments in the C-2 zone to provide not less than three percent of the development area as improved civic space and contains specific details regarding the location and required amenities to be provided with the civic space. This standard requires civic space to abut a public right-of-way or otherwise be connected to and visible from a right-of-way. As noted in the narrative submitted with this application and shown submitted plan, the proposed building is located a considerable distance from any public right-of-way and no location exists on the site meeting the requirements of this section. For this reason, the applicant believes a finding can be written exempting the project from this standard. Regardless, the applicant is submitting this Special Variance requesting relief from complying with this standard. Given the unique location and physical conditions of the subject property, approval of this request will not violate the intent of this code. The proposal complies with this criteria.*
  2. Authorization of the special variance will not be materially detrimental to the public welfare and will not be injurious to other property in the area when compared with the effects of development otherwise permitted.  
**Response:** *The request to exempt the application from being required to provide civic space will not affect the public welfare or will it be injurious to other property in the area. As shown on submitted plans, the proposed building is*

*located a considerable distance from a public right-of-way and not adjacent to significant future developable property. In addition, requiring provision of civic space next to or near the unimproved Katie Schmitz right-of-way will be upwards of 160 feet from the proposed building in an area hidden by trees, with little visibility. The proposal complies with this criteria.*

- B. The variance approved is the minimum variance needed to permit practical compliance with a requirement of another law or regulation.

***Response:*** *Given the unique challenges with developing the site, the requested Special Variance to exempt the development from providing civic space is the minimum variance needed to accommodate the development. The proposal complies with this criteria.*

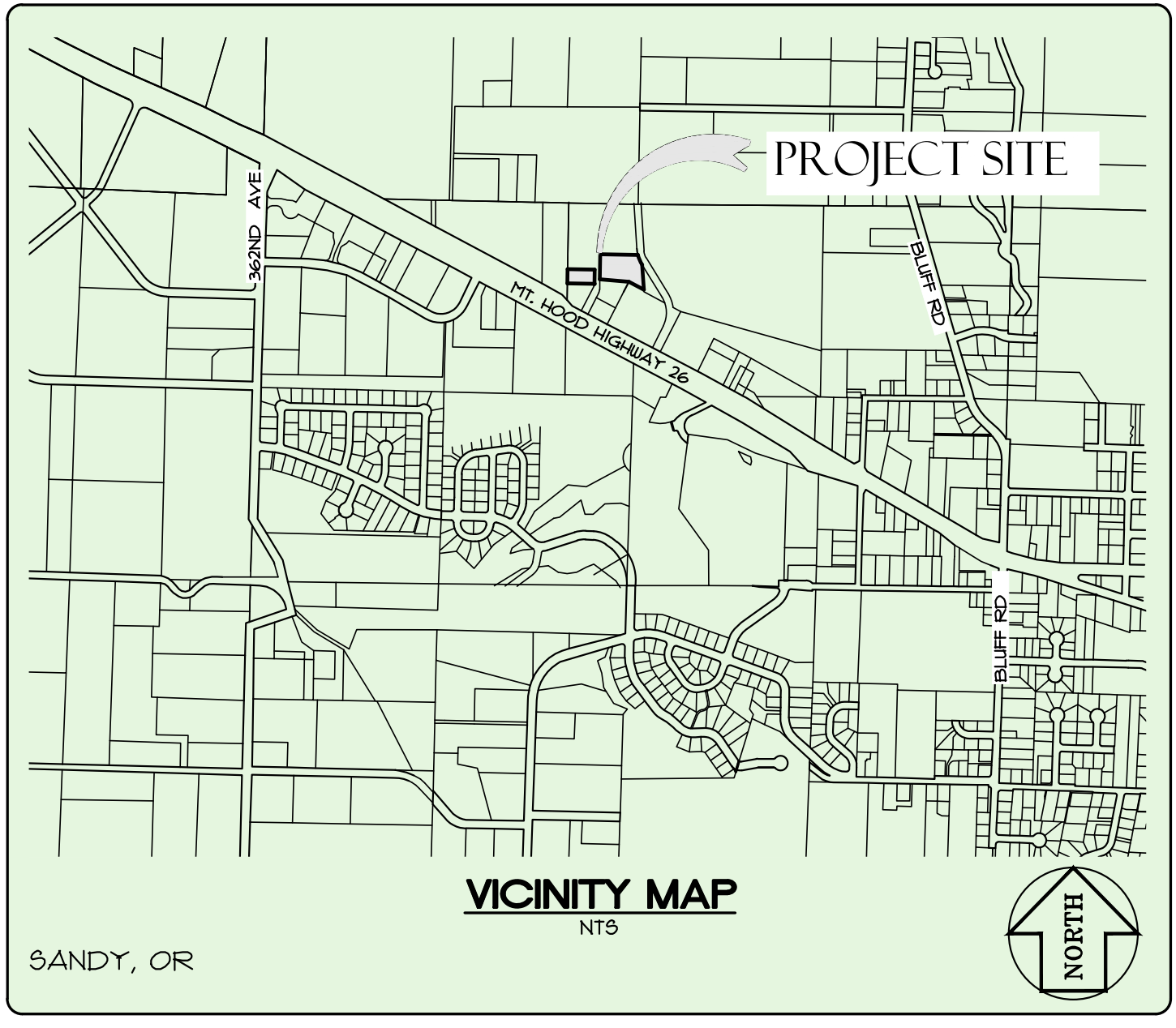
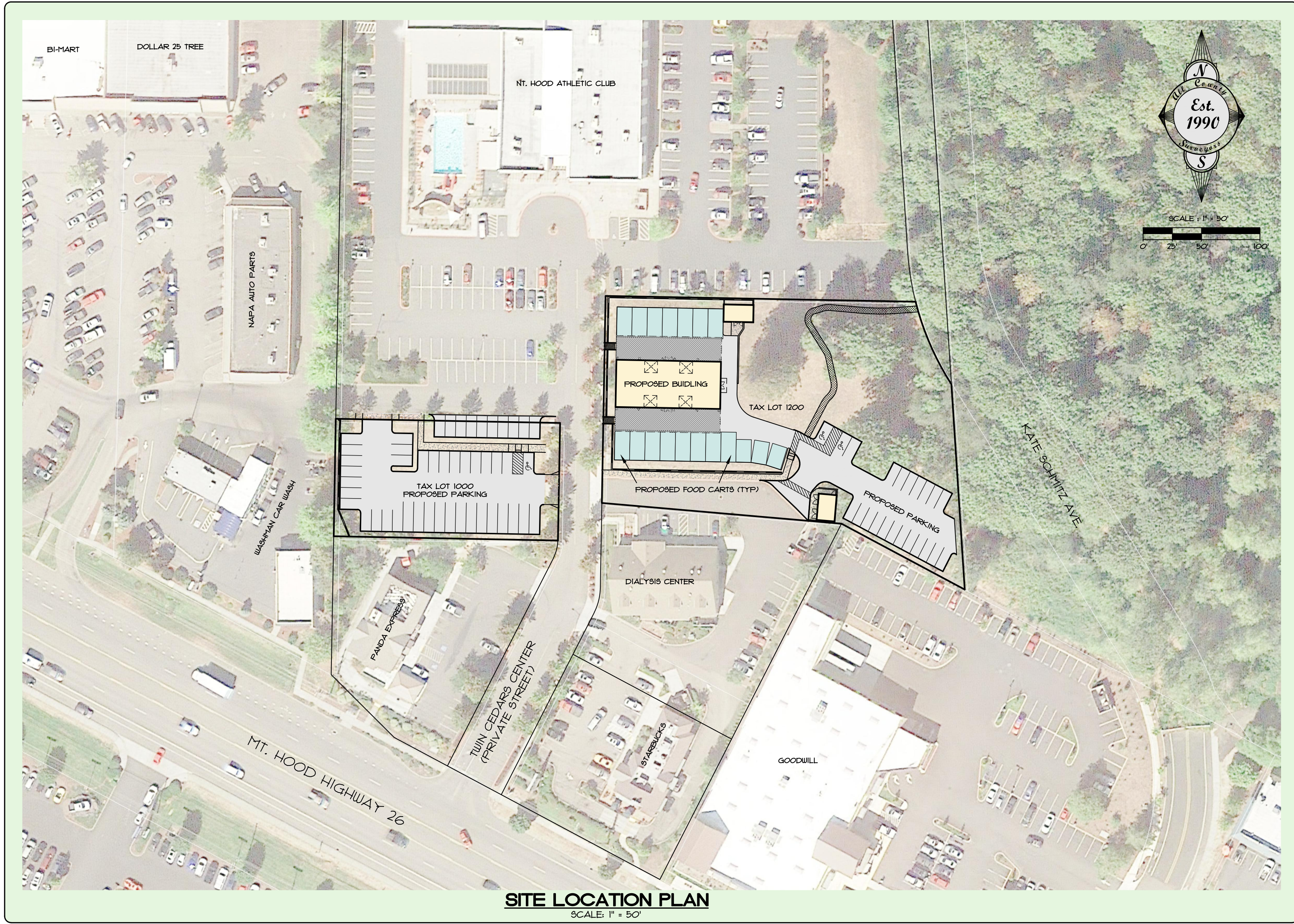
- C. When restoration or replacement of a nonconforming development is necessary due to damage by fire, flood, or other casual or natural disaster, the restoration or replacement will decrease the degree of the previous noncompliance to the greatest extent possible.

***Response:*** *The proposed use is a new use and this criteria is not applicable.*

# EXHIBIT C THE RIFFLE FOOD CARTS

## A PREMIER 18-SPACE FOOD CART COURT IN SANDY OREGON

MARCH 2022



**SHEET INDEX**

C1	COVER SHEET
C2	TOPOGRAPHIC SURVEY
C3	OVERALL SITE PLAN
C4	BUILDING SETBACKS
C5	DETAILED SITE PLAN
C6	PRELIMINARY UTILITY PLAN
C7	PRELIMINARY GRADING AND STORMWATER PLAN
C8	TREE SURVEY (ONSITE)
C9	TREE SURVEY (OFF-SITE)
C10	DETAILED TREE INFORMATION

**PROPOSAL:**  
THE PROPOSED USE WILL BE A 18-SPACE FOOD CART COURT AND 40' X 30' BUILDING WITH 22 PARKING SPACES ON TAX LOT 1200. TAX LOT 1000 WILL CONSIST OF AN ADDITIONAL 41 PARKING SPACES FOR A TOTAL OF 63 PARKING SPACES.

**SITE ANALYSIS DATA**

BUILDING SITE (TAX LOT 1200)		
TYPE	LOT COVERAGE (SF)	LOT COVERAGE (%)
Total Site Area =>	56,188.00	100%
Buildings (including garbage structure) =>	4,312.72	8%
Other Impervious Surfaces (Parking Lot, Sidewalks) =>	24,920.00	44%
Landscaping - Improved Area =>	2,514.00	4%
Landscaping - Natural Areas =>	24,441.28	43%

PARKING LOT SITE (TAX LOT 1000)		
TYPE	LOT COVERAGE (SF)	LOT COVERAGE (%)
Total Site Area =>	18,881.00	100%
Buildings =>	0.00	0%
Other Impervious Surfaces (Parking Lot, Sidewalks) =>	15,060.00	80%
Landscaping - Improved Area =>	3,821.00	20%
Landscaping - Natural Areas =>	0.00	0%

TAX LOT 1000 and 1200 COMBINED		
TYPE	LOT COVERAGE (SF)	LOT COVERAGE (%)
Total Site Area =>	75,069.00	100%
Buildings =>	4,312.72	6%
Other Impervious Surfaces (Parking Lot, Sidewalks) =>	39,980.00	53%
Landscaping - Improved Area =>	6,335.00	8%
Landscaping - Natural Areas =>	24,441.28	33%

**SITE INFORMATION:**

**BUILDING SITE:**  
OWNER: TODD HOFFMAN  
ADDRESS: 31133 HIGHWAY 26, SANDY OR  
TAX LOT 1200, MAP 25 4E 14BA  
AREA: 56,188 SF (1.23 AC)  
ZONING: C2 (GENERAL COMMERCIAL)

**PARKING LOT SITE:**  
OWNER: TODD HOFFMAN  
ADDRESS: 31115 HIGHWAY 26, SANDY OR  
TAX LOT 1000, MAP 25 4E 14BA  
OWNER: 18,881 SF (0.43AC)  
ZONING: C2 (GENERAL COMMERCIAL)

**PROJECT TEAM:**

**CLIENT**  
TODD HOFFMAN  
PO BOX 1016  
SANDY, OR 97055  
PHONE: (503) 863-1131

**ENGINEER/SURVEYOR**  
ALL COUNTY SURVEYORS & PLANNERS, INC.  
ATTN: RAY MOORE, PE, FLS  
PO BOX 955  
SANDY, OR 97055  
PHONE: (503) 668-3151

**PLANNER:**  
TRACY BROWN PLANNING CONSULTANTS, LLC  
ATTN: TRACY BROWN  
11015 FIR DRIVE  
SANDY, OR 97055  
PHONE: (503) 781-0453

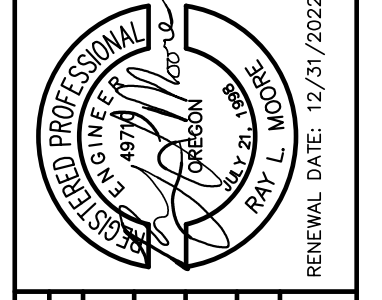
**ARCHITECT:**  
KEYSTONE ARCHITECTURE  
ATTN: BLAINE SKOUMIDE  
12020 SE IDLEMAN RD.  
PORTLAND, OR 97266-6854  
PHONE: (503) 761-1362

**LANDSCAPE ARCHITECT**  
MEARS DESIGN GROUP, LLC  
ATTN: TROY MEARS  
PO BOX 23338  
PORTLAND, OR 97281  
PHONE: (503) 601-4516

**ARBORIST**  
TERAGAN & ASSOCIATES, INC.  
ATTN: TODD PRAGER  
ASCA REGISTERED CONSULTING ARBORIST #591  
3145 WESTVIEW CIRCLE  
LAKE OSWEGO, OR 97034  
PHONE: (971) 295-4835

**TRAFFIC ENGINEER**  
LANCASTER MOBLEY  
ATTN: DANIEL STUMPF, PE  
TODD E. MOBLEY, PE, PTOE  
321 SW 4TH AVE, SUITE 400  
PORTLAND, OR 97204  
PHONE: (503) 862-6360

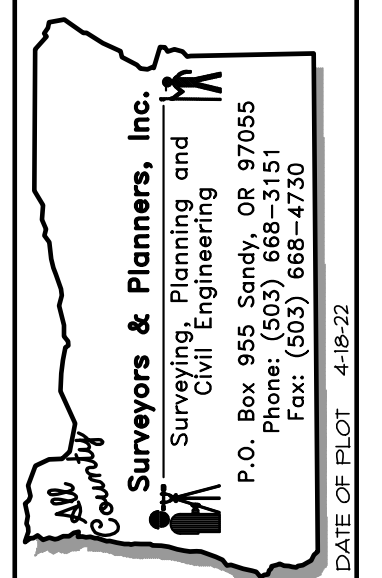
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REVISION		C1
NO.		OF 10
DATE		DESIGNED: RLM
		DRAWN: RLM
		CHECKED: DLH
		APPROVED: RLM



SCALE	N/A	VERT.	N/A	LEGAL	
HORIZ.	1" = 50'	DATE:	4-18-22	TWP.	RANGE
FILE:	21-032 - Planning.dwg	SECTION	14	14	25
					4E

**PROJECT:** THE RIFFLE FOOD CARTS  
COVER SHEET

**LOCATION:** TWIN CEDARS CENTER, SANDY, OREGON

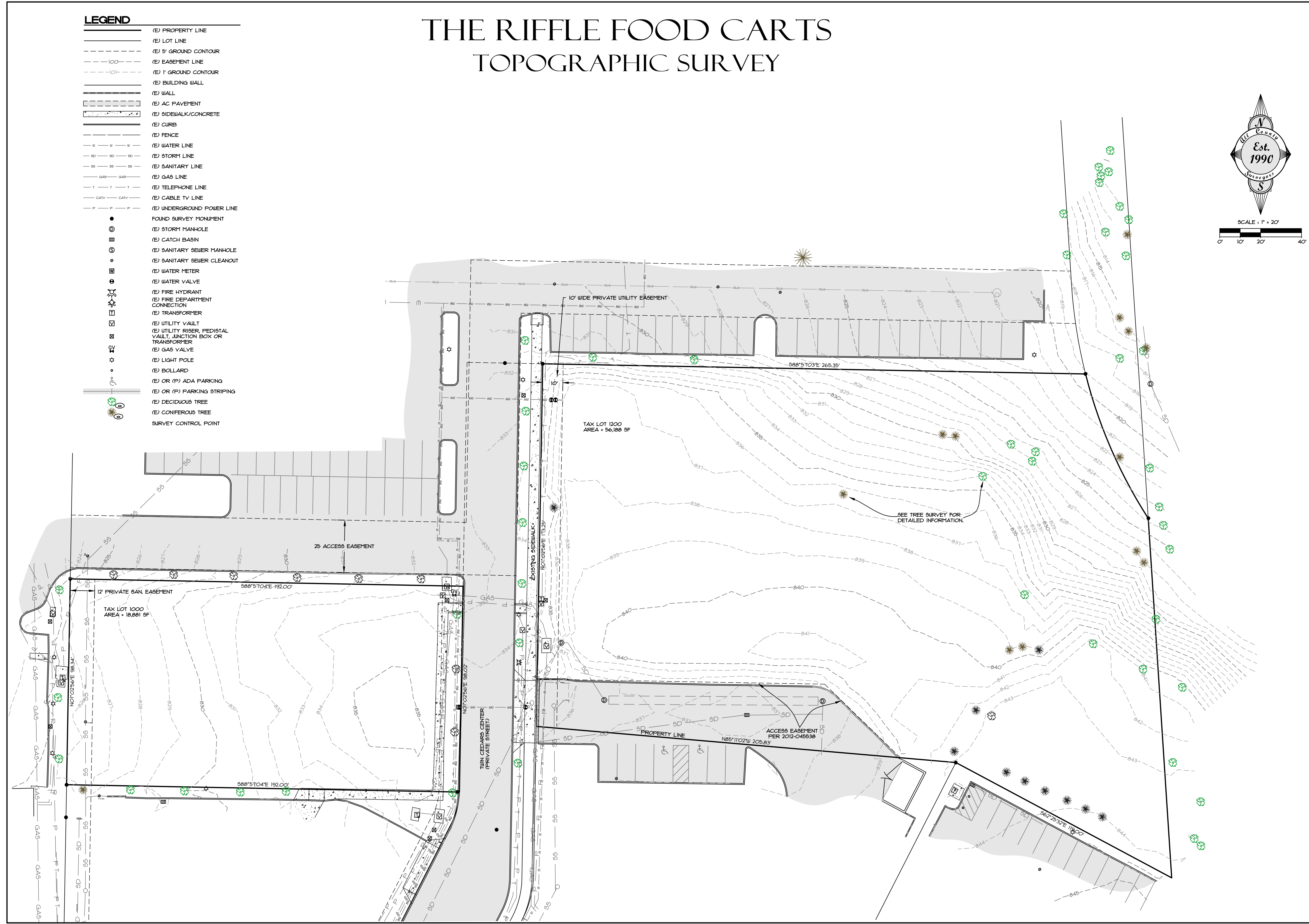
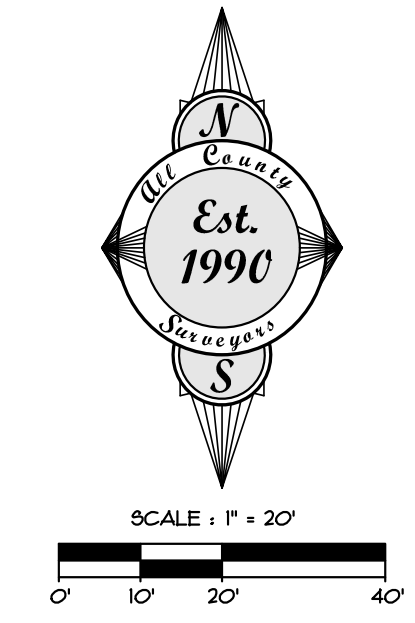


**CLIENT:** TODD HOFFMAN  
PO BOX 1016  
SANDY, OR 97055  
PHONE: 503-863-1131

# THE RIFFLE FOOD CARTS TOPOGRAPHIC SURVEY

## LEGEND

- (E) PROPERTY LINE
- (E) LOT LINE
- (E) 5' GROUND CONTOUR
- (E) EASEMENT LINE
- (E) 1' GROUND CONTOUR
- (E) BUILDING WALL
- (E) WALL
- (E) AC PAVEMENT
- (E) SIDEWALK/CONCRETE
- (E) CURB
- (E) FENCE
- (E) WATER LINE
- (E) STORM LINE
- (E) SANITARY LINE
- (E) GAS LINE
- (E) TELEPHONE LINE
- (E) CABLE TV LINE
- (E) UNDERGROUND POWER LINE
- FOUND SURVEY MONUMENT
- (E) STORM MANHOLE
- (E) CATCH BASIN
- (E) SANITARY SEWER MANHOLE
- (E) SANITARY SEWER CLEANOUT
- (E) WATER METER
- (E) WATER VALVE
- (E) FIRE HYDRANT
- (E) FIRE DEPARTMENT CONNECTION
- (E) TRANSFORMER
- (E) UTILITY VAULT
- (E) UTILITY RISER, PEDISTAL VAULT, JUNCTION BOX OR TRANSFORMER
- (E) GAS VALVE
- (E) LIGHT POLE
- (E) BOLLARD
- (E) OR (P) ADA PARKING
- (E) OR (P) PARKING STRIPING
- (E) DECIDUOUS TREE
- (E) CONIFEROUS TREE
- SURVEY CONTROL POINT



BY		SHEET	C2
REVISION		OF	10
DATE		DESIGNED	RLM
NO.		DRAWN	RLM
		CHECKED	DLH
		APPROVED	RLM

SCALE	VERT. N/A	SECTION	14
HORIZ. 1" = 20'	DATE: 4-18-22	TWP.	25
FILE: 21-092 - Planning.dwg	LEGAL	RANGE	4E

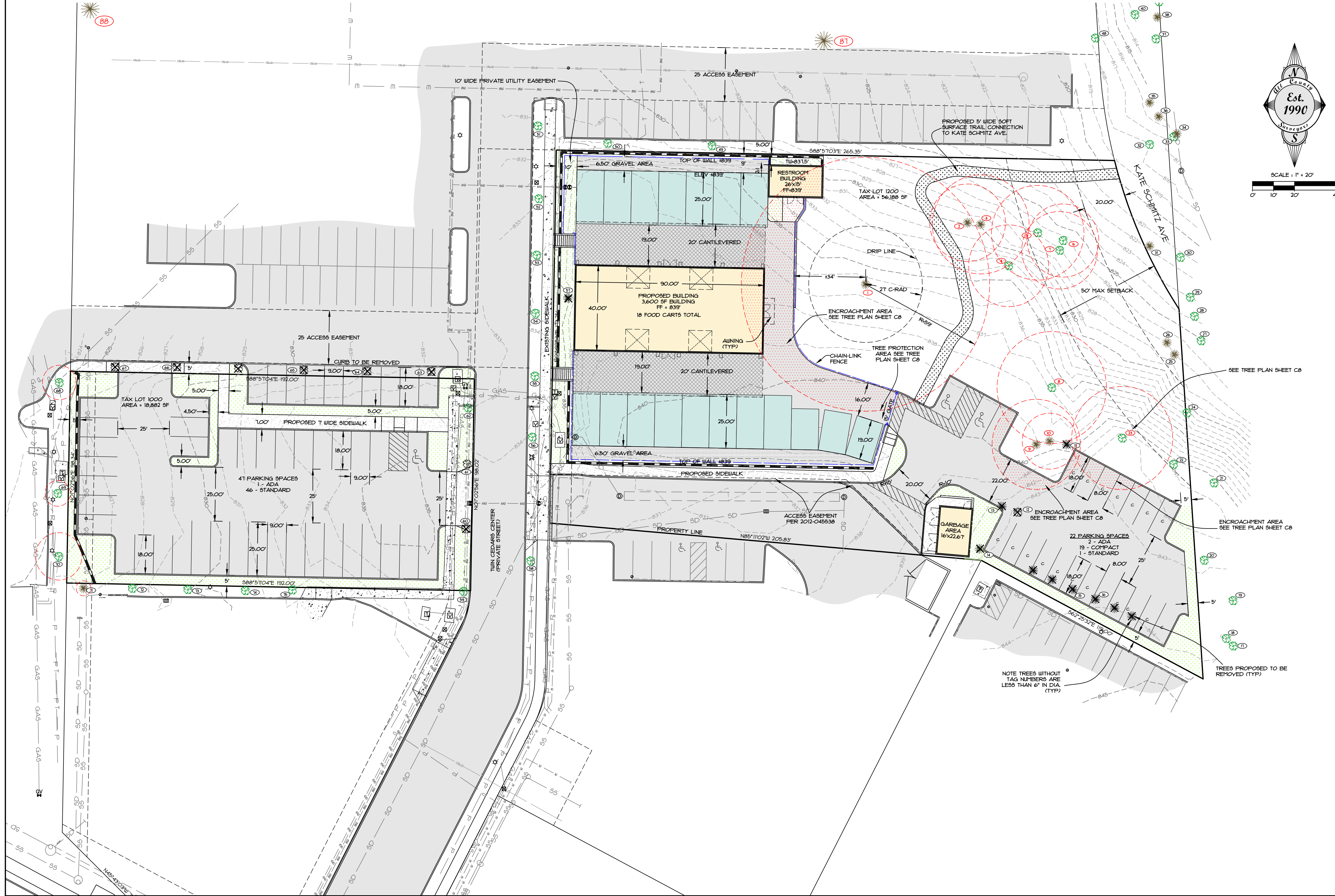
PROJECT: THE RIFFLE FOOD CARTS TOPOGRAPHIC SURVEY

LOCATION: TWIN CEDARS CENTER, SANDY, OREGON

**Surveyors & Planners, Inc.**  
 Surveying, Planning and  
 Civil Engineering and  
 Construction  
 P.O. Box 855 Sandy, OR 97055  
 Phone: (503) 668-4730  
 Fax: (503) 668-4730  
 DATE OF PLOT: 4-18-22

CLIENT:  
 TODD HOFFMAN  
 PO BOX 1016  
 SANDY, OR 97055  
 PHONE: 503-863-1131

# THE RIFFLE FOOD CARTS



BY		SHEET	<b>C3</b>
REVISION		OF	<b>10</b>
DATE		DESIGNED	RLM
		DRAWN	RLM
		CHECKED	DLH
		APPROVED	RLM

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HORIZ.	1" = 20'	DATE	4-18-22
FILE	21-092 - Planning.dwg	SECTION	14
LEGAL		TWP.	25
RANGE		SECTION	4E

PROJECT: **THE RIFFLE FOOD CARTS OVERALL SITE PLAN**

LOCATION: **TWIN CEDARS CENTER, SANDY, OREGON**

**Surveyors & Planners, Inc.**  
 Surveying, Planning and  
 Civil Engineering and  
 P.O. Box 855 Sandy, OR 97055  
 Phone: (503) 668-4730  
 Fax: (503) 668-4730  
 DATE OF PLOT: 4-18-22

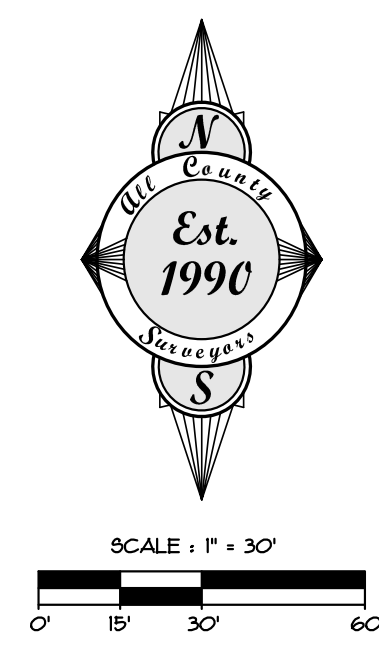
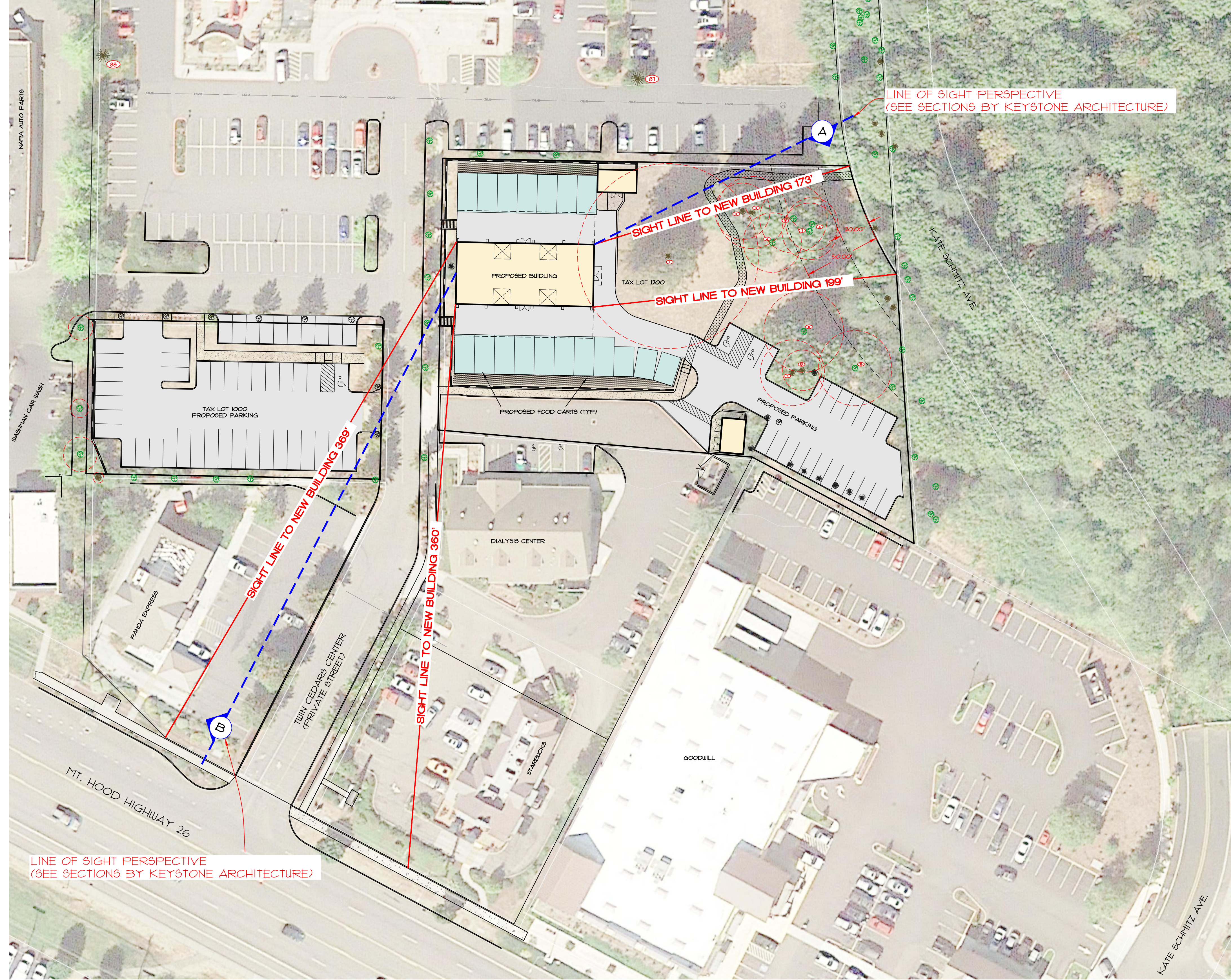
CLIENT:  
**TODD HOFFMAN**  
 PO BOX 1016  
 SANDY, OR 97055  
 PHONE: 503-863-1131



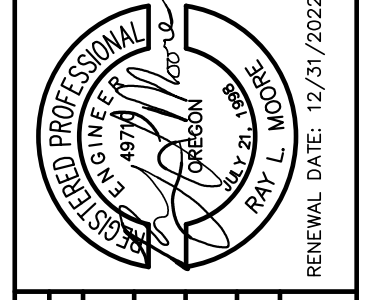
NOTE TREES WITHOUT TAG NUMBERS ARE LESS THAN 6" IN DIA. (TYP)

TREES PROPOSED TO BE REMOVED (TYP)

# THE RIFFLE FOOD CARTS



BY	REVISION	SHEET
		<b>C4</b>
		OF <b>10</b>
DATE	DESIGNED: RLM	
NO.	DRAWN: RLM	
	CHECKED: DLH	
	APPROVED: RLM	



SCALE	VERT.	N/A
HORIZ.	1" = 30'	
DATE	4-18-22	
FILE	21-092 - Planning.dwg	
SECTION	TWP. RANGE	14 25 4E

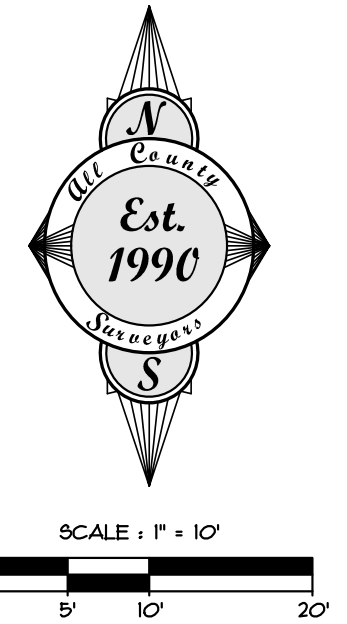
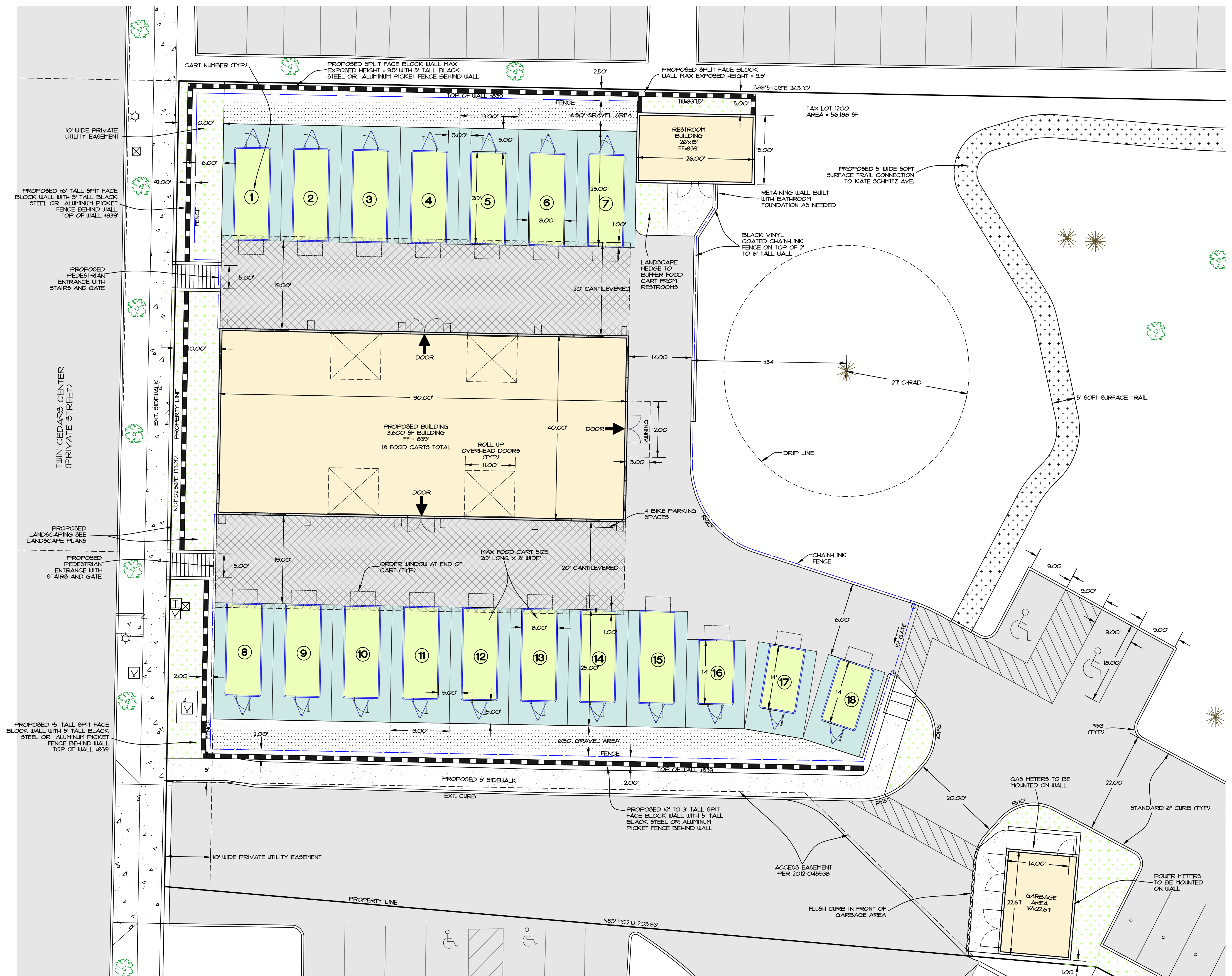
**PROJECT:** THE RIFFLE FOOD CARTS  
BUILDING SETBACKS

**LOCATION:** TWIN CEDARS CENTER, SANDY, OREGON

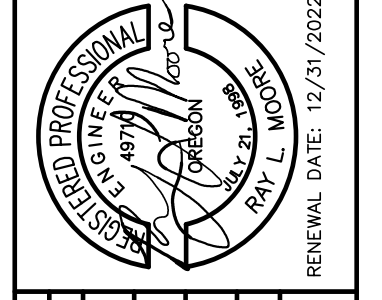
**Surveyors & Planners, Inc.**  
Surveying, Planning and  
Civil Engineering and  
P.L.L.C.  
P.O. Box 855 Sandy, OR 97055  
Phone: (503) 668-4730  
Fax: (503) 668-4730  
DATE OF PLOT: 4-18-22

**CLIENT:**  
TODD HOFFMAN  
PO BOX 1016  
SANDY, OR 97055  
PHONE: 503-863-1131

# THE RIFFLE FOOD CARTS



BY	REVISION	SHEET
DATE	NO.	<b>C5</b>
		OF <b>10</b>
DESIGNED: RLM	DRAWN: RLM	CHECKED: DLH
APPROVED: RLM		



SCALE	VERT. HORIZ.	DATE	FILE	SECTION	RANGE
N/A	1" = 10'	4-18-22	21-092 - Planning.dwg	14	25
LEGAL	TWP.	RANGE	RENEWAL DATE: 12/31/2022		
			4E		

**THE RIFFLE FOOD CARTS**  
**DETAILED SITE PLAN**

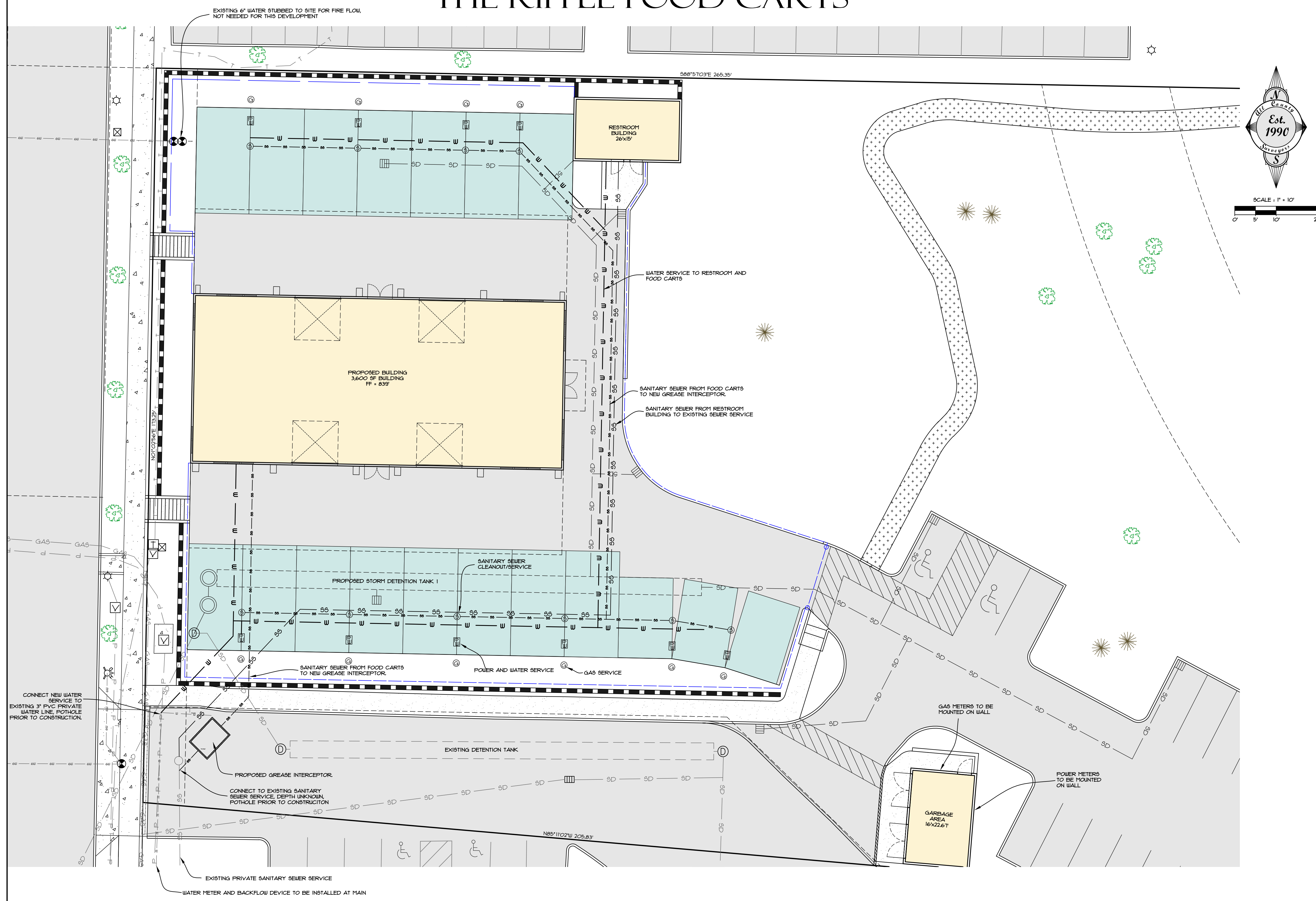
PROJECT: **TWIN CEDARS CENTER, SANDY, OREGON**

**Surveyors & Planners, Inc.**  
 Surveying, Planning and  
 Civil Engineering and  
 Landscape Architecture  
 P.O. Box 855 Sandy, OR 97055  
 Phone: (503) 668-4750  
 Fax: (503) 668-4750  
 DATE OF PLOT: 4-18-22

CLIENT:  
**TODD HOFFMAN**  
 PO BOX 1016  
 SANDY, OR 97055  
 PHONE: 503-863-1131



# THE RIFFLE FOOD CARTS



BY	REVISION	SHEET
		<b>C6</b>
		OF <b>10</b>
DATE	DESIGNED: RLM	
	DRAWN: RLM	
	CHECKED: DLH	
	APPROVED: RLM	

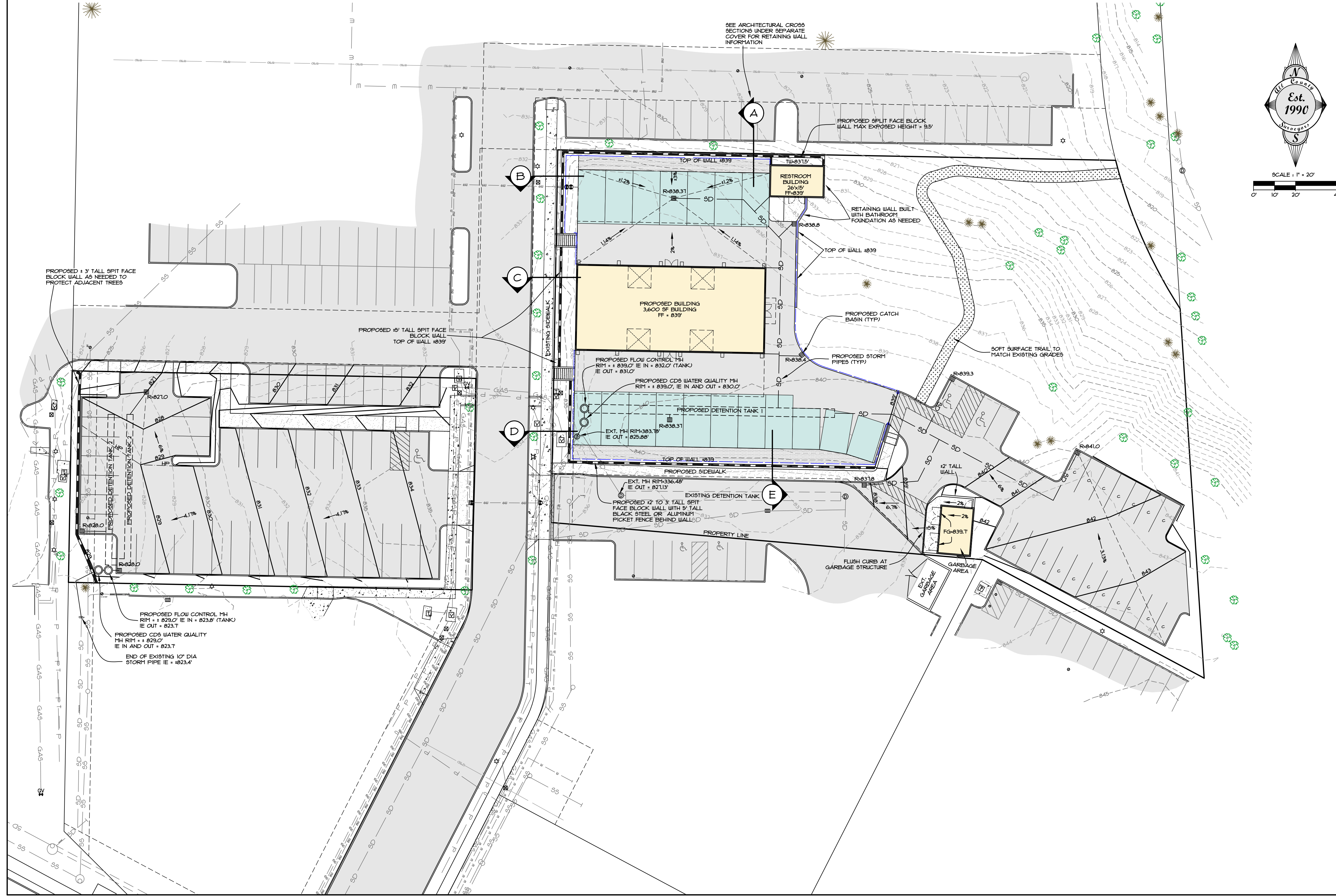
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HORIZ.	1" = 10'	
DATE	4-18-22	
FILE	21-032 - Planning.dwg	
SECTION	TWP.	RANGE
14	25	4E

**THE RIFFLE FOOD CARTS**  
**PRELIMINARY UTILITY PLAN**  
 PROJECT:  
 LOCATION: **TWIN CEDARS CENTER, SANDY, OREGON**

**Surveyors & Planners, Inc.**  
 Surveying, Planning and  
 Civil Engineering and  
 P.O. Box 855 Sandy, OR 97055  
 Phone: (503) 668-4730  
 Fax: (503) 668-4730  
 DATE OF PLOT: 4-18-22

CLIENT:  
**TODD HOFFMAN**  
 PO BOX 1016  
 SANDY, OR 97055  
 PHONE: 503-863-1131

# THE RIFFLE FOOD CARTS



BY	REVISION	SHEET
DATE	NO.	C7
DESIGNED: RLM	DRAWN: RLM	OF 10
CHECKED: DLH	APPROVED: RLM	

SCALE	VERT.	LEGAL
N/A	4-18-22	TWP. RANGE
DATE: 4-18-22	FILE: 21-092 - Planning.dwg	SECTION 14
RENEWAL DATE: 12/31/2022		14 25 4E

**THE RIFFLE FOOD CARTS**  
**PRELIMINARY GRADING**  
**AND STORMWATER PLAN**

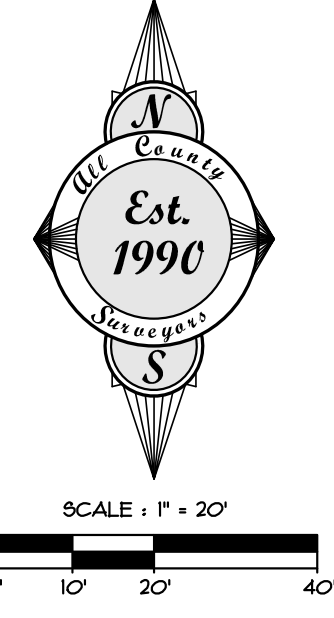
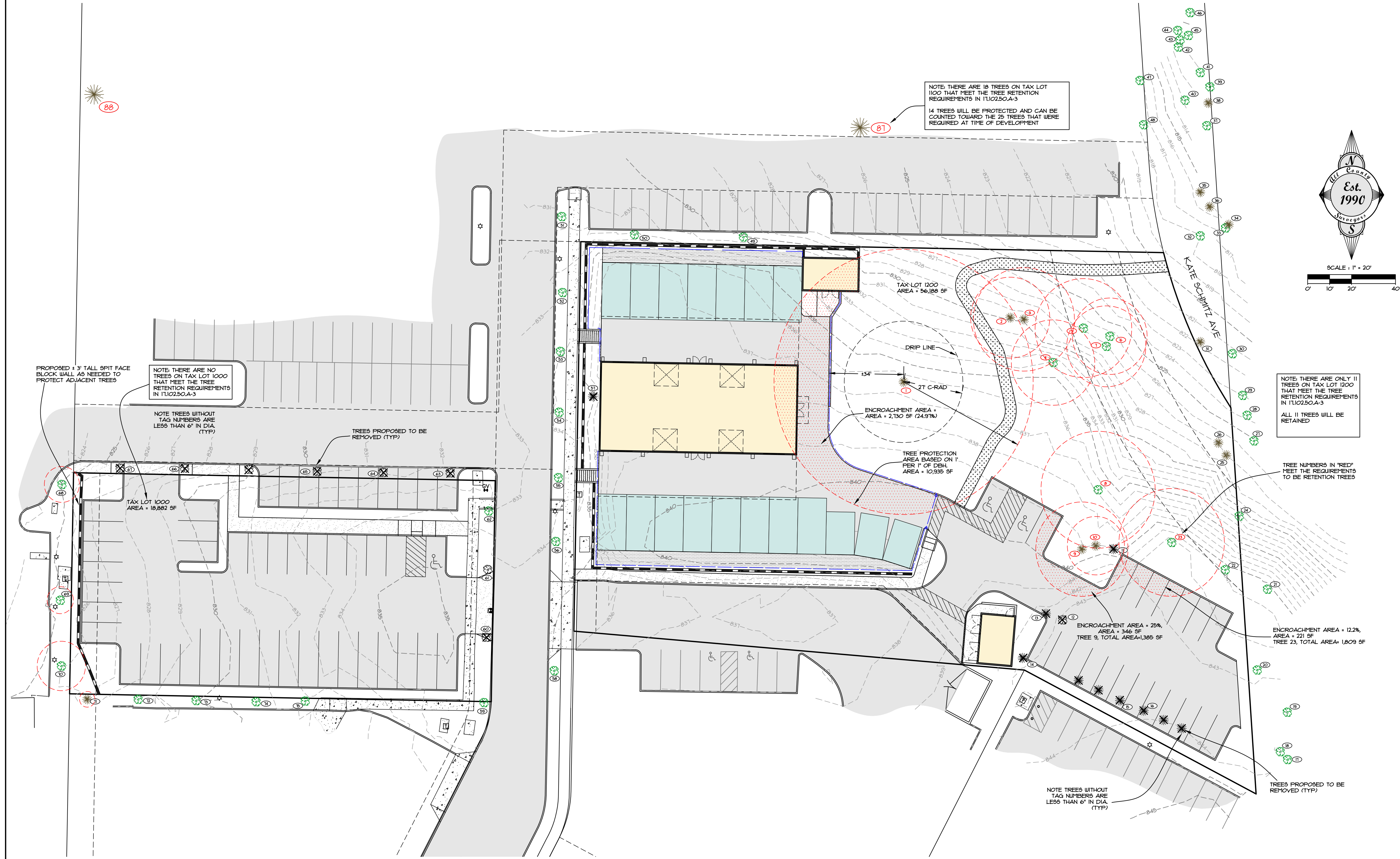
PROJECT: TWIN CEDARS CENTER, SANDY, OREGON

**Surveyors & Planners, Inc.**  
 Surveying, Planning and  
 Civil Engineering and  
 P.O. Box 855 Sandy, OR 97055  
 Phone: (503) 668-4730  
 Fax: (503) 668-4730

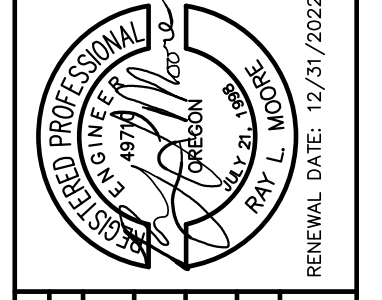
DATE OF PLOT: 4-18-22

CLIENT:  
 TODD HOFFMAN  
 PO BOX 1016  
 SANDY, OR 97055  
 PHONE: 503-863-1131

# THE RIFFLE FOOD CARTS



BY	REVISION	NO.	DATE



SCALE	VERT.	N/A	HORIZ.	1" = 20'
DATE	4-18-22			
FILE	21-092 - Planning.dwg			
SECTION	TWP.	RANGE	4E	
14	25			

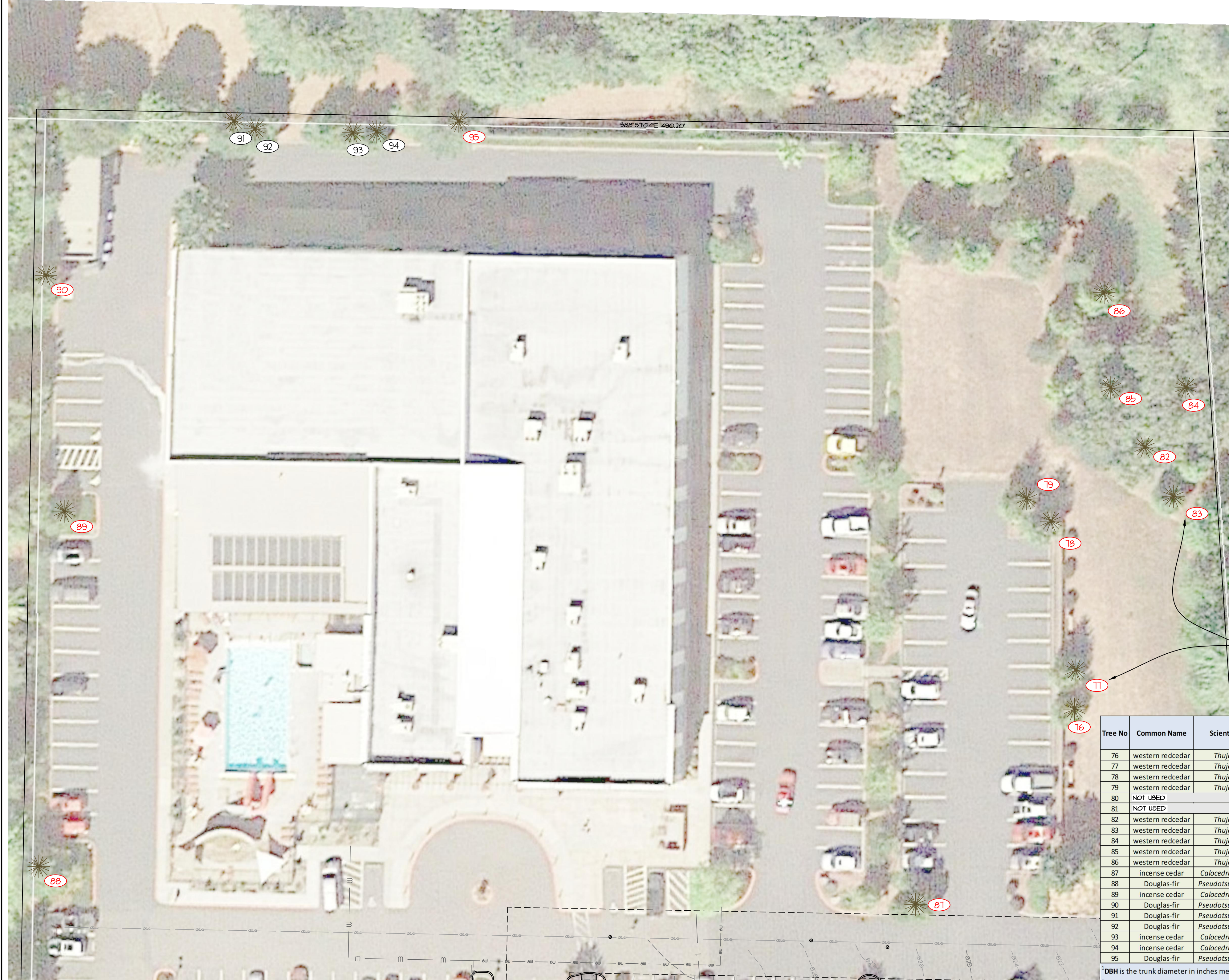
PROJECT: **THE RIFFLE FOOD CARTS  
TREE SURVEY (ONSITE)**

LOCATION: **TWIN CEDARS CENTER, SANDY, OREGON**

**Surveyors & Planners, Inc.**  
 Surveying, Planning and  
 Civil Engineering and  
 P.O. Box 855 Sandy, OR 97055  
 Phone: (503) 668-4730  
 Fax: (503) 668-4730  
 DATE OF PLOT: 4-18-22

CLIENT:  
**TODD HOFFMAN**  
 PO BOX 1016  
 SANDY, OR 97055  
 PHONE: 503-863-1131

SHEET	C8
OF	10
DESIGNED:	RLM
DRAWN:	RLM
CHECKED:	DLH
APPROVED:	RLM

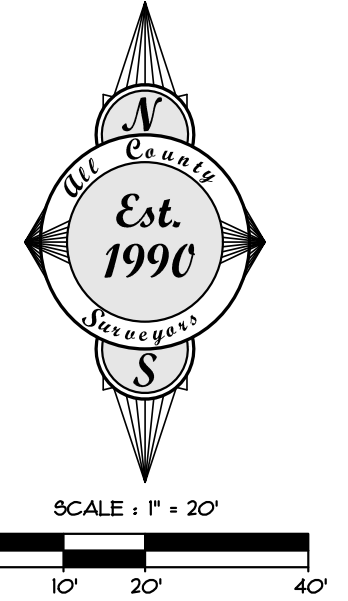


NOTE: THERE ARE 18 TREES ON TAX LOT 1000 THAT MEET THE TREE RETENTION REQUIREMENTS IN 17.102.50A-3  
 THE 14 TREES, SHOWN IN RED LABELS, WILL BE PROTECTED AND CAN BE COUNTED TOWARD THE 25 TREES THAT WERE REQUIRED AT TIME OF DEVELOPMENT

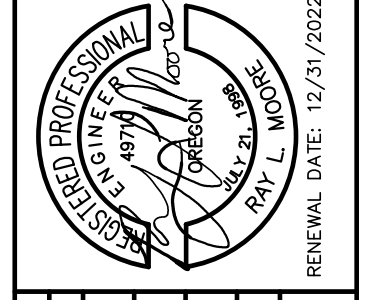
TREE SURVEY COMPLETED BY: TERAGAN & ASSOCIATES, INC.

Tree No	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure <sup>3</sup>	Tree Retention Option <sup>4</sup>	Comments
76	western redcedar	<i>Thuja plicata</i>	13	8	good	good	yes	
77	western redcedar	<i>Thuja plicata</i>	14	9	good	good	yes	
78	western redcedar	<i>Thuja plicata</i>	12	11	good	good	yes	
79	western redcedar	<i>Thuja plicata</i>	12	11	good	good	yes	
80	NOT USED							
81	NOT USED							
82	western redcedar	<i>Thuja plicata</i>	13	9	good	fair	yes	moderately one sided
83	western redcedar	<i>Thuja plicata</i>	11	10	good	good	yes	
84	western redcedar	<i>Thuja plicata</i>	11	12	good	fair	yes	codominant at 1' with included bark
85	western redcedar	<i>Thuja plicata</i>	14	12	good	good	yes	
86	western redcedar	<i>Thuja plicata</i>	11	11	good	fair	yes	codominant at 2' with included bark
87	incense cedar	<i>Calocedrus decurrens</i>	11	10	good	fair	yes	moderately one sided
88	Douglas-fir	<i>Pseudotsuga menziesii</i>	11	11	good	good	yes	
89	incense cedar	<i>Calocedrus decurrens</i>	12	10	good	good	yes	
90	Douglas-fir	<i>Pseudotsuga menziesii</i>	16	15	good	good	yes	
91	Douglas-fir	<i>Pseudotsuga menziesii</i>	11	11	good	fair	yes	moderately one sided
92	Douglas-fir	<i>Pseudotsuga menziesii</i>	11	11	good	fair	yes	moderately one sided
93	incense cedar	<i>Calocedrus decurrens</i>	11	10	good	fair	yes	moderately one sided
94	incense cedar	<i>Calocedrus decurrens</i>	11	9	good	fair	yes	moderately one sided
95	Douglas-fir	<i>Pseudotsuga menziesii</i>	15	13	good	fair	yes	codominant at 12'

<sup>1</sup>DBH is the trunk diameter in inches measured in accordance with International Society of Arboriculture standards.  
<sup>2</sup>C-Rad is the approximate crown radius in feet.  
<sup>3</sup>Condition and Structure ratings range from very poor, poor, fair, to good.  
<sup>4</sup>Tree meets the requirements to be a Retention Tree Per 17.102.50A-3 Trees proposed for retention shall be healthy and likely to grow to maturity. Per City of Sandy, only trees in good health condition are eligible to meet this standard.



DATE	NO.	REVISION	BY
DESIGNED:	RLM		
DRAWN:	RLM		
CHECKED:	DJLH		
APPROVED:	RLM		



SCALE	N/A
VERT. HORIZ.	1" = 20'
DATE	4-18-22
FILE	21-032 - Planning.dwg
SECTION	TWP. RANGE
	14 25 4E

PROJECT: **THE RIFFLE FOOD CARTS TREE SURVEY (OFF-SITE)**

LOCATION: **TWIN CEDARS CENTER, SANDY, OREGON**

**Surveyors & Planners, Inc.**  
 Surveying, Planning and  
 Civil Engineering  
 P.O. Box 895 Sandy, OR 97055  
 Phone: (503) 668-4730  
 Fax: (503) 668-4730  
 DATE OF PLOT: 4-18-22

CLIENT:  
**TODD HOFFMAN**  
 PO BOX 1016  
 SANDY, OR 97055  
 PHONE: 503-863-1131

SHEET	C9
OF	10

Tree No	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure <sup>3</sup>	Tree Retention Option <sup>4</sup>	Comments
1	western redcedar	<i>Thuja plicata</i>	59	27	good	fair	yes	codominant at 6' with included bark, multiple leaders in crown
2	bigleaf maple	<i>Acer macrophyllum</i>	18	21	good	fair	yes	one sided
3	Douglas-fir	<i>Pseudotsuga menziesii</i>	23	19	good	fair	yes	one sided
4	bigleaf maple	<i>Acer macrophyllum</i>	19	20	good	fair	yes	one sided, upright competing leaders, sloughing bark at lower trunk
5	bigleaf maple	<i>Acer macrophyllum</i>	22	29	good	fair	yes	one sided, upright competing leaders, surface root damage
6	bigleaf maple	<i>Acer macrophyllum</i>	17	22	good	fair	yes	one sided
7	bigleaf maple	<i>Acer macrophyllum</i>	18,7	22	good	fair	yes	one sided, upright competing leaders, codominant at ground level, wound at lower trunk and surface roots
8	bigleaf maple	<i>Acer macrophyllum</i>	26	24	good	fair	yes	multiple upright leaders with included bark, bark damage at lower trunk
9	western redcedar	<i>Thuja plicata</i>	21	17	good	fair	yes	overtopped by adjacent trees
10	western redcedar	<i>Thuja plicata</i>	13	11	good	fair	yes	overtopped by adjacent trees, codominant at 7' with included bark
11	bigleaf maple	<i>Acer macrophyllum</i>	23,16, 16,15, 13	26	fair	fair	no	stump sprout with decay at lower trunk
12	black cottonwood	<i>Populus trichocarpa</i>	23	15	poor	poor	no	codominant at 18', east stem failed, visible decay
13	Douglas-fir	<i>Pseudotsuga menziesii</i>	27	27	fair	fair	no	moderately one sided, dead top
14	Douglas-fir	<i>Pseudotsuga menziesii</i>	23	15	fair	fair	no	lost top, moderately thin crown
15	Douglas-fir	<i>Pseudotsuga menziesii</i>	6	10	good	good	no	
16	incense cedar	<i>Calocedrus decurrens</i>	7	7	good	good	no	
17	black cottonwood	<i>Populus trichocarpa</i>	7,7,6	17	fair	fair	no	multiple leaders at ground level, one sided, significant lean southwest
18	black cottonwood	<i>Populus trichocarpa</i>	6	7	fair	fair	no	overtopped by adjacent trees
19	black cottonwood	<i>Populus trichocarpa</i>	16,12	18	fair	fair	no	codominant at ground level
20	black cottonwood	<i>Populus trichocarpa</i>	16,14	12	poor	poor	no	codominant at ground level, west stem failed at 6', east stem top failed
21	bigleaf maple	<i>Acer macrophyllum</i>	13	22	good	fair	yes	one sided
22	black cottonwood	<i>Populus trichocarpa</i>	23	24	fair	fair	no	moderately thin crown, large wound with decay at lower trunk
23	bigleaf maple	<i>Acer macrophyllum</i>	24	25	good	fair	yes	moderately one sided, multiple upright competing leaders
24	bigleaf maple	<i>Acer macrophyllum</i>	24	19	good	fair	yes	multiple upright competing leaders
25	Douglas-fir	<i>Pseudotsuga menziesii</i>	8	7	fair	fair	no	overtopped by adjacent trees, moderately suppressed
26	sweet cherry	<i>Prunus avium</i>	15	15	good	fair	no	one sided
27	sweet cherry	<i>Prunus avium</i>	13	12	good	fair	no	one sided, 35% live crown ratio
28	sweet cherry	<i>Prunus avium</i>	9	12	good	fair	no	one sided, marginal trunk taper
29	bigleaf maple	<i>Acer macrophyllum</i>	17	17	good	fair	yes	multiple upright competing leaders
30	sweet cherry	<i>Prunus avium</i>	17	13	good	fair	no	one sided
31	Douglas-fir	<i>Pseudotsuga menziesii</i>	17	15	good	fair	yes	moderately one sided
32	sweet cherry	<i>Prunus avium</i>	10	11	fair	fair	no	overtopped by adjacent trees, significant lean
33	sweet cherry	<i>Prunus avium</i>	6	6	fair	fair	no	overtopped by adjacent trees, significant lean
34	bigleaf maple	<i>Acer macrophyllum</i>	26,19, 11,11, 9,9	26	fair	fair	no	multiple leaders at ground level, one sided, smaller failed leaders
35	western redcedar	<i>Thuja plicata</i>	21	19	good	fair	yes	bowed lower trunk
36	sweet cherry	<i>Prunus avium</i>	9	10	fair	fair	no	one sided, overtopped by adjacent trees, significant lean
37	sweet cherry	<i>Prunus avium</i>	10	7	fair	fair	no	one sided, overtopped by adjacent trees, significant lean
38	Douglas-fir	<i>Pseudotsuga menziesii</i>	30	15	good	fair	yes	moderately one sided
39	sweet cherry	<i>Prunus avium</i>	6	6	fair	fair	no	one sided, overtopped by adjacent trees, significant lean
40	bigleaf maple	<i>Acer macrophyllum</i>	10	13	fair	fair	no	one sided, overtopped by adjacent trees, wound at lower trunk

TREE SURVEY COMPLETED BY: TERAGAN & ASSOCIATES, INC.

41	bigleaf maple	<i>Acer macrophyllum</i>	10	15	fair	fair	no	overtopped by adjacent trees, moderately suppressed
42	bigleaf maple	<i>Acer macrophyllum</i>	11	20	good	fair	yes	one sided, significant lean west
43	bigleaf maple	<i>Acer macrophyllum</i>	16	20	good	fair	yes	one sided, significant lean west
44	bigleaf maple	<i>Acer macrophyllum</i>	8	12	fair	fair	no	overtopped by adjacent trees, one sided, significant lean west
45	bigleaf maple	<i>Acer macrophyllum</i>	19	23	good	fair	yes	moderately one sided, multiple leaders
46	bigleaf maple	<i>Acer macrophyllum</i>	14	28	good	fair	yes	one sided
47	Freeman maple	<i>Acer x freemanii</i>	6	15	good	fair	no	one sided, multiple leaders
48	Freeman maple	<i>Acer x freemanii</i>	7	17	good	fair	no	one sided, multiple leaders, wounded at lower trunk
49	Norway maple	<i>Acer platanoides</i>	6	8	fair	fair	no	multiple leaders, significant sunscald
50	Norway maple	<i>Acer platanoides</i>	6	10	good	fair	no	multiple leaders, significant sunscald
51	Freeman maple	<i>Acer x freemanii</i>	6	9	good	fair	no	multiple leaders
52	Freeman maple	<i>Acer x freemanii</i>	8	11	good	fair	no	multiple leaders
53	Freeman maple	<i>Acer x freemanii</i>	7	9	good	fair	no	multiple leaders
54	Freeman maple	<i>Acer x freemanii</i>	7	9	good	fair	no	multiple leaders
55	Freeman maple	<i>Acer x freemanii</i>	6	7	good	fair	no	multiple leaders
56	Freeman maple	<i>Acer x freemanii</i>	8	15	good	fair	no	multiple leaders
57	Douglas-fir	<i>Pseudotsuga menziesii</i>	8	8	good	good	no	
58	Freeman maple	<i>Acer x freemanii</i>	6	8	good	fair	no	multiple leaders
59	Freeman maple	<i>Acer x freemanii</i>	12	12	good	fair	yes	multiple leaders
60	Freeman maple	<i>Acer x freemanii</i>	9	13	good	fair	no	multiple leaders
61	Freeman maple	<i>Acer x freemanii</i>	10	13	good	fair	no	multiple leaders
62	Freeman maple	<i>Acer x freemanii</i>	7	11	good	fair	no	multiple leaders
63	Freeman maple	<i>Acer x freemanii</i>	6	8	good	fair	no	multiple leaders
64	Freeman maple	<i>Acer x freemanii</i>	8	11	good	fair	no	multiple leaders
65	Freeman maple	<i>Acer x freemanii</i>	7	9	good	fair	no	multiple leaders
66	Freeman maple	<i>Acer x freemanii</i>	6	8	good	fair	no	multiple leaders
67	Freeman maple	<i>Acer x freemanii</i>	6	7	good	fair	no	multiple leaders
68	pin oak	<i>Quercus palustris</i>	16	20	good	fair	yes	branches with high aspect ratios, small twig dieback
69	linden	<i>Tilia sp.</i>	12	14	good	fair	yes	multiple leaders at 3' with included bark
70	pin oak	<i>Quercus palustris</i>	22	20	good	good	yes	
71	incense cedar	<i>Calocedrus decurrens</i>	7	9	good	good	no	
72	redbud	<i>Cercis canadensis</i>	7	10	good	fair	no	multiple leaders
73	redbud	<i>Cercis canadensis</i>	8	11	good	fair	no	multiple leaders
74	redbud	<i>Cercis canadensis</i>	7	9	good	fair	no	multiple leaders
75	redbud	<i>Cercis canadensis</i>	6	10	good	fair	no	multiple leaders

<sup>1</sup>DBH is the trunk diameter in inches measured in accordance with International Society of Arboriculture standards.

