

CITY OF DUNDEE  
PLANNING COMMISSION AGENDA  
P.O. Box 220  
620 SW 5<sup>th</sup> Street  
Dundee, Oregon 97115

**MEETING WILL BE TELECONFERENCED**

Join Zoom Meeting <https://us02web.zoom.us/j/81205656192>

Or listen by calling: 1-301-715-8592

**Meeting ID: 812 0565 6192**

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**MEETING DATE: June 17, 2020**  
**Meeting Time: 7:00pm**

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- I.** Call Meeting to Order.
- II.** Introduction of New Planning Commissioner – James Kay
- III.** Public Comment
- IV.** Approval of Minutes
  - February 19, 2020
- V.** Public Hearing(s)
  - CU/SDR 20-06, Acom Communications (for Verizon Wireless)
- VI.** Issues from Planning Commissioners
- VII.** Adjournment

If you wish to testify at the meeting, please contact Melody Osborne, Administrative Assistant by email at [Melody.Osborne@dundeecity.org](mailto:Melody.Osborne@dundeecity.org) with your "screen name" or phone number so that we are able to identify you.

If testifying, PLEASE NOTE THE FOLLOWING:

- Testimony will be limited to three minutes, followed by any questions of you that the Commissioners may have.
- Comments must be directed toward the applicable decision criteria in the Dundee Development Code: CUP -Section 17.404.030; SDR – Section 17.402.050; and Wireless Communication Facilities 17.203.170(C)
- Microphones will be muted upon entering the hearing, unmuted for testimony, and then muted again until the end.

# QUASI-JUDICIAL LAND USE PUBLIC HEARING PROCEDURE

**1. CALL TO ORDER BY PRESIDING OFFICER**

Open the public hearing, announce the purpose, and discuss testimony procedures, including order of testimony, time limits, and requirements to fill out form to testify.

**2. CALL FOR ABSTENTIONS, BIAS, EX-PARTE CONTACT, CONFLICTS OF INTEREST AND OBJECTIONS TO JURISDICTION**

**3. READ QUASI-JUDICIAL ANNOUNCEMENTS**

**4. STAFF PRESENTS REPORT**

Council/Commission may ask questions for clarification.

**5. APPLICANT PRESENTATION**

The Applicant will be given suitable time to present their proposal, generally 15 to 20 minutes.

**6. PUBLIC TESTIMONY**

A. Presiding officer announces time limits for public testimony (typically 3 minutes per person unless otherwise specified)

B. Public testimony protocol

1. Presiding officer invites persons testifying to come forward to speak into the microphone.
2. Presiding officer informs persons testifying to state their names and address at beginning of testimony.
3. Order of public testimony
  - a. Proponent(s)
  - b. Opponent(s)
  - c. Undecided(s)

C. Any exhibits which are presented to the Council/Commission will be retained for the record.

**7. APPLICANT REBUTTAL OF TESTIMONY PRESENTED**

**8. CLOSING LEGAL ANNOUNCEMENTS**

**9. FINAL COMMENTS FROM STAFF AND RECOMMENDATION**

**10. CLOSE OF PUBLIC HEARING - COUNCIL/COMMISSION DELIBERATES, INCLUDING DISCUSSION OF CRITERIA WITH FINDINGS OF FACT**

**11. ACTION**

Action by Planning Commission	Action by City Council
A. Order (if final) –or– Recommendation to Council	A. Order or Ordinance
B. VOTE – Voice vote is permitted.	B. VOTE – Voice vote is permitted.
C. MAJORITY OF A QUORUM – Vote of majority of quorum required for passage	C. MAJORITY OF A QUORUM – Vote of majority of quorum required for passage

# CITY OF DUNDEE

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**Meeting:** Planning Commission Meeting  
**Location:** City Council Meeting Chambers  
620 S.W. 5<sup>th</sup> Street  
Dundee, Oregon 97115  
**Date:** February 19, 2020  
**Time:** 7:00 p.m.

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## **I. Meeting called to order.**

Commissioner Hinoveanu called the meeting to order. Commissioners present, which consisted of quorum, were Maria Hinoveanu, David Hinson, Doug Pugsley, Eugene Gilden, and Ed Carlisle. City Administrator Rob Daykin, City Engineer Greg Reid, and Interim City Planner Jim Jacks were also present. Commissioner Howland was absent due to illness.

Members of the audience included Suzanne Palanuk, Erin Briggs, Kim Riccitelli, Hayden Wooton, Linda Delong, Aaron Delong, Alec Schmidt, Randy Scott, Jeff and Lisa Peck, Christopher Harper, Linda and Richard Herbert, Geoff Hill, and Dan and Sandy Friedman.

## **II. Election of Chair and Vice-Chairman for 2019**

Commissioner Howland was nominated to serve another term as Chairman. Motion was seconded. Motion carries to re-elect Commissioner Howland as Chairman.

Commissioner Hinoveanu was nominated as Vice-Chairman. Motion was seconded. Motion carries unanimously to elect Commissioner Hinoveanu as Vice-Chairman.

## **III. Public Comment**

There was no public comment.

## **VI. Approval of Minutes from Previous Meeting(s)**

Secretary Osborne noted that a typo on Commissioner Ormonde's last name, on the final page of the minutes, had been corrected. It was moved and seconded to approve the September 18, 2019 minutes. Motion carries, unanimously.

## **V. Public Hearing**

**City of Dundee, S19-15/CA19-19/V19-17 – Olivia Beach Construction (Sitton Subdivision)**

## 1. Declarations of Ex-Parte, Bias, or Conflict of Interest

Vice-Chairman Hinoveanu opened the hearing and read the statements into record. She then questioned the Commissioners about ex-parte, bias, or conflict of interest. There were no declarations. Vice-Chairman Hinoveanu then questioned if there were any objections to jurisdiction. There were none.

Vice-Chairman Hinoveanu asked for the record if the Commissioners had driven by the property. The Commissioners responded affirmatively.

## 2. Staff Report

Interim Planner Jim Jacks introduced himself to the Commission. He then directed the Commission to reports and documents included in the packet and gave some direction on establishing a final order. Planner Jacks proceeded to narrate a summary of the staff report.

Commissioner Gilden asked a question about minimum lot area and size of lot, stating that he calculated the area and square footage and felt that none of the lots met the minimum lot sizes. Planner Jacks stated that the question should be asked of the applicant as it was incumbent on the applicant to show proof of compliance with the requirements.

Planner Jacks passed out an addendum staff report, explaining that he had overlooked a late submittal that had been requested by the previous planner and the engineer. The addendum staff report corrected some of the dimensions and findings that were on the submittal. After noting these corrections, he continued with the staff report and findings.

There was a request to explain the difference between an adjustment and a variance. Planner Jacks explained that an adjustment was for a change in code of 20% or less; a variance was meant for anything over.

Planner Jacks concluded by noting the points in the letter submitted by the Schmidt's.

Commissioner Pugsley asked if there was anything submitted or noted having to do with absolute elevation differences between properties. Planner Jacks noted that there was an elevation sheet included for the subject property, but not the elevations of the adjoining properties. He stated that if viewed in person it was visible that the subject property was higher. Commissioner Pugsley asked if there was anything in the development code that addressed differences in elevation or offered limitations. Planner Jacks responded there were none that he was unaware of any.

Commissioner Hinson asked a process question about when and of whom questions could be asked. This was answered by CA Daykin and Planner Jacks.

Commissioner Carlisle asked, regarding the fire turn around and the requirement of the developer to install "no parking signs", whether this was the only enforcement action that the City had. City Engineer Reid responded that Chief Stock will call the police department for enforcement.

Commissioner Gilden asked how the applicant would go about obtaining easements. Planner Jacks responded that the applicants would need to talk to the neighbor and explain the situation, he also stated that the Commission could ask the applicant about the circumstances of how they plan to

obtain the easement. There was clarification about whether the process was then only between the property owners and the City was not involved in obtaining that easement.

Commissioner Gilden asked about HOAs and who collected and held them. Planner Jacks answered that the City could require one to be formed and have bylaws created, which would be approved by the City Attorney. He further stated that while the city could require one as a way to make things work, it is up to the owners to form it and keep it going. Engineer Reid also responded that the maintenance agreement would be on the plat, so that if the HOA did not perform repairs or maintenance as needed the city would be able to complete them and charge the homeowners for the work. Commissioner Hinson asked if this also included the sidewalk. Engineer Reid responded affirmatively.

There were some additional clarification questions regarding the fire and utility access easement. Once completed, Vice-Chairman Hinoveanu opened the public hearing.

### **3. Public Testimony - Proponents**

Vice-Chairman Hinoveanu asked for the applicant to introduce themselves and present their proposal.

Hayden Wooten, with Reece and Associates, spoke and thanked Planner Jacks. He stated that they were willing to work with the adjacent neighbors to mitigate any privacy concerns or impacts of the development with fencing or landscaping. He stated that they worked to meet the city's standards and even though there were requests for code adjustments and variances they still meet the minimum lot sizes. He concluded by stating that they had no issues with the conditions of approval and would accept them if the request was approved.

Commissioner Carlisle asked how the applicant proposed to deal with the conditions of tax lot 901. Mr. Wooten responded that they were going to move a little north to create the 30-foot needed. Commissioner Pugsley asked if the 30-foot easement would require the owner of 901 to need to request variances or code adj. Mr. Wooten responded that he could not respond to the future development of the adjacent lot. Planner Jacks responded and stated that there was not room for the adjacent lot to be able to develop. The developer and adjacent landowner would need to work together to provide access to the rear of the lot. Vice-Chairman Hinoveanu asked if the proposal would allow 901 to develop in the future. Planner Jacks responded that, with the conditions of approval, they felt that yes, they could.

Commissioner Gilden asked about the minimum lot sizes and how they were computed if not by width and depth. Mr. Wooten responded that CAD had been used to calculate the lot sizes. He was unable to speak to how the program worked. Engineer Reid also responded that lot width and depth would only really work for a rectangular lot, but because the lots were irregular shape, they were calculated using a CAD program. It was questioned whether staff was comfortable with the CAD numbers. Engineer Reid stated that the numbers would be verified prior to final plat recordation, but he did not see anything that jumped out as being incorrect.

Clarified that there was no parking on the street. Affirmed. Question about post office boxes. Mr. Wooten responded that they had not coordinated with the post office yet, but that would be done as one of the first things after approval. Engineer Reid noted that it would be a community mailbox,

likely placed on 3rd Street, but placement would ultimately be decided by the post office. It was noted that Waste Management would also be able to access the private street.

Vice-Chairman Hinoveanu asked about whether there was a slope that was more than 11% over more than 60% of the property. Planner Jacks responded that slope calculations were not submitted with the application, however eyeballing the property did not appear that it was over 11%. Commissioner Pugsley noted that the developer could grade to make it less than 11%. Planner Jacks concurred. It was questioned of the applicant whether the slope numbers had been calculated yet. Mr. Wooten responded that they had not checked the slope, however if they were above 11% they would grade to correct.

No further applicant testimony; no additional proponents.

#### **4. Public Testimony – Opponents**

Aaron Delong stated his address and noted that the south end of his property abutted proposed lot one. He stated that his lot slope was severe, and he was worried that privacy was a concern because his property was much lower; or, alternatively that he would be staring at a giant retaining wall when he looked outside. He noted that there was a lot to be taken into consideration with the proposal given the number of adjustments and variances. He also stated that one of his biggest concerns was that of fire. He did not think there was adequate space for fire equipment as the houses proposed appeared to be very close together. He noted worry that the sun would be eliminated from the rear of his property. Mr. Delong also talked about his long-standing ties to the community, and his belief that this type of infill did not fit the “feel” of Dundee. He concluded by stating hope that Planning Commission did not approve the configuration as-is.

Alec Schmidt gave his address for the record and stated that he had submitted the letter that was a part of the commission’s packet. He said that he mainly wanted to talk about the variance requirements. He noted a case from LUBA 99-056 Robinson vs. City of Silverton. He stated that the City of Silverton has the same requirements for the passage of a variance that Dundee does, and that LUBA found that if lots were removed or reconfigured then a variance would not be needed, and he believed that the variance was not needed in this case because elimination of a lot would eliminate the need. Mr. Schmidt stated that he felt that the lot was best suited for 2-5 lots. Also, he did not believe it was viable to have “no parking”. Further, he stated that he had a 6-foot fence and if someone went 15-feet on to the subject property then they would be even with the top of the fence. So, the house being built behind him would mean that he was staring into their windows from his yard. He argued the applicants comment regarding tax lot 901 being “developed” because there was a house on it, since the property they were hoping to develop also had a house on it. He concluded with the statement that with the slope the trees needed would have to be 15 to 20 feet which would shade all the adjoining property, which would destroy the enjoyment and use of their property.

Jeff Hall gave his address. He stated that the people that had spoken before him had stated many of his concerns, but he wanted to echo a few of the same issues. First, he did not believe that the no parking signs would deter people from parking on the road, since the closest place to park on the street was approximately a five-minute walk away. There was a question by one of the Commissioners about the parking lot at the park on 3<sup>rd</sup> that was closer. Mr. Hall responded that he did not believe that was a viable option as there were no sidewalks or streetlights to/from the

parking lot. He also spoke to the 22-foot depth of one of the homes and did not believe it would fit with the current aesthetic of the neighborhood.

Randy Scott gave his address. He stated that he lived next to the home on tax lot 901. He also stated that the speakers prior to him had stated a lot of his concerns, but he wanted to also add his voice to the concern with parking and public safety.

A speaker, who did not give his name for the record, talked about what parking was like at the park during events. He commented that most people parked on the grass and that there was a likely expectation that anyone needing to park in that location would do the same, which would destroy the grass.

Jeff Peck gave his address. He stated that he had the same concerns. He wanted to bring up the idea of reducing the number of lots so that the code adjustments and variances would not be necessary. He talked about height of buildings and he was concerned about them. He also stated that tax lot 901 had tried to do a partition and that they had asked for a variance which was denied by the city and he hoped that the city would review those records.

Commissioner Pugsley asked Mr. Wooten if they had looked at having fewer lots. Mr. Wooten responded that they had looked at many different configurations and due to the infill and limitation of the existing lot lines they needed to have the turnaround. It always came down to the inability to work around the turnaround. Even if they tried different configurations of the street (hammerhead, going wider, etc.) they kept coming up with the same frontage or depth issues. The goal was to come up with lots that could meet most of the requirements and not overstress the land. Commissioner Pugsley asked if limiting the number of lots would allow for a public street. Mr. Wooten replied that the application would look much different.

Vice-Chairman Hinoveanu asked if there was a way to reconfigure lot 1 to negate the need for the variance. Planner Jacks responded that in his opinion, he believed so. Vice-Chairman Hinoveanu asked if Mr. Wooten could address the negotiations with the current property owner. Mr. Wooten responded that the current property owner had set their lot lines first and were willing to work with them to configure the rest of it. He stated that they did not have room to negotiate or flexibility and they were limited to the area they were given. There was clarification from Commissioner Carlisle that when they played with the lot configurations, they stayed within the boundary they were given. Mr. Wooten affirmed that they played with the layouts they could and did not overstep the land they were given.

Erin Briggs with Olivia Beach Construction spoke and stated that they had played with different layouts and had chosen the smaller scale. Originally, they had looked at the idea of putting 14 duplexes on the property but that was not the style of development they constructed. He stated that they are traditional home builders, many of the homes they built were in the 1500-2200 square foot range, but that on the coast they have built down to 400sqft. The bottom line is that the development needs to be able to pencil out to be able to do it and eight lots was the result.

Commissioner Pugsley asked Engineer Reid if he had talked to Chief Stock regarding any concerns regarding the 35' entrance and rolling sidewalks. Engineer Reid responded that the standard fire access was 20', but because they had a fire hydrant, they needed a 26' wide drive surface. The

requirement for the mountable sidewalk was so that it would allow the fire truck to park next to the hydrant while allowing additional vehicles to drive by.

Planner Jacks stated that, with affect to the properties to the north, the applicant had not indicated the adjacent property was also zoned R-3 with a 5000sqft lot size minimum. He then suggested some ways to mitigate the impacts to the adjacent properties on Oliver Court.

Some discussion between the citizens, applicant, commission, and planner took place regarding the proposed square footage of the new houses, possible landscape easements, possibly doubling the rear setback requirement to help alleviate the concern about the loss of sun. Additionally, building height was discussed as well.

Lisa Peck gave her address for the record and asked if the intent of the homes was to be vacation rentals or permanent single-family homes. Mr. Briggs responded that they were meant to be homes.

Linda Delong gave her address for the record. She stated that there was a home on Oliver Court that did not have a house on it, and she wondered why they could not make the cul-de-sac abut 2701 and eliminate lot 8.

Mr. Wooten stated that they understood all the comments that had come forward tonight. He reiterated that the lots all met the minimum lot sizes and they feel confident that what they are proposing was in the feel and aesthetic of the R-3 zone.

There was some discussion regarding parking spaces and rear-loaded garages. Commissioner Hinson asked if there would be something in the HOA about having no vacation rentals. Mr. Briggs responded that they had not planned the CC&Rs yet, but they were not building with the idea of them being vacation rentals.

Commissioner Hinson asked if they could address how the variance was not self-imposed. Mr. Wooten responded that when they were doing in-fill development there were a number of limitations, such as existing lot lines and setbacks of existing buildings and they had done their best to work around them to provide adequate access. Alec Schmidt stated that profitability was not a special or unique circumstance inherent to the lot, so they could use less lots and not need a variance.

Mr. Wooten responded that he had gone through how they felt they were restricted and that he was comfortable with his testimony.

It was questioned if there were any exhibits to submit for the record. Planner Jacks replied that the only thing he had was the addendum staff report. There was a question about the fire district and their concerns. He read the fire code into record ORS 368.039 "Road standards adopted by local government supersede standards in fire codes" (1)When the governing body of a county or city adopts specifications and standards, including standards for width, for roads and streets under the jurisdiction of the governing body, such specifications and standards shall supersede and prevail over any specifications and standards for roads and streets that are set forth in a uniform fire code adopted by the State Fire Marshal, a municipal fire department or a county firefighting agency." (Exhibit B – Email)

CA Daykin asked if the applicant felt that they had had adequate time to rebut. Applicant responded affirmatively.

Planner Jacks talked and reminded the Commission of the decisions they needed to make, and that they were able to impose conditions of approval if they wished.

Vice-Chairman Hinoveanu closed the public hearing.

## 5. Deliberation

Vice-Chairman Hinoveanu stated that what bothered her was the idea of setting a precedent of a 40% variance. Planner Jacks noted that the variance would be 35% and not 40%. Commissioner Gilden stated that he felt that was a big number to him. The other thing that gave him some disquiet was about the question of it being self-imposed. That there had been a good faith effort to look at other configurations, but he was dissatisfied with the answer regarding why there needed to be 8 lots and why there could not be adjustments made.

Commissioner Carlisle stated that he agreed that the big variance is concerning. Regarding privacy in the backyard, he noted that most of Dundee was on a hill, so someone was always going to be uphill from someone. He believed that the variance was self-imposed, and he did not feel as though the configurations had been adequately explored.

Vice-Chairman Hinoveanu dissented and felt that it had been adequately explained and that it was about money. She felt like the variance was self-imposed and restated that she was concerned with the idea of setting a precedent.

Commissioner Pugsley stated that he was in favor of infill and density because Oregon cannot have protected farmland and increasing population and not address it with infill. He was not concerned with design and trusted the applicant on what they were suggesting with design. However, he felt that criteria 2 and 5 were adequately addressed. Further, he thought that the 901 issue was something that had not been dealt with and that they should spend some additional time on it.

Vice-Chairman Hinoveanu stated agreement with Commissioner Pugsley. She did not believe the owner of tax lot 901 was present. However, she believed that there was a way to redesign the subdivision to allow 901 to develop. CA Daykin stated that the issue of 901 could be handled with a condition of approval.

Commissioner Hinson stated that he also agreed with the concern of the variance not being self-imposed. If there were fewer lots, they would not be having the discussion. He also stated a concern with parking.

Planner Jacks recommended an order for how the Commission might motion on the application.

It was **moved** to deny the variance for lot 8 because 2, if not 3, of the criteria were not met. Motion was seconded and passed unanimously.

There was some discussion regarding the code adjustments and why they may still be necessary even if lot 8 was eliminated.

It was **moved** to approve the code adjustments for depth on lots 6 and 7, and frontage on lots 5, 6, and 7. The motion was seconded and passed unanimously.

There was a discussion about whether some additional conditions of approval should be added to mitigate neighborhood concerns, and what those should be.

It was **moved** to add conditions of approval increasing the rear setback on lots 2 and 3 to 30-feet; 90% site obscuring fencing on all the rear property lines of all lots, except lot 1. The motion was seconded and passed unanimously.

The Commission went through the conditions of approval. Planner Jacks noted that the page number references would be removed from the final order. CA Daykin questioned whether the condition regarding streetlights and power should be amended to specify that it is the responsibility of the HOA.

It was **moved** to approve the Sitton View Subdivision with amended conditions of approval as noted – conditions 4 and 5 have been removed; condition 16 has been amended to include streetlighting and payment responsibility of the HOA ; and, condition 24 has been added addressing setbacks to rear backyards and fencing. The motion was seconded and passed unanimously.

## **VI. Planning Issues from Commission Members.**

CA Daykin notified that Char had resigned from the Commission. He stated that there were no Commissioners from the east side and asked that if the Commissioners knew someone that might be a good candidate to encourage them to apply.

## **VII. Adjournment**

The meeting was adjourned.

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Shannon Howland, Chairman

ATTEST:

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Melody Osborne, Planning Secretary



**CITY OF DUNDEE  
Staff Report**

**Type III Conditional Use Permit and Site Development Review  
File No. CU 20-06/SDR 20-07 – Verizon Cell Tower**

**Request:** An 80-foot wireless communications tower (74’ + 6’ of branches) and ground equipment. The tower and equipment will be enclosed within a 232 square foot fenced area in the SE corner of the Dundee Fire Station. In addition to the fencing, landscaping will be provided to screen the equipment from surrounding properties.

<b>Project Information</b>	
<b>Applicant and Agent</b>	Verizon Wireless. Tammy Hamilton, ACOM Consulting, Inc.
<b>Property Owner</b>	City of Dundee
<b>Location</b>	Southeast corner of the Dundee Fire Station site
<b>Site Address</b>	801 N Hwy 99W
<b>Tax Lot</b>	T3S, R3W, Section 25CC, Tax Lot 800
<b>Zoning</b>	P (Public)
<b>Applicable Criteria</b>	Dundee Municipal Code Sections 17.402.050, 17.404.030, 17.203.170
<b>Hearing Date</b>	June 17, 2020

**Location Map**



## Comments Received:

Public comments were received, but not in time to include them in this report. They will be forwarded to the Commissioners as they are received. Public notice of the project was posted on the site, published in *The Newberg Graphic*, and mailed to property owners within 100 feet of the project location.

**Department comments have been incorporated into the staff report. Agency comments received include the following:**

ODOT: Reviewed, "...no comments on the cell tower proposal. The existing access was permitted in 2014 (Permit #03A55832) and the permit is still valid with the addition of a cell tower."

ODOT Rail Division: Reviewed, no conflict. During construction contact Portland & Western Railroad if equipment is being operated within 50 feet of the railroad tracks. Contact information: Dennis Hannahs, Permit Specialist, [dhannahs@gwrr.com](mailto:dhannahs@gwrr.com), (505) 508-7940.

Oregon Department of Aviation (ODA): "The ODA has determined that a FAA FORM 7460-1 will need to be completed by the applicant for the proposed construction. The completed FAA FORM 7460-1 must be submitted to the ODA prior to final approval of building permits or land use decisions. I have attached a FAA FORM 7460-1 for reference." The applicant has followed-up and completed FAA Form 7460-1 and submitted it to ODA.

Frontier: No comment.

Portland General Electric: No comment.

## Discussion

The request is to construct a new 80-foot high stealth wireless communications structure designed to mimic the appearance of a pine tree (Monopine). A 74-foot antenna tip height will allow for 6-feet of branches above the antennas to mimic the shape of a natural tree.

The lease area is 13-feet by 39-feet (507 square feet) in the SE corner of the Dundee Fire Station site. Access to the Monopine will use the existing driveway on Highway 99W and will be via a 12-foot wide access easement on the existing parking lot drive aisles on the north and east sides of the fire station parking lot. The Monopine and ground equipment will be within an 8-foot by 29-foot (232 square feet) area which will be enclosed by a 6-foot high chain link fence with vinyl slats. A 12-foot wide rolling access gate will be on the north side for access to the equipment cabinets and the Monopine.

Due to the terrain which slopes down to the south, a concrete masonry unit (CMU) wall will be constructed on the west, south and east sides which will be filled to the level of the paved access on the north side. The outer side of the wall will be backfilled. A 5-foot wide landscaped area is proposed outside the fence on the western, southern, and east sides to provide a buffer of mixed deciduous and evergreen trees with ground cover plants to minimize visual impact.

To minimize the proliferation of towers in the area, the Monopine is designed to accommodate two carriers, Verizon Wireless and one additional carrier with similar loading.

The new Monopine is proposed because co-location on an existing facility is not possible and there are no tall structures in the area that can provide the coverage needed. The facility will be unmanned, but monthly maintenance will be needed.

## **Staff Recommendation**

At the June 17, 2020 hearing, staff recommends the Planning Commission:

1. Consider the staff report and public testimony.
2. Deliberate and make findings. Proposed findings are shown in Exhibit A of the Planning Commission Order.
3. Pass a motion adopting the Planning Commission Order.

## **Attachments**

1. Planning Commission Order with:
  - Exhibit A: Findings
  - Exhibit B: Conditions of Approval
2. Application Materials, including a Site Plan and Aerial View.

**DUNDEE PLANNING COMMISSION ORDER  
FILE NO. CU 20-06, SDR 20-07**

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**AN ORDER APPROVING A CONDITIONAL USE AND A SITE DEVELOPMENT REVIEW FOR A WIRELESS COMMUNICATIONS FACILITY AT THE DUNDEE FIRE STATION AT 801 N HIGHWAY 99W, TAX LOT 3325CC, 00800.**

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**RECITALS:**

- 1. Tammy Hamilton of ACOM Consulting, Inc., for Verizon Wireless (applicant) submitted Conditional Use and Site Development Review applications to construct a wireless communications facility at 801 N Highway 99W (Tax Lot 800 on Assessor’s Map 3325CC) in the SE corner of the Dundee Fire Station property. The property is zoned Public (P).
- 2. The request is to construct a new 80-foot high stealth wireless communications structure designed to mimic the appearance of a pine tree (Monopine). A 74-foot antenna tip height will allow for 6-feet of branches above the antennas to mimic the shape of a natural tree. The tower and equipment will cover a 507 square foot area. The structure and equipment cabinets will be enclosed within a 232 square foot fenced area with a 5-foot landscape area to the west, south and east, in the SE corner of the Dundee Fire Station.
- 3. The Dundee Planning Commission held a public hearing to consider the proposal on June 17, 2020.
- 4. At the June 17, 2020 public hearing the Planning Commission heard public testimony.
- 5. At the June 17, 2020 public hearing, the Planning Commission heard a summary of the staff report, considered the applicant’s testimony and the public testimony, closed the public hearing and deliberated. The Planning Commission finds the proposed Conditional Use and Site Development Review meet the applicable Development Code criteria for approval with conditions of approval.

**The Dundee Planning Commission orders the following:**

The Conditional Use and Site Development Review applications to construct a wireless communications facility are hereby approved, subject to conditions of approval in Exhibit “B”. This Order is based on the June 17, 2020 staff report, findings shown in Exhibit “A”, conditions of approval shown in Exhibit “B”, and public testimony. Exhibits “A” and “B” are hereby attached and by this reference incorporated herein.

**ADOPTED** BY THE DUNDEE PLANNING COMMISSION THIS 17th DAY OF JUNE, 2020:

**AYE: 5                      NAY: 0                      ABSTAIN: 0                      ABSENT: 0**

**SIGNED:** \_\_\_\_\_  
Shannon Howland, Planning Commission Chair                      Date

**ATTEST:** \_\_\_\_\_  
Robert Daykin, City Administrator                      Date

**EXHIBIT A**  
**DEVELOPMENT CODE CRITERIA & FINDINGS**  
**[CU 20-06/SDR 20-07, Verizon Cell Tower Conditional Use]**

Note: The Dundee Municipal Code criteria are written in *italic* font and the findings are written in regular font. Items related to conditions of approval are underlined. The Development Code criteria will be presented first followed by the findings of fact.

**1. Applicable Dundee Municipal Code Criteria – Conditional Use & Site Development Review**

**17.404 – Conditional Use Permits**

**17.404.030 Criteria, Standards, and Conditions of Approval**

*By means of a Type III procedure, the planning commission shall approve, approve with conditions or deny an application, including requests to enlarge or alter a conditional use, based on findings of fact with respect to all of the criteria and standards in subsections (A) through (C) of this section.*

*A. Use Criteria.*

*1. The site size, dimensions, location, topography and access are adequate for the needs of the proposed use, considering the proposed building mass, parking, traffic, noise, vibration, exhaust/emissions, light, glare, erosion, odor, dust, visibility, safety, and aesthetic considerations.*

**Finding:** The applicant's response (Narrative, p. 24) addresses size, location, topography and access. The wireless structure and related ground equipment are proposed on the 1.48-acre (64,468 square feet) Dundee Fire Station site. The proposed enclosure for the structure and related equipment is 232 square feet (8-foot x 29-foot). The total lease area with the 5-foot landscape buffer is 507 square feet (13-foot x 39-foot) which is 0.7 percent of the site area. From the north side of the 507 square foot lease area the site slopes down to the south and it is proposed to be brought up to the same level as the north side using a retaining wall which will be filled in and backfilled on the outer side.

The railroad tracks abut the subject property on the east. The site is in the Public (P) Zone, but the area is commercial zoning (CBD Zone) between 99W and the tracks, and industrial zoning (LI Zone) on the east side of the tracks.

The facility will be behind the Dundee Fire Station, in the southeast corner of the site, away from public streets. Screening (fencing and landscaping) for the ground equipment is proposed to mitigate visual and noise impacts. All of the proposed improvements will fit within the fenced and leased areas.

The facility will not be manned, therefore, access will be necessary only for one to two trips per month. No parking is required for the use. A 12 foot wide access easement is provided through the fire station parking lot to the facility. The site size, dimensions, location, topography and access are adequate for the needs of the proposal. The site size, dimensions and topography are adequate for the proposed use.

The applicant's Narrative, p. 24, indicates the location is necessary because the area has poor wireless service and a new facility will allow seamless coverage for users in town and along Highway 99W. The site is very near the center of Verizon's search area to fill the coverage and capacity gaps. The location in the back corner of the site place the facility away from 99W and other roads to the east.

The applicant's Narrative, pp. 4 - 12, address site selection and design in terms of improving coverage and capacity. The site's location is adequate for the proposed use.

The applicant's Narrative, p. 24, indicates the facility will use the existing access from 99W into the Fire Department parking lot with a 12-foot wide easement running to the facility. The facility will be monitored remotely and will be visited 1 or 2 times per month for maintenance. The access is adequate for the proposed use.

*2. The negative impacts of the proposed use, if any, on adjacent properties and on the public can be mitigated through application of other code standards, or other reasonable conditions of approval.*

**Finding:** The applicant's response (Narrative, p. 24) addresses the visual and noise impacts. The applicant has proposed an 80-foot high stealth Monopine to mimic the appearance of a pine tree. A 74-foot antenna tip height will allow for 6-feet of branches above the antennas to mimic the shape of a natural tree. The applicant states 74-feet is the minimum height to meet coverage needs. The height allows for co-location of another provider, which will minimize the number of future facilities needed in the area. Photo simulations from several vantage points in the area have been provided showing how the proposed structure will look in relation to existing trees, structures, and utility poles. A stealth design is proposed, which limits the structure's mass. Antennas will be mounted on short arms and the structure is proposed behind the fire station to minimize the view from Hwy 99W. The base and ground equipment will be surrounded by a 6-foot chain link fence with slats and a 5-foot wide landscape buffer with a mix of deciduous and evergreen trees, shrubs and groundcover.

The proposed equipment includes support cabinets. The cabinets will run 24 hours a day. The closest property to the facility site is the abutting land to the south which is zoned Central Business District (CDB). It is vacant, except for an older unoccupied concrete industrial building.

The Dundee Municipal Code limits noise to 60 dBA during daytime hours and 55 dBA at night. The applicant's materials included a 5-page acoustical report by SSA Acoustics dated October 4, 2017. The report shows a noise barrier is required to satisfy the Dundee noise requirements for the equipment at night. A detail of the barrier is shown in the report, Figure 2, p. 4, along the inside of the south fence line. The applicant is conditioned to provide plans for review and approval that show how the noise barrier can be accommodated within the project area including the proposed fencing and landscaping.

The prior proposal in 2018 included an emergency generator and the acoustical report include sound mitigation for the generator. The 2020 application does not include a generator and, therefore, the sound mitigation for the generator is not now needed, nor is it required.

*3. All required public facilities, including water, sanitary sewer, and streets, have adequate capacity or are to be improved to serve the proposal, consistent with city standards.*

**Finding:** The applicant's response (Narrative, p. 25) addresses the public facilities. The proposed facility is unmanned and only requires electrical and telephone services. There are adequate electrical and telephone services available. Water and sewer are not needed. Highway 99W is adequate to accommodate the 1-2 maintenance trips to the facility each month.

*4. A conditional use permit shall not allow a use that is prohibited or not expressly allowed under DMC Division 17.200; nor shall a conditional use permit grant a variance without a variance application being reviewed with the conditional use application.*

**Finding:** The applicant's response (Narrative, p. 25) addresses the public facilities. Wireless communication facilities are permitted as a special use within the P (Public) zone. A conditional use permit is required only for facilities exceeding the 45-foot height limit. The conditional use permit is for the overall height of 80-feet. The applicant has applied for conditional use approval. A variance is not being requested or required.

*B. Conditions of Approval. The city may impose conditions that are found necessary to ensure that the use is compatible with other uses in the vicinity, and that any negative impact of the proposed use on the surrounding uses and public facilities is minimized. These conditions include, but are not limited to, one or more of the following:*

- 1. Limiting the hours, days, place and/or manner of operation;*
- 2. Requiring site or architectural design features which minimize environmental impacts such as noise, vibration, exhaust/emissions, light, glare, erosion, odor and/or dust;*
- 3. Requiring larger setback areas, lot area, and/or lot depth or width;*
- 4. Limiting the building or structure height, size, lot coverage, and/or location on the site;*
- 5. Designating the size, number, location and/or design of vehicle access points or parking and loading areas;*
- 6. Requiring street right-of-way to be dedicated and street improvements made, or the installation of pathways or sidewalks, as applicable;*
- 7. Requiring landscaping, screening, drainage, water quality facilities, and/or improvement of parking and loading areas;*
- 8. Limiting the number, size, location, height and/or lighting of signs;*
- 9. Limiting or setting standards for the location, type, design, and/or intensity of outdoor lighting;*
- 10. Requiring berms, screening or landscaping and the establishment of standards for their installation and maintenance;*
- 11. Requiring and designating the size, height, location and/or materials for fences;*
- 12. Requiring the protection and preservation of existing trees, soils, vegetation, watercourses, habitat areas, drainage areas, historic resources, cultural resources, and/or sensitive lands;*
- 13. Requiring improvements to water, sanitary sewer, or storm drainage systems, in conformance with city standards; and*
- 14. The planning commission may require renewal of conditional use permits annually or in accordance with another timetable as approved pursuant to this chapter. Where applicable, the timetable shall provide for periodic review and renewal, or expiration, of the conditional use permit to ensure compliance with conditions of approval; such periodic review may occur through an administrative or quasi-judicial land use review process.*

**Finding:** The applicant's response (Narrative, p. 25) acknowledges the City's authority to assign conditions of approval. To minimize visual impacts, the applicant has proposed a Monopine design with branches on the upper 6-feet and with short antenna mounting arms to reduce the mass of the structure. To screen ground equipment, a 6-foot chain link fence with slats and a 5-foot wide landscape area is proposed on the eastern, western, and southern sides of the fence enclosure. The applicant's acoustical report notes that if an emergency

generator were proposed such as with the prior application, a noise barrier would be needed to satisfy the Dundee noise requirements, but a generator is not proposed in this application, therefore, a noise barrier for a generator is not needed. After hearing public testimony and considering the proposal, conditions of approval may be imposed by the Dundee Planning Commission to minimize negative impacts from the proposed use.

*C. Conditional Use Permit Supplemental Requirements. The requirements for compliance with permit conditions and permit expiration are the same as for site development review under DMC 17.402.070.*

**Finding:** The applicant's response (Narrative, p. 26) acknowledges the requirements are the same as for site development review. The requirements for compliance with permit conditions and permit expiration shall be the same as for site development review under DMC 17.402.070.

### **17.402 – Site Development Review**

#### **17.402.050 Approval criteria.**

*A. Approval Criteria. An application for a Type II site development review shall be approved if the proposal meets all of the following criteria. The city decision-making body may, in approving the application, impose reasonable conditions of approval, consistent with the applicable criteria.*

*1. The application is complete, in accordance with DMC 17.402.040;*

**Finding:** The application was substantially complete for review. This criterion is met.

*2. The application complies with all of the applicable provisions of the underlying zone and overlay zone(s), including but not limited to: building and yard setbacks, lot area and dimensions, density and floor area, lot coverage, building height, building orientation, architecture, and other applicable standards;*

**Finding:** The proposed wireless facility complies with the applicable development standards in the Public Zone (P) as follows:

#### **17.202.030 Dimensional Standards (for the P zone)**

*A. Lot Size: 5,000 square feet*

*B. Setback Requirements: 20 front; none for side or rear yard*

*C. Maximum Building Height: 45 feet; telecommunications structures in excess of 45 feet in height allowed with conditional use permit*

*D. Minimum Lot Dimensions (Feet): None*

*E. Maximum Lot Coverage (% of Lot): None*

**Finding:** The property is located in the P (Public) Zone, which has the following requirements: 5,000 square foot minimum lot size; 20 foot front setback; 45 foot height limit (greater with conditional use permit); and no lot width, depth, frontage, or coverage standards. The parcel is approximately 64,468 square feet, which meets the lot size standard. The proposed monopole is 74 feet tall with branches extending to 80-feet, and the applicant has requested a conditional use permit to exceed the 45 feet height limit. The facility will be set back more than 20 feet from the front property line, meeting the standard. This criterion is met.

*3. The proposal includes required upgrades, if any, to existing development that does not comply with the applicable land use district standards, pursuant to Chapter 17.104 DMC, Nonconforming Situations;*

**Finding:** The site is developed with the Dundee Fire Station, approved in 2013 (SDR 13-01). There are no nonconforming situations to upgrade. This criterion is met.

4. *The proposal complies with all of the site design and development standards of this code, as applicable;*

**Finding:** The proposal complies with, or can be conditioned to comply with, all applicable site design and development standards as outlined in this report under “Additional Standards”. This criterion is met or met as conditioned.

5. *The proposal meets all existing conditions of approval for the site or use, as required by prior land use decision(s), as applicable. Note: compliance with other city codes and requirements, though not applicable land use criteria, may be required prior to issuance of building permits.*

**Finding:** All existing conditions of approval for the site are related to the Dundee Fire Station approval (SDR 13-01), and they have been satisfied. This criterion is met.

### **Additional Standards**

#### **17.202 – Zoning Regulations**

##### **17.202.050 Fence Standards**

###### **A. General Standards.**

1. *Fences and walls shall not be constructed of nor contain any material that could cause bodily harm, such as barbed wire, broken glass, spikes, electric or any other hazardous or dangerous materials; this includes link fencing with barbed ends at the top or sides; except that fences topped with barbed wire are allowed in agricultural and public zones.*
2. *Electric fences and barbed wire fences in agricultural zones intended to contain or restrict cattle, sheep, horses or other livestock, and lawfully existing prior to annexation to the city, may remain.*
3. *Every fence shall be maintained in a condition of reasonable repair and shall not be allowed to become and remain in a condition of disrepair including noticeable leaning, missing sections, broken supports, non-uniform height, and uncontrolled growth of vegetation.*
4. *Fences shall comply with requirements of the clear vision area for streets and driveways.*
5. *In no instance shall a fence extend beyond the property line.*
6. *In the C and CBD zones, chain link fencing may not be used between a public street and a maximum setback line, with the following exceptions:*
  - a. *In the C zone, black fused and bonded vinyl coated chain link fencing may be used, subject to subsection (B) of this section.*
  - b. *In the CBD zone, black fused and bonded vinyl coated chain link fencing may be used if screened from view from the street by a sight-obscuring hedge of equal height, subject to subsection (B) of this section.*
7. *In the LI zone, fences taller than six feet in height shall not be chain link. Fences over six feet in height shall be screened by a sight obscuring hedge.*

**Finding:** The proposed structure and ground equipment will be enclosed by a 6-foot tall chain link fence with slats. The fence will not include dangerous materials, be electric, be within the clear vision area, or extend beyond the property line. The requirements for fences in the C, CBD, and LI zones do not apply because the site is in the Public Zone.

### **17.203 – Special Use Standards**

#### **17.203.170 Wireless Communication Facilities**

**B. Review Procedure.** *In addition to the applicable application requirements for site development review, all of the following information shall be submitted:*

- 1. An evaluation of the feasibility of co-location of the subject facility as an alternative to the requested permit. The feasibility study must include:*
  - a. The location and ownership of the existing telecommunication structures within the cell service area and not to exceed two miles.*
  - b. Written verification and other documentation revealing the availability and/or cooperation shown by other providers to gain access to existing sites/facilities to meet the needs of the applicant.*
  - c. The tower type and height of potential collection facilities.*
  - d. Anticipated capacity of the wireless communication facility, including number and type of antennas that can be accommodated.*
  - e. The specific reasons as to why co-location is or is not feasible.*

**Finding:** The applicant's Narrative, Section IV, pp. 4 – 12, provide the results of a wireless facility search "...to improve a significant capacity deficiency in its 3G and 4G LTE coverage in the City of Dundee" (p. 4). A "search ring" was identified in the area needing additional capacity (p. 5). The search results included the location, height, and ownership of the registered facilities. The closest facility was noted 1.1 miles away to the southwest on SE Fulquartz Landing Road (p. 7)(south of Hess Creek at the intersection of Fulquartz Landing Road and the RR tracks).

The applicant's Narrative, Figure 4, p. 10, shows the coverage area of the closest existing Verizon tower in Newberg. The coverage in the Dundee area is shown in green and yellow. Green "...represents a high RF signal strength which generally provides good coverage inside vehicles and buildings. Yellow represents moderate RF signal strength that generally provides good service inside vehicles and moderate service inside buildings" (p. 10). The Dundee area is shown in yellow, moderate service (Figure 4).

The applicant's Narrative, Figure 5, p. 11, shows the coverage in the Dundee area with the proposed Monopine. The Dundee area is shown in green, good service. The Narrative indicates the proposed Monopine would meet Verizon's coverage objective for the Dundee area.