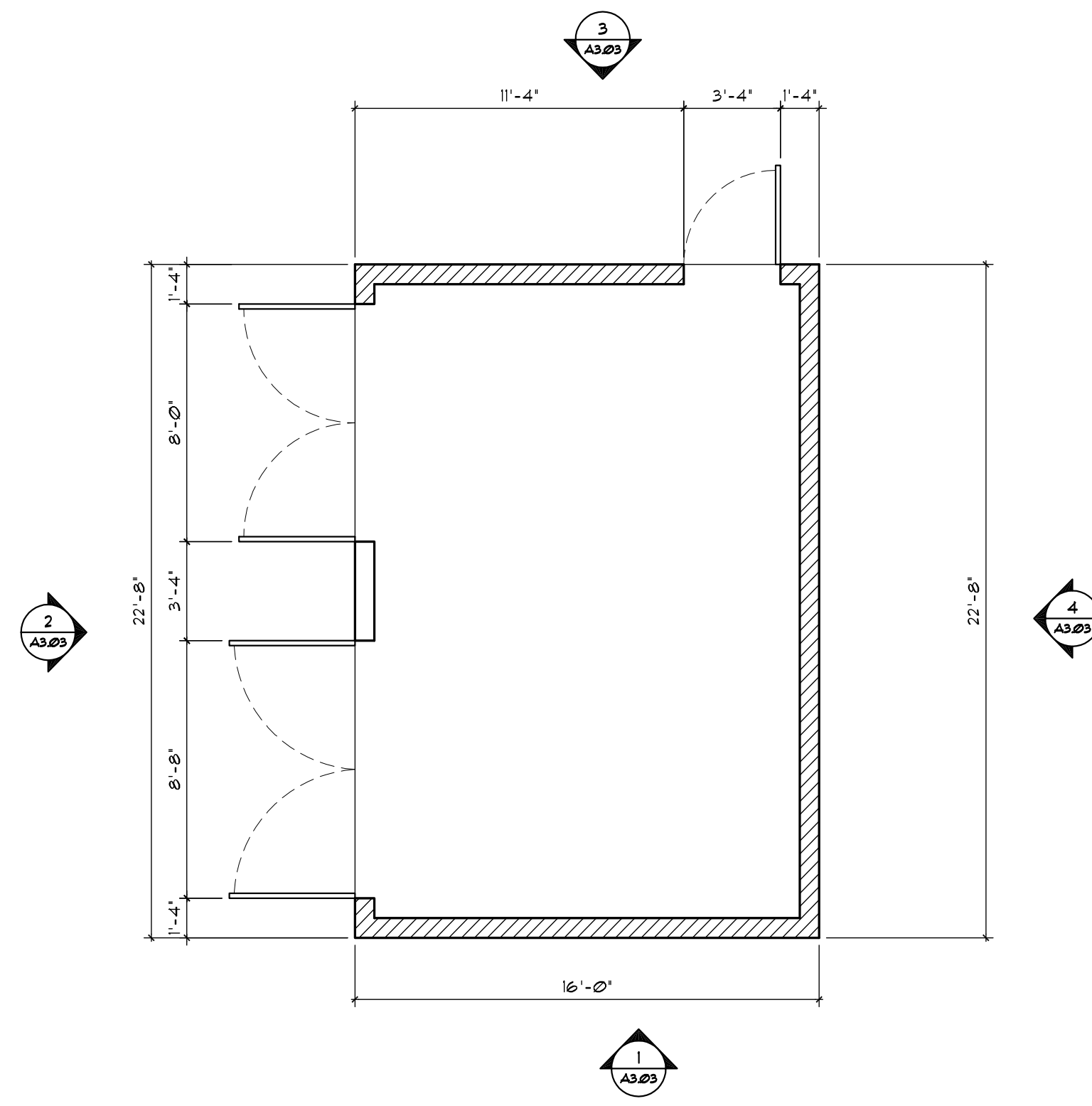
<sup>2</sup>C-Rad is the approximate crown radius in feet.

<sup>3</sup>Condition and Structure ratings range from very poor, poor, fair, to good.

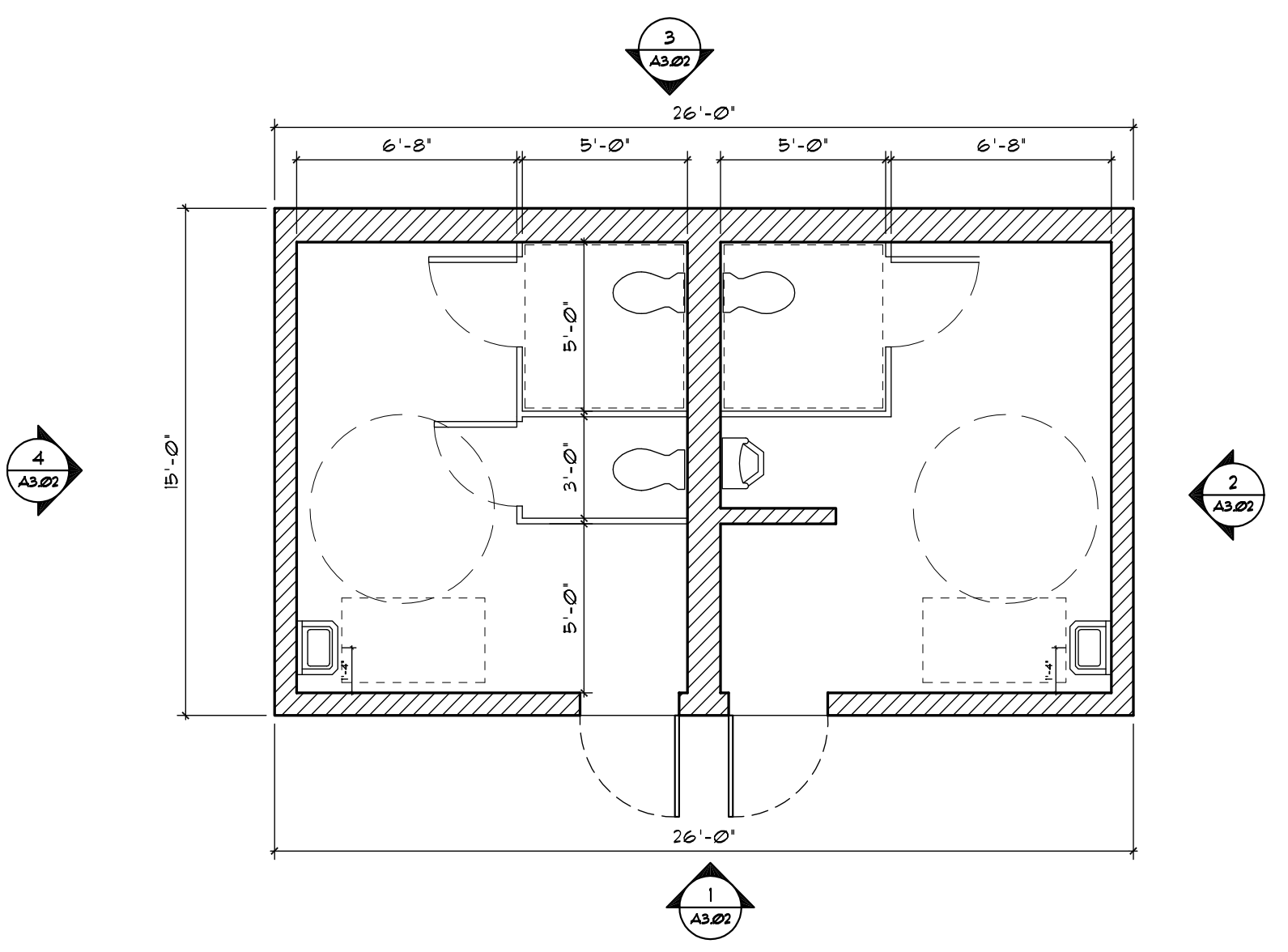
<sup>4</sup>Tree meets the requirements to be a Retention Tree Per 17.102.50.A-3 Trees proposed for retention shall be healthy and likely to grow to maturity. Per City of Sandy, only trees in good health condition are eligible to meet this standard.

BY		SHEET	
NO.		C10	
OF		10	
REVISION			
DATE		DESIGNED: RLM	
		DRAWN: RLM	
		CHECKED: DLH	
		APPROVED: RLM	
SCALE	N/A	SECTION	14
VERT. DATE	4-18-22	RANGE	4E
HORIZ. DATE	4-18-22	TWP.	2S
FILE	21-032 - Planning.dwg		
<b>THE RIFFLE FOOD CARTS</b> DETAILED TREE INFORMATION			
PROJECT: TWIN CEDARS CENTER, SANDY, OREGON LOCATION:			
			
CLIENT: TODD HOFFMAN PO BOX 1016 SANDY, OR 97055 PHONE: 503-863-1131			

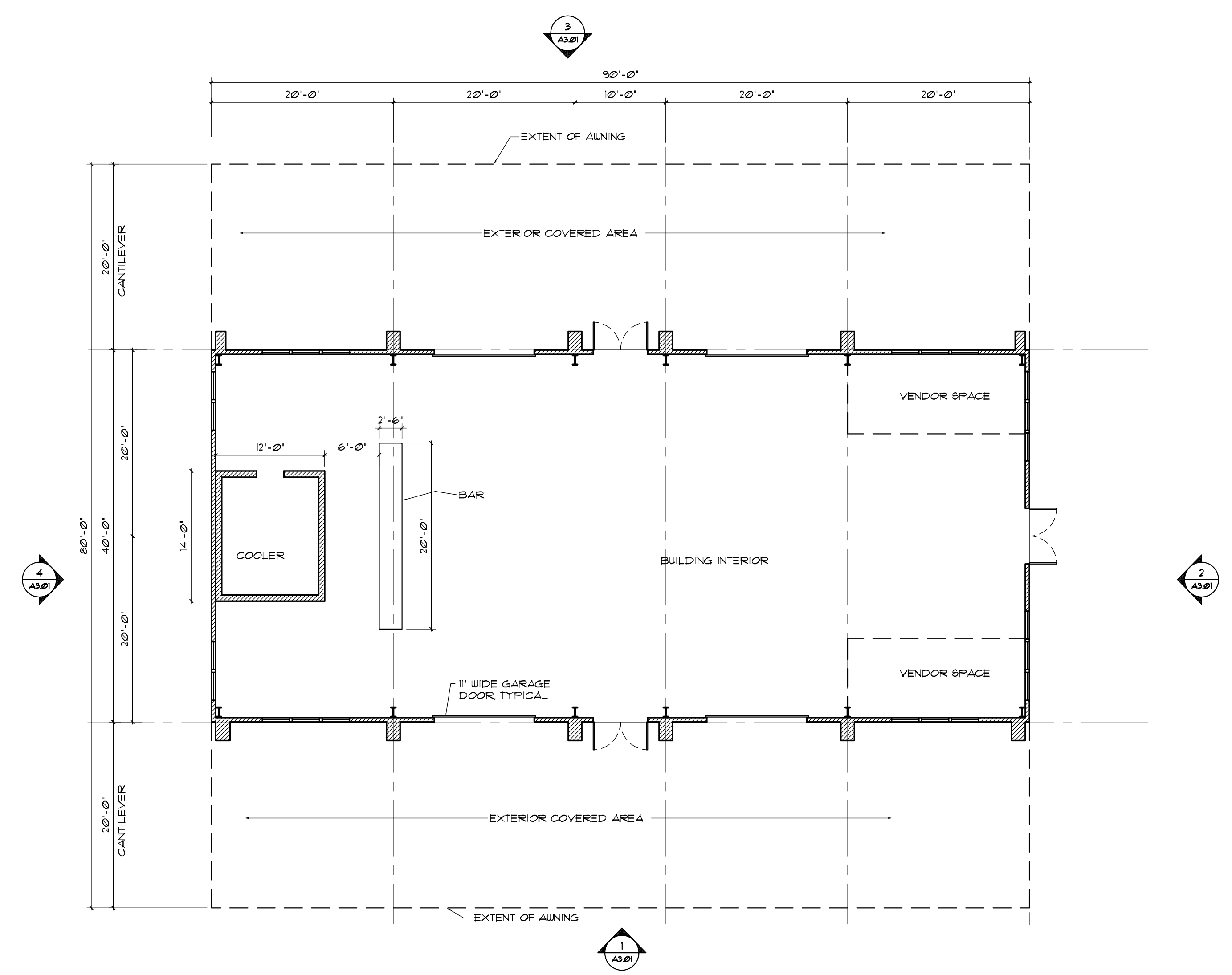
# EXHIBIT D



**3 TRASH ENCLOSURE**  
 1/4" = 1'-0"  
 NORTH



**2 RESTROOM BUILDING**  
 1/4" = 1'-0"  
 NORTH



**1 MAIN BUILDING**  
 1/8" = 1'-0"  
 NORTH

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THE RIFFLE FOOD CARTS  
 XXXXX  
 Sandy, Oregon  
 DESIGN REVIEW SUBMITTAL

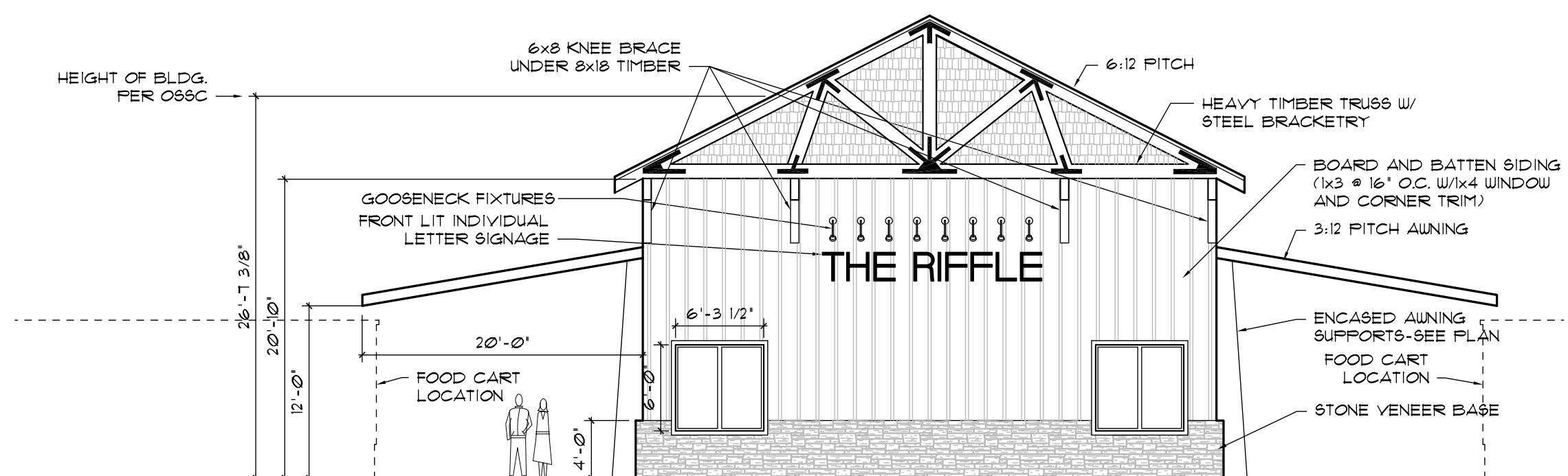
**KEYSTONE**  
 ARCHITECTURE PLANNING  
 AND PROJECT MANAGEMENT  
 1202 SE EDLEMAN ROAD, PORTLAND, OR 97266  
 PHONE: (503) 807-0241 FAX: (503) 807-0244

REVISION	DATE

APPROVED: BWS  
 DRAWN BY:  
 SCALE: AS SHOWN  
 DATE: 3/11/22  
 JOB: 21-110  
 FILE:

**A2.01**

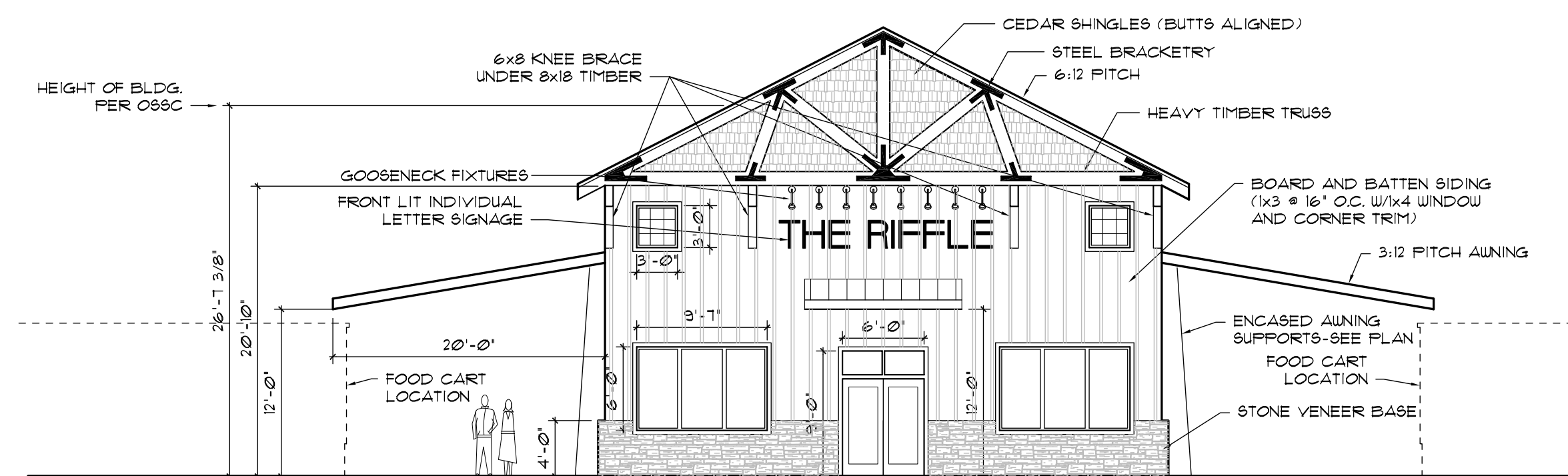
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④ MAIN BUILDING WEST ELEVATION  
1/8" = 1'-0"



③ MAIN BUILDING - NORTH ELEVATION  
1/8" = 1'-0"



② MAIN BUILDING EAST ELEVATION  
1/8" = 1'-0"



① MAIN BUILDING - SOUTH ELEVATION  
1/8" = 1'-0"

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THE RIFFLE FOOD CARTS

XXXXXX  
Sandy, Oregon

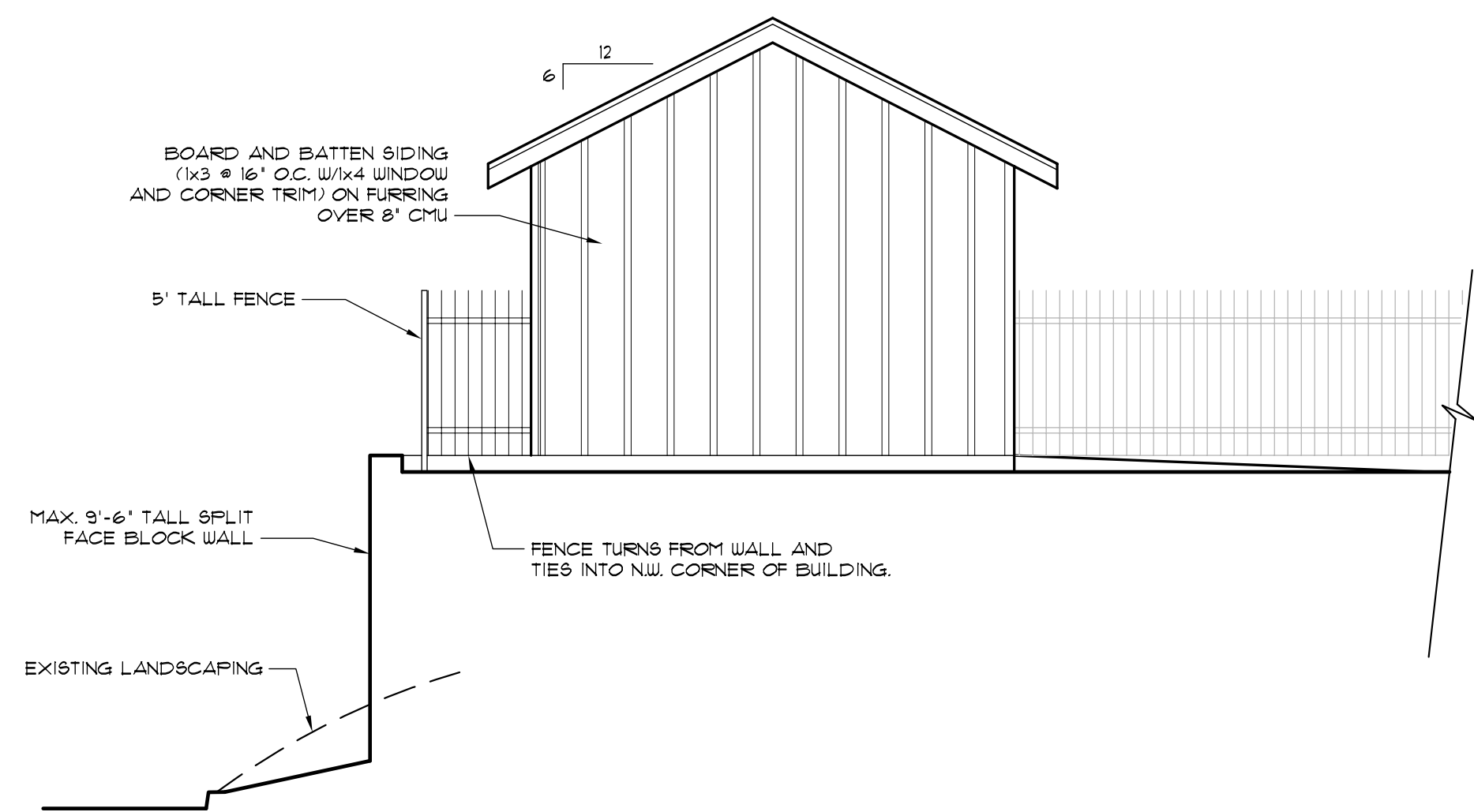
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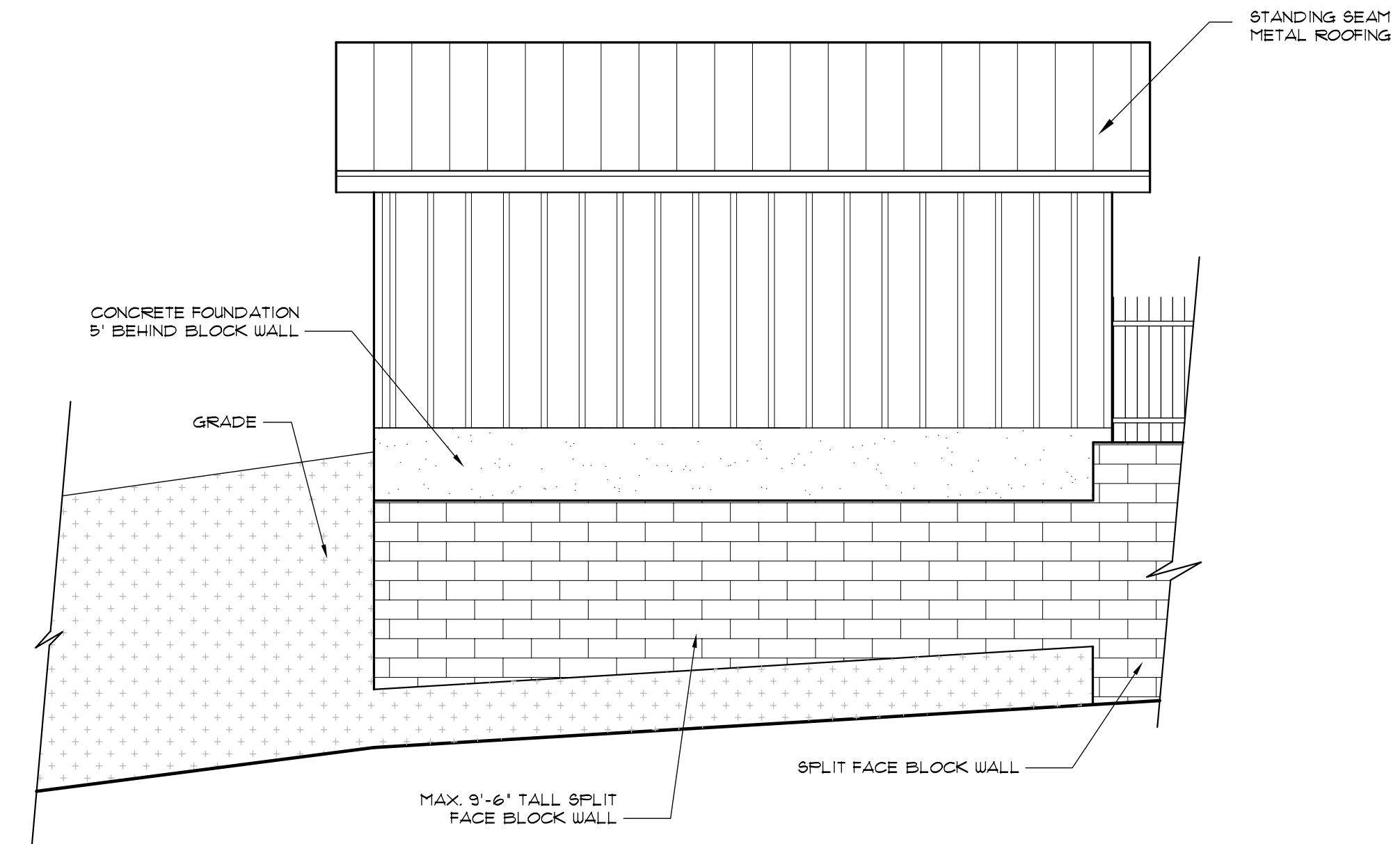
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DATE: 3/11/22	
JOB: 21-110	
FILE:	

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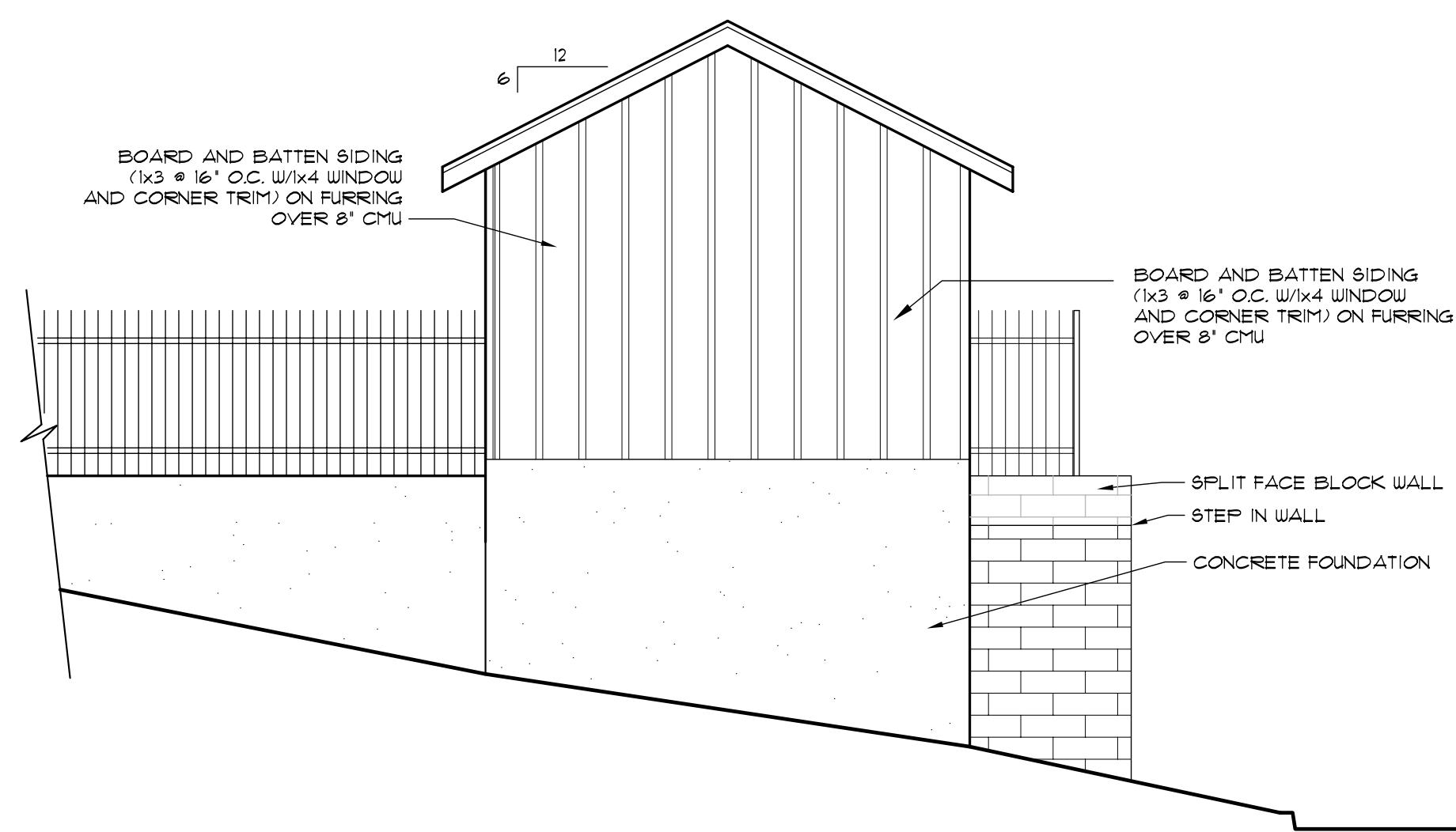
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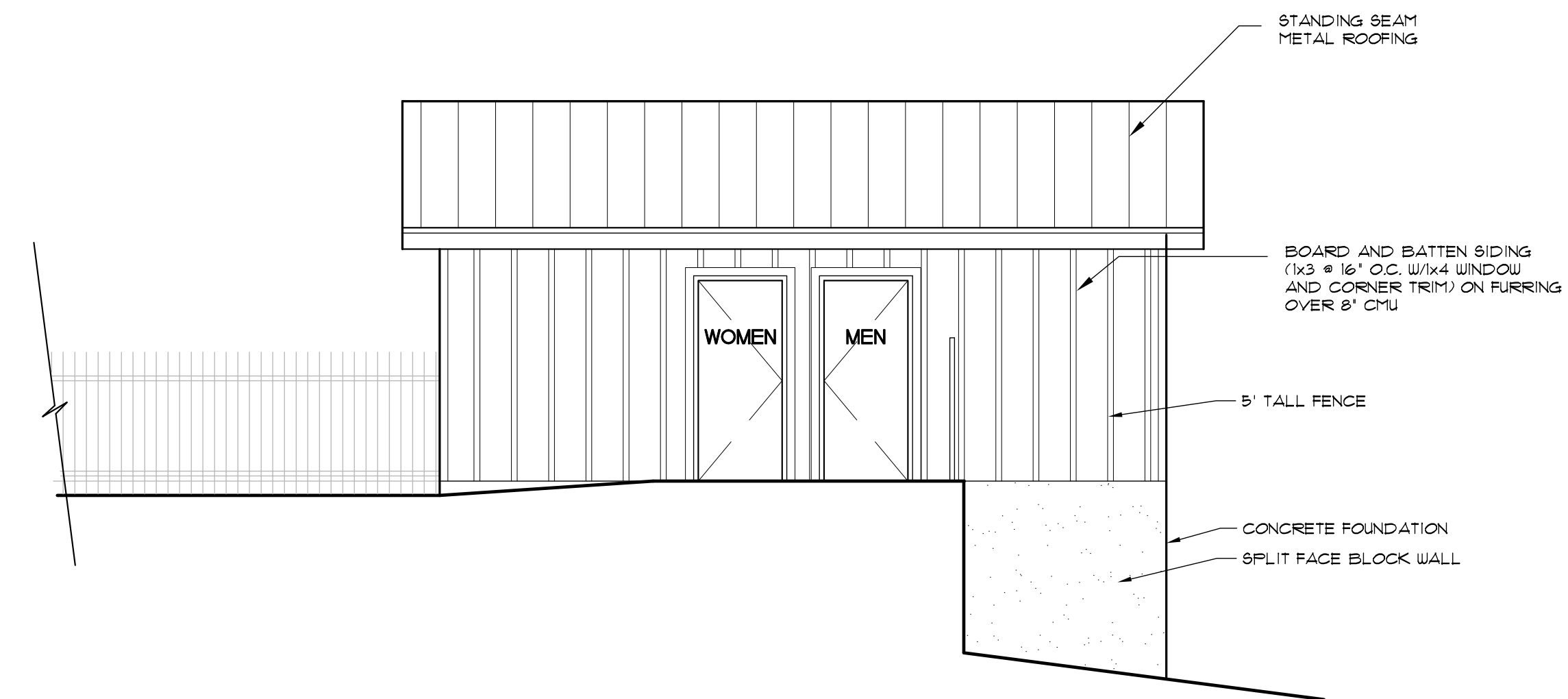
④ RESTROOM BUILDING WEST ELEVATION  
1/4" = 1'-0"



③ RESTROOM BUILDING - NORTH ELEVATION  
1/8" = 1'-0"



② RESTROOM BUILDING EAST ELEVATION  
1/4" = 1'-0"



① RESTROOM BUILDING - SOUTH ELEVATION  
1/4" = 1'-0"

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THE RIFFLE FOOD CARTS

XXXXX  
Sandy, Oregon

DESIGN REVIEW SUBMITTAL

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ARCHITECTURE PLANNING  
AND PROJECT MANAGEMENT  
1202 SE IDELPHAN ROAD, PORTLAND, OR 97204  
PHONE: (503) 807-5621 FAX: (503) 807-5534

REVISION	DATE

APPROVED: BWS  
DRAWN BY:  
SCALE: AS SHOWN  
DATE: 3/11/22  
JOB: 21-110  
FILE:

A3.02

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THE RIFFLE FOOD CARTS

XXXXX  
Sandy, Oregon

DESIGN REVIEW SUBMITTAL

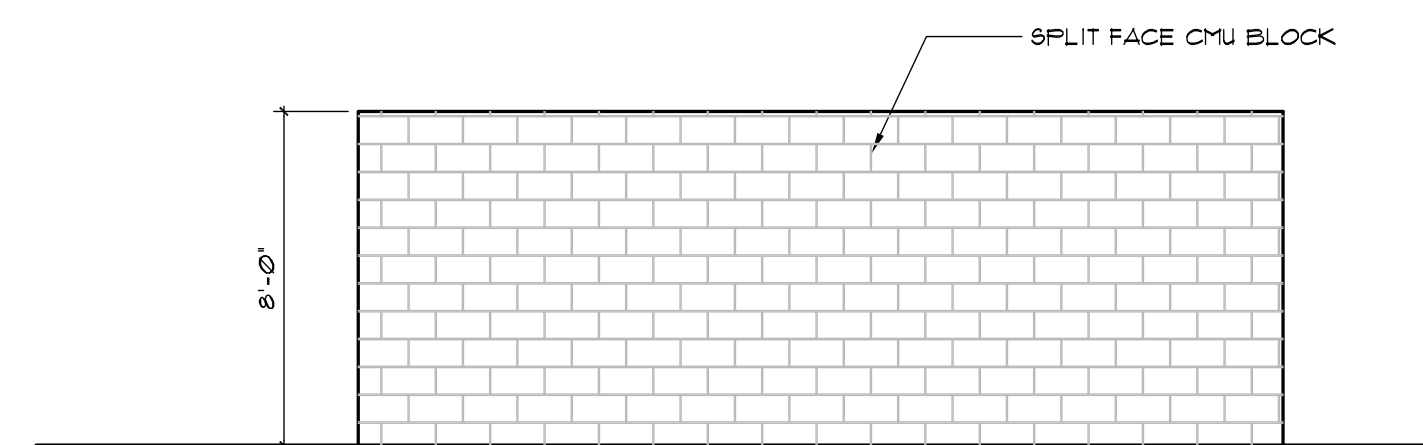
**KEYSTONE**  
ARCHITECTURE PLANNING  
AND PROJECT MANAGEMENT  
12020 SE ELEPHANT ROAD, PORTLAND, OR 97236  
PHONE: (503) 807-0521 FAX: (503) 807-0524

REVISION	DATE

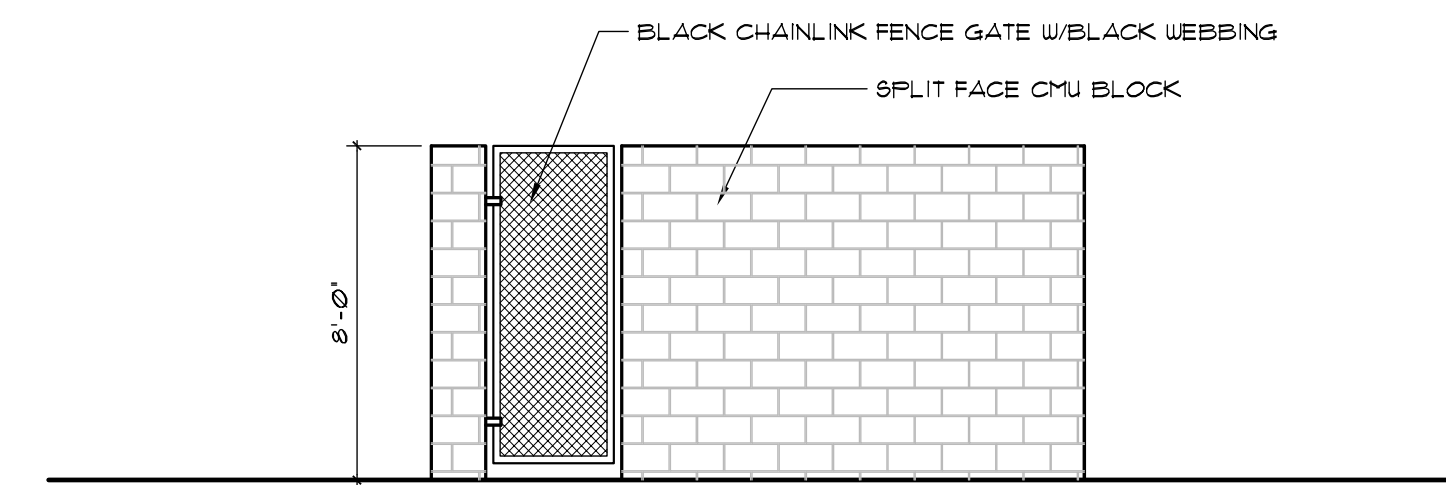
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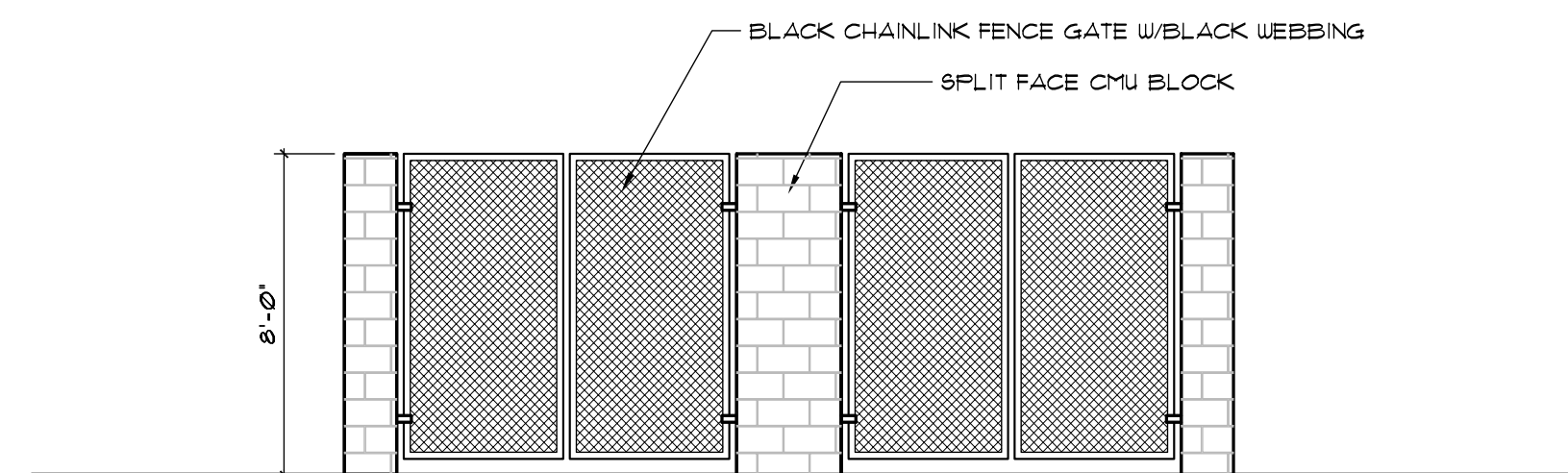
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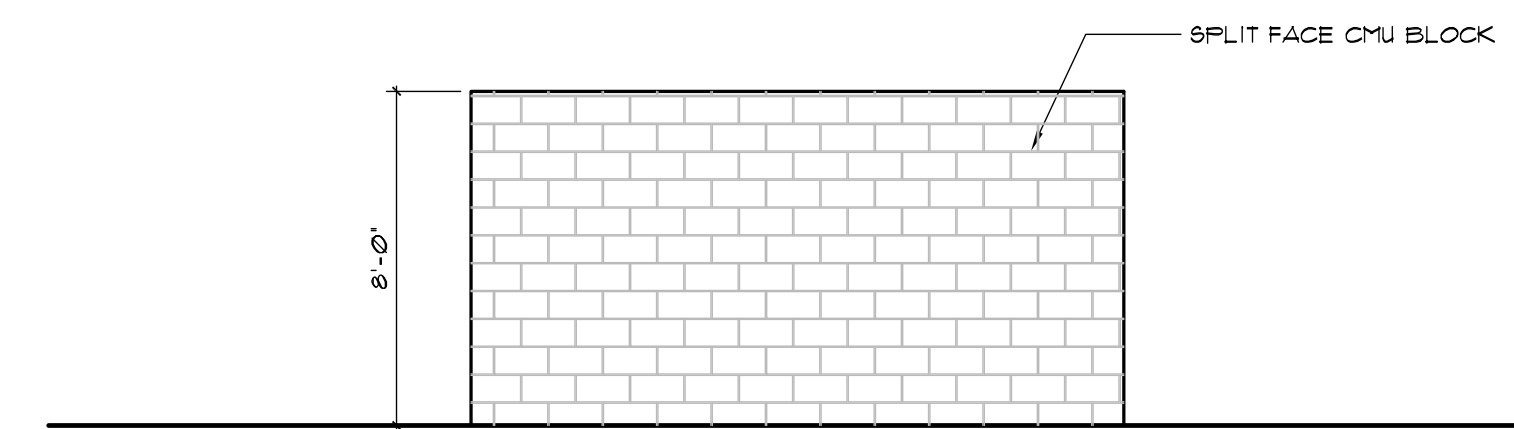
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1/4" = 1'-0"



③ TRASH ENC. - NORTH ELEV.  
1/4" = 1'-0"

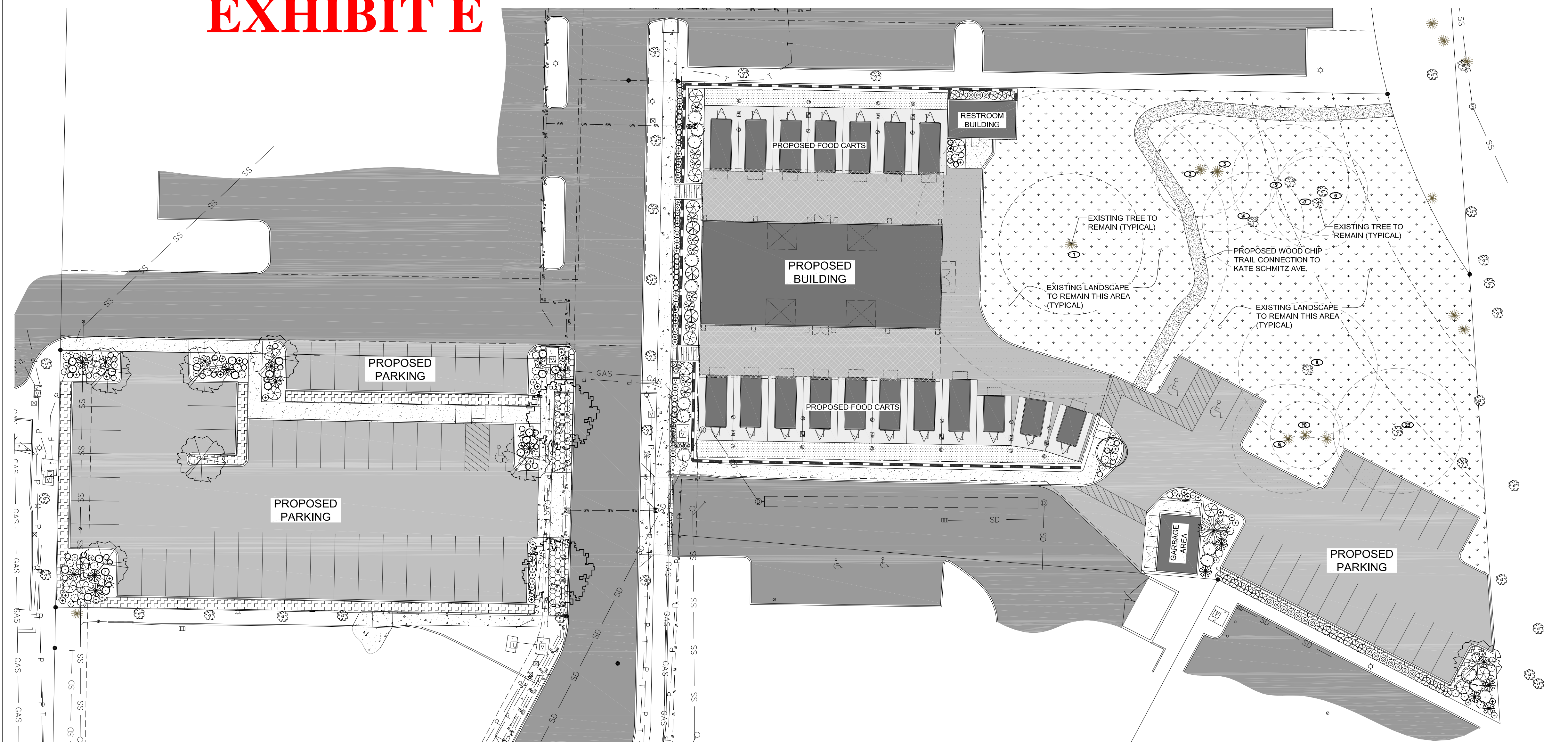


② TRASH ENC. - WEST ELEV.  
1/4" = 1'-0"



① TRASH ENC. - SOUTH ELEV.  
1/4" = 1'-0"

# EXHIBIT E



**SUGGESTED PLANT MATERIALS LISTING:**

SYM	TREES	QTY.	SIZE	CONDITION	REMARKS
(A)	Acer circinatum Vine Maple	1	6-7'	B&B	Multi-stem Collected
(B)	Acer rubrum 'Bowhall' Bowhall Maple	2	2" Cal.	B&B	
(C)	Cupressocyparis leylandii 'Monical' Emerald Isle Leyland Cypress	1	6-7'	B&B	
(D)	Cupressus sempervirens 'Monshel' Tiny Tower Italian Cypress	3	6-7'	B&B	
(E)	Styrax japonica Japanese Snowbell	7	1.5" Cal.	B&B	
Total Trees		14			

**SUGGESTED PLANT MATERIALS LISTING:**

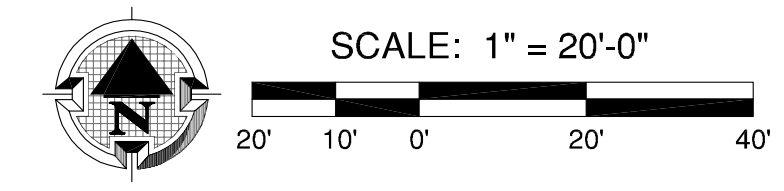
SYM	SHRUBS	QTY.	SIZE	CONDITION	REMARKS
(F)	Berberis thunbergii 'Crimson Pygmy' Crimson Pygmy Barberry	34	1 Gal	Can	
(G)	Choisya ternata 'Sundance' Sundance Mexican Orange	17	3 Gal	Can	
(H)	Euonymus alata 'Compactus' Compact Winged Euonymus	14	5 Gal	Can	
(I)	Euonymus fortunei 'Gold Splash' Gold Splash Euonymus	97	1 Gal	Can	
(J)	Euonymus japonicus 'Silver King' Silver King Euonymus	24	1 Gal	Can	
(K)	Hakonechloa macro 'All Gold' All Gold Japanese Forest Grass	7	1 Gal	Can	
(L)	Hemerocallis x 'Stella de Oro' Stella De Oro Dwarf Daylily	12	2 Gal	Can	
(M)	Rudbeckia fulgida 'Goldsturm' Goldsturm Black-Eyed Susan	50	2 Gal	Can	

**SUGGESTED PLANT MATERIALS LISTING:**

SYM	SHRUBS (CONT.)	QTY.	SIZE	CONDITION	REMARKS
(N)	Rhododendron 'PJM Elite' PJM Elite Rhododendron	15	18-24"	Can	
(O)	Rosa 'Pink Supreme Carpet' Pink Supreme Carpet Rose	17	1 Gal	Can	
(P)	Viburnum davidii David Viburnum	20	1 Gal	Can	
(Q)	Weigela florida 'Bokraspiwi' Spilled Wine Weigela	11	1 Gal	Can	
Total Shrubs		318			

**SUGGESTED PLANT MATERIALS LISTING:**

SYM	GROUND COVER	QTY.	SIZE	CONDITION	REMARKS
(R)	Fragaria x 'Lipstick' Lipstick Strawberry	110	4"	Pots	24" O.C.
(S)	Rubus calycinoides 'Emerald Carpet' Creeping Raspberry	400	4"	Pots	24" O.C.
(T)	Wood chip trail - 4" depth minimum	1,040 SF			
(U)	Existing Landscape to Remain 1. Remove all invasive plants 2. Seed all scarred areas due to construction with the following: Sunmark Seeds (Native EC Mix)			Hydroseed	1 lbs. / 1000 sf



**MEARS DESIGN GROUP**  
LANDSCAPE ARCHITECTURE & PLANNING  
PO Box 23338 | PORTLAND, OREGON | 97281  
PHONE: 503.601.4516 | FAX: 503.924.4688

REGISTERED  
BUSINESS ARCHITECT  
CONSULTANT  
ARCHITECT

**THE RIFFLE FOOD CARTS**  
LANDSCAPE PLAN  
TWIN CEDARS CENTER  
SANDY, OREGON

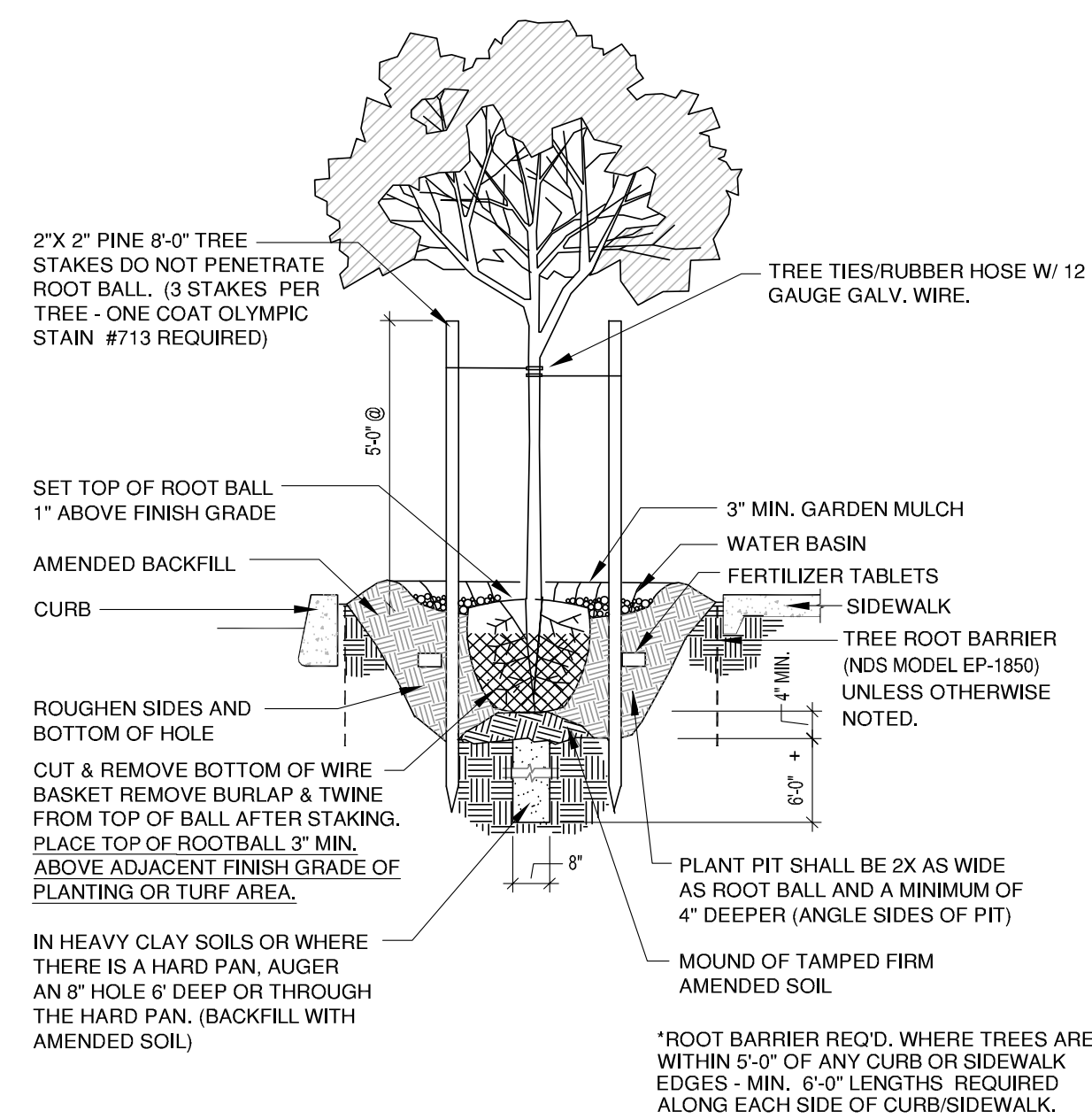
REVISIONS

REV.	DATE	DESCRIPTION

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PLANTING PLAN

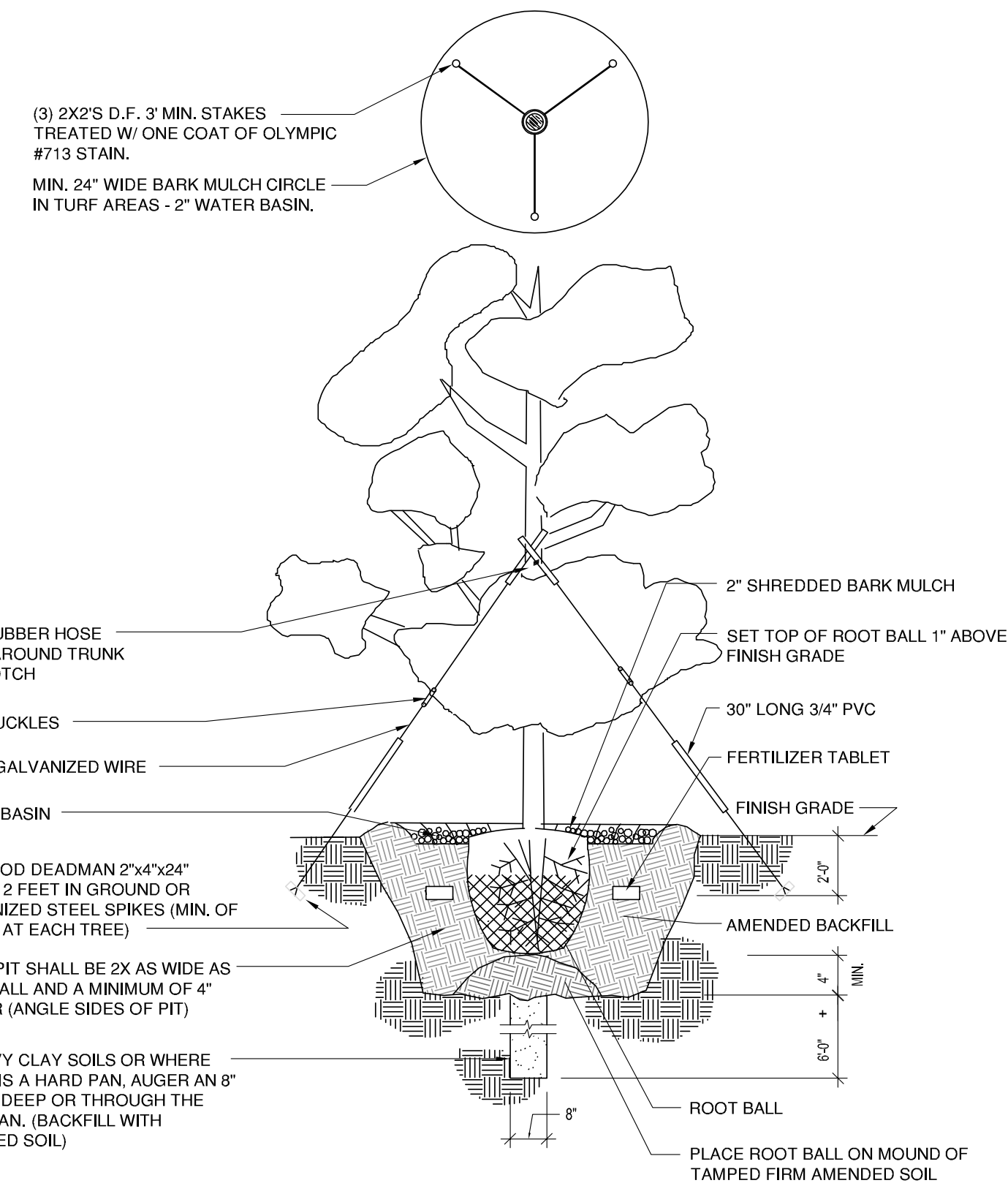
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CHECKED BY: \_\_\_\_\_ TM.  
ISSUE DATE: 03/16/2022  
JOB NO.: 2209

SHEET:  
**L1**  
OF 2



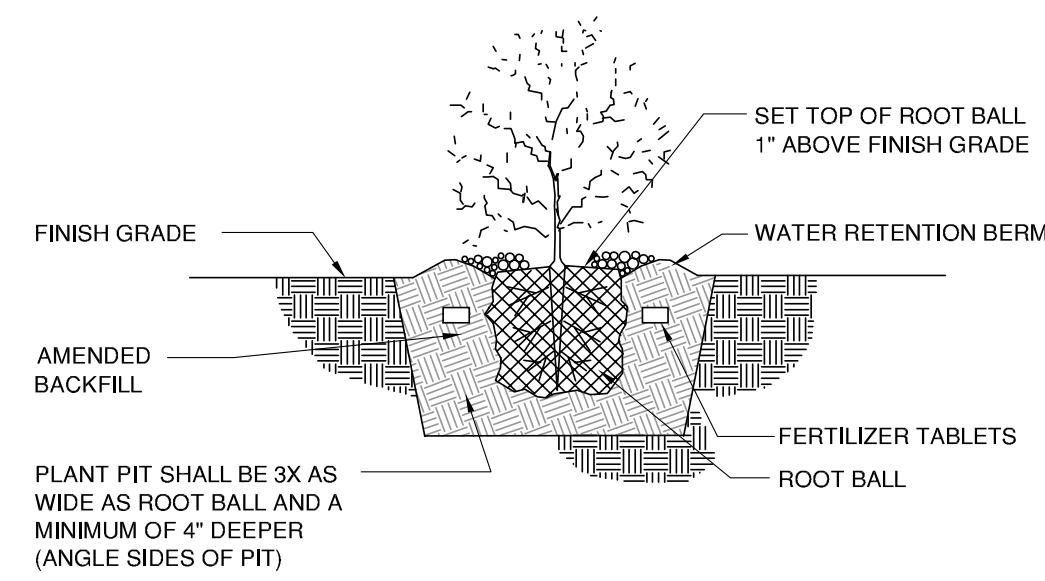
**TREE PLANTING DETAIL**

N.T.S.



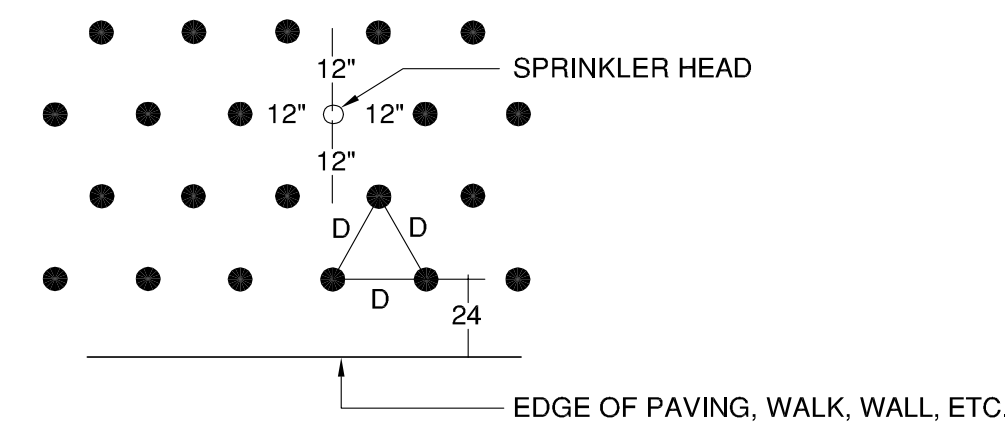
**EVERGREEN TREE PLANTING DETAIL**

N.T.S.

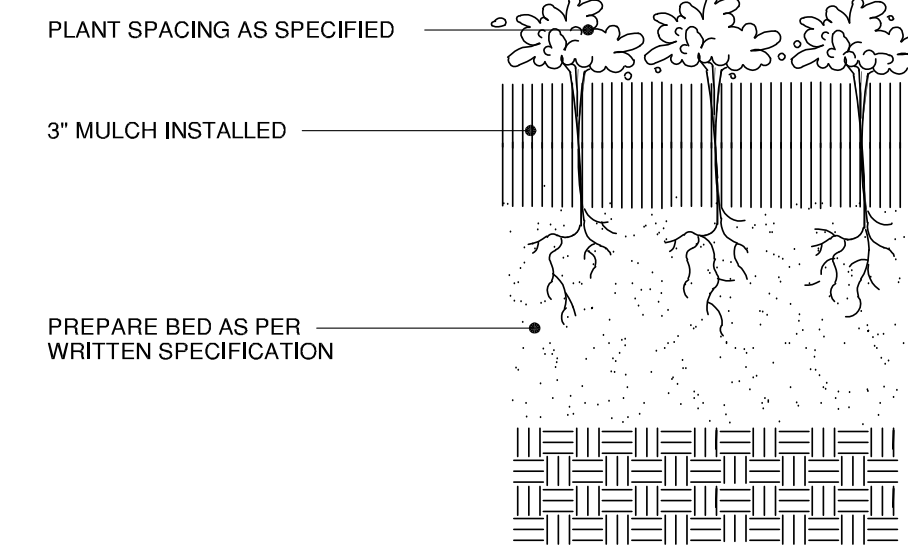


**SHRUB PLANTING DETAIL**

N.T.S.



NOTE:  
LOCATE PLANTS SPACED EQUAL DISTANCE (D) FROM EACH OTHER AS SPECIFIED AND MINIMUM OF 12" FROM SPRINKLER HEAD



**GROUNDCOVER PLANTING DETAIL**

N.T.S.

**TYPICAL PLANTING NOTES:**

1. B&B stock may be substituted with container stock of equal grade.
2. Container stock may be substituted with B&B stock of equal grade.
3. Plant material shall conform with American Standard for Nursery Stock, ANSI Z60.1, 2014 edition.
4. All trees shall be branched.
5. Refer to project technical specification for topsoil requirement. All planting beds shall have a minimum of 18 inches topsoil. Re-use of existing topsoil is recommended, but must meet specifications.
6. Garden mulch all planting beds with 3" min. Layer of specified garden mulch.
7. In the event of a discrepancy between this material listing and the drawings, the drawings shall govern the plant species and quantities required.
8. In the event of question or lack of clarity on drawings, Landscape Contractor is to call Landscape Architect before proceeding.
9. Landscape contractor is to notify Landscape Architect prior to installation of plant material to approve final placement.
10. Landscape Contractor to verify plant material quantities.
11. Contractor will provide a one year warranty on all provided & installed plant material from date of final approval by owner's representative.

**MEARS DESIGN GROUP**  
LANDSCAPE ARCHITECTURE & PLANNING  
PO Box 23338 | PORTLAND, OREGON | 97281  
PHONE: 503.601.4516 | FAX: 503.924.4688

REGISTERED  
PROFESSIONAL  
LANDSCAPE ARCHITECT  
STATE OF OREGON  
NO. 12345

**THE RIFFLE FOOD CARTS**  
LANDSCAPE PLAN  
TWIN CEDARS CENTER  
SANDY, OREGON

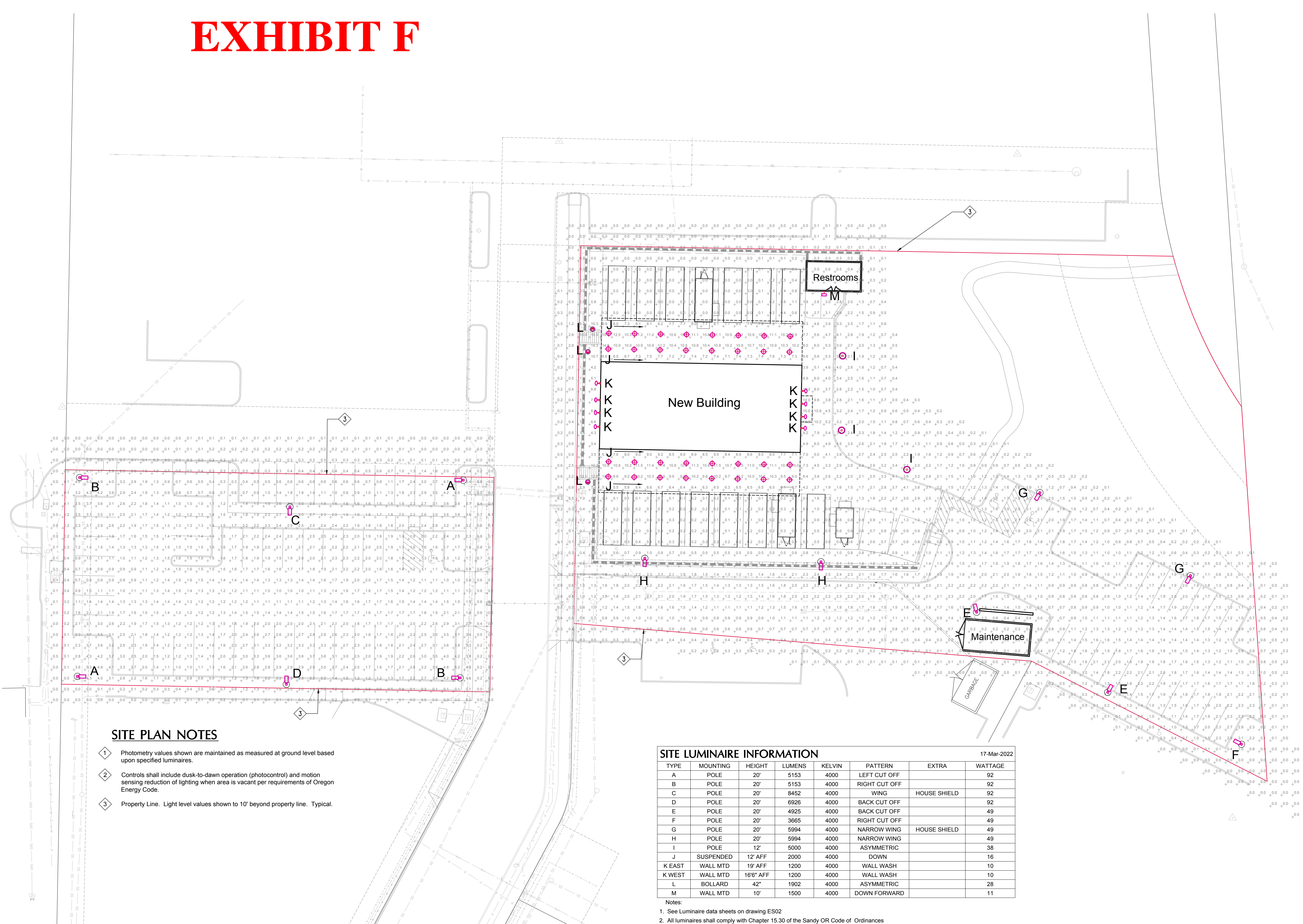
REVISIONS		
REV.	DATE	DESCRIPTION

SHEET NAME:  
**PLANTING  
DETAILS & NOTES**

DRAWN BY: \_\_\_\_\_ TM.  
CHECKED BY: \_\_\_\_\_ TM.  
ISSUE DATE: 03/16/2022  
JOB NO.: 2209

SHEET:  
**L2**  
OF 2

# EXHIBIT F



### SITE PLAN NOTES

- 1 Photometry values shown are maintained as measured at ground level based upon specified luminaires.
- 2 Controls shall include dusk-to-dawn operation (photocontrol) and motion sensing reduction of lighting when area is vacant per requirements of Oregon Energy Code.
- 3 Property Line. Light level values shown to 10' beyond property line. Typical.

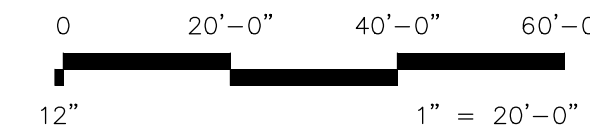
### SITE LUMINAIRE INFORMATION

TYPE	MOUNTING	HEIGHT	LUMENS	KELVIN	PATTERN	EXTRA	WATTAGE
A	POLE	20'	5153	4000	LEFT CUT OFF		92
B	POLE	20'	5153	4000	RIGHT CUT OFF		92
C	POLE	20'	8452	4000	WING	HOUSE SHIELD	92
D	POLE	20'	6926	4000	BACK CUT OFF		92
E	POLE	20'	4925	4000	BACK CUT OFF		49
F	POLE	20'	3655	4000	RIGHT CUT OFF		49
G	POLE	20'	5994	4000	NARROW WING	HOUSE SHIELD	49
H	POLE	20'	5994	4000	NARROW WING		49
I	POLE	12'	5000	4000	ASYMMETRIC		38
J	SUSPENDED	12' AFF	2000	4000	DOWN		16
K EAST	WALL MTD	19' AFF	1200	4000	WALL WASH		10
K WEST	WALL MTD	16'6" AFF	1200	4000	WALL WASH		10
L	BOLLARD	42"	1902	4000	ASYMMETRIC		28
M	WALL MTD	10'	1500	4000	DOWN FORWARD		11

- Notes:  
 1. See Luminaire data sheets on drawing ES02  
 2. All luminaires shall comply with Chapter 15.30 of the Sandy OR Code of Ordinances

### 1 SITE LIGHTING AND PHOTOMETRY PLAN

SCALE: 1"=20'-0"



**HOOD-MCNEES INC**  
 MECHANICAL-ELECTRICAL ENGINEERS  
 1923 SE Stark Street  
 Portland, OR 97214-1549  
 Tel: (503) 251-7825  
 Fax: (503) 251-8309

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**THE RIFFLE FOOD CARTS**  
 DESIGN REVIEW SUBMITTAL  
 Approx 37151 HWY 26, SANDY, OR 97055

PROPOSED SITE LIGHTING PLAN  
 WITH PHOTOMETRY

REVISIONS		
NO.	DESCRIPTION	DATE

DRAWN	eri
CHECKED	FJS
DATE	17 MAR 2022
SCALE	AS NOTED
JOB NO.	2272
SHEET	

**ES.01**

### D-Series Size 0 LED Area Luminaire

**Types: A,B,C,D,E,F,G,H**

**Specifications**

EPA: 0.95 ft<sup>2</sup> (0.102 m<sup>2</sup>)  
 Length: 26" (660 mm)  
 Width: 13" (330 mm)  
 Height: 3" (76 mm)  
 Weight: 7" (178 mm)  
 Weight (max): 15.5 lbs (7.0 kg)

**Ordering Information** EXAMPLE: DSX0 LED P6 40K T3M MVOLT SPA N1AIR2 91RH DBX0

Series	LED	Color Temperature	Distribution	Voltage	Mounting
DSX0	DSX0	40K	T3M	MVOLT	SPA

**Custom options**

**Shape Factor**

**Accessories**

**Notes**

LITHONIA LIGHTING COMMERCIAL OUTDOOR

### Radean Post Top LED Area Luminaire

**Type I**

**Specifications**

EPA: 1.02 ft<sup>2</sup> (0.102 m<sup>2</sup>)  
 Length: 26" (660 mm)  
 Width: 24" (610 mm)  
 Height: 4" (101 mm)  
 H1: 26" (660 mm)  
 Luminaire Height: 38 1/8" (973 mm)  
 Weight: 38 lbs (17.24 kg)

**Ordering Information** EXAMPLE: RADPT LED P3 30K SYM MVOLT P74 FR DNAXD

Series	LED	Color Temperature	Distribution	Voltage	Mounting
RADPT	P3	30K	SYM	MVOLT	P74

**Custom options**

**Shape Factor**

**Accessories**

**Notes**

LITHONIA LIGHTING COMMERCIAL OUTDOOR

### ANP Lighting Specifications W516

**TYPE J**

**Specifications**

Weight: 1.5 lbs (0.68 kg)  
 W516 - M016LD - W - 40K - RTC - ES - 100GLCL - FC - 11 - UNV

**Ordering Information** EXAMPLE: W516 M016LD D W 40K RTC ES 100GLCL FC 11 UNV

Series	LED	Color Temperature	Distribution	Voltage	System
W516	M016LD	40K	RTC	ES	100GLCL

**Light Source & Wattages**

**Mounting Sources**

**Color Temperature (CCT)**

**Accessories**

**Notes**

LITHONIA LIGHTING COMMERCIAL OUTDOOR

### ANP Lighting Specifications A814-M016LD-D-W-40K-RTC-UNV-E6

**TYPE K**

**Specifications**

Weight: 1.5 lbs  
 A814 - M016LD - D - W - 40K - RTC - UNV - E6 - SWL - 41

**Ordering Information** EXAMPLE: A814 M016LD D W 40K RTC UNV E6 SWL 41

Series	LED	Color Temperature	Distribution	Voltage	System
A814	M016LD	40K	RTC	UNV	E6

**Light Source & Wattages**

**Mounting Sources**

**Color Temperature (CCT)**

**Accessories**

**Notes**

LITHONIA LIGHTING COMMERCIAL OUTDOOR

### THE EDGE® Series LED Pathway Luminaire

**TYPE L**

**Specifications**

Weight: 1.5 lbs  
 THE EDGE - M016LD - D - W - 40K - RTC - UNV - E6 - SWL - 41

**Ordering Information** EXAMPLE: THE EDGE M016LD D W 40K RTC UNV E6 SWL 41

Series	LED	Color Temperature	Distribution	Voltage	System
THE EDGE	M016LD	40K	RTC	UNV	E6

**Light Source & Wattages**

**Mounting Sources**

**Color Temperature (CCT)**

**Accessories**

**Notes**

LITHONIA LIGHTING COMMERCIAL OUTDOOR

### ANP Lighting Specifications WPX LED Wall Packs

**TYPE M**

**Specifications**

Weight: 1.5 lbs  
 WPX - M016LD - D - W - 40K - RTC - UNV - E6 - SWL - 41

**Ordering Information** EXAMPLE: WPX2 LED 40K MVOLT DBX0

Series	LED	Color Temperature	Distribution	Voltage	System
WPX2	M016LD	40K	RTC	UNV	E6

**Light Source & Wattages**

**Mounting Sources**

**Color Temperature (CCT)**

**Accessories**

**Notes**

LITHONIA LIGHTING COMMERCIAL OUTDOOR

**HOOD-MCNEES INC**  
 MECHANICAL-ELECTRICAL ENGINEERS

1923 SE Stark Street  
 Portland, OR 97214-1549  
 Tel: (503) 231-7825  
 Fax: (503) 231-8309

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REGISTERED PROFESSIONAL ENGINEER  
 11224  
 HAROLD E. MCNEES  
 OREGON  
 JULY 17, 1981  
 EXPIRES: DEC. 31, 2022

**THE RIFFLE FOOD CARTS**  
 DESIGN REVIEW SUBMITTAL

Approx 37151 HWY 26, SANDY OR 97055

LUMINAIRE DATA SHEETS

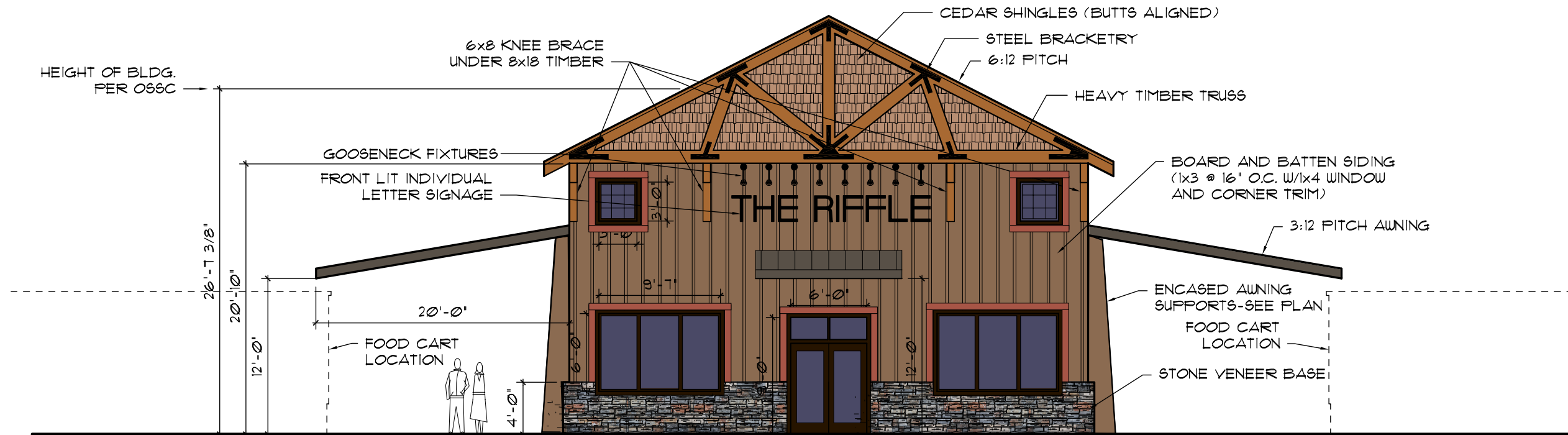
REVISONS

NO.	DESCRIPTION	DATE

DRAWN: erl  
 CHECKED: FIS  
 DATE: 17 MAR 2022  
 SCALE: AS NOTED  
 JOB NO: 2272  
 SHEET

**ES02**

# EXHIBIT G

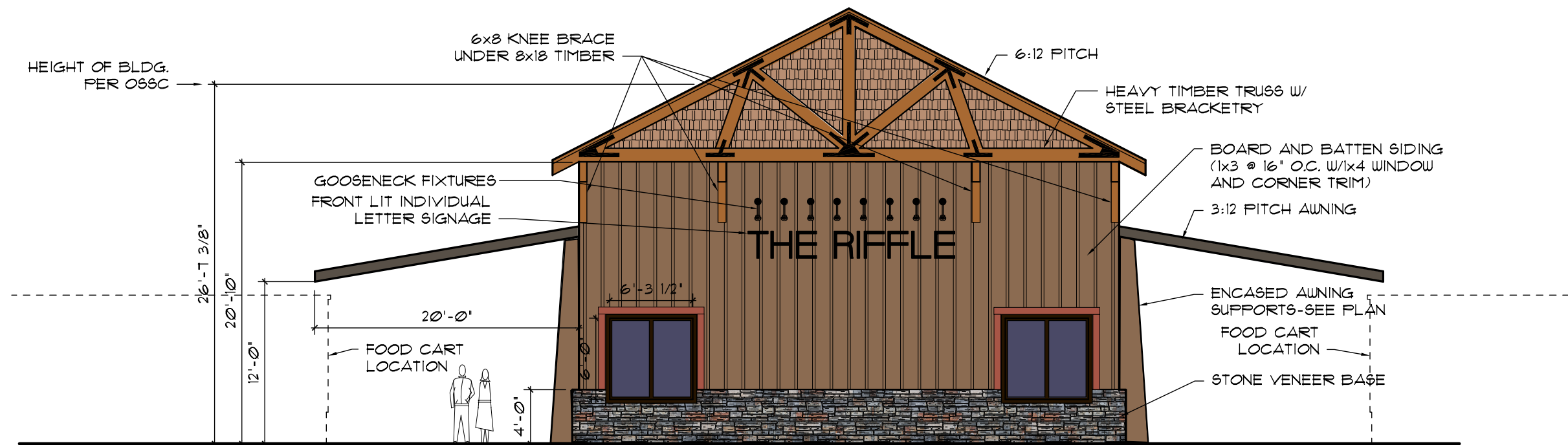


PRELIMINARY EAST ELEVATION - CONCEPT F

## THE RIFFLE FOOD CART FACILITY

KEYSTONE Architecture Planning and Project Management LLC  
 T: 503-761-1362 F: 503-760-0534

1/8" = 1'-0"  
 2/28/22



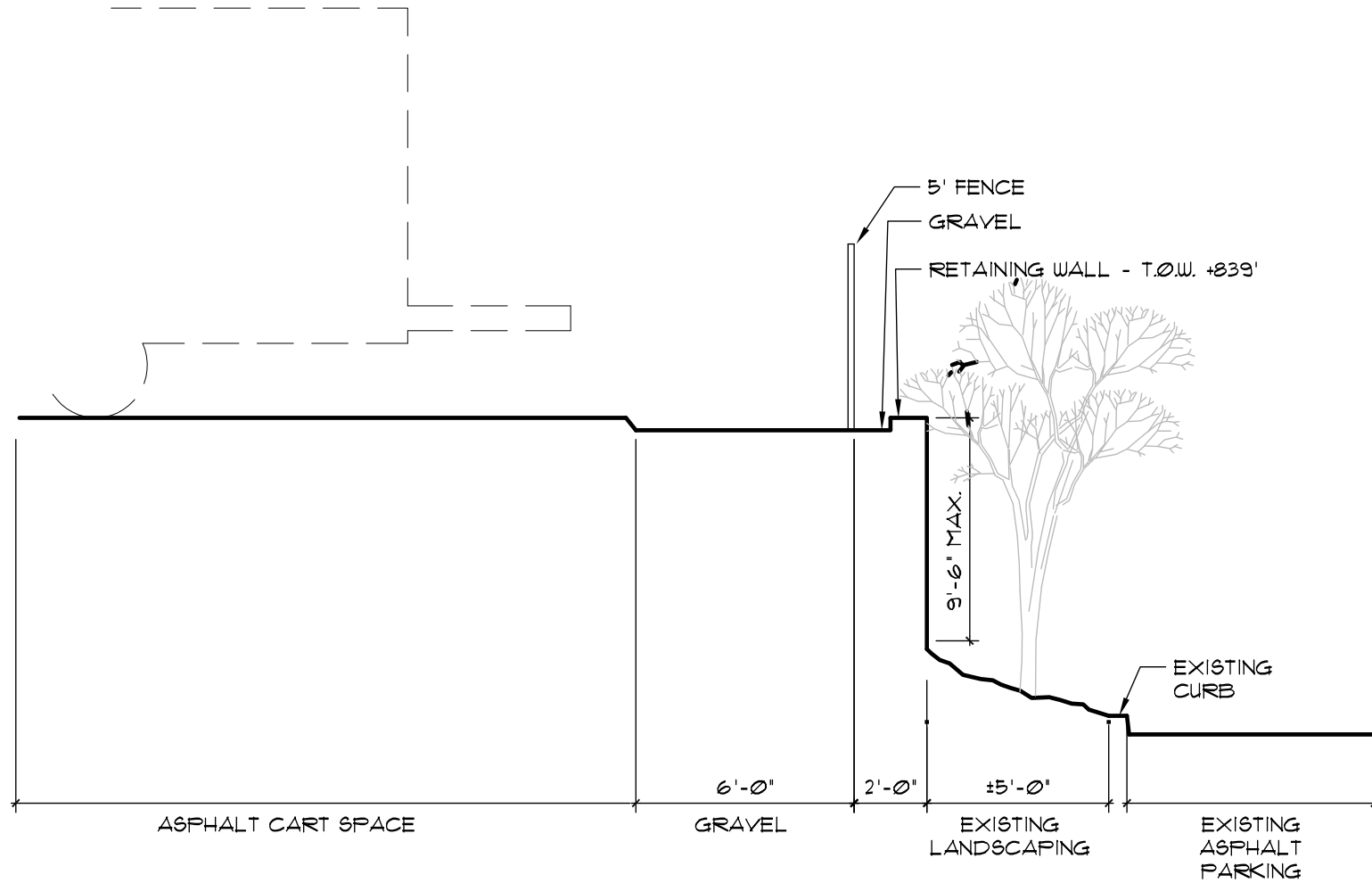
PRELIMINARY WEST ELEVATION - CONCEPT E

# THE RIFFLE FOOD CART FACILITY

KEYSTONE Architecture Planning and Project Management LLC  
 T: 503-761-1362 F: 503-760-0534

1/8" = 1'-0"  
 2/28/22

# EXHIBIT H



NORTH OF NORTH CARTS  
RETAINING WALL - FENCE SECTION

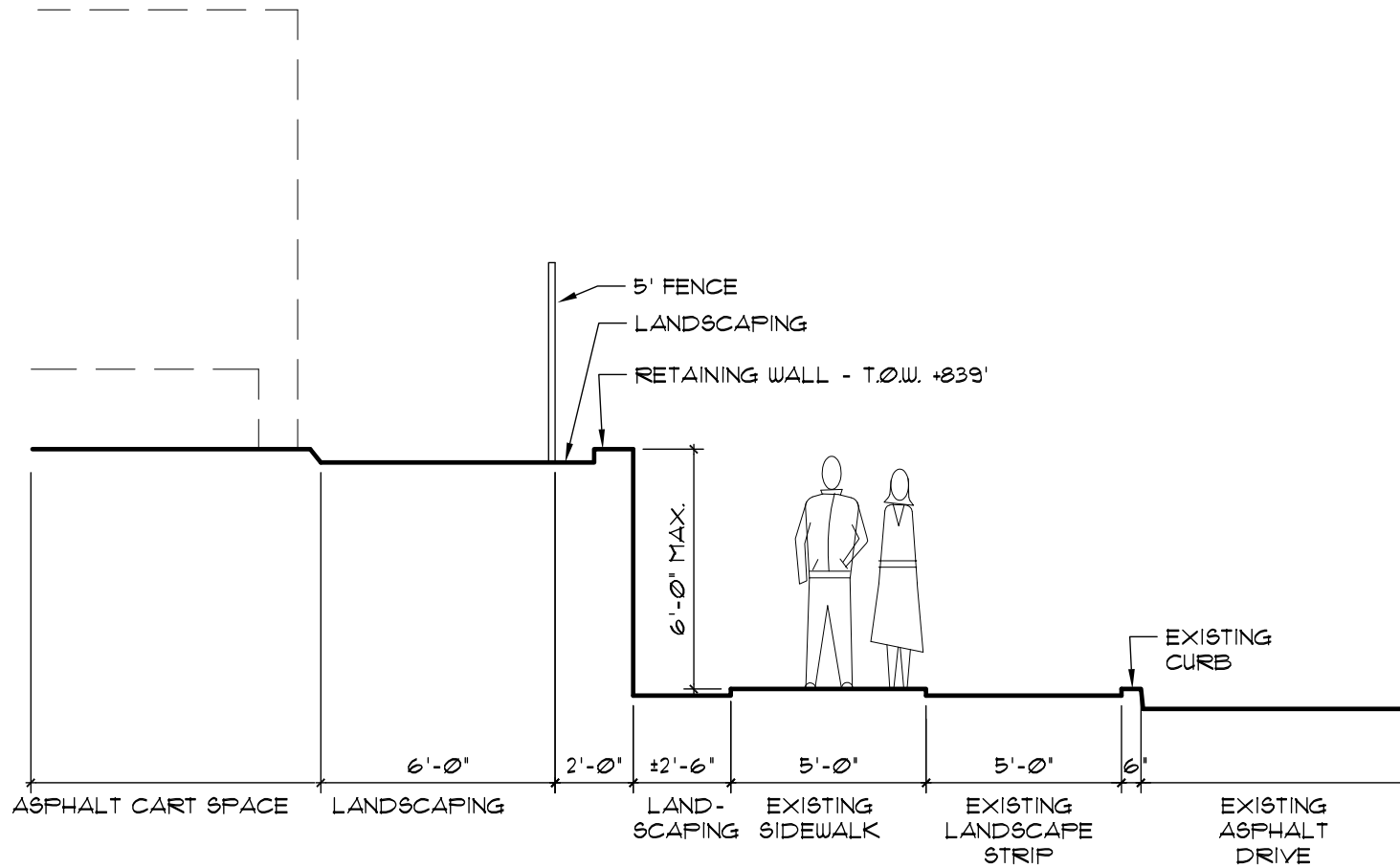
## THE RIFFLE FOOD CART BUILDING - Section A

KEYSTONE Architecture Planning and Project Management LLC  
T: 503-761-1362 F: 503-760-0534

1/4" = 1'-0"

4/19/22





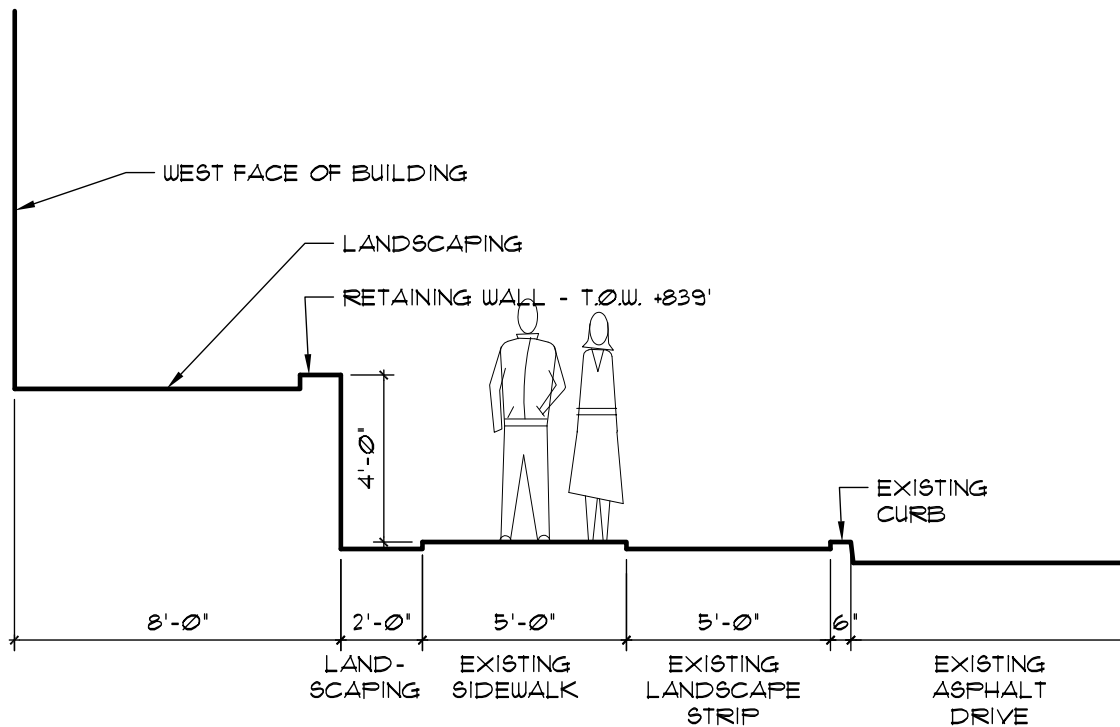
WEST OF NORTH CARTS  
 RETAINING WALL-FENCE SECTION

# THE RIFFLE FOOD CART BUILDING - Section B

KEYSTONE Architecture Planning and Project Management LLC  
 T: 503-761-1362 F: 503-760-0534

1/4" = 1'-0"

4/19/22

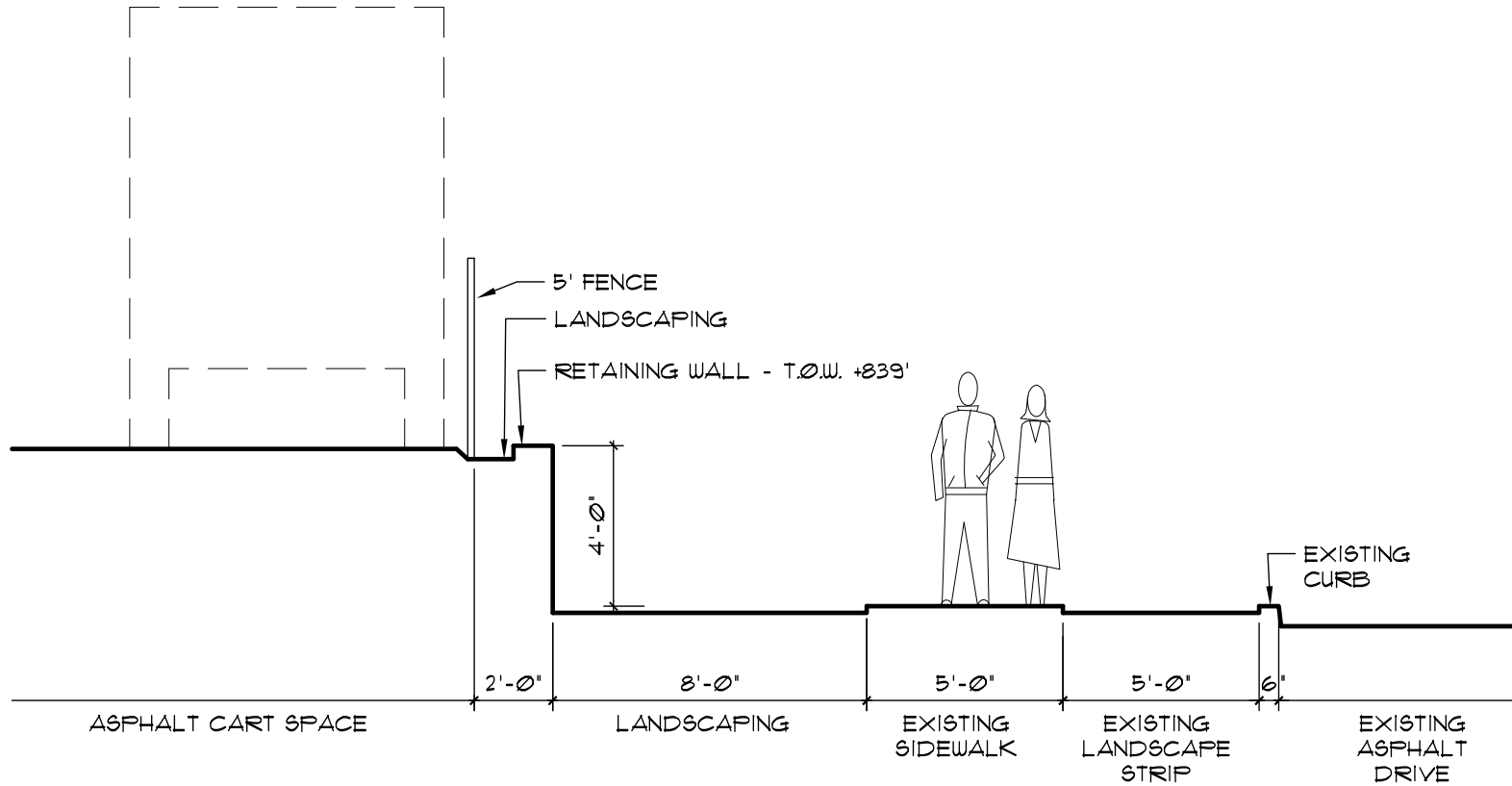


WEST OF BUILDING  
RETAINING WALL-FENCE SECTION

# THE RIFFLE FOOD CART BUILDING - Section C

KEYSTONE Architecture Planning and Project Management LLC  
T: 503-761-1362 F: 503-760-0534

1/4" = 1'-0"  
4/19/22



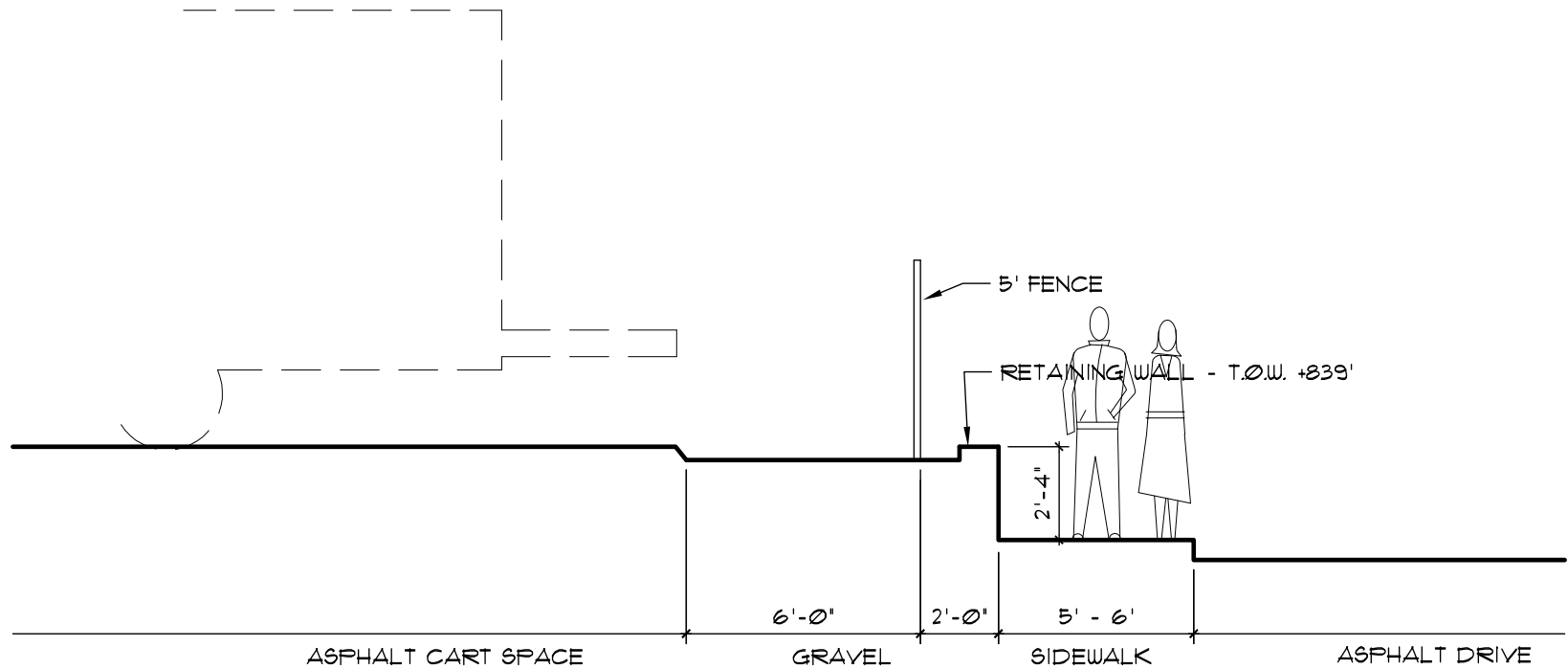
WEST OF SOUTH CARTS  
 RETAINING WALL-FENCE SECTION

# THE RIFFLE FOOD CART BUILDING - Section D

KEYSTONE Architecture Planning and Project Management LLC  
 T: 503-761-1362 F: 503-760-0534

1/4" = 1'-0"

4/19/22



SOUTH OF SOUTH CARTS  
 RETAINING WALL - FENCE SECTION

# THE RIFFLE FOOD CART BUILDING - Section E

KEYSTONE Architecture Planning and Project Management LLC  
 T: 503-761-1362 F: 503-760-0534

1/4" = 1'-0"  
 4/19/22

**EXHIBIT I**

**Preliminary Storm Drainage Report  
for  
The RIFFLE Food Carts**

March 2022

**Prepared By:**

All County Surveyors and Planners, Inc.  
Ray L. Moore, P.E., P.L.S.  
P.O. Box 955 Sandy, Oregon 97055  
Phone: 503-668-3151  
Job #21-092

**Prepared For:**

Todd Hoffman  
PO Box 1016  
Sandy, OR 97055  
Phone: 503-863-1131



RENEWAL DATE: 12/31/2022

## **Table of Contents**

<u>Description</u>	<u>Page(s)</u>
<b>Purpose</b>	2
<b>Project Location and Description</b>	2
<b>Proposed Improvements</b>	3
<b>Hydrograph Parameters</b>	3
<b>Detention Sizing Results</b>	5
<b>Water Quality Design</b>	6
<b>Conclusion</b>	6
<b>USDA Custom Soil Resource Report</b>	Appendix A
<b>Basin A, Detailed Hydrographs, Analysis, Data, Detention Design</b>	Appendix B
<b>Basin B, Detailed Hydrographs, Analysis, Data, Detention Design</b>	Appendix C
<b>Drainage Basin Map</b>	Appendix D
<b>Contech CDS Manhole Detail</b>	Appendix E

**PURPOSE:**

The purpose of this analysis is to:

- Describe existing and proposed site conditions.
- Provide detention calculations for the 2-yr, 5-yr, 10-yr, and 25-yr storm events.
- Provide water quality calculations.

**PROJECT LOCATION AND DESCRIPTION:**

The subject property is located at 37115 and 37133 Highway 26, Sandy, OR (Tax lots 1000 and 1200 Map 2S 4E 14BA). The project site is in the Twin Cedars Development adjacent to the Mt. Hood Athletic Club. The property is accessed by a private driveway off Highway 26 created as part of the Twin Cedars Subdivision Improvements. Tax lot 1000 is on the west side of the private driveway accessing the athletic club and tax lot 1200 is on the east side of the street. See below.



The portions of the sites that will be developed consist primarily of grass. The northeasterly corner of tax lot 1200 will be left in its natural state and the trees will be protected from construction activities. Private storm sewer pipes were stubbed to the two pad sites and were sized for the future development of these lots. The storm pipes drain south to an existing detention system that was sized to detain the private driveways only. It was anticipated that the pad sites, would provide detention as needed with future development.

## **PROPOSED IMPROVEMENTS**

Development on tax lot 1200 includes the construction of food cart pads with utilities to accommodate up to 18 food carts, a new 3,600 square foot building, restrooms, and 22 space parking lot. Tax lot 1000 will be used for parking only and will have about 47 spaces.

The purpose of this Preliminary Storm Drainage Report is to calculate the amount of stormwater detention and water quality requirements that will be needed to develop the proposed project. Each tax lot will have its own storm detention and water quality system. Storm sewer pipes and catch basins will be installed to convey storm water to new private detention tanks, one on each site. New CDS water quality manholes will be installed downstream of each detention tank and new storm pipes will be installed to connect to the existing storm sewer stubs discussed above. The development on tax lot 1200 will be called Basin A and tax lot 1000 will be called Basin B in this report. See the Drainage Basin Map in Appendix D.

## **HYDROGRAPH PARAMETERS:**

### **Rainfall**

The rainfall distribution numbers below were taken from the City of Sandy Stormwater Website: <https://www.ci.sandy.or.us/publicworks/page/stormwater>

- 2 year, 24 hr. rainfall = 3.5"
- 5 year, 24 hr. rainfall = 4.5"
- 10 year, 24 hr. rainfall = 4.8"
- 25 year, 24 hr. rainfall = 5.5"

### **Soils**

The soil data for this site is from *Soil Survey of Clackamas County, Oregon* published by the United States Department of Agriculture (USDA). The post-development soil is assumed to be the same as pre-development.

- Soil Type: 15B, Cazadero silty clay loam. Hydrologic Group "C" (Basin A, Tax Lot 1200)
- 24B, Cottrell silty clay loam. Hydrologic Group "C" (Basin B, Tax Lot 1000)

### **Areas and Curve Numbers**

Drainage basin areas were determined using a topographic map drafted in AutoCAD. See the Drainage Basin Map in Appendix D. See the tables below for detailed area breakdowns the corresponding CN values.



<b>BASIN A Pre-Development</b>		
<b>Areas</b>	<b>CN</b>	<b>Land Use Description</b>
Pervious (0.69 acres)	79	Pre-development-Soil Group C, City of Portland SWMM, Table A-8. Curve Numbers
Impervious (0.00 acres)	98	Post-development-impervious area, City of Portland SWMM, Table A-8. Curve Numbers
<b>BASIN A Post-Development</b>		
<b>Areas</b>	<b>CN</b>	<b>Land Use Description</b>
Pervious (0.00 acres)*	70	Grass Lawn-Soil Group C, City of Portland SDFDM, Table 6-5 Non-Composite Curve Numbers (CNs)
Impervious (0.69 acres)*	98	Post-development-impervious area, City of Portland SWMM, Table A-8. Curve Numbers

<b>BASIN B Pre-Development</b>		
<b>Areas</b>	<b>CN</b>	<b>Land Use Description</b>
Pervious (0.43 acres)	79	Pre-development-Soil Group C, City of Portland SWMM, Table A-8. Curve Numbers
Impervious (0.00 acres)	98	Post-development-impervious area, City of Portland SWMM, Table A-8. Curve Numbers
<b>BASIN B Post-Development</b>		
<b>Areas</b>	<b>CN</b>	<b>Land Use Description</b>
Pervious (0.00 acres)*	70	Grass Lawn-Soil Group C, City of Portland SDFDM, Table 6-5 Non-Composite Curve Numbers (CNs)
Impervious (0.43 acres)*	98	Post-development-impervious area, City of Portland SWMM, Table A-8. Curve Numbers

\* To be conservative, in these preliminary calculations, the developed site will be considered 100% impervious in reality there will be landscaped area.

#### **Time of Concentration**

The times of concentrations ( $T_c$ ), used in the calculations:

Pre-development  $T_c$ = 10 minutes (assumed)

Post-development  $T_c$ = 5 minutes (assumed)

The post developed time of concentration was assumed to be the minimum 5 minutes, which is a conservative assumption.

### Hydrograph Modeling Results

Hydrographs for the site were determined using a spreadsheet based on the King County, Washington Hydrograph Program, version 4.21B, which uses the Santa Barbara Urban Hydrograph (SBUH) method. See Appendix B and C for detailed results.

### DETENTION SIZING RESULTS:

The Post-Development flows for Basin A were routed through a proposed 4-foot diameter detention tank and the Post-Development flows for Basin B were routed through a proposed 3-foot diameter detention tank. The detention tanks have been designed so that the Post-Developed release rates for the entire site do not exceed the Pre-Developed rates for the 2-year, 5-year, 10-year, and 25-year storm events per the City of Sandy Public Works Design Standards. See the Detention System Summary in Appendix B and C.

<b>BASIN A Results</b>			
<b>Recurrence Interval (years)</b>	<b>Pre-developed Flows (cfs)</b>	<b>Developed Flows (cfs)</b>	<b>Proposed Release Rates (cfs)</b>
2	0.242	0.630	0.240
5	0.393	0.816	0.393
10	0.440	0.872	0.436
25	0.553	1.002	0.553

The required storage volume is 1,462-cubic feet. This can be contained in 116.3 linear feet of a 4-foot diameter tank.

<b>BASIN B Results</b>			
<b>Recurrence Interval (years)</b>	<b>Pre-developed Flows (cfs)</b>	<b>Developed Flows (cfs)</b>	<b>Proposed Release Rates (cfs)</b>
2	0.151	0.393	0.151
5	0.245	0.509	0.245
10	0.274	0.543	0.271
25	0.345	0.624	0.345

The required storage volume is 1,026-cubic feet. This can be contained in 145.1 linear feet of a 3-foot diameter tank.

### Flow Control:

The flow control orifices were designed to release the Post-development Peak Flows at or below the Pre-developed Peak Flows. (See the Detention System Summary - Appendix B and C)

<b>BASIN A Orifice Table</b>		
<b>Orifice</b>	<b>Dia. (inches)</b>	<b>Height (feet)</b>
Bottom	2.24	-1.00
Top	2.73	2.50

<b>BASIN B Orifice Table</b>		
<b>Orifice</b>	<b>Dia. (inches)</b>	<b>Height (feet)</b>
Bottom	2.05	-0.10
Top	2.29	1.98

### **WATER QUALITY DESIGN:**

#### **CDS Storm Water Treatment Device**

A CDS manhole by Contech Stormwater Solutions was designed for each basin to provide the required water quality for the sites - see detail in Appendix E. The total impervious area for each basin was used to size the manholes.

The flow (Q) was calculated using the rational method ( $Q = CIA$ )

Where Q = flow (cfs)

C = runoff coefficient = 0.90 pavement and Roofs

I = Intensity = 0.2 inches per hour (Water Quality Design Storm)

A = Impervious Area = 0.69 Acres (Basin A)

A = Impervious Area = 0.43 Acres (Basin B)

$Q = 0.90 \times 0.2 \times 0.69 = 0.124 \text{ cfs (Basin A)}$

$Q = 0.90 \times 0.2 \times 0.43 = 0.077 \text{ cfs (Basin A)}$

The Contech Storm Water Treatment Device Model: CDS2015-4-C has a treatment capacity of 0.7 cfs which exceeds the above requirements. It also has an internal bypass capable of handling 10.0 cfs.

**One CDS Model CDS2015-4-C, for each basin can be used to adequately treat the stormwater runoff from this project.**

### **CONCLUSIONS:**

- On-site detention has been designed to maintain existing downstream storm water runoff characteristics in accordance with the City of Sandy requirements.
- CDS Storm Water Treatment Devices will be used for water quality.
- The conveyance system for the project will be designed to handle the peak 25-year, 24-hour storm.
- At time of final engineering, these calculations should be updated as needed.

Appendix A

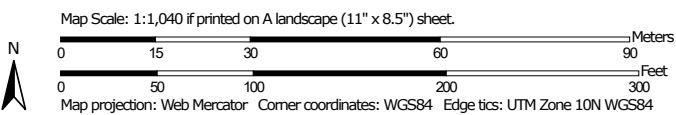
**USDA Custom Soil Resource Report**

---

Soil Map—Clackamas County Area, Oregon







































Soil Map may not be valid at this scale.



Soil Map—Clackamas County Area, Oregon

**MAP LEGEND**

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

**MAP INFORMATION**

The soil surveys that comprise your AOI were mapped at 1:20,000.

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

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

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

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

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

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

Soil Survey Area: Clackamas County Area, Oregon  
 Survey Area Data: Version 18, Oct 27, 2021

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

Date(s) aerial images were photographed: Jun 22, 2020—Jun 26, 2020

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

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
15B	Cazadero silty clay loam, 0 to 7 percent slopes	3.0	60.0%
24B	Cottrell silty clay loam, 2 to 8 percent slopes	2.0	40.0%
<b>Totals for Area of Interest</b>		<b>5.0</b>	<b>100.0%</b>

## Clackamas County Area, Oregon

### 15B—Cazadero silty clay loam, 0 to 7 percent slopes

#### Map Unit Setting

*National map unit symbol:* 223c  
*Elevation:* 300 to 900 feet  
*Mean annual precipitation:* 48 to 85 inches  
*Mean annual air temperature:* 50 to 52 degrees F  
*Frost-free period:* 140 to 200 days  
*Farmland classification:* Farmland of statewide importance

#### Map Unit Composition

*Cazadero and similar soils:* 85 percent  
*Minor components:* 2 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Cazadero

##### Setting

*Landform:* Terraces  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Old mixed alluvium

##### Typical profile

*H1 - 0 to 21 inches:* silty clay loam  
*H2 - 21 to 75 inches:* clay

##### Properties and qualities

*Slope:* 0 to 7 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.57 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water supply, 0 to 60 inches:* Moderate (about 8.0 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 2e  
*Hydrologic Soil Group:* C  
*Ecological site:* F003XC003OR - Glaciated Western Cascades Mesic Udic Forest Group  
*Forage suitability group:* Well drained < 15% Slopes (G002XY002OR)



Map Unit Description: Cazadero silty clay loam, 0 to 7 percent slopes---Clackamas County Area, Oregon

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*Other vegetative classification:* Well drained < 15% Slopes  
(G002XY002OR)  
*Hydric soil rating:* No

#### **Minor Components**

##### **Borges**

*Percent of map unit:* 2 percent  
*Landform:* Hillslopes, depressions on terraces  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope, tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Other vegetative classification:* Poorly Drained (G002XY006OR)  
*Hydric soil rating:* Yes

#### **Data Source Information**

Soil Survey Area: Clackamas County Area, Oregon  
Survey Area Data: Version 18, Oct 27, 2021

## Clackamas County Area, Oregon

### 24B—Cottrell silty clay loam, 2 to 8 percent slopes

#### Map Unit Setting

*National map unit symbol:* 223v  
*Elevation:* 300 to 900 feet  
*Mean annual precipitation:* 45 to 80 inches  
*Mean annual air temperature:* 50 to 54 degrees F  
*Frost-free period:* 140 to 200 days  
*Farmland classification:* All areas are prime farmland

#### Map Unit Composition

*Cottrell and similar soils:* 90 percent  
*Minor components:* 5 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Cottrell

##### Setting

*Landform:* Hillslopes, terraces  
*Landform position (two-dimensional):* Foothillslope  
*Landform position (three-dimensional):* Interfluve, base slope, tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Old alluvium

##### Typical profile

*H1 - 0 to 24 inches:* silty clay loam  
*H2 - 24 to 55 inches:* silty clay  
*H3 - 55 to 86 inches:* silty clay loam

##### Properties and qualities

*Slope:* 2 to 8 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Moderately well drained  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high (0.20 to 0.57 in/hr)  
*Depth to water table:* About 24 to 35 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water supply, 0 to 60 inches:* High (about 10.6 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3w  
*Hydrologic Soil Group:* C  
*Ecological site:* F002XB006OR - Foothill Group  
*Forage suitability group:* Moderately Well Drained < 15% Slopes (G002XY004OR)

Map Unit Description: Cottrell silty clay loam, 2 to 8 percent slopes---Clackamas County Area, Oregon

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*Other vegetative classification:* Moderately Well Drained < 15% Slopes (G002XY004OR)  
*Hydric soil rating:* No

#### **Minor Components**

##### **Borges**

*Percent of map unit:* 4 percent  
*Landform:* Hillslopes, depressions on terraces  
*Landform position (two-dimensional):* Footslope  
*Landform position (three-dimensional):* Base slope, tread  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Other vegetative classification:* Poorly Drained (G002XY006OR)  
*Hydric soil rating:* Yes

##### **Aquils**

*Percent of map unit:* 1 percent  
*Landform:* Depressions  
*Hydric soil rating:* Yes

#### **Data Source Information**

Soil Survey Area: Clackamas County Area, Oregon  
Survey Area Data: Version 18, Oct 27, 2021

Appendix B

**Basin A, Detailed Hydrographs, Analysis, Data,  
Detention Design**

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**Project Name: The Riffles Parking Lot - Basin A**  
**Hydrograph Analysis Summary**

Job # 21-092  
 Date: 3/18/2022

Rainfall (year)	Rainfall (inches)
2	3.50
5	4.50
10	4.80
25	5.50
100	0.00

Pre-Developed	
<b>Pervious</b>	
Area =	0.69 acres
CN =	79 na
<b>Impervious</b>	
Area =	0 acres
CN =	98 na
Tc =	10 min
Total A =	0.69 acres

Developed	
<b>Pervious</b>	
Area =	0 acres
CN =	70 na
<b>Impervious</b>	
Area =	0.69 acres
CN =	98 na
Tc =	5 min
Total A =	0.69 acres

Note: The hydrographs shown are based on the S.C.S. Type - 1A, 24 hour storm using the SBUH method based on the King County Model.

Pre-Developed Hydrographs						
Year	=====>	2	5	10	25	100
Qpeak	cfs =>	0.24	0.39	0.44	0.55	0.00
Volume	cf =>	3,920	5,949	6,585	8,103	-
Tpeak	min =>	480	480	480	480	10
Tpeak	hr =>	8.00	8.00	8.00	8.00	0.17
Hydrograph Name=>		2	5	10	25	100
Time (min)	Time (hr)	Hyd (cfs)	Hyd (cfs)	Hyd (cfs)	Hyd (cfs)	Hyd (cfs)
0	0.00	0.00	0.00	0.00	0.00	0.00
10	0.17	0.00	0.00	0.00	0.00	0.00
20	0.33	0.00	0.00	0.00	0.00	0.00
30	0.50	0.00	0.00	0.00	0.00	0.00
40	0.67	0.00	0.00	0.00	0.00	0.00
50	0.83	0.00	0.00	0.00	0.00	0.00
60	1.00	0.00	0.00	0.00	0.00	0.00
70	1.17	0.00	0.00	0.00	0.00	0.00
80	1.33	0.00	0.00	0.00	0.00	0.00
90	1.50	0.00	0.00	0.00	0.00	0.00
100	1.67	0.00	0.00	0.00	0.00	0.00
110	1.83	0.00	0.00	0.00	0.00	0.00
120	2.00	0.00	0.00	0.00	0.00	0.00
130	2.17	0.00	0.00	0.00	0.00	0.00
140	2.33	0.00	0.00	0.00	0.00	0.00
150	2.50	0.00	0.00	0.00	0.00	0.00
160	2.67	0.00	0.00	0.00	0.00	0.00
170	2.83	0.00	0.00	0.00	0.00	0.00
180	3.00	0.00	0.00	0.00	0.00	0.00
190	3.17	0.00	0.00	0.00	0.00	0.00
200	3.33	0.00	0.00	0.00	0.00	0.00
210	3.50	0.00	0.00	0.00	0.00	0.00
220	3.67	0.00	0.00	0.00	0.00	0.00
230	3.83	0.00	0.00	0.00	0.00	0.00
240	4.00	0.00	0.00	0.00	0.01	0.00
250	4.17	0.00	0.00	0.00	0.01	0.00
260	4.33	0.00	0.00	0.01	0.02	0.00
270	4.50	0.00	0.01	0.01	0.02	0.00
280	4.67	0.00	0.01	0.01	0.02	0.00
290	4.83	0.00	0.01	0.02	0.03	0.00
300	5.00	0.00	0.02	0.02	0.04	0.00
310	5.17	0.00	0.02	0.03	0.04	0.00
320	5.33	0.01	0.02	0.03	0.05	0.00
330	5.50	0.01	0.03	0.03	0.05	0.00
340	5.67	0.01	0.03	0.04	0.05	0.00
350	5.83	0.01	0.03	0.04	0.06	0.00
360	6.00	0.02	0.04	0.05	0.07	0.00
370	6.17	0.02	0.04	0.05	0.07	0.00
380	6.33	0.02	0.05	0.06	0.08	0.00
390	6.50	0.02	0.05	0.06	0.08	0.00
400	6.67	0.03	0.06	0.07	0.09	0.00
410	6.83	0.03	0.07	0.08	0.11	0.00
420	7.00	0.04	0.08	0.10	0.13	0.00
430	7.17	0.05	0.09	0.11	0.14	0.00
440	7.33	0.06	0.11	0.13	0.17	0.00
450	7.50	0.08	0.13	0.15	0.20	0.00
460	7.67	0.12	0.20	0.22	0.29	0.00
470	7.83	0.21	0.35	0.39	0.50	0.00
480	8.00	0.24	0.39	0.44	0.55	0.00
490	8.17	0.18	0.29	0.33	0.41	0.00
500	8.33	0.14	0.22	0.24	0.30	0.00
510	8.50	0.11	0.17	0.19	0.24	0.00
520	8.67	0.11	0.16	0.18	0.22	0.00

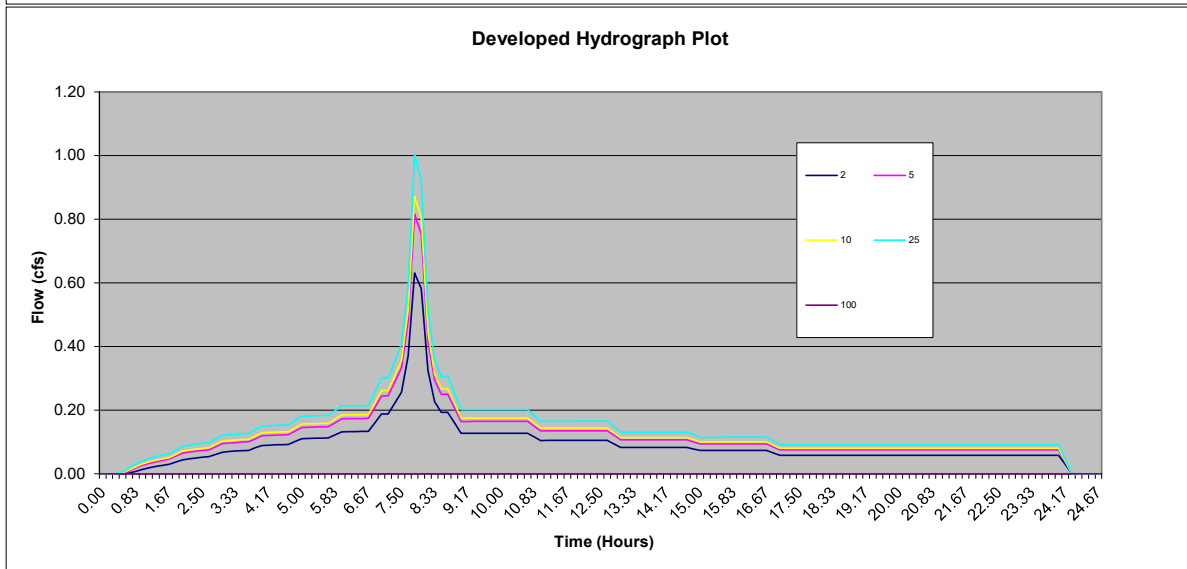
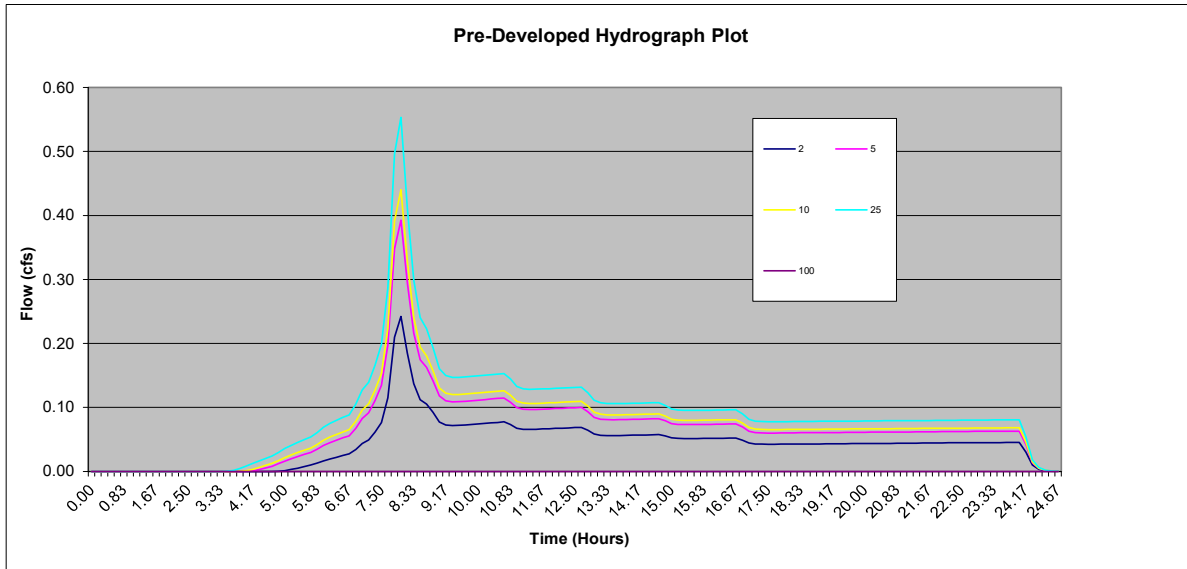
Developed Hydrographs						
Year	=====>	2	5	10	25	100
Qpeak	cfs =>	0.63	0.82	0.87	1.00	0.00
Volume	cf =>	8,179	10,677	11,427	13,177	-
Tpeak	min =>	470	470	470	470	10
Tpeak	hr =>	7.83	7.83	7.83	7.83	0.17
Hydrograph Name=>		2	5	10	25	100
Time (min)	Time (hr)	Hyd (cfs)	Hyd (cfs)	Hyd (cfs)	Hyd (cfs)	Hyd (cfs)
0	0.00	0.00	0.00	0.00	0.00	0.00
10	0.17	0.00	0.00	0.00	0.00	0.00
20	0.33	0.00	0.00	0.00	0.00	0.00
30	0.50	0.00	0.00	0.00	0.01	0.00
40	0.67	0.00	0.01	0.01	0.02	0.00
50	0.83	0.01	0.02	0.02	0.03	0.00
60	1.00	0.01	0.03	0.03	0.04	0.00
70	1.17	0.02	0.03	0.04	0.05	0.00
80	1.33	0.02	0.04	0.04	0.05	0.00
90	1.50	0.03	0.04	0.05	0.06	0.00
100	1.67	0.03	0.05	0.05	0.06	0.00
110	1.83	0.04	0.05	0.06	0.07	0.00
120	2.00	0.04	0.06	0.07	0.09	0.00
130	2.17	0.05	0.07	0.07	0.09	0.00
140	2.33	0.05	0.07	0.08	0.09	0.00
150	2.50	0.05	0.07	0.08	0.10	0.00
160	2.67	0.05	0.08	0.08	0.10	0.00
170	2.83	0.06	0.08	0.09	0.11	0.00
180	3.00	0.07	0.09	0.10	0.12	0.00
190	3.17	0.07	0.10	0.10	0.12	0.00
200	3.33	0.07	0.10	0.11	0.12	0.00
210	3.50	0.07	0.10	0.11	0.13	0.00
220	3.67	0.07	0.10	0.11	0.13	0.00
230	3.83	0.08	0.11	0.12	0.14	0.00
240	4.00	0.09	0.12	0.13	0.15	0.00
250	4.17	0.09	0.12	0.13	0.15	0.00
260	4.33	0.09	0.12	0.13	0.15	0.00
270	4.50	0.09	0.12	0.13	0.15	0.00
280	4.67	0.09	0.12	0.13	0.15	0.00
290	4.83	0.10	0.13	0.14	0.17	0.00
300	5.00	0.11	0.15	0.16	0.18	0.00
310	5.17	0.11	0.15	0.16	0.18	0.00
320	5.33	0.11	0.15	0.16	0.18	0.00
330	5.50	0.11	0.15	0.16	0.18	0.00
340	5.67	0.11	0.15	0.16	0.18	0.00
350	5.83	0.12	0.16	0.17	0.20	0.00
360	6.00	0.13	0.17	0.18	0.21	0.00
370	6.17	0.13	0.17	0.18	0.21	0.00
380	6.33	0.13	0.17	0.19	0.21	0.00
390	6.50	0.13	0.17	0.19	0.21	0.00
400	6.67	0.13	0.17	0.19	0.21	0.00
410	6.83	0.16	0.21	0.22	0.26	0.00
420	7.00	0.19	0.24	0.26	0.30	0.00
430	7.17	0.19	0.24	0.26	0.30	0.00
440	7.33	0.22	0.29	0.31	0.35	0.00
450	7.50	0.26	0.33	0.36	0.41	0.00
460	7.67	0.37	0.48	0.51	0.59	0.00
470	7.83	0.63	0.82	0.87	1.00	0.00
480	8.00	0.58	0.75	0.80	0.92	0.00
490	8.17	0.32	0.42	0.45	0.51	0.00
500	8.33	0.23	0.29	0.31	0.36	0.00
510	8.50	0.19	0.25	0.27	0.31	0.00
520	8.67	0.19	0.25	0.27	0.31	0.00

Pre-Developed Hydrographs							Developed Hydrographs				
Year	=====	2	5	10	25	100	2	5	10	25	100
Qpeak	cfs =>	0.24	0.39	0.44	0.55	0.00	0.63	0.82	0.87	1.00	0.00
Volume	cf =>	3,920	5,949	6,585	8,103	-	8,179	10,677	11,427	13,177	-
Tpeak	min =>	480	480	480	480	10	470	470	470	470	10
Tpeak	hr =>	8.00	8.00	8.00	8.00	0.17	7.83	7.83	7.83	7.83	0.17
Hydrograph Name	=>	2	5	10	25	100	2	5	10	25	100
Time	Time	Hyd	Hyd	Hyd	Hyd	Hyd	Hyd	Hyd	Hyd	Hyd	Hyd
(min)	(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
530	8.83	0.09	0.14	0.16	0.19	0.00	0.16	0.21	0.22	0.25	0.00
540	9.00	0.08	0.12	0.13	0.16	0.00	0.13	0.16	0.18	0.20	0.00
550	9.17	0.07	0.11	0.12	0.15	0.00	0.13	0.16	0.18	0.20	0.00
560	9.33	0.07	0.11	0.12	0.15	0.00	0.13	0.16	0.18	0.20	0.00
570	9.50	0.07	0.11	0.12	0.15	0.00	0.13	0.16	0.18	0.20	0.00
580	9.67	0.07	0.11	0.12	0.15	0.00	0.13	0.16	0.18	0.20	0.00
590	9.83	0.07	0.11	0.12	0.15	0.00	0.13	0.16	0.18	0.20	0.00
600	10.00	0.07	0.11	0.12	0.15	0.00	0.13	0.16	0.18	0.20	0.00
610	10.17	0.08	0.11	0.12	0.15	0.00	0.13	0.16	0.18	0.20	0.00
620	10.33	0.08	0.11	0.12	0.15	0.00	0.13	0.16	0.18	0.20	0.00
630	10.50	0.08	0.11	0.13	0.15	0.00	0.13	0.16	0.18	0.20	0.00
640	10.67	0.08	0.11	0.13	0.15	0.00	0.13	0.16	0.18	0.20	0.00
650	10.83	0.07	0.11	0.12	0.14	0.00	0.12	0.15	0.16	0.18	0.00
660	11.00	0.07	0.10	0.11	0.13	0.00	0.10	0.13	0.14	0.16	0.00
670	11.17	0.07	0.10	0.11	0.13	0.00	0.10	0.13	0.14	0.16	0.00
680	11.33	0.07	0.10	0.11	0.13	0.00	0.10	0.13	0.14	0.16	0.00
690	11.50	0.07	0.10	0.11	0.13	0.00	0.10	0.13	0.14	0.16	0.00
700	11.67	0.07	0.10	0.11	0.13	0.00	0.10	0.13	0.14	0.16	0.00
710	11.83	0.07	0.10	0.11	0.13	0.00	0.10	0.13	0.14	0.16	0.00
720	12.00	0.07	0.10	0.11	0.13	0.00	0.10	0.13	0.14	0.16	0.00
730	12.17	0.07	0.10	0.11	0.13	0.00	0.10	0.13	0.14	0.16	0.00
740	12.33	0.07	0.10	0.11	0.13	0.00	0.10	0.13	0.14	0.16	0.00
750	12.50	0.07	0.10	0.11	0.13	0.00	0.10	0.13	0.14	0.16	0.00
760	12.67	0.07	0.10	0.11	0.13	0.00	0.10	0.13	0.14	0.16	0.00
770	12.83	0.06	0.09	0.10	0.12	0.00	0.09	0.12	0.13	0.15	0.00
780	13.00	0.06	0.08	0.09	0.11	0.00	0.08	0.11	0.11	0.13	0.00
790	13.17	0.06	0.08	0.09	0.11	0.00	0.08	0.11	0.11	0.13	0.00
800	13.33	0.06	0.08	0.09	0.11	0.00	0.08	0.11	0.11	0.13	0.00
810	13.50	0.06	0.08	0.09	0.11	0.00	0.08	0.11	0.11	0.13	0.00
820	13.67	0.06	0.08	0.09	0.11	0.00	0.08	0.11	0.11	0.13	0.00
830	13.83	0.06	0.08	0.09	0.11	0.00	0.08	0.11	0.11	0.13	0.00
840	14.00	0.06	0.08	0.09	0.11	0.00	0.08	0.11	0.11	0.13	0.00
850	14.17	0.06	0.08	0.09	0.11	0.00	0.08	0.11	0.11	0.13	0.00
860	14.33	0.06	0.08	0.09	0.11	0.00	0.08	0.11	0.11	0.13	0.00
870	14.50	0.06	0.08	0.09	0.11	0.00	0.08	0.11	0.11	0.13	0.00
880	14.67	0.06	0.08	0.09	0.11	0.00	0.08	0.11	0.11	0.13	0.00
890	14.83	0.06	0.08	0.09	0.10	0.00	0.08	0.10	0.11	0.12	0.00
900	15.00	0.05	0.07	0.08	0.10	0.00	0.07	0.09	0.10	0.11	0.00
910	15.17	0.05	0.07	0.08	0.10	0.00	0.07	0.09	0.10	0.11	0.00
920	15.33	0.05	0.07	0.08	0.10	0.00	0.07	0.09	0.10	0.11	0.00
930	15.50	0.05	0.07	0.08	0.10	0.00	0.07	0.09	0.10	0.11	0.00
940	15.67	0.05	0.07	0.08	0.10	0.00	0.07	0.09	0.10	0.11	0.00
950	15.83	0.05	0.07	0.08	0.10	0.00	0.07	0.09	0.10	0.11	0.00
960	16.00	0.05	0.07	0.08	0.10	0.00	0.07	0.09	0.10	0.11	0.00
970	16.17	0.05	0.07	0.08	0.10	0.00	0.07	0.09	0.10	0.11	0.00
980	16.33	0.05	0.07	0.08	0.10	0.00	0.07	0.09	0.10	0.11	0.00
990	16.50	0.05	0.07	0.08	0.10	0.00	0.07	0.09	0.10	0.11	0.00
1000	16.67	0.05	0.07	0.08	0.10	0.00	0.07	0.09	0.10	0.11	0.00
1010	16.83	0.05	0.07	0.08	0.09	0.00	0.07	0.08	0.09	0.10	0.00
1020	17.00	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1030	17.17	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1040	17.33	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1050	17.50	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1060	17.67	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1070	17.83	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1080	18.00	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1090	18.17	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1100	18.33	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1110	18.50	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1120	18.67	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1130	18.83	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1140	19.00	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1150	19.17	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1160	19.33	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1170	19.50	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1180	19.67	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1190	19.83	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1200	20.00	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1210	20.17	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1220	20.33	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1230	20.50	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00

Pre-Developed Hydrographs							Developed Hydrographs				
Year	=====	2	5	10	25	100	2	5	10	25	100
Qpeak	cfs =>	0.24	0.39	0.44	0.55	0.00	0.63	0.82	0.87	1.00	0.00
Volume	cf =>	3,920	5,949	6,585	8,103	-	8,179	10,677	11,427	13,177	-
Tpeak	min =>	480	480	480	480	10	470	470	470	470	10
Tpeak	hr =>	8.00	8.00	8.00	8.00	0.17	7.83	7.83	7.83	7.83	0.17
Hydrograph Name=>		2	5	10	25	100	2	5	10	25	100
Time	Time	Hyd	Hyd	Hyd	Hyd	Hyd	Hyd	Hyd	Hyd	Hyd	Hyd
(min)	(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
1240	20.67	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1250	20.83	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1260	21.00	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1270	21.17	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1280	21.33	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1290	21.50	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1300	21.67	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1310	21.83	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1320	22.00	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1330	22.17	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1340	22.33	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1350	22.50	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1360	22.67	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1370	22.83	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1380	23.00	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1390	23.17	0.04	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1400	23.33	0.05	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1410	23.50	0.05	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1420	23.67	0.05	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1430	23.83	0.05	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1440	24.00	0.05	0.06	0.07	0.08	0.00	0.06	0.07	0.08	0.09	0.00
1450	24.17	0.03	0.04	0.05	0.05	0.00	0.03	0.04	0.04	0.05	0.00
1460	24.33	0.01	0.01	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00
1470	24.50	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
1480	24.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1490	24.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1500	24.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Pre-Developed Hydrographs						
Year	=====>	2	5	10	25	100
Qpeak	cfs =>	0.24	0.39	0.44	0.55	0.00
Volume	cf =>	3,920	5,949	6,585	8,103	-
Tpeak	min =>	480	480	480	480	10
Tpeak	hr =>	8.00	8.00	8.00	8.00	0.17
Hydrograph Name=>		2	5	10	25	100
Time	Time	Hyd	Hyd	Hyd	Hyd	Hyd
(min)	(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)

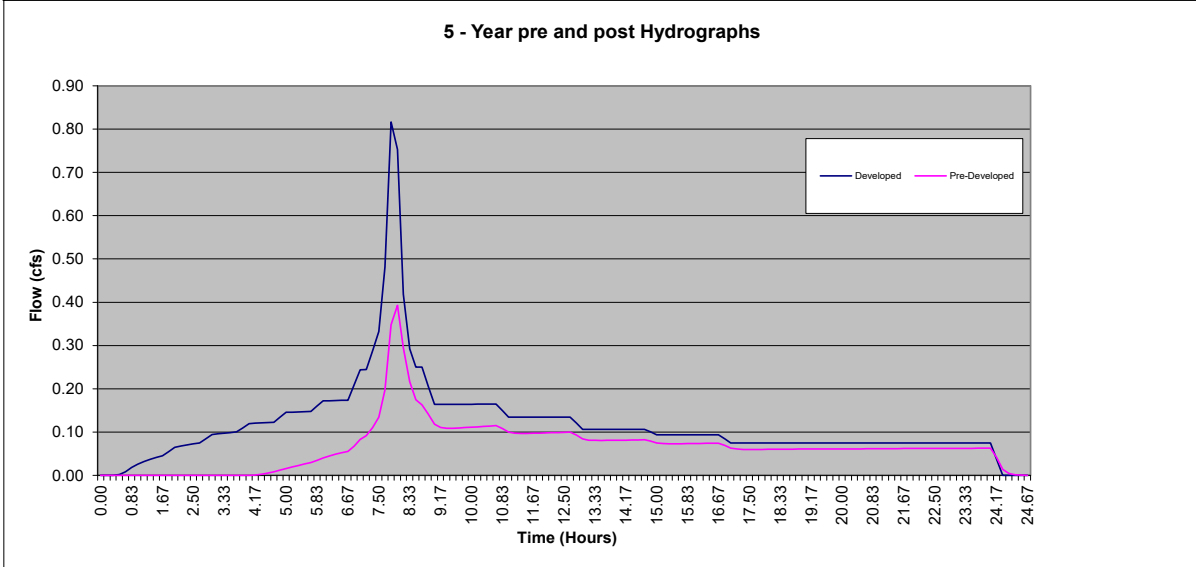
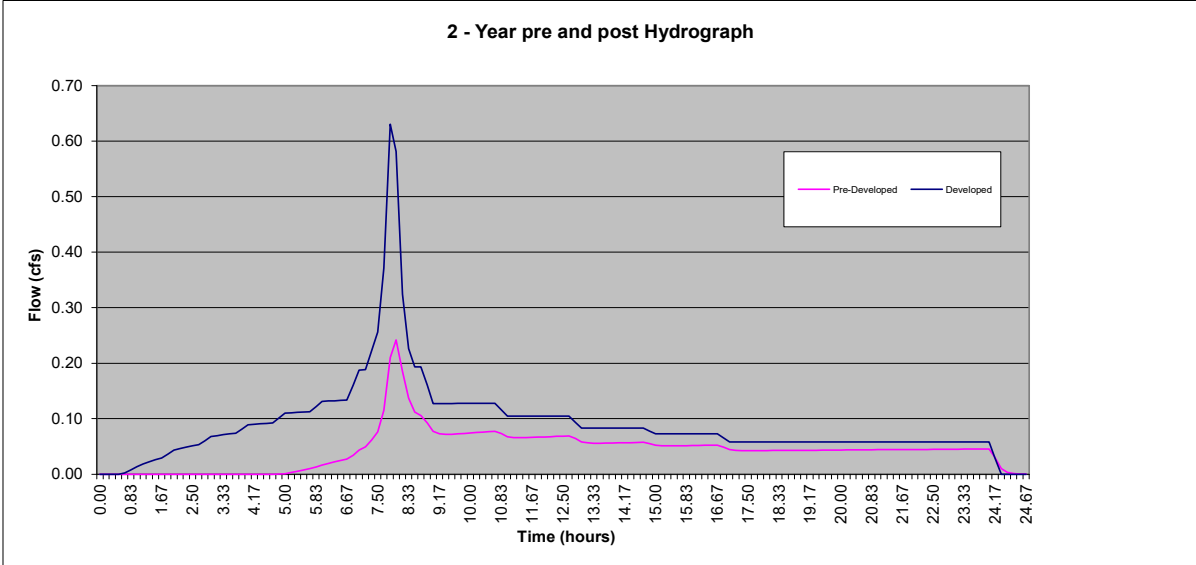
Developed Hydrographs					
	2	5	10	25	100
Qpeak	0.63	0.82	0.87	1.00	0.00
Volume	8,179	10,677	11,427	13,177	-
Tpeak	470	470	470	470	10
Tpeak	7.83	7.83	7.83	7.83	0.17
Hydrograph Name=>	2	5	10	25	100
Time	Hyd	Hyd	Hyd	Hyd	Hyd
(min)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)





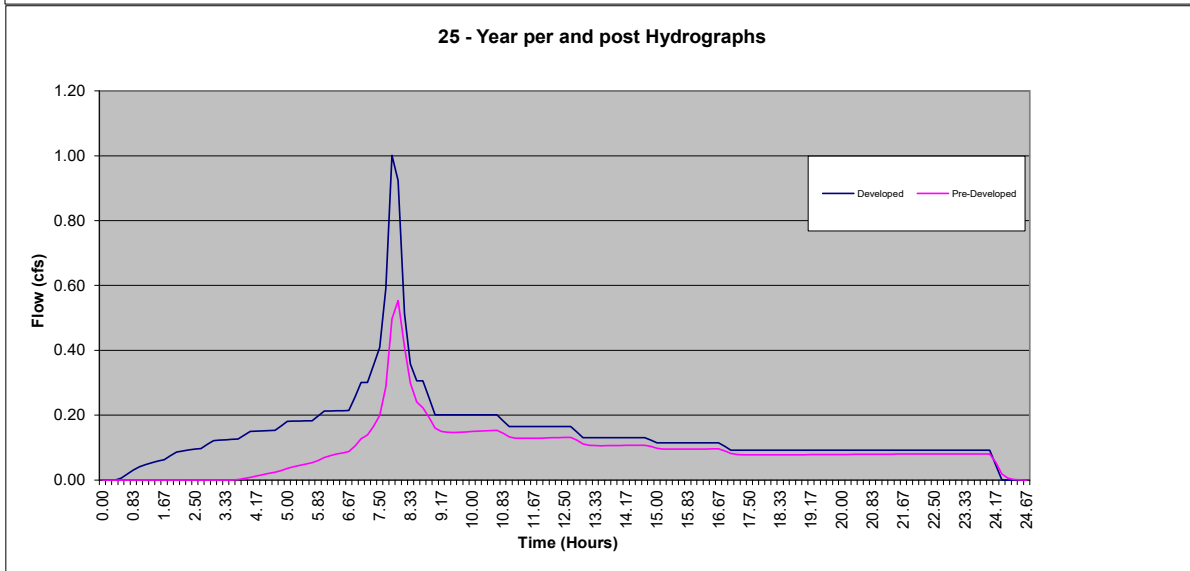
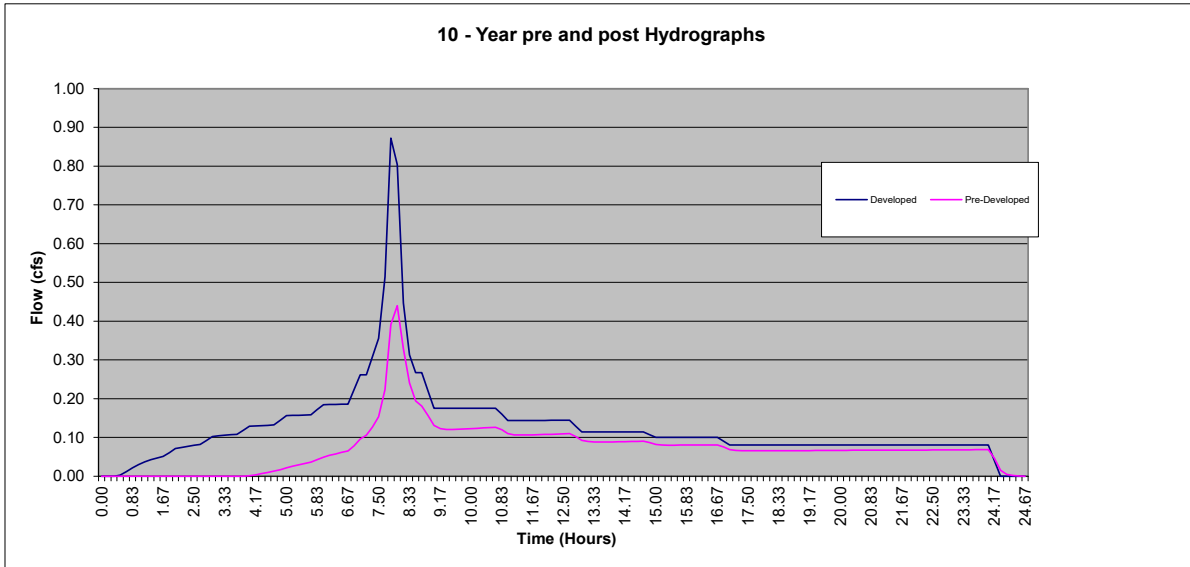
Pre-Developed Hydrographs						
Year	=====>	2	5	10	25	100
Qpeak	cfs =>	0.24	0.39	0.44	0.55	0.00
Volume	cf =>	3,920	5,949	6,585	8,103	-
Tpeak	min =>	480	480	480	480	10
Tpeak	hr =>	8.00	8.00	8.00	8.00	0.17
Hydrograph Name=>		2	5	10	25	100
Time	Time	Hyd	Hyd	Hyd	Hyd	Hyd
(min)	(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)

Developed Hydrographs						
		2	5	10	25	100
		0.63	0.82	0.87	1.00	0.00
		8,179	10,677	11,427	13,177	-
		470	470	470	470	10
		7.83	7.83	7.83	7.83	0.17
		2	5	10	25	100
		Hyd	Hyd	Hyd	Hyd	Hyd
		(cfs)	(cfs)	(cfs)	(cfs)	(cfs)



Pre-Developed Hydrographs						
Year	=====>	2	5	10	25	100
Qpeak	cfs =>	0.24	0.39	0.44	0.55	0.00
Volume	cf =>	3,920	5,949	6,585	8,103	-
Tpeak	min =>	480	480	480	480	10
Tpeak	hr =>	8.00	8.00	8.00	8.00	0.17
Hydrograph Name=>		2	5	10	25	100
Time	Time	Hyd	Hyd	Hyd	Hyd	Hyd
(min)	(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)

Developed Hydrographs					
	2	5	10	25	100
	0.63	0.82	0.87	1.00	0.00
	8,179	10,677	11,427	13,177	-
	470	470	470	470	10
	7.83	7.83	7.83	7.83	0.17
	2	5	10	25	100
	Hyd	Hyd	Hyd	Hyd	Hyd
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)



**Project Name:** The Riffles Parking Lot - Basin A  
**Detention System Summary**

Job # 21-092  
 Date: 3/18/2022

Note: The detention system design is based on the King County Model "Facility Design Routine".