The applicant's Narrative, Table 1, p. 8, considered co-location on existing telecommunication facilities and concluded, "Colocation on existing telecommunication facilities: This tower is outside of the search area and already being utilized by Verizon" [Table 1, p. 8, 1), a)]. The Narrative also considered "upgrade to existing towers" [Table 1, p. 8, 1) b)], "Existing alternative structures" [Table 1, p. 8, 1) c)], "Rooftop Installations"

[Table 1, P. 8, 1) d)], and “Utility Structures (i.e., power poles, high tension power lines, etc.)” [Table 1, p. 8, 2)]. No other existing, non-wireless structures have the height or structural capacity needed to serve the area. Existing buildings in the area are not tall enough (mainly one story) and utility poles ranging from 20 – 60 feet cannot provide the coverage without multiple facilities. Where the poles were replaced with taller poles, there would be no space for ground equipment because the poles are in the 99W public right-of-way. For these reasons, co-location is not feasible.

In addition to the Narrative, Table 1, p. 8, the applicant’s materials include “RF Usage and Facility Justification, OR1 Dundee” prepared by Verizon Wireless, October 15, 2019. It is eight color unnumbered pages. The seventh page, “Coverage Comparison With Existing Tower,” (the AT&T tower at the corner of Fulquartz Landing Road and the RR tracks), shows how co-locating on the Fulquartz site would affect capacity in the Dundee area. It shows the current coverage and the coverage with Verizon co-locating on the AT&T tower would be, essentially, the same, and it concludes, “Existing tower located 1.3 miles SE [SW] of Dundee city will not improve coverage or capacity offload of existing sites.”

*2. Alternatives for locating or relocating support structures within 250 feet of the proposed location.*

**Finding:** The applicant’s Narrative, p. 11, states, “As there are no viable alternative structures or existing wireless facilities on which to locate, prohibiting a new facility at this location would prohibit or have the effect of prohibiting the provision of wireless communications service in this area because it would materially inhibit Verizon’s ability to add needed capacity.” Moving the tower east would put it closer to a residential area. Locations north and south would be on the same site or another adjacent site which would have similar impacts as the proposed location. Further west would put the tower along Hwy 99W, closer to pedestrian areas. The proposed location is away from most of the nearby streets, behind the Fire Station, and within an area zoned for commercial and industrial uses.

*3. Analysis of the visual impacts of the proposed facility on residential dwellings within 250 feet of the proposed site, and an assessment of potential mitigation measures, including relocation.*

**Finding:** The applicant submitted photo simulations from several vantage points to show the visual impacts of the proposed facility. Views 1 – 4 are along 99W and View 5 is looking west from 785 SE Locust Street (the NE quadrant of Locust and 8<sup>th</sup>). To minimize visual impacts the proposed facility design includes a monopole with evergreen limbs to give the appearance of an evergreen tree (Monopine). Antennas mounted on short davit arms and the ground equipment would be surrounded by fencing with privacy slats and landscaping (trees, shrubs and groundcover). To be less noticeable, the applicant is proposing the facility on a site abutted by commercial and industrial zoned properties, and behind the Dundee Fire Station near the railroad tracks and away from most public streets.

**C. Approval Criteria.** *In addition to any other applicable requirements, the decision to approve or deny the placement of a wireless communication tower shall be based on all of the following:*

*1. Co-location is not feasible on existing structures, including other wireless communication facilities.*

**Finding:** The applicant provided documentation of other wireless facilities within the area. There is an existing AT&T wireless facility 1.3 miles away, but it does not provide the coverage needed for the Dundee area. The applicant also considered alternative structures, buildings and utility poles. No existing, non-wireless structures have the height or structural capacity needed to serve the area. Existing buildings in the area are not tall enough (mainly one story) and utility poles ranging from 20 – 60 feet cannot provide the coverage without multiple

facilities. Where the poles were replaced with taller poles, there would be no space for ground equipment because they are in the 99W public right-of-way. For these reasons, co-location is not feasible. This criterion is met.

*2. The wireless facility shall be located and designed to preserve the ability for co-location of at least one additional user on all structures exceeding 35 feet in height, if feasible.*

**Finding:** The proposed monopole is 80 feet tall (74 feet to the tip of the antennas) and will be designed for one additional antenna facility. This criterion is met.

*3. Based on the visual analysis and mitigating measures, the location and design of a freestanding wireless communication facility shall be conditioned to minimize visual impacts from residential areas through the use of setbacks, building heights, bulk, color, landscaping and similar visual considerations.*

**Finding:** Photo simulations of the proposed facility were provided by the applicant. Views are provided from several locations, including the residential area to the east of the site. To minimize visual impacts a monopole design with short davit arm antenna mountings is proposed. A 6-foot high chain link fence with privacy slats and landscaping is proposed to screen ground equipment from view. The location of the proposed facility behind the Fire Station, near the RR tracks and away from most public streets also partially screens the facility. The simulation shows the facility in comparison to existing buildings, trees, and utility poles. The design minimizes the visual impacts from residential areas. This criterion is met.

*4. The design minimizes identified adverse impacts of the proposed use to the extent feasible.*

**Finding:** The adverse impacts from the proposed facility include visual and noise impacts. To minimize visual impacts the applicant completed a visual impact study within the surrounding area. Photo simulations from several locations were provided showing the facility in relation to existing buildings, structures, and landscaping. To minimize the visual impact the applicant proposed a monopole design with short davit arm antenna mountings. A 6-foot high chain link fence with privacy slats and 5 feet of landscaping are proposed to screen ground equipment from view. The proposed location is behind the Fire Station, near the railroad tracks, and away from most public streets.

The Dundee Municipal Code limits noise to 60 dBA during daytime hours and 55 dBA at night (DMC 8.28.040). The applicant's materials included a 5-page acoustical report by SSA Acoustics dated October 4, 2017. The report shows a noise barrier is required to satisfy the Dundee noise requirements for the equipment at night. A detail of the barrier is shown in the report, Figure 2, p. 4, along the inside of the south fence line, but the application sheets such as L-1, Landscaping, A-2, Enlarged Site Plan and A-2.1, Equipment Plan do not show the sound barrier. The applicant is conditioned to provide plans for review and approval that show how the noise barrier can be accommodated within the project area including the proposed fencing and landscaping.

*5. Structures greater than 35 feet in height shall be at least 300 feet from any residentially (R) zoned property.*

**Finding:** The proposed wireless facility is 80-feet tall. The nearest residentially zoned property is over 300 feet to the east measured from the property line. The applicant has provided a plan showing this but staff also used GIS maps and Yamhill County assessor's maps to verify the distance. This criterion is met.

### **17.302 Landscaping and Screening**

#### **17.302.50.A Minimum Landscape Area in C, CBD, LI and P Zones.**

*1. In the CBD, LI, and P zones, a minimum of 10 percent of the gross lot area shall be landscaped.*

2. In the C zone, a minimum of 15 percent of the gross lot area shall be landscaped.

3. In a commercial zone pedestrian courtyards, plazas, walkways, fountains, benches, sculptures, or decks may be included within the required landscaping percentage if they are designed in conjunction with planting of street trees and potted plants and, upon design review, these features are found consistent with the purpose and intent set forth in this code.

4. Landscaping required under other sections of this code, including, but not limited to, parking lot landscaping pursuant to DMC 17.302.060 and landscaping within front setback areas pursuant to DMC 17.202.060(C), may be included in and counted towards the required landscaping percentage. If landscaping required under other sections of this code exceeds 10 percent of the gross lot area, the full amount of landscaping required under other sections shall still be required.

5. The required landscape area for all zones must be visible from the public right-of-way.

**Finding:** The subject site is located within the P (Public) zone. According to the staff report for the Dundee Fire Station (SDR 13-01) approximately 14,546 square feet of the 1.48 acre site is landscaped. The 8-foot by 29-foot fenced enclosure will reduce the landscaping by 232 square feet. The landscape plan shows that approximately 20% of the site will still be landscaped, which exceeds the minimum 10% required in the P Zone. Screening for the ground equipment is required. The applicant has proposed a 6-foot high chain link fence with privacy slats and a 5-foot wide landscape area outside the fence for that purpose. Existing and proposed landscaping is visible from the public right-of-way.

#### **17.302.060 Screening and Buffering**

*A. Required Screening. Screening shall be used to eliminate or reduce the visual impacts of the uses in subsections (A)(1) through (7) of this section:*

1. Commercial and industrial uses when abutting residential uses;
2. Industrial uses when abutting commercial uses;
3. Service areas and facilities, including garbage and waste disposal containers, recycling bins, and loading areas;
4. Outdoor storage areas;
5. At- and above-grade electrical and mechanical equipment, such as transformers, heat pumps, and air conditioners;
6. Rooftop mechanical equipment;
7. Any other area or use as required by this code.

**Finding:** The proposed wireless facility includes ancillary ground equipment, therefore, screening is required.

*B. Methods of Screening. Screening shall be accomplished by the use of sight-obscuring plant materials (generally evergreens), earth berms, walls, fences, building parapets, building placement, or other design techniques, as appropriate to the site given its visibility from adjacent uses and rights-of-way.*

**Finding:** The applicant has proposed a 6-foot high chain link fence with privacy slats and a 5-foot wide area outside the fence with a mix of evergreen and deciduous trees, shrubs, and ground cover to screen the ground equipment from adjacent properties and rights-of-way.

*D. Required Buffers. Buffering shall be used to mitigate adverse visual impacts, dust, noise or pollution, and to provide for compatibility between dissimilar adjoining uses.*

**Finding:** The proposal is for a wireless telecommunications facility. The applicant proposes to mitigate the visual impacts and noise. Dust or pollution are not expected from the facility. Wireless communication facilities are classified as public and institutional uses, which are not dissimilar from the adjoining commercial uses.

*E. Methods of Buffering. Where buffering is determined to be necessary, one of the following buffering alternatives shall be employed:*

*1. Planting Area. Width not less than 15 feet, planted with the following materials:*

*a. At least one row of deciduous or evergreen trees staggered and spaced not more than 15 feet apart; and*

*b. At least one row of evergreen shrubs which will grow to form a continuous hedge at least five feet in height within one year of planting; and*

*c. Lawn, low-growing evergreen shrubs or evergreen ground cover covering the balance of the area.*

*2. Berm plus Planting Area. Width not less than 10 feet, developed in accordance with the following standards:*

*a. Berm form shall not slope more than 40 percent (2.5H:1V) on the side away from the area screened from view (the slope for the other side (screened area) may vary); and*

*b. A dense evergreen hedge shall be located so as to most effectively buffer the proposed use; and*

*c. Combined total height of the berm plus the hedge shall be at least five feet within one year of planting.*

*3. Wall plus Planting Area. Width must not be less than five feet developed in accordance with the following standards:*

*a. A masonry wall or fence not less than five feet in height; and*

*b. Lawn, low growing evergreen shrubs, and evergreen ground cover covering the balance of the area.*

*4. Other methods that produce an adequate buffer considering the nature of the impacts to be mitigated, as approved by the review authority.*

**Finding:** The applicant has proposed a 6-foot high chain link fence with privacy slats and a 5-foot wide area outside the fence with a mix of evergreen and deciduous trees, shrubs, and ground cover to screen the ground equipment from adjacent properties and rights-of-way. This meets the requirements of buffer alternative Number 3.

### **17.302.080 Landscape Installation and Maintenance**

*All landscaping required by this code shall be continually maintained pursuant to this section. Appropriate methods of care and maintenance of landscaped plant material shall be provided by the owner of the property, including necessary watering, weeding, pruning, mowing, and replacement, as applicable, in a substantially similar manner as was approved by the city or as otherwise required by applicable city regulations. The following standards apply to all landscaping required by this code:*

- A. Clear Vision. No sight-obscuring plantings exceeding 24 inches in height shall be located within any required clear vision area as defined in DMC 17.301.040.*
- B. Pedestrian Areas. Landscape plant materials shall be kept clear of walks, pedestrian paths, and seating areas; trees shall be pruned to a minimum height of eight feet over pedestrian areas and to a minimum height of 15 feet over streets and vehicular traffic areas.*
- C. Utilities. Landscape plant materials shall be selected and maintained so that they do not generally interfere with utilities above or below ground.*
- D. Nursery Standards. Required landscape plant material shall be installed to current nursery industry standards. Landscape plant materials shall be properly guyed and staked to current industry standards as necessary. Stakes and guy wires shall not interfere with vehicular or pedestrian traffic.*
- E. Plant Selection. Plant materials shall be suited to the conditions under which they will be growing. As an example, plants to be grown in exposed, windy areas where permanent irrigation is not to be provided should be sufficiently hardy to thrive under these conditions. Plants should have vigorous root systems and be sound, healthy, and free from defects, diseases, and infections.*
- F. Deciduous Trees. Deciduous trees, where required to provide shade (e.g., over parking lots or walkways), shall be fully branched and have a minimum caliper of two inches a minimum height of eight feet at the time of planting. Deciduous trees intended to serve as ornamental (nonshade) trees may be smaller, but shall not be less than one and one-half inch caliper, at time of planting.*
- G. Evergreen Trees. Evergreen trees shall be a minimum of six feet in height, fully branched, at time of planting.*
- H. Shrubs. Shrubs shall be supplied in minimum one-gallon containers or eight-inch burlap balls with a minimum spread of 12 to 15 inches.*
- I. Ground Cover. Ground cover shall consist of not less than 50 percent live plant material. Such plants shall be spaced in accordance with current nursery industry standards to achieve covering of the planting area, with rows of plants staggered for a more effective covering. Ground cover plants shall be supplied in a minimum four-inch size container or equivalent if planted 18 inches on center; and nonliving material used for ground cover shall be limited to compost, bark chips, and other city-approved pervious materials.*
- J. Irrigation. Except in wooded areas, wetlands, flood plains, or along natural drainage channels or stream banks, where the city may waive irrigation requirements, all developments are required to provide appropriate methods of irrigation for the landscaping. Sites with more than 1,000 square feet of total landscaped area shall be irrigated with automatic sprinkler systems to ensure the continued health and attractiveness of the plant materials. Hose bibs and manually operated methods of irrigation may be used for landscaped areas totaling less than 1,000 square feet. Sprinkler heads shall be located and installed to not cause any hazard to the public.*

*K. Protection of Plants. Landscape plant material shall be protected from damage due to heavy equipment during construction. After construction, landscape plant material and irrigation shall be protected from damage due to heavy foot traffic or vehicular traffic by protective tree grates, bollards, raised curbs, wheel stops, pavers or other suitable methods.*

*L. Performance Guarantee. Except where the review authority requires installation of landscaping prior to issuance of building permits, all landscaping required by this code and approved by the city shall be installed prior to issuance of a final occupancy permit unless security equal to 110 percent of the cost of the landscaping is filed with the city assuring such installation within six months of occupancy. The applicant will obtain cost estimates for landscape materials and installation to the satisfaction of the review authority prior to approval of the security. "Security" may consist of a faithful performance bond payable to the city, cash, certified check, time certificate of deposit, assignment of a savings account, or other such assurance of completion as approved by the city attorney.*

*M. Maintenance Guarantee. The developer or builder, as applicable, shall guarantee all landscape material for a period of one year from the date of installation. A copy of the guarantee shall be furnished to the city by the developer.*

*N. Final Inspection. The city planning official, prior to the city returning any security provided under this chapter, shall make the final landscape inspection. Any portions of the plan not installed, not installed properly, or not properly maintained shall cause the inspection to be postponed until the project is completed. If the installation of the landscaping is not completed properly within six months of such postponement, or within an extension of time authorized by the city, the city may use the security to complete the installation. Any portion of the security that remains after installation of the landscaping shall be returned to the applicant. [Ord. 521-2013 § 3 (Exh. A)].*

**Finding:** The proposed landscape plans, L-1 and L-2, demonstrate how the landscape installation and maintenance standards are met. Plant materials meet the minimum requirements for spacing, size, and installation. The landscaping is not located in an area that will interfere with pedestrian/vehicular traffic or impede clear vision. Root barriers are proposed where trees are four feet or less from underground utilities and pipes. A watering schedule is provided, and long term water catchment features will be installed to provide additional irrigation. Native and drought tolerant plants are proposed to improve performance. The landscape plan Note #2 states that plants are under a 1-year warranty but a copy of the warranty was not provided. To ensure the landscape material is guaranteed for a period of 1-year from the date of installation, the applicant is conditioned to provide a copy of the guarantee prior to the issuance of building permits.

### **17.305 Public Improvements and Utilities**

#### **17.305.050 Storm drainage**

*C. General Requirement. All stormwater runoff shall be conveyed to a public storm sewer or natural drainage channel having adequate capacity to carry the flow without overflowing or otherwise causing damage to public and/or private property. The developer shall pay all costs associated with designing and constructing the facilities necessary to meet this requirement.*

*D. Plan for Storm Drainage and Erosion Control. No construction of any facilities in a development included in subsection (B) of this section shall be permitted until an engineer registered in the state of Oregon and approved by the city prepares a storm drainage and erosion control plan for the project. This plan shall contain at a minimum:*

- 1. The methods to be used to minimize the amount of runoff, siltation, and pollution created from the development both during and after construction.*

2. Plans for the construction of storm sewers, open drainage channels, and other facilities that depict line sizes, profiles, construction specifications, and other such information as is necessary for the city to review the adequacy of the storm drainage plans.

3. Design calculations shall be submitted for all drainage facilities. These drainage calculations shall be included on the site plan drawings and shall be stamped by a licensed professional engineer in the state of Oregon. Peak design discharges shall be computed using the rational formula and based upon the design criteria outlined in the public works design standards for the city.

**Finding:** The proposed improvements will add less than 2000 square feet of impervious surface to the site (232 square feet) which will not require additional water quality or detention improvements. The proposed improvements will impact two on-site storm pipes in the southeast corner of the site. The applicant shows one of the pipes being relocated outside of the improvement area and connection of the other pipe (parallel to the railroad tracks) being reconnected to the relocated pipe. However, the configuration of the relocated pipe requires two bends and cleanouts that may increase maintenance for the Fire Station. The new impervious area is shown to drain to an area drain that connects to the relocated pipe.

The applicant is required to reconfigure the existing storm system to accommodate the proposed improvements. This includes: relocation of one pipe and outfall as shown on the proposed plan and reconnection of a second pipe extending along the railroad tracks. Re-grade the new impervious to drain to the existing, adjoining impervious area, provide a curb cut in the existing curb to improve flow to the existing water quality facility. Provide section, details and grades for the interface between the existing concrete curb/slab and proposed improvements. Consider reconfiguration of the outlet pipes to eliminate one of the bends and cleanouts by replacing pipe from existing ditch inlet. Coordinate the final design with the City Engineer and Fire Chief. Add rip-rap outlet protection and re-grade the existing drainage channel to accommodate the new outfall.

*E. Development Standards. Development subject to this section shall be planned, designed, constructed and maintained in compliance with the city of Dundee public works design standards.*

**Finding:** The applicant has proposed and is conditioned to reconfigure (re-route existing pipes) the existing storm system to accommodate the proposed improvements. The applicant shall field verify existing private and public utilities within the work area and coordinate with or relocate as needed. There are existing communications utilities extending to the Fire Station from the northwesterly corner of the site along Highway 99W that may conflict with the proposed utility extensions in this area.

## **Conclusion**

The proposed wireless facility meets the criteria for approval for conditional use permit and site development review, with completion of the conditions of approval as stated in Exhibit B.

**EXHIBIT B**  
**CONDITIONS OF APPROVAL**  
**CU 20-06/SDR 20-07 Verizon Cell Tower Conditional Use**

Based on the findings in Exhibit A, the proposed development meets the required criteria contained in the Dundee Municipal Code and is **approved**, subject to completion of the conditions of approval:

The applicant must provide the following information for review and approval prior to construction of improvements:

1. The applicant shall provide plans for review and approval showing how the noise barrier can be accommodated within the project area including the proposed fencing and landscaping.
2. To ensure the landscape material is guaranteed for a period of one year from the date of installation, the applicant shall provide a copy of the guarantee prior to the issuance of building permits.
3. **Utility Improvements:** The applicant shall provide engineered plans for the Engineering Department's approval addressing the items listed below. All plans must be in accordance with the Dundee Public Works Design Standards. Note that utility lines may not cross property lines except by easement, and the utilities for one parcel may not serve development on another parcel.
  - **Stormwater:**

The applicant is required to reconfigure the existing storm system to accommodate the proposed improvements. This includes: relocation of one pipe and outfall as shown on the proposed plan and reconnection of a second pipe extending along the railroad tracks. Re-grade the new impervious to drain to the existing, adjoining impervious area, provide a curb cut in the existing curb to improve flow to the existing water quality facility. Provide section, details and grades for the interface between the existing concrete curb/slab and proposed improvements. Consider reconfiguration of the outlet pipes to eliminate one of the bends and cleanouts by replacing pipe from existing ditch inlet. Coordinate the final design with the City Engineer and Fire Chief. Add rip-rap outlet protection and re-grade the existing drainage channel to accommodate the new outfall.
  - **Property Line & Constructability:**

The improvements shall be set back from the property line to allow for construction or obtain an easement from adjoining rail property to accommodate construction.

The applicant shall complete the following prior to final building inspection:

1. Install utilities as required by the approved utility plan and obtain the necessary City permits prior to construction.
2. Construct all improvements according to the approved construction plans.

**Development Notes**

- o **Public Works Requirements:** This project is subject to compliance with all Dundee Public Works Design Standards. The applicant shall field verify existing private and public utilities within the work area and coordinate with or relocate as needed. There are existing communications utilities extending to the Fire Station from the northwesterly corner of the site along Highway 99W that may conflict with the proposed utility extensions in this area.

- o **Existing improvements.** All landscaping or other improvements disturbed by the work shall be restored to original condition or better.
  
- o During construction contact Portland & Western Railroad if equipment is being operated within 50 feet of the railroad tracks. Contact information: Dennis Hannahs, Permit Specialist, [dhannahs@gwrr.com](mailto:dhannahs@gwrr.com), (505) 508-7940.



# Type II Review

Site Design Review

Fee: \$240.00 + \$2,500.00 Deposit | File No. SDR 20-06

Applicability: A Type II Site Design Review is required for all new commercial, industrial, or multifamily development; or for commercial, industrial, institutional, or multifamily building addition or remodel that adds 25 percent or more floor area. See Dundee Development Code Chapter 17.402 for more information.

<b>Applicant:</b>	Tammy Hamilton/ACOM Consulting Inc. (on behalf of Verizon Wireless)		
<b>Address:</b>	5200 SW Meadows Rd, Ste 150, Lake Oswego, OR 97035		
<b>Email Address:</b>	tammy.hamilton@acomconsultinginc.com		
<b>Phone(s):</b>	206-499-4878		
<b>Owner (if different from above):</b>	City of Dundee		
<b>Owner Address:</b>	PO Box 220, 620 SW 5th St., Dundee, OR 97115		
<b>Engineer/Surveyor:</b>			
<b>Phone:</b>			
<b>Engineer/Surveyor Address:</b>			
<b>Project Name:</b>	OR1 Dundee		
<b>Project Location:</b>	801 N Hwy 99W, Dundee, OR 97115		
<b>Map/Tax Lot No.:</b>	R3325CC0080	<b>Zone:</b>	Public
<b>Comp Plan Designation:</b>		<b>Site Size:</b>	507sf <input type="checkbox"/> Sq. Ft. <input type="checkbox"/> Acre
<b>Project Description and Previous/Current Use:</b> New 80' tall stealth monopine tower within fenced compound with associated equipment for new wireless communication facility.			
<b>Surrounding Uses--</b>	Vacant lot, railroad, farms/residences, light inudtrial & Commercial and Hwy 99		
<b>North:</b>	Parking lot/commercial	<b>South:</b>	Vacant lot- abandoned building/commercial
<b>East:</b>	Industrial Uses	<b>West:</b>	Commercial Uses

\*Application must be accompanied by required submittals as noted in Dundee Municipal Code Chapter 17.402.040.

Submit the following information for review (15 copies + 1 electronic copy of all materials):

- Public Facilities and Services Impact Study. The impact study shall quantify and assess the effect of the development on public facilities and services. The city shall advise as to the scope of the study, which, at a minimum, shall address the transportation system, including required improvements for vehicles and pedestrians; the drainage system; the parks system (for multifamily development); water system;

and sewer system. For each system and type of impact, the study shall propose improvements necessary to meet city requirements.

- N/A Transportation impact analysis, as may be required by the city or other roadway authority pursuant to DMC 17.305.030(S). Traffic impact analysis, when required, shall be prepared in accordance with the road authority's requirements.

Site Analysis Map showing:

- The applicant's entire property and the surrounding property to a distance sufficient to determine the location of the development in the city, and the relationship between the proposed development site and adjacent property and development. The property boundaries, dimensions, and gross area shall be identified;
- Topographic contour lines at two-foot intervals for slopes, except where the city engineer determines that larger intervals will be adequate for steeper slopes;
- Identification of slopes greater than 10 percent, with slope categories identified in five percent increments (e.g. zero percent, greater than five percent to 10 percent, greater than 10 percent to 15 percent, greater than 15 percent to 20 percent, and so forth);
- The location and width of all public and private streets, drives, sidewalks, pathways, rights-of-way, and easements on the site and adjoining the site;
- Potential natural hazard areas, including, as applicable, the base flood elevation identified on FEMA Flood Insurance Rate Maps or as otherwise determined through site specific survey, areas subject to high water table, and areas designated by the city, county, or state as having a potential for geologic hazards;
- Areas subject to overlay zones;
- Site features, including existing structures, pavement, large rock outcroppings, areas having unique views, and drainage ways, canals and ditches;
- The location, size and species of trees and other vegetation (outside proposed building envelope) having a caliper (diameter) of six inches or greater at our feet above grade;
- North arrow, scale, names and addresses of all persons listed as owners of the subject property on the most recently recorded deed;
- Name and address of project designer, engineer, surveyor, and/or planner, if applicable.

Proposed Site Plan showing:

- The proposed development site, including boundaries, dimensions, and gross area;
- Features identified on the existing site analysis maps that are proposed to remain on the site;
- Features identified on the existing site map, if any, which are proposed to be removed or modified by the development;
- The location and dimensions of all proposed public and private streets, drives, rights-of-way, and easements;
- The location and dimensions of all existing and proposed structures, utilities, pavement and other improvements on the site. Setback dimensions for all existing and proposed buildings shall be provided on the site plan;
- The location and dimensions of entrances and exists to the site for vehicular, pedestrian, and bicycle access;
- The location and dimensions of all parking and vehicle circulation areas (show striping for parking stalls and wheel stops);
- Pedestrian and bicycle circulation areas, including sidewalks, internal pathways, pedestrian connections through parking lots pursuant to DMC 17.304.030(F)(9), pathway connections to adjacent properties, and any bicycle lanes or trails;
- Loading and service areas for waste disposal, loading and delivery;
- Outdoor recreation spaces, common areas, plazas, outdoor seating, street furniture, and

similar improvements;

- Location, type, and height of outdoor lighting;
- Location of mail boxes, if known;
- Name and address of project designer, if applicable;
- Locations of bus stops and other public or private transportation facilities;
- Locations, sizes, and types of signs.

Architectural Drawings, as applicable, showing

- Building elevations with dimensions;
- Building materials, colors and type;
- Name and contact information of the architect or designer.

Preliminary Grading Plan. A preliminary grading plan prepared by a registered engineer shall be required for all projects subject to site design review, including commercial, industrial, or multifamily developments. The preliminary grading plan shall show the location and extent to which grading will take place, indicating general changes to contour lines, slope ratios, and all proposed storm water drainage systems and erosion control facilities.

Landscape Plan. Where a landscape plan is required it shall show the following, pursuant to Chapter 17.302 DMC.

- The location and height of existing and proposed fences, buffering or screening materials;
- The location of existing and proposed terraces, retaining walls, decks, patios, shelters, and play areas;
- The location, size, and species of the existing and proposed plant materials (at time of planting);
- Existing and proposed building and pavement outlines;
- Specifications for soil at time of planting, irrigation if plantings are not drought-tolerant (maybe automatic or other approved method of irrigation) and anticipated planting schedule;
- Other information as deemed appropriate by the city planning official. An arborist's report may be required for sites with mature trees that are to be retained and protected.

Deed Restrictions. Copies of all existing and proposed restrictions or covenants, including those for roadway access control.

Written response to how the proposed site development meets the applicable Dundee Development Code criteria:

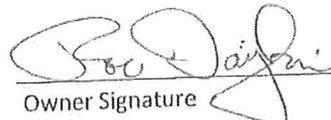
- The application complies with all of the applicable provisions of the underlying zone and overlay zone(s), including but not limited to: building and yard setbacks, lot area and dimensions, density and floor area, lot coverage, building height, building orientation, architecture, and other applicable standards. Note: the application must contain written findings to Chapter 17.202 – Zoning Regulations.
- The proposal includes required upgrades, if any, to existing development that is considered nonconforming. See Chapter 17.104.
- The proposal complies with all of the site design and development standards of this code, as applicable. Note: the application must contain written findings to the Development Standards listed in Chapter 17.300 as applicable to the project (access & circulation, landscaping, exterior lighting, parking & loading, public improvements & utilities, and signs).
- The proposal meets all existing conditions of approval for the site or use, as required by prior land use decision(s), as applicable. Note: compliance with other city codes and requirements, though not applicable land use criteria, may be required prior to issuance of building permits.

I attest that to the best of my knowledge the information provided herein and attached is accurate; and, certify that approval of the adjustment does not create a violation of any other code standard or previous land use approval.

All owners must sign the application or submit letters of consent.

 3/16/20  
Applicant Signature Date

Tammy Hamilton/ACOM Consulting Inc./Verizon Wireless  
Print Name

 3/16/20  
Owner Signature Date

Rob Daykin, City Administrator  
Print Name

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### Process

A Site Design Review is a Type II application, which is an administrative decision and requires public notice to all properties within 100 feet of the project site. This application will go through the following process:

1. Applicant submits application form and all required materials for review.
2. City staff will do a completeness check and let you know whether more information is needed.
3. City staff will prepare and mail notice to all property owners within 100 feet of the project site, and will send the application materials for review and comments to internal and external departments and agencies. This is a two-week long comment period.
4. Once all comments are received, city staff will prepare a staff report and decision on the application.



# Type III Review

Conditional Use

Fee: \$480.00 + \$1500.00 deposit | File No. CU 20-06

**Applicability:** A conditional use application is used when certain uses, which, due to the nature of their impacts on surrounding land uses and public facilities, require a case-by-case review and analysis. Note: A variance application may be submitted concurrently with other applications for review on the same project (i.e. partition, site design review, etc.).

<b>Applicant:</b>	Tammy Hamilton/ACOM Consulting Inc. (on behalf of Verizon Wireless)		
<b>Address:</b>	5200 SW Meadows Rd, Suite 150, Lake Oswego, OR 97035		
<b>Email Address:</b>	tammy.hamilton@acomconsultinginc.com		
<b>Phone(s):</b>	206-499-4878		
<b>Owner (if different from above):</b>	City of Dundee		
<b>Owner Address:</b>	PO Box 220, 620 SW 5th St. Dundee, OR 97115		
<b>Email Address:</b>			
<b>Phone(s):</b>			
<b>Project Name:</b>	OR1 Dundee		
<b>Project Location:</b>	801 N Hwy 99W, Dundee, OR 97115		
<b>Map/Tax Lot No.:</b>	R3325CC00800	<b>Zone:</b>	Public
<b>Parcel Size:</b>	1.48 acres	<b>Current Use:</b>	Fire Station
<b>Surrounding Uses:</b>	Vacant land, rail road, farms/residences, light industrial & commercial and Hwy 99		
<b>Project Description:</b>	New 80' tall stealth monopine tower within fenced compound with associated equipment for a with new wireless communication facility.		

**Each application must include the following:**

- Current Title Report (within 6 months)
- Project Statement: Describe the reason for the conditional use application.
- Site Plan(s) showing the following items (may be shown on multiple sheets):
  - Existing features (buildings, parking, landscaping, etc.);
  - Proposed new site features (buildings, parking, landscaping, etc.);
  - Utilities;
  - Parking, access, and on-site circulation;
  - Site landscaping.
  - Signage.

Architectural drawings as necessary to show compliance with Code criteria.

Written response to the conditional use permit approval criteria (DMC 17.404.A)

1. The site size, dimensions, location, topography and access are adequate for the needs of the proposed use, considering the proposed building mass, parking, traffic, noise, vibration, exhaust/emissions, light, glare, erosion, odor, dust, visibility, safety, and aesthetic considerations;
2. The negative impacts of the proposed use, if any, on adjacent properties and on the public can be mitigated through application of other code standards, or other reasonable conditions of approval;
3. All required public facilities, including water, sanitary sewer, and streets, have adequate capacity or are to be improved to serve the proposal, consistent with city standards;
4. A conditional use permit shall not allow a use that is prohibited or not expressly allowed under DMC.17.200; nor shall a conditional use permit grant a variance without a variance application being reviewed with the conditional use application.

Note: In accordance with 17.404.B, the City may impose conditions that are found necessary to ensure that the use is compatible with other uses in the vicinity and that negative impact of the proposed use on the surrounding uses and public facilities is minimized.

#### CONFORMANCE TO STANDARDS

The undersigned understands that this application must be complete and accurate; that before the proposed conditional use will be accepted for consideration by the Dundee Planning Department all aspects of the project shall substantially conform to the standards, regulations, and procedures officially adopted by the City of Dundee, Oregon.

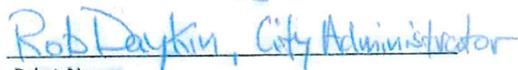
All owners must sign the application or submit letters of consent. Incomplete or missing information may delay the approval process. It is further understood that the applicants(s) having business with the City of Dundee hereby agree to reimburse the City for costs incurred on their behalf for planning, engineering, and legal services as they may relate to the request, application, or project.

  
Applicant Signature \_\_\_\_\_ Date 2/11/20

Tammy Hamilton

Print Name

  
Owner Signature \_\_\_\_\_ Date 2/18/20

  
Print Name

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#### Process

A variance is a Type III application, which involves a public hearing and provides an opportunity for those who appear to appeal the Planning Commission decision to the City Council. The process also requires public notice to all properties within 100 feet of the project site. This application will go through the following process:

1. Applicant submits application form and all required materials for review.
2. City staff will do a completeness check and let you know whether more information is needed (within 30 days of application).

3. City staff will prepare and mail notice to all property owners within 100 feet of the project site, and will send the application materials for review and comments to internal and external departments and agencies. This is a two-week long comment period.
4. Once all comments are received, city staff will prepare a staff report on the application.
5. Planning Commission will hold a hearing and make a decision on the application.

**RECEIVED**  
MAR 18 2020  
CITY OF DUNDEE

APPLICATION FOR  
CONDITIONAL USE PERMIT/  
TYPE III REVIEW

**UNMANNED  
TELECOMMUNICATIONS  
FACILITY AT**

801 N. HWY 99W  
Dundee, OR 974115

**Prepared By**



**Date**  
March 16, 2020

**Project Name**  
OR1 Dundee

**Land Use File #**

CU/SDR 20-06

**Site Address**

801 N. Hwy 99W

I. ATTACHMENT LIST

01. Land Use Applications
02. Architectural Drawings
03. Photo Simulations
04. NIER Report
05. Title Report
06. RF Usage and Facility Justification



## II. GENERAL INFORMATION

Applicant: Verizon Wireless (VAW), LLC dba, Verizon Wireless  
5430 NE 122<sup>nd</sup> Avenue  
Portland, OR 97230

Representative: Acom Consulting, Inc.  
Tammy Hamilton  
5200 SW Meadows Rd., Ste 150  
Lake Oswego, OR 97035

Property Owner: City of Dundee  
620 SW 5th Street  
Dundee, OR 97115

### Project Information:

Site Address: 801 N. HWY 99W, Dundee, OR 97115  
Map/Tax Lot: R3325CC00800  
Parcel Area: 1.48 acres  
Zone Designation: Public (P)  
Existing Use: Fire Station

## III. PROPOSAL

Acom Consulting, Inc. is applying on behalf of Verizon Wireless (VAW), LLC, d/b/a Verizon Wireless; and the property owner, the City of Dundee. The site proposed herein is designed to improve the voice and data capacity for Verizon customers in the City of Dundee and along Highway 99W.

The Applicant proposes to construct an 80-foot tall stealth wireless communications structure designed to mimic the appearance of a pine tree (Monopine). A 74-foot antenna tip height will allow for 6 feet of branches above the antennas to mimic the shape of a natural tree. To minimize the proliferation of towers in the area, the proposed tower is designed to accommodate two carriers, Verizon Wireless and one additional carrier with similar loading. Future collocation below Verizon's antennas will be possible at this site depending on a future tenant's technology and coverage and/or capacity needs.

The lease area, 13' x 39', is sufficient for the tower, equipment area and landscaping buffer. The Monopine and associated ancillary ground equipment will be within an 8' x 29' equipment area enclosed by a 6-foot tall chain link fence with vinyl slats and a 12-foot tall wide rolling access gate. The perimeter of the fence shall be landscaped with a 5-foot landscape buffer of mixed deciduous and evergreen trees along with ground cover. Access to the site will be from the existing driveway and parking lot originating off Highway 99W. Following construction, the proposed project would generate minimal traffic in the area. The use will require approximately 1 trip per month for maintenance visits provided by personnel in a single vehicle. The vehicle would enter the property through the existing driveway and park adjacent to the site. The proposed project will have no impact on existing vehicular access to and from the proposed site, or to pedestrian, bicycle and transit circulation.



This facility is a passive use and will produce no odors, glare, vibration or fumes. The applicant has mitigated the potential visual impact of the facility by proposing the minimum height necessary to meet service objectives, utilizing a stealth design that is fitting of the surrounding environment and typical of the underlying area.

The ground equipment located inside the proposed equipment shelter will only have minimal intermittent sound production and will meet the noise requirements of the City's code.

Existing public utilities are sufficient for this use. The site proposed herein is an unmanned facility that requires only power and telephone services. It does not require sewer or surface water drainage. Exterior lighting for the equipment will be on a timer and be tilted downward to the equipment.

The proposed facility would not create any significant risk to public health and safety, flood hazard or emergency response. The proposed project may improve emergency response because it would improve wireless communication for citizens making emergency calls.

The site will meet or exceed all Federal Communications Commission (FCC) requirements for non-ionizing electromagnetic radiation (NIER) emissions and will comply with all standards as required for wireless telecommunications sites as regulated by Federal, State and the local jurisdiction.

At the termination of the lease agreement with the property owner, the facility will be removed within 90 days and the site restored to its original condition, reasonable wear and tear and casualty excepted.

Finally, the proposed facility has been designed to minimize the number of facilities in the area by encouraging collocation and allocating space for a total of 2 carriers. The Monopine has been located and designed to minimize the visual impact on the immediate surroundings and throughout the community and minimize public inconvenience and disruption while providing a desirable amenity—reliable wireless service. Wireless service is critical today, with many people relying on their wireless devices for everything from information gathering and financial transactions to primary home phone service.

#### **IV. SITE SELECTION & DESIGN**

Verizon seeks to improve a significant capacity deficiency in its 3G and 4G LTE coverage in the City of Dundee. The proposed site location was chosen to improve the voice and data coverage and capacity for customers located along OR Highway 99W.



Figure 1 – Area of Concern

Verizon constructs wireless communication facilities at carefully selected locations. The need for service in this geographic area was determined by market demand, coverage and capacity requirements for a specific geographic area, and the need to provide continuous coverage from one site to another. Once the need for additional capacity was established, Verizon’s radio frequency (“RF”) engineers performed a study to determine the approximate site location and antenna height required to provide the additional wireless capacity. Using a computer modeling program that accounts for the terrain within the service area and other variables, such as proposed antenna height, available radio frequencies and wireless equipment characteristics, the engineers identified a “search ring,” wherein a site could be located to meet Verizon’s service objectives. Generally, the RF engineers take the following objectives into consideration when identifying a search ring:

1. **Coverage.** An antenna site must be located in an area where the radio frequency broadcasts will provide adequate coverage within any significant gap in coverage. The RF engineer must take into consideration the coverage objectives for the site as well as the terrain in and around the area to be covered. Since radio frequency broadcasts travel in a straight line and diminish as they travel further away from the antennas, it is generally best to place an antenna site near the center of the desired coverage area. However, in certain cases, the search ring may be located away from the center of the desired coverage area due to the existing coverage, the surrounding terrain, or other features which might affect the radio frequency broadcasts like buildings or sources of electrical interference.
2. **Capacity.** Capacity refers to the technological limitation of a wireless communication facility to provide communication. Mobile phones and wireless devices transmit to and receive radio frequency signal from antennas at wireless communication facilities. Antennas are capable of transmitting and receiving a finite amount of signal – the capacity. When capacity is reached, busy signals on phones result and data transmission is lost. Monitoring of each wireless facility is continuous, and the data collected analyzed for

- planning to prevent overloading. Projections based on the data allow Verizon to plan, design, permit, and construct new facilities or modify existing wireless communication facility before reaching capacity.
3. Clutter. Verizon's antennas must "clear the clutter" in the area. The radio frequencies used in Verizon's systems are adversely affected by trees, buildings, and other natural and man-made obstacles. Radio frequencies do not penetrate mountains, hills, rocks or metal, and radio frequencies are diminished by trees, brick and wood walls, and other structures. Therefore, antennas must be installed above the "clutter" in order to provide high quality communications services in the desired coverage areas. In addition, if the local code requires us to accommodate additional carriers on the structure, the structure must be even higher in order to allow the other carriers' antennas to clear the clutter as well.
  4. Call Handoff. The antenna site must be located in an area where the radio broadcasts from this site will allow seamless call handoff with adjacent sites. "Call handoff" is a feature of a wireless communications system which allows an ongoing telephone conversation to continue uninterrupted as the user travels from the coverage area of one antenna site into the coverage area of an adjacent antenna site. This requires coverage overlap for a sufficient distance and/or period of time to support the mechanism of the handoff.
  5. Quality of Service. Users of wireless communications services want to use their services where they live, work, commute and play, including when they are indoors. Verizon's coverage objectives include the ability to provide indoor coverage in areas where there are residences, businesses and indoor recreational facilities.
  6. Radio Frequencies Used by System. The designs of telecommunications systems will vary greatly based upon the radio frequencies that are used by the carrier. If the carrier uses radio frequencies that are in the 850 MHz to 950 MHz range, the radio signals will travel further and will penetrate buildings better than the radio frequencies in the 1900 MHz band. Thus, Verizon needs more antennas in a given area to support technologies that use the 1900 MHz band.
  7. Land Use Classifications. Verizon's ability to construct a cell site on any property is affected by Oregon state law the Dundee Municipal Code.

For this project, a significant deficiency in capacity was determined to exist along Highway 99W.

This determination was a result of a combination of customer complaints and service and preliminary design analysis. Terrain data within the service area is entered into a modeling program along with a series of variables, such as proposed antenna height, available radio frequencies and wireless equipment characteristics. Using this information, Verizon's RF engineers identified an area of optimum location for and height of a new wireless communication facility antenna to address the significant deficiency in capacity.

When this technical analysis was completed, a search area map and a description of other requirements were provided to Verizon's site development specialists.

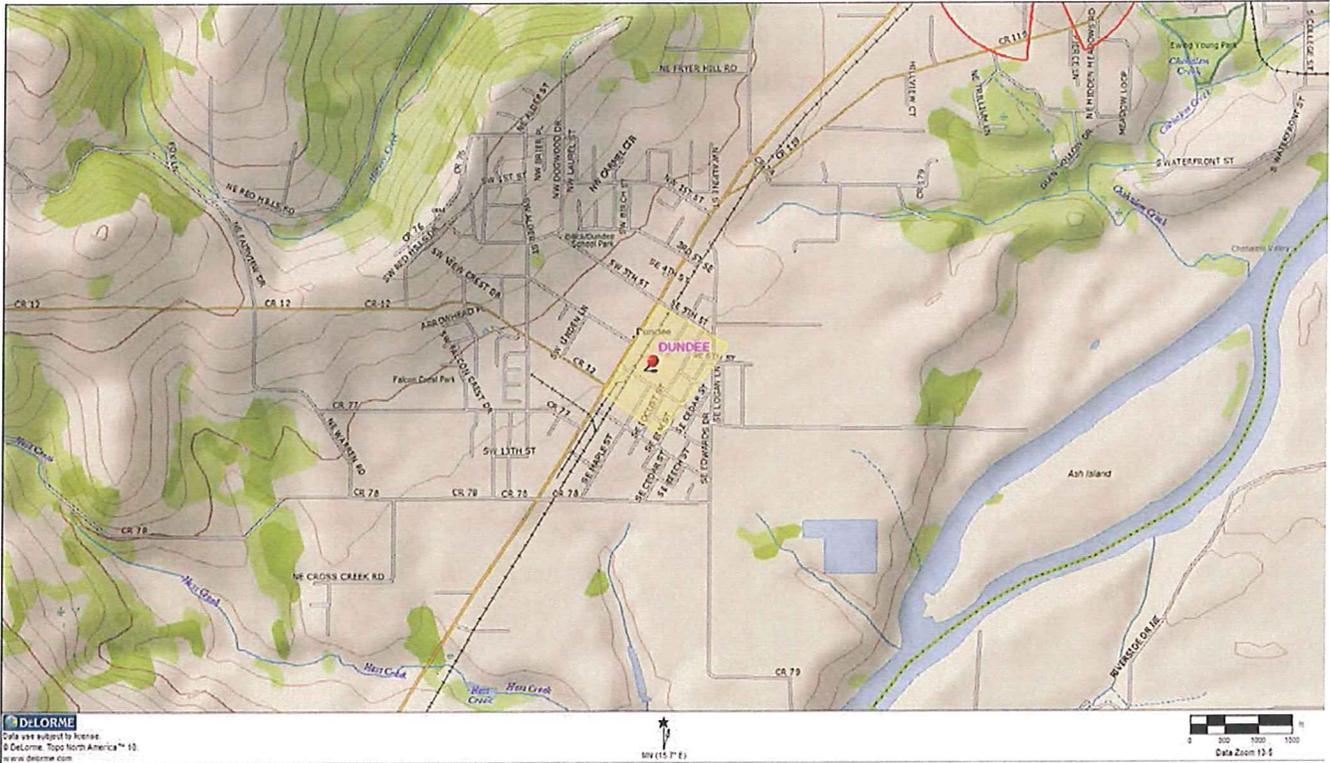


Figure 2: Search Ring Map

When designing an existing or new area for coverage or capacity Verizon Wireless prioritizes site designs; 1<sup>st</sup> priority sites attempt to utilize an existing tower or structure for colocation at the desired antenna height; 2<sup>nd</sup> priority sites are utility poles or high tension power lines for colocation at the desired antenna height; and 3<sup>rd</sup> and last priority is to propose a new tower or structure and then only provided an existing tower or structure is not available or not attainable because of space constraints or unreliable structural capacity. In this instance, the real estate team did several searches in the area and concluded that there are no existing cell towers in the search ring. The closest existing tower (identified as (1)(a) in the table below) is over 1.1 miles away to the southwest on SE Fulquartz Landing. As a result, the Applicant is proposing a new facility.

The following sites evaluated below in Table 1 – Priority Site Analysis, represent potential siting opportunities. The analysis of each site’s viability is included under, ‘Summary.’

Verizon Priority Siting	Description	Summary
<p><b>1) Existing Structures: See, Figure 3 - Existing Telecommunication Structures.</b></p> <p>a) Colocation on existing telecommunication facilities: This tower is outside of the search area and already being utilized by Verizon.</p>	None	<p>There are no existing wireless communications structures located within the search area. The closest existing tower is located over 1.1 miles to the southwest and outside the search area needed to provide capacity to the Dundee downtown area.</p> <p>This facility is too far from the search ring center and unable to meet capacity objectives. See Fig. 3, below.</p>
b) Upgrade to existing towers.	None	No existing telecommunication towers within the search ring.
c) Existing alternative structures. (i.e., water tanks, stadium lighting, etc. with sufficient height to meet service objectives)	None	No existing alternative structure within the search ring with sufficient height to meet service objectives.
d) Rooftop Installations.	None	There are no rooftops within the search ring that are of sufficient height to meet service requirements.
<p><b>2) Utility Structures.</b> (i.e., power poles, high tension power lines, etc.)</p>	Existing wooden utility poles	Existing light poles along Highway 99W range in heights between 20-60 feet. One pole would be unable to provide the coverage required for the area. In addition, these poles are structurally insufficient to support the required 3-sector site with a six (6) antenna installation and are unable to achieve the required height to meet coverage/capacity objectives. Each of those light poles would need to be increased in height to a minimum of 75' and would require adequate adjacent ground space for equipment cabinets and other ancillary equipment.
<p><b>3) New Wireless Facility:</b> (i.e., new lattice tower, monopole tower or stealth structure)</p>	Site proposed herein	No existing opportunities for collocation. New tower proposed.

Table 1 - Priority Site Analysis

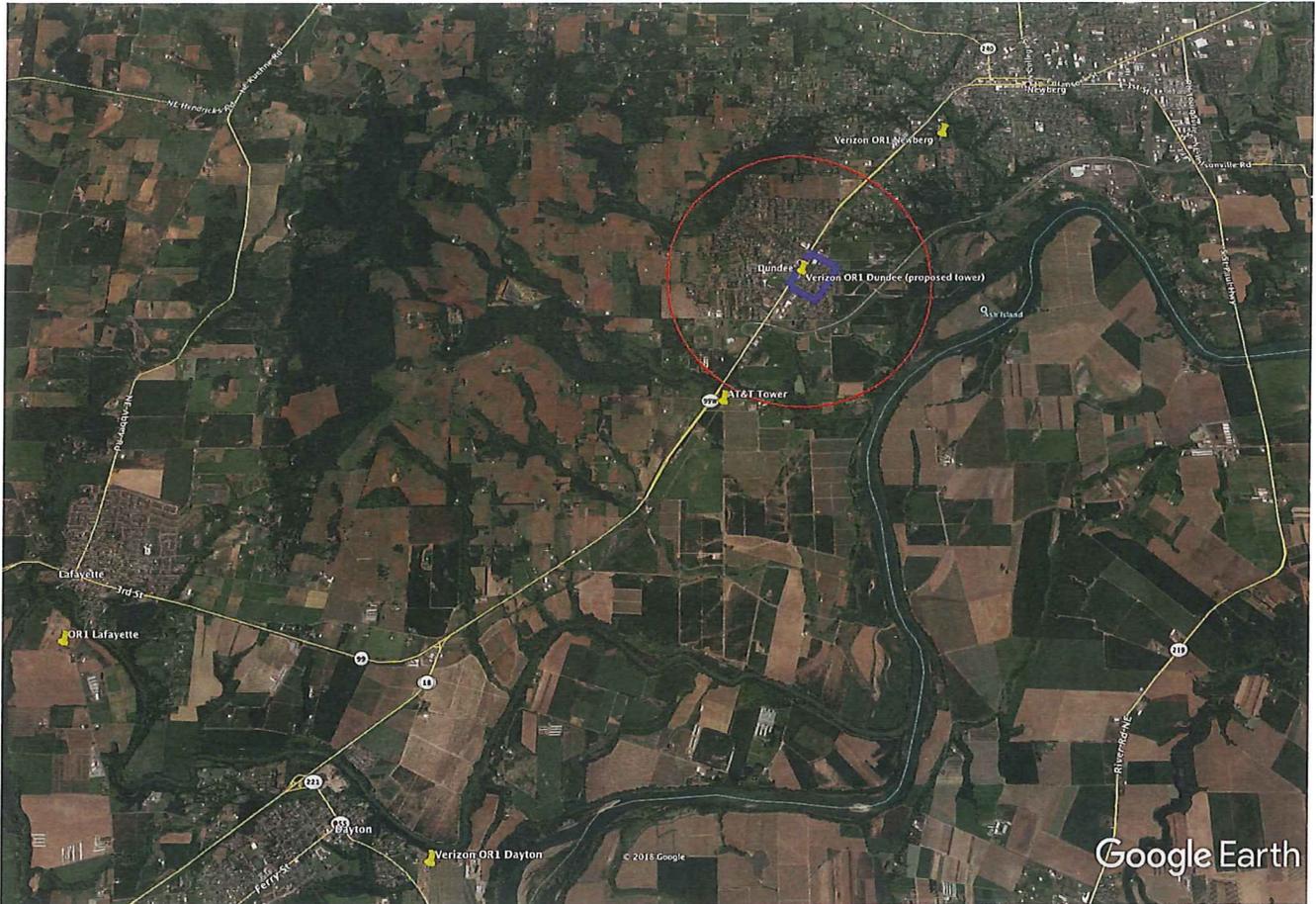


Figure 3: Existing Telecommunication Structures: Red circle indicates a 1-mile radius; blue Highlighted area depicts search ring. All existing towers are over 1-mile away.

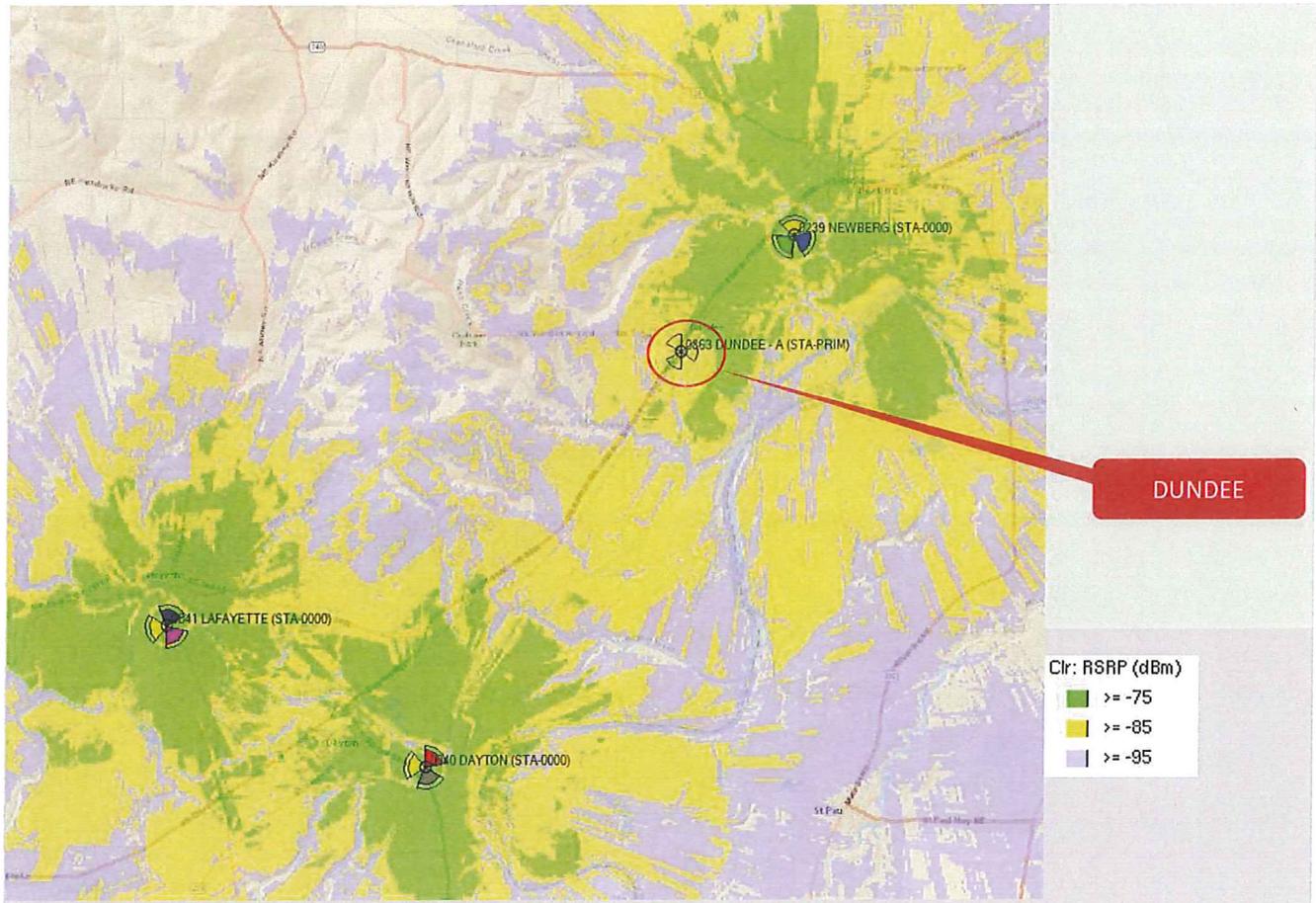


Figure 4 – Existing Coverage without the proposed site and area of RF Capacity Issue. Adjacent sites: Newberg, Dayton and Lafayette.

Coverage plots from Ertaz Islam of the Verizon Wireless System Design Network Department, detail the location of the new structure, current and anticipated coverage. A plot of the existing network coverage without the proposed site is shown above in Figure 4. The green represents a high RF signal strength which generally provides good coverage inside vehicles and buildings. Yellow represents moderate RF signal strength that generally provides good service inside vehicles and moderate service inside buildings. The mauve (purple) areas represent RF signals that generally provide weak quality of service particularly inside buildings, but fair service in vehicles or outdoor coverage.

As detailed in the RF Usage and Facility Justification report, ‘Capacity’ is the amount of resources a cell site has available to handle customer demand. Verizon has sophisticated programs that use current usage trends to forecast future capacity needs. Since it takes an average of one to three (1-3) years to complete a cell site project, Verizon must start the acquisition process several years in advance to ensure the new cell site is in place before the existing cell site(s) hit capacity limits.

Location is critical. A good capacity cell site needs to be in the center of the user population which ensures even traffic distribution around the cell. A typical cell site is configured in a pie shape, with each slice (aka. sector)

holding 33% of the resources. Optimal performance is achieved when traffic is evenly distributed across the 3 sectors.

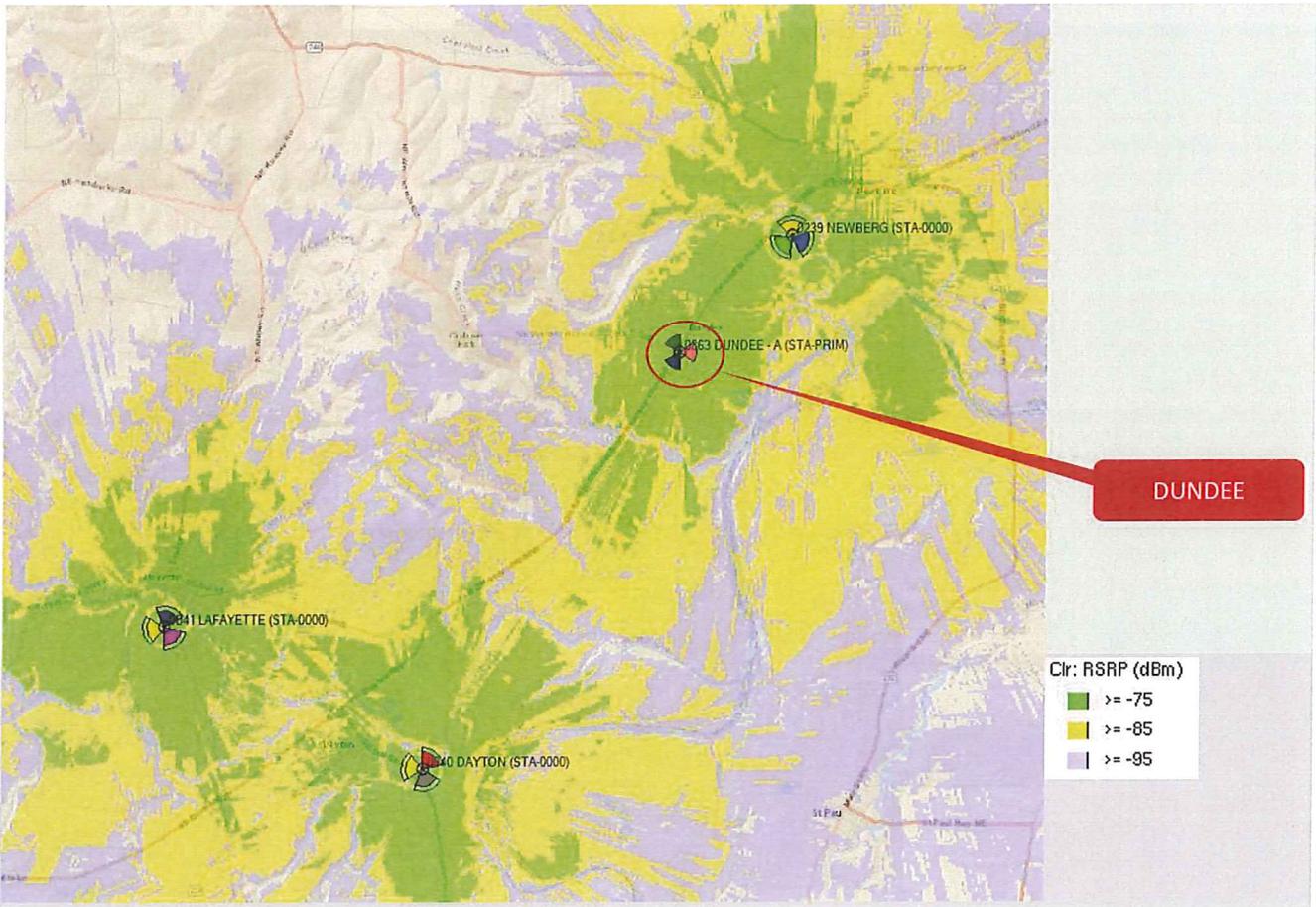


Figure 5 – Anticipated Coverage with the proposed site and area of RF Capacity Issue. Adjacent sites: Newberg, Dayton and Lafayette.

Figure 5 depicts how the proposed site will be integrated into Verizon’s network for that area. An antenna tip height of 74 feet (AGL) on an 80-foot tall Monopine will fulfill the capacity objective for the proposed site and ensures, RF signal overlaps with adjacent sites to allow continuity of call(s) or “handoff.” A 74-foot (AGL) antenna tip height is required at the OR1 Dundee site location as shown to offload capacity from the Newberg, Dayton and Lafayette sites. As there are no viable alternative structures or existing wireless facilities on which to locate, prohibiting a new facility at this location would prohibit or have the effect of prohibiting the provision of wireless communications service in this area because it would materially inhibit Verizon’s ability to add needed capacity.

**Enhanced 911 (E911) Requirements**

In addition to providing improved service to Verizon customers, the proposed antenna location is needed to meet FCC requirements for Enhanced 911 (E911) service. The wireless E911 program is divided into two phases. Phase I requires wireless carriers, upon request from a local Public Safety Answering Point (PSAP), to report the telephone number of a wireless 911 caller and the location of the antenna that received the call. Phase II of the



E911 program requires wireless carriers to provide far more precise location information, within 50 to 100 meters in most cases.

The FCC established a four-year schedule for Phase II. It began on October 1, 2001 with a target completion date of December 31, 2005. Provision of E911 service in accordance with FCC requirements is a major component of the demand for additional cell sites. In addition to providing greater signal strength for in-building coverage that will provide better service to residential customers in the area, the proposed WCF will provide more precise triangulation for providing E911 service as required by the FCC. This will allow a person who is using E911 because of an emergency to be found more quickly because their location will be more easily determined as this and other antenna sites are added to the wireless network.

Verizon engineers have carefully designed this site to maximize quality of service to its customers, which can best be accomplished at an antenna tip height of 74 feet supported by an 80-foot tall Monopine. This location was also selected because of its position relative to existing sites, providing favorable site geometry for federally mandated E911 location accuracy requirements and efficient frequency reuse. Good site geometry is needed to achieve accurate location of mobile users through triangulation with existing and proposed sites.

## V. APPLICABLE LAW

Federal, state and local laws will apply to this application.

### Federal Law

Federal law, primarily found in the Telecommunications Act of 1996 (“Telecom Act”), acknowledges a local jurisdiction’s zoning authority over proposed wireless facilities but limits the exercise of that authority in several important ways.

**Local jurisdictions may not materially limit or inhibit.** The Telecom Act prohibits a local jurisdiction from taking any action on a wireless siting permit that “prohibit[s] or [has] the effect of prohibiting the provision of personal wireless services.” 47 U.S.C. § 332(c)(7)(B)(i)(II). According to the Federal Communications Commission (“FCC”) Order adopted in September 2018,<sup>1</sup> a local jurisdiction’s action has the effect of prohibiting the provision of wireless services when it “materially limits or inhibits the ability of any competitor or potential competitor to compete in a fair and balanced legal and regulatory environment.”<sup>2</sup> Under the FCC Order, an applicant need not prove it has a significant gap in coverage; it may demonstrate the need for a new wireless facility in terms of adding capacity, updating to new technologies, and/or maintaining high quality service.<sup>3</sup>

**Environmental and health effects prohibited from consideration.** Also, under the Telecom Act, a jurisdiction is prohibited from considering the environmental effects of RF emissions (including health effects) of the proposed site if the site will operate in compliance with federal regulations. 47 U.S.C. § 332(c)(7)(B)(iv). Applicant has included with this application a NIER report demonstrating that the proposed facility will operate in accordance

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<sup>1</sup> *Accelerating Wireless and Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment*, Declaratory Ruling and Third Report and Order, WT Docket No. 17-79, WC Docket No. 17-84, FCC 18-133 (rel. Sept. 27, 2018); 83 Fed. Reg. 51867 (Oct. 15, 2018) (“FCC Order”).

<sup>2</sup> *Id.* at ¶ 35.

<sup>3</sup> *Id.* at ¶¶ 34-42.

with the Federal Communications Commission’s RF emissions regulations. See Attachment 04 – NIER Report. Accordingly, this issue is preempted under federal law and any testimony or documents introduced relating to the environmental or health effects of the proposed facility should be disregarded in this proceeding.

**No discrimination amongst providers.** Local jurisdiction also may not discriminate amongst providers of functionally equivalent services. 47 U.S.C. § 332(c)(7)(B)(i)(I). A jurisdiction must be able to provide plausible reasons for disparate treatment of different providers’ applications for similarly situated facilities.

**Shot Clock.** Finally, the Telecom Act requires local jurisdictions to act upon applications for wireless communications sites within a “reasonable” period of time. 47 U.S.C. § 332(c)(7)(B)(ii) The FCC has issued a “Shot Clock” rule to establish a deadline for the issuance of land use permits for wireless facilities. 47 C.F.R. § 1.6001, *et seq.* According to the Shot Clock rule for “macro” wireless facilities, a reasonable period of time for local government to act on all relevant applications is 90 days for a collocation, with “collocation”<sup>4</sup> defined to include an attachment to any existing structure regardless of whether it already supports wireless, and 150 days for a new structure.

**The Shot Clock applies to all authorizations required for siting a wireless facility, including the building permit, and all application notice and administrative appeal periods.**

**Pursuant to federal law, the reasonable time period for review of this application is 150 days.**

**State Law**

Under Oregon statutes a final land use decision must be issued within 120 days. ORS 227.178(1).

**VI. DEVELOPMENT APPROVAL CRITERIA**

Applicant’s proposal complies with the submittal requirements of the Dundee Municipal Code. These are addressed in the order laid out below.

***Dundee Municipal Code – Title 17: Development Code***

- *Chapter 17.202 – Zoning Regulations*
- *Chapter 17.203 – Special Use Standards*
- *Chapter 17.302 – Landscaping and Screening*
- *Chapter 17.305 – Public Improvements and Utilities*
- *Chapter 17.402 – Site Development Review*
- *Chapter 17.404 – Conditional Use Permits*

Code provisions that are inapplicable to this proposed project have been omitted from the analysis below.

**DMC Chapter 17.202 – Zoning Regulations**

**Section 17.202.020 – Allowed uses.**

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<sup>4</sup> 47 C.F.R. § 1.6002(g).

Table 17.202.020 lists the uses that are allowed by each of the city’s base zones. Where a specific use is not listed, and is not otherwise defined in DMC Division 17.500 as an example of a permitted use, the city may find the use is allowed or not allowed in the subject zone, pursuant to DMC 17.103.040.

Notwithstanding the provisions below, additional limitations may apply to uses within overlay zones. For requirements applicable to the city’s overlay zones – flood plain overlay, greenway management overlay, and commercial Victorian overlay – please refer to Chapter 17.204 DMC.

Property owners are responsible for verifying whether a specific development is allowed on a particular site. Approval of a Type I checklist or site development review under Chapter 17.402 DMC may be required prior to commencing a use.

Table 17.202.020: Zoning Use Table												P: Permitted Use; CU: Conditional Use; S: Special Use Requirements Apply; N: Not Permitted
Uses	Residential			Commercial and Employment			Public and Agriculture				Special Use Requirements	
	R-1	R-2	R-3	C	CBD	LI	P	PO	A	EFU		
Wireless Communication Facilities	CU+S	CU+S	CU+S	CU+S	CU+S	S	S	N	CU+S	S	DMC 17.203.170, DMC 17.203.180 in EFU, see limits in OAR 660-33 in EFU	

**Response:** The proposed use is for a Wireless Communication Facility which is an allowed special use in the Public and Agriculture zones subject to the special use standards found in DMC 17.203.170. These standards are addressed herein.

**Section 17.202.030 – Lot and development standards by zoning district.**

Table 17.202.030 lists the general lot and development standards for each of the city’s base zones. Specific development standards for access, parking, landscaping, and public improvements, among others, are located in DMC Division 17.300.

Notwithstanding the provisions below, additional standards may apply in specific locations, such as at street intersections, within overlay zones, adjacent to natural features, and other areas as may be regulated by this code or subject to state or federal requirements. For requirements applicable to the city’s overlay zones – flood plain overlay, and greenway management overlay – please refer to Chapter 17.204 DMC.

**Response:** The subject parcel is approximately 64,468 square feet, which meets the minimum lot size requirement of 5,000 square feet. The facility will be set back more than 20 feet from the front property line, which meets the minimum setback standards for the Public zoning district. The overall height of the proposed telecommunications tower is 80 feet tall, exceeding the 45-foot maximum building height limit for the zone, thus requiring a conditional use permit subject to DMC Chapter 17.404. These standards are addressed herein this narrative. Any impact to solar access will not be significant. Applicant is proposing a cell tower which meets the setback requirements in the zone and also the tower itself is very narrow and would have a minimal shadowing effect on any solar panels which would be placed on adjacent parcels

**Section 17.202.050 – Fence standards.**

**A. General Standards.**

1. *Fences and walls shall not be constructed of nor contain any material that could cause bodily harm, such as barbed wire, broken glass, spikes, electric or any other hazardous or dangerous materials; this includes link fencing with barbed ends at the top or sides; except that fences topped with barbed wire are allowed in agricultural and public zones.*
2. *Electric fences and barbed wire fences in agricultural zones intended to contain or restrict cattle, sheep, horses or other livestock, and lawfully existing prior to annexation to the city, may remain.*
3. *Every fence shall be maintained in a condition of reasonable repair and shall not be allowed to become and remain in a condition of disrepair including noticeable leaning, missing sections, broken supports, nonuniform height, and uncontrolled growth of vegetation.*
4. *Fences shall comply with requirements of the clear vision area for streets and driveways.*
5. *In no instance shall a fence extend beyond the property line.*
6. *In the C and CBD zones, chain link fencing may not be used between a public street and a maximum setback line, with the following exceptions:*
  - a. *In the C zone, black fused and bonded vinyl coated chain link fencing may be used, subject to subsection (B) of this section.*
  - b. *In the CBD zone, black fused and bonded vinyl coated chain link fencing may be used if screened from view from the street by a sight-obscuring hedge of equal height, subject to subsection (B) of this section.*
  - c. *In the LI zone, fences taller than six feet in height shall not be chain link. Fences over six feet in height shall be screened by a sight obscuring hedge.*

**Response:** Proposal includes a 6-foot tall chain link fence with vinyl slats and does not contain any dangerous materials. Proposed site is in the P (Public) zone, thus requirements for the C, CBD and LI zones do not apply.

**DMC Chapter 17.203 – Special Use Standards**

**Section 17.203.170 – Wireless communication facilities.**

- A. Purpose.** *This section establishes application procedures, location requirements, and other standards for the placement of wireless communication facilities. It applies to all such facilities regardless whether permitted outright or subject to approval of a conditional use permit.*

*Site development review approval is required to place a new wireless communication facility. A request for a modification of an existing wireless tower or base station for the co-location of new transmission equipment or removal or replacement of existing transmission equipment shall be approved using a Type I procedure; provided, that such modification does not substantially change the physical dimensions of such tower or base station from the dimensions approved as part of the original discretionary permit for the tower or base station. Any other modification requires a site development review approval.*

**Response:** Applicant is requesting approval for the placement of a new wireless communication facility which requires a site development review per DMC 17.402 and is addressed herein this narrative.

- B. *Review Procedure. In addition to the applicable application requirements for site development review, all of the following information shall be submitted:*
1. *An evaluation of the feasibility of co-location of the subject facility as an alternative to the requested permit. The feasibility study must include:*
    - a. *The location and ownership of the existing telecommunication structures within the cell service area and not to exceed two miles.*
    - b. *Written verification and other documentation revealing the availability and/or cooperation shown by other providers to gain access to existing sites/facilities to meet the needs of the applicant.*
    - c. *The tower type and height of potential co-location facilities.*
    - d. *Anticipated capacity of the wireless communication facility, including number and type of antennas that can be accommodated.*
    - e. *The specific reasons as to why co-location is or is not feasible.*

**Response:** See Section IV – Site Selection and Design, Table 1 – Priority Site Analysis and supporting maps. There are no existing wireless communication facilities to collocate on within the search area. The nearest existing tower is over 1.3 miles away and is outside the search area. The proposed 80-foot Monopine tower is designed to accommodate Verizon and one other future carrier and would be available to the fire station for emergent service uses.

2. *Alternatives for locating or relocating support structures within 250 feet of the proposed location.*

**Response:** See Section IV – Site Selection and Design, Table 1 – Priority Site Analysis and supporting maps. There are no nearby structures for Verizon to collocate on that have the necessary height and structural capacity that Verizon requires to meet their coverage objectives. There are no viable options nearby that would not require the installation of a new tower. The old fire station was considered, but it was determined by the City that the current location is preferable.

3. *Analysis of the visual impacts of the proposed facility on residential dwellings within 250 feet of the proposed site, and an assessment of potential mitigation measures, including relocation.*

**Response:** A visual impact study was completed from the surrounding area and the photo simulations are included as Attachment 03 – Photo Simulations. Relocation of the facility is not a viable option. See Section IV Site Selection and Design, Table 1 – Priority Site Analysis and supporting maps. There are no viable options within the search ring that would not require the installation of a new tower. The following are mitigation measures that help reduce the visual impact of the facility:

- The site has been redesigned as a stealth Monopine.
- The base of the tower will be surrounded by a 6-foot tall chain link fence with site obscuring vinyl slats;
- The fenced area will be surrounded by a 5-foot deep landscape buffer of mixed trees and ground cover;
- The tower has been set back away from Highway 99W near railroad tracks to make it less noticeable;
- Siting the facility on a parcel that is abutted by Commercial and Light Industrially zoned properties;

- The entire facility is also partially screened by the fire station and a building on the adjacent property;
  - Lighting will not be required on this tower.
- C. *Approval Criteria. In addition to any other applicable requirements, the decision to approve or deny the placement of a wireless communication tower shall be based on all of the following:*
1. *Co-location is not feasible on existing structures, including other wireless communication facilities.*
  2. *The wireless facility shall be located and designed to preserve the ability for co-location of at least one additional user on all structures exceeding 35 feet in height, if feasible.*
  3. *Based on the visual analysis and mitigating measures, the location and design of a freestanding wireless communication facility shall be conditioned to minimize visual impacts from residential areas through the use of setbacks, building heights, bulk, color, landscaping and similar visual considerations.*
  4. *The design minimizes identified adverse impacts of the proposed use to the extent feasible.*
  5. *Structures greater than 35 feet in height shall be at least 300 feet from any residentially (R) zoned property.*

**Response:** See Section IV – Site Selection and Design, Table 1 – Priority Site Analysis and supporting maps. There are no nearby structures for Verizon to collocate on that have the necessary height and structural capacity that Verizon requires to meet their coverage objectives. There are no viable options nearby that would not require the installation of a new tower. The proposed 80-foot Monopine tower is designed to accommodate Verizon and one other future carrier and would be available to the fire station for emergent service uses. The proposed Monopine uses a stealth design and is sited in a location that minimizes visual impacts from residential areas as discussed above and minimizes adverse impacts to the extent possible. The proposed site only abuts Commercial and Light Industrial properties, however, as the proposed Monopine tower exceeds 35 feet this criterion applies. The closest residential property is 300 feet to the east as measured from the property line and over 305 feet +/- as measured from the proposed tower location.

- D. *Removal. Any obsolete freestanding or attached wireless communication facility shall be removed by the facility operator within six months of the date it ceases to be operational or if it falls into disrepair.*

**Response:** This language is included in the lease agreement with the property owner. Verizon will agree to this as a Condition of Approval.

### **DMC Chapter 17.302 – Landscaping and Screening**

#### **Section 17.302.050 – Minimum landscape area.**

*The minimum area requirements are as follows:*

- A. *C, CBD, LI, and P Zones.*
1. *In the CBD, LI, and P zones, a minimum of 10 percent of the gross lot area shall be landscaped.*
  2. *In the C zone, a minimum of 15 percent of the gross lot area shall be landscaped.*
  3. *In a commercial zone pedestrian courtyards, plazas, walkways, fountains, benches, sculptures, or decks may be included within the required landscaping percentage if they are designed in*

conjunction with planting of street trees and potted plants and, upon design review, these features are found consistent with the purpose and intent set forth in this code.

4. Landscaping required under other sections of this code, including, but not limited to, parking lot landscaping pursuant to DMC 17.302.060 and landscaping within front setback areas pursuant to DMC 17.202.060(C), may be included in and counted towards the required landscaping percentage. If landscaping required under other sections of this code exceeds 10 percent of the gross lot area, the full amount of landscaping required under other sections shall still be required.
5. The required landscape area for all zones must be visible from the public right-of-way.

**Response:** Proposal is located within the P (Public) zone, which requires a minimum of 10% of the gross lot to be landscaped. Per the staff report for the Dundee Fire Station, approximately 14,546 square feet of the 1.48-acre site is landscaped. The proposed facility will not significantly reduce the existing landscaping and will not materially affect the minimum landscape area for the site. Required landscaping and screening is visible from the public right-of-way.

**Section 17.302.060 – Screening and buffering.**

Where required by code, or where placed as a condition of approval, screening and buffering shall meet all of the following minimum requirements:

- A. *Required Screening.* Screening shall be used to eliminate or reduce the visual impacts of the uses in subsections (A)(1) through (7) of this section:
  1. Commercial and industrial uses when abutting residential uses;
  2. Industrial uses when abutting commercial uses;
  3. Service areas and facilities, including garbage and waste disposal containers, recycling bins, and loading areas;
  4. Outdoor storage areas;
  5. At- and above-grade electrical and mechanical equipment, such as transformers, heat pumps, and air conditioners;
  6. Rooftop mechanical equipment;
  7. Any other area or use as required by this code.

**Response:** Proposed wireless communication facility includes at-and-above grade electrical equipment and thus requires screening.

- B. *Methods of Screening.* Screening shall be accomplished by the use of sight-obscuring plant materials (generally evergreens), earth berms, walls, fences, building parapets, building placement, or other design techniques, as appropriate to the site given its visibility from adjacent uses and rights-of-way. (See also DMC 17.202.050 for fence regulations.)

**Response:** Proposal includes a 6-foot chain link fence with vinyl slats in addition to a 5-foot landscape buffer that includes evergreen and deciduous trees, shrubs and groundcover that help screen the facility from adjacent properties and rights-of-way.

- C. *Parking Lot Landscaping and Screening Standards. All new parking lots or expansions of existing parking lots, which for purposes of this section include areas of vehicle maneuvering, parking, and loading, shall be landscaped and screened as follows:*
1. *Screening Required. Parking lots shall be screened adjacent to lot lines as follows:*
    - a. *Any parking area or drive aisle adjacent to an interior lot line shall be screened by a five-foot landscaped strip. Where the parking area is located adjacent to an R-1 or R-2 zoning district, the landscaped strip shall also include an opaque fence to block light trespass from headlights onto adjacent properties. Where additional screening is required between zones, the screening shall be incorporated into the required buffer strip, and shall not be an additional requirement.*
    - b. *Any parking area adjacent to a front lot line along a public right-of-way shall be screened by a 10-foot landscaped strip.*
  2. *Screen Height. The screen required under subsection (C)(1) of this section shall be designed and planted to grow to be at least 36 inches higher than the finished grade of the parking area within one year of planting; except for required vision clearance areas, the screen height may be achieved by a combination of earth mounding and plant materials or a combination of a 36-inch wall and plant materials. Where the parking area to be screened is above the adjacent grade, such screening shall cover both the parking and the retaining wall or slope, as applicable.*
  3. *Parking Lot Landscaping. Landscaping within or adjacent to a parking lot shall consist of a minimum of six percent of the total parking area plus a ratio of one tree per 15 parking spaces, except that landscaping within or adjacent to a parking lot containing more than 20 parking spaces in the C zone shall consist of a minimum of 10 percent of the total parking area plus a ratio of one tree per 10 parking spaces. Trees and landscaping shall be installed as follows:*
    - a. *The tree species shall be an appropriate large canopied shade tree selected from the street tree list of DMC 17.302.070 to avoid root damage to pavement and utilities, and damage from droppings to parked cars and pedestrians.*
    - b. *The tree shall be planted in a landscaped area such that the tree bole is at least three feet from any curb or paved area.*
    - c. *The landscaped area shall be planted with shrubs, grass, or living ground cover to assure 80 percent coverage within two years.*
    - d. *That portion of a required landscaped yard, buffer strip or screening strip abutting parking stalls may be counted toward required parking lot landscaping as long as the tree species, living plant material coverage, placement and distribution criteria are also met.*
    - e. *Landscaping should be evenly distributed throughout the parking area and perimeter.*

**Response: Not applicable – Proposal does not include a new parking lot.**

- D. *Required Buffers. Buffering shall be used to mitigate adverse visual impacts, dust, noise or pollution, and to provide for compatibility between dissimilar adjoining uses.*

**Response: Proposed wireless communication facility includes a landscape buffer to mitigate adverse visual impacts. Proposed facility will not create dust or pollution.**

- E. *Methods of Buffering. Where buffering is determined to be necessary, one of the following buffering alternatives shall be employed:*
1. *Planting Area. Width not less than 15 feet, planted with the following materials:*

- a. *At least one row of deciduous or evergreen trees staggered and spaced not more than 15 feet apart; and*
  - b. *At least one row of evergreen shrubs which will grow to form a continuous hedge at least five feet in height within one year of planting; and*
  - c. *Lawn, low-growing evergreen shrubs or evergreen ground cover covering the balance of the area.*
2. *Berm plus Planting Area. Width not less than 10 feet, developed in accordance with the following standards:*
    - a. *Berm form shall not slope more than 40 percent (2.5H:1V) on the side away from the area screened from view (the slope for the other side (screened area) may vary); and*
    - b. *A dense evergreen hedge shall be located so as to most effectively buffer the proposed use; and*
    - c. *Combined total height of the berm plus the hedge shall be at least five feet within one year of planting.*
  3. *Wall plus Planting Area. Width must not be less than five feet developed in accordance with the following standards:*
    - a. *A masonry wall or fence not less than five feet in height; and*
    - b. *Lawn, low growing evergreen shrubs, and evergreen ground cover covering the balance of the area.*
  4. *Other methods that produce an adequate buffer considering the nature of the impacts to be mitigated, as approved by the review authority*

**Response:** Proposal includes a 6-foot chain link fence with vinyl slats in addition to a 5-foot landscape buffer that includes evergreen and deciduous trees, shrubs and groundcover that meets the buffering requirements of alternative (3).