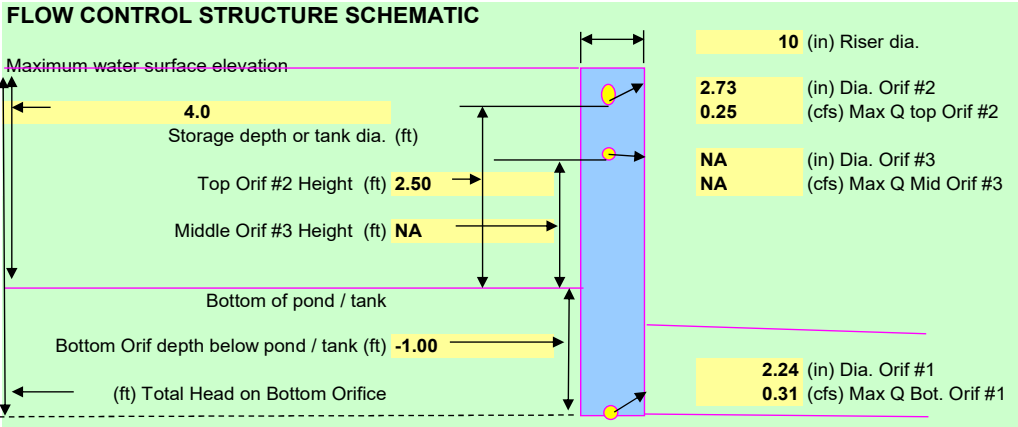
**1) Detention Facility Design Input:**

2) Type of facility:	DETENTION TANK	
3) Pond side slopes:	3 NA	
4) Tank Diameter:	4 ft	
5) Vertical permeability:	0 min/in	
6) Number of orifices:	2	
7) Riser dia. =>	10 in	
8) Orifice coefficient:	0.62 (typically 0.62)	
9) IE - bottom orifice:	-1 ft (distance below bottom of pond - Negative #)	
10) Max Q Bottom Orif. #1	0.31 cfs	
11) Top Orif #2 Height =	2.5 ft	
12) Max Q Mid Orif. #3	0.00 cfs	Orifice not being used
13) Mid Orif #3 Height =	0.00 ft	Orifice not being used

**Detention Facility Design Results:**

Performance year	Developed Inflow cfs	Pre-Developed Outflow cfs	Actual Outflow cfs	Peak Stage ft	Storage cf
100	0	0	0	0	-
25	1.00	0.55	0.55	4.00	1,462
10	0.87	0.44	0.44	3.12	1,223
5	0.82	0.39	0.39	2.88	1,126
2	0.63	0.24	0.24	2.09	774
Required Storage =====					1,462

Total Q =	Bottom Orif. 0.31	Middle Orif. 0.00	Top Orif. 0.25	Optional Weir Design (for top orifice)
Head (ft) =	5.00	0.00	1.50	0.64 La (ft)
Dist. from bottom of pond (ft) =	-1.00	NA	2.50	87.91 < deg.
Orif. Dia. (in) =	2.24	0.00	2.73	Weir is an option



Project Name: The Riffles Parking Lot - Basin A  
 Detention Facility Type  
 Job # 21-092  
 Date: 3/18/2022

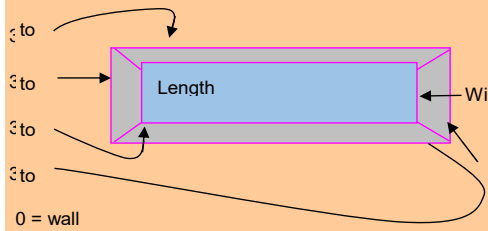
Detention Facility Type:

**DETENTION TANK**

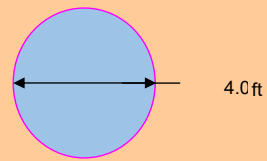
L = 116.3 ft  
 W = 116.3 ft  
 D = 4.0 ft  
 Tank Vol. = 1,462 cf

**DETENTION POND**

NA



**DETENTION TANK**



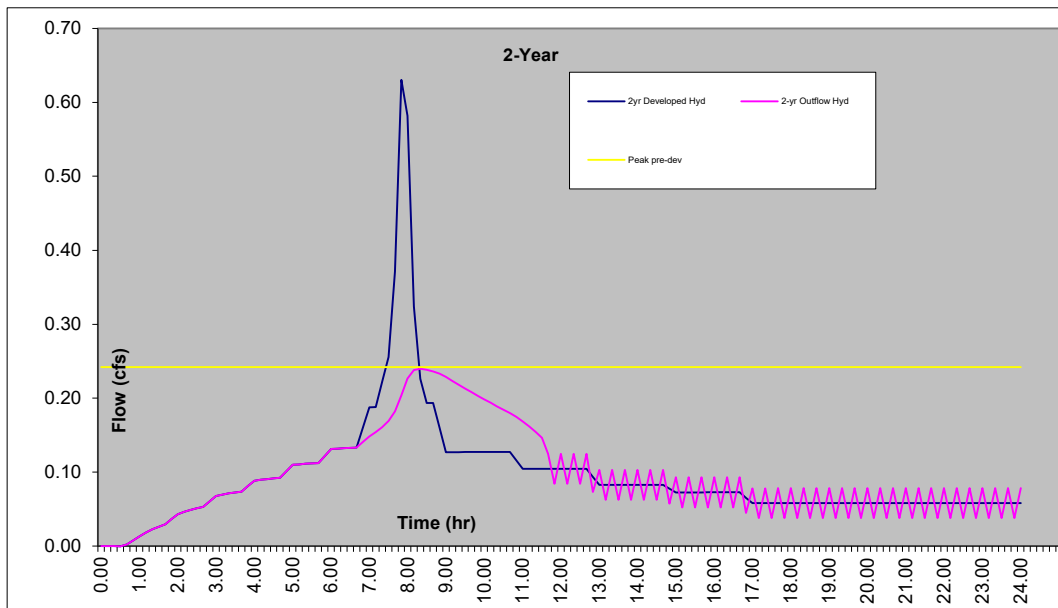
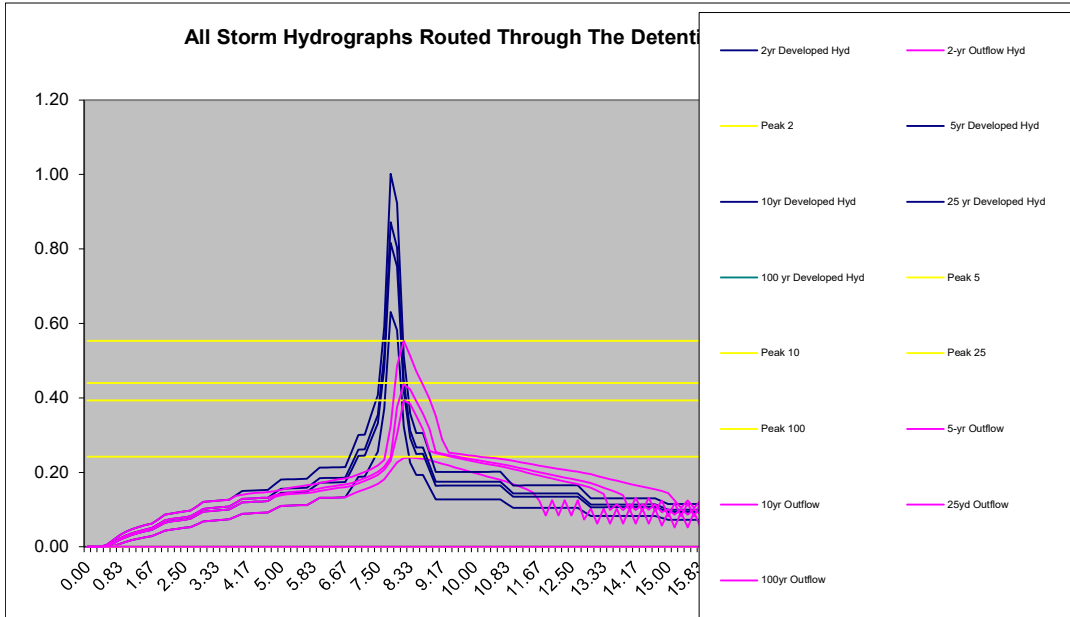
**USER DEFINED POND**

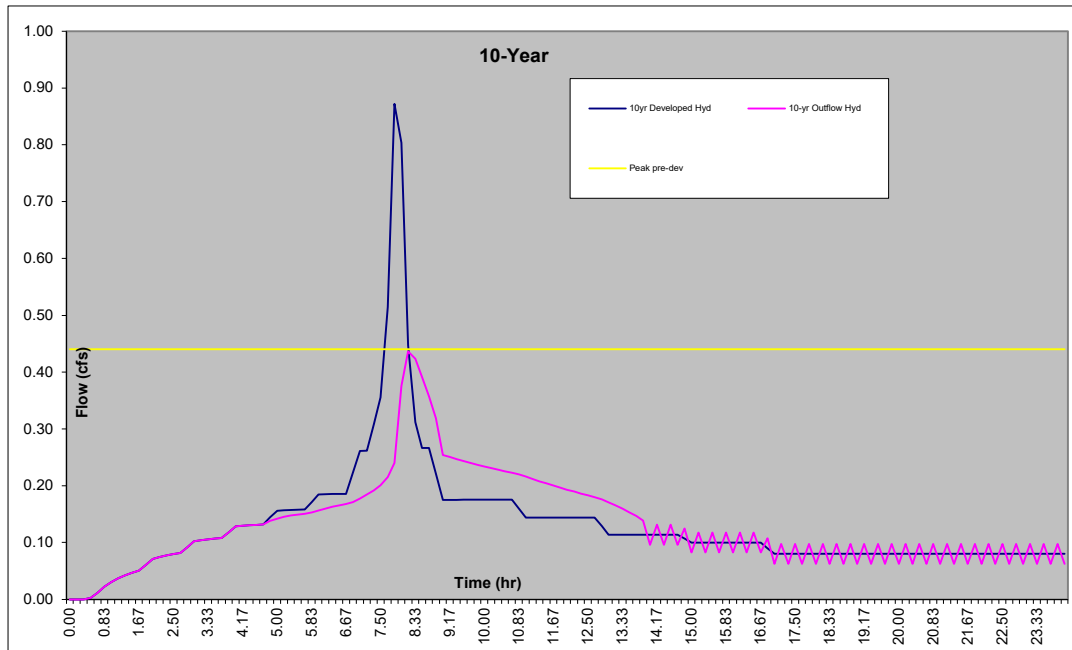
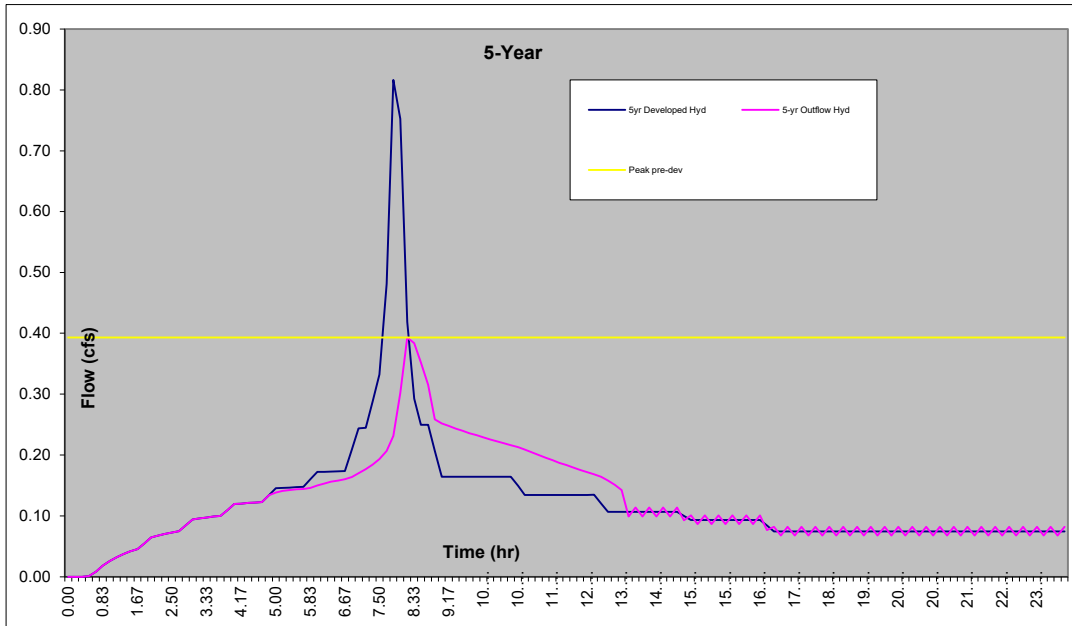
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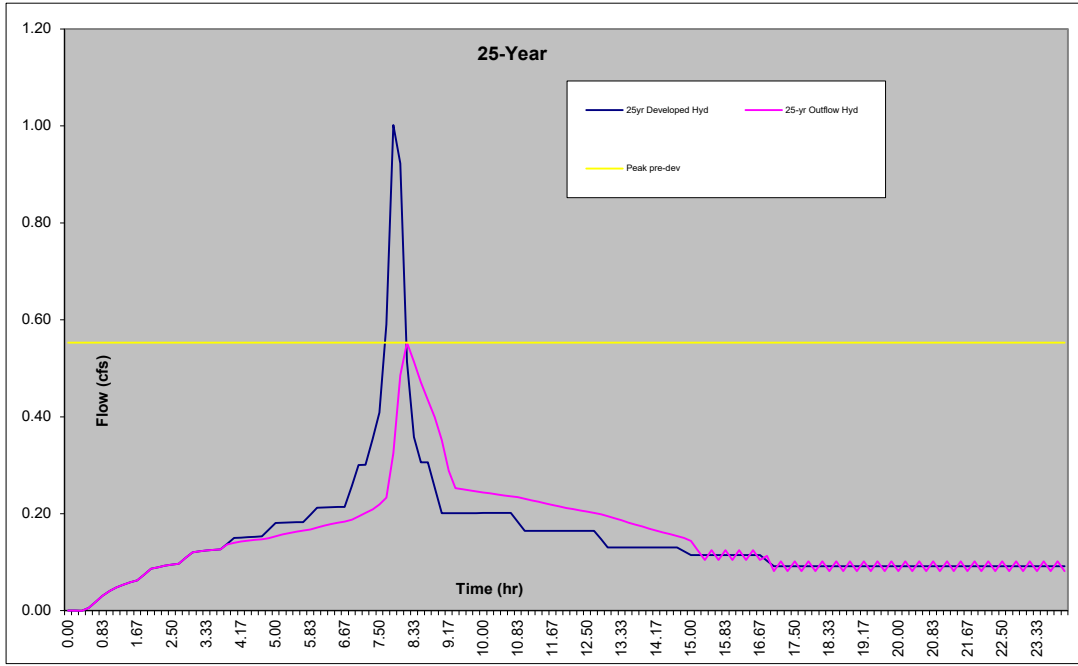
Pond Geometry

Stage (ft)	Area (sf)
0	NA
1	NA
2	NA
3	NA
4	NA
5	NA
6	NA
7	NA
8	NA
9	NA
10	NA
11	NA
12	NA
13	NA
14	NA
15	NA





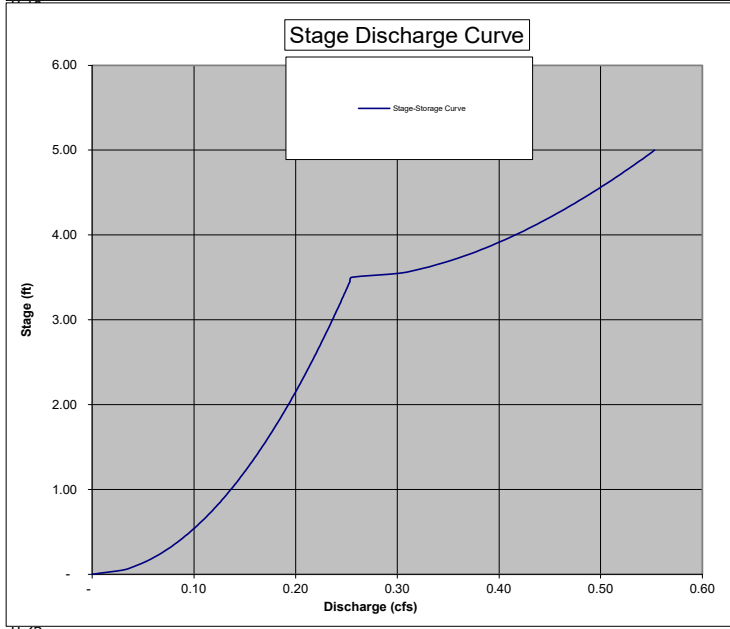
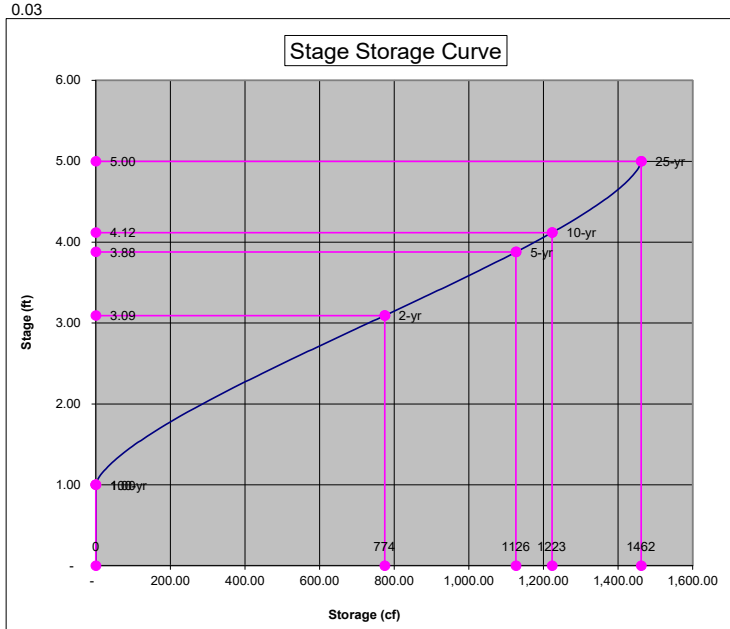




**Project Name: The Riffles Parking Lot - Basin A**  
**Stage Storage Summary**

Job # 21-092  
 Date: 3/18/2022

Stage ft	Storage cf	Discharge cfs
-	-	-
0.05	-	0.03
0.10	-	-
0.15	-	-
0.20	-	-
0.25	-	-
0.30	-	-
0.35	-	-
0.40	-	-
0.45	-	-
0.50	-	-
0.55	-	-
0.60	-	-
0.65	-	-
0.70	-	-
0.75	-	-
0.80	-	-
0.85	-	-
0.90	-	-
0.95	-	-
1.00	-	-
1.05	3.45	-
1.10	9.73	-
1.15	17.81	-
1.20	27.32	-
1.25	38.03	-
1.30	49.80	-
1.35	62.51	-
1.40	76.06	-
1.45	90.44	-
1.50	105.44	-
1.55	121.15	-
1.60	137.47	-
1.65	154.36	-
1.70	171.78	-
1.75	189.70	-
1.80	208.09	-
1.85	226.91	-
1.90	246.14	-
1.95	265.75	-
2.00	285.73	-
2.05	306.03	-
2.10	326.66	-
2.15	347.57	-
2.20	368.76	-
2.25	390.20	-
2.30	411.88	-
2.35	433.78	-
2.40	455.87	-
2.45	478.15	-
2.50	500.59	-
2.55	523.19	-
2.60	545.92	-
2.65	568.76	-
2.70	591.71	-
2.75	614.75	-
2.80	637.87	-
2.85	661.04	-
2.90	684.25	-
2.95	707.50	-
3.00	730.75	-
3.05	754.01	-
3.10	777.26	-
3.15	800.47	-
3.20	823.64	-
3.25	846.75	-





Stage ft	Storage cf	Discharge cfs
3.30	869.79	0.25
3.35	892.74	0.25
3.40	915.59	0.25
3.45	938.32	0.25
3.50	960.91	0.26
3.55	983.36	0.30
3.60	1,005.64	0.32
3.65	1,027.73	0.34
3.70	1,049.63	0.35
3.75	1,071.30	0.37
3.80	1,092.75	0.38
3.85	1,113.93	0.39
3.90	1,134.85	0.40
3.95	1,155.47	0.41
4.00	1,175.78	0.42
4.05	1,195.75	0.42
4.10	1,215.37	0.43
4.15	1,234.60	0.44
4.20	1,253.42	0.45
4.25	1,271.81	0.46
4.30	1,289.73	0.46
4.35	1,307.15	0.47
4.40	1,324.04	0.48
4.45	1,340.36	0.49
4.50	1,356.06	0.49
4.55	1,371.11	0.50
4.60	1,385.44	0.50
4.65	1,399.00	0.51
4.70	1,411.71	0.52
4.75	1,423.47	0.52
4.80	1,434.19	0.53
4.85	1,443.69	0.54
4.90	1,451.77	0.54
4.95	1,458.05	0.55
5.00	1,461.51	0.55

Appendix C

**Basin A, Detailed Hydrographs, Analysis, Data,  
Detention Design**

**Project Name: The Riffles Parking Lot - Basin B**  
**Hydrograph Analysis Summary**

Job # 21-092  
 Date: 3/18/2022

Rainfall (year)	Rainfall (inches)
2	3.50
5	4.50
10	4.80
25	5.50
100	0.00

Pre-Developed	
<b>Pervious</b>	
Area =	0.43 acres
CN =	79 na
<b>Impervious</b>	
Area =	0 acres
CN =	98 na
Tc =	10 min
Total A =	0.43 acres

Developed	
<b>Pervious</b>	
Area =	0 acres
CN =	70 na
<b>Impervious</b>	
Area =	0.43 acres
CN =	98 na
Tc =	5 min
Total A =	0.43 acres

Note: The hydrographs shown are based on the S.C.S. Type - 1A, 24 hour storm using the SBUH method based on the King County Model.

Pre-Developed Hydrographs						
Year	=====	2	5	10	25	100
Qpeak	cfs =>	0.15	0.24	0.27	0.34	0.00
Volume	cf =>	2,443	3,708	4,104	5,050	-
Tpeak	min =>	480	480	480	480	10
Tpeak	hr =>	8.00	8.00	8.00	8.00	0.17
Hydrograph Name=>		2	5	10	25	100
Time (min)	Time (hr)	Hyd (cfs)	Hyd (cfs)	Hyd (cfs)	Hyd (cfs)	Hyd (cfs)
0	0.00	0.00	0.00	0.00	0.00	0.00
10	0.17	0.00	0.00	0.00	0.00	0.00
20	0.33	0.00	0.00	0.00	0.00	0.00
30	0.50	0.00	0.00	0.00	0.00	0.00
40	0.67	0.00	0.00	0.00	0.00	0.00
50	0.83	0.00	0.00	0.00	0.00	0.00
60	1.00	0.00	0.00	0.00	0.00	0.00
70	1.17	0.00	0.00	0.00	0.00	0.00
80	1.33	0.00	0.00	0.00	0.00	0.00
90	1.50	0.00	0.00	0.00	0.00	0.00
100	1.67	0.00	0.00	0.00	0.00	0.00
110	1.83	0.00	0.00	0.00	0.00	0.00
120	2.00	0.00	0.00	0.00	0.00	0.00
130	2.17	0.00	0.00	0.00	0.00	0.00
140	2.33	0.00	0.00	0.00	0.00	0.00
150	2.50	0.00	0.00	0.00	0.00	0.00
160	2.67	0.00	0.00	0.00	0.00	0.00
170	2.83	0.00	0.00	0.00	0.00	0.00
180	3.00	0.00	0.00	0.00	0.00	0.00
190	3.17	0.00	0.00	0.00	0.00	0.00
200	3.33	0.00	0.00	0.00	0.00	0.00
210	3.50	0.00	0.00	0.00	0.00	0.00
220	3.67	0.00	0.00	0.00	0.00	0.00
230	3.83	0.00	0.00	0.00	0.00	0.00
240	4.00	0.00	0.00	0.00	0.01	0.00
250	4.17	0.00	0.00	0.00	0.01	0.00
260	4.33	0.00	0.00	0.00	0.01	0.00
270	4.50	0.00	0.00	0.01	0.01	0.00
280	4.67	0.00	0.01	0.01	0.01	0.00
290	4.83	0.00	0.01	0.01	0.02	0.00
300	5.00	0.00	0.01	0.01	0.02	0.00
310	5.17	0.00	0.01	0.02	0.03	0.00
320	5.33	0.00	0.01	0.02	0.03	0.00
330	5.50	0.00	0.02	0.02	0.03	0.00
340	5.67	0.01	0.02	0.02	0.03	0.00
350	5.83	0.01	0.02	0.03	0.04	0.00
360	6.00	0.01	0.03	0.03	0.04	0.00
370	6.17	0.01	0.03	0.03	0.05	0.00
380	6.33	0.01	0.03	0.04	0.05	0.00
390	6.50	0.02	0.03	0.04	0.05	0.00
400	6.67	0.02	0.03	0.04	0.05	0.00
410	6.83	0.02	0.04	0.05	0.07	0.00
420	7.00	0.03	0.05	0.06	0.08	0.00
430	7.17	0.03	0.06	0.07	0.09	0.00
440	7.33	0.04	0.07	0.08	0.10	0.00
450	7.50	0.05	0.08	0.10	0.12	0.00
460	7.67	0.07	0.12	0.14	0.18	0.00
470	7.83	0.13	0.22	0.24	0.31	0.00
480	8.00	0.15	0.24	0.27	0.34	0.00
490	8.17	0.12	0.18	0.21	0.26	0.00
500	8.33	0.09	0.13	0.15	0.19	0.00
510	8.50	0.07	0.11	0.12	0.15	0.00
520	8.67	0.07	0.10	0.11	0.14	0.00

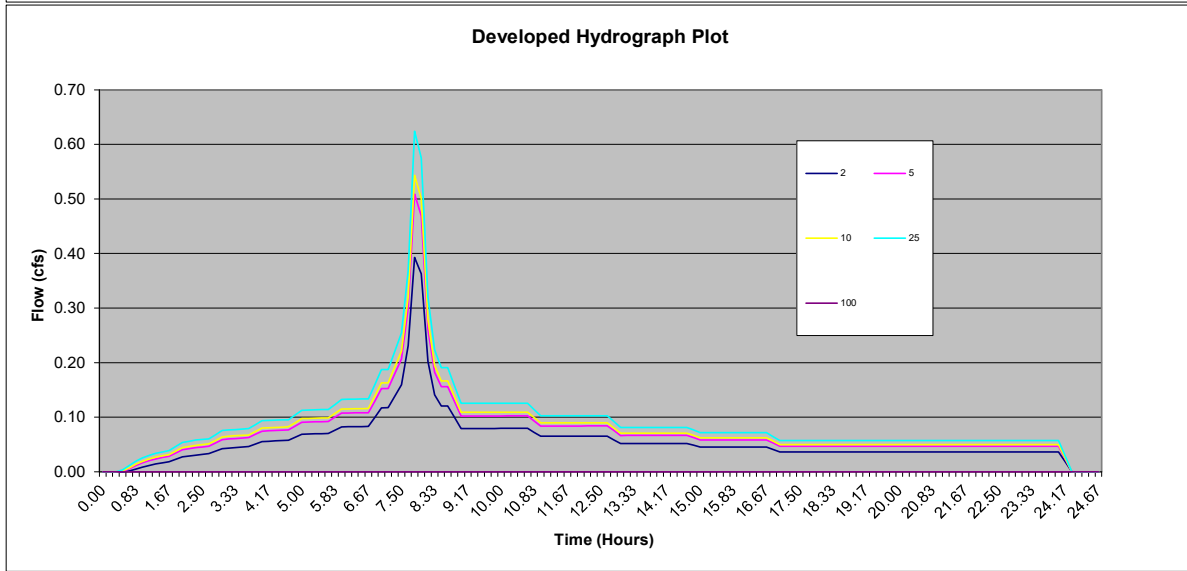
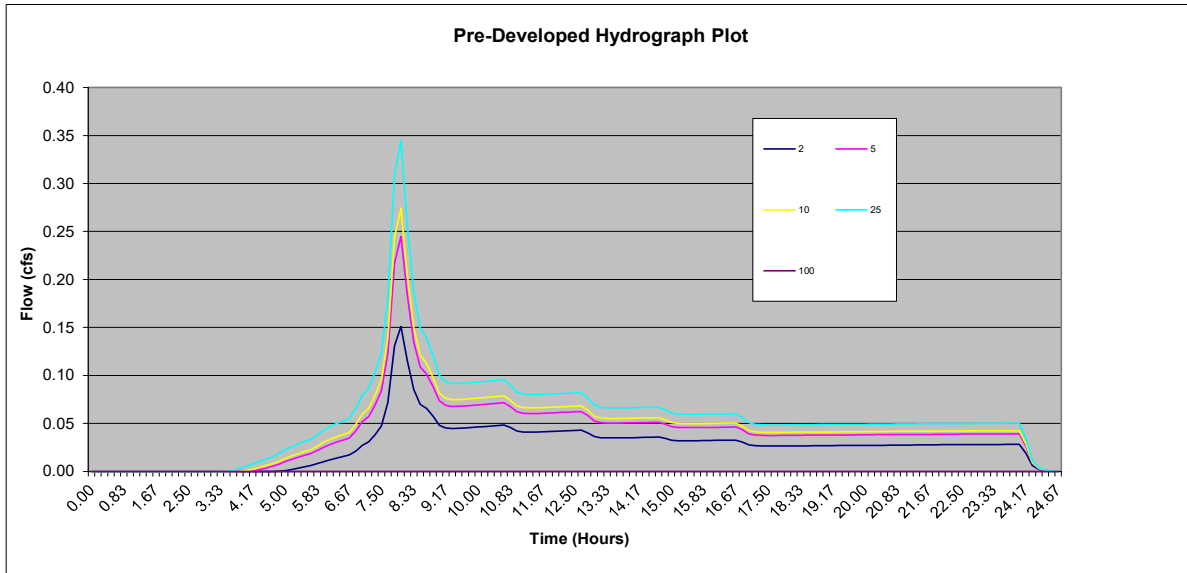
Developed Hydrographs						
Year	=====	2	5	10	25	100
Qpeak	cfs =>	0.39	0.51	0.54	0.62	0.00
Volume	cf =>	5,097	6,654	7,121	8,212	-
Tpeak	min =>	470	470	470	470	10
Tpeak	hr =>	7.83	7.83	7.83	7.83	0.17
Hydrograph Name=>		2	5	10	25	100
Time (min)	Time (hr)	Hyd (cfs)	Hyd (cfs)	Hyd (cfs)	Hyd (cfs)	Hyd (cfs)
0	0.00	0.00	0.00	0.00	0.00	0.00
10	0.17	0.00	0.00	0.00	0.00	0.00
20	0.33	0.00	0.00	0.00	0.00	0.00
30	0.50	0.00	0.00	0.00	0.00	0.00
40	0.67	0.00	0.01	0.01	0.01	0.00
50	0.83	0.00	0.01	0.01	0.02	0.00
60	1.00	0.01	0.02	0.02	0.03	0.00
70	1.17	0.01	0.02	0.02	0.03	0.00
80	1.33	0.01	0.02	0.03	0.03	0.00
90	1.50	0.02	0.03	0.03	0.04	0.00
100	1.67	0.02	0.03	0.03	0.04	0.00
110	1.83	0.02	0.03	0.04	0.05	0.00
120	2.00	0.03	0.04	0.04	0.05	0.00
130	2.17	0.03	0.04	0.05	0.06	0.00
140	2.33	0.03	0.04	0.05	0.06	0.00
150	2.50	0.03	0.05	0.05	0.06	0.00
160	2.67	0.03	0.05	0.05	0.06	0.00
170	2.83	0.04	0.05	0.06	0.07	0.00
180	3.00	0.04	0.06	0.06	0.08	0.00
190	3.17	0.04	0.06	0.06	0.08	0.00
200	3.33	0.04	0.06	0.07	0.08	0.00
210	3.50	0.05	0.06	0.07	0.08	0.00
220	3.67	0.05	0.06	0.07	0.08	0.00
230	3.83	0.05	0.07	0.07	0.09	0.00
240	4.00	0.06	0.07	0.08	0.09	0.00
250	4.17	0.06	0.08	0.08	0.09	0.00
260	4.33	0.06	0.08	0.08	0.09	0.00
270	4.50	0.06	0.08	0.08	0.10	0.00
280	4.67	0.06	0.08	0.08	0.10	0.00
290	4.83	0.06	0.08	0.09	0.10	0.00
300	5.00	0.07	0.09	0.10	0.11	0.00
310	5.17	0.07	0.09	0.10	0.11	0.00
320	5.33	0.07	0.09	0.10	0.11	0.00
330	5.50	0.07	0.09	0.10	0.11	0.00
340	5.67	0.07	0.09	0.10	0.11	0.00
350	5.83	0.08	0.10	0.11	0.12	0.00
360	6.00	0.08	0.11	0.11	0.13	0.00
370	6.17	0.08	0.11	0.12	0.13	0.00
380	6.33	0.08	0.11	0.12	0.13	0.00
390	6.50	0.08	0.11	0.12	0.13	0.00
400	6.67	0.08	0.11	0.12	0.13	0.00
410	6.83	0.10	0.13	0.14	0.16	0.00
420	7.00	0.12	0.15	0.16	0.19	0.00
430	7.17	0.12	0.15	0.16	0.19	0.00
440	7.33	0.14	0.18	0.19	0.22	0.00
450	7.50	0.16	0.21	0.22	0.25	0.00
460	7.67	0.23	0.30	0.32	0.37	0.00
470	7.83	0.39	0.51	0.54	0.62	0.00
480	8.00	0.36	0.47	0.50	0.58	0.00
490	8.17	0.20	0.26	0.28	0.32	0.00
500	8.33	0.14	0.18	0.19	0.22	0.00
510	8.50	0.12	0.16	0.17	0.19	0.00
520	8.67	0.12	0.16	0.17	0.19	0.00

Pre-Developed Hydrographs							Developed Hydrographs				
Year	=====	2	5	10	25	100	2	5	10	25	100
Qpeak	cfs =>	0.15	0.24	0.27	0.34	0.00	0.39	0.51	0.54	0.62	0.00
Volume	cf =>	2,443	3,708	4,104	5,050	-	5,097	6,654	7,121	8,212	-
Tpeak	min =>	480	480	480	480	10	470	470	470	470	10
Tpeak	hr =>	8.00	8.00	8.00	8.00	0.17	7.83	7.83	7.83	7.83	0.17
Hydrograph Name=>		2	5	10	25	100	2	5	10	25	100
Time	Time	Hyd	Hyd	Hyd	Hyd	Hyd	Hyd	Hyd	Hyd	Hyd	Hyd
(min)	(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
530	8.83	0.06	0.09	0.10	0.12	0.00	0.10	0.13	0.14	0.16	0.00
540	9.00	0.05	0.07	0.08	0.10	0.00	0.08	0.10	0.11	0.13	0.00
550	9.17	0.05	0.07	0.08	0.09	0.00	0.08	0.10	0.11	0.13	0.00
560	9.33	0.04	0.07	0.07	0.09	0.00	0.08	0.10	0.11	0.13	0.00
570	9.50	0.04	0.07	0.07	0.09	0.00	0.08	0.10	0.11	0.13	0.00
580	9.67	0.05	0.07	0.08	0.09	0.00	0.08	0.10	0.11	0.13	0.00
590	9.83	0.05	0.07	0.08	0.09	0.00	0.08	0.10	0.11	0.13	0.00
600	10.00	0.05	0.07	0.08	0.09	0.00	0.08	0.10	0.11	0.13	0.00
610	10.17	0.05	0.07	0.08	0.09	0.00	0.08	0.10	0.11	0.13	0.00
620	10.33	0.05	0.07	0.08	0.09	0.00	0.08	0.10	0.11	0.13	0.00
630	10.50	0.05	0.07	0.08	0.09	0.00	0.08	0.10	0.11	0.13	0.00
640	10.67	0.05	0.07	0.08	0.10	0.00	0.08	0.10	0.11	0.13	0.00
650	10.83	0.05	0.07	0.07	0.09	0.00	0.07	0.09	0.10	0.11	0.00
660	11.00	0.04	0.06	0.07	0.08	0.00	0.07	0.08	0.09	0.10	0.00
670	11.17	0.04	0.06	0.07	0.08	0.00	0.07	0.08	0.09	0.10	0.00
680	11.33	0.04	0.06	0.07	0.08	0.00	0.07	0.08	0.09	0.10	0.00
690	11.50	0.04	0.06	0.07	0.08	0.00	0.07	0.08	0.09	0.10	0.00
700	11.67	0.04	0.06	0.07	0.08	0.00	0.07	0.08	0.09	0.10	0.00
710	11.83	0.04	0.06	0.07	0.08	0.00	0.07	0.08	0.09	0.10	0.00
720	12.00	0.04	0.06	0.07	0.08	0.00	0.07	0.08	0.09	0.10	0.00
730	12.17	0.04	0.06	0.07	0.08	0.00	0.07	0.08	0.09	0.10	0.00
740	12.33	0.04	0.06	0.07	0.08	0.00	0.07	0.08	0.09	0.10	0.00
750	12.50	0.04	0.06	0.07	0.08	0.00	0.07	0.08	0.09	0.10	0.00
760	12.67	0.04	0.06	0.07	0.08	0.00	0.07	0.08	0.09	0.10	0.00
770	12.83	0.04	0.06	0.06	0.08	0.00	0.06	0.08	0.08	0.09	0.00
780	13.00	0.04	0.05	0.06	0.07	0.00	0.05	0.07	0.07	0.08	0.00
790	13.17	0.04	0.05	0.06	0.07	0.00	0.05	0.07	0.07	0.08	0.00
800	13.33	0.03	0.05	0.06	0.07	0.00	0.05	0.07	0.07	0.08	0.00
810	13.50	0.03	0.05	0.06	0.07	0.00	0.05	0.07	0.07	0.08	0.00
820	13.67	0.03	0.05	0.06	0.07	0.00	0.05	0.07	0.07	0.08	0.00
830	13.83	0.04	0.05	0.06	0.07	0.00	0.05	0.07	0.07	0.08	0.00
840	14.00	0.04	0.05	0.06	0.07	0.00	0.05	0.07	0.07	0.08	0.00
850	14.17	0.04	0.05	0.06	0.07	0.00	0.05	0.07	0.07	0.08	0.00
860	14.33	0.04	0.05	0.06	0.07	0.00	0.05	0.07	0.07	0.08	0.00
870	14.50	0.04	0.05	0.06	0.07	0.00	0.05	0.07	0.07	0.08	0.00
880	14.67	0.04	0.05	0.06	0.07	0.00	0.05	0.07	0.07	0.08	0.00
890	14.83	0.03	0.05	0.05	0.06	0.00	0.05	0.06	0.07	0.08	0.00
900	15.00	0.03	0.05	0.05	0.06	0.00	0.05	0.06	0.06	0.07	0.00
910	15.17	0.03	0.05	0.05	0.06	0.00	0.05	0.06	0.06	0.07	0.00
920	15.33	0.03	0.05	0.05	0.06	0.00	0.05	0.06	0.06	0.07	0.00
930	15.50	0.03	0.05	0.05	0.06	0.00	0.05	0.06	0.06	0.07	0.00
940	15.67	0.03	0.05	0.05	0.06	0.00	0.05	0.06	0.06	0.07	0.00
950	15.83	0.03	0.05	0.05	0.06	0.00	0.05	0.06	0.06	0.07	0.00
960	16.00	0.03	0.05	0.05	0.06	0.00	0.05	0.06	0.06	0.07	0.00
970	16.17	0.03	0.05	0.05	0.06	0.00	0.05	0.06	0.06	0.07	0.00
980	16.33	0.03	0.05	0.05	0.06	0.00	0.05	0.06	0.06	0.07	0.00
990	16.50	0.03	0.05	0.05	0.06	0.00	0.05	0.06	0.06	0.07	0.00
1000	16.67	0.03	0.05	0.05	0.06	0.00	0.05	0.06	0.06	0.07	0.00
1010	16.83	0.03	0.04	0.05	0.06	0.00	0.04	0.05	0.06	0.06	0.00
1020	17.00	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1030	17.17	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1040	17.33	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1050	17.50	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1060	17.67	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1070	17.83	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1080	18.00	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1090	18.17	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1100	18.33	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1110	18.50	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1120	18.67	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1130	18.83	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1140	19.00	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1150	19.17	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1160	19.33	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1170	19.50	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1180	19.67	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1190	19.83	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1200	20.00	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1210	20.17	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1220	20.33	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1230	20.50	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00

Pre-Developed Hydrographs							Developed Hydrographs				
Year	=====	2	5	10	25	100	2	5	10	25	100
Qpeak	cfs =>	0.15	0.24	0.27	0.34	0.00	0.39	0.51	0.54	0.62	0.00
Volume	cf =>	2,443	3,708	4,104	5,050	-	5,097	6,654	7,121	8,212	-
Tpeak	min =>	480	480	480	480	10	470	470	470	470	10
Tpeak	hr =>	8.00	8.00	8.00	8.00	0.17	7.83	7.83	7.83	7.83	0.17
Hydrograph Name=>		2	5	10	25	100	2	5	10	25	100
Time	Time	Hyd	Hyd	Hyd	Hyd	Hyd	Hyd	Hyd	Hyd	Hyd	Hyd
(min)	(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
1240	20.67	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1250	20.83	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1260	21.00	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1270	21.17	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1280	21.33	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1290	21.50	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1300	21.67	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1310	21.83	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1320	22.00	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1330	22.17	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1340	22.33	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1350	22.50	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1360	22.67	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1370	22.83	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1380	23.00	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1390	23.17	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1400	23.33	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1410	23.50	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1420	23.67	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1430	23.83	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1440	24.00	0.03	0.04	0.04	0.05	0.00	0.04	0.05	0.05	0.06	0.00
1450	24.17	0.02	0.03	0.03	0.03	0.00	0.02	0.02	0.02	0.03	0.00
1460	24.33	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
1470	24.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1480	24.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1490	24.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1500	24.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

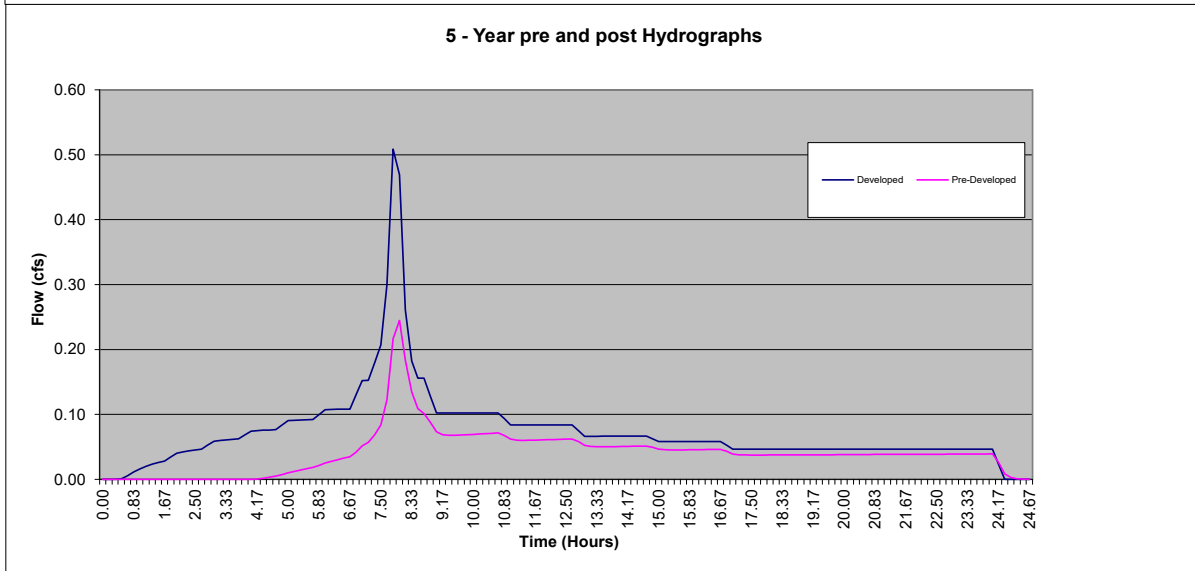
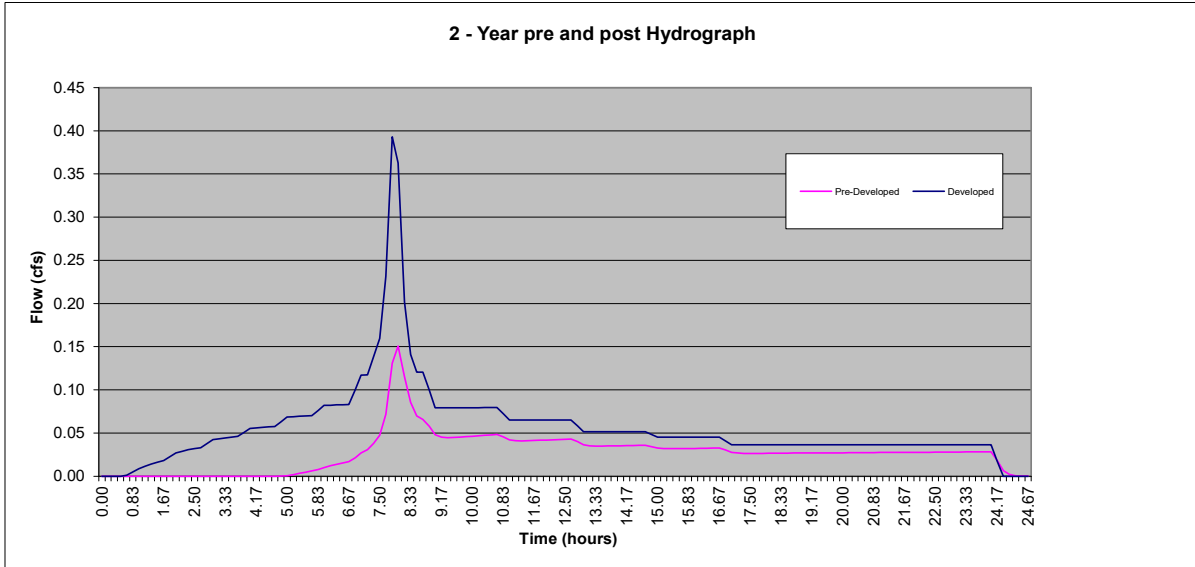
Pre-Developed Hydrographs						
Year	=====	2	5	10	25	100
Qpeak	cfs =>	0.15	0.24	0.27	0.34	0.00
Volume	cf =>	2,443	3,708	4,104	5,050	-
Tpeak	min =>	480	480	480	480	10
Tpeak	hr =>	8.00	8.00	8.00	8.00	0.17
Hydrograph Name=>		2	5	10	25	100
Time	Time	Hyd	Hyd	Hyd	Hyd	Hyd
(min)	(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)

Developed Hydrographs					
2	5	10	25	100	
0.39	0.51	0.54	0.62	0.00	
5,097	6,654	7,121	8,212	-	
470	470	470	470	10	
7.83	7.83	7.83	7.83	0.17	
2	5	10	25	100	
Hyd	Hyd	Hyd	Hyd	Hyd	
(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	



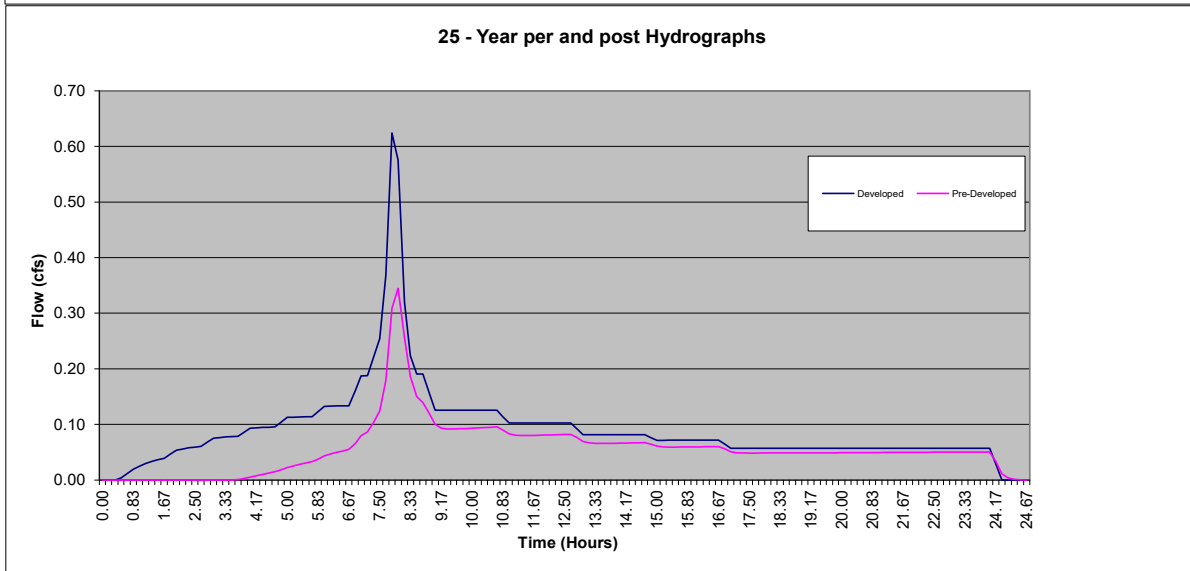
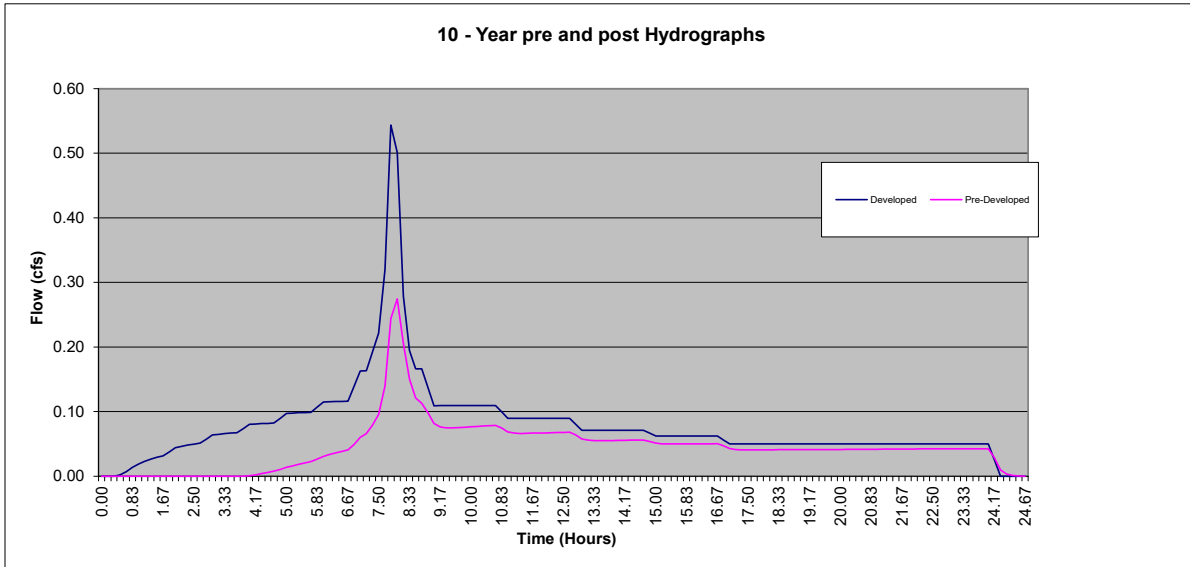
Pre-Developed Hydrographs						
Year	=====>	2	5	10	25	100
Qpeak	cfs =>	0.15	0.24	0.27	0.34	0.00
Volume	cf =>	2,443	3,708	4,104	5,050	-
Tpeak	min =>	480	480	480	480	10
Tpeak	hr =>	8.00	8.00	8.00	8.00	0.17
Hydrograph Name=>		2	5	10	25	100
Time	Time	Hyd	Hyd	Hyd	Hyd	Hyd
(min)	(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)

Developed Hydrographs						
		2	5	10	25	100
Qpeak		0.39	0.51	0.54	0.62	0.00
Volume		5,097	6,654	7,121	8,212	-
Tpeak	min =>	470	470	470	470	10
Tpeak	hr =>	7.83	7.83	7.83	7.83	0.17
Hydrograph Name=>		2	5	10	25	100
Time	Time	Hyd	Hyd	Hyd	Hyd	Hyd
(min)	(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)



Pre-Developed Hydrographs						
Year	=====>	2	5	10	25	100
Qpeak	cfs =>	0.15	0.24	0.27	0.34	0.00
Volume	cf =>	2,443	3,708	4,104	5,050	-
Tpeak	min =>	480	480	480	480	10
Tpeak	hr =>	8.00	8.00	8.00	8.00	0.17
Hydrograph Name=>		2	5	10	25	100
Time	Time	Hyd	Hyd	Hyd	Hyd	Hyd
(min)	(hr)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)

Developed Hydrographs						
		2	5	10	25	100
		0.39	0.51	0.54	0.62	0.00
		5,097	6,654	7,121	8,212	-
		470	470	470	470	10
		7.83	7.83	7.83	7.83	0.17
		2	5	10	25	100
		Hyd	Hyd	Hyd	Hyd	Hyd
		(cfs)	(cfs)	(cfs)	(cfs)	(cfs)





**Project Name:** The Riffles Parking Lot - Basin B  
**Detention System Summary**

Job # 21-092  
 Date: 3/18/2022

Note: The detention system design is based on the King County Model "Facility Design Routine".

**1) Detention Facility Design Input:**

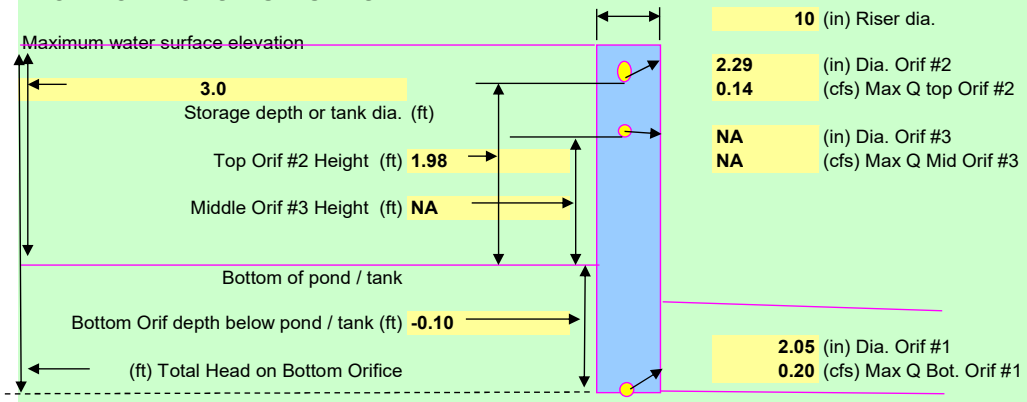
2) Type of facility:	DETENTION TANK	
3) Pond side slopes:	3 NA	
4) Tank Diameter:	3 ft	
5) Vertical permeability:	0 min/in	
6) Number of orifices:	2	
7) Riser dia. =>	10 in	
8) Orifice coefficient:	0.62 (typically 0.62)	
9) IE - bottom orifice:	-0.1 ft (distance below bottom of pond - Negative #)	
10) Max Q Bottom Orif. #1	0.20 cfs	
11) Top Orif #2 Height =	1.98 ft	
12) Max Q Mid Orif. #3	0.00 cfs	Orifice not being used
13) Mid Orif #3 Height =	0.00 ft	Orifice not being used

**Detention Facility Design Results:**

Performance year	Developed Inflow cfs	Pre-Developed Outflow cfs	Actual Outflow cfs	Peak Stage ft	Storage cf
100	0	0	0	0	-
25	0.62	0.34	0.35	3.00	1,026
10	0.54	0.27	0.27	2.39	875
5	0.51	0.24	0.25	2.23	816
2	0.39	0.15	0.15	1.65	579
Required Storage =====					1,026

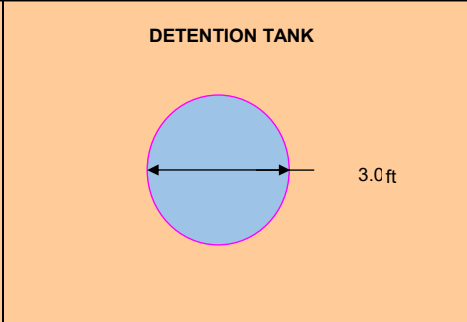
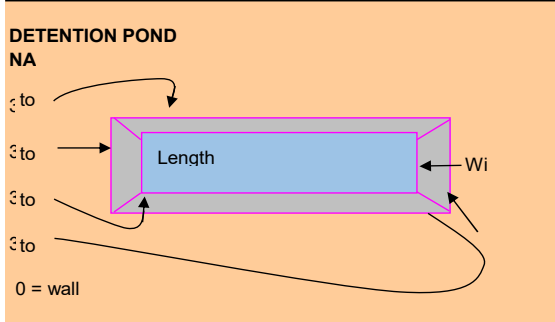
	Bottom Orif.	Middle Orif.	Top Orif.	Optional Weir Design (for top orifice)
Total Q =	0.20	0.00	0.14	0.45 La (ft)
Head (ft) =	3.10	0.00	1.02	61.65 < deg.
Dist. from bottom of pond (ft) =	-0.10	NA	1.98	Weir is an option
Orif. Dia. (in) =	2.05	0.00	2.29	

**FLOW CONTROL STRUCTURE SCHEMATIC**



Project Name: The Riffles Parking Lot - Basin B  
 Detention Facility Type  
 Job # 21-092  
 Date: 3/18/2022

Detention Facility Type:  
**DETENTION TANK**  
 L = 145.1 ft  
 W = 145.1 ft  
 D = 3.0 ft  
 Tank Vol. = 1,026 cf

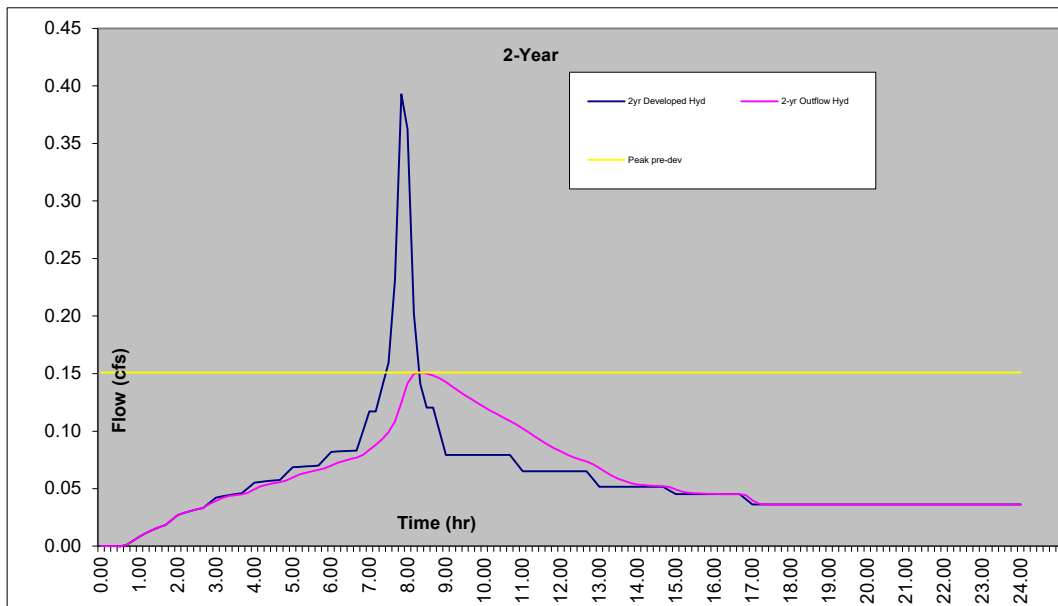
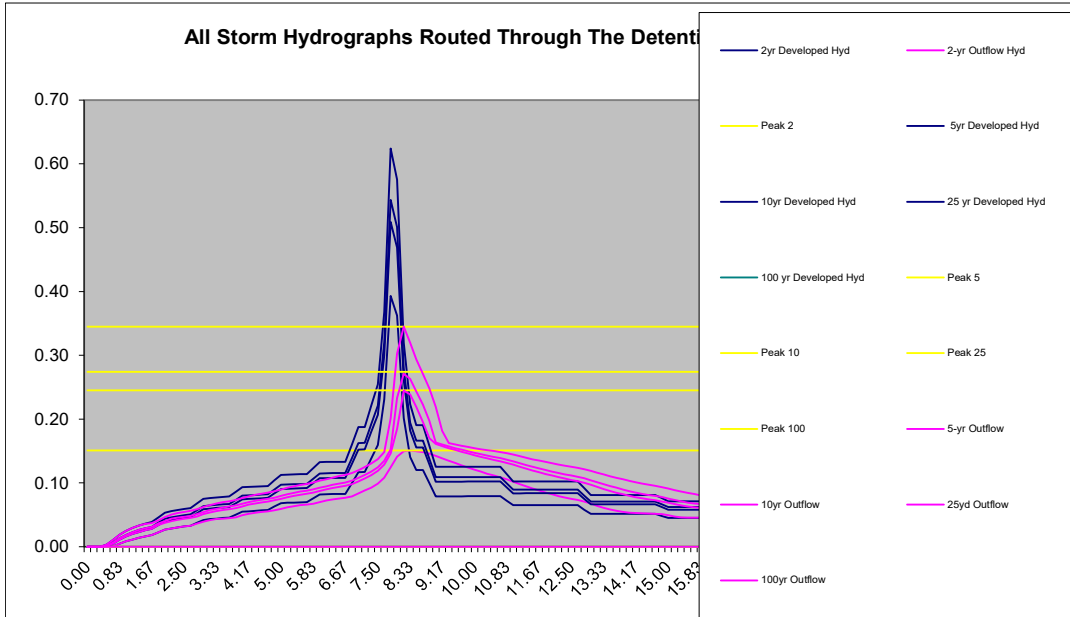


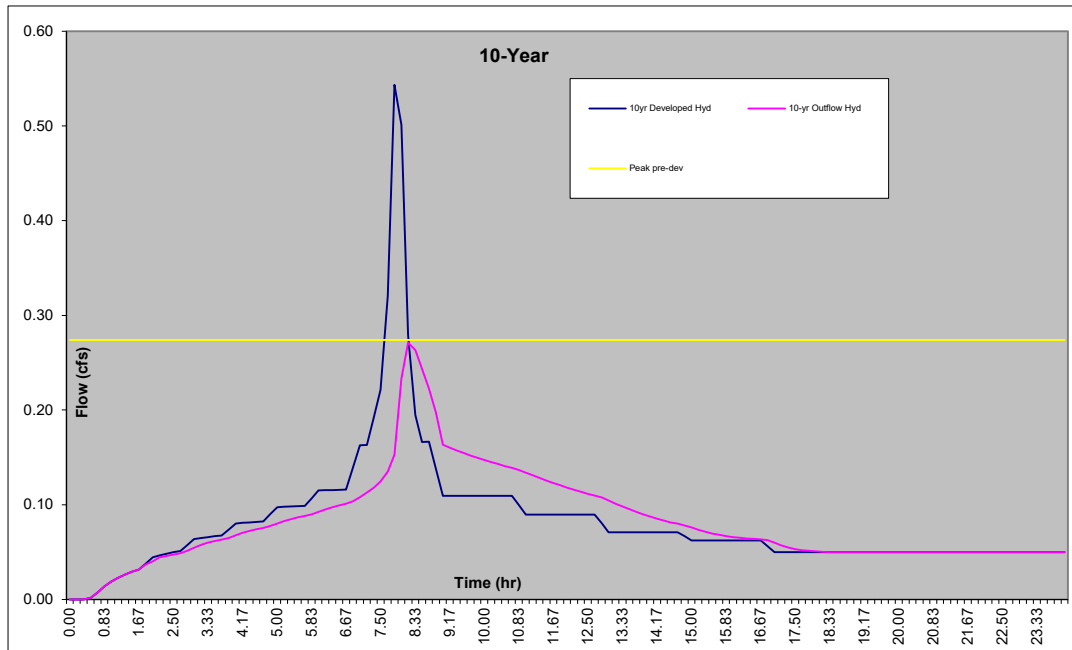
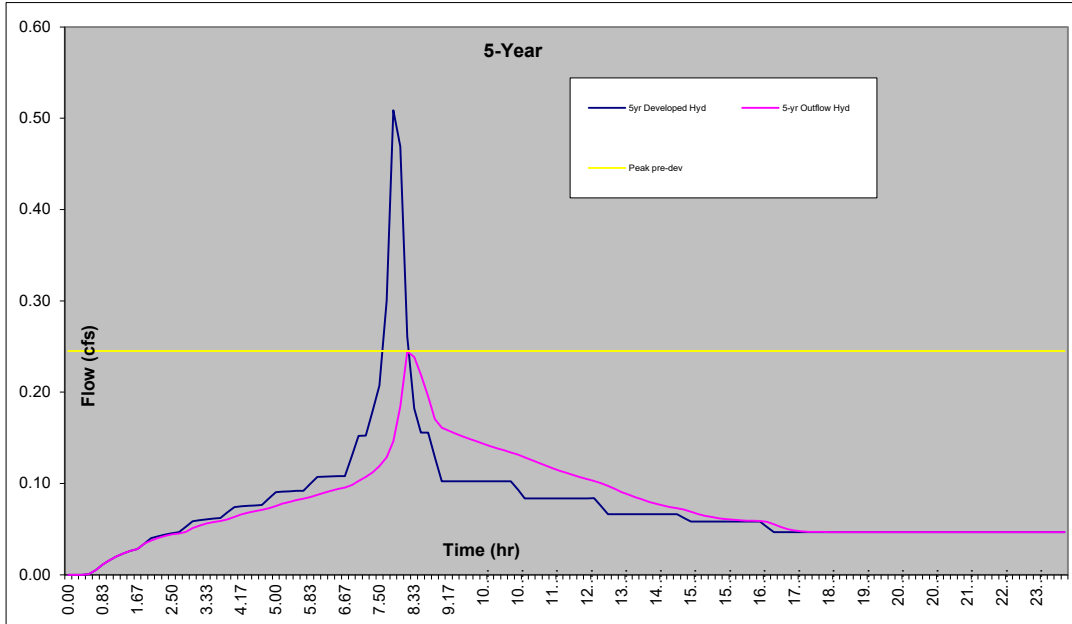
**USER DEFINED POND**  
 NA

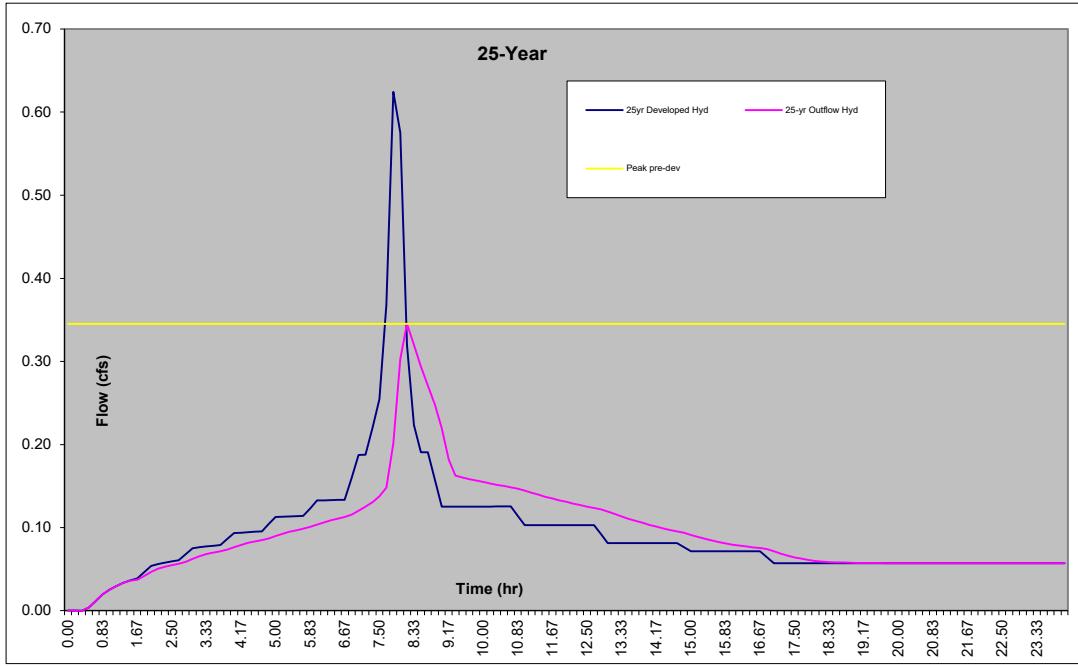
Pond Geometry

Stage (ft)	Area (sf)
0	NA
1	NA
2	NA
3	NA
4	NA
5	NA
6	NA
7	NA
8	NA
9	NA
10	NA
11	NA
12	NA
13	NA
14	NA
15	NA

The diagram shows a trapezoidal cross-section of a pond with a blue interior and a pink border. The top horizontal edge is labeled "Stage 1" and the bottom horizontal edge is labeled "Stage 0".



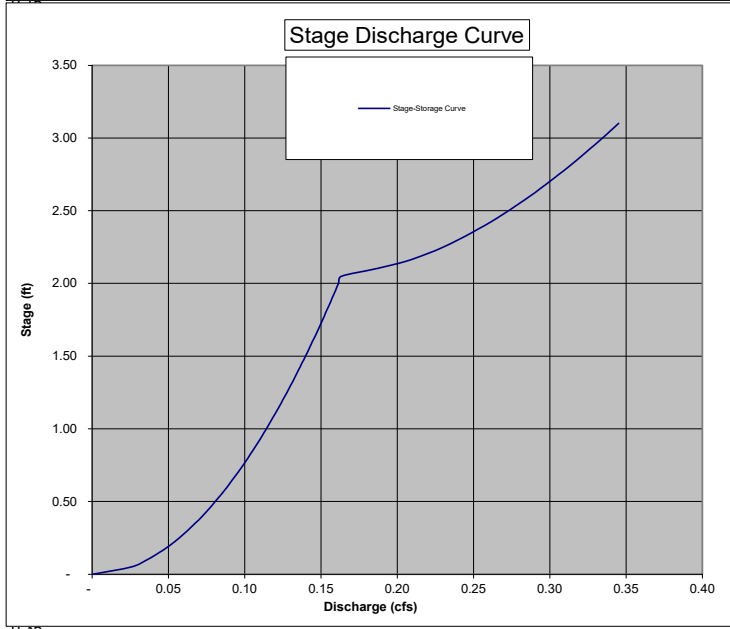
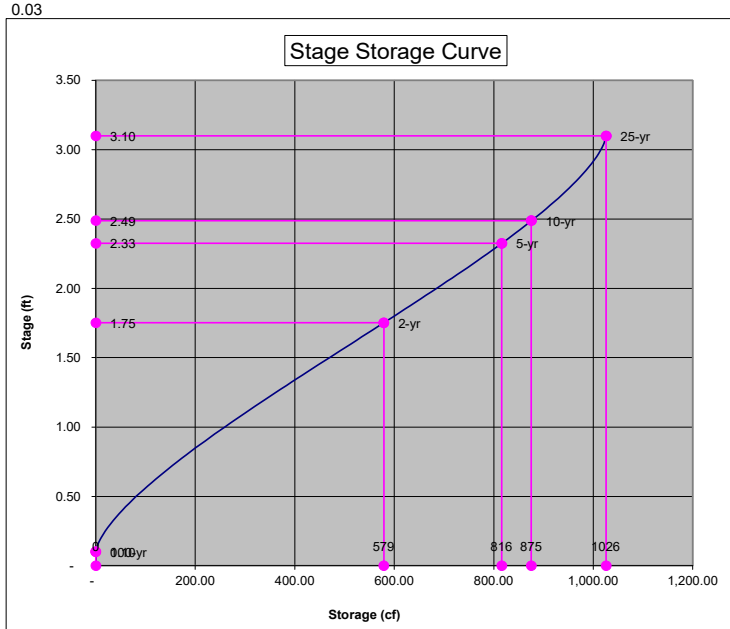




**Project Name: The Riffles Parking Lot - Basin B**  
**Stage Storage Summary**

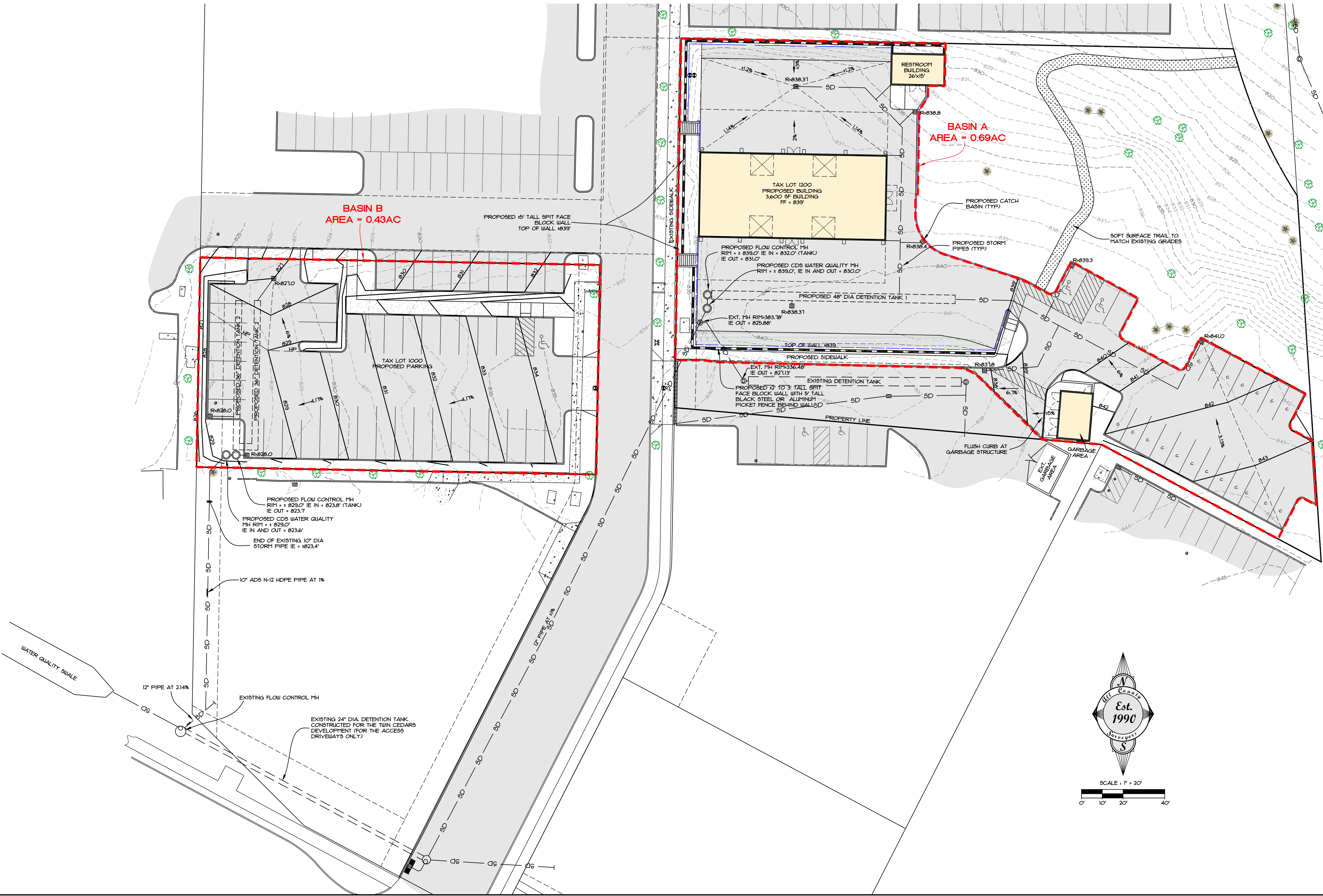
Job # 21-092  
 Date: 3/18/2022

Stage ft	Storage cf	Discharge cfs
-	-	-
0.05	-	-
0.10	-	-
0.15	3.73	-
0.20	10.49	-
0.25	19.17	-
0.30	29.37	-
0.35	40.83	-
0.40	53.38	-
0.45	66.91	-
0.50	81.30	-
0.55	96.48	-
0.60	112.37	-
0.65	128.90	-
0.70	146.04	-
0.75	163.71	-
0.80	181.89	-
0.85	200.53	-
0.90	219.58	-
0.95	239.02	-
1.00	258.80	-
1.05	278.90	-
1.10	299.29	-
1.15	319.94	-
1.20	340.81	-
1.25	361.88	-
1.30	383.13	-
1.35	404.53	-
1.40	426.04	-
1.45	447.66	-
1.50	469.35	-
1.55	491.09	-
1.60	512.85	-
1.65	534.61	-
1.70	556.35	-
1.75	578.04	-
1.80	599.66	-
1.85	621.17	-
1.90	642.57	-
1.95	663.82	-
2.00	684.89	-
2.05	705.76	-
2.10	726.41	-
2.15	746.80	-
2.20	766.90	-
2.25	786.69	-
2.30	806.12	-
2.35	825.17	-
2.40	843.81	-
2.45	861.99	-
2.50	879.66	-
2.55	896.80	-
2.60	913.33	-
2.65	929.22	-
2.70	944.40	-
2.75	958.79	-
2.80	972.32	-
2.85	984.87	-
2.90	996.33	-
2.95	1,006.53	-
3.00	1,015.21	-
3.05	1,021.97	-
3.10	1,025.70	-
3.10	1,025.70	0.03
3.10	1,025.70	-
3.10	1,025.70	-



Appendix D  
Drainage Basin Map

# THE RIFFLE FOOD CARTS - DRAINAGE BASIN MAP



DATE	NO.	REVISION	BY
DESIGNED: RLM			SHEET <b>SK1</b>
DRAWN: RLM			
CHECKED: DLH			
APPROVED: RLM			OF <b>1</b>

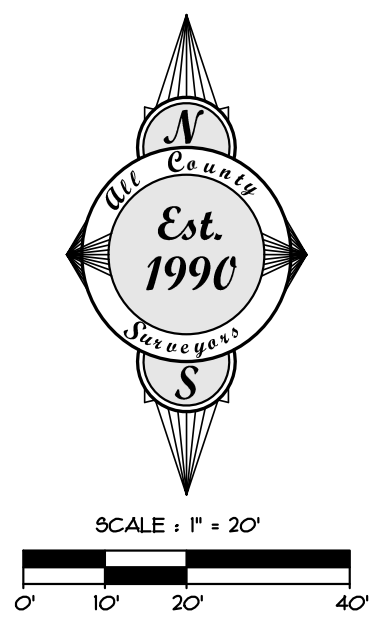
SCALE	VERT.	N/A
HORIZ. 1" = 20'	DATE	3-18-22
FILE: 21-032 - Planning.dwg	LEGAL	
SECTION	TWP.	RANGE
14	25	4E

PROJECT: **THE RIFFLE FOOD CARTS**  
**PRELIMINARY GRADING**  
**AND STORMWATER PLAN**

LOCATION: **TWIN CEDARS CENTER, SANDY, OREGON**

**Surveyors & Planners, Inc.**  
 Surveying, Planning and  
 Civil Engineering and  
 P.O. Box 855 Sandy, OR 97055  
 Phone: (503) 668-4730  
 Fax: (503) 668-4730  
 DATE OF PLOT: 3-18-22

CLIENT:  
**TODD HOFFMAN**  
 PO BOX 1016  
 SANDY, OR 97055  
 PHONE: 503-863-1131

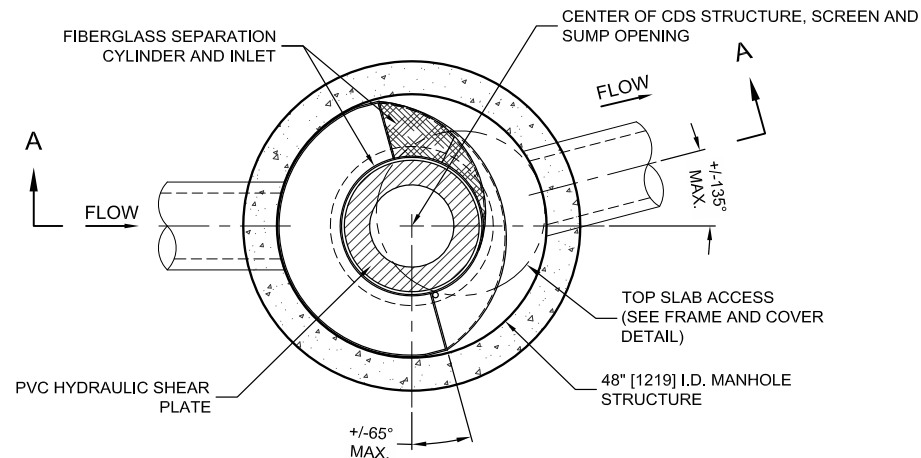




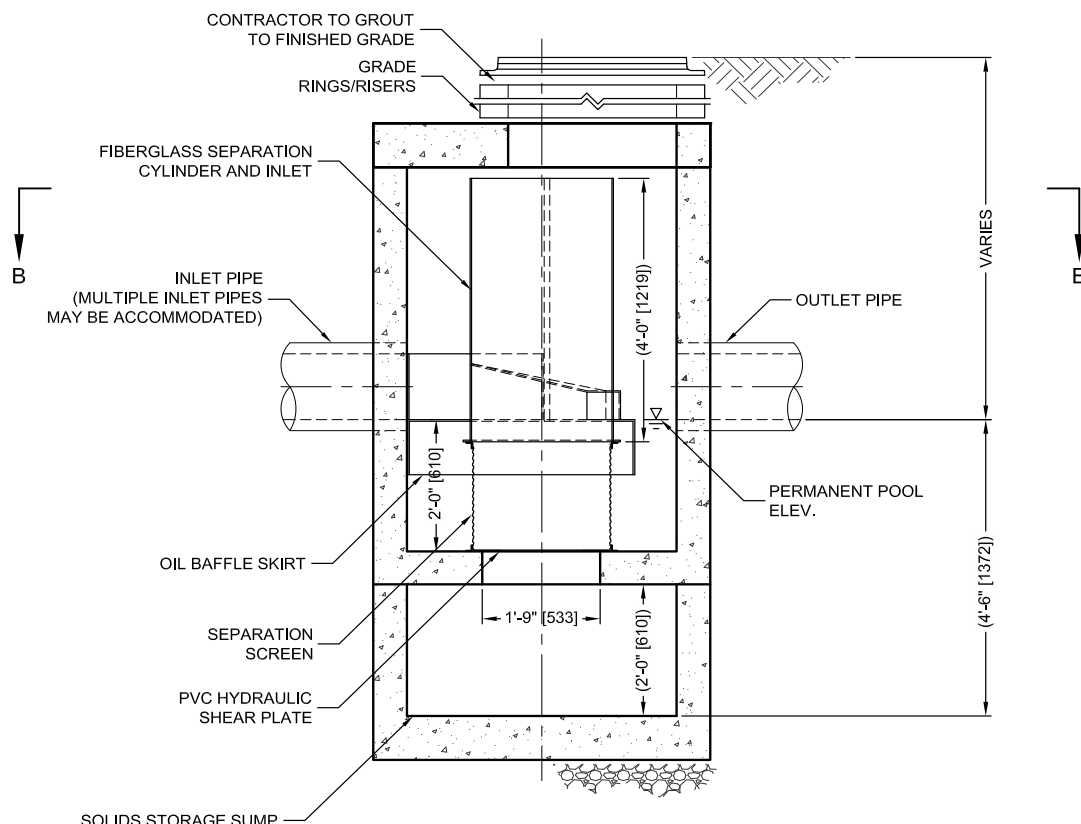
Appendix E

Contech CDS Manhole Detail

C:\USERS\SCHLACHER\DESKTOP\CDS DETAILS 180 MICRON SIZING\CAD\CDS2015-4-C-DTL.DWG 5/19/2014 5:16 PM



**PLAN VIEW B-B**  
N.T.S.



**ELEVATION A-A**  
N.T.S.



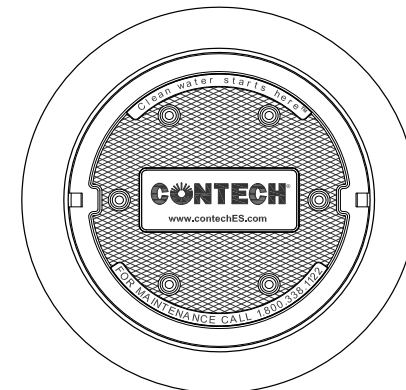
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 6,738,848; 6,841,757; 6,511,095; 6,581,783. RELATED FOREIGN PATENTS OR OTHER PATENT NUMBERS.

**CDS2015-4-C DESIGN NOTES**

THE STANDARD CDS2015-4-C CONFIGURATION IS SHOWN. ALTERNATE CONFIGURATIONS ARE AVAILABLE AND ARE LISTED BELOW. SOME CONFIGURATIONS MAY BE COMBINED TO SUIT SITE REQUIREMENTS.

**CONFIGURATION DESCRIPTION**

- GRATED INLET ONLY (NO INLET PIPE)
- GRATED INLET WITH INLET PIPE OR PIPES
- CURB INLET ONLY (NO INLET PIPE)
- CURB INLET WITH INLET PIPE OR PIPES
- SEPARATE OIL BAFFLE (SINGLE INLET PIPE REQUIRED FOR THIS CONFIGURATION)
- SEDIMENT WEIR FOR NJDEP / NJCAT CONFORMING UNITS



**FRAME AND COVER**  
(DIAMETER VARIES)  
N.T.S.

**SITE SPECIFIC DATA REQUIREMENTS**

STRUCTURE ID				
WATER QUALITY FLOW RATE (CFS OR L/s)				*
PEAK FLOW RATE (CFS OR L/s)				*
RETURN PERIOD OF PEAK FLOW (YRS)				*
SCREEN APERTURE (2400 OR 4700)				*
PIPE DATA:		I.E.	MATERIAL	DIAMETER
INLET PIPE 1	*	*	*	*
INLET PIPE 2	*	*	*	*
OUTLET PIPE	*	*	*	*
RIM ELEVATION				*
ANTI-FLOTATION BALLAST		WIDTH	HEIGHT	
		*	*	
NOTES/SPECIAL REQUIREMENTS:				
* PER ENGINEER OF RECORD				

**GENERAL NOTES**

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. [www.contechES.com](http://www.contechES.com)
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 AND CASTINGS SHALL MEET HS20 (AASHTO M 306) LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION.
6. PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

**INSTALLATION NOTES**

- A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
- C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
- D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
- E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.



[www.contechES.com](http://www.contechES.com)  
9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069  
800-338-1122 513-645-7000 513-645-7993 FAX

**CDS2015-4-C  
INLINE CDS  
STANDARD DETAIL**

**EXHIBIT J**



**The Riffles Food Carts**  
Transportation Impact  
Study  
Sandy, Oregon



RENEWS: 6/30/2022

Date:  
March 7, 2022

Prepared for:  
Todd Hoffman  
Riffles Food Carts

Prepared by:  
Daniel Stumpf, PE

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## Executive Summary

1. The proposed Riffles Food Cart development will include the construction of a food cart facility, to be located within the Twin Cedars Center shopping center at 37133/37115 Highway 26 in Sandy, Oregon. Specifically, the project includes constructing 18 food cart pods, a 3,600 square foot building intended as a common dining space, and off-street parking. Access to the site will be available via existing shopping center driveways along US-26.
2. The trip generation calculations show that the proposed project is projected to generate 12 net new morning peak hour trips, 57 net new evening peak hour trips, and 566 net new average weekday trips.
3. No significant trends or crash patterns were identified at any of the study intersections that were indicative of safety concerns. In addition, none of the study intersections exhibit crash rates near or above the 1.00 CMEV threshold nor do any of the study intersections have a crash rate exceeding ODOT's 90<sup>th</sup> percentile rate. Accordingly, no safety mitigation is recommended per the crash data analysis.
4. Due to insufficient main and side street traffic volumes, traffic signal warrants are not projected to be met at the full-movement shopping center access intersection at US-26 under year 2023 buildout conditions.
5. All study intersections are currently operating acceptably per ODOT standards and are projected to continue operating acceptably through the 2023 site buildout year. No operational mitigation is necessary or recommended at these intersections.



## Project Description

### Introduction

The proposed Riffles Food Cart development will include the construction of a food cart facility, to be located within the Twin Cedars Center shopping center at 37133/37115 Highway 26 in Sandy, Oregon. Specifically, the project includes constructing 18 food cart pods, a 3,600 square foot building intended as a common dining space, and off-street parking. Access to the site will be available via existing shopping center driveways along Highway 26 (US-26).

Based on correspondence with City of Sandy's transportation consultant and Oregon Department of Transportation (ODOT) staff, the report conducts safety and capacity/level of service analyses at the following intersections during the morning and evening peak hours:

1. Industrial Way at US-26; and
2. Shopping center access (full-movement access) at US-26.

The purpose of this study is to determine whether the transportation system within the vicinity of the site is capable of safely and efficiently supporting the existing and proposed uses, and to determine any mitigation that may be necessary to do so. Detailed information on traffic counts, trip generation calculations, safety analyses, and level of service calculations is included in the appendix to this report.

### Location Description

The project site is located north of US-26, east of Industrial Way, and west of Kate Schmitz Avenue within the Twin Cedars Center shopping center in Sandy, Oregon. The site consists of two properties (tax lots 1000 and 1200) which encompass an approximate total of 2.16 acres. In the immediate vicinity, the site is surrounded by a mix of uses including a fitness gym to the north, medical office/restaurant/coffee shop to the south, forested land to the east, and car service uses to the west.

Figure 1 presents an aerial image of the nearby vicinity with the project site outlined in yellow.







Figure 1: Aerial Photo of Site Vicinity (Image from Google Earth)

**Vicinity Streets**

The proposed development is expected to impact two roadways near the site. Table 1 provides a description of each vicinity roadway.

Table 1: Vicinity Roadway Descriptions

Street Name	Jurisdiction	Functional Classification	Speed (MPH)	On-Street Parking	Curbs & Sidewalks	Bicycle Lanes
US-26	ODOT	Arterial/ Statewide Hwy	40/45	Not Permitted	Partial Both Sides	Both Sides
Industrial Way	City of Sandy	Collector	25	Partially Permitted	Partial Both Sides	None

Table Notes: Functional classification based on City of Sandy TSP and ODOT OHP.

**Study Intersections**

Based on coordination with agency staff, two existing intersections were identified for analysis. A summarized description of these study intersections, under their existing lane configurations, is provided in Table 2.









Table 2: Study Intersection Descriptions

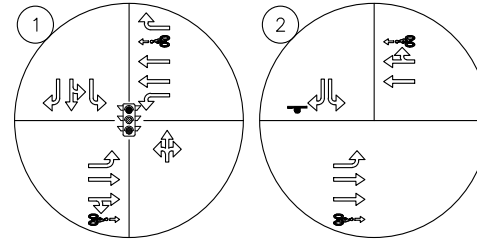
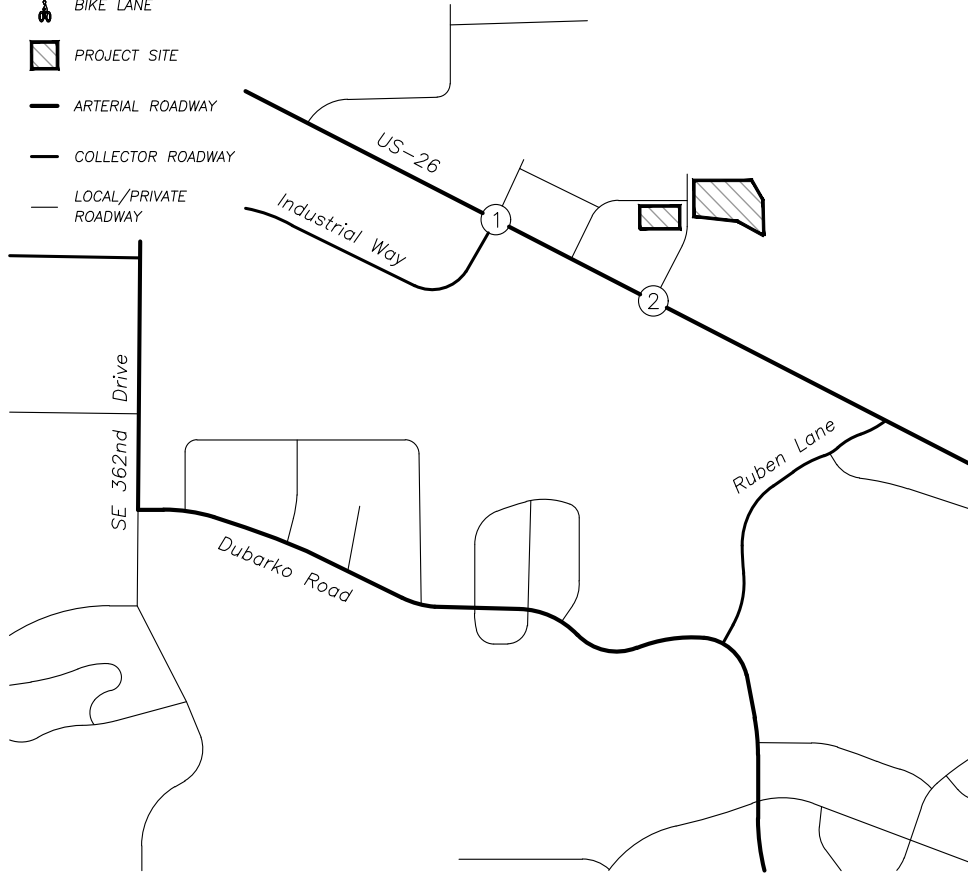
Number	Intersection	Geometry	Traffic Control	Phasing/Stopped Approaches
1	Industrial Way at US-26	Four-Legged	Traffic Signal	FYA EB/WB Left-turns, Split NB/SB Phasing
2	SE 2nd Street at Havlik Drive	Three-Legged	Stop-Controlled	Stop-Controlled SB Approach

A vicinity map showing the project site, vicinity streets, and study intersection configurations is shown in Figure 2.



**LEGEND**

-  STUDY INTERSECTION
-  STOP SIGN
-  TRAFFIC SIGNAL
-  BIKE LANE
-  PROJECT SITE
-  ARTERIAL ROADWAY
-  COLLECTOR ROADWAY
-  LOCAL/Private ROADWAY



**VICINITY MAP**

Figure 2

The Riffles Food Carts  
3/7/2022

## Site Trips

### Trip Generation

The Riffles Food Cart development will include the construction of 18 food cart pods. To estimate the number of trips that will be generated by the proposed use, trip rates from the *Trip Generation Manual*<sup>1</sup> were used. Specifically, data from land use code 926, *Food Cart Pod*, was used based on the number of food carts.

Due to the limited data available for land use code 926, trip generation data specific to the following are not available:

- Directional distribution of trips (i.e. entering and exiting trips).
- Morning peak hour trip generation.
- Average daily trip (ADT) generation.
- Pass-by trip generation.

#### Direction Distribution of Trips

Food cart facilities typically serve patrons seeking quick and convenient food service, but who are expecting a higher quality and price point for food than a typical fast-food restaurant. In the *Trip Generation Manual*, the closest land use code that matches this type of facility that has directional data is land use code 930, *Fast Casual Restaurant*. For the purposes of estimating trip generation, it is assumed that the directional split of trips to/from the site would approximately match the splits from land use code 930. The following directional splits were assumed:

- Morning peak hour: 50 percent entering, 50 percent exiting.
- Evening peak hour: 55 percent entering, 45 percent exiting.

#### Morning Peak Hour Trip Generation

Proprietors of food carts typically open for business during the late morning hours to capture the lunch peak and often do not open from 7:00 AM to 9:00 AM. Therefore, trip generation from the facility is expected to be low during these hours. For the purposes of this analysis, it is assumed that a conservative 20 percent of the food carts may be in operation, whereby the trip generation for the morning peak hour was assumed to be approximately 1.23 trips per cart.

#### Average Daily Trip Generation

To estimate the ADT of the proposed food cart facility, it is assumed the daily trip generation would be approximately 10 times the evening peak hour rate.

#### Pass-by Trip Generation

Generally, food service land uses are expected to attract pass-by trips (i.e. draw existing traffic volumes along adjacent roadways to the site). Although, pass-by data is not available for land use code 926 in the *Trip Generation Manual*, this is not indicative that no pass-by trips are occurring, instead the data in the manual may

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<sup>1</sup> Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11<sup>th</sup> Edition, 2021.

be limited or incomplete. Below are examples of food service land uses that provide pass-by trip data and those that do not:

- Land uses with Pass-by Trip Data
  - 931 – Fine Dining: 44 percent (based on 4 studies).
  - 932 – High-Turnover (Sit-Down) Restaurant: 43 percent (based on 12 studies).
  - 934 – Fast-Food Restaurant with Drive-Through Window: AM = 50 percent, PM = 55 percent (based on 5 studies and 11 studies, respectively).
  - 935 – Fast-Food Restaurant without Drive-Through Window and No Indoor Seating: 31 percent (based on 2 studies).
- Land uses without Pass-by Trip Data
  - 930 – Fast Casual Restaurant
  - 933 – Fast-Food Restaurant without Drive-Through Window

It should also be noted that at times similar land uses in the ITE manual will only provide pass-by trip data for one specific land use type. An example of this would include codes 934 and 935 having pass-by trip data, but code 933 lacking data (all of which are fast-food restaurants). In cases when land uses analyzed under code 933 is studied, often pass-by trip data is assumed to match data from code 934, noting pass-by data from code 935 is based on a smaller sample size of studies.

Given the above, it is reasonable to assume food carts would also generate pass-by trips. Since food cart facilities typically serve patrons seeking quick and convenient food service (like a fast-food restaurant) but are expecting higher quality/prices for food without table service, it is assumed the pass-by trip generation of such a facility would be between that of land use codes 932 and 934. Therefore, it is assumed the proposed food cart facility will have a pass-by rate of approximately 46 percent and 49 percent during the morning and evening peak hours, respectively (the average of land use codes 932 and 934).

#### **Analysis Results**

Based on the above assumptions, the trip generation calculations show that the proposed project is projected to generate 12 net new morning peak hour trips, 57 net new evening peak hour trips, and 566 net new average weekday trips. The trip generation estimates are summarized in Table 3. Detailed trip generation calculations are in the technical appendix to this report.



Table 3: Trip Generation Summary

	ITE Code	Size/Rate	Morning Peak Hour			Evening Peak Hour			Weekday Total
			Enter	Exit	Total	Enter	Exit	Total	
Food Cart Pod	926	18 carts	11	11	22	61	50	111	1,108
<i>Pass-by Trips</i>	-	46% (49%)	5	5	10	27	27	54	542
<b>Primary Trips (Net New Trips)</b>			<b>6</b>	<b>6</b>	<b>12</b>	<b>34</b>	<b>23</b>	<b>57</b>	<b>566</b>

Table Notes: AM peak hour, PM peak hour, and daily trip rates denoted as AM (PM/ADT).

### Trip Distribution

The directional distribution of site trips to/from the project site was estimated based on the locations of likely trip destinations, locations of major transportation facilities in the site vicinity, and existing travel patterns at the study intersections.

The following trip distribution is projected:

- Approximately 50 percent of site trips will travel to/from the east along US-26;
- Approximately 45 percent of site trips will travel to/from the west along US-26; and
- Approximately 5 percent of site trips will travel to/from the south along Industrial Way.

During the peak hours of adjacent street traffic along US-26, it is expected that during periods of high congestion locals familiar with the area may utilize nearby signalized intersections in lieu of stop-controlled intersections when conducting left-turns onto the highway. Therefore, for the purposes of this analysis it is assumed that approximately half of the egressing site trips traveling to the east along US-26 will utilize the signalized intersection of Industrial Way at US-26.

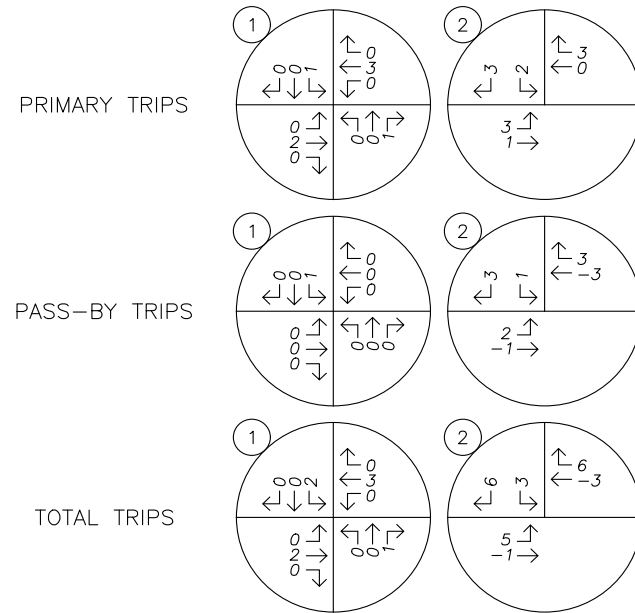
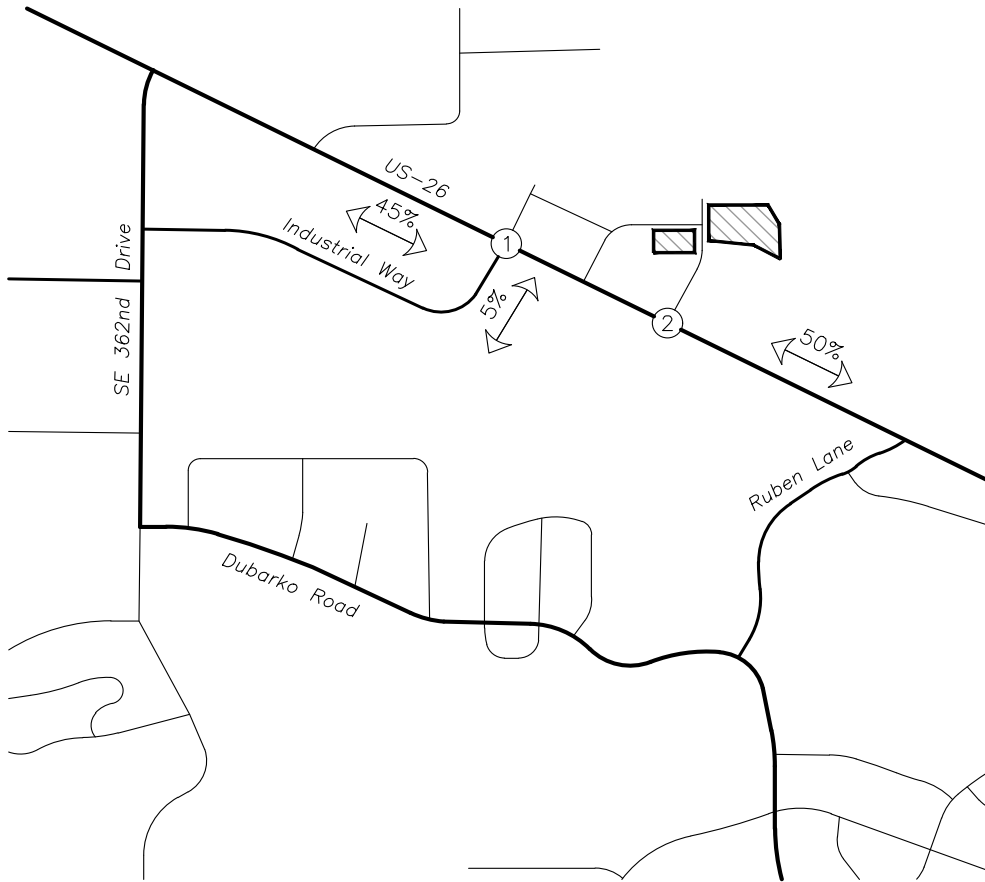
The trip distribution and assignment for the site trips generated during the morning and evening peak hours is shown in Figure 3 and Figure 4, respectively.



LEGEND

XX% PERCENT OF PRIMARY TRIPS

TRIP GENERATION				
	IN	OUT	PASS-BY	TOTAL
AM	6	6	10	22



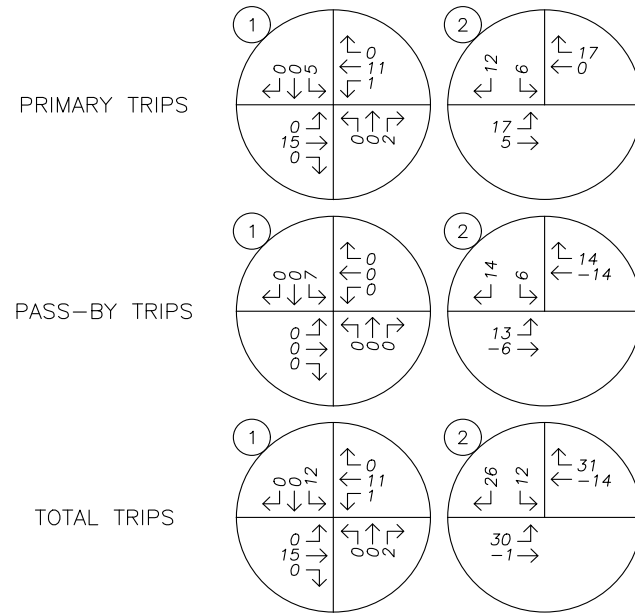
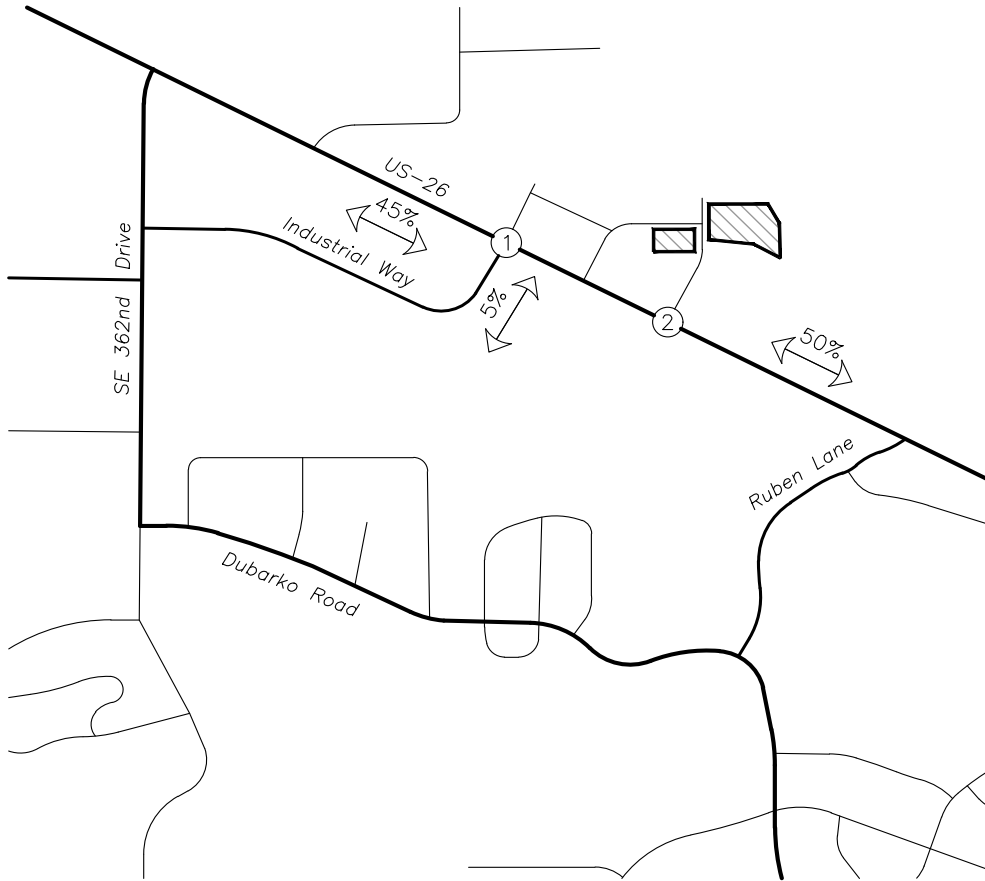
**SITE TRIP DISTRIBUTION & ASSIGNMENT**  
 Proposed Development Plan - Site Trips  
 AM Peak Hour

Figure 3  
 The Riffles Food Carts  
 3/7/2022

LEGEND

XX% PERCENT OF PRIMARY TRIPS

TRIP GENERATION				
	IN	OUT	PASS-BY	TOTAL
PM	34	23	54	111



**SITE TRIP DISTRIBUTION & ASSIGNMENT**  
 Proposed Development Plan - Site Trips  
 PM Peak Hour

Figure 4  
 The Riffles Food Carts  
 3/7/2022

## Traffic Volumes

### Existing Conditions

Due to the ongoing COVID-19 viral pandemic, traffic volumes around Oregon have been depressed relative to normal conditions. A review of available traffic count data yielded annual average daily traffic (AADT) along US-26, just west of SE 362<sup>nd</sup> Avenue and west of Bluff Road per ODOT's 2019 Transportation Volume Tables. Given this available count data, the following methodology for data collection and volume adjustment is suggested:

- The historical AADT traffic counts at both locations along US-26 from 2019 were grown to reflect 2021 existing conditions by applying an average linear growth rate of 1.9476 percent per year over a two-year period in accordance with ODOT's *Future Volumes Table*.
- Since recent/historical traffic counts are not available at the study intersections, current year 2021 morning and evening peak hour counts were collected at both study intersections. These counts were collected on Tuesday, July 13, 2021, from 6:00 AM to 9:00 AM and from 3:00 PM to 6:00 PM.
- The 2019 historical count data (grown to reflect 2021 conditions) and the recently collected 2021 evening peak hour counts at the shopping center access intersection along US-26, located approximately mid-way between the two ODOT count locations, were compared. Specifically, it is assumed that the evening peak hour counts represent approximately ten percent of annual average daily traffic (AADT). Based on the difference in traffic volumes, an adjustment factor of 1.1952 was calculated. This adjustment factor is intended to estimate normal traffic conditions without impacts from the COVID-19 virus (i.e. normal commuter patterns, businesses open, etc).
- The calculated adjustment factor was applied to the collected 2021 morning and evening peak hour intersection traffic counts.

Data was used from each intersection's respective morning and evening peak hours. Note the City of Sandy utilizes alternative mobility standards for intersections along US-26 which include analyzing the average annual weekday peak hour in lieu of the 30<sup>th</sup> highest hour. Therefore, the method of adjusting counts to address COVID-19 impacts by comparing volumes with the highway's AADT by default takes this alternative standard into consideration.

Figure 5 shows the existing traffic volumes at the study intersections during the morning and evening peak hours.

### Background Conditions

To provide analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required. In order to approximate the future year 2023 traffic volumes at the study intersections, an average linear growth rate of 1.9476 percent per year over a two-year period in was applied to the measured through movement traffic volumes along US-26. For minor-street turning movements, a local compounded growth rate of two percent per year over a two-year period was applied.

Figure 6 shows the projected year 2023 background traffic volumes at the study intersections during the morning and evening peak hours.

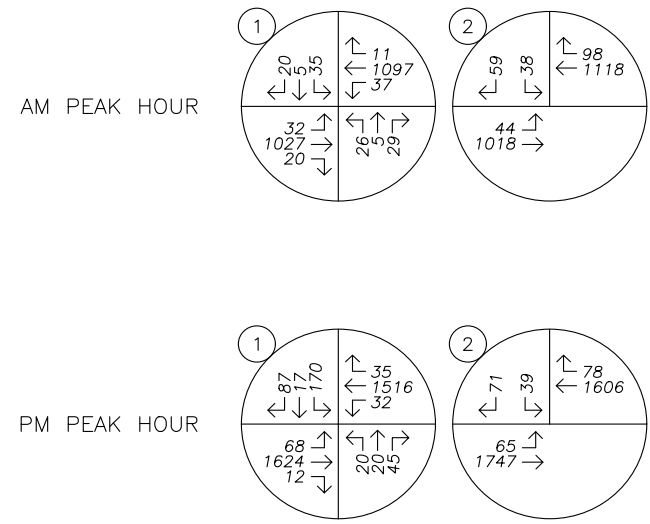
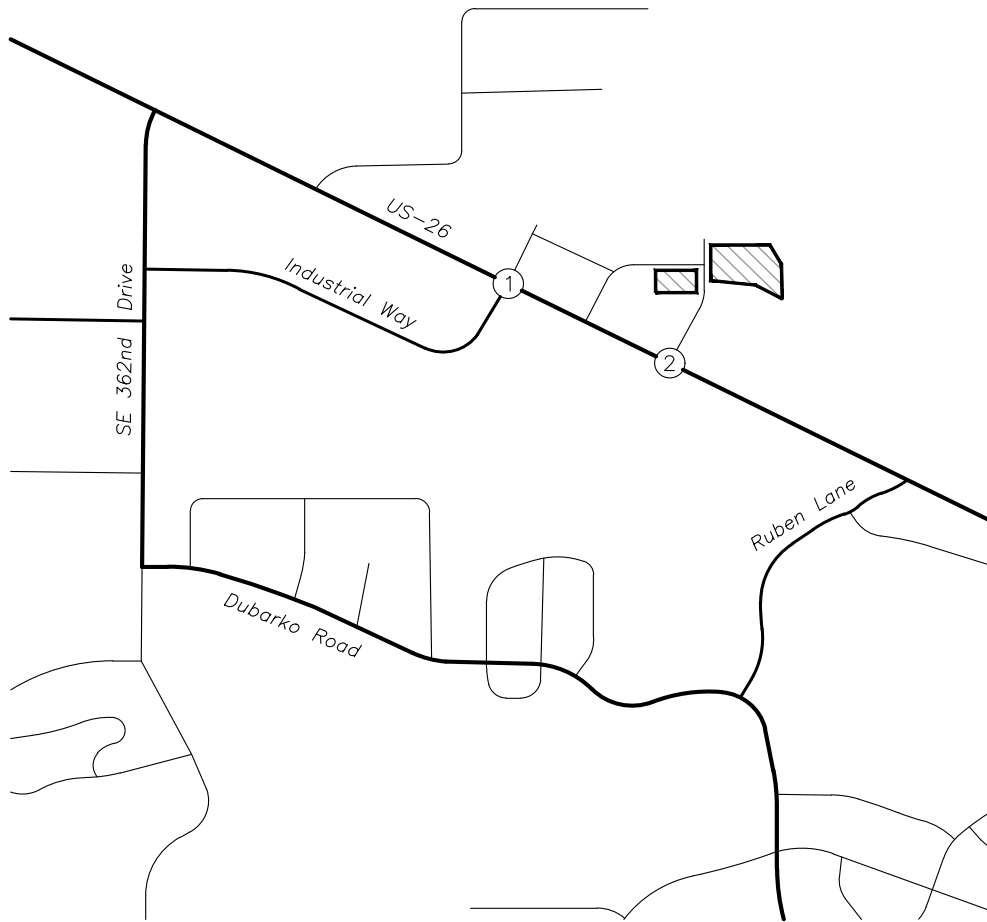


## Buildout Conditions

Peak hour trips calculated to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the projected year 2023 background traffic volumes to obtain the expected 2023 site buildout volumes.

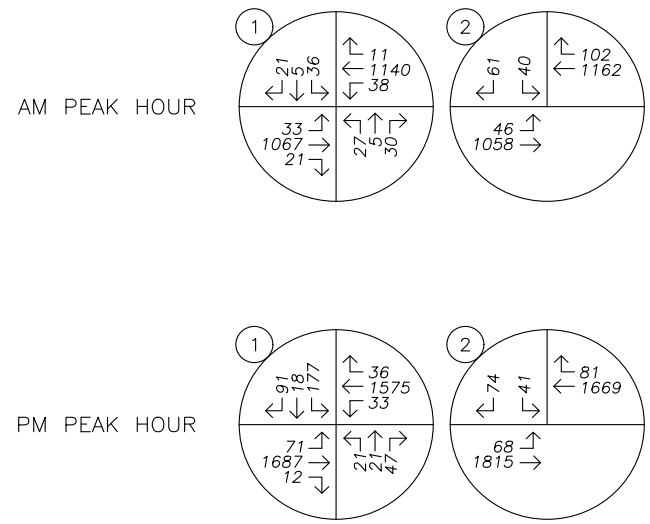
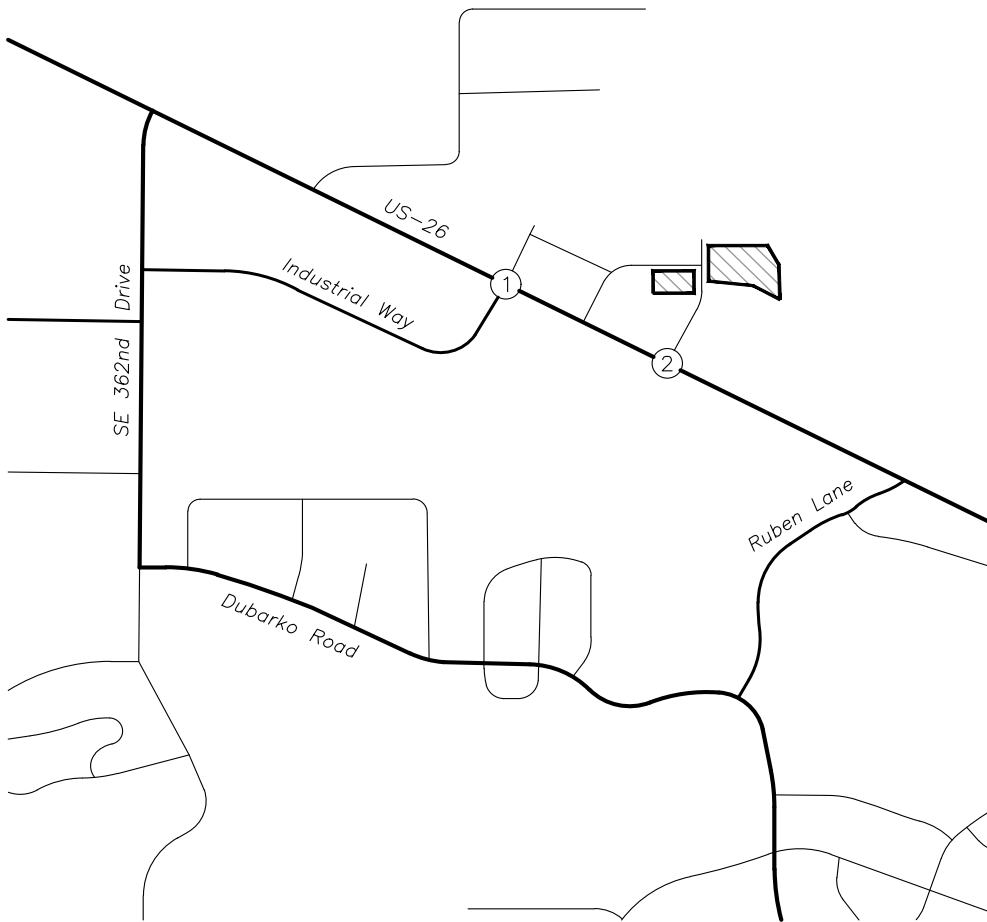
Figure 7 shows year 2023 buildout traffic volumes at the study intersections during the morning and evening peak hours.





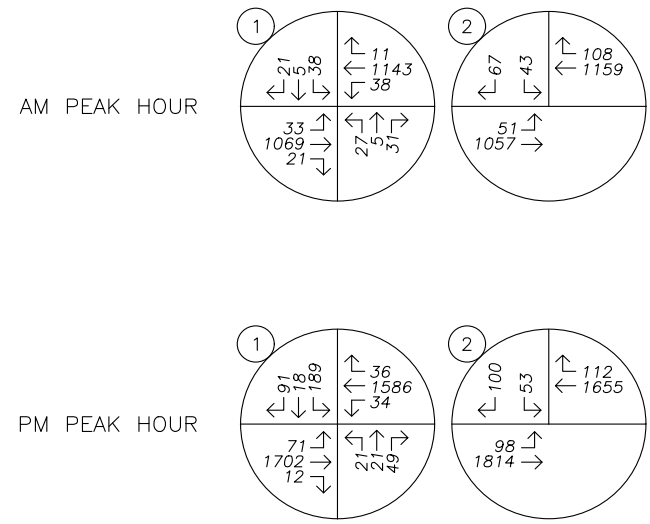
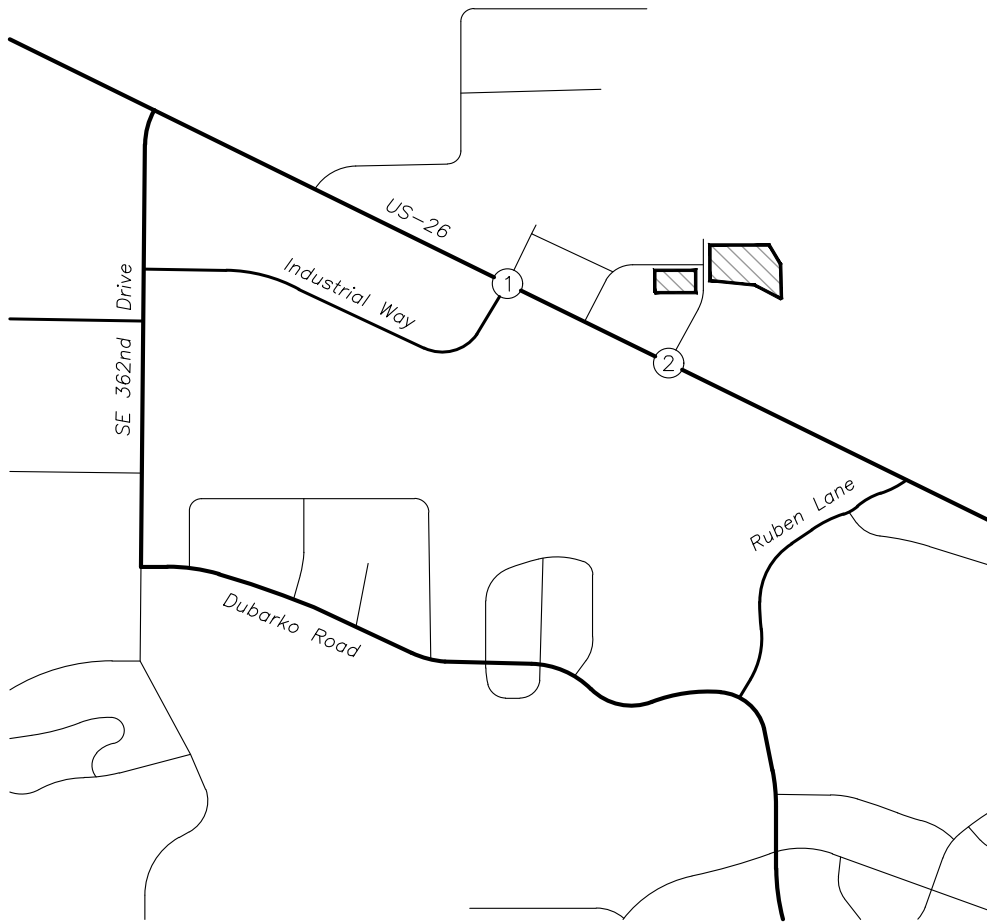
**TRAFFIC VOLUMES**  
Year 2021 Existing Conditions  
AM & PM Peak Hours

Figure 5  
The Riffles Food Carts  
3/7/2022



**TRAFFIC VOLUMES**  
Year 2023 Background Conditions  
AM & PM Peak Hours

Figure 6  
The Riffles Food Carts  
3/7/2022



**TRAFFIC VOLUMES**  
 Year 2023 Buildout Conditions  
 AM & PM Peak Hours

Figure 7  
 The Riffles Food Carts  
 3/7/2022

## Safety Analysis

### Crash History Review

Using data obtained from ODOT's Crash Analysis and Reporting Unit, a review was performed of the most recent five years of available crash data at the study intersections (January 2015 through December 2019). The crash data was evaluated based on the number of crashes, the type of collisions, the severity of the collisions, and the resulting crash rate for each intersection. Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated under the common assumption that traffic counted during the evening peak hour represents approximately ten percent of annual average daily traffic (AADT) at each intersection. Crash rates in excess of 1.00 crashes per million entering vehicles (CMEV) may be indicative of design deficiencies and therefore require a need for further investigation and possible mitigation.

With regard to crash severity, ODOT classifies crashes in the following categories:

- Property Damage Only (PDO);
- Possible Injury – Complaint of Pain (Injury C);
- Non-Incapacitating Injury (Injury B);
- Incapacitating Injury – Bleeding, Broken Bones (Injury A); and
- Fatality or Fatal Injury.

The study intersections along US-26 are ODOT facilities which adhere to the crash analysis methodologies in ODOT's APM. According to *Exhibit 4-1: Intersection Crash Rates per MEV by Land Type and Traffic Control* of the APM, intersections which experience crash rates in excess of their respective 90<sup>th</sup> percentile crash rates should be "flagged for further analysis". For intersections in urban settings, the following average and 90<sup>th</sup> percentile rates are applicable to the study intersections:

- Signalized, Four-Legged Intersections:
  - Average rate of 0.477 CMEV.
  - 90<sup>th</sup> percentile rate of 0.860 CMEV.
- Unsignalized, Three-Legged Intersections:
  - Average rate of 0.131 CMEV.
  - 90<sup>th</sup> percentile rate of 0.293 CMEV.

Table 4 provides a summary of crash types while Table 5 summarizes crash severities and rates for each of the study intersections. Detailed crash data is provided in the appendix to this report.

Table 4: Crash Type Summary

Number	Intersection	Crash Type						Total
		Rear End	Turn/ Angle	Fixed Object	Side swipe	Ped/ Bike	Other	
1	Industrial Way at US-26	21	7	0	1	1	1	31
2	Shopping Center Access at US-26	0	2	0	0	0	0	2

Table 5: Crash Severity and Rate Summary

Number	Intersection	Crash Severity						Total Crashes	AADT	Crash Rate
		PDO	C	B	A	Fatal	Unknown			
1	Industrial Way at US-26	11	16	4	0	0	0	31	36,460	0.47
2	Shopping Center Access at US-26	2	0	0	0	0	0	2	36,060	0.03

Table Notes: **BOLDED** text indicates a crash rate in excess of 1.00 CMEV.

There was one reported crash at the intersection of Industrial Way at US-26 that involved a pedestrian. The crash occurred when a north/south crossing pedestrian illegally entered the intersection in the roadway (not crosswalk) and was struck by a westbound passenger car. The pedestrian sustained injuries consistent with Injury B classification while the driver of the vehicle was uninjured.

Based on the review of the available crash data, no significant trends or crash patterns were identified at any of the study intersections that were indicative of safety concerns. In addition, none of the study intersections exhibit crash rates near or above the 1.00 CMEV threshold nor do any of the study intersections have a crash rate exceeding ODOT's 90<sup>th</sup> percentile rate. Accordingly, no safety mitigation is recommended per the crash data analysis.

### Traffic Signal Warrants

Preliminary traffic signal warrants were examined for the shopping center access at US-26 to determine whether the installation of a new traffic signal will be warranted at the intersection upon completion of the proposed development. Due to insufficient main and side street traffic volumes, traffic signal warrants are not projected to be met at the intersection under year 2023 buildout conditions.



## Operational Analysis

### Intersection Capacity Analysis

A capacity and delay analysis were conducted for each of the study intersections per the signalized and unsignalized intersection analysis methodologies in the *Highway Capacity Manual (HCM)*<sup>2</sup>. Intersections are generally evaluated based on the average control delay experienced by vehicles and are assigned a grade according to their operation. The level of service (LOS) of an intersection can range from LOS A, which indicates very little or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The volume-to-capacity (v/c) ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection.

### Performance Standards

The operating standards adopted by the City of Sandy and ODOT are summarized below.

#### City of Sandy

According to the City of Sandy's Transportation System Plan (TSP), both signalized and unsignalized intersections are required to operate at LOS D or better<sup>3</sup>.

#### ODOT

Per the City's TSP and the City's June 2011 *Alternate Mobility Standards Report*, alternative mobility standards which include utilizing a v/c ratio of 0.85 are applicable to signalized intersections along the segment of US-26 between Orient Drive to Ten Eyck Road.

At unsignalized intersections and road approaches along US-26, the v/c ratios shall not exceed 0.90 per the Oregon Highway Plan's Table 6 for District/Local Interest Roads within the urban growth boundary.

### Delay & Capacity Analysis

The LOS, delay, and v/c results of the capacity analysis are shown in Table 6 for the morning and evening peak hours. The TrafficWare Synchro software utilized for analysis does not report the overall v/c ratio of signalized intersections in the HCM 6<sup>th</sup> Edition capacity reports. For these intersections, the v/c ratio was calculated based on methods detailed in ODOT's APM *Section 13 Signalized Intersection Analysis*. Detailed calculations as well as tables showing the relationship between delay and LOS are included in the appendix to this report.

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<sup>2</sup> Transportation Research Board, *Highway Capacity Manual 6<sup>th</sup> Edition*, 2016.

<sup>3</sup> City of Sandy, *Sandy Transportation System Plan*. December 2011.



Table 6: Capacity Analysis Summary

	AM Peak Hour			PM Peak Hour		
	LOS	Delay (s)	v/c	LOS	Delay (s)	v/c
<b>1. Industrial Way at US-26</b>						
2021 Existing Conditions	A	9	0.53	B	17	0.73
2023 Background Conditions	A	9	0.55	B	18	0.76
2023 Buildout Conditions	A	9	0.56	B	19	0.77
<b>2. Shopping Center Access at US-26</b>						
2021 Existing Conditions	D	31	0.23	F	72	0.44
2023 Background Conditions	D	34	0.26	F	89	0.52
2023 Buildout Conditions	D	35	0.28	F	>120	0.77

Table Notes: **BOLDED** text indicates intersection operation above jurisdictional standards.

Based on the results of the operational analysis, both study intersections are currently operating acceptably per ODOT standards and are projected to continue operating acceptably through the 2023 site buildout year. No operational mitigation is necessary or recommended at these intersections.





## Conclusions

No significant trends or crash patterns were identified at any of the study intersections that were indicative of safety concerns. In addition, none of the study intersections exhibit crash rates near or above the 1.00 CMEV threshold nor do any of the study intersections have a crash rate exceeding ODOT's 90<sup>th</sup> percentile rate. Accordingly, no safety mitigation is recommended per the crash data analysis.

Due to insufficient main and side street traffic volumes, traffic signal warrants are not projected to be met at the full-movement shopping center access intersection at US-26 under year 2023 buildout conditions.

All study intersections are currently operating acceptably per ODOT standards and are projected to continue operating acceptably through the 2023 site buildout year. No operational mitigation is necessary or recommended at these intersections.



## Appendix A

### Site Plan





## Appendix B

### Trip Generation Calculations





## TRIP GENERATION CALCULATIONS

*Land Use:* Food Cart Pod  
*Land Use Code:* 926  
*Setting/Location:* General Urban/Suburban  
*Variable:* Food Carts  
*Variable Value:* 18

### AM PEAK HOUR

*Trip Rate:* 1.23

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	11	11	22

Note: AM peak hour rate assumed to be 20 percent of the PM peak hour. Entering and Exiting split based on data from land use code 930.

### PM PEAK HOUR

*Trip Rate:* 6.16

	Enter	Exit	Total
Directional Distribution	55%	45%	
Trip Ends	61	50	111

Note: Entering and Exiting split based on data from land use code 930.

### WEEKDAY

*Trip Rate:* 61.60

	Enter	Exit	Total
Directional Distribution	50%	50%	
Trip Ends	554	554	1,108

Note: Weekday rate assumed to be ten times the PM peak hour.