**Section 17.302.080 – Landscape installation and maintenance.**

*All landscaping required by this code shall be continually maintained pursuant to this section. Appropriate methods of care and maintenance of landscaped plant material shall be provided by the owner of the property, including necessary watering, weeding, pruning, mowing, and replacement, as applicable, in a substantially similar manner as was approved by the city or as otherwise required by applicable city regulations. The following standards apply to all landscaping required by this code:*

- A. *Clear Vision. No sight-obscuring plantings exceeding 24 inches in height shall be located within any required clear vision area as defined in DMC 17.301.040.*
- B. *Pedestrian Areas. Landscape plant materials shall be kept clear of walks, pedestrian paths, and seating areas; trees shall be pruned to a minimum height of eight feet over pedestrian areas and to a minimum height of 15 feet over streets and vehicular traffic areas.*
- C. *Utilities. Landscape plant materials shall be selected and maintained so that they do not generally interfere with utilities above or below ground.*
- D. *Nursery Standards. Required landscape plant material shall be installed to current nursery industry standards. Landscape plant materials shall be properly guyed and staked to current industry standards as necessary. Stakes and guy wires shall not interfere with vehicular or pedestrian traffic.*
- E. *Plant Selection. Plant materials shall be suited to the conditions under which they will be growing. As an example, plants to be grown in exposed, windy areas where permanent irrigation is not to be provided*

- should be sufficiently hardy to thrive under these conditions. Plants should have vigorous root systems and be sound, healthy, and free from defects, diseases, and infections.
- F. *Deciduous Trees.* Deciduous trees, where required to provide shade (e.g., over parking lots or walkways), shall be fully branched and have a minimum caliper of two inches a minimum height of eight feet at the time of planting. Deciduous trees intended to serve as ornamental (nonshade) trees may be smaller, but shall not be less than one and one-half inch caliper, at time of planting.
  - G. *Evergreen Trees.* Evergreen trees shall be a minimum of six feet in height, fully branched, at time of planting.
  - H. *Shrubs.* Shrubs shall be supplied in minimum one-gallon containers or eight-inch burlap balls with a minimum spread of 12 to 15 inches.
  - I. *Ground Cover.* Ground cover shall consist of not less than 50 percent live plant material. Such plants shall be spaced in accordance with current nursery industry standards to achieve covering of the planting area, with rows of plants staggered for a more effective covering. Ground cover plants shall be supplied in a minimum four-inch size container or equivalent if planted 18 inches on center; and nonliving material used for ground cover shall be limited to compost, bark chips, and other city-approved pervious materials.
  - J. *Irrigation.* Except in wooded areas, wetlands, flood plains, or along natural drainage channels or stream banks, where the city may waive irrigation requirements, all developments are required to provide appropriate methods of irrigation for the landscaping. Sites with more than 1,000 square feet of total landscaped area shall be irrigated with automatic sprinkler systems to ensure the continued health and attractiveness of the plant materials. Hose bibs and manually operated methods of irrigation may be used for landscaped areas totaling less than 1,000 square feet. Sprinkler heads shall be located and installed to not cause any hazard to the public.
  - K. *Protection of Plants.* Landscape plant material shall be protected from damage due to heavy equipment during construction. After construction, landscape plant material and irrigation shall be protected from damage due to heavy foot traffic or vehicular traffic by protective tree grates, bollards, raised curbs, wheel stops, pavers or other suitable methods.
  - L. *Performance Guarantee.* Except where the review authority requires installation of landscaping prior to issuance of building permits, all landscaping required by this code and approved by the city shall be installed prior to issuance of a final occupancy permit unless security equal to 110 percent of the cost of the landscaping is filed with the city assuring such installation within six months of occupancy. The applicant will obtain cost estimates for landscape materials and installation to the satisfaction of the review authority prior to approval of the security. "Security" may consist of a faithful performance bond payable to the city, cash, certified check, time certificate of deposit, assignment of a savings account, or other such assurance of completion as approved by the city attorney.
  - M. *Maintenance Guarantee.* The developer or builder, as applicable, shall guarantee all landscape material for a period of one year from the date of installation. A copy of the guarantee shall be furnished to the city by the developer.
  - N. *Final Inspection.* The city planning official, prior to the city returning any security provided under this chapter, shall make the final landscape inspection. Any portions of the plan not installed, not installed properly, or not properly maintained shall cause the inspection to be postponed until the project is completed. If the installation of the landscaping is not completed properly within six months of such postponement, or within an extension of time authorized by the city, the city may use the security to complete the installation. Any portion of the security that remains after installation of the landscaping shall be returned to the applicant.

Response: See Sheets L-1 & L-2 of Attachment 02 – Architectural Drawings that show how landscape installation and maintenance standards are met. Proposed landscaping will not interfere with clear vision or pedestrian areas and root barriers are proposed where trees are four feet or less from utilities. Proposed landscaping includes a mix of evergreen and deciduous trees, shrubs and groundcover that include long term water catchment features. A watering schedule is provided in the landscape plan notes as well as a one-year warranty for the landscaping.

**DMC Chapter 17.305 – Public Improvements and Utilities**

**Section 17.305.050 – Storm drainage.**

- C. *General Requirement. All storm water runoff shall be conveyed to a public storm sewer or natural drainage channel having adequate capacity to carry the flow without overflowing or otherwise causing damage to public and/or private property. The developer shall pay all costs associated with designing and constructing the facilities necessary to meet this requirement.*

Response: Acknowledged and agreed.

- D. *Plan for Storm Drainage and Erosion Control. No construction of any facilities in a development included in subsection (B) of this section shall be permitted until an engineer registered in the state of Oregon and approved by the city prepares a storm drainage and erosion control plan for the project. This plan shall contain at a minimum:*
- 1. The methods to be used to minimize the amount of runoff, siltation, and pollution created from the development both during and after construction.*
  - 2. Plans for the construction of storm sewers, open drainage channels, and other facilities that depict line sizes, profiles, construction specifications, and other such information as is necessary for the city to review the adequacy of the storm drainage plans.*
  - 3. Design calculations shall be submitted for all drainage facilities. These drainage calculations shall be included on the site plan drawings and shall be stamped by a licensed professional engineer in the state of Oregon. Peak design discharges shall be computed using the rational formula and based upon the design criteria outlined in the public works design standards for the city.*

Response: Proposal will add less than 2,000 square feet of new impervious surface to the site, which will not require additional water quality or detention improvements. Applicant has proposed to reconfigure the existing stormwater system to accommodate the proposed improvements as the proposal will impact two existing stormwater pipes in the SE corner of the site. This is detailed on Sheet C-3 of Attachment 02 – Architectural Drawings.

- E. *Development Standards. Development subject to this section shall be planned, designed, constructed and maintained in compliance with the city of Dundee public works design standards.*

Response: Applicant has proposed to reconfigure the existing stormwater system to accommodate the proposed improvements and will field verify existing private and public utilities within the work area.

**DMC Chapter 17.402 – Site Development Review**

**Section 17.402.050 – Approval criteria.**

- A. *Approval Criteria. An application for a Type II site development review shall be approved if the proposal meets all of the following criteria. The city decision-making body may, in approving the application, impose reasonable conditions of approval, consistent with the applicable criteria.*
1. *The application is complete, in accordance with DMC 17.402.040;*
  2. *The application complies with all of the applicable provisions of the underlying zone and overlay zone(s), including but not limited to: building and yard setbacks, lot area and dimensions, density and floor area, lot coverage, building height, building orientation, architecture, and other applicable standards;*
  3. *The proposal includes required upgrades, if any, to existing development that does not comply with the applicable land use district standards, pursuant to Chapter 17.104 DMC, Nonconforming Situations;*
  4. *The proposal complies with all of the site design and development standards of this code, as applicable;*
  5. *The proposal meets all existing conditions of approval for the site or use, as required by prior land use decision(s), as applicable. Note: compliance with other city codes and requirements, though not applicable land use criteria, may be required prior to issuance of building permits*

**Response:** The application package associated with this proposal contains all required information as outlined in DMC 17.402.040.

As described in Applicant's response to DMC 17.202 - Zoning Regulations, the proposed wireless communication facility complies with all applicable provisions of the underlying Public (P) zone.

*The Applicant is unaware of any non-conforming situations, as such, no additional upgrades to the existing development are proposed.*

*As described herein, the Applicant's proposal complies with the applicable site design and development standards of this code.*

*To Applicant's knowledge, all existing conditions of approval as related to the Dundee Fire Station approval have been satisfied.*

**DMC Chapter 17.404 – Conditional Use Permits**

**Section 17.404.030 – Criteria, standards and conditions of approval.**

*By means of a Type III procedure, the planning commission shall approve, approve with conditions or deny an application, including requests to enlarge or alter a conditional use, based on findings of fact with respect to all of the criteria and standards in subsections (A) through (C) of this section.*

A. *Use Criteria.*

1. *The site size, dimensions, location, topography and access are adequate for the needs of the proposed use, considering the proposed building mass, parking, traffic, noise, vibration, exhaust/emissions, light, glare, erosion, odor, dust, visibility, safety, and aesthetic considerations.*

Response: This site was chosen as it could be designed to conform to the standards of this Chapter; provides the best location to minimize any potential adverse impacts and be the least intrusive means of filling the significant coverage/capacity gap for this area. The characteristics of the site are suitable for the proposed use considering:

- **Size:** The property is 1.48 acres and the proposed lease area is only 13' x 39' (507 sq. ft.), including landscape buffer and is less than 1% of the site area. All the proposed improvements will adequately fit inside the 8' x 29' fenced equipment area.
  - **Location:** The proposed location was chosen as the area has poor wireless service and this location will allow seamless coverage for users in town and travelling along Highway 99W. The location of the subject parcel very near the center of the Verizon search area to fulfill the coverage & capacity gaps in Verizon's service. In addition, the siting of the facility on the parcel was chosen to minimize potential visual impacts as detailed herein under Applicant's responses to DMC 17.203 Special Use Standards.
  - **Topography:** The site is generally flat with a slight change of grade near the proposed lease area. The location is well suited for construction of the proposed improvements. Some fill and excavation will be required for the placement of the retaining wall.
  - **Access:** The site will utilize existing access from Highway 99W through the parking lot of the Fire Station and will have a 12-foot wide access easement. The site is monitored remotely and will only require 1-2 visits per month for maintenance provided by a technician in a single vehicle. The service vehicle will utilize existing fire station parking.
2. *The negative impacts of the proposed use, if any, on adjacent properties and on the public can be mitigated through application of other code standards, or other reasonable conditions of approval.*

Response: The proposed facility has been designed to minimize the number of facilities in the area by encouraging collocation, has been located and designed to minimize the visual impact on the immediate surroundings and throughout the community, and minimizes public inconvenience and disruption while providing a desirable feature – reliable wireless service.

The Applicant has mitigated the potential visual impacts of the facility by proposing the minimum height necessary to meet coverage objectives and utilizing a stealth design that resembles a tree (Monopine). This design minimizes the visual elements typically associated with standard monopole wireless telecommunication facilities. The project will include an 80-foot tall stealth Monopine tower with an antenna tip height of 74 feet, which is the minimum height to achieve required signal objectives. The equipment area and tower base of the will be surrounded by a 5-foot landscape buffer and 6-foot tall chain link security fence with site obscuring slats. As depicted in Attachment 03 – Photo Simulations, the proposed stealth design shows a negligible visual impact to the surrounding area.

The proposal does not include the installation of an emergency generator. No excessive vibrations, exhaust, light, glare, erosion, odors, or dust are anticipated for the project.

As shown above, potential negative impacts have been minimized and this proposal is the least intrusive means to fill the significant gap in coverage & capacity. The Applicant will comply with reasonable conditions of approval.

3. *All required public facilities, including water, sanitary sewer, and streets, have adequate capacity or are to be improved to serve the proposal, consistent with city standards.*

**Response:** Public utilities are sufficient for this use. The site proposed herein is an unmanned facility that requires only power and telephone services. It does not require water or sewer.

4. *A conditional use permit shall not allow a use that is prohibited or not expressly allowed under DMC Division 17.200; nor shall a conditional use permit grant a variance without a variance application being reviewed with the conditional use application.*

**Response:** Wireless communication facilities are a special use within the P (Public) zone. A conditional use permit is required only for facilities exceeding the 45-foot height limit. The Applicant is applying for conditional use approval for the overall height of 80 feet. A variance is not required for this proposal.

- B. *Conditions of Approval. The city may impose conditions that are found necessary to ensure that the use is compatible with other uses in the vicinity, and that any negative impact of the proposed use on the surrounding uses and public facilities is minimized. These conditions include, but are not limited to, one or more of the following:*
  1. *Limiting the hours, days, place and/or manner of operation;*
  2. *Requiring site or architectural design features which minimize environmental impacts such as noise, vibration, exhaust/emissions, light, glare, erosion, odor and/or dust;*
  3. *Requiring larger setback areas, lot area, and/or lot depth or width;*
  4. *Limiting the building or structure height, size, lot coverage, and/or location on the site;*
  5. *Designating the size, number, location and/or design of vehicle access points or parking and loading areas;*
  6. *Requiring street right-of-way to be dedicated and street improvements made, or the installation of pathways or sidewalks, as applicable;*
  7. *Requiring landscaping, screening, drainage, water quality facilities, and/or improvement of parking and loading areas;*
  8. *Limiting the number, size, location, height and/or lighting of signs;*
  9. *Limiting or setting standards for the location, type, design, and/or intensity of outdoor lighting;*
  10. *Requiring berms, screening or landscaping and the establishment of standards for their installation and maintenance;*
  11. *Requiring and designating the size, height, location and/or materials for fences;*
  12. *Requiring the protection and preservation of existing trees, soils, vegetation, watercourses, habitat areas, drainage areas, historic resources, cultural resources, and/or sensitive lands;*
  13. *Requiring improvements to water, sanitary sewer, or storm drainage systems, in conformance with city standards; and*
  14. *The planning commission may require renewal of conditional use permits annually or in accordance with another timetable as approved pursuant to this chapter. Where applicable, the timetable shall provide for periodic review and renewal, or expiration, of the conditional use permit to ensure compliance with conditions of approval; such periodic review may occur through an administrative or quasi-judicial land use review process.*

**Response:** Acknowledged and agreed.



*C. Conditional Use Permit Supplemental Requirements. The requirements for compliance with permit conditions and permit expiration are the same as for site development review under DMC 17.402.070.*

**Response: Acknowledged and agreed.**

**VII. CONCLUSION**

As demonstrated within this application, the project proposed herein was designed to meet all requirements of the Dundee Municipal Code. The facility will improve the cellular and data capacity in the area while limiting the impact on the surrounding community by locating on a site that is well equipped to support this kind of facility in a district that is vastly underserved with regards to wireless communication capacity. The Applicant respectfully requests that the City of Dundee approve this proposal as designed, subject only to standard conditions of approval.



TIM BRADLEY IMAGING

PHOTO SIM LOCATION MAP



**OR1 DUNDEE**  
801 N. HWY 99 W, DUNDEE, OR



CURRENT

VIEW #1 LOOKING NORTHEAST  
ON HIGHWAY 99 W



PROPOSED

Visual impact will be affected by location and visibility of observer. This document is for planning and information purposes only and is conceptual. This is solely the photographer's interpretation of the proposed development.

TIM BRADLEY IMAGING



CURRENT

VIEW #2 LOOKING NORTHEAST  
ON HIGHWAY 99 W AT SW 9TH ST.



PROPOSED

Visual impact will be affected by location and visibility of observer. This document is for planning and information purposes only and is conceptual. This is solely the photographer's interpretation of the proposed development.

TIM BRADLEY IMAGING



CURRENT

VIEW #3 LOOKING SOUTHEAST  
ON HIGHWAY 99 AT SITE



PROPOSED

Visual impact will be affected by location and visibility of observer. This document is for planning and information purposes only and is conceptual. This is solely the photographer's interpretation of the proposed development.

TIM BRADLEY IMAGING



CURRENT

VIEW #4 LOOKING SOUTH  
ON HIGHWAY 99 AT SW 7TH ST.



PROPOSED

Visual impact will be affected by location and visibility of observer. This document is for planning and information purposes only and is conceptual. This is solely the photographer's interpretation of the proposed development.

TIM BRADLEY IMAGING



CURRENT

VIEW #5 LOOKING WEST  
FROM 785 SE LOCUST ST.



PROPOSED

Visual impact will be affected by location and visibility of observer. This document is for planning and information purposes only and is conceptual. This is solely the photographer's interpretation of the proposed development.

TIM BRADLEY IMAGING

# RF Usage and Facility Justification

## OR1 DUNDEE

Prepared by Verizon Wireless Preeti Pathanjali

Oct 15, 2019



## Introduction:

There are two main drivers that prompt the need for a new cell site. One is coverage and the other is capacity.

**Coverage** is the need to expand wireless service into an area that either has no service or bad service. The request for service often comes from customers or emergency personnel. Expansion of service could mean improving the signal levels in a large apartment complex or new residential community. It could also mean providing new service along a newly built highway.

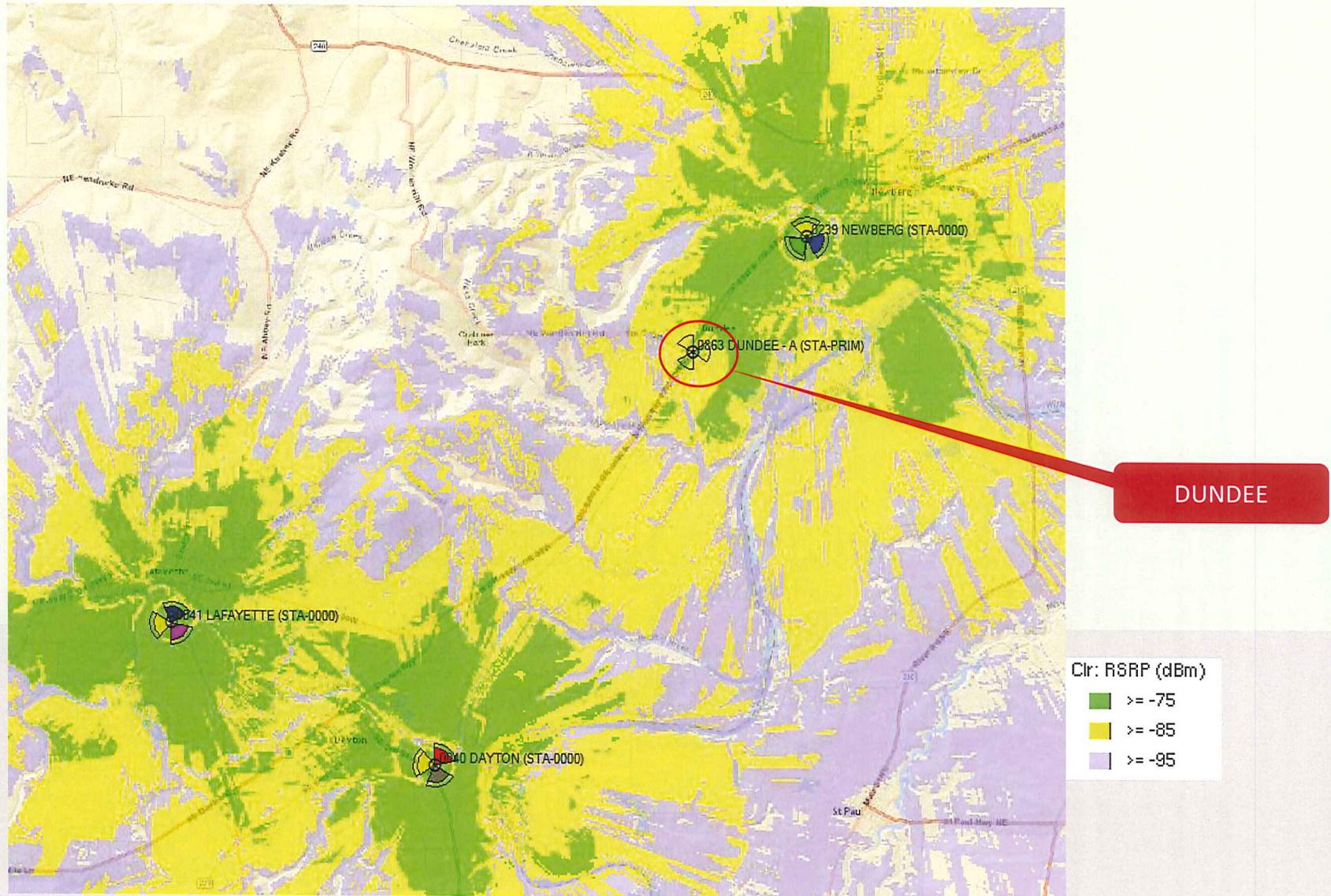
**Capacity** is the need for more wireless resources. Cell sites have a limited amount of resources to handle voice calls, data connections, and data volume. When these limits are reached, user experience quickly degrades. This could mean customers may no longer be able to make/receive calls nor be able to browse the internet. It could also mean that webpages will be very slow to download.

**Capacity** is the amount of resources a cell site has to handle customer demand. We utilize sophisticated programs that use current usage trends to forecast future capacity needs. Since it takes an average of (1-3) years to complete a cell site project, we have to start the acquisition process several years in advance to ensure the new cell site is in place before the existing cell site hits capacity limits.

**Location, Location, Location.** A good capacity cell site needs to be in the center of the user population which ensures even traffic distribution around the cell. A typical cell site is configured in a pie shape, with each slice (aka. sector) holding 33% of the resources. Optimal performance is achieved when traffic is evenly distributed across the 3 sectors.

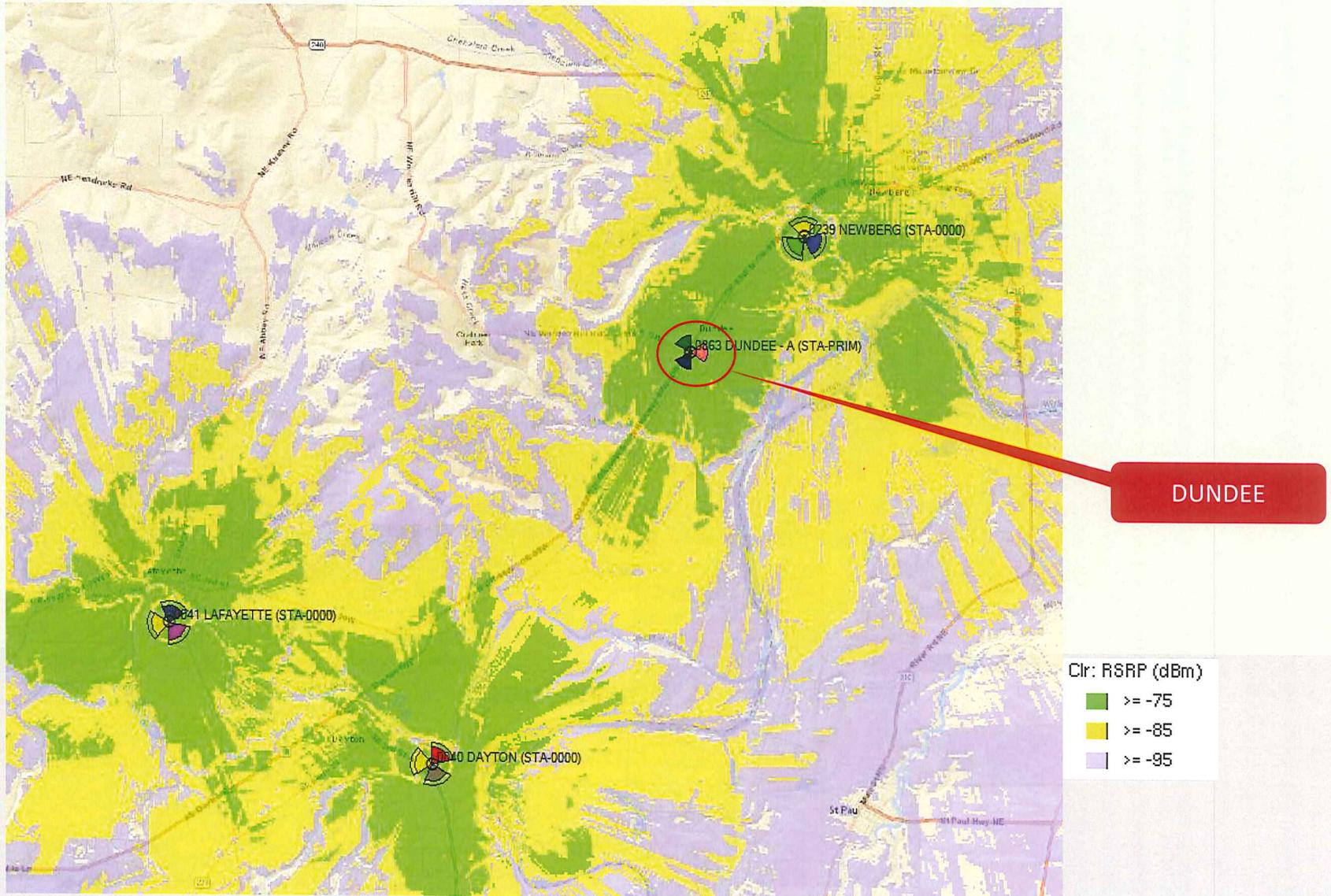
## Coverage Area of Existing Site

The proposed DUNDEE site is a capacity site. This site will offload the existing sites Newberg, Dayton, Lafayette.

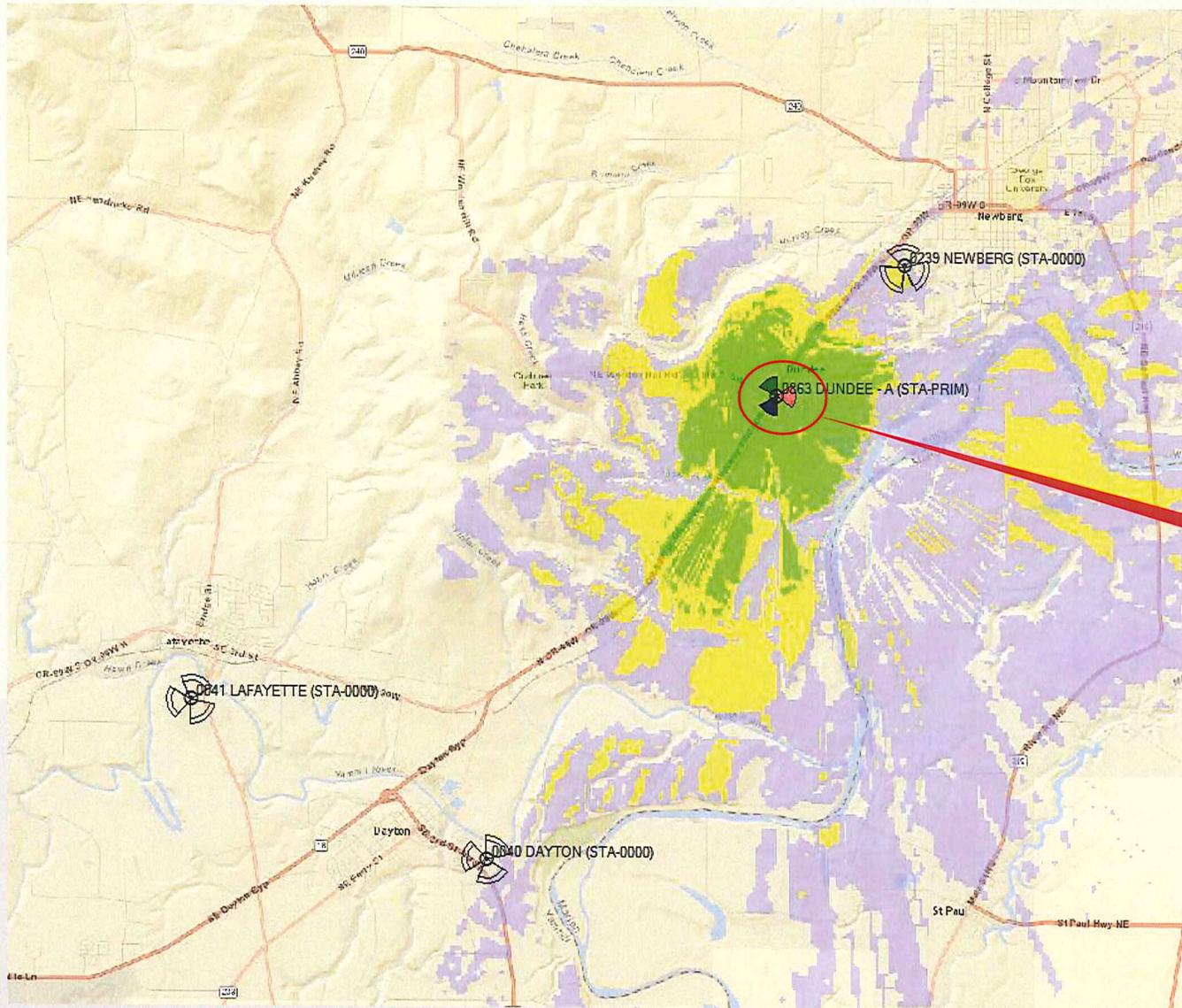


# Coverage Area Offloaded by New Site at 74' antenna tip height

The proposed DUNDEE site is a capacity site. This site will offload the existing sites Newberg, Dayton, Lafayette.



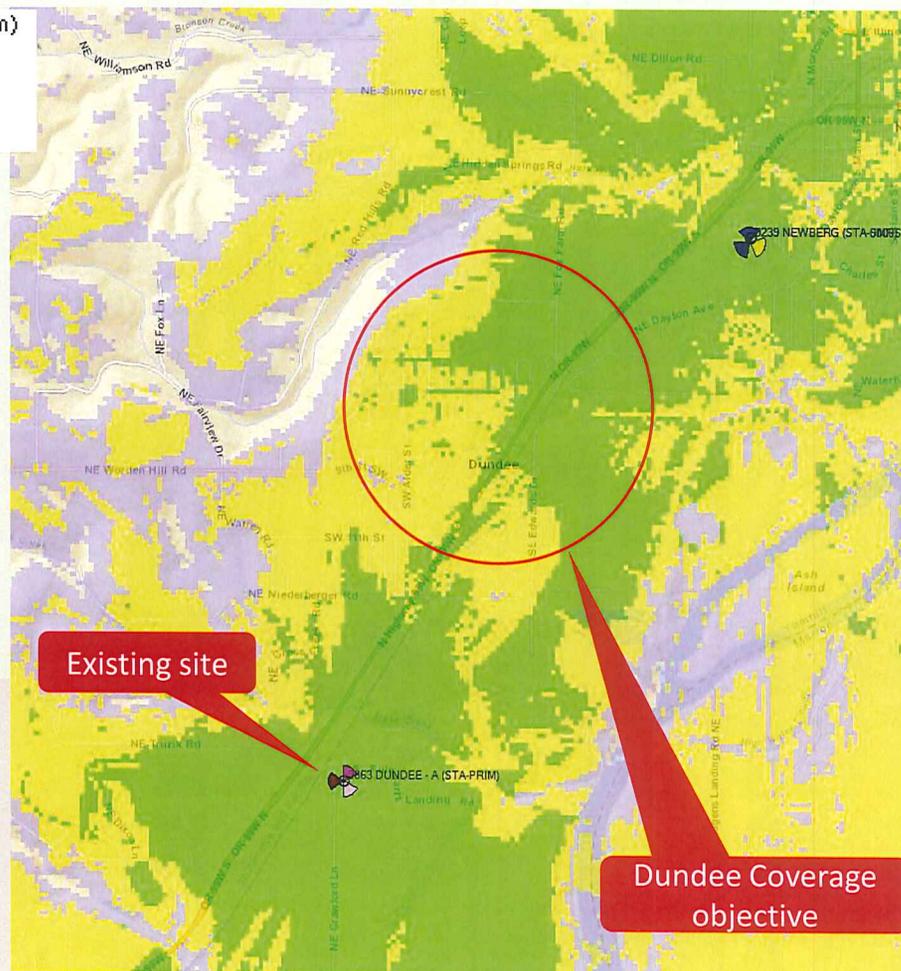
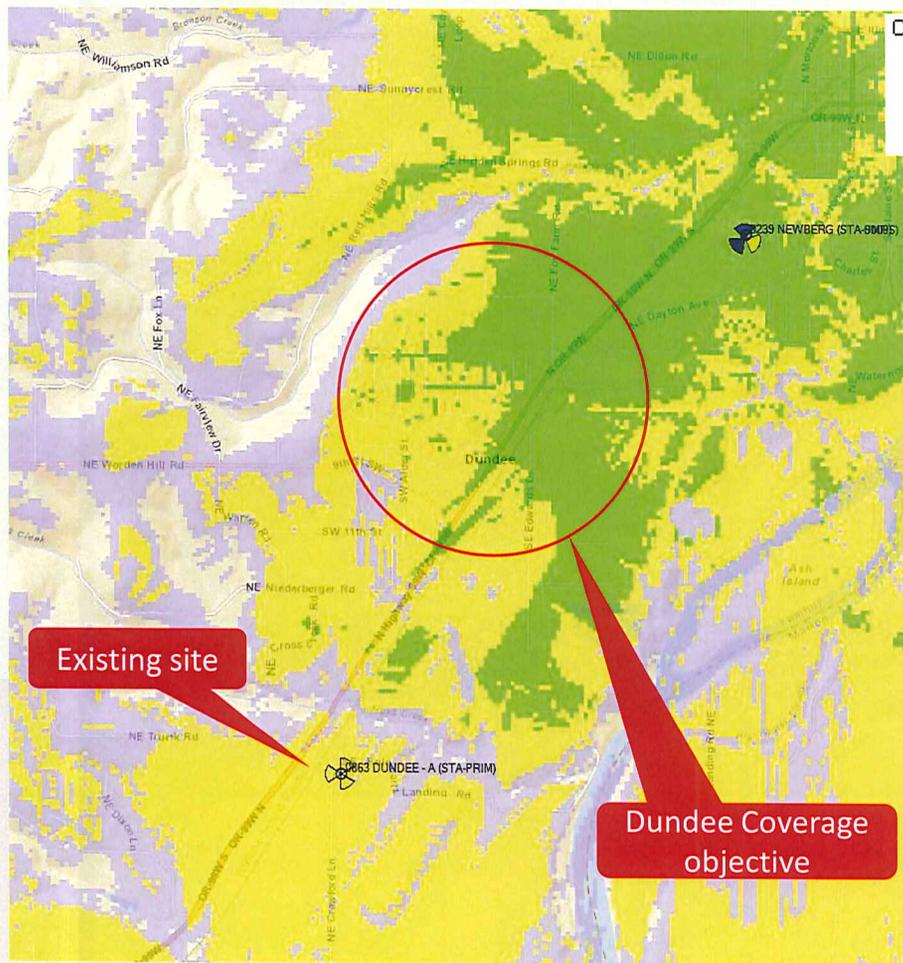
# Coverage with DUNDEE Site at 74' antenna tip height



# Coverage comparison with existing tower

Current coverage

Coverage with existing tower SW 1.3 miles



**Existing tower located 1.3 miles SE of Dundee city will not improve coverage or capacity offload of existing sites.**



## Need Case for: DUNDEE

**Summary:** The existing sites Newberg, Dayton, Lafayette cannot carry the data traffic that exists in the area it serves. Also this site will improve coverage & data speed in Dundee city, 70' tower with an antenna tip height of 74' is what is required to cover the city off Dundee and provide offload to neighboring sites

### Detail below:

- Exact data about sites is proprietary and cannot be disclosed due to competitive reasons.
- The existing cell sites Newberg, Dayton, Lafayette are forecasted to reach capacity in the near future.
- The new cell site DUNDEE will provide additional resources to existing sites. It will take some users off of existing sites, which will alleviate the capacity constraint.
- This will improve customer experience (faster webpage downloads and fewer drop calls).
- Without the new site DUNDEE, existing sites in area will reach capacity which will negatively impact customer's ability to make/receive calls and browse the internet.

**Andrew H. Thatcher**

*www.rfthatcher.com*

**Evaluation of Compliance with FCC Guidelines for  
Human Exposure to Radiofrequency Radiation**

**Site Address**

**759 N. Hwy 99W  
Dundee, OR 97115**

**Site Name:**

**OR1 DUNDEE**

**Prepared for:  
Acom Consulting Inc.**



**September 29, 2019**

**Prepared By:**

**Andrew H. Thatcher, MSHP, CHP**

## Introduction

This report assesses levels of exposure to radiofrequency (RF) energy from a modified Verizon Wireless base station, with antennas located on a monopole antenna at 759 N Highway 99W, Dundee OR 97115. After the proposed antenna modifications, the facility will include a total of 6 antennas mounted in three sectors. The antennas will be mounted at the elevation of 70' above grade. This report analyzes RF exposures outdoors at ground level from the proposed Verizon Wireless antennas as well as indoors and on the roof at the fire station.

## Executive Summary

The calculations for outdoor ground level locations indicate that the Verizon Wireless antenna RF emissions are in compliance with the FCC general population limit as the maximum ground level outdoor exposure from all RF sources is less than <4% of the limit. The maximum indoor exposure at the fire station is significantly less than 1% of the FCC general population exposure limit.

## Site Description

The project consists of modifications to a communications tower that will house the Verizon Wireless antennas. The Verizon Wireless data consists of three sectors of coverage using 700 MHz, 850 MHz, 1900 MHz and 2100 MHz frequency bands.

Based on a search conducted on [www.antennasearch.com](http://www.antennasearch.com), no other significant (i.e. capable of significantly affecting compliance determinations of the present installation) RF emitting source exists within 2,000 of this location.

## Outdoor Ground Level Exposure Evaluation

Equation 6 of OET Bulletin 65<sup>1</sup> is used as the basis for the calculations as it considers a truly worst case prediction of power density in an outdoor environment in which 100% of incoming radiation is assumed to reflect off a ground surface, resulting in a doubling of the predicted field strength and a four fold increase in power density. Indoor calculations would be lower than the outdoor calculations as complete ground reflection would not be included and a factor of ten reduction in signal strength due to attenuation through building materials is also considered. The formula is as follows:

$$S = [EIRP] / [\pi \cdot D^2]$$

*WHERE:*

S = Power density (mW/cm<sup>2</sup>)

EIRP = Effective isotropic radiated power (mW) (varies with angle as per manufacturer's specifications)

D = Hypotenuse distance (cm)

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<sup>1</sup> Federal Communications Commission Office of Engineering and Technology. Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields. OET Bulletin 65. 1997.

### Exposure Calculations

Table 1 shows the calculated Maximum Permissible Exposure (MPE) at 6' above ground assuming all antennas operating at 100% and complete ground reflection. The maximum cumulative exposure at any location was determined to be 0.03 mW/cm<sup>2</sup> or 3.06% of the FCC general public exposure limit. Table 1 also provides the maximum effective radiated power in each frequency band. All sectors are assumed to have a 0° downtilt resulting in the same predicted power density for all sectors. Note that the proposed monopole also has a microwave dish included in the design. The microwave was not included in the analysis due to the high gain of a microwave dish resulting in negligible exposure at heights other than in the main beam of the microwave.

Site Name:	Verizon OR1 Dundee					
Carrier Type	Worst Case ERP (watts)	Worst Case ERP (dBm)	Antenna Height (ft)	Maximum outdoor exposure (with ground reflection) (mW/cm <sup>2</sup> )	% of Standard	General Population Exposure Limit (mW/cm <sup>2</sup> )
Verizon 700 Upper LTE	3757	65.75	70	0.000	0.04%	0.497
Verizon 850	1598	62.04	70	0.000	0.05%	0.533
Verizon PCS	2750	64.39	70	0.009	0.87%	1.000
Verizon AWS	8336	69.21	70	0.021	2.10%	1.000
			<b>Total</b>	<b>0.030</b>	<b>3.06%</b>	

**Note: "maximum outdoor exposure" is calculated at the point at ground level where the cumulative exposure from all sources is at a maximum**

Calculated exposures on the roof of the fire station are less than 25% of the FCC general public exposure limit. Radio signal exposures inside the fire station from the proposed Verizon Wireless antennas will be very small, on the order of the exposure from the Wifi network at the station.

### Discussion

The biological effects of RF energy have been extensively studied, and there are several thousand reports in the scientific literature on this subject. These reports have been critically reviewed by numerous independent panels, most recently the IEEE (formerly Institute of Electrical and Electronics Engineers) and the International Commission on Nonionizing Radiation Protection. These groups have affirmed existing health standards, or have developed and proposed standards for exposure to RF energy that are broadly similar to the FCC limits.

### Conclusions/Recommendations

The calculations for outdoor ground level locations indicate that the Verizon Wireless antenna RF emissions are in compliance with the FCC general population limit as the maximum ground level outdoor exposure from all RF sources is less than <4% of the limit. The maximum indoor exposure at the fire station is significantly less than 1% of the FCC general population exposure limit.

It should be noted that wireless technology is changing rapidly, and companies including Verizon Wireless are frequently upgrading and introducing new services, and updating existing services to new technologies. Consequently the calculated exposure levels in Table 1 are based on current design data which may change in the future. However, as shown in Table 1, the RF exposure levels are a small fraction of the FCC exposure limits and any foreseeable upgrades to the site in the future are highly unlikely to affect its compliance with safety limits. However, compliance after major changes to the site should be established based on current design information.

### Certification

I hereby certify the following:

1. I have read and fully understand the FCC regulations concerning RF safety and the control of human exposure to RF fields.
2. To the best of our knowledge, the statements and information disclosed in this report are true, complete and accurate, based on engineering design data for the site supplied to me.
3. The results of the analysis indicate that the site is in full compliance with the FCC regulations concerning RF exposure at all areas of public access.
4. Transmission equipment for the Verizon Wireless facility is certified by the FCC under the equipment authorization procedures set forth in the FCC rules. This assures that the wireless facility will transmit within assigned frequency bands, and at authorized power levels. The Verizon wireless facility will operate in accordance with all FCC rules regarding power, signal bandwidth, interference mitigation, and good RF engineering practices. The Verizon Wireless facility will comply with all FCC standards for radio frequency emissions.

Regards,



Andrew H. Thatcher, MSHP, CHP



October 4, 2017

Chelsea Burgwin  
Acom Consulting  
5200 SW Meadows Road, Suite 150  
Lake Oswego, OR 97035

Re: Acoustical Report – Verizon OR1 Dundee  
Site: 759 N Highway 99W, Dundee, OR, 97115

Dear Chelsea,

The following report presents a noise study for the proposed Verizon Wireless telecommunications facility 759 N Highway 99W in Dundee, Oregon. This noise study extends from the proposed equipment to the nearest properties. The purpose of this report is to document the existing conditions and the impacts of the acoustical changes due to the proposed equipment. This report contains data on the existing and predicted noise environments, impact criteria and an evaluation of the predicted sound levels as they relate to the criteria.

### **Ambient Conditions**

Existing ambient sound levels of the site were measured on July 29, 2017 with a Svantek 971 Type 1 sound level meter. Measurements were conducted in accordance with Oregon Administrative Rules (OAR) 340-35-035 subsection (3)(b). The average ambient noise level was 57 dBA primarily due to noise from local automotive traffic on SW Taylors Ferry Road.

### **Code Requirements**

The site is located within the City of Dundee Zoning jurisdiction on property with a “Public” zoning designation. The nearest receiving property is zoned Central Business District. For the purposes of Dundee Municipal Code 8.28.040 both of these zonings are considered Commercial.

The proposed new equipment includes equipment support cabinets and an emergency generator. The equipment support cabinets are expected to run 24 hours a day. The generator will run once a week during daytime hours for maintenance and testing purposes only.

Dundee Municipal Code limits noise to a Commercial property as follows:

Noise is limited to 60 dBA during daytime hours. During nighttime, defined as the hours between 10 p.m. and 7 a.m., maximum sound levels are reduced to 55 dBA. Since the support cabinets are expected to operate 24 hours a day, they must meet the 55 dBA nighttime limit.

The generator must not exceed 60 dBA when running during daytime hours for maintenance testing.

**Predicted Equipment Sound Levels**

*24 hour average level*

The following table presents a summary of the equipment and their associated noise levels:

**Table 1: Equipment Noise Levels**

Equipment	dBA (each)	Quantity	Combined dBA @ 5 ft
Commscope RBA84 Power/ Battery Cabinet	64 dBA @ 5 ft	1	64
Charles PM63912	61 dBA @ 5 ft	3	66
<b>Total dBA (All cabinets combined)</b>			

Methods established by ARI Standard 275-2010 and ASHRAE were used in predicting equipment noise levels to the receiving properties. Application factors such as location, height, and reflective surfaces are accounted for in the calculations.

The equipment will be located at grade surrounded by a 6'-0" chain-link fence with privacy slats. The nearest receiving property to the southwest is approximately 12 feet from the equipment. The following table presents the predicted sound level at the nearest receiving property:

**Table 2 Predicted Noise Levels Proposed Equipment Cabinets**

Line	Application Factor	S
1	Sound Pressure Level at 5 ft (dBA), Lp1	68
2	Distance Factor (DF) Inverse-Square Law (Free Field): $DF = 20 \cdot \log(d1/d2)$ (12 ft)	-8
3	New Equipment Sound Pressure Level at Receiver, Lpr (Add lines 1 and 2)	<b>60</b>

As shown in Table 2, the sound level from the proposed equipment is predicted to be 60 dBA at the southwest property, which does not meet the 55 dBA nighttime code limit. In order for the equipment to meet code, the following noise mitigation measures must be implemented.

## Noise Mitigation

Noise levels will need to be reduced by 5 dB for the cabinets to meet the code limit at the southwest receiving property. To provide the noise reduction, a noise barrier will need to be installed between the equipment and the receiving property as follows:

### Noise Barrier

- Install a noise barrier along the southwest side of the equipment as indicated by the bold red line in Figure 2.
- The top of the noise barrier shall be 6'-0" above grade.
- Construct the noise barrier with a solid material that has a surface mass of at least 2.5 lbs/sq ft. The following are common barrier materials that meet this requirement:
  - 3/4-inch exterior grade plywood
  - 16-gauge sheet metal
  - HardiPanel Vertical Siding or HardiBacker 1/2-inch
- Install sound absorbing material inside of the barrier with a minimum NRC rating of 0.80. The material should be installed between 1'-0" and 6'-0" above grade. Recommended products for this application include minimum 1" thick [F-Sorb](#).
- A detail of the barrier construction is presented in the following figure.

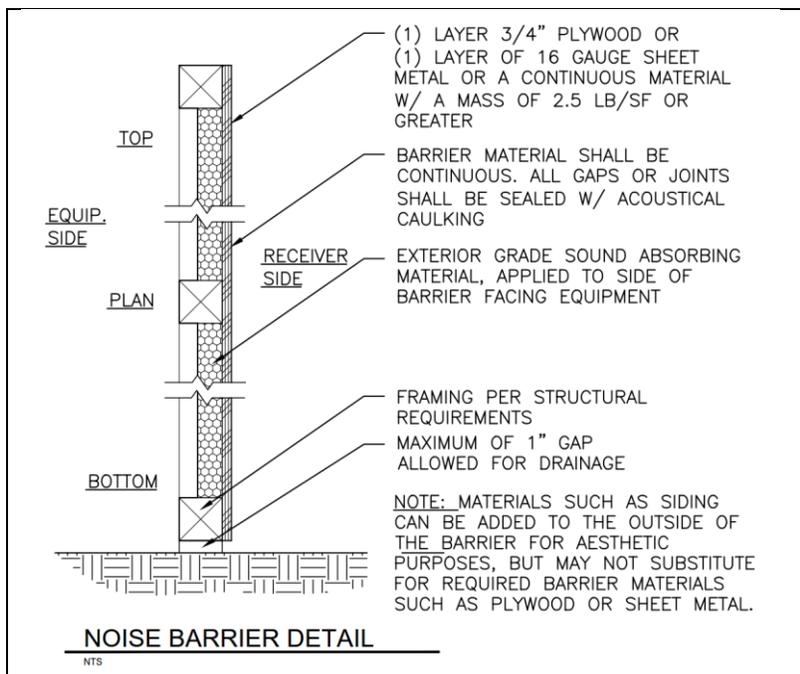


Figure 1 Noise Barrier Detail

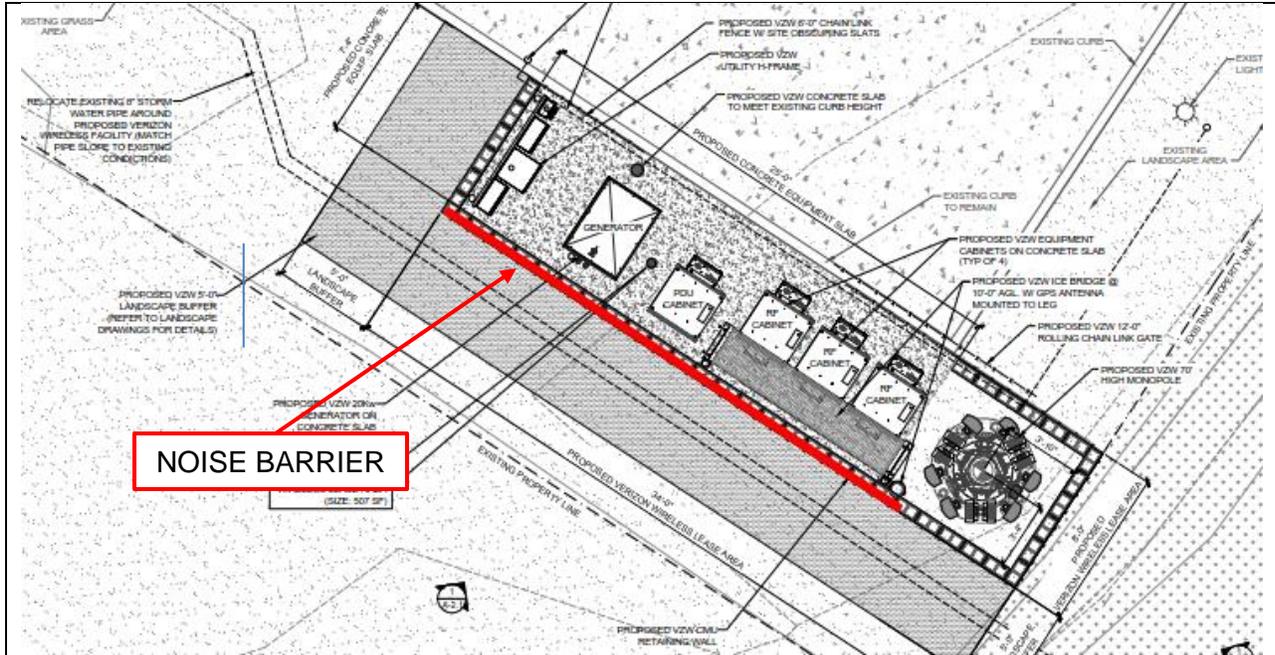


Figure 2 Noise Barrier - Plan

**Predicted Noise levels - with Mitigation**

The following tables present the predicted noise levels with the noise mitigation implemented.

**Table 3 Predicted Noise levels Proposed Equipment Cabinets**

Line	Application Factor	S
1	Sound Pressure Level at 5 ft (dBA), Lp1	68
2	Noise reduction – noise barrier	-12
3	Distance Factor (DF) Inverse-Square Law (Free Field): $DF = 20 \cdot \log(d1/d2)$	-8 (12 ft)
4	New Equipment Sound Pressure Level at Receiver, Lpr (Add lines 1 through 3)	<b>4</b>

As shown in Table 3, the sound level from the proposed equipment cabinets will meet the 55 dBA nighttime code at the nearest receiving property.

The proposed equipment includes one Generac SDC20 20 KW generator with a Level 2 sound enclosure and has a sound level of 65 dBA at 23 feet. The nearest receiving property to the southwest is approximately 12 feet from the generator. The following are the predicted sound levels at the receiving property. Noise reduction from the proposed noise barrier is included in the calculation:

**Table 4 Predicted Noise levels Proposed Emergency generator**

Line	Application Factor	S
1	Equipment Sound Pressure Level at 23 ft. (dBA), Lp1	65
2	Noise reduction – noise barrier	-12
3	Distance Factor (DF) Inverse-Square Law (Free Field): $DF = 20 \log (d1/d2)$ (12 ft)	+6
4	New Equipment Sound Pressure Level at Receiver, Lpr	59

As shown in Table 4, the sound pressure level from the generator will meet the 60 dBA code limit at the nearest receiving properties during test cycle operation.

Please contact us if you have any questions or require further information.

Sincerely,  
SSA Acoustics, LLP



**Alan Burt, P.E.**  
PARTNER



RENEWAL DATE: 12/31/17

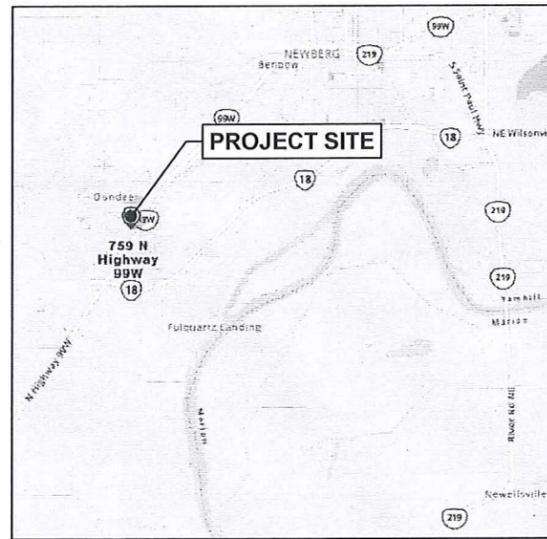
This report has been prepared for the titled project or named part thereof and should not be used in whole or part and relied upon for any other project without the written authorization of SSA Acoustics, LLP. SSA Acoustics, LLP accepts no responsibility or liability for the consequences of this document if it is used for a purpose other than that for which it was commissioned. Persons wishing to use or rely upon this report for other purposes must seek written authority to do so from the owner of this report and/or SSA Acoustics, LLP and agree to indemnify SSA Acoustics, LLP for any and all resulting loss or damage. SSA Acoustics, LLP accepts no responsibility or liability for this document to any other party other than the person by whom it was commissioned. The findings and opinions expressed are relevant to the dates of the works and should not be relied upon to represent conditions at substantially later dates. Opinions included therein are based on information gathered during the study and from our experience. If additional information becomes available which may affect our comments, conclusions or recommendations SSA Acoustics, LLP reserves the right to review the information, reassess any new potential concerns and modify our opinions accordingly.

**OR1  
DUNDEE**  
801 N HWY 99W  
DUNDEE, OR 97115



PRELIMINARY DRAWINGS  
NOT FOR CONSTRUCTION

**VICINITY MAP**



**AREA MAP**



**PROJECT CONTACT LIST**

**PROPERTY OWNER:**

ROB DAYKIN  
CITY OF DUNDEE  
PHONE: (503) 538-3922 EXT 103  
ROB.DAYKIN@DUNDEECITY.ORG

**IMPLEMENTATION CONTACT:**

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PORTLAND, OR 97230  
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**SITE ACQUISITION:**

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**ENGINEER OF RECORD:**

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**APPLICANT:**

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(d/b/a VERIZON WIRELESS)  
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**A&E CONSULTANT:**

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**ZONING / PERMITTING:**

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**DRAWING INDEX**

T-1	COVER SHEET
T-2	GENERAL NOTES AND SYMBOLS
SV-1	TOPOGRAPHICAL SURVEY
C-1	PROPOSED GRADING PLAN
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A-3	PROPOSED SOUTHEAST EXTERIOR ELEVATION
A-3.1	PROPOSED SOUTHWEST EXTERIOR ELEVATION

NO.	DATE	DRAWN	REVISION
A	08/16/19	RA	90% PZD REVIEW
B	09/13/19	RM	CLIENT COMMENTS

CLIENT:



A&E CONSULTANT, SITE ACQUISITION AND PERMITTING:



**DRIVING DIRECTIONS**

FROM VERIZON WIRELESS OFFICE - PORTLAND, OR:

DEPART NE 122ND BLVD TOWARD NE INVERNESS DR; TURN LEFT ONTO NE AIRPORT WAY; TAKE RAMP RIGHT FOR I-205 SOUTH TOWARD PORTLAND / SALEM; CONTINUE TO I-5S INTERCHANGE. MERGE ONTO I-5S. TAKE EXIT 294 FOR OR-99W TOWARD TIGARD/NEWBERG. MERGE ONTO OR-99W S/SW BARBUR BLVD/PACIFIC HWY N. CONTINUE TO FOLLOW OR-99W S/PACIFIC HWY W. SITE WILL BE ON THE LEFT BEHIND FIRE STATION.

**CODE COMPLIANCE**

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT CONDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

OREGON STATE AND LOCAL BUILDING CODES WITH THE FOLLOWING REFERENCE CODE:

- 2012 IBC, STANDARDS AND AMENDMENTS - 2014 OSSC
- 2012 IMC, STANDARDS AND AMENDMENTS - 2014 OMSC
- 2012 IFC, STANDARDS AND AMENDMENTS - 2014 OFC
- 2015 UPC, STANDARDS AND AMENDMENTS - 2017 OPSC
- 2017 NEC, STANDARDS AND AMENDMENTS - 2017 OESC

**PROJECT INFORMATION**

**CODE INFORMATION:**

JURISDICTION: CITY OF DUNDEE  
ZONING CLASSIFICATION: PUBLIC (FIRE STATION)  
CONSTRUCTION TYPE: II-B  
OCCUPANCY: UTILITY  
PROPOSED BUILDING USE: TELECOM

**SITE LOCATION (NAVD88):**

GROUND ELEVATION: 201.0' AMSL  
STRUCTURE HEIGHT: 80.0' (TOP OF MONOPINE)

**GEODETIC COORDINATES (NAD83):**

LATITUDE: 45.276447° (45° 16' 35.21" N)  
LONGITUDE: -123.011186° (123° 00' 40.27" W)

**LEASE AREA SIZE:**

507 S.F.

**PARCEL SIZE:**

1.48 ACRES

**PARCEL NUMBER:**

R3325CC00800

**SCOPE OF WORK**

VERIZON WIRELESS PROPOSES TO INSTALL NEW PANEL ANTENNAS, NEW MW, NEW OVP'S, HYBRID CABLES AND RRU'S ON A NEW 80' STEALTH MONOPINE. THE PROPOSED EQUIPMENT SHALL BE LOCATED ADJACENT TO THE POLE INSIDE A 13'X39' FENCED LEASE AREA. LEASE AREA INCLUDES A 5'-0" LANDSCAPE BUFFER.

DO NOT SCALE DRAWINGS. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND ADVISE CONSULTANTS OF ANY ERRORS OR OMISSIONS. NO VARIATIONS OR MODIFICATIONS TO WORK SHOWN SHALL BE IMPLEMENTED WITHOUT PRIOR WRITTEN APPROVAL. ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED BY THE LATEST REVISION. ALL DRAWINGS AND SPECIFICATIONS REMAIN THE PROPERTY OF ACOM CONSULTING.

**OR1  
DUNDEE**  
801 N HWY 99W  
DUNDEE, OR 97115

COVER SHEET

T-1

## GENERAL NOTES

1. WORK SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS. ALL NECESSARY LICENSES, CERTIFICATES, ETC., REQUIRED BY AUTHORITY HAVING JURISDICTION SHALL BE PROCURED AND PAID FOR BY THE CONTRACTOR.
2. ACOM HAS NOT CONDUCTED, NOR DOES IT INTEND TO CONDUCT ANY INVESTIGATION AS TO THE PRESENCE OF HAZARDOUS MATERIAL, INCLUDING, BUT NOT LIMITED TO, ASBESTOS WITHIN THE CONFINES OF THIS PROJECT. ACOM DOES NOT ACCEPT RESPONSIBILITY FOR THE INDEMNIFICATION, THE REMOVAL, OR ANY EFFECTS FROM THE PRESENCE OF THESE MATERIALS. IF EVIDENCE OF HAZARDOUS MATERIALS IS FOUND, WORK IS TO BE SUSPENDED AND THE OWNER NOTIFIED. THE CONTRACTOR IS NOT TO PROCEED WITH FURTHER WORK UNTIL INSTRUCTED BY THE OWNER IN WRITING.
3. ALL MATERIAL FURNISHED UNDER THIS CONTRACT SHALL BE PROPOSED, UNLESS OTHERWISE NOTED. ALL WORK SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP. THE CONTRACTOR SHALL REPAIR OR REPLACE AT HIS EXPENSE ALL WORK THAT MAY DEVELOP DEFECTS IN MATERIALS OR WORKMANSHIP WITHIN SAID PERIOD OF TIME OR FOR ONE YEAR AFTER THE FINAL ACCEPTANCE OF THE ENTIRE PROJECT, WHICHEVER IS GREATER.
4. THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS AND UTILITIES AT THE JOB SITE BEFORE WORK IS STARTED. NO CLAIMS FOR EXTRA COMPENSATION FOR WORK WHICH COULD HAVE BEEN FORESEEN BY AN INSPECTION, WHETHER SHOWN ON THE CONTRACT DOCUMENTS OR NOT, WILL BE ACCEPTED OR PAID.
5. THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING DIMENSIONS AND CONDITIONS AT THE JOB SITE WHICH COULD AFFECT THE WORK UNDER THIS CONTRACT. ALL MANUFACTURERS RECOMMENDED SPECIFICATIONS, EXCEPT THOSE SPECIFICATIONS HEREIN, WHERE MOST STRINGENT SHALL BE COMPLIED WITH.
6. THE CONTRACTOR SHALL VERIFY AND COORDINATE SIZE AND LOCATION OF ALL OPENINGS FOR STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, CIVIL, OR ARCHITECTURAL WORK.
7. THE CONTRACTOR SHALL VERIFY THAT NO CONFLICTS EXIST BETWEEN THE LOCATIONS OF ANY AND ALL MECHANICAL, ELECTRICAL, PLUMBING, OR STRUCTURAL ELEMENTS, AND THAT ALL REQUIRED CLEARANCES FOR INSTALLATION AND MAINTENANCE ARE MET. NOTIFY THE CONSULTANT OF ANY CONFLICTS. THE CONSULTANT HAS THE RIGHT TO MAKE MINOR MODIFICATIONS IN THE DESIGN OF THE CONTRACT WITHOUT THE CONTRACTOR GETTING ADDITIONAL COMPENSATION.
8. DO NOT SCALE THE DRAWINGS. DIMENSIONS ARE EITHER TO THE FACE OF FINISHED ELEMENTS OR TO THE CENTER LINE OF ELEMENTS, UNLESS NOTED OTHERWISE. CRITICAL DIMENSIONS SHALL BE VERIFIED AND NOTIFY THE CONSULTANT OF ANY DISCREPANCIES.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY CLEAN UP OF ALL TRADES AND REMOVE ALL DEBRIS FROM THE CONSTRUCTION SITE. AT THE COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL THOROUGHLY CLEAN THE BUILDING, SITE, AND ANY OTHER SURROUNDING AREAS TO A BETTER THAN EXISTING CONDITION.
10. THE CONTRACTOR IS RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING ALL WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, ETC. ACCORDING TO APPLICABLE CODES, STANDARDS, AND GOOD CONSTRUCTION PRACTICES.
11. THE CONTRACTOR SHALL MEET ALL OSHA REQUIREMENTS FOR ALL INSTALLATIONS.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES TO THE EXISTING CONSTRUCTION AND REPAIR ALL DAMAGES TO BETTER THAN PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY DAMAGE TO THE BUILDING SITE OR ANY ADJACENT STRUCTURES AROUND THE PROJECT. THE CONSULTANT SHALL BE SOLE AND FINAL JUDGE AS TO THE QUALITY OF THE REPAIRED CONSTRUCTION. ANY ADDITIONAL MODIFICATIONS WHICH MUST BE MADE SHALL BE MADE AT THE CONTRACTOR'S EXPENSE.
13. WHERE ONE DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS, EVEN THOUGH NOT SPECIFICALLY MARKED ON THE DRAWINGS OR REFERRED TO IN THE SPECIFICATIONS, UNLESS NOTED OTHERWISE.
14. WHERE PROPOSED PAVING, CONCRETE SIDEWALKS OR PATHS MEET EXISTING CONSTRUCTION, THE CONTRACTOR SHALL MATCH THE EXISTING PITCH, GRADE, AND ELEVATION SO THE ENTIRE STRUCTURE SHALL HAVE A SMOOTH TRANSITION.
15. THE CONTRACTOR SHALL MODIFY THE EXISTING FLOORS, WALL, CEILING, OR OTHER CONSTRUCTION AS REQUIRED TO GAIN ACCESS TO AREAS FOR ALL MECHANICAL, PLUMBING, ELECTRICAL, OR STRUCTURAL MODIFICATIONS. WHERE THE EXISTING CONSTRUCTION DOORS, PARTITIONS, CEILING, ETC., ARE TO BE REMOVED, MODIFIED, OR REARRANGED OR WHERE THE EXPOSED OR HIDDEN MECHANICAL, ELECTRICAL, SYSTEMS ARE ADDED OR MODIFIED, THE GENERAL CONTRACTOR SHALL REPAIR, PATCH AND MATCH ALL EXISTING CONSTRUCTION AND FINISHES OF ALL FLOORS WALLS AND CEILINGS. WHERE CONCRETE MASONRY CONSTRUCTION IS MODIFIED, THE CONTRACTOR SHALL TOOTH IN ALL PROPOSED CONSTRUCTION TO MATCH THE EXISTING BOND. WHERE CONCRETE CONSTRUCTION IS MODIFIED, THE CONTRACTOR SHALL VERIFY THE EXACT DETAILS TO BE USED FOR CONSTRUCTION. ALL WORK SHALL BE COVERED UNDER THE GENERAL CONTRACT.

16. VERIFY ALL EXISTING DIMENSIONS PRIOR TO PERFORMING WORK.
17. VERIFY LOCATION OF ALL BURIED UTILITIES PRIOR TO ANY EXCAVATION.
18. IN RAWLAND CONDITIONS, TOWER FOUNDATION STRUCTURAL STEEL TO BE GROUNDED PRIOR TO CONCRETE POUR. TOWER FOUNDATION STRUCTURAL STEEL TO BE CONNECTED TO PERMANENT GROUND ROD PRIOR TO TOWER ERECTION. TOWER GROUND MUST BE MAINTAINED AT ALL TIMES.
19. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR APPLYING FOR COMMERCIAL POWER IMMEDIATELY UPON AWARD OF CONTRACT. THE GENERAL CONTRACTOR IS REQUIRED TO KEEP ALL DOCUMENTATION RECEIVED FROM THE POWER COMPANY, ACKNOWLEDGING APPLICATION FOR POWER, WRITTEN AND VERBAL DISCUSSIONS WITH THE POWER COMPANY, ETC.
20. THE GENERAL CONTRACTOR SHALL OBTAIN WRITTEN CONFIRMATION OF THE EXPECTED DATE OF COMPLETION OF THE POWER CONNECTION FROM THE POWER COMPANY.
21. IF THE POWER COMPANY IS UNABLE TO PROVIDE THE POWER CONNECTION BY OWNER'S REQUIRED DATE, THE GENERAL CONTRACTOR SHALL PROVIDE AND MAINTAIN A TEMPORARY GENERATOR UNTIL THE POWER COMPANY CONNECTION IS COMPLETED. COSTS ASSOCIATED WITH THE TEMPORARY GENERATOR TO BE APPROVED BY THE OWNER.
22. IF THE GENERAL CONTRACTOR FAILS TO TAKE NECESSARY MEASURES AS DESCRIBED IN NOTES 19, 20 AND 21 ABOVE, THE GENERAL CONTRACTOR SHALL PROVIDE A TEMPORARY GENERATOR AT NO COST TO THE OWNER.
23. PLANS PART OF THIS SET ARE COMPLEMENTARY. INFORMATION IS NOT LIMITED TO ONE PLAN. DRAWINGS AND SPECIFICATIONS ARE INSTRUMENTS OF SERVICE AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT, WHETHER THE PROJECT FOR WHICH THEY ARE MADE IS EXECUTED OR NOT. THEY ARE NOT TO BE USED BY THE OWNER ON OTHER PROJECTS OR EXTENSION TO THIS PROJECT EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO THE ARCHITECT. THESE PLANS WERE PREPARED TO BE SUBMITTED TO GOVERNMENTAL BUILDING AUTHORITIES FOR REVIEW FOR COMPLIANCE WITH APPLICABLE CODES AND IT IS THE SOLE RESPONSIBILITY OF THE OWNER AND/OR CONTRACTOR TO BUILD ACCORDING TO APPLICABLE BUILDING CODES.
24. IF CONTRACTOR OR SUB-CONTRACTOR FIND IT NECESSARY TO DEVIATE FROM ORIGINAL APPROVED PLANS, THEN IT IS THE CONTRACTOR'S AND THE SUB-CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE ARCHITECT WITH 4 COPIES OF THE PROPOSED CHANGES FOR HIS APPROVAL BEFORE PROCEEDING WITH THE WORK. IN ADDITION THE CONTRACTOR AND SUB-CONTRACTORS SHALL BE RESPONSIBLE FOR PROCURING ALL NECESSARY APPROVALS FROM THE BUILDING AUTHORITIES FOR THE PROPOSED CHANGES BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR AND SUB-CONTRACTORS SHALL BE RESPONSIBLE FOR PROCURING ALL NECESSARY INSPECTIONS AND APPROVALS FROM BUILDING AUTHORITIES DURING THE EXECUTION OF THE WORK.
25. IN EVERY EVENT, THESE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS SHALL BE INTERPRETED TO BE A MINIMUM ACCEPTABLE MEANS OF CONSTRUCTION BUT THIS SHALL NOT RELIEVE THE CONTRACTOR, SUB-CONTRACTOR, AND/OR SUPPLIER/MANUFACTURER FROM PROVIDING A COMPLETE AND CORRECT JOB WHEN ADDITIONAL ITEMS ARE REQUIRED TO THE MINIMUM SPECIFICATION. IF ANY ITEMS NEED TO EXCEED THESE MINIMUM SPECIFICATIONS TO PROVIDE A COMPLETE, ADEQUATE AND SAFE WORKING CONDITION, THEN IT SHALL BE THE DEEMED AND UNDERSTOOD TO BE INCLUDED IN THE DRAWINGS. FOR EXAMPLE, IF AN ITEM AND/OR PIECE OF EQUIPMENT REQUIRES A LARGER WIRE SIZE (I.E. ELECTRICAL WIRE), STRONGER OR LARGER PIPING, INCREASED QUANTITY (I.E. STRUCTURAL ELEMENTS), REDUCED SPACING, AND/OR INCREASED LENGTH (I.E. BOLT LENGTHS, BAR LENGTHS) THEN IT SHALL BE DEEMED AND UNDERSTOOD TO BE INCLUDED IN THE BID/PROPOSAL. THESE DOCUMENTS ARE MEANT AS A GUIDE AND ALL ITEMS REASONABLY INFERRED SHALL BE DEEMED TO BE INCLUDED.
26. THESE CONTRACT DOCUMENTS AND SPECIFICATIONS SHALL NOT BE CONSTRUED TO CREATE A CONTRACTUAL RELATIONSHIP OF ANY KIND BETWEEN THE ARCHITECT AND THE CONTRACTOR.

## LINE/ANTENNA NOTES

1. ALL THREADED STRUCTURAL FASTENERS FOR ANTENNA SUPPORT ASSEMBLES SHALL CONFORM TO ASTM A307 OR ASTM A36. ALL STRUCTURAL FASTENERS FOR STRUCTURAL STEEL FRAMING SHALL CONFORM TO ASTM A325. FASTENERS SHALL BE 5/8" MIN. DIA. BEARING TYPE CONNECTIONS WITH THREADS EXCLUDED FROM THE PLANE. ALL EXPOSED FASTENERS, NUTS, AND WASHERS SHALL BE GALVANIZED OTHERWISE NOTED. CONCRETE EXPANSION ANCHORS SHALL BE HILTI KWIK BOLTS UNLESS OTHERWISE NOTED. ALL ANCHORS INTO CONCRETE SHALL BE STAINLESS STEEL.
2. NORTH ARROW SHOWN ON PLANS REFERS TO TRUE NORTH. CONTRACTOR SHALL VERIFY MAGNETIC NORTH AND NOTIFY CONSULTANT OF ANY DISCREPANCY BEFORE STARTING CONSTRUCTION.
3. PROVIDE LOCK WASHERS FOR ALL MECHANICAL CONNECTIONS FOR GROUND CONDUCTORS. USE STAINLESS STEEL HARDWARE THROUGHOUT.
4. THOROUGHLY REMOVE ALL PAINT AND CLEAN ALL DIRT FROM SURFACES REQUIRING GROUND CONNECTIONS.
5. MAKE ALL GROUND CONNECTIONS AS SHORT AND DIRECT AS POSSIBLE. AVOID SHARP BENDS. ALL BENDS TO BE A MIN. OF 8" RADIUS.
6. FOR GROUNDING TO BUILDING FRAME AND HATCH PLATE GROUND BARS. USE A TWO-BOLT HOLE NEMA DRILLED CONNECTOR SUCH AS T&B 32007 OR APPROVED EQUAL.
7. FOR ALL EXTERNAL GROUND CONNECTIONS, CLAMPS AND CADWELDS, APPLY A LIBERAL PROTECTIVE COATING OR AN ANTI-OXIDE COMPOUND SUCH AS "NO-OXIDE A" BY DEARBORN CHEMICAL COMPANY.
8. REPAIR ALL GALVANIZED SURFACES THAT HAVE BEEN DAMAGED BY THERMO-WELDING. USE ERICO T-319 GALVANIZING BAR/COLD GALVANIZING PAINT.
9. SEAL ALL CONDUIT PENETRATIONS INTO MODULAR BUILDING WITH A SILICONE SEALANT AND ALL CONDUIT OPENINGS.
10. ANTENNAS AND COAX TO BE PROVIDED BY VERIZON WIRELESS, CONTRACTOR TO COORDINATE DELIVERY.

PRELIMINARY DRAWINGS  
NOT FOR CONSTRUCTION

NO.	DATE	DRAWN	REVISION
A	08/16/19	RA	90% PZD REVIEW
B	09/13/19	RM	CLIENT COMMENTS

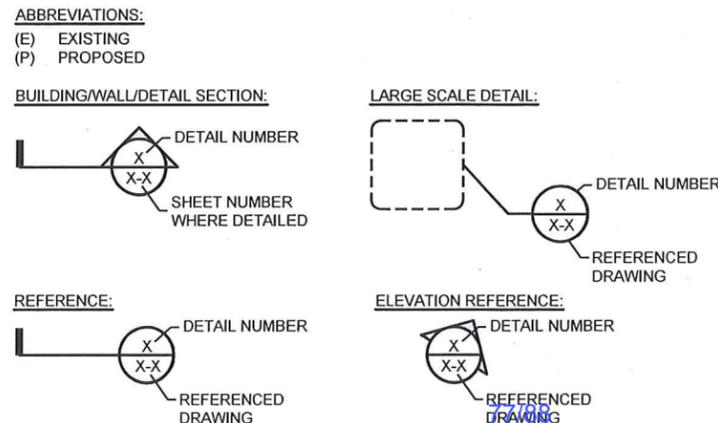
CLIENT:

A&E CONSULTANT, SITE ACQUISITION AND PERMITTING.

## PROJECT INFORMATION

1. THIS IS AN UNMANNED FACILITY AND RESTRICTED ACCESS EQUIPMENT AND WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNALS FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
2. VERIZON WIRELESS CERTIFIES THAT THIS TELEPHONE EQUIPMENT FACILITY WILL BE SERVICED ONLY BY VERIZON WIRELESS EMPLOYEE SERVICE PERSONNEL FOR REPAIR PURPOSES ONLY. THIS FACILITY IS UNOCCUPIED AND NOT DESIGNED FOR HUMAN OCCUPANCY THUS IT IS NOT OPEN TO THE PUBLIC.
3. THIS FACILITY WILL CONSUME NO UNRECOVERABLE ENERGY.
4. NO POTABLE WATER SUPPLY IS TO BE PROVIDED AT THIS LOCATION.
5. NO WASTE WATER WILL BE GENERATED AT THIS LOCATION.
6. NO SOLID WASTE WILL BE GENERATED AT THIS LOCATION.
7. VERIZON WIRELESS MAINTENANCE CREW (TYPICALLY ONE PERSON) WILL MAKE AN AVERAGE OF ONE TRIP PER MONTH AT ONE HOUR PER VISIT.

## LEGEND



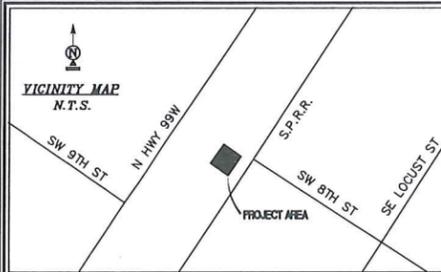
## IMPORTANT NOTICE

THE EXISTING CONDITIONS REPRESENTED HEREIN ARE BASED ON VISUAL OBSERVATIONS AND INFORMATION PROVIDED BY OTHERS. ACOM CONSULTING CANNOT GUARANTEE THE CORRECTNESS NOR COMPLETENESS OF THE EXISTING CONDITIONS SHOWN AND ASSUMES NO RESPONSIBILITY THEREOF. CONTRACTOR AND HIS SUB-CONTRACTORS SHALL VISIT THE SITE AND VERIFY ALL EXISTING CONDITIONS AS REQUIRED FOR PROPER EXECUTION OF PROJECT. REPORT ANY CONFLICTS OR DISCREPANCIES TO THE CONSULTANT PRIOR TO CONSTRUCTION.

**OR1  
DUNDEE**  
801 N HWY 99W  
DUNDEE, OR 97115

GENERAL NOTES  
AND SYMBOLS

T-2



**UTILITY NOTES**  
 SURVEYOR DOES NOT GUARANTEE THAT ALL UTILITIES ARE SHOWN OR THEIR LOCATIONS ARE DEFINITE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND DEVELOPER TO CONTACT PUBLIC UTILITY LOCATING SERVICES AND ANY OTHER INVOLVED AGENCIES TO LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION, REMOVAL, RELOCATION AND/OR REPLACEMENT IS THE RESPONSIBILITY OF THE CONTRACTOR.

**FLOOD ZONE**  
 THIS PROJECT APPEARS TO BE IN FLOOD ZONE X, NO BASE FLOOD ELEVATION DETERMINED, ACCORDING TO FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP, PANEL 219 OF 675, MAP NUMBER #1071002190, DATED MARCH 2, 2010.

**BASIS OF BEARING**  
 BEARINGS SHOWN HEREON ARE BASED UPON U.S. STATE PLANE N.A.D.83 COORDINATE SYSTEM OREGON STATE PLANE COORDINATE NORTH ZONE, DETERMINED BY REAL TIME KINEMATIC (R.T.K.) GPS DATA PROCESSED/CORRECTED ON THE OREGON DEPARTMENT OF TRANSPORTATION (O.D.O.T.) C.O.R.S. NETWORK.

**SURVEYOR'S NOTES**  
 THE DESCRIPTION OF PROPERTY BOUNDARY SHOWN HEREON, REPRESENT THAT INFORMATION PROVIDED AND MEASUREMENTS FOUND DURING THE COURSE OF THE SURVEY. THE PURPOSE OF THIS SURVEY IS TO ESTABLISH OR DETERMINE LEASE AREA(S) & ASSOCIATED EASEMENT(S). THE BOUNDARY SHOWN HEREON IS PLOTTED FROM RECORD INFORMATION PROVIDED BY RECORD/TITLE AND DOES NOT CONSTITUTE A BOUNDARY SURVEY OF THE PROPERTY.

**BENCHMARK**  
 PROJECT ELEVATIONS ESTABLISHED FROM GPS DERIVED ORTHOMETRIC HEIGHTS BY APPLICATION OF N.G.S. "GEOID 12A" MODELED SEPARATIONS TO ELLIPSOID HEIGHTS DETERMINED BY REAL TIME KINEMATIC (RTK) GPS DATA PROCESSED/CORRECTED ON THE OREGON DEPARTMENT OF TRANSPORTATION (O.D.O.T.) C.O.R.S. NETWORK. ALL ELEVATIONS SHOWN HEREON ARE IN FEET AND REFERENCED TO N.A.V.D.88.

**LEASE AREA LEGAL DESCRIPTION**  
 THAT PORTION OF A TRACT OF LAND, BEING ALL OF LOTS 1, 2, 3 AND 4, AND A PORTION OF LOT 5, BLOCK 24, OF THE TOWNSHIP OF DUNDEE AND DUNDEE ORCHARD HOMES NO. 1, AND A PORTION OF PARCEL 1 OF PARTITION PLAT NO. 1995-55, LOCATED IN THE SOUTHWEST ONE-QUARTER OF SECTION 25, TOWNSHIP 3 SOUTH, RANGE 3 WEST, OF THE WILLAMETTE MERIDIAN, IN THE CITY OF DUNDEE, YAMHILL COUNTY, OREGON, SAID TRACT OF LAND BEING MORE SPECIFICALLY DESCRIBED AS FOLLOWS:

BEGINNING AT A 1/2 INCH IRON PIPE FOUND AT THE MOST EASTERLY CORNER OF SAID LOT 1, BLOCK 24 OF SAID TOWNSHIP OF DUNDEE, SAID POINT BEING AT THE INTERSECTION OF THE SOUTHWESTERLY RIGHT OF WAY LINE OF SE 8TH STREET WITH THE NORTHWESTERLY RIGHT OF WAY LINE OF THE S.P. RAILROAD RIGHT OF WAY, SAID POINT BEING THE TRUE POINT OF BEGINNING OF THE TRACT OF LAND HEREIN DESCRIBED; THENCE SOUTH 30°28'39" WEST, ALONG SAID S.P. RAILROAD RIGHT OF WAY, A DISTANCE OF 106.53 FEET TO A POINT; THENCE NORTH 59°31'21" WEST, PARALLEL WITH SAID SOUTHWESTERLY RIGHT OF WAY LINE OF SAID SE 8TH STREET, A DISTANCE OF 207.25 FEET TO A POINT ON THE SOUTHEASTERLY RIGHT OF WAY LINE OF HIGHWAY 99W; THENCE NORTH 30°38'33" EAST, ALONG SAID SOUTHEASTERLY RIGHT OF WAY LINE, A DISTANCE OF 106.53 FEET TO A POINT ON SAID SOUTHWESTERLY RIGHT OF WAY OF SAID SE 8TH STREET; THENCE SOUTH 59°31'21" EAST, ALONG SAID SOUTHWESTERLY RIGHT OF WAY LINE, A DISTANCE OF 206.95 FEET TO THE TRUE POINT OF BEGINNING OF THE TRACT OF LAND HEREIN DESCRIBED, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF THE ABOVE DESCRIBED PROPERTY, THENCE NORTH 33°13'58" EAST ALONG THE SOUTHEASTERLY LINE THEREOF, A DISTANCE OF 8.31 FEET; THENCE LEAVING SAID SOUTHEASTERLY LINE, NORTH 56°46'02" WEST, A DISTANCE OF 5.00 FEET TO THE POINT OF BEGINNING; THENCE NORTH 56°46'02" WEST, A DISTANCE OF 29.00 FEET; THENCE NORTH 33°13'58" EAST, A DISTANCE OF 8.00 FEET; THENCE SOUTH 56°46'02" EAST, A DISTANCE OF 29.00 FEET; THENCE SOUTH 33°13'58" WEST, A DISTANCE OF 8.00 FEET TO THE POINT OF BEGINNING.

CONTAINING 232 SQ. FT.

**ACCESS EASEMENT LEGAL DESCRIPTION**  
 THAT PORTION OF A TRACT OF LAND, BEING ALL OF LOTS 1, 2, 3 AND 4, AND A PORTION OF LOT 5, BLOCK 24, OF THE TOWNSHIP OF DUNDEE AND DUNDEE ORCHARD HOMES NO. 1, AND A PORTION OF PARCEL 1 OF PARTITION PLAT NO. 1995-55, LOCATED IN THE SOUTHWEST ONE-QUARTER OF SECTION 25, TOWNSHIP 3 SOUTH, RANGE 3 WEST, OF THE WILLAMETTE MERIDIAN, IN THE CITY OF DUNDEE, YAMHILL COUNTY, OREGON, SAID TRACT OF LAND BEING MORE SPECIFICALLY DESCRIBED AS FOLLOWS:

BEGINNING AT A 1/2 INCH IRON PIPE FOUND AT THE MOST EASTERLY CORNER OF SAID LOT 1, BLOCK 24 OF SAID TOWNSHIP OF DUNDEE, SAID POINT BEING AT THE INTERSECTION OF THE SOUTHWESTERLY RIGHT OF WAY LINE OF SE 8TH STREET WITH THE NORTHWESTERLY RIGHT OF WAY LINE OF THE S.P. RAILROAD RIGHT OF WAY, SAID POINT BEING THE TRUE POINT OF BEGINNING OF THE TRACT OF LAND HEREIN DESCRIBED; THENCE SOUTH 30°28'39" WEST, ALONG SAID S.P. RAILROAD RIGHT OF WAY, A DISTANCE OF 106.53 FEET TO A POINT; THENCE NORTH 59°31'21" WEST, PARALLEL WITH SAID SOUTHWESTERLY RIGHT OF WAY LINE OF SAID SE 8TH STREET, A DISTANCE OF 207.25 FEET TO A POINT ON THE SOUTHEASTERLY RIGHT OF WAY LINE OF HIGHWAY 99W; THENCE NORTH 30°38'33" EAST, ALONG SAID SOUTHEASTERLY RIGHT OF WAY LINE, A DISTANCE OF 106.53 FEET TO A POINT ON SAID SOUTHWESTERLY RIGHT OF WAY OF SAID SE 8TH STREET; THENCE SOUTH 59°31'21" EAST, ALONG SAID SOUTHWESTERLY RIGHT OF WAY LINE, A DISTANCE OF 206.95 FEET TO THE TRUE POINT OF BEGINNING OF THE TRACT OF LAND HEREIN DESCRIBED, BEING A 12.00 FOOT WIDE STRIP OF LAND, LYING 8.00 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

COMMENCING AT THE SOUTHEAST CORNER OF THE ABOVE DESCRIBED PROPERTY, THENCE NORTH 33°13'58" EAST ALONG THE SOUTHEASTERLY LINE THEREOF, A DISTANCE OF 8.31 FEET; THENCE LEAVING SAID LINE NORTH 56°46'02" WEST, A DISTANCE OF 34.00 FEET; THENCE NORTH 33°13'58" EAST, A DISTANCE OF 8.00 FEET; THENCE SOUTH 56°46'02" EAST, A DISTANCE OF 10.00 FEET TO THE POINT OF BEGINNING; THENCE NORTH 34°12'09" EAST, A DISTANCE OF 94.36 FEET; THENCE NORTH 33°23'53" EAST, A DISTANCE OF 178.36 FEET; THENCE NORTH 28°22'55" WEST, A DISTANCE OF 15.63 FEET; THENCE NORTH 56°33'25" WEST, A DISTANCE OF 171.14 FEET MORE OR LESS TO THE EASTERLY RIGHT OF WAY OF HIGHWAY 99 AND BEING THE POINT OF TERMINUS.

CONTAINING 5,514 SQ. FT. MORE OR LESS

**LESSOR'S LEGAL DESCRIPTION (PARCEL R3325CC00800)**  
 LOTS 10 AND 11, BLOCK 23, TOWN OF DUNDEE, YAMHILL COUNTY, OREGON.

**RECORDED INFORMATION**  
 REFERENCE IS MADE TO THE RECORD TITLE REPORT ORDER #171816053897, ISSUED BY TICOR TITLE COMPANY OF OREGON, DATED AUGUST 16, 2016. ALL EASEMENTS CONTAINED WITHIN SAID RECORD TITLE REPORT AFFECTING THE IMMEDIATE AREA SURROUNDING THE LEASE HAVE BEEN PLOTTED.