Source: TRIP GENERATION, 11th Edition

## Appendix C

### Traffic Counts





(303) 216-2439  
www.alltrafficdata.net

Location: 1 INDUSTRIAL WAY & HWY 26 AM

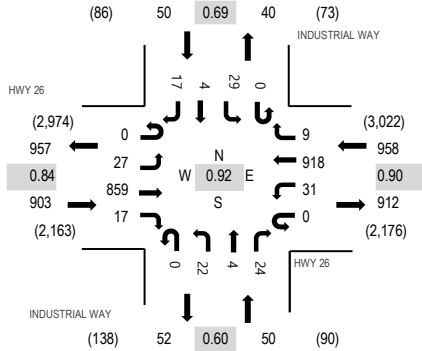
Date: Tuesday, July 13, 2021

Peak Hour: 08:00 AM - 09:00 AM

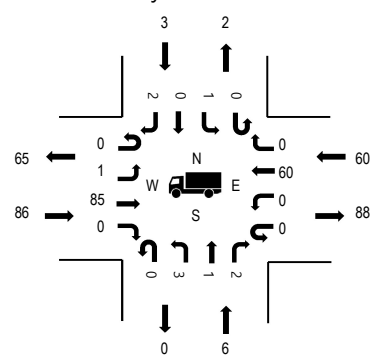
Peak 15-Minutes: 08:40 AM - 08:55 AM

**Peak Hour**

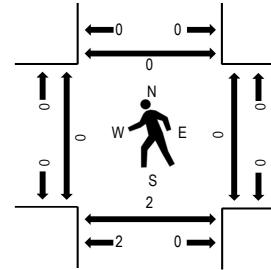
**Motorized Vehicles**



**Heavy Vehicles**



**Pedestrians**



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	9.5%	0.84
WB	6.3%	0.90
NB	12.0%	0.60
SB	6.0%	0.69
All	7.9%	0.92

**Traffic Counts - Motorized Vehicles**

Interval Start Time	HWY 26 Eastbound				HWY 26 Westbound			INDUSTRIAL WAY Northbound			INDUSTRIAL WAY Southbound			Total	Rolling Hour		
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn			Left	Thru
6:00 AM	0	0	17	0	0	1	74	0	0	0	0	0	0	0	0	92	1,559
6:05 AM	0	1	32	1	0	0	82	0	0	0	0	3	0	1	0	120	1,594
6:10 AM	0	0	37	1	0	1	82	0	0	0	0	0	0	0	0	121	1,597
6:15 AM	0	2	27	0	0	1	94	1	0	0	0	1	0	0	0	126	1,628
6:20 AM	0	0	24	0	0	2	79	0	0	0	1	0	0	0	2	108	1,684
6:25 AM	0	1	36	0	0	0	74	0	0	0	0	0	0	0	1	112	1,736
6:30 AM	0	2	41	0	0	0	86	0	0	1	0	1	0	1	0	133	1,786
6:35 AM	0	0	53	0	0	1	101	0	0	1	0	2	0	0	0	159	1,819
6:40 AM	0	0	46	1	0	3	73	1	0	1	0	2	0	0	0	127	1,814
6:45 AM	0	0	54	1	0	2	78	0	0	0	0	0	0	2	0	139	1,858
6:50 AM	0	0	51	3	0	4	92	0	0	0	0	0	0	0	1	151	1,863
6:55 AM	0	1	79	1	0	4	80	2	0	1	0	2	0	0	1	171	1,893
7:00 AM	0	0	39	0	0	4	73	2	0	0	0	4	0	3	0	127	1,841
7:05 AM	0	1	41	2	0	5	70	0	0	0	0	2	0	1	0	123	1,880
7:10 AM	0	1	56	0	0	2	91	0	0	1	0	1	0	0	0	152	1,908
7:15 AM	0	1	69	1	0	2	108	0	0	1	0	0	0	0	0	182	1,888
7:20 AM	0	0	52	0	0	0	100	0	0	0	0	4	0	4	0	160	1,868
7:25 AM	0	2	65	2	0	3	85	2	0	1	0	2	0	0	0	162	1,865
7:30 AM	0	0	66	2	0	3	90	2	0	0	1	1	0	0	1	166	1,877
7:35 AM	0	1	62	1	0	7	82	0	0	0	0	1	0	0	0	154	1,882
7:40 AM	0	1	66	3	0	4	93	1	0	0	0	1	0	0	1	171	1,879
7:45 AM	0	0	70	3	0	4	62	1	0	0	0	0	2	0	2	144	1,892
7:50 AM	0	1	84	1	0	4	85	1	0	1	0	2	0	1	0	181	1,932
7:55 AM	0	2	51	2	0	2	57	1	0	1	0	0	2	0	1	119	1,915
8:00 AM	0	1	72	2	0	2	80	2	0	1	0	3	0	1	0	166	1,961
8:05 AM	0	4	56	1	0	2	69	0	0	7	1	7	0	2	0	151	
8:10 AM	0	1	64	1	0	2	60	0	0	1	1	0	0	1	0	132	
8:15 AM	0	2	66	2	0	1	83	0	0	1	0	1	0	4	0	162	

**Location:** 1 INDUSTRIAL WAY & HWY 26 AM

8:20 AM	0	2	68	1	0	3	76	0	0	2	0	2	0	2	1	0	157
8:25 AM	0	3	62	1	0	1	100	0	0	0	1	2	0	3	0	1	174
8:30 AM	0	3	64	0	0	3	90	2	0	4	0	0	0	5	0	0	171
8:35 AM	0	3	68	1	0	3	72	1	0	0	0	0	0	3	0	0	151
8:40 AM	0	3	84	2	0	5	83	0	0	3	1	1	0	0	1	1	184
8:45 AM	0	1	87	1	0	5	75	1	0	2	0	4	0	3	1	4	184
8:50 AM	0	1	86	4	0	2	62	2	0	0	0	1	0	3	1	2	164
8:55 AM	0	3	82	1	0	2	68	1	0	1	0	3	0	2	0	2	165
Count Total	0	44	2,077	42	0	90	2,909	23	0	31	6	53	0	46	6	34	5,361
Peak Hour	0	27	859	17	0	31	918	9	0	22	4	24	0	29	4	17	1,961



Location: 1 INDUSTRIAL WAY & HWY 26 AM

**Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk**

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
6:00 AM	6	0	3	0	9	6:00 AM	0	0	0	0	0	6:00 AM	0	0	0	0	0
6:05 AM	9	0	2	0	11	6:05 AM	0	0	0	0	0	6:05 AM	0	1	0	0	1
6:10 AM	3	0	7	0	10	6:10 AM	0	0	0	0	0	6:10 AM	0	0	0	0	0
6:15 AM	2	0	0	0	2	6:15 AM	0	0	0	0	0	6:15 AM	0	0	0	0	0
6:20 AM	4	0	5	0	9	6:20 AM	0	0	0	0	0	6:20 AM	0	0	0	0	0
6:25 AM	4	0	3	0	7	6:25 AM	0	0	0	0	0	6:25 AM	0	0	0	0	0
6:30 AM	5	1	1	0	7	6:30 AM	0	0	0	0	0	6:30 AM	0	0	0	0	0
6:35 AM	2	1	4	0	7	6:35 AM	0	0	0	0	0	6:35 AM	0	0	0	0	0
6:40 AM	4	1	8	0	13	6:40 AM	0	0	0	0	0	6:40 AM	0	0	0	0	0
6:45 AM	2	0	0	0	2	6:45 AM	0	0	1	0	1	6:45 AM	0	0	0	1	1
6:50 AM	6	0	5	1	12	6:50 AM	0	0	0	0	0	6:50 AM	0	0	0	0	0
6:55 AM	11	1	6	1	19	6:55 AM	0	0	0	0	0	6:55 AM	0	0	0	0	0
7:00 AM	6	1	3	2	12	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	7	0	2	0	9	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	5	2	2	0	9	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	10	1	6	0	17	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	6	1	3	0	10	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	12	1	10	0	23	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	5	2	9	0	16	7:30 AM	0	0	0	0	0	7:30 AM	0	2	0	0	2
7:35 AM	5	1	2	0	8	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	11	0	2	0	13	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	9	0	4	1	14	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	5	2	6	0	13	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	1	0	2	0	3	7:55 AM	0	0	0	0	0	7:55 AM	0	2	0	1	3
8:00 AM	7	1	6	0	14	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	9	4	7	1	21	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	6	0	4	0	10	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	8	0	5	0	13	8:15 AM	0	0	0	1	1	8:15 AM	0	0	0	0	0
8:20 AM	6	0	8	0	14	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	7	1	6	0	14	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	3	0	3	0	6	8:30 AM	0	0	1	0	1	8:30 AM	0	0	0	1	1
8:35 AM	5	0	5	0	10	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	13	0	5	0	18	8:40 AM	0	0	1	0	1	8:40 AM	0	2	0	1	3
8:45 AM	7	0	4	1	12	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	7	0	5	1	13	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	8	0	2	0	10	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	226	21	155	8	410	Count Total	0	0	3	1	4	Count Total	0	7	0	4	11
Peak Hour	86	6	60	3	155	Peak Hour	0	0	2	1	3	Peak Hour	0	2	0	2	4



**Location: 2 SHOPPING ACCESS & HWY 26 AM**

8:15 AM	0	4	54	0	0	0	84	8	0	0	0	0	0	3	0	7	160
8:20 AM	0	3	73	0	0	0	60	7	0	0	0	0	0	2	0	2	147
8:25 AM	0	4	66	0	0	0	111	8	0	0	0	0	0	3	0	3	195
8:30 AM	0	2	64	0	0	0	82	8	0	0	0	0	0	3	0	6	165
8:35 AM	0	1	76	0	0	0	87	9	0	0	0	0	0	3	0	6	182
8:40 AM	0	2	61	0	0	0	73	4	0	0	0	0	0	2	0	4	146
8:45 AM	0	2	102	0	0	0	97	5	0	0	0	0	0	2	0	0	208
8:50 AM	0	2	86	0	0	0	65	8	0	0	0	0	0	3	0	3	167
8:55 AM	0	3	80	0	0	0	76	5	0	0	0	0	0	3	0	6	173
Count Total	0	103	1,970	0	0	0	2,873	237	0	0	0	0	0	86	0	167	5,436
Peak Hour	0	37	852	0	0	0	935	82	0	0	0	0	0	32	0	49	1,987

Location: 2 SHOPPING ACCESS & HWY 26 AM

**Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk**

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
6:00 AM	5	0	2	0	7	6:00 AM	0	0	0	0	0	6:00 AM	0	0	0	0	0
6:05 AM	7	0	2	0	9	6:05 AM	0	0	0	0	0	6:05 AM	0	0	0	0	0
6:10 AM	5	0	4	0	9	6:10 AM	0	0	0	0	0	6:10 AM	0	0	0	0	0
6:15 AM	2	0	0	0	2	6:15 AM	0	0	0	0	0	6:15 AM	0	0	0	0	0
6:20 AM	3	0	1	0	4	6:20 AM	0	0	0	0	0	6:20 AM	0	0	0	0	0
6:25 AM	3	0	4	0	7	6:25 AM	0	0	0	0	0	6:25 AM	0	0	0	0	0
6:30 AM	7	0	1	1	9	6:30 AM	0	0	0	0	0	6:30 AM	0	0	0	0	0
6:35 AM	4	0	1	0	5	6:35 AM	0	0	0	0	0	6:35 AM	0	0	0	0	0
6:40 AM	5	0	3	0	8	6:40 AM	0	0	0	0	0	6:40 AM	0	0	0	0	0
6:45 AM	2	0	4	0	6	6:45 AM	0	0	0	0	0	6:45 AM	0	0	0	0	0
6:50 AM	4	0	2	0	6	6:50 AM	0	0	1	0	1	6:50 AM	0	0	0	0	0
6:55 AM	10	0	6	0	16	6:55 AM	0	0	1	0	1	6:55 AM	0	0	0	0	0
7:00 AM	8	0	4	0	12	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	9	0	2	0	11	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	5	0	2	0	7	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	9	0	4	0	13	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	8	0	2	0	10	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	12	0	5	0	17	7:25 AM	0	0	1	0	1	7:25 AM	0	0	0	0	0
7:30 AM	7	0	10	0	17	7:30 AM	0	0	1	1	2	7:30 AM	0	0	0	1	1
7:35 AM	7	0	2	0	9	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	11	0	3	0	14	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	11	0	4	0	15	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	7	0	1	0	8	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	3	0	4	0	7	7:55 AM	0	0	1	0	1	7:55 AM	0	0	0	0	0
8:00 AM	6	0	3	0	9	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	7	0	8	0	15	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	9	0	5	0	14	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	7	0	5	0	12	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	1	1
8:20 AM	9	0	5	0	14	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	4	0	8	0	12	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	4	0	4	0	8	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	1	1
8:35 AM	7	0	6	0	13	8:35 AM	0	0	1	0	1	8:35 AM	0	0	0	0	0
8:40 AM	5	0	4	0	9	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	12	0	12	0	24	8:45 AM	0	0	1	0	1	8:45 AM	0	0	0	0	0
8:50 AM	8	0	1	0	9	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	4	0	6	0	10	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	236	0	140	1	377	Count Total	0	0	7	1	8	Count Total	0	0	0	3	3
Peak Hour	82	0	67	0	149	Peak Hour	0	0	2	0	2	Peak Hour	0	0	0	2	2



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Location: 1 INDUSTRIAL WAY & HWY 26 PM

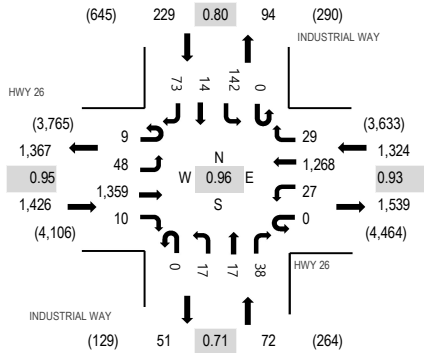
Date: Tuesday, July 13, 2021

Peak Hour: 03:20 PM - 04:20 PM

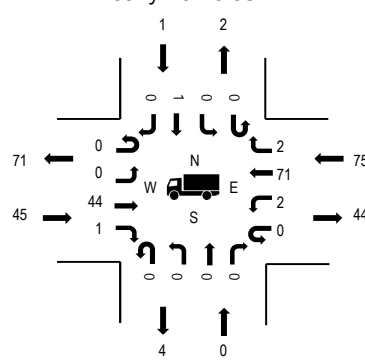
Peak 15-Minutes: 03:20 PM - 03:35 PM

Peak Hour

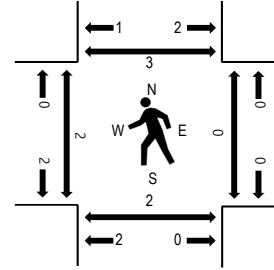
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	3.2%	0.95
WB	5.7%	0.93
NB	0.0%	0.71
SB	0.4%	0.80
All	4.0%	0.96

Traffic Counts - Motorized Vehicles

Interval Start Time	HWY 26 Eastbound				HWY 26 Westbound			INDUSTRIAL WAY Northbound			INDUSTRIAL WAY Southbound				Total	Rolling Hour		
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left			Thru	Right
3:00 PM	0	4	69	1	0	5	106	0	0	2	2	6	0	11	0	10	216	3,024
3:05 PM	0	6	127	0	0	4	111	2	0	1	0	7	0	8	0	3	269	3,046
3:10 PM	0	7	112	1	0	6	106	3	0	1	0	4	0	5	2	8	255	3,002
3:15 PM	0	8	89	1	0	8	80	3	0	0	0	1	0	10	3	9	212	3,020
3:20 PM	0	2	125	1	0	0	111	2	0	1	3	5	0	12	1	5	268	3,051
3:25 PM	0	6	115	0	0	2	120	1	0	0	0	1	0	17	1	9	272	3,015
3:30 PM	0	5	95	0	0	5	121	1	0	0	0	5	0	11	2	7	252	2,982
3:35 PM	0	2	94	1	0	3	81	1	0	2	1	5	0	17	1	8	216	2,945
3:40 PM	0	2	135	2	0	1	120	3	0	2	1	3	0	10	0	5	284	2,966
3:45 PM	0	8	107	1	0	2	103	3	0	0	3	6	0	9	3	4	249	2,941
3:50 PM	0	6	104	2	0	2	100	5	0	0	2	6	0	9	2	0	238	2,938
3:55 PM	9	0	140	0	0	2	124	2	0	3	0	2	0	7	0	4	293	2,945
4:00 PM	0	5	110	1	0	3	84	2	0	2	4	3	0	13	0	11	238	2,879
4:05 PM	0	5	106	2	0	1	74	4	0	3	1	1	0	16	2	10	225	2,875
4:10 PM	0	3	122	0	0	3	125	2	0	1	1	0	0	9	2	5	273	2,889
4:15 PM	0	4	106	0	0	3	105	3	0	3	1	1	0	12	0	5	243	2,857
4:20 PM	0	6	99	2	0	1	92	2	0	2	1	4	0	16	0	7	232	2,851
4:25 PM	0	5	107	0	0	0	101	1	0	4	1	7	0	10	1	2	239	2,856
4:30 PM	0	3	104	3	0	0	73	2	0	5	2	10	0	8	1	4	215	2,829
4:35 PM	0	1	98	1	0	0	102	2	0	2	5	6	0	11	2	7	237	2,831
4:40 PM	0	9	126	0	0	0	101	5	0	1	1	1	0	10	1	4	259	2,845
4:45 PM	0	4	118	1	0	1	100	3	0	2	1	4	0	7	0	5	246	2,841
4:50 PM	0	3	105	0	0	0	103	2	0	2	3	8	0	14	2	3	245	2,819
4:55 PM	0	5	99	1	0	1	97	1	0	4	1	4	0	10	0	4	227	2,807
5:00 PM	0	3	109	0	0	0	89	4	0	2	1	8	0	12	0	6	234	2,745
5:05 PM	0	4	88	0	0	0	119	4	0	3	0	2	0	15	0	4	239	
5:10 PM	0	1	110	0	0	1	94	4	0	3	3	6	0	14	1	4	241	
5:15 PM	0	1	127	2	0	0	80	3	0	2	1	3	0	7	1	10	237	

**Location:** 1 INDUSTRIAL WAY & HWY 26 PM

5:20 PM	0	7	101	1	0	3	91	2	0	4	2	5	0	13	0	8	237
5:25 PM	0	4	94	1	0	0	90	1	0	2	1	1	0	10	1	7	212
5:30 PM	0	2	102	0	0	0	77	2	0	2	2	5	0	17	1	7	217
5:35 PM	0	2	141	0	0	2	88	3	0	5	1	2	0	5	1	1	251
5:40 PM	0	4	111	0	0	4	100	2	0	3	2	4	0	18	1	6	255
5:45 PM	0	3	116	0	0	1	69	3	0	3	0	6	0	12	1	10	224
5:50 PM	0	8	123	0	0	2	79	4	0	0	0	3	0	7	2	5	233
5:55 PM	0	6	84	0	0	3	59	2	0	0	0	0	0	9	0	2	165
Count Total	9	154	3,918	25	0	69	3,475	89	0	72	47	145	0	401	35	209	8,648
Peak Hour	9	48	1,359	10	0	27	1,268	29	0	17	17	38	0	142	14	73	3,051

Location: 1 INDUSTRIAL WAY & HWY 26 PM

**Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk**

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
3:00 PM	1	0	5	0	6	3:00 PM	0	0	0	0	0	3:00 PM	0	2	0	0	2
3:05 PM	2	1	3	0	6	3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0
3:10 PM	4	1	3	0	8	3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0
3:15 PM	3	0	7	0	10	3:15 PM	0	0	0	0	0	3:15 PM	1	0	0	0	1
3:20 PM	2	0	6	0	8	3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0
3:25 PM	3	0	6	0	9	3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0
3:30 PM	6	0	9	0	15	3:30 PM	0	0	0	0	0	3:30 PM	1	1	0	0	2
3:35 PM	3	0	5	1	9	3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0
3:40 PM	7	0	8	0	15	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0
3:45 PM	5	0	8	0	13	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
3:50 PM	4	0	8	0	12	3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0
3:55 PM	2	0	6	0	8	3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	0	0
4:00 PM	4	0	2	0	6	4:00 PM	0	0	0	0	0	4:00 PM	1	1	0	2	4
4:05 PM	1	0	8	0	9	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	4	0	6	0	10	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	4	0	3	0	7	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	1	1
4:20 PM	4	0	4	0	8	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	1	0	5	0	6	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	6	0	7	0	13	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	1	1	5	0	7	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	1	0	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	4	0	6	1	11	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	3	0	5	0	8	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	2	0	3	0	5	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	2	0	5	0	7	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	3	0	7	1	11	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	5	0	1	0	6	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	5	0	3	0	8	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	4	1	3	0	8	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	1	1
5:25 PM	2	0	2	0	4	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	1	0	4	1	6	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	1	1
5:35 PM	2	0	6	0	8	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	4	0	2	0	6	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	3	0	3	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	2	0	0	0	2	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	3	0	0	0	3	5:55 PM	0	0	0	0	0	5:55 PM	0	2	0	0	2
Count Total	109	4	165	4	282	Count Total	0	0	0	0	0	Count Total	3	6	0	5	14
Peak Hour	45	0	75	1	121	Peak Hour	0	0	0	0	0	Peak Hour	2	2	0	3	7

Location: 2 SHOPPING ACCESS & HWY 26 PM



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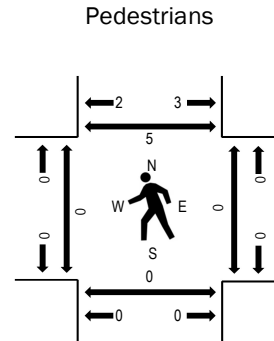
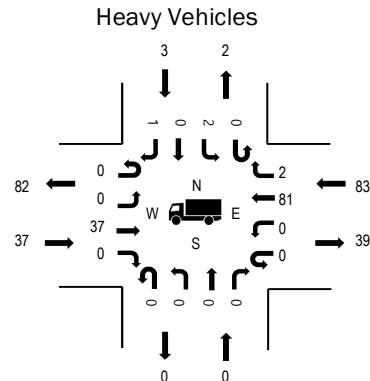
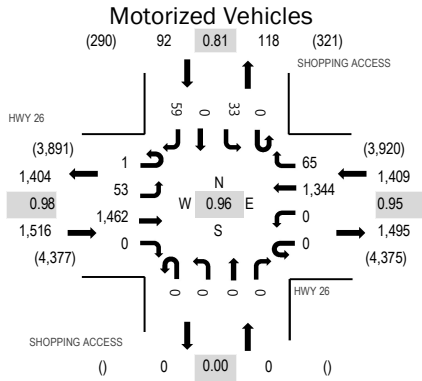
Location: 2 SHOPPING ACCESS & HWY 26 PM

Date: Tuesday, July 13, 2021

Peak Hour: 03:20 PM - 04:20 PM

Peak 15-Minutes: 03:25 PM - 03:40 PM

**Peak Hour**



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.4%	0.98
WB	5.9%	0.95
NB	0.0%	0.00
SB	3.3%	0.81
All	4.1%	0.96

**Traffic Counts - Motorized Vehicles**

Interval Start Time	HWY 26 Eastbound				HWY 26 Westbound				SHOPPING ACCESS Northbound				SHOPPING ACCESS Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
3:00 PM	0	3	100	0	0	0	97	8	0	0	0	0	0	10	0	5	223	2,980
3:05 PM	0	5	136	0	0	0	101	5	0	0	0	0	0	3	0	3	253	3,004
3:10 PM	0	3	118	0	0	0	139	4	0	0	0	0	0	2	0	2	268	2,958
3:15 PM	0	0	102	0	0	0	98	3	0	0	0	0	0	4	0	6	213	2,981
3:20 PM	1	1	127	0	0	0	116	3	0	0	0	0	0	0	0	2	250	3,017
3:25 PM	0	5	142	0	0	0	123	6	0	0	0	0	0	4	0	6	286	2,977
3:30 PM	0	8	92	0	0	0	110	4	0	0	0	0	0	3	0	10	227	2,937
3:35 PM	0	2	137	0	0	0	124	7	0	0	0	0	0	2	0	1	273	2,931
3:40 PM	0	3	113	0	0	0	97	3	0	0	0	0	0	3	0	5	224	2,870
3:45 PM	0	6	117	0	0	0	109	6	0	0	0	0	0	5	0	5	248	2,882
3:50 PM	0	5	115	0	0	0	114	5	0	0	0	0	0	2	0	1	242	2,874
3:55 PM	0	3	130	0	0	0	124	9	0	0	0	0	0	0	0	7	273	2,911
4:00 PM	0	9	126	0	0	0	102	4	0	0	0	0	0	0	0	6	247	2,830
4:05 PM	0	1	109	0	0	0	80	2	0	0	0	0	0	7	0	8	207	2,821
4:10 PM	0	5	124	0	0	0	148	9	0	0	0	0	0	1	0	4	291	2,854
4:15 PM	0	5	130	0	0	0	97	7	0	0	0	0	0	6	0	4	249	2,796
4:20 PM	0	3	98	0	0	0	98	4	0	0	0	0	0	4	0	3	210	2,791
4:25 PM	0	1	138	0	0	0	99	1	0	0	0	0	0	2	0	5	246	2,817
4:30 PM	0	3	117	0	0	0	87	3	0	0	0	0	0	5	0	6	221	2,767
4:35 PM	0	2	95	0	0	0	110	2	0	0	0	0	0	2	0	1	212	2,779
4:40 PM	0	4	128	0	0	0	94	4	0	0	0	0	0	3	0	3	236	2,813
4:45 PM	0	6	109	0	0	0	114	7	0	0	0	0	0	2	0	2	240	2,809
4:50 PM	0	5	151	0	0	0	105	5	0	0	0	0	0	7	0	6	279	2,796
4:55 PM	0	2	96	0	0	0	83	3	0	0	0	0	0	5	0	3	192	2,761
5:00 PM	0	6	107	0	0	0	111	6	0	0	0	0	0	3	0	5	238	2,777
5:05 PM	0	4	106	0	0	0	117	5	0	0	0	0	0	4	0	4	240	
5:10 PM	0	3	105	0	0	0	102	10	0	0	0	0	0	7	0	6	233	



**Location: 2 SHOPPING ACCESS & HWY 26 PM**

5:15 PM	0	1	142	0	0	0	92	4	0	0	0	0	0	3	0	2	244
5:20 PM	0	3	108	0	0	0	114	5	0	0	0	0	0	4	0	2	236
5:25 PM	0	3	98	0	0	0	83	3	0	0	0	0	0	2	0	7	196
5:30 PM	0	4	107	0	0	0	109	5	0	0	0	0	0	7	0	1	233
5:35 PM	1	4	137	0	0	0	96	2	0	0	0	0	0	4	0	2	246
5:40 PM	0	3	117	0	0	0	94	9	0	0	0	0	0	6	0	3	232
5:45 PM	0	4	124	0	0	0	85	3	0	0	0	0	0	5	0	6	227
5:50 PM	0	8	134	0	0	0	89	8	0	0	0	0	0	3	0	2	244
5:55 PM	0	8	99	0	0	0	79	6	0	0	0	0	0	11	0	5	208
Count Total	2	141	4,234	0	0	0	3,740	180	0	0	0	0	0	141	0	149	8,587
Peak Hour	1	53	1,462	0	0	0	1,344	65	0	0	0	0	0	33	0	59	3,017

Location: 2 SHOPPING ACCESS & HWY 26 PM

**Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk**

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
3:00 PM	2	0	6	0	8	3:00 PM	0	0	0	0	0	3:00 PM	0	0	0	3	3
3:05 PM	1	0	1	0	2	3:05 PM	0	0	0	0	0	3:05 PM	0	0	0	0	0
3:10 PM	4	0	2	0	6	3:10 PM	0	0	0	0	0	3:10 PM	0	0	0	0	0
3:15 PM	2	0	5	0	7	3:15 PM	0	0	0	0	0	3:15 PM	0	0	0	2	2
3:20 PM	2	0	9	0	11	3:20 PM	0	0	0	0	0	3:20 PM	0	0	0	0	0
3:25 PM	4	0	7	0	11	3:25 PM	0	0	0	0	0	3:25 PM	0	0	0	0	0
3:30 PM	3	0	9	0	12	3:30 PM	0	0	1	0	1	3:30 PM	0	0	0	0	0
3:35 PM	5	0	8	0	13	3:35 PM	0	0	0	0	0	3:35 PM	0	0	0	0	0
3:40 PM	5	0	5	1	11	3:40 PM	0	0	0	0	0	3:40 PM	0	0	0	0	0
3:45 PM	5	0	8	0	13	3:45 PM	0	0	0	0	0	3:45 PM	0	0	0	0	0
3:50 PM	2	0	7	0	9	3:50 PM	0	0	0	0	0	3:50 PM	0	0	0	0	0
3:55 PM	2	0	8	0	10	3:55 PM	0	0	0	0	0	3:55 PM	0	0	0	2	2
4:00 PM	2	0	4	0	6	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	1	1
4:05 PM	2	0	7	1	10	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	2	2
4:10 PM	2	0	7	0	9	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	3	0	4	1	8	4:15 PM	0	0	2	0	2	4:15 PM	0	0	0	0	0
4:20 PM	3	0	4	0	7	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	1	1
4:25 PM	0	0	3	0	3	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	3	0	8	0	11	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	2	0	5	0	7	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	0	6	0	6	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	1	1
4:45 PM	2	0	3	0	5	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	2	0	9	1	12	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	1	0	0	0	1	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	2	0	6	0	8	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	1	0	7	0	8	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	3	0	2	0	5	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	2	0	0	0	2	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	4	0	4	0	8	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	1	1
5:25 PM	2	0	5	0	7	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	2	0	6	1	9	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	1	0	5	0	6	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	2	0	3	0	5	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	1	1
5:45 PM	1	0	2	0	3	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	1	1
5:50 PM	1	0	4	0	5	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	4	0	0	0	4	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	84	0	179	5	268	Count Total	0	0	3	0	3	Count Total	0	0	0	15	15
Peak Hour	37	0	83	3	123	Peak Hour	0	0	3	0	3	Peak Hour	0	0	0	5	5

## Appendix D

### Crash History Data







026: MT. HOOD

Highway 026 ALL ROAD TYPES, MP 23 to 23.28 01/01/2015 to 12/31/2019, Both Add and Non-Add mileage

1 - 42 of 42 Crash records shown (only 33 crashes applicable to study intersections).

N	12P	SANDY UA	23.08	MT HOOD HY	06	0		N	DAY	INJ	PSNGR CAR		01 DRVR	NONE	56 F	OR-Y	026	000	29
N	45 24 9.74	-122 17 5.64		002600100S00												OR<25			
											02 NONE	0	STOP						
											PRVTE		SE-NW					012	00
											PSNGR CAR		01 DRVR	NONE	47 F	OR-Y	000	000	00
																OR<25			
											02 NONE	0	STOP						
											PRVTE		SE-NW					012	00
											PSNGR CAR		02 PSNG	INJC	48 M		000	000	00
03858	N N N N N N	08/23/2016	CLACKAMAS	1 14				STRGHT	N	N	CLR	S-1STOP	01 NONE	0	STRGHT				07,29
CITY	TU	SANDY	MN 0	INDUSTRIAL WAY	SE	(NONE)	TRF SIGNAL	N	DRY	REAR	PRVTE	SE-NW						000	00
N	12P	SANDY UA	23.08	MT HOOD HY	06			N	DAY	INJ	PSNGR CAR		01 DRVR	NONE	19 M	OTH-Y	043,026	000	07,29
N	45 24 9.74	-122 17 5.64		002600100S00			(04)									OR<25			
											02 NONE	0	STOP						
											PRVTE		SE-NW					011	00
											PSNGR CAR		01 DRVR	INJC	19 M	OR-Y	000	000	00
																OR<25			
00502	N N N N	01/29/2016	CLACKAMAS	1 14				INTER	3-LEG	N	N	RAIN	O-1STOP	01 NONE	9	BACK			10
NONE	FR	SANDY	MN 0	INDUSTRIAL WAY	SE		TRF SIGNAL	N	WET	BACK	N/A	NW-SE						000	00
N	5P	SANDY UA	23.08	MT HOOD HY	06	0		N	DLIT	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00
N	45 24 9.74	-122 17 5.64		002600100S00												UNK			
											02 NONE	9	STOP						
											N/A		SE-NW					011	00
											PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00
																UNK			
05571	N N N N	11/30/2016	CLACKAMAS	1 14				INTER	3-LEG	N	N	CLR	S-1STOP	01 NONE	9	STRGHT			29
NONE	WE	SANDY	MN 0	INDUSTRIAL WAY	SE		TRF SIGNAL	N	DRY	REAR	N/A	SE-NW						000	00
N	7A	SANDY UA	23.08	MT HOOD HY	06	0		N	DAY	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00
N	45 24 9.74	-122 17 5.64		002600100S00												UNK			
											02 NONE	9	STOP						
											N/A		SE-NW					011	00
											PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00
																UNK			

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is

026: MT. HOOD

Highway 026 ALL ROAD TYPES, MP 23 to 23.28 01/01/2015 to 12/31/2019, Both Add and Non-Add mileage

1 - 42 of 42 Crash records shown (only 33 crashes applicable to study intersections).

02736	N N N N	07/10/2017	CLACKAMAS	1 14	INTER	3-LEG	N	N	CLR	S-1TURN	01 NONE	9	STRGHT						29	
NONE	MO	SANDY	MN 0	INDUSTRIAL WAY	SE		TRF SIGNAL	N	DRY	TURN	N/A		SE-NW					000	00	
N	3P	SANDY UA	23.08	MT HOOD HY	06	0		N	DAY	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00	
N	45 24 9.74	-122 17 5.64		002600100S00															UNK	
											02 NONE	9	TURN-L							
											N/A		SE-SW						000	00
											PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00	
																			UNK	
03996	N N N N	11/12/2019	CLACKAMAS	1 14	INTER	3-LEG	N	N	CLR	S-1STOP	01 NONE	9	STRGHT						29	
NONE	TU	SANDY	MN 0	INDUSTRIAL WAY	SE		TRF SIGNAL	N	DRY	REAR	N/A		SE-NW					000	00	
N	6P	SANDY UA	23.08	MT HOOD HY	06	0		N	DUSK	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00	
N	45 24 9.75	-122 17 5.65		002600100S00															UNK	
											02 NONE	9	STOP							
											N/A		SE-NW						011	00
											PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00	
																			UNK	
01574	N N N N N N	05/14/2019	CLACKAMAS	1 14	INTER	3-LEG	N	N	CLR	S-1STOP	01 NONE	9	STRGHT						27,02,29	
CITY	TU	SANDY	MN 0	MT HOOD HY	SE		TRF SIGNAL	N	DRY	REAR	N/A		SE-NW					000	00	
N	12P	SANDY UA	23.08	INDUSTRIAL WAY	06	0		N	DAY	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00	
N	45 24 9.74	-122 17 5.65		002600100S00															UNK	
											02 NONE	9	STOP							
											N/A		SE-NW						011	00
											PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00	
																			UNK	
01113	N N N N	03/22/2017	CLACKAMAS	1 14	INTER	3-LEG	N	N	CLR	S-1STOP	01 NONE	9	STRGHT						26	
NONE	WE	SANDY	MN 0	INDUSTRIAL WAY	NW		TRF SIGNAL	N	DRY	REAR	N/A		NW-SE					000	00	
N	5P	SANDY UA	23.08	MT HOOD HY	03	0		N	DAY	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00	
N	45 24 9.74	-122 17 5.64		002600100S00															UNK	
											02 NONE	9	STOP							
											N/A		NW-SE						011	00
											PSNGR CAR		01 DRVR	NONE	00	Unk UNK	000	000	00	
																			UNK	
03440	N N N N N N	07/22/2016	CLACKAMAS	1 14	INTER	3-LEG	N	N	RAIN	PED	01 NONE	0	STRGHT						18,19	
CITY	FR	SANDY	MN 0	INDUSTRIAL WAY	NW		TRF SIGNAL	N	WET	PED	PRVTE		SE-NW					000	00	

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026: MT. HOOD

Highway 026 ALL ROAD TYPES, MP 23 to 23.28 01/01/2015 to 12/31/2019, Both Add and Non-Add mileage

1 - 42 of 42 Crash records shown (only 33 crashes applicable to study intersections).

																		UNK			
03692	N N N N N N N	10/12/2018	CLACKAMAS	1	14	STRGHT	N	N	CLR	S-1STOP	01 NONE	0	STRGHT					07			
CITY	FR	SANDY	MN	0	MT HOOD HY	SE	(NONE)	TRF SIGNAL	N	DRY	REAR	PRVTE	SE-NW					000	00		
N	11A	SANDY UA	23.10	INDUSTRIAL WAY	05				N	DAY	INJ	PSNGR CAR		01 DRVR	NONE	29	F	OR-Y	043	000	07
N	45 24 9.01	-122 17 3.44		002600100S00	(04)																
																		OR<25			
											02 NONE	0	STOP								
											PRVTE		SE-NW					011	00		
											PSNGR CAR			01 DRVR	NONE	46	M	OTH-Y	000	000	00
																		N-RES			
											02 NONE	0	STOP								
											PRVTE		SE-NW					011	00		
											PSNGR CAR			02 PSNG	INJB	07	M		000	000	00
																		OR<25			
04392	Y N N N N	12/08/2019	CLACKAMAS	1	14	STRGHT	Y	N	CLR	S-1STOP	01 NONE	0	STRGHT					07,30			
CITY	SU	SANDY	MN	0	MT HOOD HY	SE	(NONE)	UNKNOWN	N	DRY	REAR	PRVTE	SE-NW					000	00		
N	1P	SANDY UA	23.10	INDUSTRIAL WAY	05				N	DAY	INJ	PSNGR CAR		01 DRVR	NONE	50	M	OR-Y	043,050	000	07,30
N	45 24 9.01	-122 17 3.44		002600100S00	(04)																
																		OR<25			
											02 NONE	0	STOP								
											PRVTE		SE-NW					011	00		
											PSNGR CAR			01 DRVR	INJC	28	M	OR-Y	000	000	00
																		OR<25			
00072	N N N N N N N	01/06/2017	CLACKAMAS	1	14	STRGHT	N	N	CLR	S-1STOP	01 NONE	9	STRGHT					07			
CITY	FR	SANDY	MN	0	MT HOOD HY	SE	(NONE)	TRF SIGNAL	N	DRY	REAR	N/A	SE-NW					000	00		
N	11A	SANDY UA	23.10	INDUSTRIAL WAY	06				N	DAY	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk	UNK	000	000	00
N	45 24 9.01	-122 17 3.44		002600100S00	(04)																
																		UNK			
											02 NONE	9	STOP								
											N/A		SE-NW					011	00		
											PSNGR CAR			01 DRVR	NONE	00	Unk	UNK	000	000	00
																		UNK			
00533	N N N N N N N	02/13/2018	CLACKAMAS	1	14	STRGHT	N	N	CLR	S-1STOP	01 NONE	0	STRGHT					013	07		
CITY	TU	SANDY	MN	0	MT HOOD HY	SE	(NONE)	UNKNOWN	N	DRY	REAR	PRVTE	SE-NW					000	00		
N	5P	SANDY UA	23.11	INDUSTRIAL WAY	06				N	DAY	INJ	PSNGR CAR		01 DRVR	NONE	66	M	OR-Y	043,026	000	07
N	45 24 8.68	-122 17 2.37		002600100S00	(04)																
																		OR<25			
											02 NONE	0	STOP								

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## Appendix E

### Traffic Signal Warrants





## Appendix F

Level of Service Descriptions

Capacity Reports







## LEVEL OF SERVICE

Level of service is used to describe the quality of traffic flow. Levels of service A to C are considered good, and rural roads are usually designed for level of service C. Urban streets and signalized intersections are typically designed for level of service D. Level of service E is considered to be the limit of acceptable delay. For unsignalized intersections, level of service E is generally considered acceptable. Here is a more complete description of levels of service:

*Level of service A:* Very low delay at intersections, with all traffic signal cycles clearing and no vehicles waiting through more than one signal cycle. On highways, low volume and high speeds, with speeds not restricted by other vehicles.

*Level of service B:* Operating speeds beginning to be affected by other traffic; short traffic delays at intersections. Higher average intersection delay than for level of service A resulting from more vehicles stopping.

*Level of service C:* Operating speeds and maneuverability closely controlled by other traffic; higher delays at intersections than for level of service B due to a significant number of vehicles stopping. Not all signal cycles clear the waiting vehicles. This is the recommended design standard for rural highways.

*Level of service D:* Tolerable operating speeds; long traffic delays occur at intersections. The influence of congestion is noticeable. At traffic signals many vehicles stop, and the proportion of vehicles not stopping declines. The number of signal cycle failures, for which vehicles must wait through more than one signal cycle, are noticeable. This is typically the design level for urban signalized intersections.

*Level of service E:* Restricted speeds, very long traffic delays at traffic signals, and traffic volumes near capacity. Flow is unstable so that any interruption, no matter how minor, will cause queues to form and service to deteriorate to level of service F. Traffic signal cycle failures are frequent occurrences. For unsignalized intersections, level of service E or better is generally considered acceptable.

*Level of service F:* Extreme delays, resulting in long queues which may interfere with other traffic movements. There may be stoppages of long duration, and speeds may drop to zero. There may be frequent signal cycle failures. Level of service F will typically result when vehicle arrival rates are greater than capacity. It is considered unacceptable by most drivers.



*LEVEL OF SERVICE CRITERIA  
FOR SIGNALIZED INTERSECTIONS*

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-20
C	20-35
D	35-55
E	55-80
F	>80

*LEVEL OF SERVICE CRITERIA  
FOR UNSIGNALIZED INTERSECTIONS*

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (Seconds)
A	<10
B	10-15
C	15-25
D	25-35
E	35-50
F	>50

HCM 6th Signalized Intersection Summary  
 1: Industrial Way & US-26

08/05/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	1027	20	37	1097	11	26	5	29	35	5	20
Future Volume (veh/h)	32	1027	20	37	1097	11	26	5	29	35	5	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1614	1614	1614	1668	1668	1668	1586	1586	1586	1668	1668	1668
Adj Flow Rate, veh/h	35	1116	21	40	1192	0	28	5	5	42	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	6	6	6	12	12	12	6	6	6
Cap, veh/h	369	2155	41	398	2228	994	44	8	8	132	0	59
Arrive On Green	0.04	0.70	0.69	0.04	0.70	0.00	0.03	0.04	0.03	0.04	0.00	0.00
Sat Flow, veh/h	1537	3078	58	1589	3169	1414	1102	197	197	3177	0	1414
Grp Volume(v), veh/h	35	556	581	40	1192	0	38	0	0	42	0	0
Grp Sat Flow(s),veh/h/ln	1537	1533	1603	1589	1585	1414	1496	0	0	1589	0	1414
Q Serve(g_s), s	0.5	15.3	15.4	0.6	16.1	0.0	2.3	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	0.5	15.3	15.4	0.6	16.1	0.0	2.3	0.0	0.0	1.2	0.0	0.0
Prop In Lane	1.00		0.04	1.00		1.00	0.74		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	369	1073	1122	398	2228	994	59	0	0	132	0	59
V/C Ratio(X)	0.09	0.52	0.52	0.10	0.54	0.00	0.64	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	404	1073	1122	431	2228	994	307	0	0	653	0	291
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.7	6.3	6.3	4.5	6.4	0.0	42.8	0.0	0.0	41.9	0.0	0.0
Incr Delay (d2), s/veh	0.1	1.8	1.7	0.1	0.3	0.0	11.0	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.0	4.1	0.1	3.8	0.0	1.0	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.8	8.1	8.1	4.6	6.6	0.0	53.8	0.0	0.0	43.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		1172			1232			38				42
Approach Delay, s/veh		8.0			6.6			53.8				43.2
Approach LOS		A			A			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	67.0		7.6	7.4	67.3		7.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	31.0		18.0	5.0	31.0		18.0				
Max Q Clear Time (g_c+I1), s	2.6	17.4		4.3	2.5	18.1		3.2				
Green Ext Time (p_c), s	0.0	5.8		0.1	0.0	6.4		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	8.6
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th TWSC  
2: US-26 & Shopping Center Access

08/05/2021

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	↗
Traffic Vol, veh/h	44	1018	1118	98	38	59
Future Vol, veh/h	44	1018	1118	98	38	59
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	9	9	7	7	0	0
Mvmt Flow	48	1119	1229	108	42	65
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1338	0	-	0	1940	670
Stage 1	-	-	-	-	1284	-
Stage 2	-	-	-	-	656	-
Critical Hdwy	4.28	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.29	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	476	-	-	-	59	404
Stage 1	-	-	-	-	228	-
Stage 2	-	-	-	-	483	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	476	-	-	-	53	404
Mov Cap-2 Maneuver	-	-	-	-	182	-
Stage 1	-	-	-	-	205	-
Stage 2	-	-	-	-	483	-
Approach	EB	WB	SB			
HCM Control Delay, s	0.6	0	21.5			
HCM LOS			C			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	476	-	-	-	182	404
HCM Lane V/C Ratio	0.102	-	-	-	0.229	0.16
HCM Control Delay (s)	13.4	-	-	-	30.6	15.6
HCM Lane LOS	B	-	-	-	D	C
HCM 95th %tile Q(veh)	0.3	-	-	-	0.9	0.6

HCM 6th Signalized Intersection Summary  
1: Industrial Way & US-26

08/05/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘		↕		↖	↗	↘
Traffic Volume (veh/h)	68	1624	12	32	1516	35	20	20	45	170	17	87
Future Volume (veh/h)	68	1624	12	32	1516	35	20	20	45	170	17	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1709	1709	1709	1668	1668	1668	1750	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	71	1692	11	33	1579	0	21	21	14	190	0	10
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	6	6	6	0	0	0	0	0	0
Cap, veh/h	252	2319	15	219	2191	977	31	32	21	274	0	121
Arrive On Green	0.04	0.70	0.70	0.03	0.69	0.00	0.05	0.05	0.05	0.08	0.00	0.08
Sat Flow, veh/h	1628	3307	21	1589	3169	1414	615	615	410	3333	0	1472
Grp Volume(v), veh/h	71	830	873	33	1579	0	56	0	0	190	0	10
Grp Sat Flow(s),veh/h/ln	1628	1624	1705	1589	1585	1414	1639	0	0	1667	0	1472
Q Serve(g_s), s	1.5	37.5	37.6	0.7	36.8	0.0	4.0	0.0	0.0	6.7	0.0	0.8
Cycle Q Clear(g_c), s	1.5	37.5	37.6	0.7	36.8	0.0	4.0	0.0	0.0	6.7	0.0	0.8
Prop In Lane	1.00		0.01	1.00		1.00	0.37		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	252	1138	1196	219	2191	977	84	0	0	274	0	121
V/C Ratio(X)	0.28	0.73	0.73	0.15	0.72	0.00	0.67	0.00	0.00	0.69	0.00	0.08
Avail Cap(c_a), veh/h	258	1138	1196	242	2191	977	253	0	0	514	0	227
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.7	11.0	11.0	11.0	11.4	0.0	56.1	0.0	0.0	53.6	0.0	50.9
Incr Delay (d2), s/veh	0.6	4.1	3.9	0.3	1.2	0.0	8.7	0.0	0.0	3.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	12.2	12.8	0.3	11.0	0.0	1.9	0.0	0.0	2.9	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.3	15.1	14.9	11.3	12.6	0.0	64.8	0.0	0.0	56.7	0.0	51.2
LnGrp LOS	B	B	B	B	B	A	E	A	A	E	A	D
Approach Vol, veh/h		1774			1612			56				200
Approach Delay, s/veh		14.9			12.6			64.8				56.4
Approach LOS		B			B			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.8	88.1		10.1	9.0	86.9		13.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	60.9		18.0	5.0	61.0		18.0				
Max Q Clear Time (g_c+I1), s	2.7	39.6		6.0	3.5	38.8		8.7				
Green Ext Time (p_c), s	0.0	12.2		0.1	0.0	12.1		0.4				

Intersection Summary

HCM 6th Ctrl Delay	16.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th TWSC  
2: US-26 & Shopping Center Access

08/05/2021

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	↗
Traffic Vol, veh/h	65	1747	1606	78	39	71
Future Vol, veh/h	65	1747	1606	78	39	71
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	6	6	3	3
Mvmt Flow	68	1820	1673	81	41	74

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1759	0	-	0	2765 882
Stage 1	-	-	-	-	1719 -
Stage 2	-	-	-	-	1046 -
Critical Hdwy	4.14	-	-	-	6.86 6.96
Critical Hdwy Stg 1	-	-	-	-	5.86 -
Critical Hdwy Stg 2	-	-	-	-	5.86 -
Follow-up Hdwy	2.22	-	-	-	3.53 3.33
Pot Cap-1 Maneuver	351	-	-	-	~15 287
Stage 1	-	-	-	-	129 -
Stage 2	-	-	-	-	297 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	349	-	-	-	~12 286
Mov Cap-2 Maneuver	-	-	-	-	92 -
Stage 1	-	-	-	-	103 -
Stage 2	-	-	-	-	296 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	39.7
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	349	-	-	-	92	286
HCM Lane V/C Ratio	0.194	-	-	-	0.442	0.259
HCM Control Delay (s)	17.8	-	-	-	72	21.9
HCM Lane LOS	C	-	-	-	F	C
HCM 95th %tile Q(veh)	0.7	-	-	-	1.8	1

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 6th Signalized Intersection Summary  
1: Industrial Way & US-26

08/05/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩	↕	↪	↩	↕	↪	↩	↕	↪	↩	↕	↪
Traffic Volume (veh/h)	33	1067	21	38	1140	11	27	5	30	36	5	21
Future Volume (veh/h)	33	1067	21	38	1140	11	27	5	30	36	5	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1614	1614	1614	1668	1668	1668	1586	1586	1586	1668	1668	1668
Adj Flow Rate, veh/h	36	1160	22	41	1239	0	29	5	6	43	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	6	6	6	12	12	12	6	6	6
Cap, veh/h	353	2149	41	382	2221	991	44	8	9	134	0	60
Arrive On Green	0.04	0.70	0.69	0.04	0.70	0.00	0.04	0.04	0.04	0.04	0.00	0.00
Sat Flow, veh/h	1537	3077	58	1589	3169	1414	1082	186	224	3177	0	1414
Grp Volume(v), veh/h	36	578	604	41	1239	0	40	0	0	43	0	0
Grp Sat Flow(s),veh/h/ln	1537	1533	1603	1589	1585	1414	1492	0	0	1589	0	1414
Q Serve(g_s), s	0.6	16.4	16.4	0.6	17.3	0.0	2.4	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	0.6	16.4	16.4	0.6	17.3	0.0	2.4	0.0	0.0	1.2	0.0	0.0
Prop In Lane	1.00		0.04	1.00		1.00	0.72		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	353	1070	1119	382	2221	991	61	0	0	134	0	60
V/C Ratio(X)	0.10	0.54	0.54	0.11	0.56	0.00	0.66	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	388	1070	1119	414	2221	991	307	0	0	653	0	291
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.0	6.6	6.6	4.8	6.6	0.0	42.8	0.0	0.0	41.9	0.0	0.0
Incr Delay (d2), s/veh	0.1	2.0	1.9	0.1	0.3	0.0	11.5	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.3	4.4	0.1	4.1	0.0	1.1	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.1	8.5	8.5	4.9	6.9	0.0	54.3	0.0	0.0	43.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	A	D	A	A
Approach Vol, veh/h		1218			1280			40				43
Approach Delay, s/veh		8.4			6.9			54.3				43.2
Approach LOS		A			A			D				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	66.8		7.7	7.5	67.1		7.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	31.0		18.0	5.0	31.0		18.0				
Max Q Clear Time (g_c+I1), s	2.6	18.4		4.4	2.6	19.3		3.2				
Green Ext Time (p_c), s	0.0	5.8		0.1	0.0	6.2		0.1				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				8.9								
HCM 6th LOS				A								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 6th TWSC  
2: US-26 & Shopping Center Access

08/05/2021

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	↗
Traffic Vol, veh/h	46	1058	1162	102	40	61
Future Vol, veh/h	46	1058	1162	102	40	61
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	9	9	7	7	0	0
Mvmt Flow	51	1163	1277	112	44	67
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	1390	0	-	0	2018	696
Stage 1	-	-	-	-	1334	-
Stage 2	-	-	-	-	684	-
Critical Hdwy	4.28	-	-	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	2.29	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	454	-	-	-	52	389
Stage 1	-	-	-	-	214	-
Stage 2	-	-	-	-	468	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	454	-	-	-	46	389
Mov Cap-2 Maneuver	-	-	-	-	169	-
Stage 1	-	-	-	-	190	-
Stage 2	-	-	-	-	468	-
Approach	EB	WB	SB			
HCM Control Delay, s	0.6	0	23.1			
HCM LOS						C
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	454	-	-	-	169	389
HCM Lane V/C Ratio	0.111	-	-	-	0.26	0.172
HCM Control Delay (s)	13.9	-	-	-	33.6	16.2
HCM Lane LOS	B	-	-	-	D	C
HCM 95th %tile Q(veh)	0.4	-	-	-	1	0.6



HCM 6th Signalized Intersection Summary  
 1: Industrial Way & US-26

08/05/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	1687	12	33	1575	36	21	21	47	177	18	91
Future Volume (veh/h)	71	1687	12	33	1575	36	21	21	47	177	18	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1709	1709	1709	1668	1668	1668	1750	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	74	1757	11	34	1641	1	22	22	16	198	0	14
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	6	6	6	0	0	0	0	0	0
Cap, veh/h	234	2300	14	203	2172	967	33	33	24	283	0	125
Arrive On Green	0.04	0.70	0.69	0.03	0.69	0.69	0.05	0.05	0.05	0.08	0.00	0.08
Sat Flow, veh/h	1628	3308	21	1589	3169	1411	600	600	436	3333	0	1473
Grp Volume(v), veh/h	74	862	906	34	1641	1	60	0	0	198	0	14
Grp Sat Flow(s),veh/h/ln	1628	1624	1705	1589	1585	1411	1635	0	0	1667	0	1473
Q Serve(g_s), s	1.6	41.4	41.5	0.7	40.6	0.0	4.3	0.0	0.0	6.9	0.0	1.1
Cycle Q Clear(g_c), s	1.6	41.4	41.5	0.7	40.6	0.0	4.3	0.0	0.0	6.9	0.0	1.1
Prop In Lane	1.00		0.01	1.00		1.00	0.37		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	234	1129	1185	203	2172	967	89	0	0	283	0	125
V/C Ratio(X)	0.32	0.76	0.76	0.17	0.76	0.00	0.68	0.00	0.00	0.70	0.00	0.11
Avail Cap(c_a), veh/h	240	1129	1185	225	2172	967	252	0	0	514	0	227
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.7	11.9	11.9	12.7	12.3	5.9	55.9	0.0	0.0	53.4	0.0	50.7
Incr Delay (d2), s/veh	0.8	4.9	4.7	0.4	1.6	0.0	8.6	0.0	0.0	3.1	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	13.7	14.3	0.3	12.3	0.0	2.0	0.0	0.0	3.1	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.5	16.8	16.6	13.1	13.9	5.9	64.4	0.0	0.0	56.6	0.0	51.1
LnGrp LOS	B	B	B	B	B	A	E	A	A	E	A	D
Approach Vol, veh/h		1842			1676			60				212
Approach Delay, s/veh		16.6			13.9			64.4				56.2
Approach LOS		B			B			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	87.4		10.5	9.1	86.2		14.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	60.9		18.0	5.0	61.0		18.0				
Max Q Clear Time (g_c+I1), s	2.7	43.5		6.3	3.6	42.6		8.9				
Green Ext Time (p_c), s	0.0	11.2		0.2	0.0	11.2		0.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				18.4								
HCM 6th LOS				B								
<b>Notes</b>												
User approved volume balancing among the lanes for turning movement.												

HCM 6th TWSC  
2: US-26 & Shopping Center Access

08/05/2021

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↕	↕		↘	↗
Traffic Vol, veh/h	68	1815	1669	81	41	74
Future Vol, veh/h	68	1815	1669	81	41	74
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	6	6	3	3
Mvmt Flow	71	1891	1739	84	43	77

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1828	0	-	0	2874 917
Stage 1	-	-	-	-	1786 -
Stage 2	-	-	-	-	1088 -
Critical Hdwy	4.14	-	-	-	6.86 6.96
Critical Hdwy Stg 1	-	-	-	-	5.86 -
Critical Hdwy Stg 2	-	-	-	-	5.86 -
Follow-up Hdwy	2.22	-	-	-	3.53 3.33
Pot Cap-1 Maneuver	330	-	-	-	~13 272
Stage 1	-	-	-	-	118 -
Stage 2	-	-	-	-	282 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	328	-	-	-	~10 271
Mov Cap-2 Maneuver	-	-	-	-	82 -
Stage 1	-	-	-	-	92 -
Stage 2	-	-	-	-	281 -

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	46.9
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	328	-	-	-	82	271
HCM Lane V/C Ratio	0.216	-	-	-	0.521	0.284
HCM Control Delay (s)	19	-	-	-	89.1	23.5
HCM Lane LOS	C	-	-	-	F	C
HCM 95th %tile Q(veh)	0.8	-	-	-	2.2	1.1

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 6th Signalized Intersection Summary  
1: Industrial Way & US-26

03/07/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	1069	21	38	1143	11	27	5	31	38	5	21
Future Volume (veh/h)	33	1069	21	38	1143	11	27	5	31	38	5	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1614	1614	1614	1668	1668	1668	1586	1586	1586	1668	1668	1668
Adj Flow Rate, veh/h	36	1162	22	41	1242	0	29	5	6	45	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	6	6	6	12	12	12	6	6	6
Cap, veh/h	339	2129	40	368	2201	982	38	7	8	119	0	53
Arrive On Green	0.03	0.69	0.69	0.04	0.69	0.00	0.04	0.04	0.04	0.04	0.00	0.00
Sat Flow, veh/h	1537	3077	58	1589	3169	1414	1082	186	224	3177	0	1414
Grp Volume(v), veh/h	36	579	605	41	1242	0	40	0	0	45	0	0
Grp Sat Flow(s),veh/h/ln	1537	1533	1603	1589	1585	1414	1492	0	0	1589	0	1414
Q Serve(g_s), s	0.6	16.8	16.8	0.7	17.7	0.0	2.4	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear(g_c), s	0.6	16.8	16.8	0.7	17.7	0.0	2.4	0.0	0.0	1.2	0.0	0.0
Prop In Lane	1.00		0.04	1.00		1.00	0.72		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	339	1060	1109	368	2201	982	52	0	0	119	0	53
V/C Ratio(X)	0.11	0.55	0.55	0.11	0.56	0.00	0.76	0.00	0.00	0.38	0.00	0.00
Avail Cap(c_a), veh/h	374	1060	1109	400	2201	982	298	0	0	635	0	283
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.4	6.9	6.9	5.2	6.9	0.0	43.0	0.0	0.0	42.3	0.0	0.0
Incr Delay (d2), s/veh	0.1	2.0	1.9	0.1	0.3	0.0	20.1	0.0	0.0	2.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.4	4.6	0.1	4.3	0.0	1.2	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.5	8.9	8.8	5.3	7.2	0.0	63.2	0.0	0.0	44.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	E	A	A	D	A	A
Approach Vol, veh/h		1220			1283			40				45
Approach Delay, s/veh		8.7			7.2			63.2				44.2
Approach LOS		A			A			E				D
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.7	66.8		7.7	7.5	67.0		7.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.0	31.0		18.0	5.0	31.0		18.0				
Max Q Clear Time (g_c+I1), s	2.7	18.8		4.4	2.6	19.7		3.2				
Green Ext Time (p_c), s	0.0	5.7		0.1	0.0	6.1		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		9.4
HCM 6th LOS		A
Notes		
User approved volume balancing among the lanes for turning movement.		

HCM 6th TWSC  
2: US-26 & Shopping Center Access

03/07/2022

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↕	↕		↖	↖
Traffic Vol, veh/h	51	1057	1159	108	43	67
Future Vol, veh/h	51	1057	1159	108	43	67
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	9	9	7	7	0	0
Mvmt Flow	56	1162	1274	119	47	74

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1394	0	-	0	2028 698
Stage 1	-	-	-	-	1335 -
Stage 2	-	-	-	-	693 -
Critical Hdwy	4.28	-	-	-	6.8 6.9
Critical Hdwy Stg 1	-	-	-	-	5.8 -
Critical Hdwy Stg 2	-	-	-	-	5.8 -
Follow-up Hdwy	2.29	-	-	-	3.5 3.3
Pot Cap-1 Maneuver	452	-	-	-	51 388
Stage 1	-	-	-	-	214 -
Stage 2	-	-	-	-	463 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	452	-	-	-	~45 388
Mov Cap-2 Maneuver	-	-	-	-	167 -
Stage 1	-	-	-	-	187 -
Stage 2	-	-	-	-	463 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	23.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	452	-	-	-	167	388
HCM Lane V/C Ratio	0.124	-	-	-	0.283	0.19
HCM Control Delay (s)	14.1	-	-	-	34.9	16.4
HCM Lane LOS	B	-	-	-	D	C
HCM 95th %tile Q(veh)	0.4	-	-	-	1.1	0.7

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 6th Signalized Intersection Summary  
1: Industrial Way & US-26

03/07/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	1702	12	34	1586	36	21	21	49	189	18	91
Future Volume (veh/h)	71	1702	12	34	1586	36	21	21	49	189	18	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1709	1709	1709	1668	1668	1668	1750	1750	1750	1750	1750	1750
Adj Flow Rate, veh/h	74	1773	11	35	1652	1	22	22	16	211	0	14
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	6	6	6	0	0	0	0	0	0
Cap, veh/h	229	2285	14	198	2160	961	33	33	24	295	0	131
Arrive On Green	0.04	0.69	0.69	0.03	0.68	0.68	0.05	0.05	0.05	0.09	0.00	0.09
Sat Flow, veh/h	1628	3308	21	1589	3169	1411	600	600	436	3333	0	1473
Grp Volume(v), veh/h	74	869	915	35	1652	1	60	0	0	211	0	14
Grp Sat Flow(s),veh/h/ln	1628	1624	1705	1589	1585	1411	1635	0	0	1667	0	1473
Q Serve(g_s), s	1.6	42.8	42.9	0.8	41.6	0.0	4.3	0.0	0.0	7.4	0.0	1.0
Cycle Q Clear(g_c), s	1.6	42.8	42.9	0.8	41.6	0.0	4.3	0.0	0.0	7.4	0.0	1.0
Prop In Lane	1.00		0.01	1.00		1.00	0.37		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	229	1122	1178	198	2160	961	89	0	0	295	0	131
V/C Ratio(X)	0.32	0.78	0.78	0.18	0.76	0.00	0.68	0.00	0.00	0.71	0.00	0.11
Avail Cap(c_a), veh/h	235	1122	1178	220	2160	961	252	0	0	514	0	227
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.4	12.3	12.4	13.4	12.7	6.1	55.9	0.0	0.0	53.2	0.0	50.3
Incr Delay (d2), s/veh	0.8	5.3	5.1	0.4	1.7	0.0	8.6	0.0	0.0	3.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	14.3	15.0	0.3	12.7	0.0	2.0	0.0	0.0	3.3	0.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.2	17.6	17.4	13.9	14.4	6.1	64.4	0.0	0.0	56.4	0.0	50.7
LnGrp LOS	B	B	B	B	B	A	E	A	A	E	A	D
Approach Vol, veh/h		1858			1688			60				225
Approach Delay, s/veh		17.4			14.4			64.4				56.1
Approach LOS		B			B			E				E
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	86.9		10.5	9.1	85.8		14.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.1	60.9		18.0	5.0	61.0		18.0				
Max Q Clear Time (g_c+I1), s	2.8	44.9		6.3	3.6	43.6		9.4				
Green Ext Time (p_c), s	0.0	10.6		0.2	0.0	10.9		0.5				

Intersection Summary

HCM 6th Ctrl Delay	19.1
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th TWSC  
2: US-26 & Shopping Center Access

03/07/2022

Intersection						
Int Delay, s/veh	3.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	↗
Traffic Vol, veh/h	98	1814	1655	112	53	100
Future Vol, veh/h	98	1814	1655	112	53	100
Conflicting Peds, #/hr	5	0	0	5	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	2	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	6	6	3	3
Mvmt Flow	102	1890	1724	117	55	104

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1846	0	-	0	2937 926
Stage 1	-	-	-	-	1788 -
Stage 2	-	-	-	-	1149 -
Critical Hdwy	4.14	-	-	-	6.86 6.96
Critical Hdwy Stg 1	-	-	-	-	5.86 -
Critical Hdwy Stg 2	-	-	-	-	5.86 -
Follow-up Hdwy	2.22	-	-	-	3.53 3.33
Pot Cap-1 Maneuver	325	-	-	-	~12 269
Stage 1	-	-	-	-	118 -
Stage 2	-	-	-	-	262 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	323	-	-	-	~8 268
Mov Cap-2 Maneuver	-	-	-	-	72 -
Stage 1	-	-	-	-	80 -
Stage 2	-	-	-	-	261 -

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	67.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	323	-	-	-	72	268
HCM Lane V/C Ratio	0.316	-	-	-	0.767	0.389
HCM Control Delay (s)	21.2	-	-	-	144	26.7
HCM Lane LOS	C	-	-	-	F	D
HCM 95th %tile Q(veh)	1.3	-	-	-	3.6	1.8

Notes  
 ~: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

**Signalized Intersection V/C Calculation Summary**

**MORNING PEAK HOUR**

**1. Industrial Way at US-26**

Year 2021 Existing	Protected/Permitted Left-Turn Phasing						Split Phasing									
Critical Movement:	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Sum of Critical Flow Ratios:	0.44	Critical Intersection V/C:	0.53
Adjusted Flow Rate:	35	1116	21	40	1192	0	28	5	5	42	0	0	Cycle Length (seconds):	90		
Saturated Flow:	1537	3078	58	1589	3169	1414	1102	197	197	3177	0	1414	Lost Time per phase (seconds):	4		
Flow Ratio:	0.02	0.36	0.36	0.03	0.38	0.00	0.03	0.03	0.03	0.03	0.01	0.00	Number of Phases:	4		
	0.40						0.04									

Year 2023 Background	Protected/Permitted Left-Turn Phasing						Split Phasing									
Critical Movement:	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Sum of Critical Flow Ratios:	0.45	Critical Intersection V/C:	0.55
Adjusted Flow Rate:	36	1160	22	41	1239	0	29	5	6	43	0	0	Cycle Length (seconds):	90		
Saturated Flow:	1537	3077	58	1589	3169	1414	1082	186	224	3177	0	1414	Lost Time per phase (seconds):	4		
Flow Ratio:	0.02	0.38	0.38	0.03	0.39	0.00	0.03	0.03	0.03	0.03	0.01	0.00	Number of Phases:	4		
	0.41						0.04									

Year 2023 Buildout	Protected/Permitted Left-Turn Phasing						Split Phasing									
Critical Movement:	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Sum of Critical Flow Ratios:	0.46	Critical Intersection V/C:	0.56
Adjusted Flow Rate:	36	1162	22	41	1242	0	29	5	6	45	0	0	Cycle Length (seconds):	90		
Saturated Flow:	1537	3077	58	1589	3169	1414	1082	186	224	3177	0	1414	Lost Time per phase (seconds):	4		
Flow Ratio:	0.02	0.38	0.38	0.03	0.39	0.00	0.03	0.03	0.03	0.03	0.01	0.00	Number of Phases:	4		
	0.42						0.04									

**EVENING PEAK HOUR**

**1. Industrial Way at US-26**

Year 2021 Existing	Protected/Permitted Left-Turn Phasing						Split Phasing									
Critical Movement:	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Sum of Critical Flow Ratios:	0.64	Critical Intersection V/C:	0.73
Adjusted Flow Rate:	71	1692	11	33	1579	0	21	21	14	190	0	10	Cycle Length (seconds):	120		
Saturated Flow:	1628	3307	21	1589	3169	1414	615	615	410	3333	0	1472	Lost Time per phase (seconds):	4		
Flow Ratio:	0.04	0.51	0.52	0.02	0.50	0.00	0.03	0.03	0.03	0.06	0.01	0.01	Number of Phases:	4		
	0.54						0.09									

Year 2023 Background	Protected/Permitted Left-Turn Phasing						Split Phasing									
Critical Movement:	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Sum of Critical Flow Ratios:	0.66	Critical Intersection V/C:	0.76
Adjusted Flow Rate:	74	1757	11	34	1641	1	22	22	16	198	0	14	Cycle Length (seconds):	120		
Saturated Flow:	1628	3308	21	1589	3169	1411	600	600	436	3333	0	1473	Lost Time per phase (seconds):	4		
Flow Ratio:	0.05	0.53	0.52	0.02	0.52	0.00	0.04	0.04	0.04	0.06	0.01	0.01	Number of Phases:	4		
	0.56						0.10									

Year 2023 Buildout	Protected/Permitted Left-Turn Phasing						Split Phasing									
Critical Movement:	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Sum of Critical Flow Ratios:	0.67	Critical Intersection V/C:	0.77
Adjusted Flow Rate:	74	1773	11	35	1652	1	22	22	16	211	0	14	Cycle Length (seconds):	120		
Saturated Flow:	1628	3308	21	1589	3169	1411	600	600	436	3333	0	1473	Lost Time per phase (seconds):	4		
Flow Ratio:	0.05	0.54	0.52	0.02	0.52	0.00	0.04	0.04	0.04	0.06	0.01	0.01	Number of Phases:	4		
	0.57						0.10									

**Notes:**

Since EB and WB left-turn phases are protected, critical ring is either EBL+WBT or WBL+EBT - HCM6 does not show reductions for permitted left turns

Since NB and SB left-turn phases are Split, critical ring is max of NB lane groups + max of SB lane groups



321 SW 4th Ave., Suite 400  
Portland, OR 97204  
503.248.0313  
lancastermoble.com

## Memorandum

To: Emily Meharg, Senior Planner  
City of Sandy

From: Daniel Stumpf, PE

Date: April 19, 2022

Subject: **The Riffles Food Carts  
Notice Regarding Incompletion Of Submission – Parking Stalls Response**



RENEWS: 6/30/2022

This memorandum serves as a response to City of Sandy's *Notice Regarding Incompletion of Submission* memorandum dated April 13, 2022, for the proposed *The Riffle Food Carts* project located at 37133/37115 Highway 26 in Sandy, Oregon. According to the notice, the following was stated with regard to on-site parking:

5. *Staff is generally supportive of granting the special variance to Section 17.98.10(Q) to exceed the minimum parking requirement by more than 30 percent; however, staff is not supportive of the 10 parking spaces proposed adjacent to the 25-foot access easement nor is staff supportive of 25-foot-long parking spaces as it creates unnecessary impervious surface.*

Subsequent correspondence with City staff indicated that removal of these 10 proposed spaces was requested for the following transportation safety related reason:

- The approximate 25-foot drive aisle is heavily used and adding additional stalls on the south side of the drive aisle will create more congestion and points of conflict in conjunction with the existing stalls to the north.