**ITEMIZED NOTES:**  
 ITEMS 1, 2 AND 3 ARE NOT A SURVEY MATTER.  
 ITEM 4: ZONE CHANGE FOR VACATED 8TH STREET (ADOPTED 8TH STREET VACATION AND ZONE CHANGE)  
 THE SURVEYORS OPINION IS THAT NO RECORDED INFORMATION ITEMS PROVIDED BY SAID REPORT AFFECT THE PROPOSED WIRELESS FACILITY PREMISES SHOWN HEREON.

**LESSOR'S LEGAL DESCRIPTION (PARCEL R3325CC00900)**  
 LOTS 1, 2, 3 AND 12, BLOCK 23, IN THE TOWN (NOW CITY) OF DUNDEE, COUNTY OF YAMHILL, STATE OF OREGON.

**RECORDED INFORMATION**  
 REFERENCE IS MADE TO THE RECORD TITLE REPORT ORDER #171816052921, ISSUED BY TICOR TITLE COMPANY OF OREGON, DATED JULY 14, 2016. ALL EASEMENTS CONTAINED WITHIN SAID RECORD TITLE REPORT AFFECTING THE IMMEDIATE AREA SURROUNDING THE LEASE HAVE BEEN PLOTTED.

**ITEMIZED NOTES:**  
 ITEMS 1 AND 2 ARE NOT A SURVEY MATTER.  
 ITEM 3: ZONE CHANGE FOR VACATED 8TH STREET (ADOPTED 8TH STREET VACATION AND ZONE CHANGE)  
 ITEM 4: DEED PRIOR TO CURRENT PROPERTY DESCRIPTION. (DOES NOT AFFECT THE PROJECT AREA)  
 THE SURVEYORS OPINION IS THAT NO RECORDED INFORMATION ITEMS PROVIDED BY SAID REPORT AFFECT THE PROPOSED WIRELESS FACILITY PREMISES SHOWN HEREON.

**LESSOR'S LEGAL DESCRIPTION (PARCEL R3325CC03900)**  
 A TRACT OF LAND, BEING ALL OF LOTS 1, 2, 3 AND 4, AND A PORTION OF LOT 5, BLOCK 24, OF THE TOWNSHIP OF DUNDEE AND DUNDEE ORCHARD HOMES NO. 1, AND A PORTION OF PARCEL 1 OF PARTITION PLAT NO. 1995-55, LOCATED IN THE SOUTHWEST ONE-QUARTER OF SECTION 25, TOWNSHIP 3 SOUTH, RANGE 3 WEST, OF THE WILLAMETTE MERIDIAN, IN THE CITY OF DUNDEE, YAMHILL COUNTY, OREGON, SAID TRACT OF LAND BEING MORE SPECIFICALLY DESCRIBED AS FOLLOWS:

BEGINNING AT A 1/2 INCH IRON PIPE FOUND AT THE MOST EASTERLY CORNER OF SAID LOT 1, BLOCK 24 OF SAID TOWNSHIP OF DUNDEE, SAID POINT BEING AT THE INTERSECTION OF THE SOUTHWESTERLY RIGHT OF WAY LINE OF SE 8TH STREET WITH THE NORTHWESTERLY RIGHT OF WAY LINE OF THE S.P. RAILROAD RIGHT OF WAY, SAID POINT BEING THE TRUE POINT OF BEGINNING OF THE TRACT OF LAND HEREIN DESCRIBED; THENCE SOUTH 30°28'39" WEST, ALONG SAID S.P. RAILROAD RIGHT OF WAY, A DISTANCE OF 106.53 FEET TO A POINT; THENCE NORTH 59°31'21" WEST, PARALLEL WITH SAID SOUTHWESTERLY RIGHT OF WAY LINE OF SAID SE 8TH STREET, A DISTANCE OF 207.25 FEET TO A POINT ON THE SOUTHEASTERLY RIGHT OF WAY LINE OF HIGHWAY 99W; THENCE NORTH 30°38'33" EAST, ALONG SAID SOUTHEASTERLY RIGHT OF WAY LINE, A DISTANCE OF 106.53 FEET TO A POINT ON SAID SOUTHWESTERLY RIGHT OF WAY OF SAID SE 8TH STREET; THENCE SOUTH 59°31'21" EAST, ALONG SAID SOUTHWESTERLY RIGHT OF WAY LINE, A DISTANCE OF 206.95 FEET TO THE TRUE POINT OF BEGINNING OF THE TRACT OF LAND HEREIN DESCRIBED.

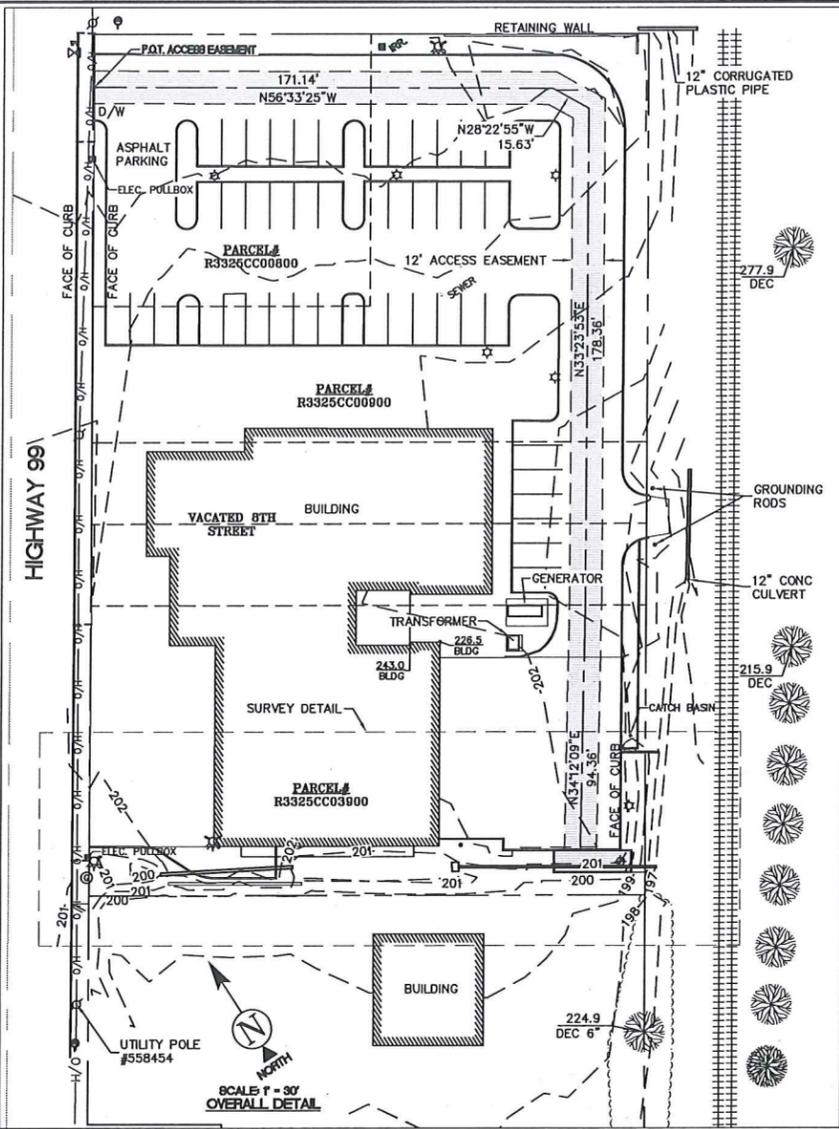
TOGETHER WITH THAT PORTION OF VACATED SE 8TH STREET INURING THERETO BY REASON OF CITY OF DUNDEE ORDINANCE NO. 516-2012, RECORDED JANUARY 24, 2013, RECORDER'S NO. 201301102.

**RECORDED INFORMATION**  
 REFERENCE IS MADE TO THE RECORD TITLE REPORT ORDER #171816054131, ISSUED BY TICOR TITLE COMPANY OF OREGON, DATED AUGUST 12, 2016. ALL EASEMENTS CONTAINED WITHIN SAID RECORD TITLE REPORT AFFECTING THE IMMEDIATE AREA SURROUNDING THE LEASE HAVE BEEN PLOTTED.

**ITEMIZED NOTES:**  
 ITEMS 1, 2 AND 3 ARE NOT A SURVEY MATTER.  
 ITEMS 4 AND 5: ZONE CHANGE FOR VACATED 8TH STREET (ADOPTED 8TH STREET VACATION AND ZONE CHANGE)  
 THE SURVEYORS OPINION IS THAT NO RECORDED INFORMATION ITEMS PROVIDED BY SAID REPORT AFFECT THE PROPOSED WIRELESS FACILITY PREMISES SHOWN HEREON.

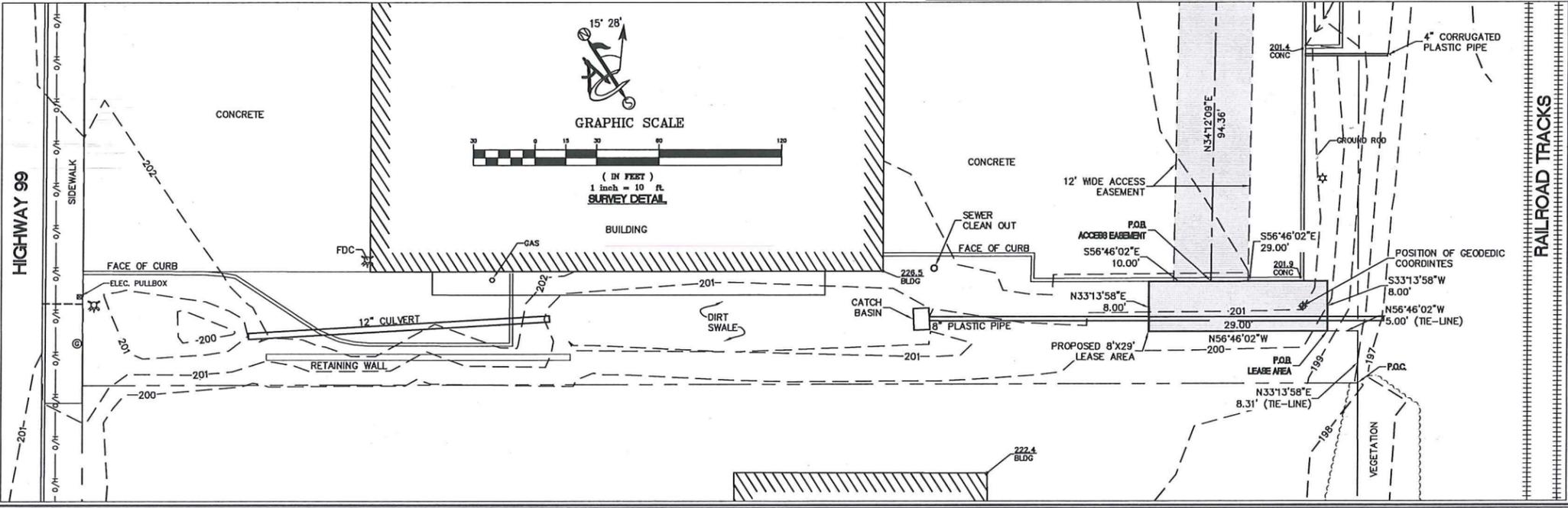
POSITION OF GEODETIC COORDINATE  
 LATITUDE 45° 16' 35.21" (45.276447) NORTH (NAD83)  
 LONGITUDE 123° 00' 40.27" (-123.011186) WEST (NAD83)  
 ELEVATION = 201.0' (NAVD88)

**SURVEY DATE**  
 JULY 28, 2016



**LEGEND**

BLDG	TOP OF BUILDING
D/W	ACCESS DRIVEWAY
NG	NATURAL GROUND
EP	EDGE OF PAVING
EG	EDGE OF GRAVEL
CONC BLDG	CONCRETE BUILDING
○	POWER POLE
○	GUY ANCHOR
○	POSITION OF GEODETIC COORDINATES
○	SPOT ELEVATION
---	LIMITS OF LESSOR'S PROPERTY
---	ADJOINING PROPERTY LINE
---	LEASE AREA
---	STREET CENTERLINE
---	TREE/SLASH LINE
---	OVERHEAD UTILITY
---	RAILROAD TRACKS
---	CURB LINE
○	DECIDUOUS TREE
○	CONIFEROUS TREE



**verizon**  
 5430 NE 122ND AVE.  
 PORTLAND, OR 97230

PROJECT INFORMATION:  
 OR1 DUNDEE  
 759 N. HWY. 99W  
 DUNDEE, OR 97115  
 YAMHILL COUNTY

ORIGINAL ISSUE DATE:  
 08/04/2016

REV. DATE DESCRIPTION BY:

0	8/04/16	REVIEW MAP	AC
1	8/04/16	GEO COORD	AC
2	8/23/16	ADD TITLES	AC
3	1/26/17	ADD LEASE	AC
4	6/12/17	REV. LEASE AREA	RC
5	7/26/17	REV. ACCESS	DH
6	1/11/18	REV. LEASE AREA	SR

PLANS PREPARED BY:  
**Acom**  
 CONSULTING INC.

CONSULTANT:  
**Ambit**  
 245 SAINT HELENS AVE. SUITE 3A  
 TACOMA, WA 98402 (253)572-9181

DRAWN BY: \_\_\_\_\_ CHK.: \_\_\_\_\_ APV.: \_\_\_\_\_

LICENSER:  
 AC SR DG

SHEET TITLE:  
 SITE SURVEY

SHEET NUMBER:  
 SV-1

DO NOT SCALE DRAWINGS. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND ADVISE CONSULTANTS OF ANY ERRORS OR OMISSIONS. NO VARIATIONS OR MODIFICATIONS TO WORK SHOWN SHALL BE IMPLEMENTED WITHOUT PRIOR WRITTEN APPROVAL. ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED BY THE LATEST REVISION. ALL DRAWINGS AND SPECIFICATIONS REMAIN THE PROPERTY OF ACOM CORPORATION.



RENEWAL DATE 12/31/19

NO.	DATE	REVISION
A	6/12/2017	INITIAL SUBMITTAL
B	1/17/2018	REVISION 1
C	-	-
D	-	-
0	-	-
1	-	-
2	-	-

Client:

**verizon**

Project:



Project:

**OR4  
DUNDEE**  
700 N. HWY 10W  
DUNDEE, OR 97110

Drawn Title:

**GRADING  
PLAN**

Prepared by:

Date:

Drawn by:

Design:

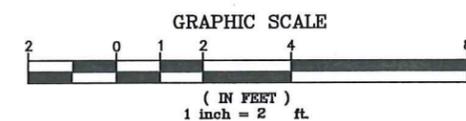
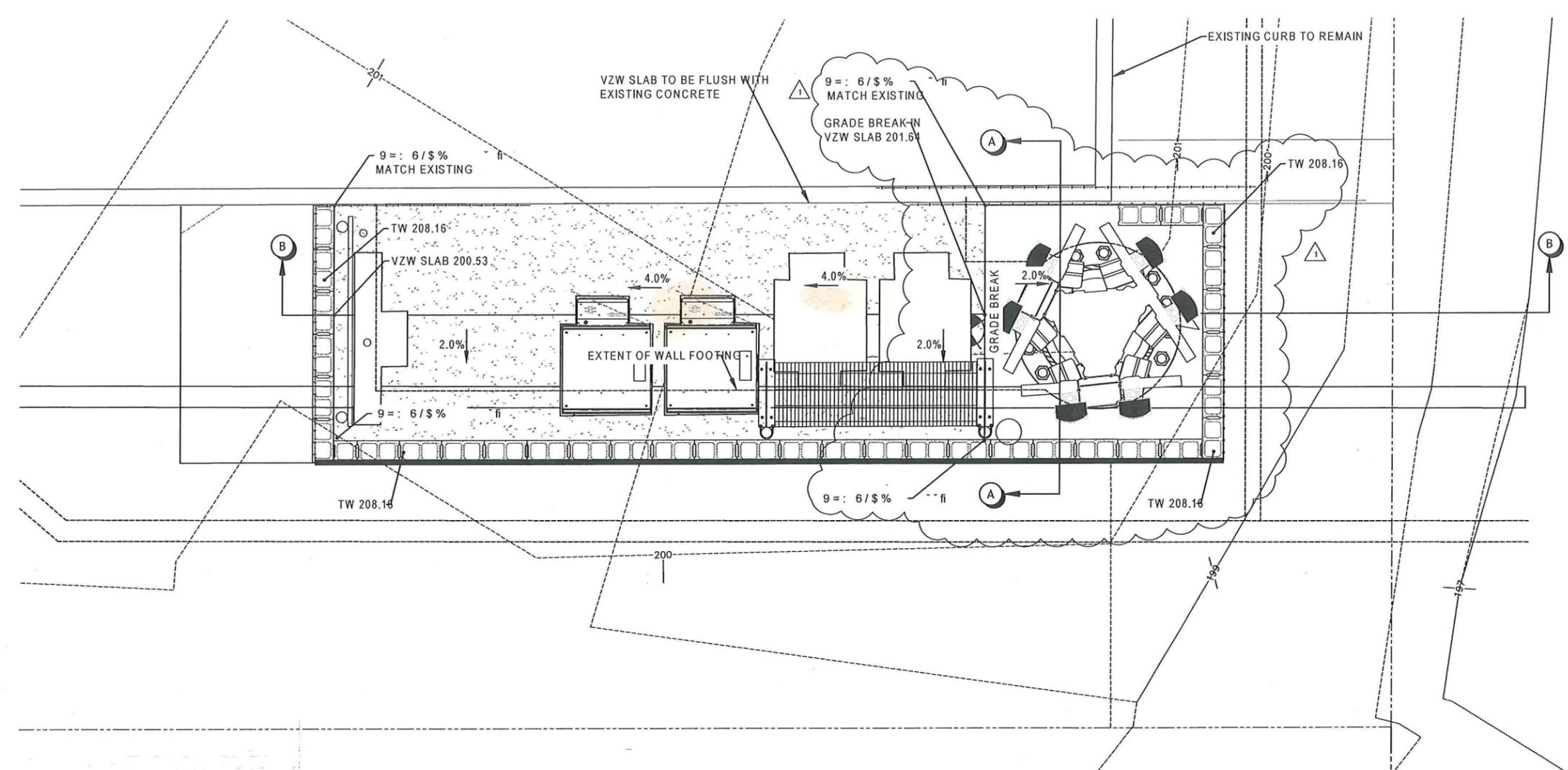
Checked by:

Project Manager:

Revised by:

Sheet No:

**C-1**

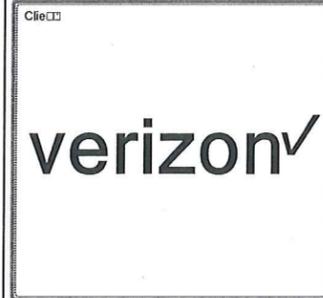


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RENEWAL DATE 12/31/19

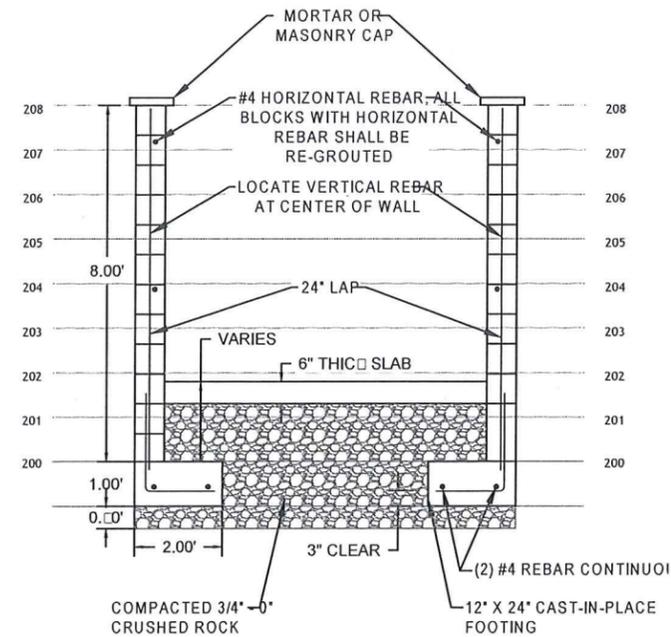
NO.	DATE	REVISION
A	6/12/2017	INITIAL SUBMITTAL
B	1/17/2018	REVISION 1
C	-	-
D	-	-
0	-	-
1	-	-
2	-	-



PROJECT: OR4 DUNDEE  
7000 N. HWY 22W  
DUNDEE, OR 97110

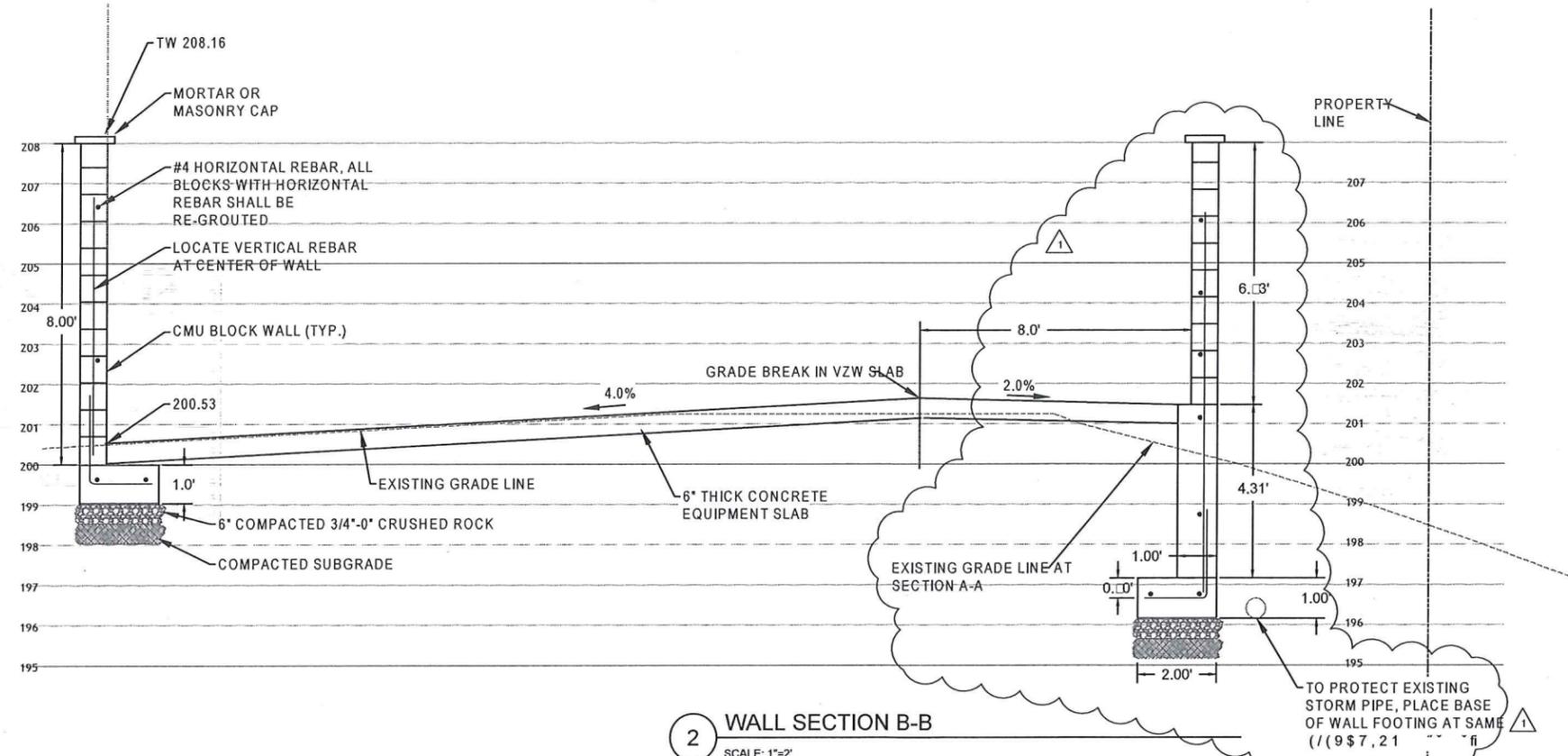
PROJECT TITLE: WALL CROSS SECTIONS

PROJECT NO:	DATE:
DESIGNER:	DESIGNER:
PROJECT MODIFIER:	PROJECT MODIFIER:
REVISION NO:	SECTION:
	C-2

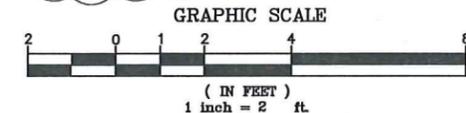


1 WALL SECTION A-A  
SCALE: 1"=2'

- NOTES:  
 1. CONCRETE SHALL BE MINIMUM 3,000 PSI STRENGTH IN 28 DAYS.  
 2. CMU BLOCKS SHALL BE GRADE "N" ASTM C90-93.  
 3. REBAR SHALL BE ASTM A-615 GRADE 40 OR GRADE 60

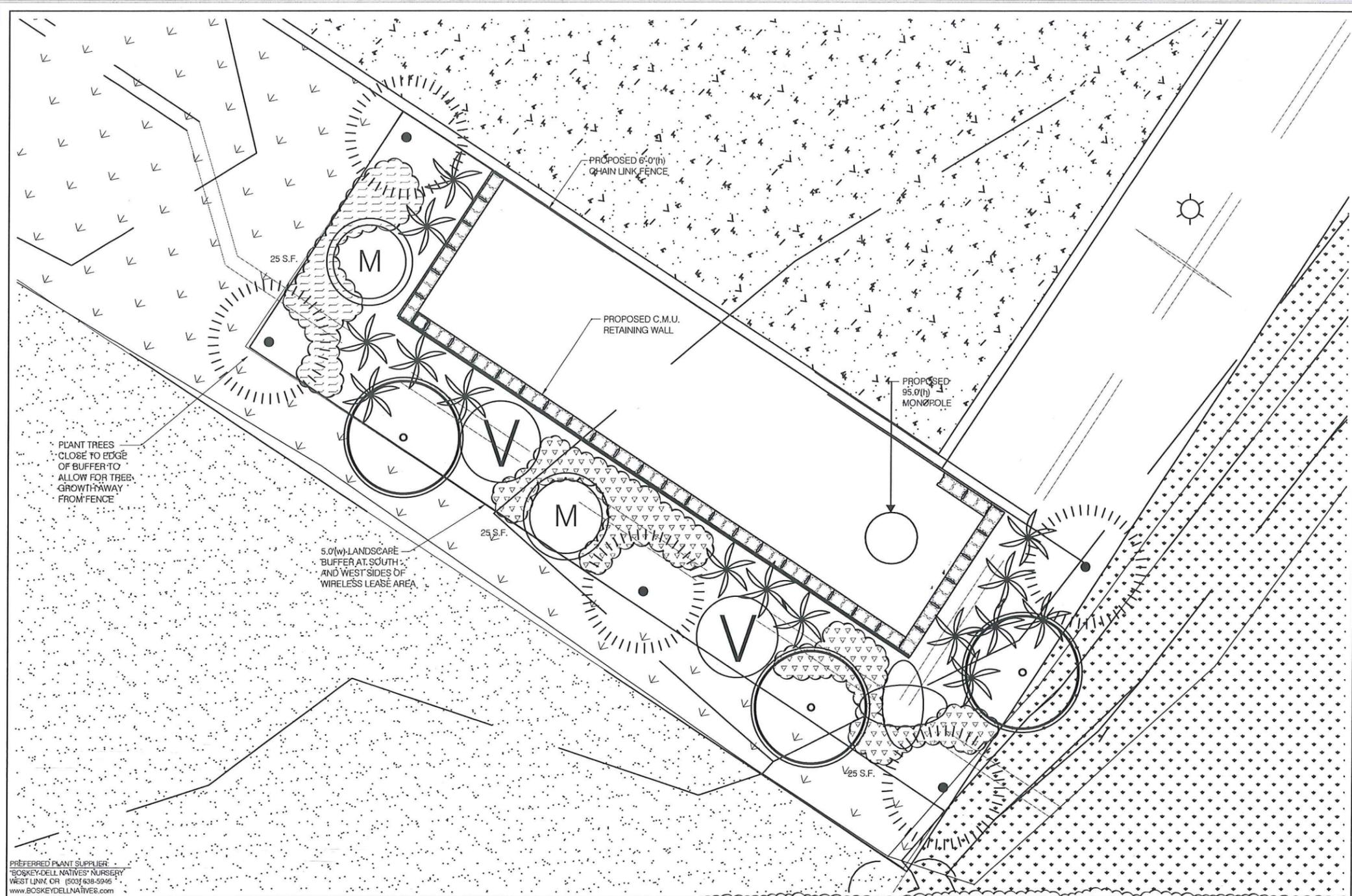


2 WALL SECTION B-B  
SCALE: 1"=2'



**cushing**  
Civil Engineers  
Don Cushing Associates Civil Engineers  
107 SE WOODSIDE STREET, SUITE 200  
PORTLAND, OREGON 97214  
503-387-3311  
www.doncushing.com





**LANDSCAPE NOTES**

- Plant material shall conform to guidelines established by the American Nurseryman's Association by the American Standard for Nursery Stock.
- Defective/dead plants shall be replaced w/in 6 months after notification from City w/ living plants of equal size to original plant. Plants are under a 1-yr. warranty from date of Substantial Completion. Contractor shall maintain landscape under this contract for entire 1-year period to assure proper maintenance. Provide a written maintenance manual for a complete calendar year to the Owner to assure proper long-term maintenance of landscape and assist in transition of maintenance from Contractor to Owner and to assure landscape is continually maintained.
- The landscape contractor shall field locate all utility lines prior to the commencement of work. The use of on-site utility plans as a part of this contract are available for review.
- All plants shall be balled & burlapped or container grown as specified. No container grown stock will be accepted if it is deemed to be root bound. All plastic root wrapping material shall be removed. No bare root stock will be accepted unless submitted in writing for approval.
- Plants shall originate from established nurseries located w/in region of project. Plants that are not available in size specified or quantity may be secured from outside the region if submitted for review and approval.
- All plants shall meet the minimum size specified on the plan. One plant from each grouping shall be labeled, indicating the plant name and size. Tags shall then be removed after review.
- All plants shall be sprayed w/ a anti-fungicide w/in the first 24 hours.
- All plants shall be installed per the planting details. Alternate staking methods may be proposed for review and approval.
- Stockpile plant material upon delivery to the site in a shady location, embedded in sawdust or mulch. Stockpile all plants near a source of water - water at least once a day to maintain healthy plant stock.
- A pre & post-emergent herbicide shall be applied to all planter beds. Herbicide shall be Surflan A.S. tank-mixed with Roundup at a rate of 4 quarts per acre. Adhere to all product manufacturer's directions and recommendations. Adhere to all environmental regulations. Do not apply in areas that drain directly into an environmentally sensitive area. Do not apply when wind speed is greater than 5 m.p.h.
- An insecticide and fungicide application shall be performed with the type to be selected by the contractor and submitted in writing for review and approval. Proof of purchase receipts shall be submitted.
- Planting beds shall have a mix of 3"(d) layer of medium-ground bark, or gravel rock mulch where indicated. Flake beds smooth. Tamp-down areas adj. to concrete walks to compact, then apply additional bark to 1/4"-1/2" below finish grade of conc. surface, (where occurring).
- Install all plant material during favorable weather and within seasonal planting limitations. Do not install plants when daily high temperatures exceed 90°(F) degrees or low temperatures are below 32°(F) degrees. Flowering fruit trees may need to be dug after 3 consecutive nights of temperatures less than 45 degrees in the Fall or as determined by local nursery. Weather data will be from the nearest airport location to project site (McMinnville Municipal Airport)
- Apply fertilizer tablets as indicated in the following table:  

1 gallon	Shrub	= 2 tablets
2-5 gallon	Shrub	= 3 tablets
1.5' cal. - 2.0' cal.	Deciduous tree	= 6 tablets
2.0' cal. - 4.0' cal.	Deciduous tree	= 8 tablets
6.0' - 8.0' + high	Evergreen tree	= 7 tablets
- A lack of maintenance shall constitute a violation of the local Municipal Development Code.
- Landscape areas on private property shall be reasonably maintained by Owner or Lessee of the property as to pruning, watering or other requirements to create an attractive, safe appearance for development.
- At tree locations that are 4.0' or less to a utility structure, pipe, curb sidewalk or asphalt, a root barrier panel shall be added on the side of the root ball that is closest to item that is to be protected. Barriers shall be Deep Root UB-24-2 24"(w)x24"(d) ribbed panels w/ intermittent panel breaks as needed to allow groundwater to flow freely and not oversaturate rootball. Place root barrier panels in trench with vertical ribs facing toward rootball and align in a straight fashion. Keep top of root barrier's double-top edge at least 1/2" above finish grade.
- Landscape Contractor shall provide watering of plants every other day after installation for 2 weeks. Thereafter, Landscape Contractor shall water once a week for one year between April 15th-September 15th to coincide w/ 1-yr. warranty period, new plant installation needs to be fully established. A nearby water source is not available, use water truck.
- Construct water saucers at each large shrub & tree location to assist in capturing rainwater toward root zone. Add Soil-Moist polymers at plant pits at a rate recommended by manufacturer. At steep slope locations, stake trees & provide water catchment (low berm) at low side of slope.

DO NOT SCALE DRAWINGS. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND ADVISE CONSULTANTS OF ANY ERRORS OR OMISSIONS. NO VARIATIONS OR MODIFICATIONS TO WORK SHOWN SHALL BE IMPLEMENTED WITHOUT PRIOR WRITTEN APPROVAL. ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED BY THE LATEST REVISION. ALL DRAWINGS AND SPECIFICATIONS REMAIN THE PROPERTY OF ADAM CORPORATION.



No.	Date	Revision
A	06.12.17	Lease Area Shift
B	01-11-18	Reduced enclosure (East)
C	05-11-18	Site Landscape Area
D	-	-
E	-	-

Client:

Design Consultant

ASPEN DESIGN GROUP  
P.O. BOX 2394  
ISSAQUAH, WA 98027  
(425) 292-9845 (P)  
CONTACT: PAUL J. DIX

LANDSCAPE ARCHITECTURE  
SITE PLANNING

Project Info:

**OR1  
DUNDEE**  
759 N. HWY 99W  
DUNDEE, OR 97115

Drawing Title:

**PROPOSED  
LANDSCAPE PLAN**

Project Number:	Date:
0	03/29/17
Drafter:	Designer:
PD	PD
Project Manager:	Professional of Record:
PD	PD
Revision No:	Sheet No:
0	L-1

**SOIL / COMPOST / MULCH ZONES**

- PLANTING BEDS**  
4" IMPORTED 3-WAY TOPSOIL (LOCAL SOURCE) ROTO-TILLED INTO SOIL LAYER BELOW TO PREVENT SOIL LAYERING.  
2" COMPOST (LOCAL SOURCE) ROTO-TILLED 6" INTO UNDERLYING EXISTING SOIL.  
ADD FERTILIZER / SOIL AMENDMENTS FOR ORNAMENTAL PLANTS.
- TOP MULCH**  
3"(d) FINE TO MEDIUM FIR / CEDAR BARK MULCH.

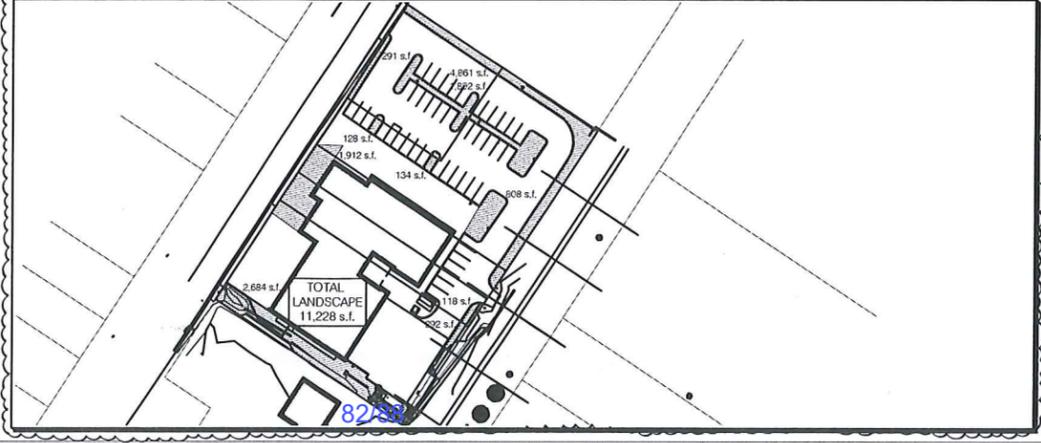
**PROJECT DATA**

ADDRESS: 759 NORTH HIGHWAY 99W  
DUNDEE, OR 97115  
CITY OF DUNDEE  
CURRENT ZONING: PUBLIC (FIRE STATION)  
OCCUPANCY GROUP: UTILITY  
PROPOSED BUILDING USE: TELECOM  
TAX PARCEL I.D.: R325CC00600  
SITE ADDRESS: 127 ACRES, 65,234 S.F.  
NEW LANDSCAPE AREA: 277 S.F. + 11,228 S.F. = 11,505 S.F.  
PERCENT LANDSCAPE AREA: 20.8% +/-

**LANDSCAPE SCHEDULE**

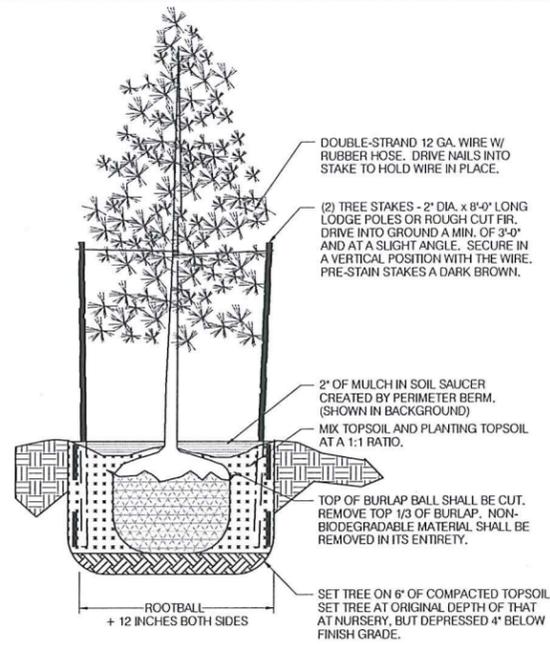
TREES							
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QTY.	DROUGHT	NATIVE	COMMENTS
○	AMELANCHIER ALNIFOLIA	SERVICEBERRY	1.5' Cal.	3	●●●	YES	FULL DENSE
○	FINUS CONTORTA	SHORE PINE	6' / 7'(H)	5	●●●	YES	FULL DENSE, FUTURE MAINTENANCE PRACTICE MUST PRUNE TREE TO ALLOW FENCE CLEARANCE AS TREE MATURES.
SHRUBS							
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QTY.	DROUGHT	NATIVE	COMMENTS
M	MAHONIA AQUIFOLIUM	TALL OREGON GRAPE	30"(H) 12'-15'(W)	2	●●●●	YES	IF NEED TO SUBSTITUTE, ASSURE HEIGHT WILL ACHIEVE 6.0' AND IS NARROW IN WIDTH, NOT WIDE SPREADING
⊕	PHILADELPHUS LEWISII	MOCK ORANGE	30"(H) 12'-15'(W)	1	●●●	YES	WELL-SHAPED SHRUB FORM
V	VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY	30"(H) 12'-15'(W)	2	●●●	YES	WELL-SHAPED SHRUB FORM
GROUND COVER							
SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QTY.	DROUGHT	NATIVE	COMMENTS
○	ARCTOSTAPHYLOS UVA-URSI	KINNICKINICK	1 Gal.	50 s.f.	●●●●	YES	SPACE @ 18" o.c., TRIANGULAR SPACING
★	POLYSTICHUM MUNIUM	WESTERN SWORD FERN	1 Gal.	15	●●●	YES	EVERGREEN, FULL-FROND FORM, INFILL PLANT, NOT INTENDED FOR SCREENING PURPOSES.
○	SEDUM OREGANUM	OREGON STONECROP	4" Pot	25 s.f.	●●●●	YES	SPACE @ 12" O.C., PLANT HIGH IN 2"(d) GRAVEL TOP MULCH.

**OVERALL SITE LANDSCAPE AREA**

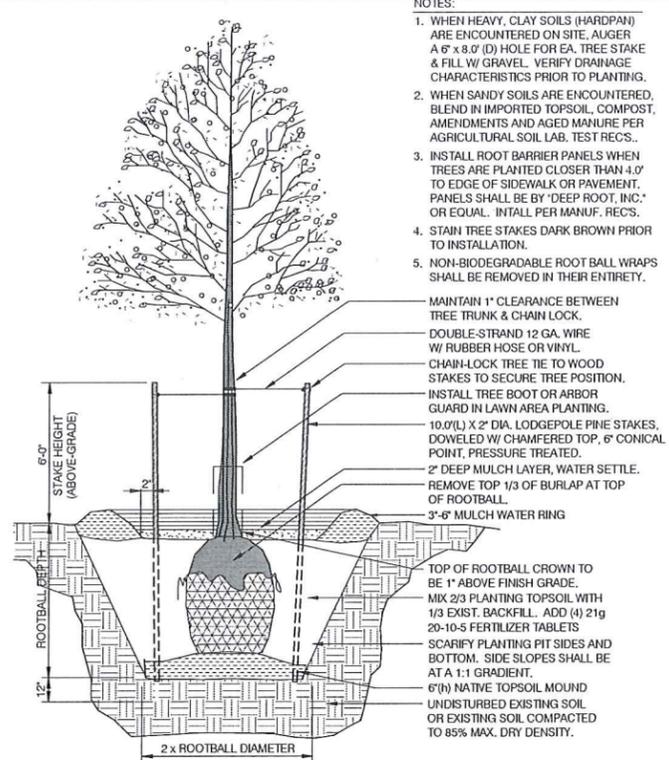


22"x34" SCALE: 3/8" = 1'-0"  
11"x17" SCALE: 3/16" = 1'-0"

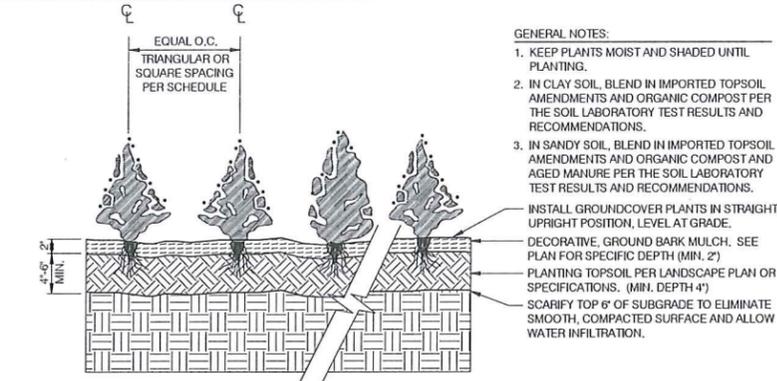
**PROPOSED LANDSCAPE PLAN**



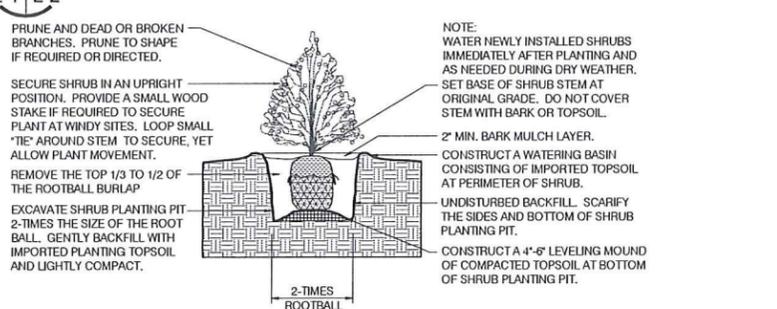
**1 CONIFEROUS TREE PLANTING**  
L-1 L-2 SCALE: NOT TO SCALE



**2 DECIDUOUS TREE PLANTING**  
L-1 L-2 SCALE: NOT TO SCALE



**3 GROUNDCOVER PLANTING**  
L-1 L-2 SCALE: NOT TO SCALE



**4 SHRUB PLANTING**  
L-1 L-2 SCALE: NOT TO SCALE

- NOTES:
1. WHEN HEAVY, CLAY SOILS (HARDPAN) ARE ENCOUNTERED ON SITE, AUGER A 6" x 8.0" (Ø) HOLE FOR EA. TREE STAKE & FILL W/ GRAVEL. VERIFY DRAINAGE CHARACTERISTICS PRIOR TO PLANTING.
  2. WHEN SANDY SOILS ARE ENCOUNTERED, BLEND IN IMPORTED TOPSOIL, COMPOST, AMENDMENTS AND AGED MANURE PER AGRICULTURAL SOIL LAB. TEST RECS..
  3. INSTALL ROOT BARRIER PANELS WHEN TREES ARE PLANTED CLOSER THAN 4.0' TO EDGE OF SIDEWALK OR PAVEMENT. PANELS SHALL BE BY "DEEP ROOT, INC." OR EQUAL. INTALL PER MANUF. RECS.
  4. STAIN TREE STAKES DARK BROWN PRIOR TO INSTALLATION.
  5. NON-BIODEGRADABLE ROOT BALL WRAPS SHALL BE REMOVED IN THEIR ENTIRETY.

- GENERAL NOTES:
1. KEEP PLANTS MOIST AND SHADED UNTIL PLANTING.
  2. IN CLAY SOIL, BLEND IN IMPORTED TOPSOIL AMENDMENTS AND ORGANIC COMPOST PER THE SOIL LABORATORY TEST RESULTS AND RECOMMENDATIONS.
  3. IN SANDY SOIL, BLEND IN IMPORTED TOPSOIL AMENDMENTS AND ORGANIC COMPOST AND AGED MANURE PER THE SOIL LABORATORY TEST RESULTS AND RECOMMENDATIONS.
- INSTALL GROUNDCOVER PLANTS IN STRAIGHT, UPRIGHT POSITION, LEVEL AT GRADE.
- DECORATIVE, GROUND BARK MULCH, SEE PLAN FOR SPECIFIC DEPTH (MIN. 2")
- PLANTING TOPSOIL PER LANDSCAPE PLAN OR SPECIFICATIONS. (MIN. DEPTH 4")
- SCARIFY TOP 6" OF SUBGRADE TO ELIMINATE SMOOTH, COMPACTED SURFACE AND ALLOW WATER INFILTRATION.

DO NOT SCALE DRAWINGS. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND ADVISE CONSULTANTS OF ANY ERRORS OR OMISSIONS. NO VARIATIONS OR MODIFICATIONS TO WORK SHOWN SHALL BE IMPLEMENTED WITHOUT PRIOR WRITTEN APPROVAL. ALL PREVIOUS ISSUES OF THIS DRAWING ARE SUPERSEDED BY THE LATEST REVISION. ALL DRAWINGS AND SPECIFICATIONS REMAIN THE PROPERTY OF ACOM CORPORATION.



No.	Date	Revision
A	06.12.17	Re-Issue Only
B	-	-
0	-	-
1	-	-
2	-	-

Client:

Design Consultant

ASPEN DESIGN GROUP  
P.O. BOX 2394  
ISSAQUAH, WA 98027  
(425) 292-9845 (P)  
CONTACT: PAUL J. DIX

ASPEN  
LANDSCAPE  
ARCHITECTURE  
SITE PLANNING

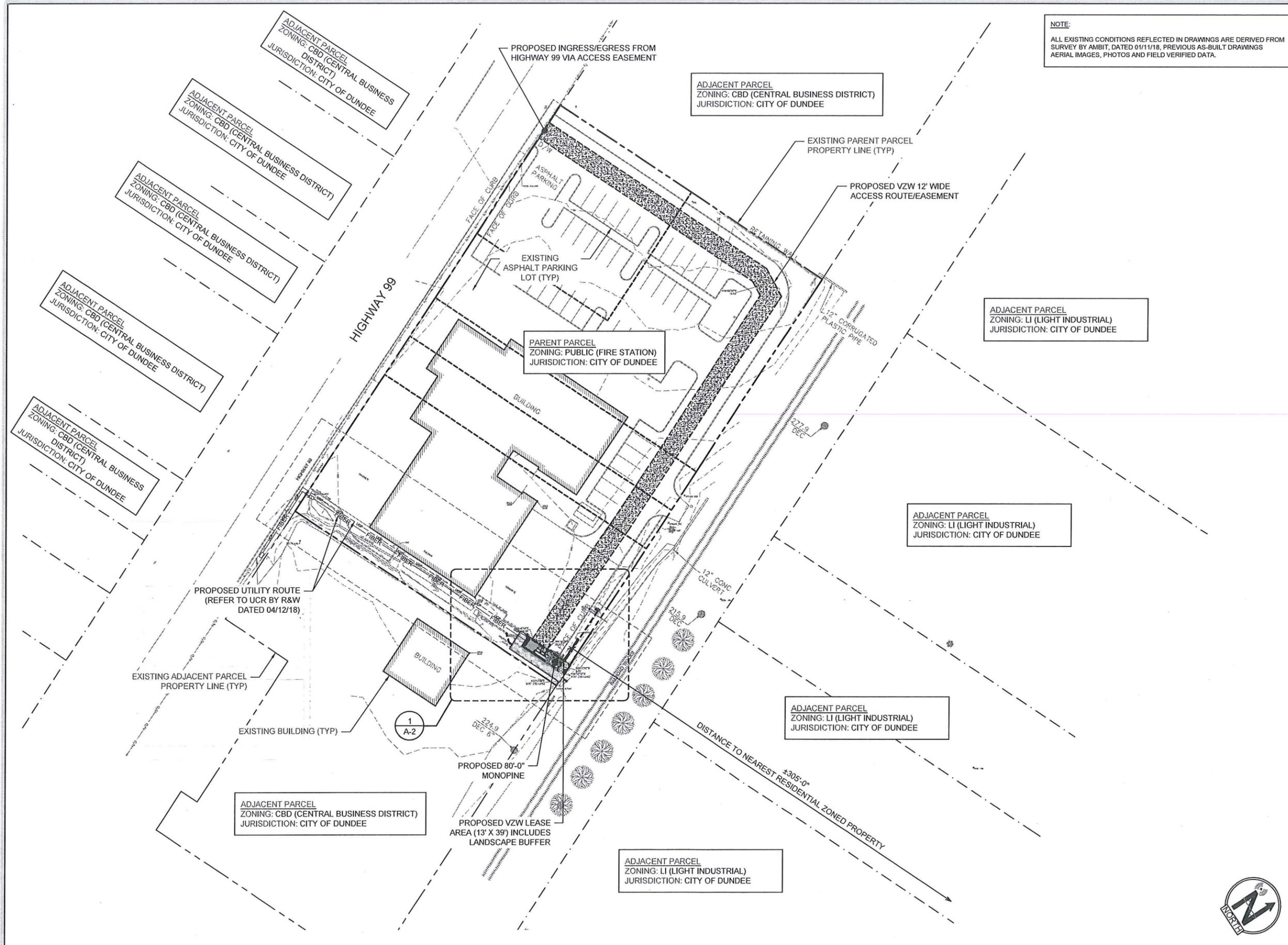
Project Info:

OR1  
DUNDEE  
759 N. HWY 99W  
DUNDEE, OR 97115

Drawing Title:

LANDSCAPE  
DETAILS

Project Number:	Date:
Drafter:	03/29/17
PD	Designer:
Project Manager:	PD
PD	Professional of Record
Revision No:	PD
0	Sheet No:
	L-2



NOTE:  
 ALL EXISTING CONDITIONS REFLECTED IN DRAWINGS ARE DERIVED FROM SURVEY BY AMBIT, DATED 01/11/18, PREVIOUS AS-BUILT DRAWINGS, AERIAL IMAGES, PHOTOS AND FIELD VERIFIED DATA.

PRELIMINARY DRAWINGS  
 NOT FOR CONSTRUCTION

NO.	DATE	DRAWN	REVISION
A	08/16/19	RA	90% PZD REVIEW
B	09/13/19	RM	CLIENT COMMENTS

CLIENT:

A&E CONSULTANT, SITE ACQUISITION AND PERMITTING:

**OR1  
 DUNDEE**  
 801 N HWY 99W  
 DUNDEE, OR 97115

**PROPOSED  
 OVERALL  
 SITE PLAN**

**A-1**

22'x34" SCALE: 1" = 30'-0"  
 11'x17" SCALE: 1" = 60'-0"



PRELIMINARY DRAWINGS  
NOT FOR CONSTRUCTION

NO.	DATE	DRAWN	REVISION
A	08/16/19	RA	90% PZD REVIEW
B	09/13/19	RM	CLIENT COMMENTS

CLIENT:  
**verizon**

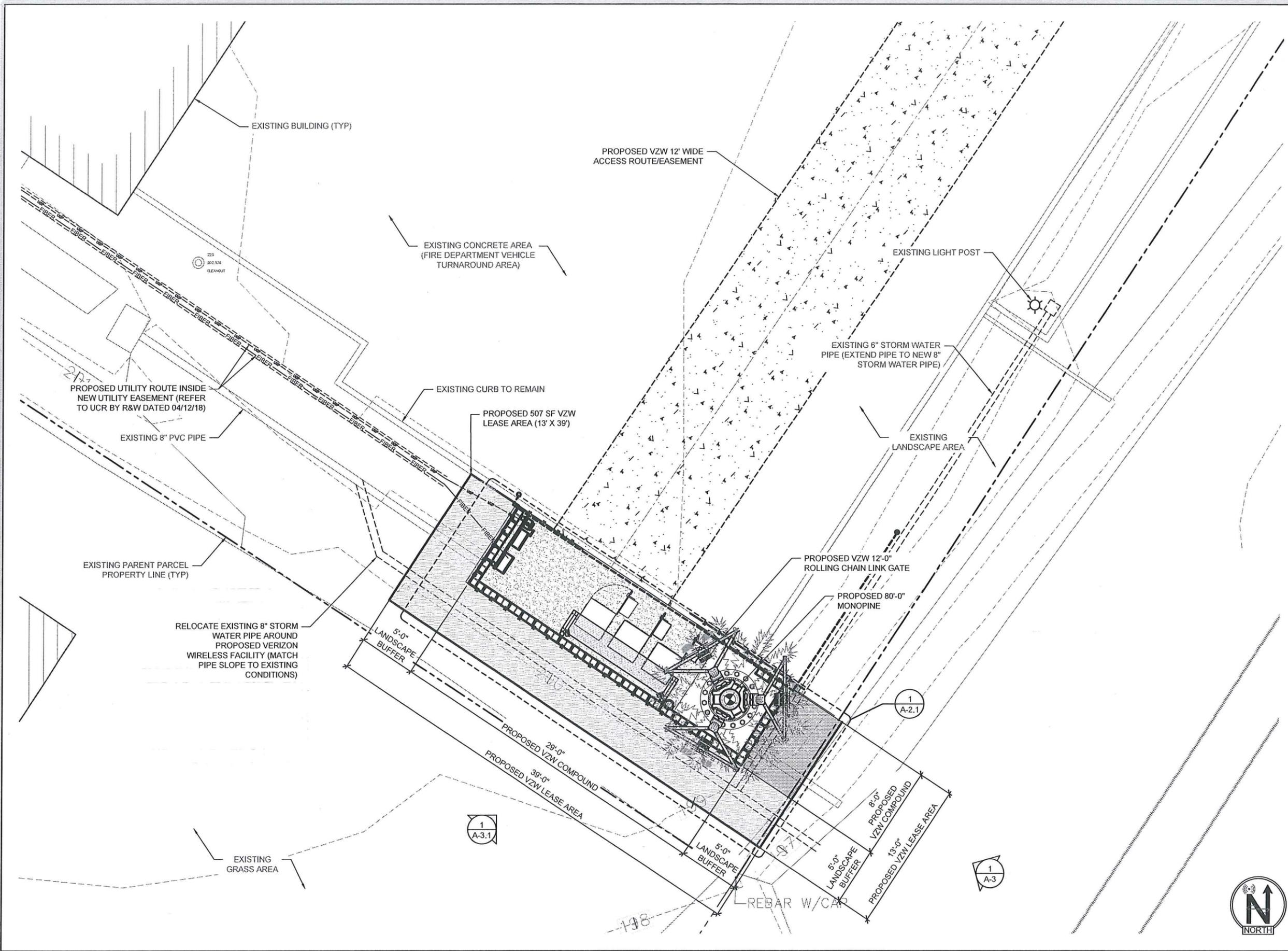
A&E CONSULTANT, SITE ACQUISITION AND PERMITTING:  
**Acom**  
CONSULTING, INC



**OR1  
DUNDEE**  
801 N HWY 99W  
DUNDEE, OR 97115

**PROPOSED  
ENLARGED  
SITE PLAN**

**A-2**



22'x34" SCALE: 1/4" = 1'-0"  
11'x17" SCALE: 1/8" = 1'-0"

85/88

PROPOSED ENLARGED SITE PLAN | 1

PRELIMINARY DRAWINGS  
NOT FOR CONSTRUCTION

NO.	DATE	DRAWN	REVISION
A	08/16/19	RA	90% P2D REVIEW
B	09/13/19	RM	CLIENT COMMENTS

CLIENT:



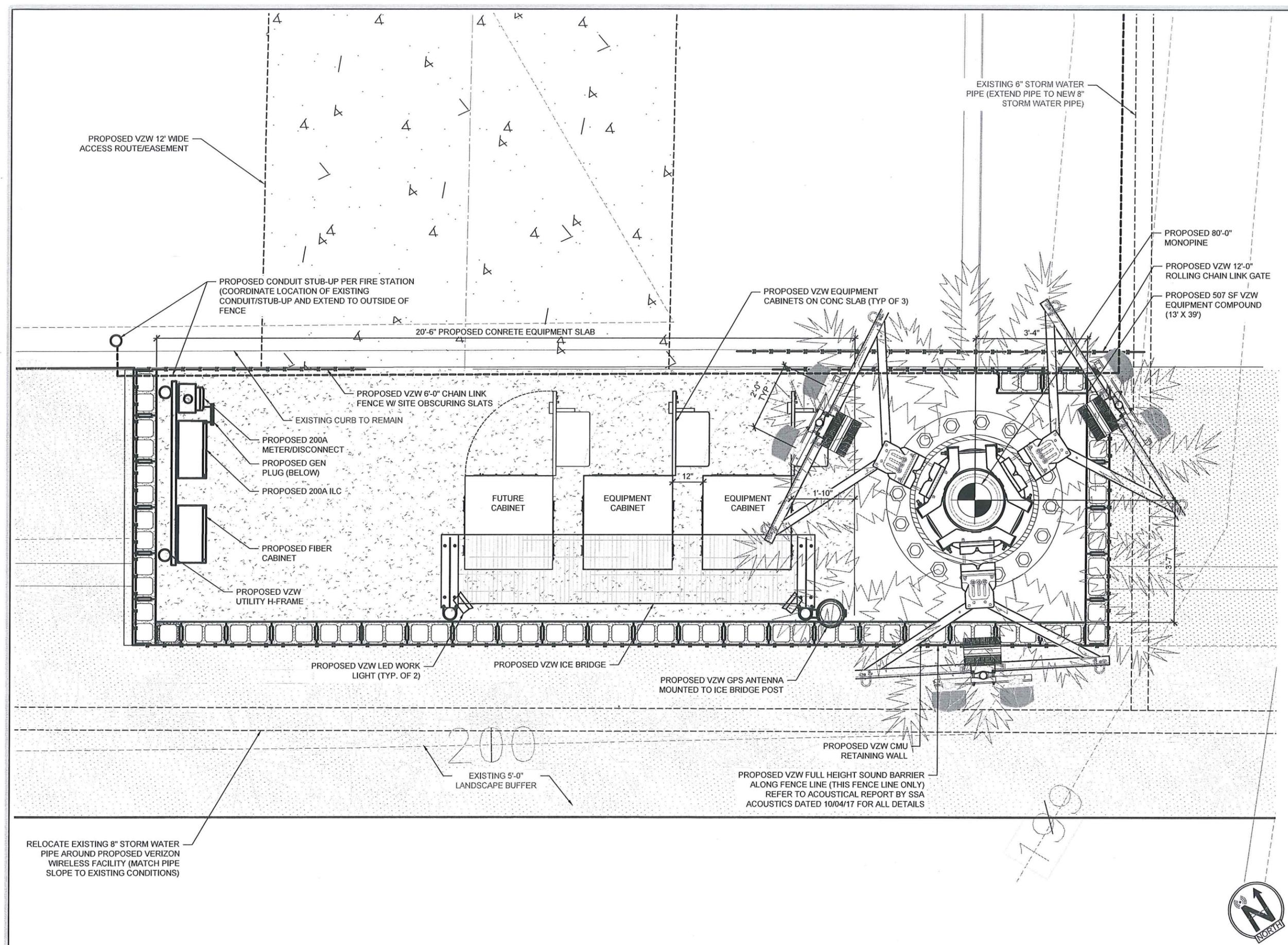
A/E CONSULTANT, SITE ACQUISITION AND PERMITTING:



**OR1  
DUNDEE**  
801 N HWY 99W  
DUNDEE, OR 97115

**PROPOSED  
EQUIPMENT PLAN**

**A-2.1**



22'x34" SCALE: 3/4" = 1'-0"  
11'x17" SCALE: 3/8" = 1'-0"

- NOTES:**
1. NO WORK SHALL COMMENCE WITHOUT AN APPROVED STRUCTURAL ANALYSIS. THE CONTRACTOR SHALL REVIEW THE APPROVED STRUCTURAL ANALYSIS AND NOTIFY THE E.O.R. IF ANY MODIFICATIONS ARE REQUIRED OF STRUCTURAL MEMBERS OR APPURTENANCES PRIOR TO INSTALLATION OF ANTENNAS, ANCILLARY EQUIPMENT OR CABLING.
  2. PROPOSED MOUNTING HARDWARE, CABLING, ANCILLARY EQUIPMENT AND ANTENNAS ARE TO BE PAINTED TO MATCH PROPOSED MONOPINE FOLIAGE. VERIFY PAINT COLOR WITH LANDLORD AND/OR VERIZON REPRESENTATIVE. THE RRU'S ARE TO INCLUDE SHROUDS. THE SHROUDS ARE TO BE PAINTED - DO NOT PAINT THE RRU'S.
  3. ANTENNA MOUNT/PLATFORM ANALYSIS FOR THE PROPOSED LOADING CONFIGURATION TO BE COMPLETED BY OTHERS.
  4. TOWER AND FOUNDATION STRUCTURAL ANALYSIS FOR THE PROPOSED LOADING CONFIGURATION TO BE COMPLETED BY OTHERS.
  5. CONTRACTOR TO VERIFY THE SUITABILITY OF ANTENNA MOUNT FOR PROPOSED LOADING CONFIGURATION.

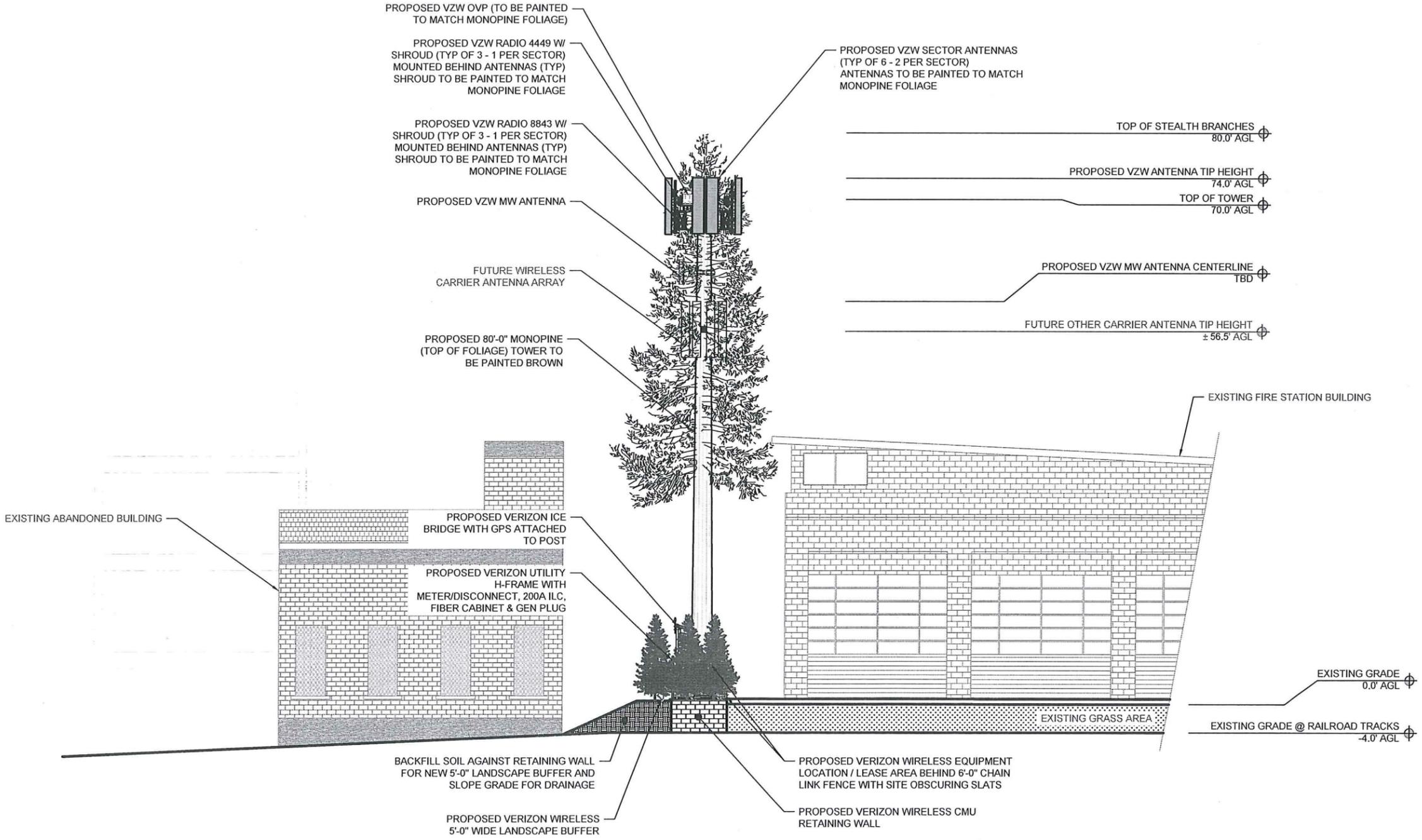
PRELIMINARY DRAWINGS  
NOT FOR CONSTRUCTION

NO.	DATE	DRAWN	REVISION
A	08/16/19	RA	90% P2D REVIEW
B	09/13/19	RM	CLIENT COMMENTS

CLIENT:



A&E CONSULTANT, SITE ACQUISITION AND PERMITTING:

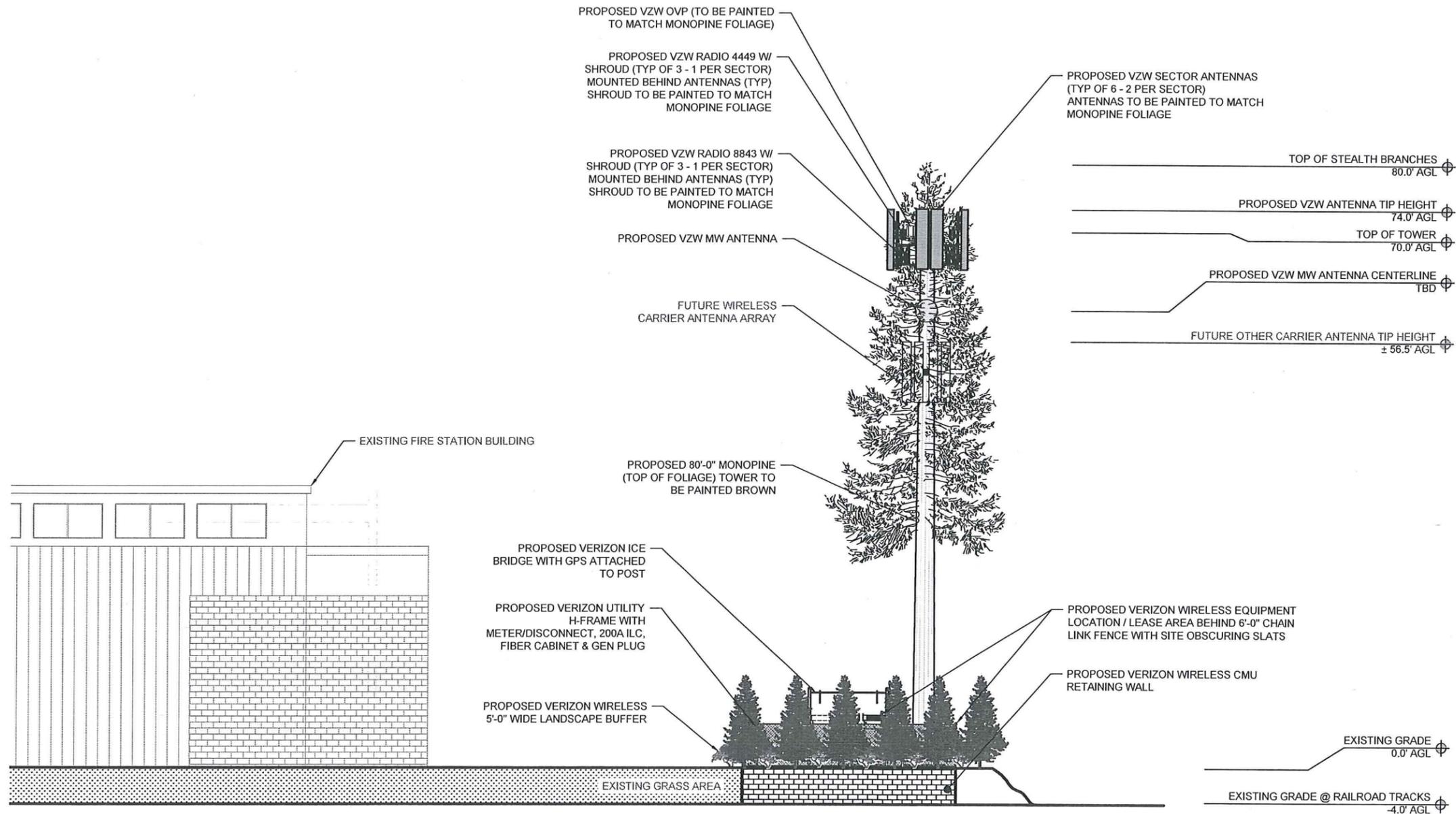



**OR1 DUNDEE**  
801 N HWY 99W  
DUNDEE, OR 97115

**PROPOSED SOUTHEAST ELEVATION**

A-3

- NOTES:**
- NO WORK SHALL COMMENCE WITHOUT AN APPROVED STRUCTURAL ANALYSIS. THE CONTRACTOR SHALL REVIEW THE APPROVED STRUCTURAL ANALYSIS AND NOTIFY THE E.O.R. IF ANY MODIFICATIONS ARE REQUIRED OF STRUCTURAL MEMBERS OR APPURTENANCES PRIOR TO INSTALLATION OF ANTENNAS, ANCILLARY EQUIPMENT OR CABLING.
  - PROPOSED MOUNTING HARDWARE, CABLING, ANCILLARY EQUIPMENT AND ANTENNAS ARE TO BE PAINTED TO MATCH PROPOSED MONOPINE FOLIAGE. VERIFY PAINT COLOR WITH LANDLORD AND/OR VERIZON REPRESENTATIVE. THE RRU'S ARE TO INCLUDE SHROUDS. THE SHROUDS ARE TO BE PAINTED - DO NOT PAINT THE RRU'S.
  - ANTENNA MOUNT/PLATFORM ANALYSIS FOR THE PROPOSED LOADING CONFIGURATION TO BE COMPLETED BY OTHERS.
  - TOWER AND FOUNDATION STRUCTURAL ANALYSIS FOR THE PROPOSED LOADING CONFIGURATION TO BE COMPLETED BY OTHERS.
  - CONTRACTOR TO VERIFY THE SUITABILITY OF ANTENNA MOUNT FOR PROPOSED LOADING CONFIGURATION.

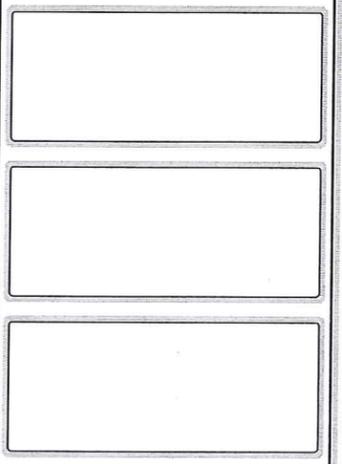


PRELIMINARY DRAWINGS  
NOT FOR CONSTRUCTION

NO.	DATE	DRAWN	REVISION
A	08/16/19	RA	90% PZD REVIEW
B	09/13/19	RM	CLIENT COMMENTS

CLIENT:

ASE CONSULTANT, SITE ACQUISITION AND PERMITTING:



**OR1  
DUNDEE**  
801 N HWY 99W  
DUNDEE, OR 97115

**PROPOSED  
SOUTHWEST  
ELEVATION**

**A-3.1**



Written  
Public  
Testimony

## Melody Osborne

---

**From:** Saj Jivanjee <saj@jcaoregon.com>  
**Sent:** Sunday, June 07, 2020 11:12 AM  
**To:** Melody Osborne; Rob Daykin; Ryan Harris; Evan Karp; Cheryl Caines; Matthew Frey, L.Ac.  
**Subject:** Fwd: Cell Tower

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Melody,

Please include below as my testimony with correct text to the council and this will be part of public records. Meanwhile have city got any drawings of cell tower and its location, please forward to me or I can pick up. Copy at will call. Thanks.  
Saj

----- Forwarded message -----

**From:** Saj Jivanjee <sajtj@icloud.com>  
**Date:** Sunday, June 7, 2020  
**Subject:** Cell Tower  
**To:** [Rob.Daykin@dundeecity.org](mailto:Rob.Daykin@dundeecity.org)  
**Cc:** Ryan Harris <[Ryan@domaineserene.com](mailto:Ryan@domaineserene.com)>

Rob,  
Just wanted to tell you that I removed the two billboards from my property at Fox Farm to create a welcoming entrance to the city of Dundee. I'm also implementing a 1500 linear feet beautification program along Highway 99 to Fox Farm Road including water features to create an attractive gateway to Dundee. I will be losing \$15,000 income per year from the billboards. I hope the city of Dundee will recognize my effort and share in our vision to enhance the community wellbeing.

I also own the 5-acre property at 9th and Alder which is part of the urban renewal 9th Street boulevard improvement.

Now I am finding out that the cell tower application will be reviewed again. If a cell tower is installed, it will dominate the landscape and will not enhance the overall image of the City of Dundee. This tower will be noticeable from from all the surrounding area. In recent years the attractiveness of the community along Highway 99 has been enhanced by beautiful landscaping and new well-designed buildings. A cell tower will distract from the overall appeal of the fine grain urban design. I am sure the city council members do not want to make the cell tower the center piece of the city. This would be a total distraction from the overall cultural of the City of Dundee and its citizens' contributions.

I have two concerns for council members. It looks like the city has created spot zoning for the cell tower. Will you please explain how the city comprehensive plan was amended to allow this. Secondly, if the city approves the cell tower to increase city revenue, this might be viewed as, self dealing and ignoring public opinion.

I hope the council rejects this approval in the interests of the community and in the interests of promoting an attractive tourist destination in wine country.

Saj

Sent from my iPhone

--

**Saj Jivanjee**

Jivanjee Group of Companies

M.Arch, AIA, M.U.P, NCARB

Architecture | Real Estate Development | Multi-Family Housing | Winery | Vineyard

phone: 503.970.0326

[saj@jcaoregon.com](mailto:saj@jcaoregon.com)

[saj@archervineyard.com](mailto:saj@archervineyard.com)

Partin & Hill Architects, LLC

209 Lincoln Street

Hillsboro, OR 97124

503.640.1216

fax: 503.640.8552

## Melody Osborne

---

**From:** Jason Kelly <jasonkelly214@gmail.com>  
**Sent:** Monday, June 08, 2020 2:07 PM  
**To:** Melody Osborne  
**Subject:** Cell Tower - SUPPORT

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Hello Melody,

It seems there is an effort to stop the building of a cell tower because of the misunderstanding of the science of cellular towers. I wanted to reach out and voice my support FOR the tower since I assume that the only voices you're hearing are in opposition. I believe it is dangerous to entertain any conspiracy theory, but conspiracy theories regarding negative health risks associated with electromagnetic waves are especially silly and are not based in reality or science.

Thank you,  
Jason Kelly - Electrical Engineer

## Melody Osborne

---

**From:** Lynda Martz <outlook\_FAFF207C5DEB1589@outlook.com>  
**Sent:** Monday, June 08, 2020 4:48 PM  
**To:** Rob Daykin; Melody Osborne  
**Subject:** Stop Dundee Cell Tower

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Please do not approve the cell tower proposed for our town. It is important to our economy and property values to maintain our current charm and beautiful landscape along with all the improvements that are happening downtown. In addition, to the health risks that are unknown/disputed, visitors and residents do not need or want to have a fake tree/cell tower in the middle of our community. There have been enough obstacles to overcome in 2020 alone with out adding one more that we can easily avoid.

Thank you for your consideration

Ron and Lynda Martz  
249 SW 1<sup>st</sup> Street  
Dundee, OR

## Melody Osborne

---

**From:** Wendy Stec <wendystec@gmail.com>  
**Sent:** Monday, June 08, 2020 7:29 PM  
**To:** Melody Osborne  
**Subject:** Proposed Verizon Tower

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Dear Ms. Osborne,

It was just brought to my attention that the city of Dundee is considering a Verizon cell phone tower behind the fire department. I'm writing to share my disappointment in this consideration. I just moved to Dundee in February and have looked forward to becoming involved in any way to beautify and improve the ambiance of this wine country small town.

I heard about the street lights being installed on Hwy 99 and was excited to see how that would add a little sparkle. I've envisioned a town square being a benefit to the community to host markets and festivals. I've heard of some fun traditions that include the fire dept and look forward to the holidays. All of these ideas are a great benefit to the community.

The idea of this cell tower just seems to take away from the small town ambiance and purity that the residents here deserve. I'm sure there are financial incentives that are being considered, but the eye sore, and potential environmental effects it could have on this small community just don't seem worth it.

As I mentioned, I'm looking forward to becoming involved as a community supporter and hope to be involved with anything that brings both beauty and benefit.

I'll be logging in to the upcoming council meeting to hear what's happening with this proposal.

Thanks for your time.

Wendy

June 9<sup>th</sup>, 2020

I am writing to voice my opposition to Verizon's proposed cell phone tower behind the fire station. I live in South Dundee only 3 blocks from the site. I have 3 major concerns that I would like to address.

1. I am very worried about the potential negative impact this 80' tower would have on my property value. I found numerous studies, surveys, and documentation online outlining the negative impact a cell phone tower can have on surrounding real estate values. Estimates range as high as a 20% reduction in property values when a tower is within sight of a home or business. Since the proposed 80' tower will be in the center of Dundee, all of downtown and the surrounding neighborhoods will be negatively affected.
2. The environmental aesthetics of Dundee are also very important to me. A vibrant, beautiful looking downtown benefits everyone. Dundee is the heart of Oregon Wine Country. Some of the oldest vineyards in the state are just up the street from the proposed cell phone tower. The completion of the Bypass, the work done by the Dundee Urban Renewal Agency, the Dundee Tourism Agency, and the planning of the Riverside Development area have put Dundee on an upwards trajectory for prosperity and smart growth. This cell phone tower right in the heart of town would be a permanent eye sore that would hurt everything our great town is working toward.
3. I understand that this is a controversial reason, but I also wanted to bring up the potential health risks that a cell tower of this size could have when installed in a residential neighborhood. Studies in Europe have shown that living within a 1500 feet radius of a tower has a positive correlation with increased cancer risk. This high risk zone would include the North and South Dundee neighborhoods, most of the downtown business core, Fortune Park, Billick Park, and Dundee Elementary School. Is a cell tower at the fire station worth this risk?

To summarize, I feel like the mayor and city council do not have our best interests in mind when making important decisions about the growth of our city. South Dundee has already been negatively impacted by the bypass going right around my entire neighborhood. ODOT promised us a sound barrier wall to block noise issues and protect the homes closest to the bypass. Newberg got their wall. Dundee did not. It was cut by the state as a cost saving measure. The city of Dundee did nothing to protect its citizens. The mayor and city council did not speak up to defend their own town and just let an outside force do as they wanted with no resistance or questioning. I feel like this cell tower being pushed by Verizon is just another example of the city not really caring about the people who live here and choosing money over what is best for the businesses and citizens of our great town.

Matt Frey  
809 SE Elm St

City of Dundee  
Planning Commission  
220 SW 5<sup>th</sup> St  
Dundee, OR 97115

6/9/20

To the Planning Commissioners and City Staff,

I'm writing to voice my continued opposition to the proposed Verizon cell tower behind the Dundee Fire Station.

This tower would become a permanent ugly feature for Dundee, one that would mark downtown and become an unwanted landmark for the area. There has been significant efforts for years to clean up and beautify downtown, including the work of the Urban Renewal Agency and the passage of the Dundee Renewal Plan in 2017. Once the 99W is repaved, and the new streetlights are in, Dundee will have an opportunity to really shine in wine country. Our tourism dollars are important for the community at large and we want the city's beautification process to be ongoing.

Keeping the empty lots in the Central Business District (CBD) viable for developers is also important. The proposed cell tower would be right next to one of these large empty lots. It's a much less desirable lot to build on if there's a cell tower looming over it. This proximity can be said of several empty lots in the CBD. The cell tower could lead to Dundee's CBD being undeveloped for many years.

As a resident of the riverside area of Dundee, I am also concerned that our area of town is being disproportionately impacted by certain aspects of Dundee's growth. We now have the noise of the bypass on a daily basis. As I write, I can hear the distinctive "howling" sound of the trucks on the bypass, a sound that is loudest at night and affects my family's sleep quality. If the tower goes in, my neighborhood would also have this eye sore (potentially causing health risks for Dundee children) nearby. Along with the bypass, this cell tower would make our neighborhood less desirable and lower our property values. The tower would be approximately 800 ft (a few blocks) from my house (and closer to other residences). This falls in an impact zone that European studies have linked to higher rates of cancer. I have been worried for years now about this proposal and the potential negative impacts on my family's health and quality of life. Why should our part of town be more impacted (again) by a tower?

From my understanding, currently the Mayor, the City Council, and all of the Planning Commission lives on the hill. Please don't make decisions that could negatively impact my neighborhood, but less so yours. As a Planning Commissioner, it is your responsibility to consider the entire city. I urge you to regularly take walks in my neighborhood to get to know this area that you also serve. On my block, there's middle class and working class families including a high school teacher, an ICU nurse, construction workers, retirees, and people that work in the wine industry. We are an important part of the city, but many of us are too overwhelmed with work and young families to be as involved with the city as we would like. If you wouldn't want this cell tower in your neighborhood, please don't allow it in mine.

Before the city even considers this eye sore, I would urge you to consider the following:

- 1) Who benefits from the tower, how much will service increase? During previous cell tower proposals, including on 7/18/18, Verizon could not clearly answer this question with data. If Dundee itself is not going to benefit, who will? On the riverside of Dundee, I have heard from several residents that we currently have excellent Verizon service and no dropped calls.
- 2) During various Verizon proposals for the tower, there have been different heights proposed, 95 ft. on 8/16/2017, 74 ft. on 7/18/2018, and 80 ft. with the tree topper now. Why? From reviewing documents, it looks like Verizon is testing the city for what is tolerable and then bringing back another proposal until we are worn down and approve it. The Commission was clear they did not want this tower in 2017, yet here we are now with another proposal 3 years later, with almost all different Commissioners and a different City Planner. Our city needs to stay strong and keep saying no.
- 3) Have alternate locations for this tower been fully explored? What about by the water treatment site (also owned by the city), along the bypass, or on Fulquartz Landing Rd (where there is another tower from another carrier, a potential spot for co-location). We know the fire station site is ideal for Verizon, but it is not ideal for the city, so we should not allow it. This is our community, not Verizon's. I have hope we can find a better site, one that is not close to so many residents and one that doesn't negatively impact our downtown and CBD. So far, Verizon has shown no flexibility with location, I'd like to see them offer the city more options.
- 4) What is the zoning for the location of the tower? The applicant is likely applying for a conditional use. If the applicant does not meet the code criteria, turn it down. A cell tower can never be mitigated enough. I believe 45 feet is our current height restriction. Please consider that the empty lot next to the fire station, directly next to the proposed cell tower, is part of the CBD. Standards for the cell tower should be stricter, since this land is up against CBD. Also take note of how close residential properties are to the proposed cell tower, this should be considered very thoughtfully. If we are ever to have residential use over commercial in CBD buildings (which was a goal), the proximity to the cell tower would be even more of a problem.

Dundee's citizens have clearly stated that they oppose this tower for three years, please stay strong, do not allow it.

Thank you for volunteering your time and for your thoughtful review of this important matter for the future of our city.

Sincerely,

Rebecca Minifie  
(former Dundee Planning Commissioner 7/2018-12/2019)  
809 SE Elm St.  
Dundee, OR 97115

## Melody Osborne

---

**From:** Linda Luke <lindaluke@frontier.com>  
**Sent:** Tuesday, June 09, 2020 6:08 PM  
**To:** Melody Osborne  
**Subject:** Cell phone tower vote: no

Please help make my voice heard against the current placement plan at the fire station.

A cell tower in the middle of Dundee on Hwy 99 would be the eye sore that brings us back to the beginning of our development.