In response to this concern, it is expected that the proposed 10 parking stalls will operate relatively safely when compared to the greater shopping center parking lot as well as other shopping center parking lots within the Portland Metropolitan area. Reasons for considering the parking stalls along both sides of the drive aisle will operate safely include the following:

- Drivers traveling within parking lots typically have the expectation that other vehicles may pull out of parking stalls or pedestrians may cross drive aisles.
- Generally vehicular travel speeds within parking lots are low, whereby if crashes do occur they tend to be low severity collisions.
- Examples of what may be considered heavily used drive aisles with parking stalls along both sides of the drive aisle within the same shopping center are shown in the attached images to this response memorandum.

Given the above reasons, from a transportation safety perspective the proposed 10 parking stalls are expected to operate relatively safely when compared to other parking stalls within the shopping center parking lot.

If you have any questions regarding this response memorandum, please don't hesitate to contact us.



Figure 1: Drive Aisle South of Grocery Outlet

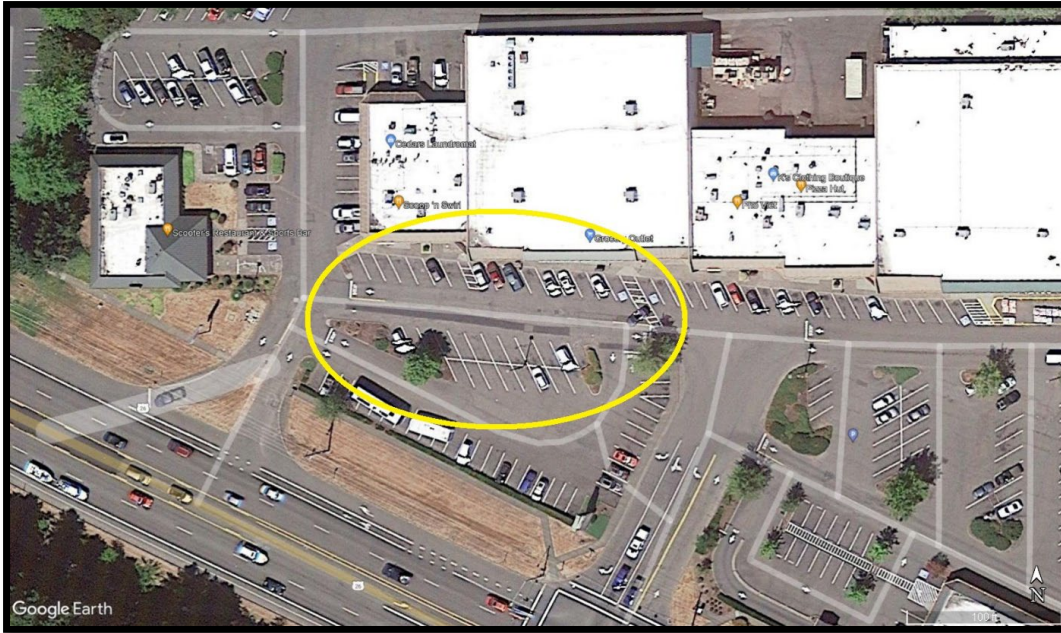


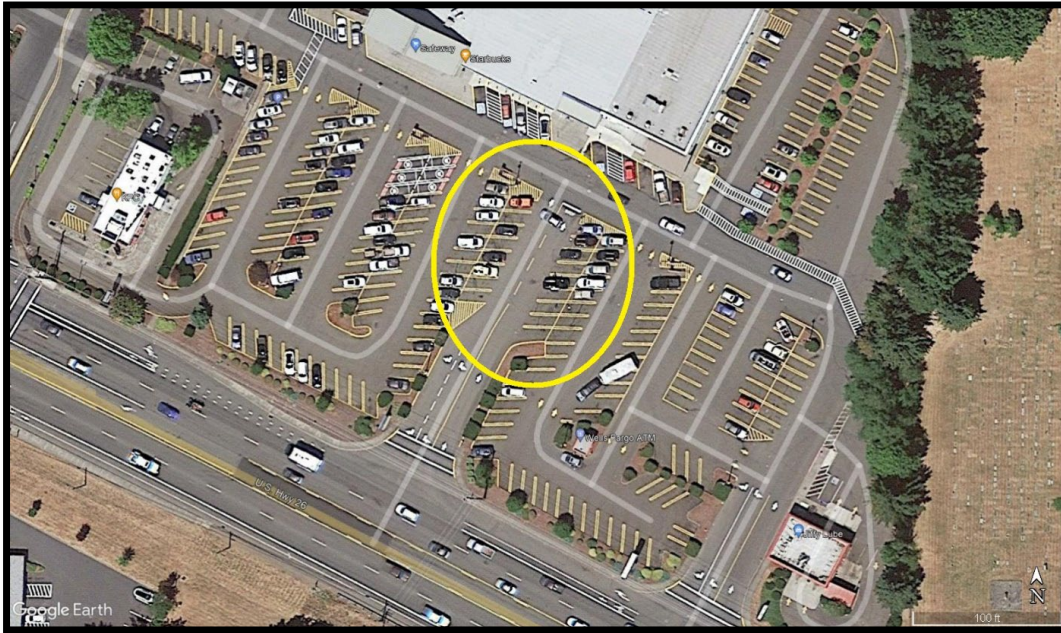
Figure 2: Drive Aisle Between Goodwill and Kate Schmitz Avenue



Figure 3: Drive Aisle Between Best Western Sandy Inn and McDonald's Restaurant



Figure 4: Drive Aisle Between Highway 26 and Safeway





**EXHIBIT K**  
**TERAGAN**  
**& ASSOCIATES, INC.**  
ARBORICULTURAL CONSULTANTS

**MEMORANDUM**

**DATE:** April 14, 2022  
**TO:** Todd Hoffman  
**FROM:** Todd Prager, RCA #597, ISA Board Certified Master Arborist  
**RE:** Tree Plan for The Riffles Food Carts

---

**Summary**

This report includes tree removal, retention, and protection recommendations for the proposed The Riffles Food Carts project in Sandy, Oregon.

**Background**

Todd Hoffman is proposing to construct The Riffles Food Carts project at 37115 and 37133 Highway 26 in Sandy, Oregon. The preliminary site and grading plans with tree locations are provided in Attachment 1 and the inventory of existing trees is provided in Attachment 2.

The assignment requested of our firm for this project was to:

- Assess the trees within and near the development site;
- Identify the trees to be removed and retained; and
- Provide tree protection recommendations for the trees to be retained.

**Tree Assessment**

In March and June of 2021, I completed the inventory of existing trees at the site.

The complete inventory data for each tree is provided in Attachment 2 and includes the tree number, common name, scientific name, trunk diameter (DBH), crown radius, health condition, structural condition, pertinent comments, and whether it is an onsite 11-inch DBH or greater tree in good condition.<sup>1</sup>

The tree numbers in the inventory in Attachment 2 correspond to the tree numbers on the tree plan sheet C8 in Attachment 1. The trees were also tagged with their corresponding numbers in the field.

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<sup>1</sup> Section 17.102.50 of the City of Sandy Code requires three onsite trees over 11-inch DBH that are in good condition to be retained.

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*Teragan & Associates, Inc.*  
3145 Westview Circle • Lake Oswego, OR 97034  
Phone: 971.295.4835 • Fax: 503.697.1976  
Email: [todd@teragan.com](mailto:todd@teragan.com) • Website: [teragan.com](http://teragan.com)

## Tree Removal and Retention

This section of the report includes tree removal and retention recommendations based on the proposed site plan.

The standard tree protection requirements in the City of Sandy Code range from at least 10 feet from the trunks of retained trees (SDC 17.102.50.B.1) to five feet beyond the driplines (SDC 17.92.10.D) unless otherwise approved by the Planning Director.

A typical alternative minimum protection zone allows encroachments no closer than a radius from a tree of .5 feet per inch of DBH if no more than 25 percent of the critical root protection zone area (estimated at one foot radius per inch of DBH) is impacted. Figure 1 illustrates this concept.

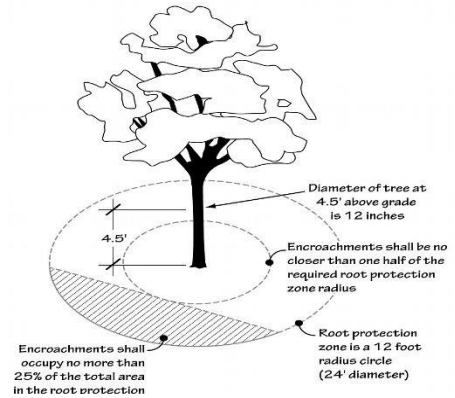


Figure 1: Alternative minimum protection zone

Using these criteria, while considering the tree conditions and their locations relative to construction and other site improvements, the following trees are proposed for removal:

- **Trees 11 through 16:** Parking lot construction at south-east portion of the site.
- **Tree 57:** Retaining wall and building construction.
- **Trees 60 and 61:** Driveway entry for new west parking lot.
- **Trees 63 through 67:** New west parking lot construction.

The remaining trees that were assessed within and adjacent to the site will be retained and protected according to the protection recommendations in the next section of this report.

## Tree Protection Recommendations

The trees to be retained can be adequately protected by placing tree protection fencing as shown in Attachment 1. The tree protection fencing will protect at least 75 percent of their critical roots zones and avoid any encroachments closer than a radius of .5 feet per inch of DBH to a tree to be retained. No grading, stockpiling, storage, disposal, or any other construction related activity shall occur in the tree protection zones unless specifically reviewed and approved by the project arborist.

The following additional protection measures shall apply to the trees at the site:

- **Tree Protection Fencing:** Establish tree protection fencing in the locations shown in Attachment 1. Required fencing shall be a minimum of six feet tall supported with metal posts placed no farther than ten feet apart installed flush with the initial undisturbed grade. Fence installation may be delayed until immediately after tree removal is complete.

- *Directional Felling:* Fell the trees to be removed away from the trees to be retained so they do not contact or otherwise damage the trunks or branches of the trees to be retained. No vehicles or heavy equipment shall be permitted within the tree protection zones during tree removal operations.
- *Stump Removal:* The stump of tree 11 to be removed from within the tree protection zone shall either be retained in place or carefully stump ground to protect the root systems of the trees to be retained.
- *Protect Tree Crowns:* Care will need to be taken to not contact or otherwise damage the crowns of the trees that may extend into the construction area.
- *Arborist Oversight:* The project arborist shall be onsite to oversee the excavation of the retaining wall adjacent to trees 1, 49, and 50 to ensure the proper protection or pruning of roots.
- *Soil Treatment for Trees 1 and 9:* Four inches of wood chips or compost should be placed within the critical root zones of trees 1 and 9 prior to construction to help retain soil moisture and compensate for root removal with construction.
- *Retain Sidewalks Adjacent to Trees:* The existing sidewalk adjacent to the preserved trees should be retained to provide additional protection of their root zones.
- *Soft Surface Path:* The soft surface path proposed within the tree protection zone shall be constructed by hand without excavation of the existing ground surface.
- *Sediment Fencing:* Shift sediment fencing to outside the tree protection zones. If erosion control is required inside the tree protection zones, use straw wattles to minimize root zone disturbance of the trees to be retained.

Additional tree protection recommendations for the trees to be retained are provided in Attachment 3.

## Conclusion

Fourteen (14) trees are proposed for removal and the remaining trees will be retained with construction of The Riffles Foot Carts project.

The trees to be retained will be adequately protected by adhering to the recommendations in this report.

Please contact me if you have questions, concerns, or need any additional information.

Sincerely,



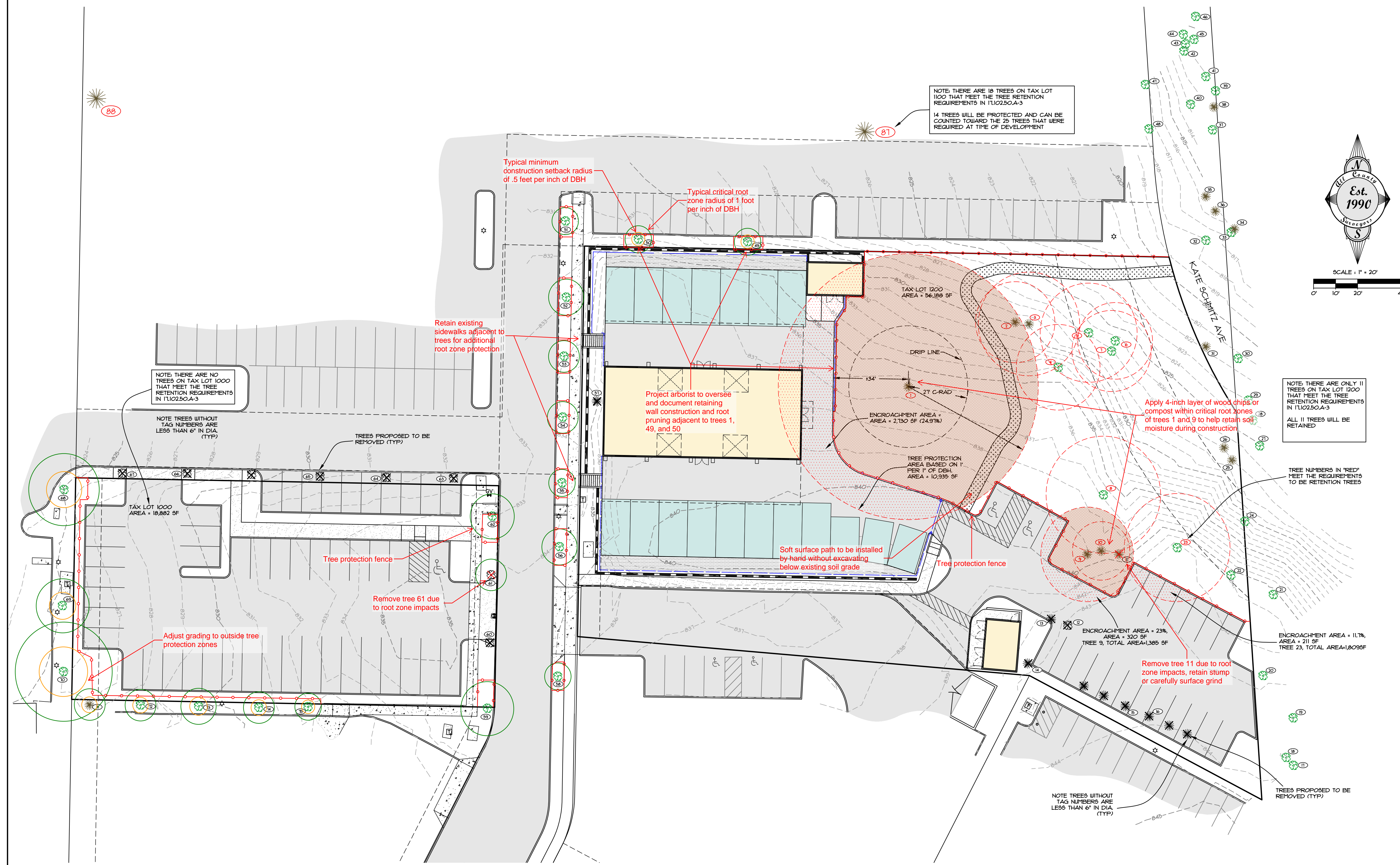
Todd Prager

*ASCA Registered Consulting Arborist #597  
ISA Board Certified Master Arborist, WE-6723B  
ISA Qualified Tree Risk Assessor  
AICP, American Planning Association*

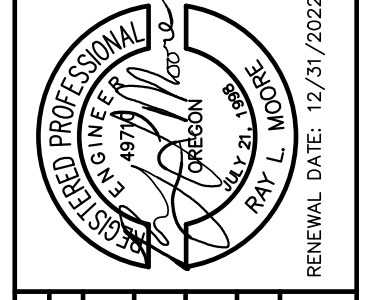
Attachments: Attachment 1 - Site and Grading Plans w/ Tree Removal, Retention and Protection  
Attachment 2 - Tree Inventory  
Attachment 3 - Tree Protection Recommendations  
Attachment 4 - Assumptions and Limiting Conditions

# THE RIFFLE FOOD CARTS

Attachment 1



BY	REVISION	SHEET
		<b>C8</b>
		OF <b>10</b>
DATE	DESIGNED: RLM	DRAWN: RLM
	CHECKED: DLH	APPROVED: RLM



SCALE	VERT. N/A	LEGAL
HORIZ. 1" = 20'	DATE: 3-18-22	TWP. RANGE
FILE: 21-032 - Planning.dwg		SECTION 14
		14 25 4E

PROJECT: **THE RIFFLE FOOD CARTS TREE SURVEY (ONSITE)**

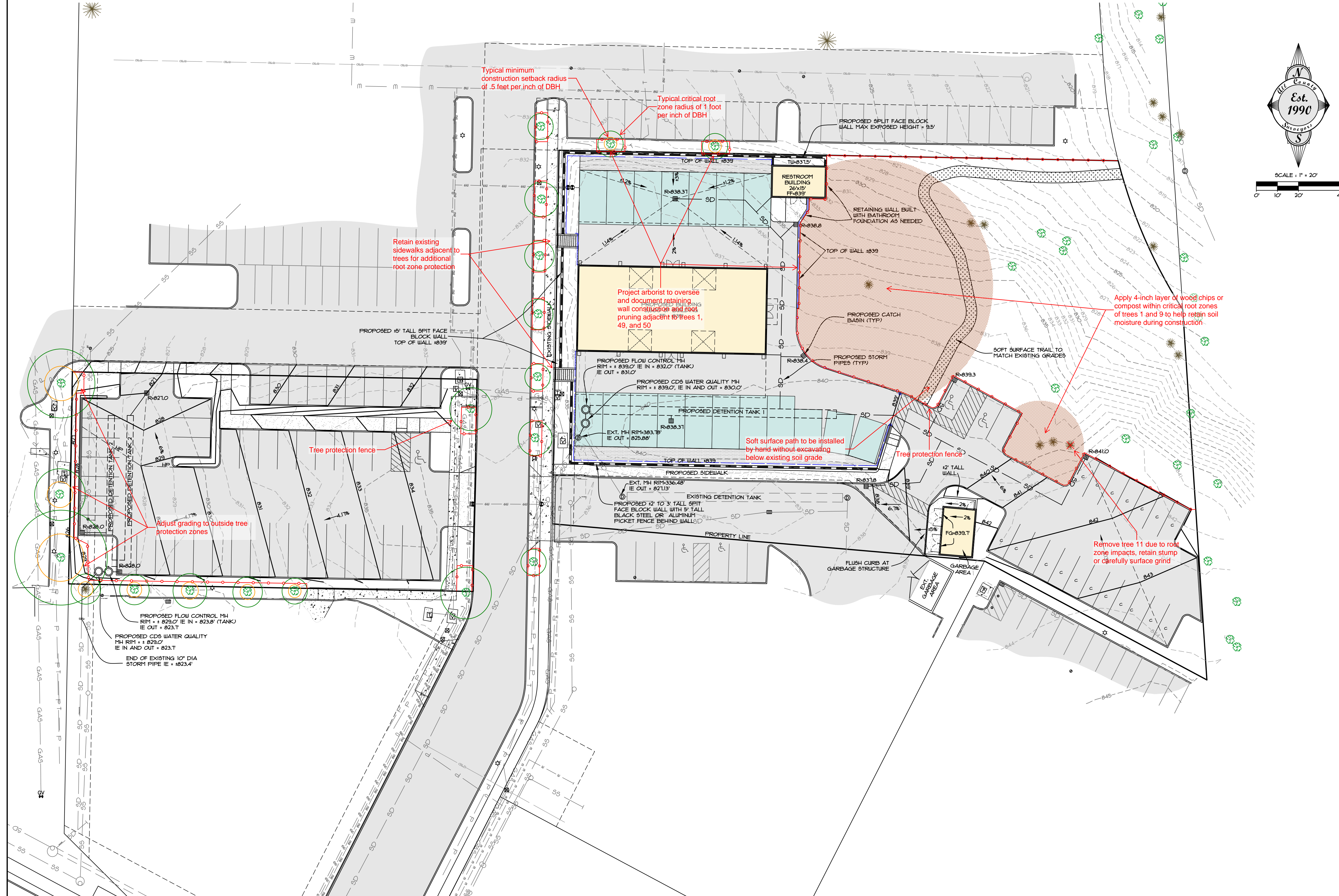
LOCATION: **TWIN CEDARS CENTER, SANDY, OREGON**

**Surveyors & Planners, Inc.**  
Surveying, Planning and  
Civil Engineering and  
P.O. Box 855 Sandy, OR 97055  
Phone: (503) 668-4730  
Fax: (503) 668-4730  
DATE OF PLOT: 3-18-22

CLIENT:  
**TODD HOFFMAN**  
PO BOX 1016  
SANDY, OR 97055  
PHONE: 503-863-1131

# THE RIFFLE FOOD CARTS

Attachment 1



BY	REVISION	SHEET
		<b>C7</b>
		OF <b>10</b>
DESIGNED: RLM	DRAWN: RLM	CHECKED: DLH
APPROVED: RLM		

DATE	NO.	REVISION
DATE	NO.	REVISION
3-18-22	1	PLANNING
3-18-22	2	LEGAL
3-18-22	3	TWP.
3-18-22	4	RANGE
3-18-22	5	SECTION
3-18-22	6	14
3-18-22	7	25
3-18-22	8	4E

**THE RIFFLE FOOD CARTS**  
PRELIMINARY GRADING  
AND STORMWATER PLAN

TWIN CEDARS CENTER, SANDY, OREGON

**Surveyors & Planners, Inc.**  
Surveying, Planning and  
Civil Engineering and  
P.O. Box 855 Sandy, OR 97055  
Phone: (503) 668-4730  
Fax: (503) 668-4730

CLIENT:  
TODD HOFFMAN  
PO BOX 1016  
SANDY, OR 97055  
PHONE: 503-863-1131



Attachment 2

Tree No	Common Name	Scientific Name	DBH <sup>1</sup>	C-Rad <sup>2</sup>	Condition <sup>3</sup>	Structure <sup>3</sup>	Tree Retention Option <sup>4</sup>	Comments
1	western redcedar	<i>Thuja plicata</i>	59	27	good	fair	yes	codominant at 6' with included bark, multiple leaders in crown
2	bigleaf maple	<i>Acer macrophyllum</i>	18	21	good	fair	yes	one sided
3	Douglas-fir	<i>Pseudotsuga menziesii</i>	23	19	good	fair	yes	one sided
4	bigleaf maple	<i>Acer macrophyllum</i>	19	20	good	fair	yes	one sided, upright competing leaders, sloughing bark at lower trunk
5	bigleaf maple	<i>Acer macrophyllum</i>	22	29	good	fair	yes	one sided, upright competing leaders, surface root damage
6	bigleaf maple	<i>Acer macrophyllum</i>	17	22	good	fair	yes	one sided
7	bigleaf maple	<i>Acer macrophyllum</i>	18,7	22	good	fair	yes	one sided, upright competing leaders, codominant at ground level, wound at lower trunk and surface roots
8	bigleaf maple	<i>Acer macrophyllum</i>	26	24	good	fair	yes	multiple upright leaders with included bark, bark damage at lower trunk
9	western redcedar	<i>Thuja plicata</i>	21	17	good	fair	yes	overtopped by adjacent trees
10	western redcedar	<i>Thuja plicata</i>	13	11	good	fair	yes	overtopped by adjacent trees, codominant at 7' with included bark
11	bigleaf maple	<i>Acer macrophyllum</i>	23,16, 16,15, 13	26	fair	fair	no	stump sprout with decay at lower trunk
12	black cottonwood	<i>Populus trichocarpa</i>	23	15	poor	poor	no	codominant at 18', east stem failed, visible decay
13	Douglas-fir	<i>Pseudotsuga menziesii</i>	27	27	fair	fair	no	moderately one sided, dead top
14	Douglas-fir	<i>Pseudotsuga menziesii</i>	23	15	fair	fair	no	lost top, moderately thin crown
15	Douglas-fir	<i>Pseudotsuga menziesii</i>	6	10	good	good	no	
16	incense cedar	<i>Calocedrus decurrens</i>	7	7	good	good	no	
17	black cottonwood	<i>Populus trichocarpa</i>	7,7,6	17	fair	fair	no	multiple leaders at ground level, one sided, significant lean southwest
18	black cottonwood	<i>Populus trichocarpa</i>	6	7	fair	fair	no	overtopped by adjacent trees
19	black cottonwood	<i>Populus trichocarpa</i>	16,12	18	fair	fair	no	codominant at ground level
20	black cottonwood	<i>Populus trichocarpa</i>	16,14	12	poor	poor	no	codominant at ground level, west stem failed at 6', east stem top failed
21	bigleaf maple	<i>Acer macrophyllum</i>	13	22	good	fair	yes	one sided
22	black cottonwood	<i>Populus trichocarpa</i>	23	24	fair	fair	no	moderately thin crown, large wound with decay at lower trunk
23	bigleaf maple	<i>Acer macrophyllum</i>	24	25	good	fair	yes	moderately one sided, multiple upright competing leaders
24	bigleaf maple	<i>Acer macrophyllum</i>	24	19	good	fair	yes	multiple upright competing leaders
25	Douglas-fir	<i>Pseudotsuga menziesii</i>	8	7	fair	fair	no	overtopped by adjacent trees, moderately suppressed
26	sweet cherry	<i>Prunus avium</i>	15	15	good	fair	no	one sided
27	sweet cherry	<i>Prunus avium</i>	13	12	good	fair	no	one sided, 35% live crown ratio
28	sweet cherry	<i>Prunus avium</i>	9	12	good	fair	no	one sided, marginal trunk taper
29	bigleaf maple	<i>Acer macrophyllum</i>	17	17	good	fair	yes	multiple upright competing leaders
30	sweet cherry	<i>Prunus avium</i>	17	13	good	fair	no	one sided
31	Douglas-fir	<i>Pseudotsuga menziesii</i>	17	15	good	fair	yes	moderately one sided
32	sweet cherry	<i>Prunus avium</i>	10	11	fair	fair	no	overtopped by adjacent trees, significant lean
33	sweet cherry	<i>Prunus avium</i>	6	6	fair	fair	no	overtopped by adjacent trees, significant lean
34	bigleaf maple	<i>Acer macrophyllum</i>	26,19, 11,11, 9,9	26	fair	fair	no	multiple leaders at ground level, one sided, smaller failed leaders
35	western redcedar	<i>Thuja plicata</i>	21	19	good	fair	yes	bowed lower trunk
36	sweet cherry	<i>Prunus avium</i>	9	10	fair	fair	no	one sided, overtopped by adjacent trees, significant lean
37	sweet cherry	<i>Prunus avium</i>	10	7	fair	fair	no	one sided, overtopped by adjacent trees, significant lean
38	Douglas-fir	<i>Pseudotsuga menziesii</i>	30	15	good	fair	yes	moderately one sided
39	sweet cherry	<i>Prunus avium</i>	6	6	fair	fair	no	one sided, overtopped by adjacent trees, significant lean
40	bigleaf maple	<i>Acer macrophyllum</i>	10	13	fair	fair	no	one sided, overtopped by adjacent trees, wound at lower trunk

TREE SURVEY COMPLETED BY: TERAGAN & ASSOCIATES, INC.

41	bigleaf maple	<i>Acer macrophyllum</i>	10	15	fair	fair	no	overtopped by adjacent trees, moderately suppressed
42	bigleaf maple	<i>Acer macrophyllum</i>	11	20	good	fair	yes	one sided, significant lean west
43	bigleaf maple	<i>Acer macrophyllum</i>	16	20	good	fair	yes	one sided, significant lean west
44	bigleaf maple	<i>Acer macrophyllum</i>	8	12	fair	fair	no	overtopped by adjacent trees, one sided, significant lean west
45	bigleaf maple	<i>Acer macrophyllum</i>	19	23	good	fair	yes	moderately one sided, multiple leaders
46	bigleaf maple	<i>Acer macrophyllum</i>	14	28	good	fair	yes	one sided
47	Freeman maple	<i>Acer x freemanii</i>	6	15	good	fair	no	one sided, multiple leaders
48	Freeman maple	<i>Acer x freemanii</i>	7	17	good	fair	no	one sided, multiple leaders, wounded at lower trunk
49	Norway maple	<i>Acer platanoides</i>	6	8	fair	fair	no	multiple leaders, significant sunscald
50	Norway maple	<i>Acer platanoides</i>	6	10	good	fair	no	multiple leaders, significant sunscald
51	Freeman maple	<i>Acer x freemanii</i>	6	9	good	fair	no	multiple leaders
52	Freeman maple	<i>Acer x freemanii</i>	8	11	good	fair	no	multiple leaders
53	Freeman maple	<i>Acer x freemanii</i>	7	9	good	fair	no	multiple leaders
54	Freeman maple	<i>Acer x freemanii</i>	7	9	good	fair	no	multiple leaders
55	Freeman maple	<i>Acer x freemanii</i>	6	7	good	fair	no	multiple leaders
56	Freeman maple	<i>Acer x freemanii</i>	8	15	good	fair	no	multiple leaders
57	Douglas-fir	<i>Pseudotsuga menziesii</i>	8	8	good	good	no	
58	Freeman maple	<i>Acer x freemanii</i>	6	8	good	fair	no	multiple leaders
59	Freeman maple	<i>Acer x freemanii</i>	12	12	good	fair	yes	multiple leaders
60	Freeman maple	<i>Acer x freemanii</i>	9	13	good	fair	no	multiple leaders
61	Freeman maple	<i>Acer x freemanii</i>	10	13	good	fair	no	multiple leaders
62	Freeman maple	<i>Acer x freemanii</i>	7	11	good	fair	no	multiple leaders
63	Freeman maple	<i>Acer x freemanii</i>	6	8	good	fair	no	multiple leaders
64	Freeman maple	<i>Acer x freemanii</i>	8	11	good	fair	no	multiple leaders
65	Freeman maple	<i>Acer x freemanii</i>	7	9	good	fair	no	multiple leaders
66	Freeman maple	<i>Acer x freemanii</i>	6	8	good	fair	no	multiple leaders
67	Freeman maple	<i>Acer x freemanii</i>	6	7	good	fair	no	multiple leaders
68	pin oak	<i>Quercus palustris</i>	16	20	good	fair	yes	branches with high aspect ratios, small twig dieback
69	linden	<i>Tilia sp.</i>	12	14	good	fair	yes	multiple leaders at 3' with included bark
70	pin oak	<i>Quercus palustris</i>	22	20	good	good	yes	
71	incense cedar	<i>Calocedrus decurrens</i>	7	9	good	good	no	
72	redbud	<i>Cercis canadensis</i>	7	10	good	fair	no	multiple leaders
73	redbud	<i>Cercis canadensis</i>	8	11	good	fair	no	multiple leaders
74	redbud	<i>Cercis canadensis</i>	7	9	good	fair	no	multiple leaders
75	redbud	<i>Cercis canadensis</i>	6	10	good	fair	no	multiple leaders

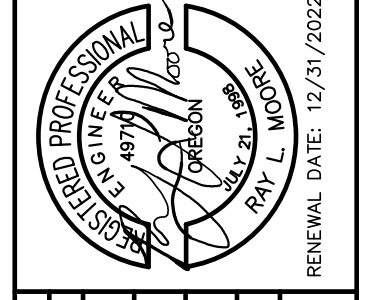
<sup>1</sup>DBH is the trunk diameter in inches measured in accordance with International Society of Arboriculture standards.

<sup>2</sup>C-Rad is the approximate crown radius in feet.

<sup>3</sup>Condition and Structure ratings range from very poor, poor, fair, to good.

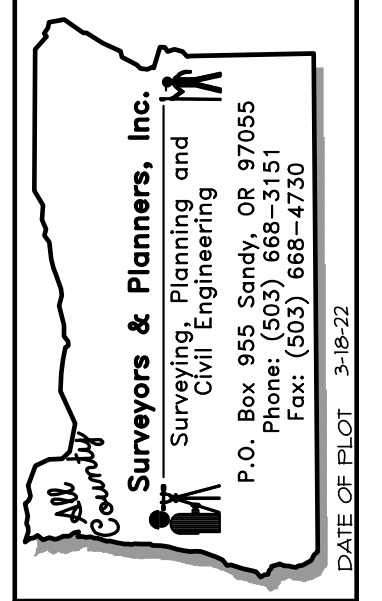
<sup>4</sup>Tree meets the requirements to be a Retention Tree Per 17.102.50.A-3 Trees proposed for retention shall be healthy and likely to grow to maturity. Per City of Sandy, only trees in good health condition are eligible to meet this standard.

BY	REVISION	SHEET
NO.	DATE	C10
DESIGNED: RLM	DRAWN: RLM	OF 10
CHECKED: DLH	APPROVED: RLM	



SCALE	VERT. N/A	DATE	FILE	SECTION	RANGE	TWP.	SECTION	DATE
1:20	3-18-22	21-032 - Planning.dwg	14	25	4E			12/21/2022

PROJECT: THE RIFFLE FOOD CARTS  
DETAILED TREE INFORMATION  
LOCATION: TWIN CEDARS CENTER, SANDY, OREGON



CLIENT: TODD HOFFMAN  
PO BOX 1016  
SANDY, OR 97055  
PHONE: 503-863-1131

### **Attachment 3 Additional Tree Protection Recommendations**

The following recommendations meet or exceed City of Sandy Code requirements:

#### Before Construction Begins

1. Notify all contractors of tree protection procedures. For successful tree protection on a construction site, all contractors must know and understand the goals of tree protection.
  - a. Hold a tree protection meeting with all contractors to explain the goals of tree protection.
  - b. Have all contractors sign memoranda of understanding regarding the goals of tree protection. The memoranda should include a penalty for violating the tree protection plan. The penalty should equal the resulting fines issued by the local jurisdiction plus the appraised value of the tree(s) within the violated tree protection zone per the current Trunk Formula Method as outline in the current edition of the *Guide for Plant Appraisal* by the Council of Tree & Landscape Appraisers. The penalty should be paid to the owner of the property.
2. Fencing
  - a. Trees to remain in the grove should be protected by installation of tree protection fencing as shown in Attachment 1.
  - b. The fencing should be put in place before the ground is cleared to protect the trees and the soil around the trees from disturbances.
  - c. Fencing should be established by the project arborist based on the needs of the trees to be protected and to facilitate construction.
  - d. Fencing should consist of 6-foot high steel fencing on concrete blocks or 6-foot metal fencing secured to the ground with 8-foot metal posts placed no farther than ten feet apart to prevent it from being moved by contractors, sagging, or falling down.
  - e. Fencing should remain in the position that is established by the project arborist and not be moved without approval from the project arborist until final project approval.
3. Signage
  - a. All tree protection fencing should have signage as follows so that all contractors understand the purpose of the fencing:

**TREE PROTECTION ZONE**

**DO NOT REMOVE OR ADJUST THE APPROVED  
LOCATION OF THIS TREE PROTECTION FENCING.**

Please contact the project arborist if alterations to the approved  
location of the tree protection fencing are necessary.

Todd Prager, Project Arborist - 971-295-4835

- b. Signage should be placed every 75-feet or less.

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*Teragan & Associates, Inc.*  
3145 Westview Circle • Lake Oswego, OR 97034  
Phone: 971.295.4835 • Fax: 503.697.1976  
Email: todd@teragan.com • Website: teragan.com

### During Construction

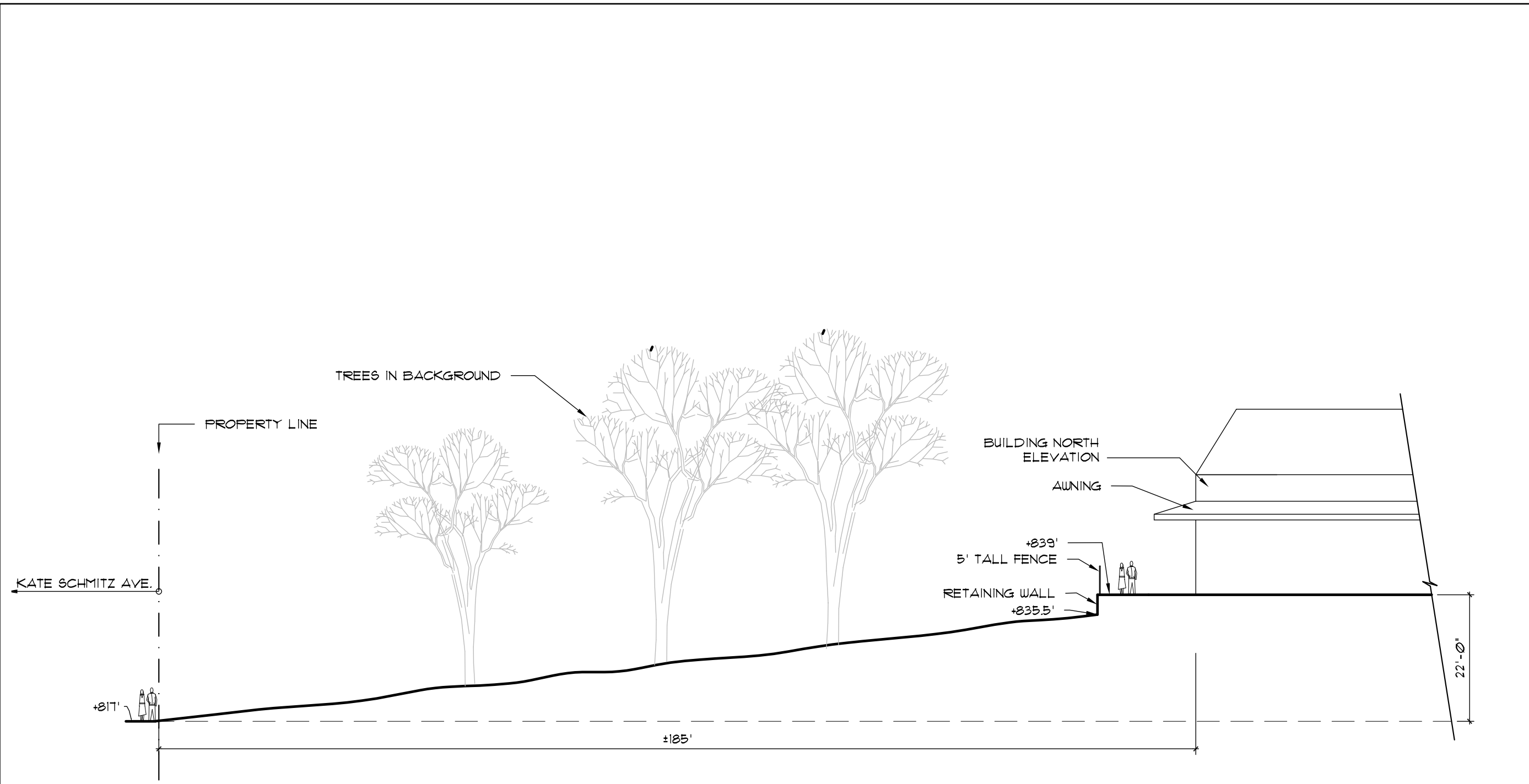
1. Protection Guidelines Within the Tree Protection Zones:
  - a. No new buildings; grade change or cut and fill, during or after construction; new impervious surfaces; or utility or drainage field placement should be allowed within the tree protection zones.
  - b. No traffic should be allowed within the tree protection zones. This includes but is not limited to vehicle, heavy equipment, or even repeated foot traffic.
  - c. No storage of materials including but not limiting to soil, construction material, or waste from the site should be permitted within the tree protection zones. Waste includes but is not limited to concrete wash out, gasoline, diesel, paint, cleaner, thinners, etc.
  - d. Construction trailers should not be parked/placed within the tree protection zones.
  - e. No vehicles should be allowed to park within the tree protection zones.
  - f. No other activities should be allowed that will cause soil compaction within the tree protection zones.
2. The trees should be protected from any cutting, skinning or breaking of branches, trunks or woody roots.
3. The project arborist should be notified prior to the cutting of woody roots from trees that are to be retained to evaluate and oversee the proper cutting of roots with sharp cutting tools. Cut roots should be immediately covered with soil or mulch to prevent them from drying out.
4. Trees that have roots cut should be provided supplemental water during the summer months.
5. Any necessary passage of utilities through the tree protection zones should be by means of tunneling under woody roots by hand digging or boring with oversight by the project arborist.
6. Any deviation from the recommendations in this section should receive prior approval from the project arborist.

### After Construction

1. Carefully landscape the areas within the tree protection zones. Do not allow trenching for irrigation or other utilities within the tree protection zones.
2. Carefully plant new plants within the tree protection zones. Avoid cutting the woody roots of trees that are retained.
3. Do not install permanent irrigation within the tree protection zones unless it is drip irrigation to support a specific planting or the irrigation is approved by the project arborist.
4. Provide adequate drainage within the tree protection zones and do not alter soil hydrology significantly from existing conditions for the trees to be retained.
5. Provide for the ongoing inspection and treatment of insect and disease populations that can damage the retained trees and plants.
6. The retained trees may need to be fertilized if recommended by the project arborist.
7. Any deviation from the recommendations in this section should receive prior approval from the project arborist.

**Attachment 4**  
**Assumptions and Limiting Conditions**

1. Any legal description provided to the consultant is assumed to be correct. The site plans and other information provided by Todd Hoffman and his consultants was the basis of the information provided in this report.
2. It is assumed that this property is not in violation of any codes, statutes, ordinances, or other governmental regulations.
3. The consultant is not responsible for information gathered from others involved in various activities pertaining to this project. Care has been taken to obtain information from reliable sources.
4. Loss or alteration of any part of this delivered report invalidates the entire report.
5. Drawings and information contained in this report may not be to scale and are intended to be used as display points of reference only.
6. The consultant's role is only to make recommendations. Inaction on the part of those receiving the report is not the responsibility of the consultant.
7. The purpose of this report is to:
  - Assess the within and near the development site;
  - Identify the trees to be removed and retained; and
  - Provide tree protection recommendations for the trees to be retained.



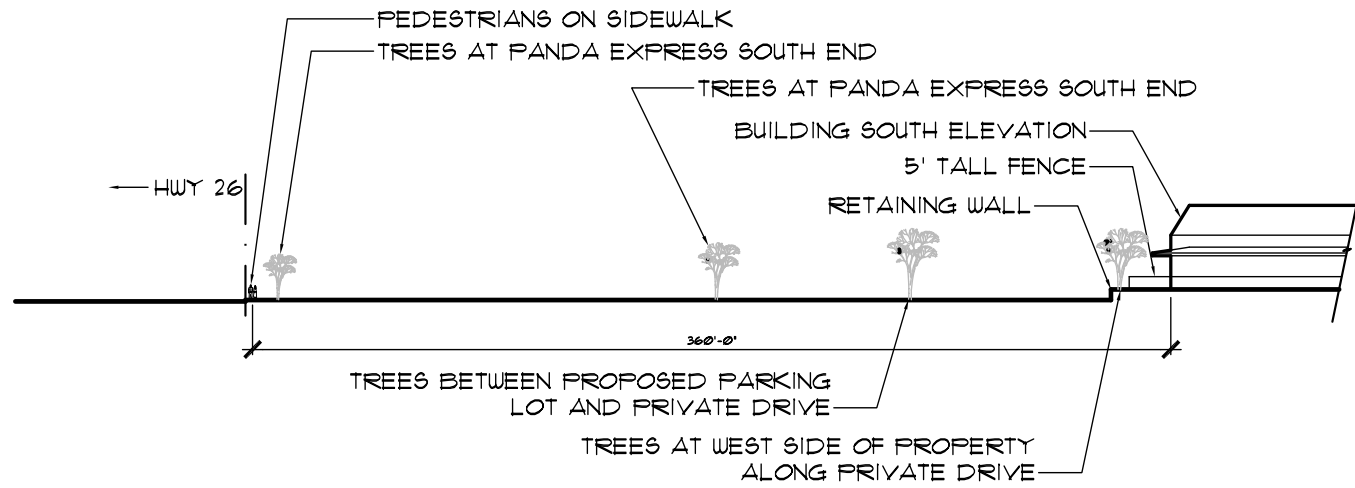
SITE ELEVATION-SECTION - A

# THE RIFFLE FOOD CART BUILDING

KEYSTONE Architecture Planning and Project Management LLC  
 T: 503-761-1362 F: 503-760-0534

1/16" = 1'-0"  
 4/19/22

# EXHIBIT L



SITE ELEVATION-SECTION - B

## THE RIFFLE FOOD CART BUILDING

KEYSTONE Architecture Planning and Project Management LLC  
T: 503-761-1362 F: 503-760-0534

1/64" = 1'-0"  
4/19/22

6/24/22, 8:19 AM

City of Sandy Mail - Request for Comment ~ The Riffles Food Cart Pod



Rebecca Casey <rcasey@ci.sandy.or.us>

## EXHIBIT M

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### Request for Comment ~ The Riffles Food Cart Pod

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**PUGH Mark \* DEQ** <Mark.PUGH@deq.oregon.gov>  
To: Rebecca Casey <rcasey@ci.sandy.or.us>

Fri, Jun 24, 2022 at 7:31 AM

Rebecca, I checked our databases that track environmental contamination sites and found no records for the property in question.

[Quoted text hidden]



## **EXHIBIT N**

# SANDY FIRE DISTRICT NO. 72

## Fire Prevention Division

### E-mail Memorandum

To: [planning@ci.sandy.or.us](mailto:planning@ci.sandy.or.us)  
From: Gary Boyles  
Date: June 24, 2022  
Re: The Riffle Food Cart Pod File No. 22-012

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This review is not intended to be a comprehensive analysis of all applicable code sections, nor shall this review nullify code requirements that are determined necessary during building permit review. Review and comments are based upon the current version of the Oregon Fire Code (OFC) as adopted by the Oregon Office of State Fire Marshal. The scope of this review is typically limited to fire apparatus access and water supply, although the applicant shall comply with all applicable OFC requirements. When buildings are completely protected with an approved automatic fire sprinkler system, the requirements for fire apparatus access and water supply may be modified as approved by the fire code official. References, unless otherwise specified, include provisions found in the Metro Code Committee's Fire Code Applications Guide, OFC Chapter 5 and Appendices B, C and D.

### COMMENTS:

#### General

1. Construction documents for proposed fire apparatus access, location of fire lanes, access easements, security gates across fire apparatus access roads and construction documents and hydraulic calculations for fire hydrant systems shall be submitted to the Fire District for review and approval prior to construction. For reference of requirements, applicants may review the [Fire Code Application Guide](#).
2. Where fire apparatus access roads or a water supply for fire protection are required to be installed, such protection shall be installed and made serviceable prior to and during the time of construction except where approved alternative methods of protection are provided.
3. Buildings shall be provided with approved address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property, including monument signs.



4. A key lock box for building and/or gate access may be required. If required, the Fire District uses KNOX brand boxes. To order a KNOX box, padlock, or key switch that is keyed for the Sandy Fire District, please visit Sandy Fire's website (<https://www.knoxbox.com/Products>) for ordering information.
5. An emergency vehicle access and maintenance agreement may be needed as a condition of approval
6. For private fire service water mains and/or fire hydrant systems, please contact Sandy Fire District when performing a pressure test to verify system integrity, when flushing the system, and conducting a flow test.

#### Fire Apparatus Access

**FIRE APPARATUS ACCESS ROAD** (as defined by the OFC). A road that provides fire apparatus access from a fire station to a facility, building or portion thereof. This is a general term inclusive of all other terms such as *fire lane*, public street, private street, parking lot lane and access roadway.

1. All private roads, bridges and driveways shall be subject to the Fire Code Application Guide [Fire Code Application Guide](#).
2. Fire apparatus access roads shall be within 150 feet of all portions of the exterior walls of the first story of any building as measured by an approved route around the exterior of the building. An approved turnaround that meets the Oregon Fire Code requirements will be required if the remaining distance to an approved intersecting roadway, as measured along the fire apparatus access road, is greater than 150 feet.
3. Dead end fire apparatus access roads in excess of 150 feet in length shall be provided with an approved turnaround that meets the Oregon Fire Code requirements.
4. Fire apparatus access roads shall have an unobstructed driving surface width of not less than 20 feet and an unobstructed vertical clearance of 13 feet 6 inches is to be maintained.
5. Facilities, buildings, or portions of buildings hereafter constructed shall be accessible to fire department apparatus by way of an approved fire apparatus access road with an asphalt, concrete, or other approved driving surface capable of supporting the imposed load of fire apparatus weighing up to 75,000 pounds (gross vehicle weight).
6. The inside turning radius and outside turning radius for fire apparatus access roads shall be not less than 28 feet and 48 feet respectively, measured from the same center point.
7. The installation of security gates or barricades across a fire apparatus access road shall comply with the following:
  - a. Gates serving commercial buildings shall be a minimum of 16 feet in width.
  - b. Gates or barricades shall be set back a minimum of 30 feet from the intersecting roadway.

- c. Gates shall be of the swinging or sliding type. Barricades using cables or similar methods may be approved.
  - d. Construction of gates or barricades shall be of materials that allows manual operation by one person.
  - e. Locking devices shall be approved.
8. Where fire apparatus roadways are not of sufficient width to accommodate parked vehicles and 20 feet of unobstructed driving surface, "NO PARKING-FIRE LANE" signs shall be placed on one or both sides of the roadway and in turnarounds as needed.

#### Firefighting Water Supplies

1. The minimum available fire-flow and flow duration for commercial and industrial buildings shall be as specified in OFC Appendix B. In no case shall the resulting fire-flow be less than 1,500 gpm at 20 psi residual.
2. Fire flow testing may be required to determine available fire flow. Testing will be the responsibility of the applicant. Applicant to contact the City of Sandy Public Works for testing information and requirements and notify the Fire Marshal prior to fire flow testing.
3. For commercial and industrial buildings served by a municipal water system where a portion of the building is more than 400 feet from a fire hydrant on a fire apparatus access road (600 feet for buildings equipped throughout with an approved automatic sprinkler system), as measured in an approved route around the exterior of the building, **on-site fire hydrants and mains shall be provided.**
4. **An automatic fire sprinkler system may be required if the fire area of the Group A-2 occupancy (dining facility) has an occupant load of 100 or more.**
5. If applicable, fire department connections (FDC) are required to be remote and shall be located within 100 feet of a fire hydrant. All FDC's shall be permanently labeled with appropriate address in which it serves and shall be accessible and visible from the fire apparatus access road.
6. The minimum number and distribution of fire hydrants shall be in accordance with City of Sandy requirements and OFC Appendix C.
7. Fire hydrants installed within the Sandy Fire District shall comply with the following requirements:
  - a. Flow requirements and location of fire hydrants will be reviewed and approved by Sandy Fire upon building permit submittal.
  - b. Each new fire hydrant installed shall be ordered in an OSHA safety red finish and have a 4-inch non-threaded metal faced hydrant connection with cap installed on the steamer port (4 ½-inch NST x 4-inch Storz Adaptor). If a new building, structure, or dwelling is already served by an existing hydrant, the existing**

**hydrant shall also be OSHA safety red and have a 4-inch non-threaded metal faced hydrant connection with cap installed.**

**NOTE:**

Sandy Fire District comments may not be all inclusive based on information provided. A more detailed review may be needed for future development to proceed.

**Please do not hesitate to contact Fire Marshal Gary Boyles at 503-891-7042 or [fmboyles.sandyfire@gmail.com](mailto:fmboyles.sandyfire@gmail.com) should you have any questions or concerns.**

## EXHIBIT O

June 24, 2022

CURRAN-McLEOD, INC.  
CONSULTING ENGINEERS

6655 S.W. HAMPTON STREET, SUITE 210  
PORTLAND, OREGON 97223

### MEMORANDUM

TO: Ms. Emily Meharg, Sr Planner  
City of Sandy

FROM: CURT McLeod, PE  
CURRAN-McLEOD, INC

AMM  
for CJM

RE: CITY OF SANDY  
THE RIFFLE FOOD CART POD REVIEW  
FILE No. 22-012 DR/VAR/TREE/DEV

We have reviewed the Riffles Food Cart Pod and have a few comments for the City to consider:

1. A fee in lieu charge or a non-remonstrance agreement should be required for development of the street frontage on Kate Schmitz Avenue. The property frontage is 76 feet long and the developer would be responsible for improving the roadway to local residential standards. The additional cost to construct the roadway to collector standards would be an SDC eligible expense. The engineer should provide a cost estimate for this frontage.
2. The developer should provide confirmation of the right to access the tax lots 1000 and 1200. The assessor map appears to indicate a 5.5' strip of land on Lot 9 separates tax lot 1000 from the 25' access easement. Verify the developer has the legal right to cross this 5.5' strip on Lot 9.
3. I anticipate all utilities are private, so we have no comment. If they are public, we would recommend the CDS manhole at detention pipe No. 1 be relocated from under the food cart No. 8 to ensure access for maintenance.
4. The stormwater report is acceptable, however, the developer needs to also verify the capacity of the existing stormwater system. Even though the post developed runoff is less than the predeveloped runoff, the post developed runoff enters the conveyance system whereas the predeveloped flow does not.
5. Regarding the traffic impact study, the driveway to the shopping center operates at a LOS F with existing conditions and at buildout, which is typically an unacceptable service level. Is this acceptable because it is a private shopping center or is that typical for a commercial center?
6. Regarding lighting, if the path to Kate Schmitz will be built with the development, then path lighting should be installed, or a conduit installed to add lighting when the path is put in service.

Let me know if you have questions.

PHONE: (503) 684-3478

E-MAIL: [cmir@curran-mcleod.com](mailto:cmir@curran-mcleod.com)

FAX: (503) 624-8247

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**EXHIBIT P**

# **CERTIFIED ARBORIST REPORT**

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**Oregon Tree Care**

PO Box 13068  
Portland, OR 97213

971.230.4003 (office)  
503.905.0605 (fax)

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06.28.2022

**City of Sandy**

39250 Pioneer Blvd  
Sandy, OR 97055

This report has been prepared to independently conduct a site visit and subsequent inventory and professional opinion for the existing trees located at 37115 and 37133 Highway 26 in Sandy, Oregon. As the techniques and terminology of the Arboriculture industry are continuously evolving, we have provided some brief descriptions to assist with the review and understanding of this report.

This report was completed, reviewed and approved by the undersigned Certified Arborist and owner of Earth Care Designs, LLC dba Oregon Tree Care.



**Damien Carré**

Certified Arborist, ISA # PN-6405A  
Certified Tree Risk Assessor 1717





## TERMINOLOGY

**Air Spade:** The Air Spade is an attachment added to the terminal end of an air compressor hose. The compressed air is directed into the soil, fracturing the soil and exposing the roots below the soil surface. This method is low-impact.

**Root Protection zone (RPZ):** Portion of the root system that is the minimum necessary to maintain vitality or stability of the tree. Encroachment or damage to the root protection zone will put the tree at risk of failure

**Pruning:** The act of sawing or cutting branches from a living tree generally involves thinning, deadwood removal and weight reduction to improve the overall health of a tree. The species and size/age of the tree will determine the proper amount of reduction and type of cuts performed.

**Tree Topping:** The practice of removing whole tops of trees or large branches and/or trunks from the tops of trees, leaving stubs or lateral branches that are too small to assume the role of a terminal leader. Topping is not a supported practice within the arboriculture industry standards.

**Vigor:** A measure of the increase in plant growth or foliage volume through time after planting.



## SITE REVIEW

Site visit was conducted on 06/27/2022. The objectives of the site visit were to provide an update of condition for all trees originally marked for retention per the report prepared by Teragan and Associates on 04/14/2022, assess the impact of trees growing in close proximity to an already established parking lot, and analyze the root protection zones of trees located in close proximity to the adjacent properties. The site review consisted of a Visual Ground Assessment of the existing trees. Measurements, identification and inventory number are included in this report along with a professional opinion.

## SITEMAP

**Please refer to pages C8 and C9 in the Civil Plans for Riffle Food Carts.**



## OREGON TREE CARE INVENTORY

Location: 37115 and 37133 Highway 26 in Sandy, Oregon.

Site Visit Date: 06/27/2022

Certified Arborist: Damien Carre, ISA # PN-6405A

ID #	Tree Common Name	Tree Scientific Name	Size in Inches (DBH)	Vigor	Comments
1	western redcedar	<i>Thuja Plicata</i>	59	good	
2	bigleaf maple	<i>Acer macrophyllum</i>	18	good	
3	Douglas-fir	<i>Pseudotsuga menziesii</i>	23	good	
4	bigleaf maple	<i>Acer macrophyllum</i>	19	good	
5	bigleaf maple	<i>Acer macrophyllum</i>	22	good	
6	bigleaf maple	<i>Acer macrophyllum</i>	17	good	
7	bigleaf maple	<i>Acer macrophyllum</i>	18, 7	good	
8	bigleaf maple	<i>Acer macrophyllum</i>	26	good	
9	western redcedar	<i>Thuja Plicata</i>	21	good	
10	western redcedar	<i>Thuja Plicata</i>	13	fair	Tree has a large wound 4' above ground. Poor structure.
21	bigleaf maple	<i>Acer macrophyllum</i>	13	good	
23	bigleaf maple	<i>Acer macrophyllum</i>	24	good	
24	bigleaf maple	<i>Acer macrophyllum</i>	24	good	
29	bigleaf maple	<i>Acer macrophyllum</i>	17	good	
31	Douglas-fir	<i>Pseudotsuga menziesii</i>	17	good	
35	western redcedar	<i>Thuja Plicata</i>	21	good	
38	Douglas-fir	<i>Pseudotsuga menziesii</i>	30	good	
42	bigleaf maple	<i>Acer macrophyllum</i>	11	good	

43	bigleaf maple	<i>Acer macrophyllum</i>	16	good	
45	bigleaf maple	<i>Acer macrophyllum</i>	19	good	
46	bigleaf maple	<i>Acer macrophyllum</i>	14	good	
59	Freeman maple	<i>Acer x freemanii</i>	12	good	
68	pin oak	<i>Quercus palustris</i>	16	good	
69	linden	<i>Tilia sp.</i>	12	good	
70	pin oak	<i>Quercus palustris</i>	22	good	
76	western redcedar	<i>Thuja Plicata</i>	13	good	There is no concern regarding the already established parking lot. This tree is expected to grow to maturity.
77	western redcedar	<i>Thuja Plicata</i>	14	good	There is no concern regarding the already established parking lot. This tree is expected to grow to maturity.
78	western redcedar	<i>Thuja Plicata</i>	12	good	There is no concern regarding the already established parking lot. This tree is expected to grow to maturity.
79	western redcedar	<i>Thuja Plicata</i>	12	good	There is no concern regarding the already established parking lot. This tree is expected to grow to maturity.
82	western redcedar	<i>Thuja Plicata</i>	13	good	
83	western redcedar	<i>Thuja Plicata</i>	11	good	
84	western redcedar	<i>Thuja Plicata</i>	11	good	
85	western redcedar	<i>Thuja Plicata</i>	14	good	
86	western redcedar	<i>Thuja Plicata</i>	11	good	
87	Incense cedar	<i>Calocedrus decurrens</i>	11	good	There is no concern regarding the already established parking lot. This tree is expected to grow to maturity.
88	Douglas-fir	<i>Pseudotsuga menziesii</i>	11	good	Property line is located 3 feet from the tree and is within the Minimum Root Zone. If not granted entry onto adjacent property, sufficient tree protection fencing could not be installed. Additionally, if the canopy were to be cut back to the property line

					by the adjacent owner, the tree would still be expected to grow to maturity. There is no concern regarding the already established parking lot.
89	Incense cedar	<i>Calocedrus decurrens</i>	12	good	Tree is located more than 1x from the property line. There is no concern regarding the already established parking lot.
90	Douglas-fir	<i>Pseudotsuga menziesii</i>	16	good	Property line is located 1 foot from the tree and is within the Minimum Root Zone. If not granted entry onto adjacent property, sufficient tree protection fencing could not be installed. Additionally, if the canopy were to be cut back to the property line by the adjacent owner, the tree would no longer be expected to grow to maturity. There is no concern regarding the already established parking lot.
91	Douglas-fir	<i>Pseudotsuga menziesii</i>	11	good	Property line is located 5 feet from the tree and is within the Minimum Root Zone. If not granted entry onto adjacent property, sufficient tree protection fencing could not be installed. Additionally, if the canopy were to be cut back to the property line by the adjacent owner, the tree would still be expected to grow to maturity. There is no concern regarding the already established parking lot.
92	Douglas-fir	<i>Pseudotsuga menziesii</i>	11	good	Property line is located 5 feet from the tree and is within the Minimum Root Zone. If not granted entry onto adjacent property, sufficient tree protection fencing could not be installed. Additionally, if the canopy were to be cut back to the property line by the adjacent owner, the tree would still be expected to grow to maturity. There is no concern regarding the already established parking lot.
93	Incense cedar	<i>Calocedrus decurrens</i>	11	good	Property Line is located 7 feet from the

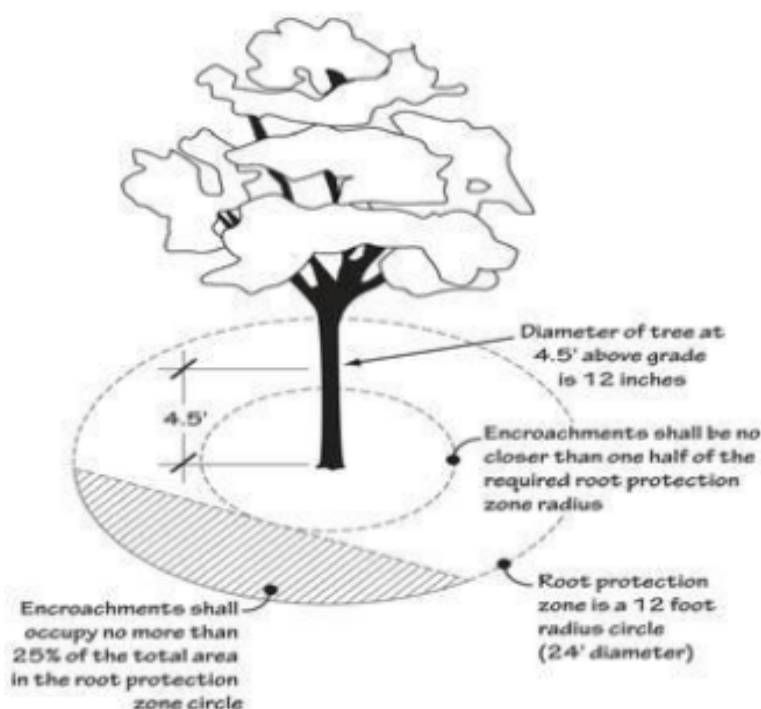
					tree and outside the minimum root zone. There is enough space to install sufficient tree protection fencing. Additionally, if the canopy were to be cut back to the property line by the adjacent owner, the tree would still be expected to grow to maturity. There is no concern regarding the already established parking lot.
94	Incense cedar	<i>Calocedrus decurrens</i>	11	good	Property Line is located 7 feet from the tree and outside the minimum root zone. There is enough space to install sufficient tree protection fencing. Additionally, if the canopy were to be cut back to the property line by the adjacent owner, the tree would still be expected to grow to maturity. There is no concern regarding the already established parking lot.
95	Douglas-fir	<i>Pseudotsuga menziesii</i>	15	good	Property line is located 0 feet from the tree and is within the Minimum Root Zone. If not granted entry onto adjacent property, sufficient tree protection fencing could not be installed. Additionally, if the canopy were to be cut back to the property line by the adjacent owner, the tree would no longer be expected to grow to maturity. There is no concern regarding the already established parking lot.

## CONSTRUCTION PHASE TREE PROTECTION

All remaining non-exempt trees over 12" DBH meet the City of Portland Prescriptive Path preservation guidelines with less than 25% encroachment into the RPZ of trees.

The Prescriptive Path method of tree protection establishes a root protection zone (see diagram at right) and blocks this zone from construction activities. The Prescriptive Path calls for the root protection zone to have a 1-foot radius from the center of the trunk per inch of tree diameter. For example, a 12-inch diameter tree would require a 12-foot radius root protection zone.

The root protection fencing must be a minimum of 6-foot high chain link fence secured with 8-foot metal posts, at the edge of the root protection zone. Existing structures and/or existing secured fencing at least 3.5 feet tall can serve as the required protective fencing. Place the yellow sign marked 'Tree Root Protection Zone' prominently on the fence designating the root protection zone and describing the penalties for violation. Install the fence before any ground disturbing activities take place, including clearing, grading, or construction. Keep the fence in place until final inspection.



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## REMOVING TREES WITHIN THE RPZ OF PROTECTED TREES:

There shall be no Heavy Duty equipment or materials within the RPZ of the tree, unless otherwise specified. Tree removal methods should be done to minimize any impact and or avoid compromising adjacent trees structural integrity and or vigor.

No Heavy Duty equipment or materials within the RPZ of the tree. No excavation of soil shall be done within the trees RPZ without Arborist supervision, demolition should be done by hand to minimize compaction of soil and tree roots.

Recommend Air Spading prior to any excavation. A Certified Arborist must be on site to monitor and/or perform any root pruning that may be deemed necessary.

## AIR SPADING AND ROOT PRUNING:

If, during construction, root pruning is required due to exposed or severed roots, the following process should be followed to prevent further damage. It is highly recommended that a Certified Arborist supervise and/or complete the root pruning. Additionally, pruning of the tree branches may be necessary to help compensate for any root loss.

- Air spading is a less invasive option available
- Do not use an excavator to pull or cut roots
- By hand, dig out and around the exposed or severed root prior to cutting •

Only use tree pruning tools with sharpened blades to provide a clean cut

- Tree pruning to compensate for potential root loss may be recommended before root pruning



### CERTIFIED ARBORIST ON SITE:

It is highly recommended to have a Certified Arborist on site when construction activities could cause root exposure or are within the RPZ of the tree.

### ANNUAL MONITORING:

All preserved trees should be monitored annually for changes and/or signs of stress after construction activities are completed.

**- END -**



## Limits of Assignment

Unless stated otherwise:

- 1) Information contained in this report covers only those trees that were examined and reflects the condition of those trees at the time of inspection; and
- 2) The inspection is limited to visual examination of the subject trees without dissection, probing, or coring unless explicitly specified. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the subject trees may not arise in the future.


## Methods

We used a Visual Tree Assessment (VTA) method to evaluate tree health and structure. VTA is based on the outward indications of tree stress and growth, as indicated by the formation of new tree parts, the shape of the new wood and the amount of live tissue. Trees adapt to current and past stress by growing wood to support themselves in an upright condition. This type of assessment is facilitated by our personal knowledge of tree growth as it relates to structural integrity.

## Assumptions & Limiting Conditions

1. Consultant assumes that any legal description provided to Consultant is correct and that title to property is good and marketable. Consultant assumes no responsibility for legal matters. Consultant assumes all property appraised or evaluated is free and clear, and is under responsible ownership and competent management.
2. Consultant assumes that the property and its use do not violate applicable codes, ordinances, statutes or regulations.
3. Although Consultant has taken care to obtain all information from reliable sources and to verify the data insofar as possible, Consultant does not guarantee and is not responsible for the accuracy of information provided by others.
4. Client may not require Consultant to testify or attend court by reason of any report unless mutually satisfactory contractual arrangements are made, including payment of an additional fee for such Services.



- 
5. Unless otherwise required bylaw, possession of this report does not imply right of publication or use for any purpose by any person other than the person to whom it is addressed,without the prior express written consent of the Consultant.
  6. Unless otherwise required bylaw, no part of this report shall be conveyed by any person, including the Client, the public through advertising, public relations, news,sales or other media without the Consultant's prior express written consent.
  7. This report and any values expressed herein represent the opinion of the Consultant, and the Consultant's fee is in no way contingent upon the reporting of a specific value, a stipulated result, the occurrence of a subsequent event or upon any finding to be reported.
  8. Sketches, drawings and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys. The reproduction of any information generated by architects, engineers or other consultants and any sketches, drawings or photographs is for the express purpose of coordination and ease of reference only. Inclusion of such information on any drawings or other documents does not constitute a representation by Consultant as to the sufficiency or accuracy of the information.
  9. Unless otherwise agreed, (1) information contained in this report covers only the items examined and reflects the condition of the those items at the time of inspection; and (2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing,climbing, or coring. Consultant makes no warranty or guarantee, express or implied that the problems or deficiencies of the plans or property in question may not arise in the future.
  10. Loss or alteration of any part of this Agreement invalidates the entire report.

- END -

7/1/22, 2:31 PM

City of Sandy Mail - Request for Comment ~ The Riffles Food Cart Pod



## EXHIBIT Q

Rebecca Casey <[rcasey@ci.sandy.or.us](mailto:rcasey@ci.sandy.or.us)>

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### Request for Comment ~ The Riffles Food Cart Pod

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Greg Brewster <[gbrewster@ci.sandy.or.us](mailto:gbrewster@ci.sandy.or.us)>

Fri, Jul 1, 2022 at 2:11 PM

To: Rebecca Casey <[rcasey@ci.sandy.or.us](mailto:rcasey@ci.sandy.or.us)>

Cc: [pugh.mark@deq.state.or.us](mailto:pugh.mark@deq.state.or.us), [wistar.gil@deq.state.or.us](mailto:wistar.gil@deq.state.or.us), Mike.PINNEY@deq.oregon.gov

Hi Rebecca,

It looks like they stated that in the narrative that they will comply with the broadband requirements, so I think the only thing we need to have is:

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SandyNet shall receive a set of PGE utility and street/sidewalk lighting plans to design and return a SandyNet broadband deployment plan to overlay in the dry utility shared trench. SandyNet will provide requirements for layout and acceptable materials for the developer/contractor. SandyNet should be contacted after installation of infrastructure and coordinated for on site inspection before backfilling the common trench. Please send plans to Greg Brewster for SandyNet design to [gbrewster@ci.sandy.or.us](mailto:gbrewster@ci.sandy.or.us), 503-953-4604. On site contact for general questions and inspection will be Ron Yow, [ryow@ci.sandy.or.us](mailto:ryow@ci.sandy.or.us), 541-514-9771.

Thanks,

Greg Brewster

[Quoted text hidden]

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IT Director/SandyNet General Manager

City of Sandy/SandyNet

SandyNet: 503-668-2923

Desk Phone: 503-489-0937



## EXHIBIT R

DATE: July 05, 2022  
REQUEST: The Riffles Food Carts, Transportation Review  
FILE NO: 22-012 DR/VAR/TREE/DEV  
REVIEWER: Dock Rosenthal, PE, DKS Associates

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DKS Associates has reviewed the traffic impact analysis<sup>1</sup> and site plan for the Riffles Food Carts. The proposed development application includes 18 food cart pods, a 3,600 square foot building for shared dining space, and off-street parking. The project site is located north of US 26, east of Industrial Way and west of Kate Schmitz Avenue within the Twin Cedars Center.

The general comments and listing of recommended conditions of approval are based on a review of the impact study and site plan.

### DEVELOPMENT TRANSPORTATION IMPACT REVIEW

Key comments and issues related to the proposed development's transportation impact analysis include:

#### Existing

- Study Intersections
  - Industrial Way and US 26
  - Shopping center access at US 26
- Both study intersections operate at an acceptable volume to capacity ratios during the 2021 AM and PM peak hours
- Crash data from January 2015 to December 2019 was analyzed, no systemic safety issues were identified.

#### Future (2023) Background Condition

- A growth rate of 1.9476 percent per year was applied to the existing 2021 volumes to account for background growth.

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<sup>1</sup> The Riffles Food Carts, Lancaster Mobley, March 7, 2022.

- Both study intersections operate at an acceptable volume to capacity ratios during the 2023 AM and PM peak hours

#### **Future (2023) Project Condition**

- Due to a low volume of studies for ITE Trip Generation Code 926, the trip generation information was supplemented using code 930, Fast Casual Restaurant, 932, High-turnover (sit-down) restaurant, and 934, Fast-food restaurant with drive-through window.
  - A pass-by rate of 46 percent is used for the AM peak period and a rate of 49 percent is used for the PM peak period.
- The proposed project would result in additional vehicle trips: 12 (6 in/6 out) AM peak hour vehicle trips, 57 (34 in/23 out) PM peak hour vehicle trips and 566 weekday trips.
- 2023 Total Traffic Conditions - All study intersections would operate at an acceptable volume to capacity ratios with the addition of vehicle trips from the proposed project.
- An evaluation of traffic signal warrants at the shopping center access onto US 26 found that they were not met.
- Sight distance from the proposed parking lot driveway to the shopping center access road was not evaluated.

#### **Parking Stalls Response**

The applicant provided a response to concerns surrounding the 10 parking stalls on the north side of the proposed parking lot at 37115 US 26. Vehicles would enter and exit these stalls directly from the drive aisle. The City has requested the removal of these 10 parking stalls and the applicant's response does not demonstrate that the inclusion of the 10 stalls will not result in issues identified by the City.

### **RECOMMENDED CONDITIONS OF APPROVAL**

The following conditions of approval are recommended based on a review of the traffic impact study and site plan:

1. The development shall contribute System Development Charges toward citywide impacts.
2. The development shall remove the 10 parking stalls on the north side of the proposed parking lot at 37155 US 26. The parking layout shall be designed so that all parking maneuvers will be internal to the parcel.
3. Bicycle parking shall be provided per Sandy Development Code 17.98.20.
4. Page 20 of the study states that alternate mobility standards apply along US 26 between Orient Drive and Ten Eyck Road. No alternate mobility standards have been adopted and typical mobility standards apply. The study shall be updated as needed.



# Oregon

Kate Brown, Governor

## Department of Transportation

Region 1 Headquarters  
123 NW Flanders Street  
Portland, Oregon 97209  
(503) 731.8200  
FAX (503) 731.8259

### EXHIBIT S

July 8<sup>th</sup>, 2022

ODOT #12105

## Updated ODOT Response

<b>Project Name:</b> Riffles Food Carts	<b>Applicant:</b> Todd Hoffman/Paul and Lila Reed
<b>Jurisdiction:</b> City of Sandy	<b>State Highway:</b> US 26
<b>Site Address:</b> 37133 Hwy 26, Sandy, OR	

The site of this proposed land use action is adjacent to US 26. ODOT has permitting authority for this facility and an interest in ensuring that this proposed land use is compatible with its safe and efficient operation.

**Please direct the applicant to the District Contact indicated below to determine permit requirements and obtain application information.**

### COMMENTS/FINDINGS

The applicant proposes to construct Food Cart Pod with 18 food carts and a 3,600 SF beverage/dining area on TL 1200 with additional parking on TL 1000 (2S4E14BA), 377133 Hwy 26, Sandy, OR using the existing driveway (approach) to US26 (HWY 26) at MP 23.22. The proposed development has accesses to US 26.

ODOT has review the Traffic Impact Analysis for the proposed development and determined that the Change of Use criteria in [OAR 734-051-3020](#) are met and a new State Highway Approach Road Permit is required for access to the highway.

### Recommended Condition of Approval

#### Access to the State Highway

- Permit to Construct a State Highway Approach Road from ODOT for access to the state highway is required. Truck turning templates shall be provided as needed to ensure vehicles can enter and exit the approach safely. A sight distance evaluation shall be provided to demonstrate that adequate intersection sight distance is provided and meets ODOT sight distance standards. Site access to the state highway is regulated by [OAR 734.51, Application for a Permit to Construct a State Highway Approach](#). Note: It may take **2 to 3 months** to process a State Highway Approach Road Permit.

**Please send a copy of the Land Use Notice to:** [ODOT\\_R1\\_DevRev@odot.state.or.us](mailto:ODOT_R1_DevRev@odot.state.or.us)

Development Review Planner: Marah Danielson	503.731.8258, <a href="mailto:marah.b.danielson@odot.state.or.us">marah.b.danielson@odot.state.or.us</a>
Traffic Contact: Avi Tayar, P.E.	503.731.8221 <a href="mailto:Abraham.tayar@odot.state.or.us">Abraham.tayar@odot.state.or.us</a>
District Contact: Robbie Cox	<a href="mailto:D2CAP@odot.oregon.gov">D2CAP@odot.oregon.gov</a>



# EXHIBIT T

1022 SW SALMON ST, SUITE 950 · PORTLAND, OREGON 97205 · USA · TELEPHONE 503 222 5757 · FAX 503 241 1514 · WWW.MCMARCHITECTS.COM

### TRANSMITTAL

DATE: April 26, 2005

DISTRIBUTION:

VIA:

File

TO: Mr. Tracy Brown  
Director of Planning & Development  
City of Sandy  
39250 Pioneer Blvd.  
Sandy, OR 97055

NUMBER OF PAGES TRANSMITTED: 7

PROJECT NUMBER: 20352

FILE NAME: Brown 04-26-05 trees.doc

PROJECT: Mt Hood Athletic Club

FROM: Chris Caruso

VIA: Fax 503-668-8714

COPIES	DATED	PAGE NO.	DESCRIPTION
1	04-25-05		Tree Covenant

### REMARKS:

Tracy,

Here is the tree covenant. I have sent the original to Paul for review and notarization. I hope to have the final document by the end of next week. The trees show up much better on the original document but there are 25 slated for conservation. I hope it meets your expectations. If not, I'll have to notify the lawyer immediately.

Have you come to a conclusion regarding the possible site/parking revisions? I would like to tell Paul and Lila something definitive this week. If you can send me something in writing, stating the City's position, that would be good.

Thanks as always.

After recording return to:

Perkins Coie, LLP  
1211 SW 5<sup>th</sup> Ave., Suite 1500  
Portland, Oregon 972104  
Attention: Steve Pfeiffer

This space reserved for recorder's use.

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### RESTRICTIVE COVENANT

THIS RESTRICTIVE COVENANT ("Covenant") is made as of April 27, 2005, by PAUL A. REED and LILA K. REED ("The Reeds") with respect to property they jointly own in the City of Sandy, Oregon.

#### RECITALS

A. The Reeds are the owners of an 8.45-acre parcel of property more particularly identified as Tax Lot 600 of Section 14, Township 2 South, Range 6 East of the Willamette Meridian, in the City of Sandy, Clackamas County, Oregon (the "Property").

B. The Property is being reviewed as part of an application before the City of Sandy for subdivision into six lots that will comprise the Twin Cedars Subdivision. The subdivision application is being processed as City of Sandy File No. 04-059 SUB. Pursuant to a condition of approval imposed by the City of Sandy as part of that review, the Reeds are required to record a restrictive covenant against the the Property that will protect certain specified trees on the Property. The purpose of this Covenant is to prohibit removal of the specified trees, except under certain circumstances more particularly described below.

#### COVENANT

NOW, THEREFORE, the Reeds declare and covenant:

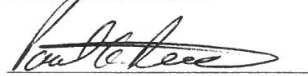
1. Neither the Reeds nor any future owner of the Property shall remove any of the 25 trees on the Property identified on the attached Exhibit A (the "Trees") without

first obtaining approval from the City of Sandy pursuant to Sandy Development Code Chapter 17.102.30, or any successor chapter or ordinance thereto.

2. Removal of any of the Trees shall only be allowed upon a determination by a qualified professional that the Tree is diseased, dead, dying, or otherwise hazardous to persons or property in a way that can only be remediated by complete removal of the Tree.

3. This Covenant is intended to and shall run with the land, and shall be binding upon the Reeds, their successors in interest and all future owners of the Property.

PAUL A. REED



Paul A. Reed

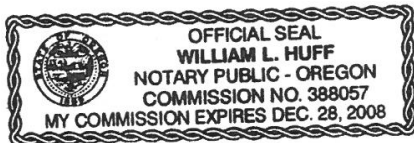
LILA K. REED

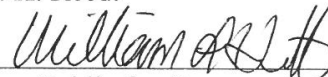


Lila K. Reed

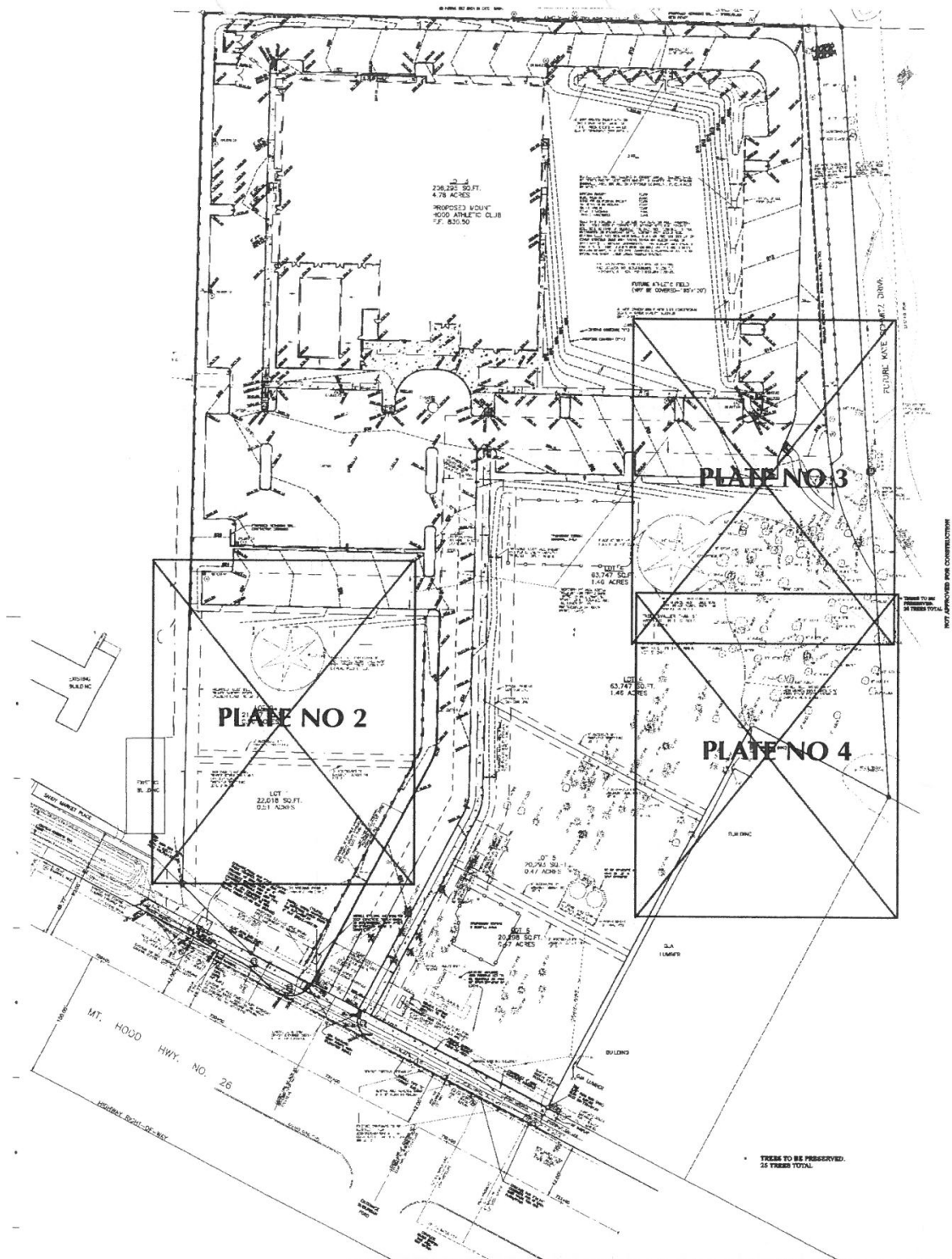
STATE OF OREGON     )  
  ) ss.  
County of CLACKAMAS )

The foregoing instrument was acknowledged before me this 27<sup>th</sup> day of APRIL, 2005, by Paul A. Reed and Lila K. Reed.

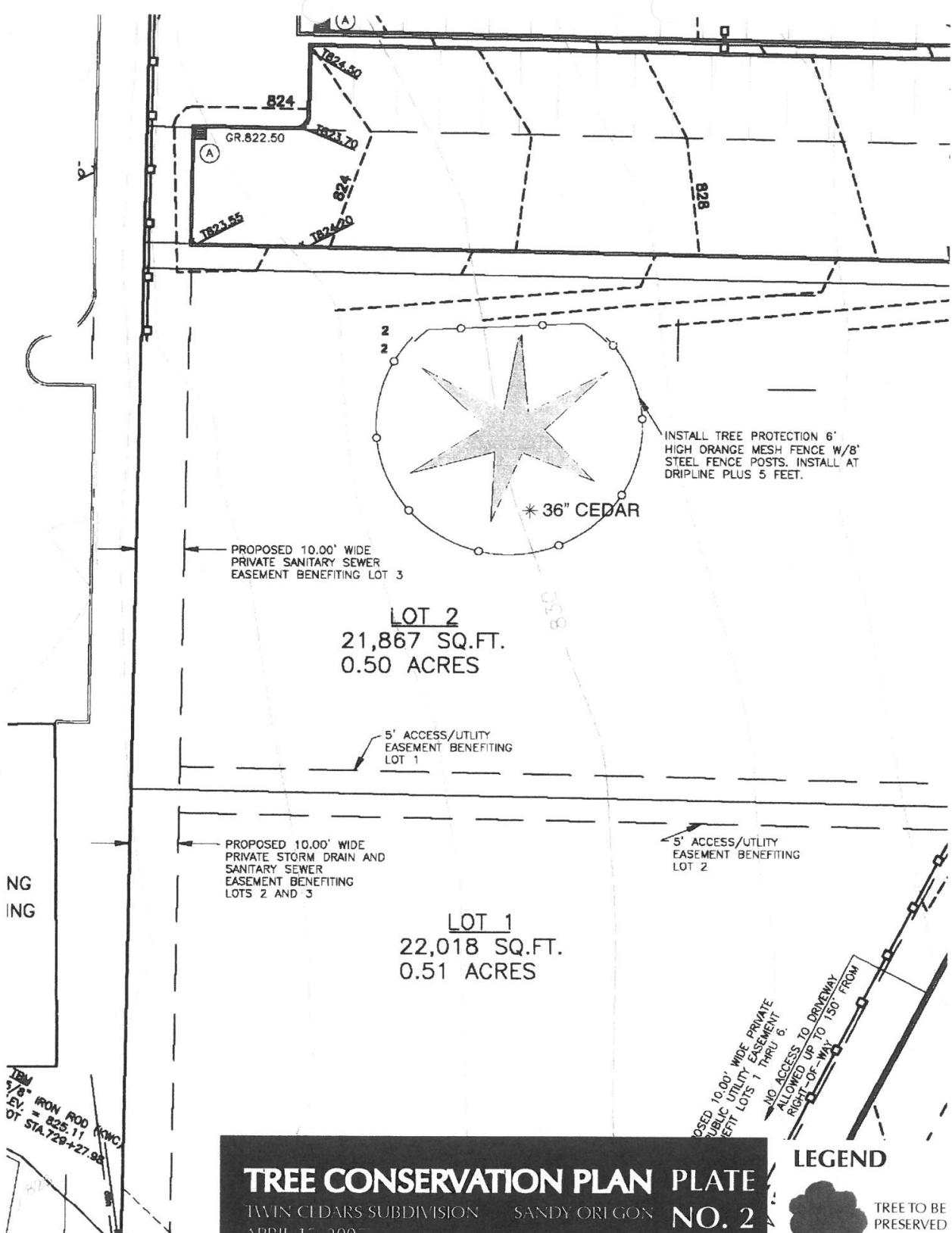


  
\_\_\_\_\_  
Notary Public for Oregon  
My Commission Expires: 12-28-2008





**TREE CONSERVATION PLAN PLATE**  
 TWIN CEDARS SUBDIVISION SANDY OREGON **NO. 1**  
 APRIL 15, 2005



**TREE CONSERVATION PLAN PLATE NO. 2**  
 TWIN CEDARS SUBDIVISION SANDY OREGON  
 APRIL 15, 2005

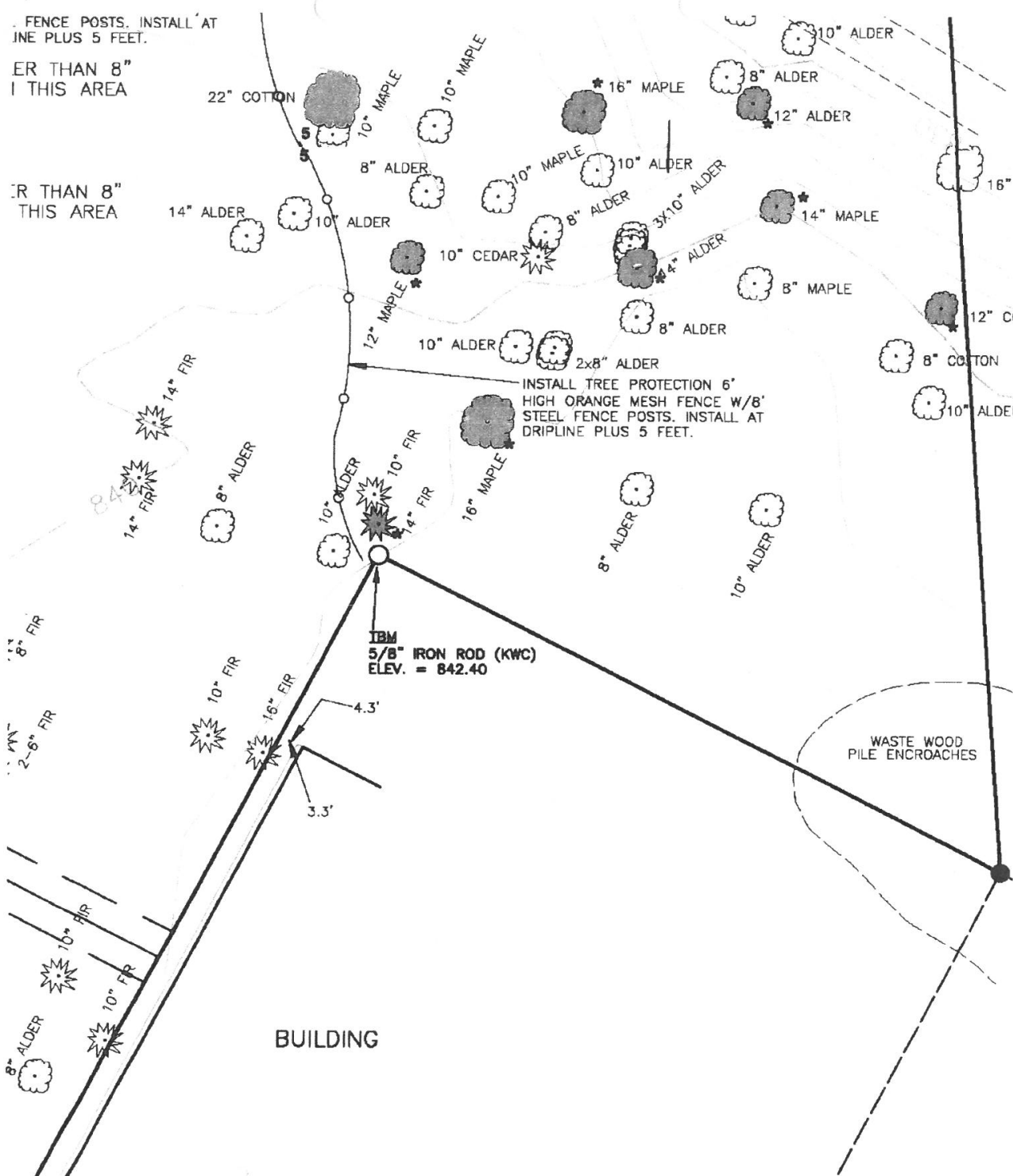
**LEGEND**  
 TREE TO BE PRESERVED



FENCE POSTS. INSTALL AT  
LINE PLUS 5 FEET.

ER THAN 8"  
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ER THAN 8"  
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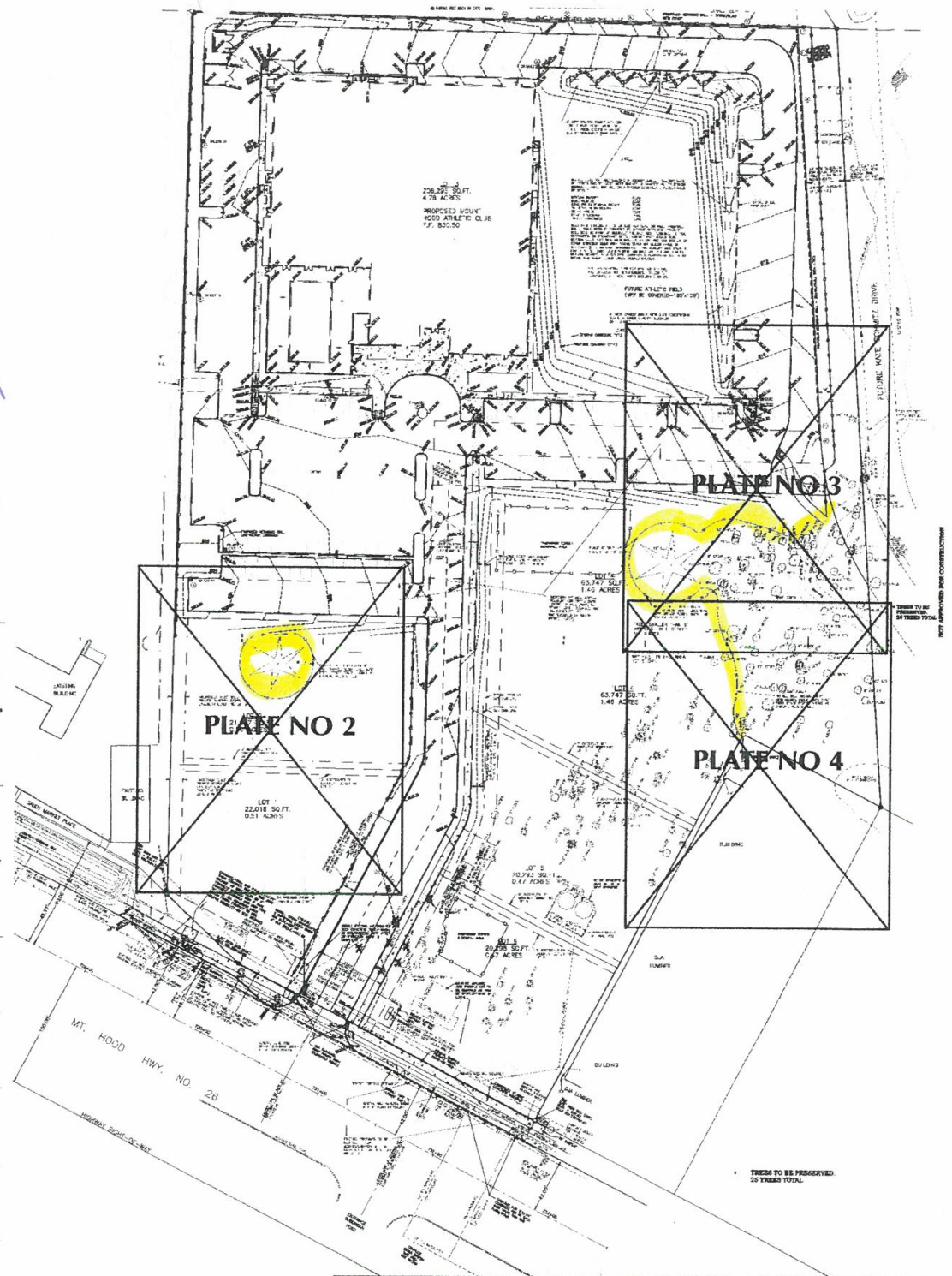


**TREE CONSERVATION PLAN PLATE**  
TWIN CEDARS SUBDIVISION SANDY OREGON **NO. 4**  
APRIL 15, 2005

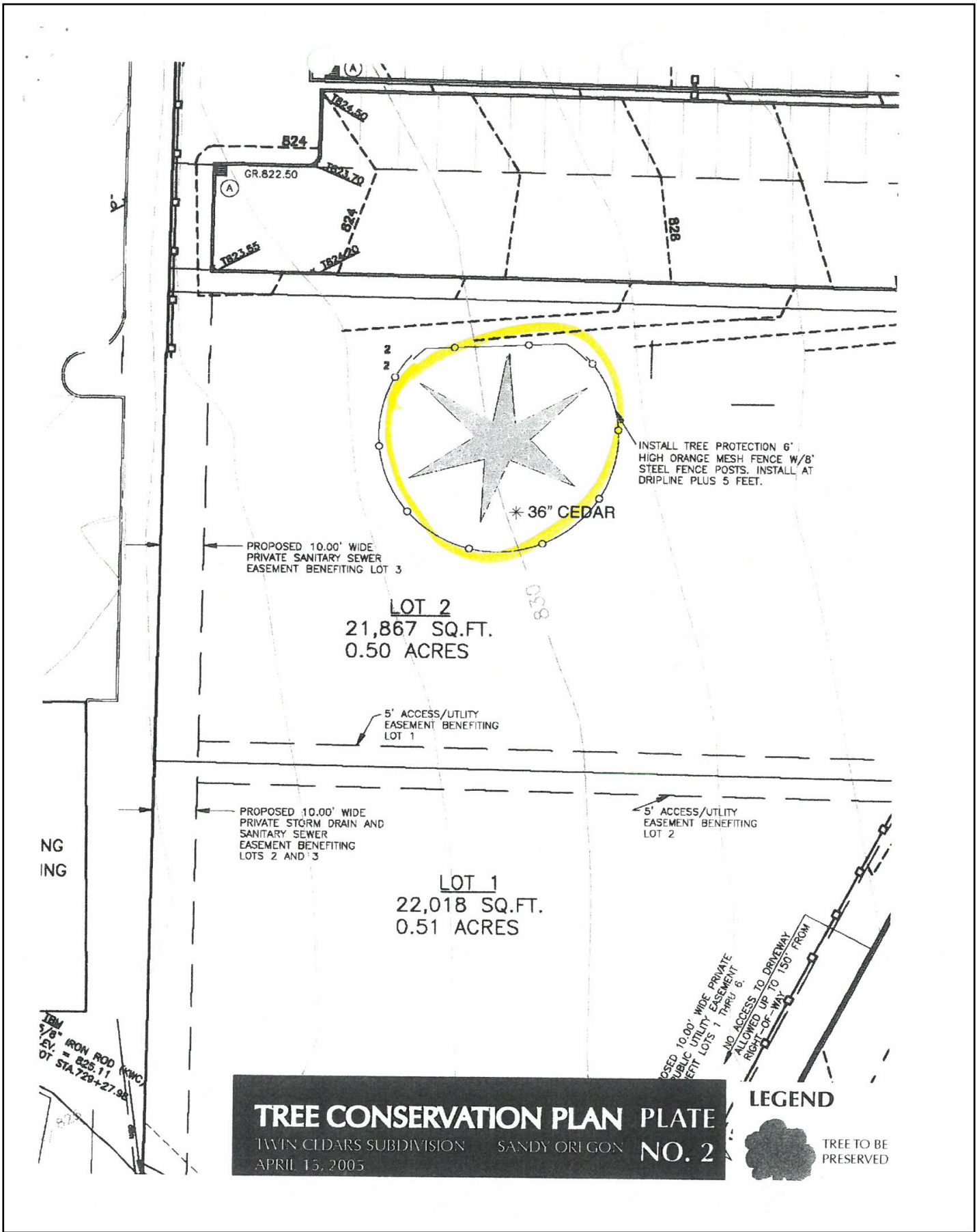
**LEGEND**



Handwritten scribbles in blue ink on the left side of the plan.



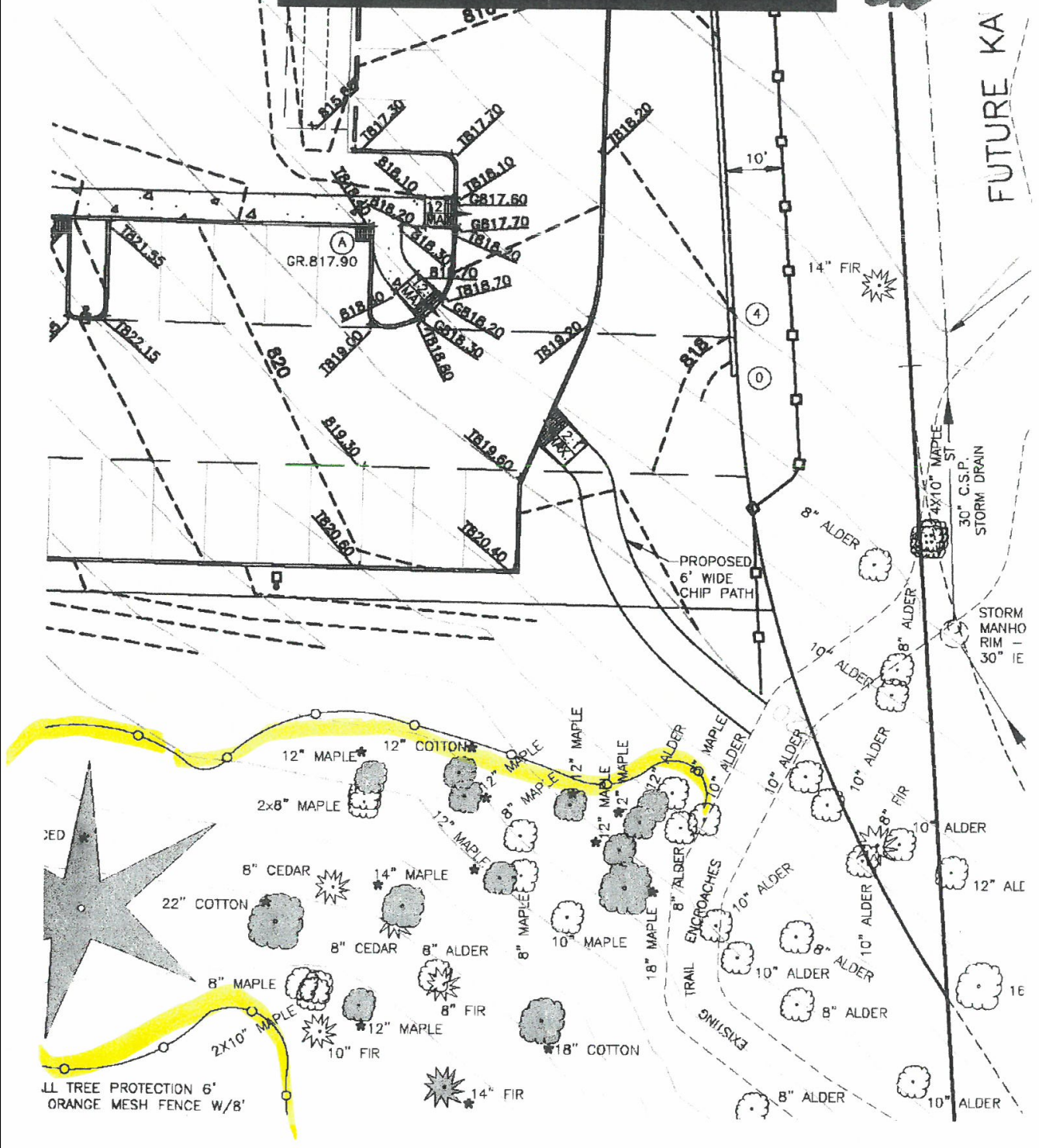
**TREE CONSERVATION PLAN PLATE**  
TWIN CEDARS SUBDIVISION SANDY OREGON **NO. 1**  
APRIL 15, 2005

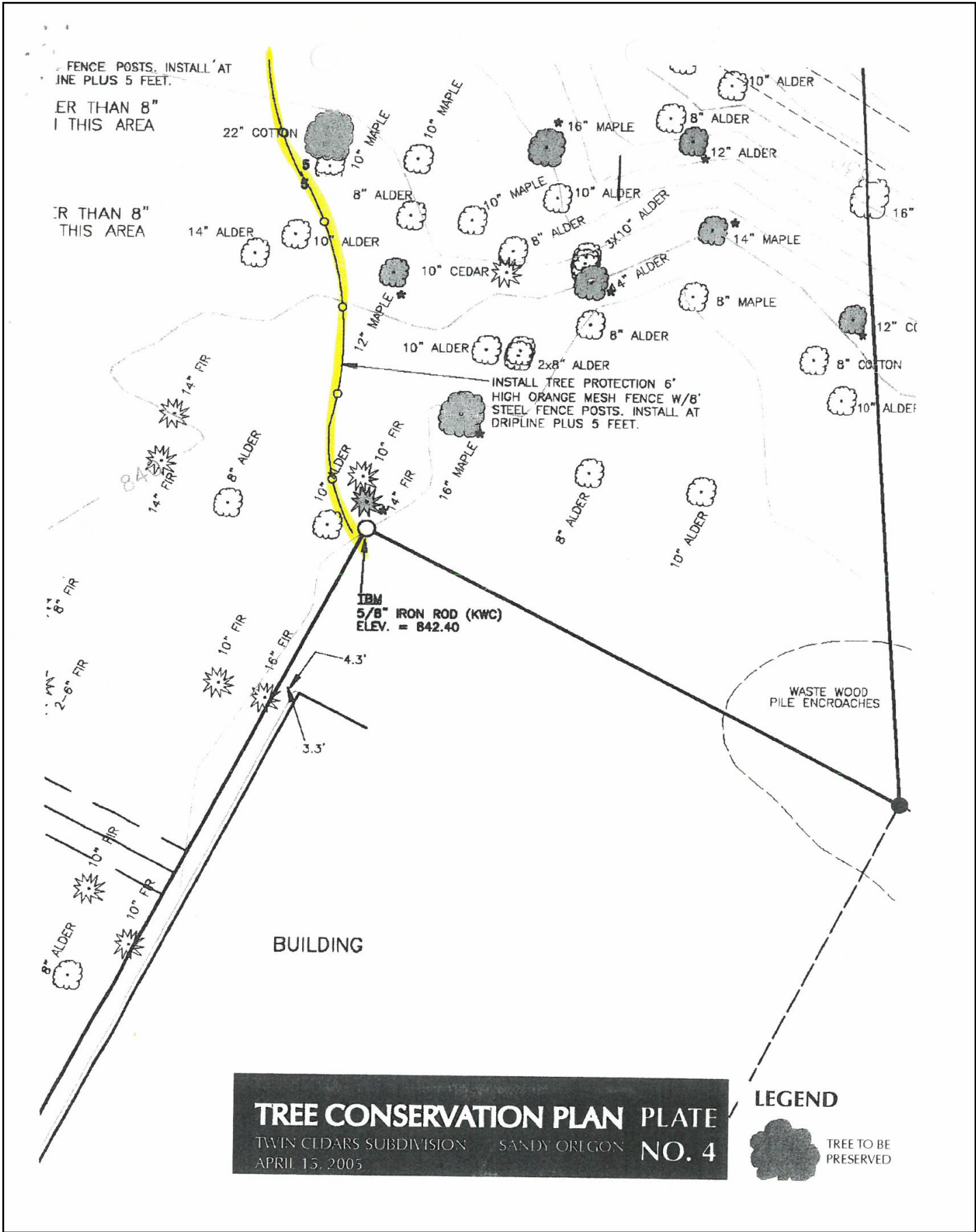


# TREE CONSERVATION PLAN PLATE

TWIN CEDARS SUBDIVISION SANDY OREGON NO. 3  
APRIL 15, 2005

## LEGEND





**TREE CONSERVATION PLAN PLATE**  
 TWIN CEDARS SUBDIVISION SANDY OREGON NO. 4  
 APRIL 15, 2005

**LEGEND**

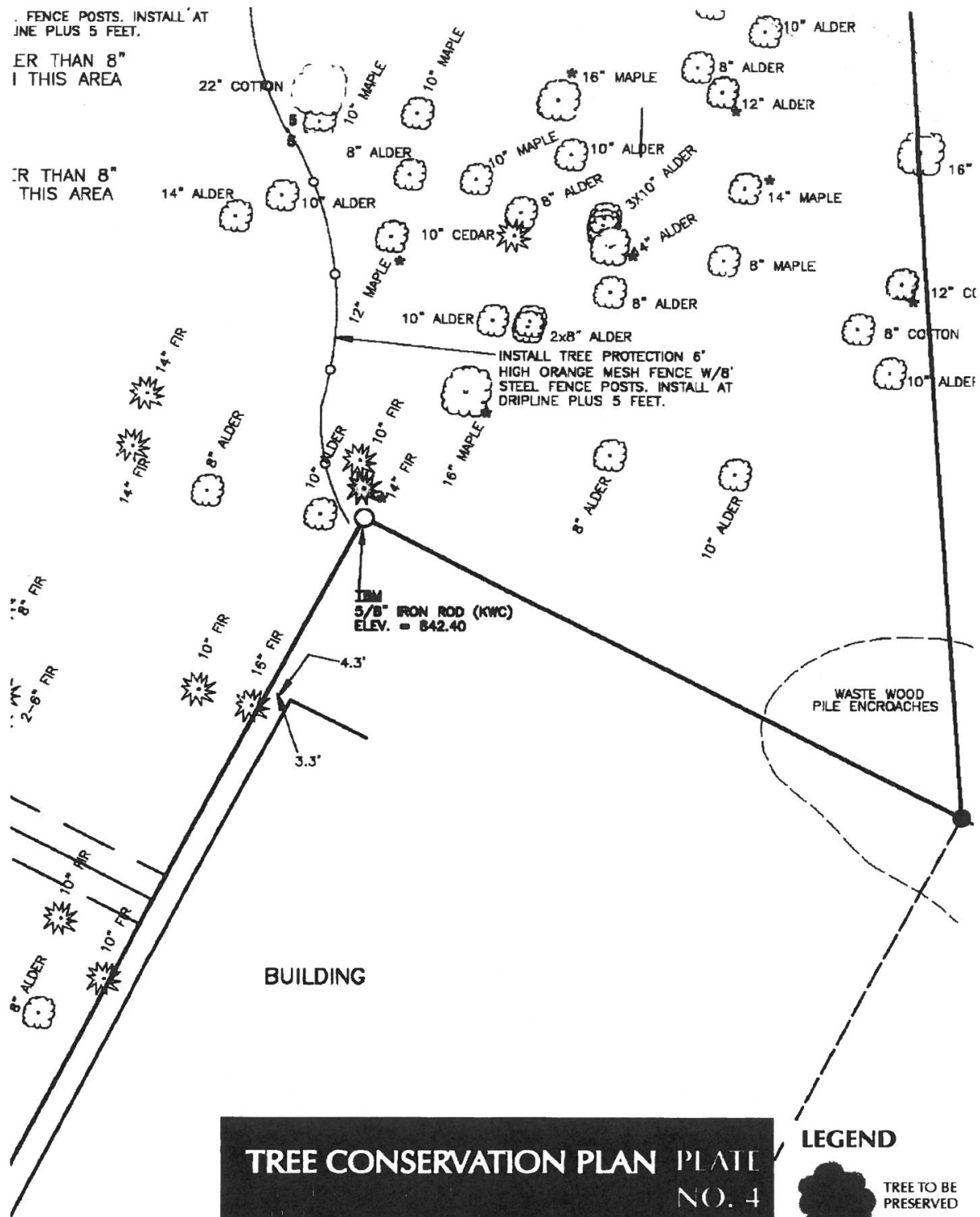




FENCE POSTS. INSTALL AT  
LINE PLUS 5 FEET.

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THIS AREA

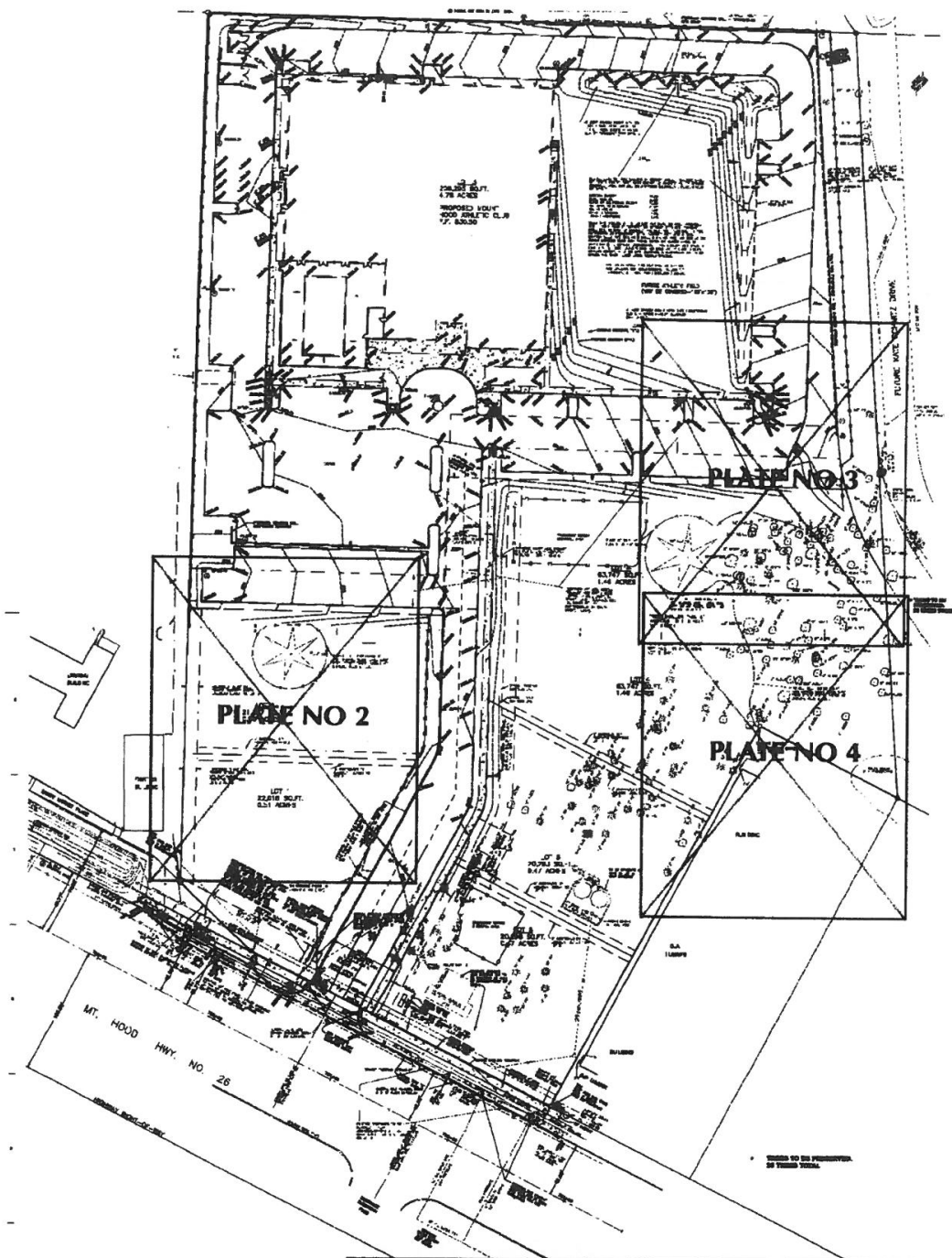


**TREE CONSERVATION PLAN PLATE  
NO. 4**

**LEGEND**







**TREE CONSERVATION PLAN PLATE NO. 1**

## PRE-APPLICATION CONFERENCE NOTES

**Project Name:** 37133 Highway 26 Multi-family  
**Pre-Application Conference Date:** January 15, 2020  
**Applicant Name:** State Street Homes (Brandon)  
**Staff:** Mike Walker, Emily Meharg, Kelly O'Neill Jr., Terre Gift

**ODOT COMMENTS** – See separate letter from ODOT.

### **PLANNING DEPARTMENT REVIEW**

**Applicable Code Chapters:** 17.12 Procedures for Decision Making; 17.18 Processing Applications; 17.22 Notices; 17.44 C-2 General Commercial Zoning District; 17.80 Additional Setbacks on Collector and Arterial Streets; 17.82 Special Setbacks on Transit Street; 17.84 Improvements Required with Development; 17.86 Parkland and Open Space; 17.90 Design Standards; 17.92 Landscaping and Screening; 17.98 Parking, Loading, and Access Requirements; 17.102 Urban Forestry; and Chapter 15.30 Dark Sky Ordinance.

***Caveat:** This analysis includes a review of those code sections that may conflict with the proposed design as submitted. This review is not intended to be a comprehensive analysis of all applicable code sections nor shall this review nullify code requirements that are determined necessary during land use review.*

### **CODE EVALUATION:**

#### **Zoning District and Setbacks (Chapters 17.48, 17.80):**

- The proposal contains one mixed-use building with 4 wings that consists of commercial space, mini storage, and apartments. The proposed commercial use is permitted outright in the C-2 zoning district; the ground floor residential apartment unit in wing D is not. Are the storage units part of the apartment use? A multi-family dwelling *above* a commercial business is the only residential use permitted outright. As proposed the proposal would need a special variance.
- Kate Schmitz Avenue is considered the front lot line. The setbacks shall follow the setbacks in Section 17.44.30, Chapter 17.80, and Chapter 17.82. Kate Schmitz Avenue is a collector street so the building(s) will require a 20 foot setback to the Kate Schmitz Avenue right-of-way.

#### **Improvements Required with Development (Chapter 17.84):**

- Kate Schmitz Avenue frontage requires full improvements (sidewalk, curb, planter strip, street trees, streetlighting, drainage) to City standards for collector street. Possible for applicant to pay fee in-lieu for these improvements to complete them with the remainder of the Kate Schmitz street improvements.
- Traffic Impact Analysis is required along with \$1,500 third party review fee. Additional analysis will be needed for access to the site and will need to adhere to Section 17.84.50 of the Development Code. Coordinate scope with ODOT and City Traffic Engineer. This property is located in the Twin Cedars subdivision which used to have a trip cap, but the trip cap was since removed on July 15, 2009.

#### **Design Standards (Chapter 17.90):**

- Adherence to Sections 17.90.120 (C-2 Design Standards) and 17.90.160 (Multi-family Design Standards) will be required. *Staff cannot evaluate compliance with many of these design standards without submittal of building elevations.*
- Walkways from the public street (Kate Schmitz Ave.) to the building entrance(s) are required.

- [17.60.120(A.7)]
- The buildings shall meet the articulation standards in 17.90.120(B) for all elevations visible from an abutting public street or pedestrian way.
  - Pedestrian shelters shall be provided over the building's primary entrance(s) and all pedestrian areas abutting the building. Shelters must extend at least 5 feet.
  - Strong base materials such as natural stone, split-faced rusticated concrete block, brick, or concrete form liner replicating these materials is required for the base at least 36 inches in height on building side visible from an abutting public street. The City of Sandy prefers Dressed Fieldstone or like material.
  - Siding materials shall be wood, composite-wood, stone, brick, split-faced or rusticated block, concrete linear form, or a combination of these materials. Metal is only to be used as an accent.
  - Three elements identified within Subsection 17.90.120(B)(3)(e) must be implemented on all facades facing a public street.
  - Permitted building colors include warm earth tones conforming to the City of Sandy Color Palette.
  - Minimum roof pitch of 6:12 required. When practicable, buildings shall be oriented so the gable end of the roof faces the abutting street (Kate Schmitz Ave.).
  - The building shall meet the activated elevation requirements found in Section 17.90.120(D), Building Orientation and Entrances.
    - 17.90.120(B.1) - Building shall orient to a public street/civic space and at least 50 percent of the site's frontage must be building(s) placed within 20 feet of a sidewalk, walkway, or civic space.
    - 17.90.120(B.3) – Ground floor spaces shall face a public street or civic space and shall be connected to it by a direct pedestrian route.
    - 17.90.120(B.7) – Buildings shall provide at least 1 elevation where the pedestrian environment is “activated.” An elevation is activated when it meets the window transparency requirements in Subsection 17.90.120(E) and contains a public entrance with a pedestrian shelter extending at least 5 feet.
    - 17.90.120(B.8) – Primary entrances shall be architecturally emphasized and visible from the right-of-way and shall be sheltered with a canopy, overhang, or portico with a depth of at least 5 feet. Gabled shelters preferred.
  - Activated frontage shall contain 25% windows.
  - The site is proposed to include 34,388 square feet of gross floor area requiring at least 1,032 square feet of civic space. Civic space shall abut a public right-of-way or otherwise be connected to and visible from a public right-of-way. Improvements may include plazas, private extensions of sidewalks, public art, pedestrian-scale lighting or similar pedestrian amenities. Is the water feature area part of the proposed civic space?
  - The location of the garbage/recycling will need to be verified with Hoodview Disposal. The garbage/recycle enclosure elevations shall be submitted for review and meet Section 17.90.120(J.4).
  - The land use application shall specify the location of exterior electrical panels and ground mounted equipment, which shall be screened from view from all public rights-of-way and civic spaces.
  - A separate outdoor area of not less than 48 square feet shall be attached to each dwelling unit.
- [17.90.160(E)]
- Enclosed storage areas for each unit are required as follows: minimum of 24 square feet for a studio or 1-bedroom, minimum of 36 square feet for a 2-bedroom, and minimum of 48 square feet for 3 or more bedrooms. [17.90.160(G)] Is this what the first-floor storage units are providing (i.e. trying to accomplish)?
  - Shared outdoor recreation areas are required at the rate of 200 square feet per dwelling unit. Based on 25 dwelling units, the required shared outdoor recreation area is 5,000 square feet.

**Landscaping and Parkland (Chapters 17.92 and 17.86):**

- Submittal of a Landscape Plan is required. Minimum of 20% landscaping required. What percentage of the site is proposed with landscaping?
- Trees 8 inches and greater DBH should be preserved to the greatest extent practicable and incorporated into the design of a development.
- Based on the proposal for 25 residential units, 0.22 acres of parkland dedication will be required ( $25 \times 2 \times .0043 = 0.215$  rounded to 0.22 acres). At the City's discretion, the city may accept a fee-in-lieu of parkland dedication. The fee in-lieu of dedication is \$241,000 per acre or in this case \$53,020 ( $\$241k \times 0.22$ ). This property will almost definitely warrant a fee in-lieu which will be paid at time of building permit issuance with the parks SDC and other SDCs (transportation, water, and sewer).

**Parking/Access (Chapter 17.98)**

- Parking shall be calculated based on use.
  - Commercial: minimum parking spaces will be based on use and square footage, plus 1 space per 2 employees on the largest shift.
  - Mini-storage: minimum parking spaces will be 1 space per employee on the largest shift, plus 1 per 2 employees, if mini-storage units are not associated with the proposed residential use.
  - Multi-family: 1.5 spaces are required per studio or 1-bedroom, 2 spaces per 2-bedroom, and 2.25 spaces per 3 or more bedrooms. Based on the proposal, the residential portion of the project will require 47 parking spaces ( $8 \text{ studios/1-bedrooms} \times 1.5 = 12$ ;  $12 \text{ two-bedrooms} \times 2 = 24$ ;  $5 \text{ three-bedrooms} \times 2.25 = 11$ ).
- At least 3 ADA parking spaces are required if the minimum number of parking spaces is between 51-75 spaces.
- Bike parking is required. Identify location of bike parking on the plan and the proposed bike racks.
- Parking spaces are required to contain minimum dimensions of 9 feet by 18 feet. Compact parking spaces are 8 feet by 16 feet and can comprise no more than 35 percent of the total parking spaces.
- Landscape planters (minimum 5 feet by 17 feet) are required at each end of every parking bay. Planter shall contain one structural tree and groundcover.
- Parking adjacent to five-foot-wide walkways shall be provided with wheel stops or widened sidewalks at seven feet in width. Parked vehicles can not impede walkway clearance.
- Minimum 25 foot aisle width required for double-sided, two-way, 90 degree parking. 24 feet (as proposed) would require an adjustment.

**Tree Removal (Chapter 17.102):**

- The Development Code requires retention of a minimum of 3 trees per acre (11-inches DBH and greater and in good condition) for property greater than 1 acre. An arborist will need to conduct a tree evaluation of all trees 8-inches DBH and greater and a tree retention plan shall be submitted with the application. The tree conditions shall be rated as good, fair, poor, and dead/dying. Site is 1.3 acres.
- You will want to review File No. 04-059 SUB to see which trees were retained as part of the Twin Cedars subdivision process. Removal of the large cedar tree, which is a retention tree, will need to follow the same process as File No. 17-070 TREE.

**Lighting Standards (Chapter 15.30):**

- Submittal of a lighting plan, lighting cut-sheets, and photometric analysis is required in compliance with Chapter 15.30. All exterior lighting shall be full cut-off and no more than 4,125 Kelvins. The area 10 feet beyond the property lines shall receive no more than one quarter (0.25) of a foot-candle of light.

**Other**

- What is the common space patio by the commercial area on the ground floor? Is this an area for eating?
- What is the plan for the mini-storage? Are these storage units associated with the proposed residential? Or are they separate, rentable units?
- Are there any elevators proposed?
- Is there a fire suppression system proposed?
- What is the 11 foot easement along the west property line? Plat indicates this should be a variable width public utility easement to benefit Lots 7-12.
- How wide are the driveways? What do they align with?
- You will need to review the conditions in File No. 04-059 SUB, File No. 04-058 DR, File No. 07-035 MRP, and File No. 11-032 MRP, as well as the plat for Twin Cedars #2 and Partition Plat 2012-021.
- Stormwater Management Plan complying with the COP SWMM will be required.

**Application Process:** Type III Design Review (or Type II Design Review if not requesting deviations or variances), and a Tree removal application.

**Projected Fees (fees are subject to change):**

Type	Fee
Type II Design Review (if not requesting any variances/deviations; based on valuation of project)	\$3,292 (if \$100k - \$1 million) \$7,682 (if over \$1 million)
Type III Design Review (if requesting variances/deviations; based on valuation of project)	\$3,949 (if \$100k - \$1 million) \$7,682 (if over \$1 million)
Tree Removal Permit	\$103 (Type I); \$442 (Type III)
Third Party Review (potentially required)	\$1,500
Type II Variance (if requested)	\$657 per request
Type III Special Variance (if requested)	\$1,099 per request
Type III Design Deviation (if requested)	\$442 per deviation
Type I Adjustment (up to 10%) (if requested)	\$329 per request
Type II Adjustment (up to 20%) (if requested)	\$442 per request

**Next Steps:**

- Submittal. Submit the following for land use review:
  - signed land use application and applicable fees;
  - narrative for applicable code sections;
  - mailing labels and list for all property owners within 500 feet of the subject property with attached radius map and affidavit (a title company can create this);
  - building elevations;
  - site plan;
  - landscape plan;
  - utility plan;
  - grading and erosion control plan;
  - photometric analysis and lighting fixture cut sheets;
  - stormwater report;
  - traffic impact analysis detailing trip counts;
  - arborist report and tree inventory if any trees are removed or if structures are proposed in dripline of trees

- Completeness. Staff review for completeness (30 days max. per state law), if determined incomplete then the applicant submits additional information as required within 180-days, staff then reviews for completeness again, if the application is deemed complete then the application is processed within 120-days per state law.
- Planning Commission Hearing. This application may be required to have Planning Commission approval if there are special variances or deviations. Planning Commission meetings are typically the fourth Monday of the month at 7:00 PM, but sometimes are scheduled on different days. The applicant should be prepared to present their case to the Planning Commission. Staff typically presents the facts and code analysis to Planning Commission with their recommendation. Staff recommendations are not necessarily in favor of the applicant's proposal.
- Approval. If the application is approved by the Planning Commission, then you submit for building permits following the conditions outlined by Planning Commission in the final order. *The final order is the land use decision.*
- Denial. If the application is denied by the Planning Commission, then you can file an appeal to City Council within 12 days of receiving the final order. An appeal cannot be filed until the final order is issued.



# EXHIBIT U

## TWIN CEDARS NO. 2

A REPLAT OF "TWIN CEDARS", PLAT NO. 3968, BEING LOTS 1 THRU 6  
 LOCATED IN THE NW 1/4 AND THE NE 1/4 OF SECTION 14, T.2S., R.4E., W.M.  
 CITY OF SANDY, CLACKAMAS COUNTY, STATE OF OREGON  
 SURVEYED: DECEMBER 21, 2007 SCALE: 1" = 50'

BOOK 140 PAGE 002  
 SHEET 1 OF 4 #4260

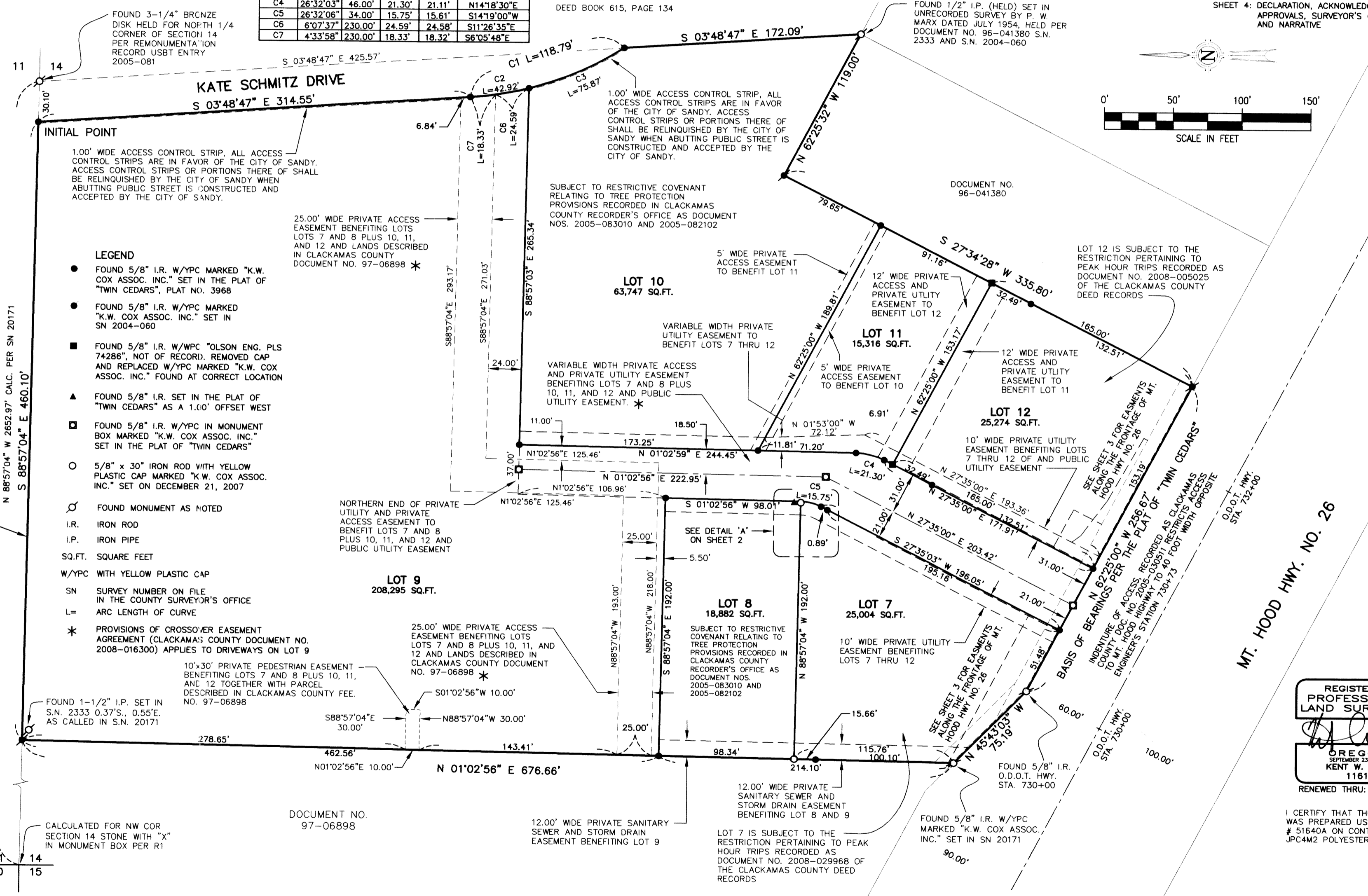
SURVEYED BY:  
**KENT W. COX AND ASSOCIATES, INC.**  
 CONSULTING ENGINEERS - LAND SURVEYORS  
 204 NORTHEAST KELLY AVENUE  
 GRESHAM, OREGON 97030  
 ENGINEERING PLANNING SURVEYING LAND DEVELOPMENT  
 PHONE No.(503) 667-4464 FAX No.(503) 665-9634  
 E-MAIL: kwcox@kwcox.com  
 KWC FILE NO. 03-124SUB-TWIN CEDARS 2

CURVE	DELTA	RADIUS	LENGTH	CHORD	CH. BEARING
C1	29°35'32"	230.00'	118.79'	117.47'	S18°36'35"E
C2	10°41'35"	230.00'	42.92'	42.86'	S9°09'36"E
C3	18°53'57"	230.00'	75.87'	75.52'	S23°57'22"E
C4	26°32'03"	46.00'	21.30'	21.11'	N14°18'30"E
C5	26°32'06"	34.00'	15.75'	15.61'	S14°19'00"W
C6	6°07'37"	230.00'	24.59'	24.58'	S11°26'35"E
C7	4°33'58"	230.00'	18.33'	18.32'	S6°05'48"E

NOTE:  
 ALL LOTS ARE SUBJECT TO THE DEDICATION OF  
 EASEMENTS, COVENANTS, CONDITIONS AND RESTRICTIONS  
 RECORDED AS DOCUMENT NO. 2008-02968 OF THE  
 CLACKAMAS COUNTY DEED RECORDS

DEED BOOK 615, PAGE 134

FOUND 1/2" I.P. (HELD) SET IN  
 UNRECORDED SURVEY BY P. W.  
 MARX DATED JULY 1954, HELD PER  
 DOCUMENT NO. 96-041380 S.N.  
 2333 AND S.N. 2004-060



DOCUMENT NO. 77-07443  
 N 88°57'04" W 2852.97' CALC. PER SN 20171  
 S 88°57'04" E 460.10'  
 NORTH LINE SECTION 14

**LEGEND**

- FOUND 5/8" I.R. W/YPC MARKED "K.W. COX ASSOC. INC." SET IN THE PLAT OF "TWIN CEDARS", PLAT NO. 3968
- FOUND 5/8" I.R. W/YPC MARKED "K.W. COX ASSOC. INC." SET IN SN 2004-080
- FOUND 5/8" I.R. W/YPC "OLSON ENG. PLS 74286", NOT OF RECORD, REMOVED CAP AND REPLACED W/YPC MARKED "K.W. COX ASSOC. INC." FOUND AT CORRECT LOCATION
- ▲ FOUND 5/8" I.R. SET IN THE PLAT OF "TWIN CEDARS" AS A 1.00' OFFSET WEST
- FOUND 5/8" I.R. W/YPC IN MONUMENT BOX MARKED "K.W. COX ASSOC. INC." SET IN THE PLAT OF "TWIN CEDARS"
- 5/8" x 30" IRON ROD WITH YELLOW PLASTIC CAP MARKED "K.W. COX ASSOC. INC." SET ON DECEMBER 21, 2007
- FOUND MONUMENT AS NOTED
- I.R. IRON ROD
- I.P. IRON PIPE
- SQ.FT. SQUARE FEET
- W/YPC WITH YELLOW PLASTIC CAP
- SN SURVEY NUMBER ON FILE IN THE COUNTY SURVEYOR'S OFFICE
- L= ARC LENGTH OF CURVE
- \* PROVISIONS OF CROSSOVER EASEMENT AGREEMENT (CLACKAMAS COUNTY DOCUMENT NO. 2008-016300) APPLIES TO DRIVEWAYS ON LOT 9

FOUND 1-1/2" I.P. SET IN  
 S.N. 2333 0.37'S., 0.55'E.  
 AS CALLED IN S.N. 20171

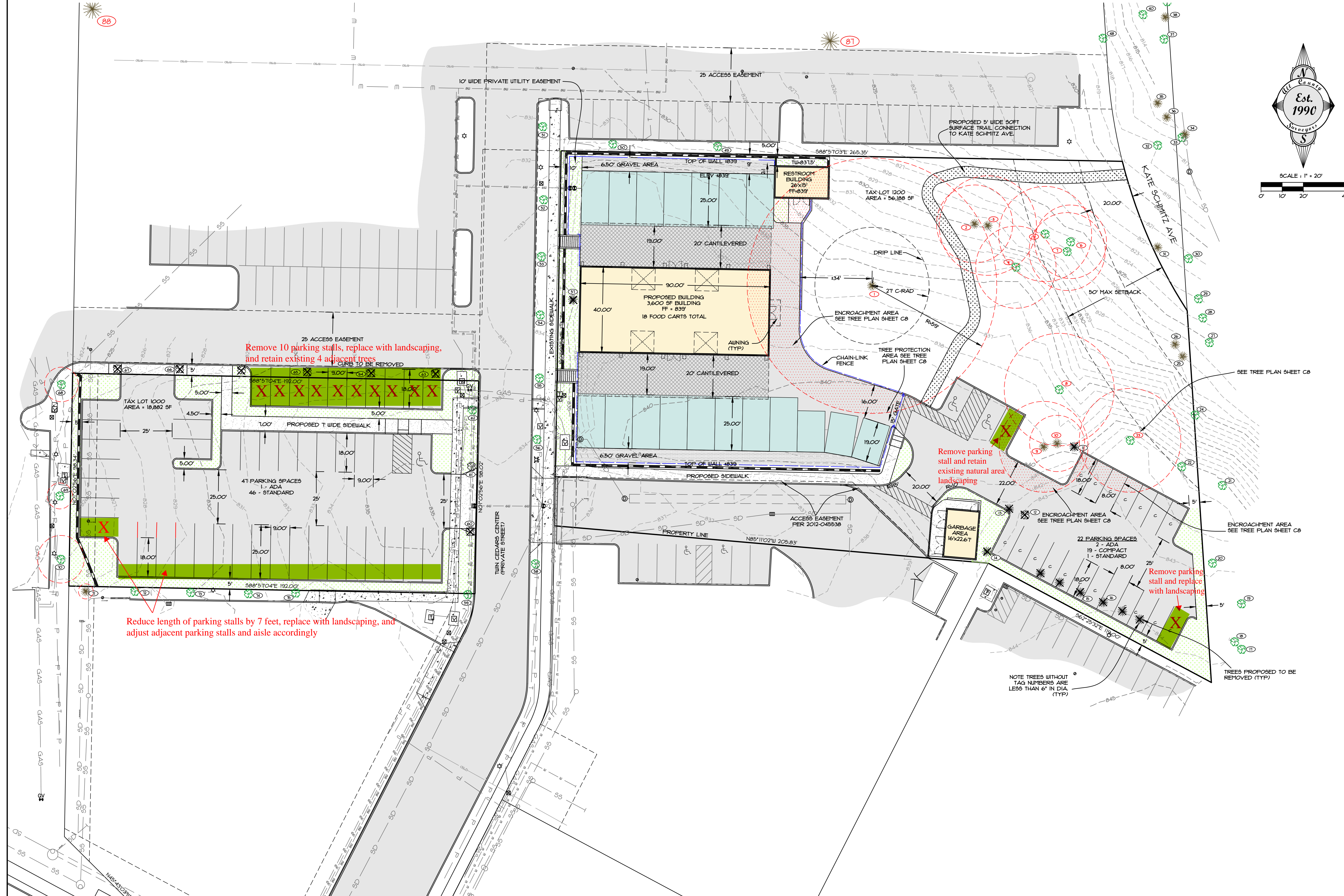
DOCUMENT NO. 97-06898

REGISTERED PROFESSIONAL LAND SURVEYOR  
 KENT W. COX  
 OREGON SEPTEMBER 23, 1977  
 KENT W. COX 1161  
 RENEWED THRU: 12/31/09

I CERTIFY THAT THIS SURVEY MAP WAS PREPARED USING HP PRODUCT # 51640A ON CONTINENTAL # JPC4M2 POLYESTER FILM.

# THE RIFFLE FOOD CARTS

EXHIBIT V



BY	REVISION	SHEET
		<b>C3</b>
		OF <b>10</b>
DATE	DESIGNED: RLM	
	DRAWN: RLM	
	CHECKED: DLH	
	APPROVED: RLM	

SCALE	VERT. N/A	SECTION	14
HORIZ. 1" = 20'	DATE: 4-18-22	TWP.	25
FILE: 21-032 - Planning.dwg	LEGAL	RANGE	4E
		SECTION	14

PROJECT: **THE RIFFLE FOOD CARTS OVERALL SITE PLAN**

LOCATION: **TWIN CEDARS CENTER, SANDY, OREGON**

**Surveyors & Planners, Inc.**  
 Surveying, Planning and  
 Civil Engineering and  
 P.L.L.C.  
 P.O. Box 855 Sandy, OR 97055  
 Phone: (503) 668-4730  
 Fax: (503) 668-4730  
 DATE OF PLOT: 4-18-22

CLIENT:  
**TODD HOFFMAN**  
 PO BOX 1016  
 SANDY, OR 97055  
 PHONE: 503-863-1131