When I moved to Dundee in 2003, I loved the peacefulness, but it was awful with numerous telephone poles, wires strung haphazardly across 99, old beat up buildings and minimal sidewalks.

Now we have a beautiful plan and have begun cleaning it up for the benefit of drawing tourists and making it easier and safer to walk, and a tower will draw away from the aesthetic beauty of our small town.

The tree masking the tower will eventually be removed due to its size, and we will not be able to remove the tower likely, once it's no longer camouflaged.

Perhaps another suitable location can be negotiated on top of the Dundee hills, where we might have cell service BEHIND the hill as well as in the surrounding populated areas.

Is the Harvey Creek Trail an available publicly owned land that could mask it and provide more range on the back side?

With the steep slope behind, it could crest the tree line and be much less visible.

Thank you for listening.

Linda Luke

Dundee Resident

Additional  
Written  
Public  
Testimony  
06.15.2020

## Melody Osborne

---

**From:** Laura Oviatt <laura@lauraoviatt.com>  
**Sent:** Thursday, June 11, 2020 4:57 PM  
**To:** Melody Osborne; Rob Daykin  
**Cc:** Dixie Hancock  
**Subject:** Opposition to the cell tower

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Please add my name to the list opposing the installation of the cell tower in downtown Dundee. As a local real estate agent that sells a fair amount of real estate in Dundee, I see the value in keeping downtown Dundee hip and quant. The city has worked so hard to make it what it is today and adding a cell tower would negatively impact the strides that have been made. Placing the tower by the Dundee bypass seems like it would be a more logical place.

Best regards,

(home address: 1319 Oak Knoll Ct Newberg, OR)

**Laura Oviatt, LLC**  
Principal Real Estate Broker  
BHHS Northwest Real Estate  
**503-550-6034**  
2501 Portland Rd  
Newberg, OR 97132  
[laura@lauraoviatt.com](mailto:laura@lauraoviatt.com)  
[www.lauraoviatt.com](http://www.lauraoviatt.com)

*"Referrals from clients and friends are the foundation of my business"*

Berkshire Hathaway HomeServices Northwest Real Estate and Berkshire Hathaway HomeServices Real Estate Professionals will never request that you send funds or nonpublic personal information, such as credit card or debit card numbers or bank account and/or routing numbers, by email. If you receive an email message requesting you wire funds, do not respond and immediately notify [fraud@bhhsnw.com](mailto:fraud@bhhsnw.com) or call 503-783-6835.

## Melody Osborne

---

**From:** Dennis Cooke <blueboy655@icloud.com>  
**Sent:** Friday, June 12, 2020 6:50 PM  
**To:** Melody Osborne  
**Subject:** Re: Cell tower,

Yes it was to read Proposed.

Sent from my iPhone

> On Jun 12, 2020, at 6:48 PM, Dennis Cooke <blueboy655@icloud.com> wrote:

>

> Yes it was p

>

> Sent from my iPhone

>

>> On Jun 12, 2020, at 5:48 PM, Melody Osborne <Melody.Osborne@dundeecity.org> wrote:

>>

>> Dennis,

>>

>> I am confirming receipt of your objection. Can you please verify that the last word of your testimony is correct? Or, did it mean to say "proposed" and auto-correct changed it?

>>

>> Melody

>>

>> -----Original Message-----

>> From: Dennis Cooke <blueboy655@icloud.com>

>> Sent: Friday, June 12, 2020 2:59 PM

>> To: Melody Osborne <Melody.Osborne@dundeecity.org>

>> Subject: Cell tower,

>>

>> I want to let the city of Dundee know that I am against the placement of the cell tower in the location that has been proposed.

>>

>> Sent from my iPhone

## Melody Osborne

---

**From:** Brigitte Hoss <franziskahausdundee@gmail.com>  
**Sent:** Friday, June 12, 2020 4:29 PM  
**To:** Rob Daykin; Melody Osborne  
**Subject:** Proposed Dundee Cell Tower  
**Attachments:** Cell Tower Position Statement.pdf

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Dear Rob and Melody,

Please see our attached Cell Tower input letter.

Thank you,

Brigitte & Clark Hoss

### **Franziska Haus Bed and Breakfast**

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

503.887.0879

10305 NE Fox Farm Road

Dundee, Oregon 97115

June 11, 2020

Dear Dundee City Administrators,

This letter is in response to the proposed downtown city of Dundee cell tower. We are very much against the installation of this tower as are already many others in our community.

The success, livability, vibrancy, positive economic growth and beauty of the City of Dundee and its surrounding areas has come from the incredible efforts of its citizens, businesses and community leaders. Our successes have been recognized locally as well as throughout the world. Efforts have been tremendous and are extremely heart felt by our cherished community. An 80 foot cell tower would do irreparable serious harm to Dundee, its surrounding areas, inhabitants.

The issues:

1) Significant aesthetic damage would occur, undermining Dundee's quaint downtown. Unlike other cell tower locations in larger cities where greater density/ larger city scale better obscures tower presence, the scope of this structure relative to a small downtown like Dundee would be extraordinarily oppressive. Such a structure would, without a doubt, significantly mar the character of the entire town given its huge scale in proportion Dundee's small structures and spaces. We believe that this would seriously undermine the community's hard earned efforts to renovate/ regenerate their town. Just when we are getting close to realizing the repaving, and sidewalk renovations making Dundee a quaint walking town, a huge cell tower would destroy this progress. The small business community exists in large part to tourism. This structure would hurt those businesses as well as the faithful residences that have supported their city's positive evolution. Imagine sitting in most any backyard or at any business and seeing such an oppressive sight that would tower high into the sky above EVERYTHING.

2) Cell tower emissions are quite likely a significant health concern also. It is the belief of many that cell towers are more appropriately placed at a greater distance from neighborhoods such as in more rural locations. This is of particular concern with regard to Dundee proposed tower's proximity to nearby Dundee Elementary School. The following are a very small sample of the volume of research that has found an association of serious health consequences with cell tower proximity:

<https://midsafetech.org/2019/03/25/cell-tower-to-be-removed-after-4th-ripon-student-diagnosed-with-cancer/>

<https://www.npr.org/sections/ed/2017/07/14/535403513/cell-towers-at-schools-godsend-or-god-awful>

<http://www.nacst.org/schools---cell-towers.html>

[https://www.emrpolicy.org/science/research/docs/navarro\\_ebm\\_2003.pdf](https://www.emrpolicy.org/science/research/docs/navarro_ebm_2003.pdf)

[https://www.emrpolicy.org/science/research/fact\\_sheet.htm](https://www.emrpolicy.org/science/research/fact_sheet.htm)

[https://www.researchgate.net/publication/241473738\\_The\\_Influence\\_of\\_Being\\_Physically\\_Near\\_to\\_a\\_Cell\\_Phone\\_Transmission\\_Mast\\_on\\_the\\_Incidence\\_of\\_Cancer](https://www.researchgate.net/publication/241473738_The_Influence_of_Being_Physically_Near_to_a_Cell_Phone_Transmission_Mast_on_the_Incidence_of_Cancer)

<https://mdsafetech.org/cell-tower-health-effects/>

<https://www.globalindoorhealthnetwork.com/cell-towers>

<https://www.nrcresearchpress.com/doi/10.1139/A10-018#.XuKu4p5KjVo>

Any financial gains of a cell tower placement in Dundee would be quickly undone by its serious negative impact to our community and surrounding areas. We are adamantly opposed to the placement of a cell tower in Dundee.

Respectfully,

Brigitte & Clark Hoss  
10305 NE Fox Farm Rd.  
Dundee, OR 97115

## Melody Osborne

---

**From:** Joe Poznanski <joepozn@hotmail.com>  
**Sent:** Saturday, June 13, 2020 6:46 PM  
**To:** Melody Osborne  
**Subject:** No Cell Tower

To whom it may concern,

Please do not put up that eyesore cell tower in our beautiful city.

The Poznanski family objects to placing the cell tower in downtown Dundee.

Get [Outlook for Android](#)

Additional  
Written  
Public  
Testimony  
06.16.2020

## Melody Osborne

---

**From:** alandchar1@comcast.net  
**Sent:** Monday, June 15, 2020 12:01 PM  
**To:** Melody Osborne  
**Subject:** Fwd:  
**Attachments:** Letter to Council Regarding Cell Tower.docx

Hi Melody, I'm having a little trouble with this computer so would appreciate it if you could let me know you got this.

Thanks, Char Ormonde

----- Original Message -----

From: Albert.Ormonde@lamresearch.com  
To: alandchar1@comcast.net  
Date: 06/15/2020 11:49 AM  
Subject:

Letter to council

### Al Ormonde

Senior Buyer 3 | Global Supply Chain  
Desk Number (503) 885-6105 |

### Lam Research Corporation

18655 SW 108<sup>th</sup> Ave. Bldg. K, Tualatin OR 97062 USA | [www.lamresearch.com](http://www.lamresearch.com)

---

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Dear City Council and Planning Commission,

As a resident of Dundee who came here almost 50 years ago, I would like you to know I fiercely oppose a cell tower in the downtown core of our city. I opposed it the last time the application was before you and sited a number of studies that indicated some health problems could arise from the placement of a tower close schools, businesses and homes. I also do not understand why we would want to scar our little downtown community with a cell tower when recently put so much went into beautifying all along highway 99W. The revenue it would provide is not enough to ruin the beauty of our quaint little town.

There are numerous other locations for a tower in the area. Behind Day Wines is a location exactly like the fire department up against the railroad tracks, but not near as visible. I believe the city has other properties where a tower could be placed. I would appreciate your cooperation is suggesting another location.

Thank you,

Char Ormonde

## Melody Osborne

---

**From:** Melody Osborne  
**Sent:** Monday, June 15, 2020 1:53 PM  
**To:** Melody Osborne  
**Subject:** FW: Cell Tower letter for Planning Commissioners

---

**From:** Saj Jivanjee <[saj@jcaoregon.com](mailto:saj@jcaoregon.com)>  
**Sent:** Monday, June 15, 2020 1:13 PM  
**To:** Rob Daykin <[Rob.Daykin@dundeecity.org](mailto:Rob.Daykin@dundeecity.org)>  
**Subject:** Cell Tower letter for Planning Commisioners

Rob,  
Please see attached. I would like to be apart of the records for cell Tower hearing.  
Saj

----- Forwarded message -----  
**From:** <[scanner@partinhill.com](mailto:scanner@partinhill.com)>  
**Date:** Mon, Jun 15, 2020 at 1:00 PM  
**Subject:** Send data from MFP11763963 06/15/2020 13:04  
**To:** Saj Jivanjee <[saj@jcaoregon.com](mailto:saj@jcaoregon.com)>

Scanned from MFP11763963  
Date:06/15/2020 13:04  
Pages:1  
Resolution:200x200 DPI  
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**Saj Jivanjee**  
Jivanjee Group of Companies  
M.Arch, AIA, M.U.P, NCARB  
Architecture | Real Estate Development | Multi-Family Housing | Winery | Vineyard  
phone: 503.970.0326  
[saj@jcaoregon.com](mailto:saj@jcaoregon.com)  
[saj@archervineyard.com](mailto:saj@archervineyard.com)

Partin & Hill Architects, LLC  
209 Lincoln Street  
Hillsboro, OR 97124  
503.640.1216  
fax: 503.640.8552

**Date 6-15-2020**

**Letter to Planning Commissioners for Public Record**

I am writing to the Planning Commission to ask that the application to install a cell tower next to the new City Fire Station in Dundee be denied because it will violate the spirit of the zoning ordinances designed to improve the esthetic appeal and economic vitality of Dundee, particularly in the context of the growing tourism economy. The following description will provide an explanation of my interest in the cell tower issue and a critique of the effects of installing a cell tower.

**Background.**

After I purchased and cleaned up the 14-acre property at the junction of Highway 99w and Fox Farm Road, I removed the two ugly billboards (which was advertising City of McMinnville) at the side of Highway 99 to create a welcoming entrance to the city of Dundee. I will be losing \$15,000 income per year from the removal of the billboards. I am also implementing a 1500 linear feet beautification program along Highway 99 to Fox Farm Road, including water features to create an attractive gateway to Dundee. I hope the city of Dundee will recognize my effort and share in the vision to enhance the community wellbeing.

I also own the 5-acre property at 9th and Alder which is part of the urban renewal 9th Street boulevard improvement.

**Current Situation**

**Urban Visual Pollution**

I had thought that the cell tower application had been denied but have discovered that the application will be reviewed again. If a cell tower is installed, it will dominate the landscape and will not enhance the overall image of the City of Dundee. This tower will be noticeable from all the surrounding area even if the tower is disguised with plastic pine tree branches. In recent years the attractiveness of the community along Highway 99 has been enhanced by beautiful landscaping and new well-designed buildings which are contributing to sustainable growth. A cell tower will distract from the overall appeal of the fine grain urban design. Approval will also establish a design standard potentially allowing frontage with plastic elements (basically the Disneyfication of the City of Dundee). I hope the City Planning Commissioners will consider their overall vision of the city and not approve a cell tower with a plastic pine tree as the center piece of the city. This would be a total distraction from the overall culture of the City of Dundee and its citizens' contributions to overall design standards.

**Zoning Conflict**

It looks like the city has created spot zoning for the cell tower. I understand that cell towers are allowed with limited height. The City is proposing to allow a variance to increase the height in this zoning. If that is the case then the City should allow height increase in all zoning where cell towers are allowed. I am willing to offer my site at 9<sup>th</sup> and Alder so the cell tower can be relocated a block away from the center of the city. See attached plan. The zoning is light industrial. However, I have been told that I have go through a height variance process to increase the height. However, if the variance is denied then it will establish that city intends to change the code just for city owned property, in other words, to serve self-interest.

**Conflict of Interest**

If the City approves the cell tower to increase city revenue, this might be viewed as, self-dealing and there is a potential for legal action. This could result in community conflict if the Commission ignores public opinion.

I hope the Commission rejects this application in the interests of the community and in the interests of promoting an attractive tourist destination in wine country.

Saj Jivanjee



## Melody Osborne

---

**From:** Susan Baird <susan@bairdlawoffices.com>  
**Sent:** Monday, June 15, 2020 3:13 PM  
**To:** Melody Osborne  
**Subject:** Comments re Verizon Cell Tower  
**Attachments:** Microsoft Word - Dundee City Council Letter re Cell Tower v2.docx.pdf

Hi Melody,

Please include my attached letter in opposition to the proposed Verizon cell tower.

Thank you,  
Susan

Susan Baird  
Attorney at Law

Baird Law Office, LLC  
971-832-9044  
P.O. Box 373  
Dundee, OR 97115  
[susan@bairdlawoffices.com](mailto:susan@bairdlawoffices.com)  
[www.bairdlawoffices.com](http://www.bairdlawoffices.com)

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Baird Law Office, LLC  
P.O. Box 373, Dundee, OR 97115  
[susan@bairdlawoffices.com](mailto:susan@bairdlawoffices.com)  
971-832-9044

June 15, 2020

Re: Type III Conditional Use permit and Site Development Review  
File No. CU 20-06/SDR 20-07 – Verizon Cell Tower (the “Application”)

Dear Dundee Planning Commissioners:

I have reviewed the Application in light of the Dundee Municipal Code (“Code”) and, as a business owner and long-time resident of Dundee, I believe the proposed use should be **denied** for the following reasons (detailed below):

### 1. Executive Summary

- A. The proposed project’s location does not meet the requirements of Code Section 17.404 because:
  1. the project’s noise violates Dundee noise standards;
  2. noise impacts to the Dundee Fire Station have not been studied;
  3. the project’s electromagnetic emissions (in addition to causing documented harm to plants, animals, and humans) could create untold liability for the City; and
  4. the project’s aesthetics are not in keeping with the strict design aesthetics Dundee requires of new projects near Highway 99W.
- B. The Application does not meet the requirements of Code Section 17.203.170 because (i) there is an existing AT&T wireless facility only 1.3 miles from the proposed project site and Applicant hasn’t provided documentation showing why this site isn’t sufficient and (ii) even without the proposed tower, Applicant’s own report shows they already have “good” to “moderate” coverage in Dundee, so an additional tower is not a necessity.
- C. The existing conditions of approval are not sufficient to mitigate the negative impacts of the proposed use. The City should consider (i) limiting tower height to mitigate aesthetic impacts, (ii) prohibiting

emission of 5G signals, and (iii) requiring annual renewals of Applicant's permit so the City and citizens are able to continue to evaluate the negative impacts of the tower.

## **2. The Proposed Project's Location Does Not Meet the Requirements of Code Section 17.404**

The Application proposes an 80-foot communications tower and ground equipment in the SE corner of the Dundee Fire Station. Code Section 17.404 requires the "site size, dimensions, location, topography and access are adequate for the needs of the proposed use, considering the proposed building mass, parking, traffic, **noise**, vibration, exhaust/**emissions**, light, glare, erosion, odor, dust, visibility, safety, and **aesthetic considerations**." (emphasis added)

### **a. Noise**

The proposed use includes electrical cabinets running 24 hours a day, creating noise in violation of the Dundee Municipal Code. The Code limits noise to 55 dBA at night. The applicant's own acoustical report acknowledges the proposed use would **violate the Dundee nighttime noise requirements** and that a sound barrier would be required to satisfy Dundee noise requirements for the equipment at night.

Although one page of Applicant's report includes a sound barrier, application sheets L-1, Landscaping, A-2, Enlarged Site Plan and A-2.1, Equipment Plan do not show the sound barrier. Given that both noise and aesthetic impacts of the proposed project are significant, the Planning Commission should have the benefit of complete, detailed plans before approving the project. Putting these significant aspects off under a condition of approval is not sufficient. Accordingly, the application should be denied as it is currently being presented.

More importantly, the Application should be denied because the acoustical report fails to consider noise impacts to the people who would be most affected by it – our local firefighters. The proposed 80-foot tower and noise generating cabinets would be located on the Fire Station property, yet no one has considered how the noise would affect the Fire Station.

The Fire Station is manned 24 hours a day. Our local fire fighters work, eat, and sleep there – in other words, they are even present at the Fire Station at night when the proposed project's noise is in violation of Dundee noise standards, yet the Applicant's acoustical report fails to consider noise impacts to them. Instead, the acoustical report states the nearest "receiving property" is zoned CBD and it discusses noise impacts to that property. Given that our local firefighters occupy the Dundee Fire Station day and night and given that they will experience the greatest

impact of the proposed project's noise, the application should be denied until noise impacts to the Dundee Fire Station have been thoroughly tested and analyzed.

Finally, the Planning Commissioners are expected to rely on the Applicant's acoustical report for information about potential noise impacts, yet the report itself has inaccuracies. For example, the acoustical report claims to have studied ambient sound levels at the proposed site (which is off Highway 99W), yet page 1 of the report refers to ambient sound levels off SW Taylors Ferry Road: "Existing ambient sound levels of the site were measured on July 29, 2017 ... The average ambient noise level was 57 dBA primarily due to noise from local automotive traffic on SW Taylors Ferry Road." The report itself seems untrustworthy.

### **b. Emissions**

In addition to noise, Code Section 17.404 requires the location be appropriate considering the proposed emissions. Cell towers emit high levels of electromagnetic radiation, yet apparently the FCC prohibits local jurisdictions from considering the "environmental effects" of such emissions. So, as much as it pains me to omit a discussion of the numerous, documented scientific studies proving that cell towers kill trees, animals, and bees (upon which our local vineyards rely), as well as cause significant harm to human health (especially children – and our local elementary school is only 1,000 feet from the proposed site), apparently a your decision cannot be based on these cell tower emissions.<sup>1</sup>

However, Oregonians are already awakening to the detrimental effects of electromagnetic emissions. Oregon Senate Bill 283, effective August 9, 2019, requires the Oregon Health Authority ("OHA") to review independently funded scientific studies of health effects of exposure to microwave radiation, particularly exposure that results from use of wireless network technologies in schools. If the OHA is concerned about WiFi in schools, how much more should we be concerned about the electromagnetic emissions of an 80-foot cell tower just over 1,000 feet from our elementary school?

More importantly, the Commission should consider whether approval of this project would expose the City to liability. If the City were to authorize an 80-foot cell tower and it is later determined, in court, that the cell tower is the cause of bee death (and consequential agricultural decline), tree damage, and untold health issues (including negative effects to nearby elementary school children), could the City be liable for its approval? Does the City's potential lease agreement with Verizon include provisions to defend and indemnify the City from all liability potentially associated with the cell tower? Is the money the City stands to gain from the cell tower lease even remotely worth the potential damage the cell tower's emissions could cause?

**c. Aesthetic Considerations.**

Your decision can (and should) be based, pursuant to Code Section 17.404, on the proposed tower's negative impacts on the aesthetics of downtown Dundee. Let's be honest, the proposed tower would be an eye sore. Many of us have seen similar "monopines" in Newberg and surrounding areas. Not only do those fake "trees" fail to blend into the surrounding scenery or fool anyone into believing that they are anything but monstrous cell towers, but this project's proposed location is especially inappropriate for its damaging aesthetic.

Thanks to the hard work of the Dundee Tourism Committee, local businesses like Red Hills Market and the Market Lofts, the Dundee Bistro, and many of our local wineries, Dundee is quickly becoming a beautiful tourist destination with a quaint small-town feel. New buildings and businesses near Highway 99W, especially those in Dundee's adjacent central business district, are held to extremely high aesthetic standards to maintain the quaint look and feel for which Dundee is coming to be known. For years Dundee has prohibited Drive-thru businesses and other such "modern conveniences" to maintain our idyllic small-town aesthetic. Why then, would an 80-foot cell tower in the heart of Dundee, easily visible from Highway 99W be considered aesthetically acceptable? I urge you, Commissioners, to find that it would not and to deny the application on the basis of its unattractive and unpleasant aesthetics, especially given its visible location in the heart of Dundee.

**3. The Application Does Not Meet the Requirements of Dundee Municipal Code Section 17.203.170.**

Dundee Code Section 17.203.170 contains special use standards for wireless communication facilities. It requires an evaluation, inter alia, of "the feasibility of co-location of the subject facility as an alternative to the requested permit" including "b. Written verification and other documentation revealing the availability and/or cooperation of shown by other providers to gain access to existing sites/facilities to meet the needs of the applicant." (emphasis added)

There is an existing AT&T wireless facility only 1.3 miles away. Yet the Application fails to provide the requisite "written verification" as to why co-locating on the AT&T tower just 1.3 miles away is insufficient. Applicant merely draws a circle on a map (with the proposed location conveniently in the center of that ideal circle). Applicant fails to show what their coverage would look like if they were to co-locate on the AT&T tower or how such co-location would be insufficient to improve their coverage.

In other words, it is not sufficient for the Applicant to simply say: "we want our tower here, but this other tower is 1.3 miles away, so that's not what we want." This does not satisfy the Code requirements. Thus, by failing to provide the requisite

analysis and “written verification” regarding co-location alternatives, the Application fails to comply with Dundee Municipal Code Section 17.203.170.

Finally, the proposed location simply isn’t necessary. Applicant’s own report shows that even *without* the proposed tower, the City of Dundee is represented on Figure 4 in yellow and green. According to the Applicant: “The Green represents a high RF signal strength which generally provides good coverage inside vehicles and buildings. Yellow represents moderate RF signal strength that generally provides good service inside vehicles and moderate service inside buildings.” (Page 10 of Applicant’s narrative) Thus, by Applicant’s own report, Verizon already has good to moderate coverage in Dundee and a new tower is not a necessity.

#### **4. Conditions of Approval**

For the reasons cited above, the Application fails to meet the requirements of the Dundee Municipal Code and should be denied. However, even if the Application were approved with conditions of approval, the existing conditions of approval are insufficient to mitigate the negative impacts of the proposed use. Dundee Code Section 17.404.030.B. states: “The city may impose conditions that are found necessary to ensure that the use is compatible with other uses in the vicinity, and that any negative impact of the proposed use on the surrounding uses and public facilities is minimized.”

It is specifically within the City’s authority, pursuant to Code Section 17.404.030.B.4. to limit the “structure height.” Given the fact that Dundee is an attractive small-town with stringent aesthetic requirements for new projects in the adjacent central business district, the City should greatly reduce the height of the proposed tower to lessen the negative aesthetic impacts.

Applicant states they desire to improve the capacity their 3G and 4G LTE service. Given that the application is limited to these services and given that little to no safety studies have been performed on 5G service, the City should also condition approval on the condition that the proposed tower not be used for 5G service or signals.

Finally, even if the Commission is pressured into approving the noisy, aesthetically unpleasant, electromagnetic emitting 80-foot tower, at the very least the City could invoke its authority under Code Section 17.404.030.B.14. to “require renewal of conditional use permits annually” in order to give the good citizens of Dundee additional opportunities to decide whether we want this monstrosity in our lovely town.

Thank you, Commissioners, for considering these objections to the proposed project.

Sincerely,  
*Susan Baird*  
Susan Baird

My residence is located at 998 SW Tomahawk Pl., Dundee, OR 97115.

---

<sup>i</sup> See scientific articles at [www.childrenshealthdefense.org](http://www.childrenshealthdefense.org)

## Melody Osborne

---

**From:** Noel Johnson <noeljohnson07@gmail.com>  
**Sent:** Monday, June 15, 2020 9:24 PM  
**To:** Melody Osborne  
**Subject:** Cell Tower Opinion for the Planning Commissioners

June 15, 2020

Re: Type III Conditional Use permit and Site Development Review  
File No. CU 20-06/SDR 20-07 ó Verizon Cell Tower (the "Application")

Dear Dundee Planning Commissioners:

I am a resident of Dundee and also one of the owners of The Market Lofts ó a lovely place for visitors to stay overnight above Red Hills Market. An 80-foot cell tower would be very bad for business. I am asking that you please **DENY** the proposed Application on the following grounds:

1. The project's noise violates Dundee nighttime noise standards; this would be extremely damaging to our vacation rental business to have 24 hour noise.
2. The project's aesthetics are not in keeping with the strict design aesthetics Dundee requires of new projects near Highway 99W. An 80-foot cell tower, even "disguised" as a tree, is unattractive and unappealing. We want to maintain the beautiful, quaint nature of our small town. The unsightly appearance will be off-putting to the tourists who frequent all the downtown Dundee businesses and damaging to our local economy.
3. The applicant has failed to show why they can't use the AT&T facility just 1.3 away.
4. The applicant doesn't need a new tower as they already have, according to their own report, "moderate" to "good" service in Dundee.

Even if you decide to approve this monstrosity, the existing conditions of approval are not sufficient to mitigate the negative impacts of the proposed use. Please consider (i) limiting tower height to mitigate aesthetic impacts, (ii) prohibiting emission of 5G signals, and (iii) requiring annual renewals of Applicant's permit so the City and citizens are able to continue to evaluate the negative impacts of the tower.

Sincerely,

Signature: Noel Johnson \_\_\_\_\_  
Printed Name: Noel Johnson \_\_\_\_\_  
Date: June 15th, 2020  
Address: 962 SW Tomahawk PL, Dundee, OR 97115

Noel Johnson  
[noeljohnson07@gmail.com](mailto:noeljohnson07@gmail.com)

## Melody Osborne

---

**From:** Jamie Davis <jamieladavis423@gmail.com>  
**Sent:** Monday, June 15, 2020 9:51 PM  
**To:** Melody Osborne  
**Subject:** Cell tower

Hello Melody,

I would like to voice my opposition to the cell tower that is being proposed in downtown Dundee. I am concerned about my property value decreasing in these uncertain times as well as the negative look to the tower. Our community and elected officials have been working so hard to beautify our town and make it more desirable to businesses and tourists and this would take away from those efforts. Please send me a confirmation email.

Thank you,

Jamie Davis  
175 Hemlock St.

Submitted via e-mail to: Melody.Osborne@dundeecity.org

June 15, 2020

Re: Type III Conditional Use permit and Site Development Review  
File No. CU 20-06/SDR 20-07 – Verizon Cell Tower (the “Application”)

Dear Dundee Planning Commissioners:

Please **DENY** the proposed Application on the following grounds:

1. The project's noise violates Dundee nighttime noise standards;
2. Noise impacts to the Dundee Fire Station have not been studied;
3. The potential financial benefit to the City from a cell tower leases does not compensate for the untold liability the City may face for approving a cell tower just 1,000 feet from an elementary school;
4. The project's aesthetics are not in keeping with the strict design aesthetics Dundee requires of new projects near Highway 99W. An 80-foot cell tower, even “disguised” as a tree, is unattractive and unappealing. We want to maintain the beautiful, quaint nature of our small town;
5. The applicant has failed to show why they can't use the AT&T facility just 1.3 away; and
6. The applicant doesn't need a new tower as they already have, according to their won report, “moderate” to “good” service in Dundee.

Even if you decide to approve this monstrosity, the existing conditions of approval are not sufficient to mitigate the negative impacts of the proposed use. Please consider (i) limiting tower height to mitigate aesthetic impacts, (ii) prohibiting emission of 5G signals, and (iii) requiring annual renewals of Applicant's permit so the City and citizens are able to continue to evaluate the negative impacts of the tower.

Sincerely,

Signature:  \_\_\_\_\_

Printed Name: Trevor Baird

Date: 6/15/20

Address: 998 SW Tomahawk Pl, Dundee, OR 97115

Submitted via e-mail to: Melody.Osborne@dundeecity.org

June 15, 2020

Re: Type III Conditional Use permit and Site Development Review  
File No. CU 20-06/SDR 20-07 – Verizon Cell Tower (the “Application”)

Dear Dundee Planning Commissioners:

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Sincerely,

Signature: 

Printed Name: Louis Brumbaugh

Date: 6/15/20

Address: 997 SW Tomahawk

Dundee, OR 97115

Submitted via e-mail to: Melody.Osborne@dundeecity.org

June 15, 2020

Re: Type III Conditional Use permit and Site Development Review  
File No. CU 20-06/SDR 20-07 – Verizon Cell Tower (the “Application”)

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Even if you decide to approve this monstrosity, the existing conditions of approval are not sufficient to mitigate the negative impacts of the proposed use. Please consider (i) limiting tower height to mitigate aesthetic impacts, (ii) prohibiting emission of 5G signals, and (iii) requiring annual renewals of Applicant’s permit so the City and citizens are able to continue to evaluate the negative impacts of the tower.

Sincerely,

Signature: 

Printed Name: M. De Ruijter

Date: 06/15/2020

Address: 915 SW Tomahawk Pl. Dundee, OR 97115

Submitted via e-mail to: Melody.Osborne@dundeecity.org

June 15, 2020

Re: Type III Conditional Use permit and Site Development Review  
File No. CU 20-06/SDR 20-07 – Verizon Cell Tower (the “Application”)

Dear Dundee Planning Commissioners:

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Sincerely,

Signature: Jill Denbrook  
Printed Name: Jill Denbrook  
Date: 6/15/2020  
Address: 825 SW Chablis Ct. Dundee, OR 97115

Submitted via e-mail to: Melody.Osborne@dundeecity.org

June 15, 2020

Re: Type III Conditional Use permit and Site Development Review  
File No. CU 20-06/SDR 20-07 – Verizon Cell Tower (the “Application”)

Dear Dundee Planning Commissioners:

Please **DENY** the proposed Application on the following grounds:

1. The project's noise violates Dundee nighttime noise standards;
2. Noise impacts to the Dundee Fire Station have not been studied;
3. The potential financial benefit to the City from a cell tower leases does not compensate for the untold liability the City may face for approving a cell tower just 1,000 feet from an elementary school;
4. The project's aesthetics are not in keeping with the strict design aesthetics Dundee requires of new projects near Highway 99W. An 80-foot cell tower, even “disguised” as a tree, is unattractive and unappealing. We want to maintain the beautiful, quaint nature of our small town;
5. The applicant has failed to show why they can't use the AT&T facility just 1.3 away; and
6. The applicant doesn't need a new tower as they already have, according to their own report, “moderate” to “good” service in Dundee.

Even if you decide to approve this monstrosity, the existing conditions of approval are not sufficient to mitigate the negative impacts of the proposed use. Please consider (i) limiting tower height to mitigate aesthetic impacts, (ii) prohibiting emission of 5G signals, and (iii) requiring annual renewals of Applicant's permit so the City and citizens are able to continue to evaluate the negative impacts of the tower.

Sincerely,

Signature: Kimberly B. Rhodes  
Printed Name: Kimberly Rhodes  
Date: 6/15/20  
Address: 948 SW Tomahawk Pl, Dundee, OR 97115

Submitted via e-mail to: Melody.Osborne@dundeecity.org

June 15, 2020

Re: Type III Conditional Use permit and Site Development Review  
File No. CU 20-06/SDR 20-07 – Verizon Cell Tower (the “Application”)

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Sincerely,

Signature: 

Printed Name: Aimee Osmond

Date: 6/15/20

Address: 937 SW Tomahawk PL Dundee, OR 97115

Submitted via e-mail to: Melody.Osborne@dundeecity.org

June 15, 2020

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Sincerely,

Signature: Michelle Wolfersberger Sabins  
Printed Name: Michelle Wolfersberger Sabins  
Date: June 15, 2020  
Address: 950 SW Tomahawk pl. Dundee, OR 97115

Submitted via e-mail to: Melody.Osborne@dundeecity.org

June 15, 2020

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Sincerely,

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Date: \_\_\_\_\_

Address: \_\_\_\_\_

950 SW Tomahawk Pl Dundee, OR 97115

Submitted via e-mail to: Melody.Osborne@dundeecity.org

June 15, 2020

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Sincerely,

Signature:   
Printed Name: John Shaw  
Date: 6/15/20  
Address: 986 Sw Tomahawk Pl. Dundee, OR 97115

Submitted via e-mail to: Melody.Osborne@dundeecity.org

June 15, 2020

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File No. CU 20-06/SDR 20-07 – Verizon Cell Tower (the “Application”)

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*We have Verizon and service is excellent already!*

Even if you decide to approve this monstrosity, the existing conditions of approval are not sufficient to mitigate the negative impacts of the proposed use. Please consider (i) limiting tower height to mitigate aesthetic impacts, (ii) prohibiting emission of 5G signals, and (iii) requiring annual renewals of Applicant's permit so the City and citizens are able to continue to evaluate the negative impacts of the tower.

Sincerely,

Signature: Whitney H. Shaw  
Printed Name: Whitney Shaw  
Date: 6/15/2020  
Address: 986 Tomahawk Pl. Dundee, OR 97115

## Melody Osborne

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**From:** Brooke Rapet <brookerapet@gmail.com>  
**Sent:** Monday, June 15, 2020 10:39 PM  
**To:** Melody Osborne  
**Subject:** Public Comments Dundee City Council  
**Attachments:** Public Comments Dundee City Council Letter re Cell Tower v2.docx

Submitted via e-mail to: Melody.Osborne@dundeecity.org

June 15, 2020

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Sincerely,

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Date: \_\_\_\_\_

Address: \_\_\_\_\_ Dundee, OR 97115

## Melody Osborne

---

**From:** Sheila Young <sheilarbyoung@gmail.com>  
**Sent:** Tuesday, June 16, 2020 7:23 AM  
**To:** Melody Osborne  
**Subject:** Cell tower

This is a bad idea for this beautiful town. We moved here less than a year ago and this will reduce home values and attractiveness of the city. It is also a safety concern. I've had cancer and this is way to close for all us to have in our backyards. This would be an eyesore and safety concern for all residents. PLEASE dont allow this in our community. My family is very against this plan.

Sheila Young and family

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Virus-free. [www.avg.com](http://www.avg.com)

## Melody Osborne

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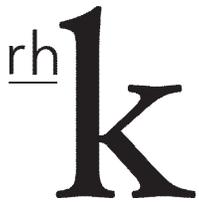
**From:** Michelle Kropf <michelle@redhillsmarket.com>  
**Sent:** Tuesday, June 16, 2020 8:32 AM  
**To:** Melody Osborne  
**Subject:** Cell Tower Letter for City Council  
**Attachments:** Red Hills Market Comments Dundee City Council Letter re Cell Tower v2-1.pdf

Hi there,  
Please share this letter in relation to the cell tower with the city council.  
Thank you,

--



Michelle L. Kropf  
**red hills market, kitchen & catering**  
buyer & proprietor  
503.550.8194  
[redhillskitchen.com](http://redhillskitchen.com)  
[redhillsmarket.com](http://redhillsmarket.com)



Submitted via e-mail to: Melody.Osborne@dundeecity.org

Re: Type III Conditional Use permit and Site Development Review  
File No. CU 20-06/SDR 20-07 – Verizon Cell Tower (the “Application”)

Dear Dundee Planning Commissioners:

As a resident of Dundee, an owner of Red Hills Market, and a part-owner of the Market Lofts, I am asking that you please **DENY** the proposed Application. The proposed tower would detract from tourism, hurt our local businesses, and should be denied on the following grounds:

1. The project’s noise violates Dundee nighttime noise standards;
2. Noise impacts to the Dundee Fire Station have not been studied;
3. The potential financial benefit to the City from a cell tower leases does not compensate for the untold liability the City may face for approving a cell tower just 1,000 feet from an elementary school;
4. The project’s aesthetics are not in keeping with the strict design aesthetics Dundee requires of new projects near Highway 99W. An 80-foot cell tower, even “disguised” as a tree, is unattractive and unappealing. We want to maintain the beautiful, quaint nature of our small town. When Red Hills Market was going through the approval process with the City of Dundee, we had to jump through numerous hoops to meet all the specific aesthetic requirements for businesses in downtown Dundee. Although the proposed 80-foot tower would technically be zoned Public and not subject to those same standards, it would nonetheless detract greatly from the beautiful downtown that we have all worked so hard to achieve;
5. The applicant has failed to show why they can’t use the AT&T facility just 1.3 away; and
6. The applicant doesn’t need a new tower as they already have, according to their won report, “moderate” to “good” service in Dundee.

Even if you decide to approve this monstrosity, the existing conditions of approval are not sufficient to mitigate the negative impacts of the proposed use. Please consider (i) limiting tower height to mitigate aesthetic impacts, (ii) prohibiting emission of 5G signals, and (iii) requiring annual renewals of Applicant’s permit so the City and citizens are able to continue to evaluate the negative impacts of the tower.

Sincerely,

Michelle & Jody Kropf  
6/16/20  
155 SW 7th  
Dundee, OR 97115

Additional  
Application  
Materials  
Submitted  
06.16.2020



June 16, 2020

Melinda Allhands  
Acom Consulting  
5200 SW Meadows Road, Suite 150  
Lake Oswego, OR 97035

Re: Acoustical Report – Verizon OR1 Dundee  
Site: 801 N Highway 99W, Dundee, OR, 97115

Dear Melinda,

The following report presents a noise study for the proposed Verizon Wireless telecommunications facility 801 N Highway 99W in Dundee, Oregon. This noise study extends from the proposed equipment to the nearest properties. The purpose of this report is to document the existing conditions and the impacts of the acoustical changes due to the proposed equipment. This report contains data on the existing and predicted noise environments, impact criteria and an evaluation of the predicted sound levels as they relate to the criteria.

### **Ambient Conditions**

Existing ambient sound levels of the site were measured on June 13, 2020 with a Svantek 971 Type 1 sound level meter. Measurements were conducted in accordance with Oregon Administrative Rules (OAR) 340-35-035 subsection (3)(b). The average ambient noise level was 50 dBA primarily due to noise from local automotive traffic on Hwy 99W.

### **Code Requirements**

The site is located within the City of Dundee Zoning jurisdiction on property with a “Public” zoning designation. The nearest receiving property is zoned Central Business District. For the purposes of Dundee Municipal Code 8.28.040 both of these zonings are considered Commercial.

The proposed new equipment includes equipment support cabinets which are expected to run 24 hours a day.

Dundee Municipal Code limits noise to a Commercial property as follows:

Noise is limited to 60 dBA during daytime hours. During nighttime, defined as the hours between 10 p.m. and 7 a.m., maximum sound levels are reduced to 55 dBA. Since the support cabinets are expected to operate 24 hours a day, they must meet the 55 dBA nighttime limit.

**Predicted Equipment Sound Levels**

24 our era ion ui men

The following table presents a summary of the equipment and their associated noise levels:

**Table 1: Equipment Noise Levels**

Equipment	dBA (each)	Quantity	Combined dBA @ 5 ft
Charlers CUBE BB48E2XV1	61 dBA @ 5 ft	2	64
Charles CUBE SS4B228LX1	65 dBA @ 5 ft	1	65
<b>Total dBA (All cabinets combined)</b>			

Methods established by ARI Standard 275-2010 and ASHRAE were used in predicting equipment noise levels to the receiving properties. Application factors such as location, height, and reflective surfaces are accounted for in the calculations.

The equipment will be located at grade surrounded by a 6'-0" chain-link fence with privacy slats and a 6'-0" tall sound barrier on the southwest portion of the fence. The nearest receiving property to the southwest is approximately 12 feet from the equipment. The following table presents the predicted sound level at the nearest receiving property:

**Table 2 Predicted Noise Levels Proposed Equipment Cabinets**

Line	Application Factor	S
1	Sound Pressure Level at 5 ft (dBA), Lp1	68
2	Noise reduction – noise barrier	-7
3	Distance Factor (DF) Inverse-Square Law (Free Field): $DF = 20 \cdot \log(d1/d2)$ (12 ft)	-8
4	New Equipment Sound Pressure Level at Receiver, Lpr (Add lines 1 through 3)	<b>53</b>

As shown in Table 2, the sound pressure level from the proposed equipment is predicted to be 53 dBA at the nearest receiving property, which meets the 55 dBA nighttime code limit. Noise levels at other receiving properties, which are further away, will be lower and within code limits.

Please contact us if you have any questions or require further information.

Sincerely,  
SSA Acoustics, LLP



**Alan Burt, P.E.**  
PARTNER



RENEWAL DATE: 12/31/21

This report has been prepared for the titled project or named part thereof and should not be used in whole or part and relied upon for any other project without the written authorization of SSA Acoustics, LLP. SSA Acoustics, LLP accepts no responsibility or liability for the consequences of this document if it is used for a purpose other than that for which it was commissioned. Persons wishing to use or rely upon this report for other purposes must seek written authority to do so from the owner of this report and/or SSA Acoustics, LLP and agree to indemnify SSA Acoustics, LLP for any and all resulting loss or damage. SSA Acoustics, LLP accepts no responsibility or liability for this document to any other party other than the person by whom it was commissioned. The findings and opinions expressed are relevant to the dates of the works and should not be relied upon to represent conditions at substantially later dates. Opinions included therein are based on information gathered during the study and from our experience. If additional information becomes available which may affect our comments, conclusions or recommendations SSA Acoustics, LLP reserves the right to review the information, reassess any new potential concerns and modify our opinions accordingly.

Additional

Written

Public

Testimony

06.16.2020(2)

## Melody Osborne

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**From:** Bethany Caruso <bgracecaruso@gmail.com>  
**Sent:** Tuesday, June 16, 2020 12:14 PM  
**To:** Melody Osborne  
**Subject:** Cell Tower Opposition

Greetings, I am writing in regards to the proposed cell tower to be installed in our lovely community. My husband and I are the owners of 179 SW 9th Street, and we are vehemently opposed to the addition of the cell tower in our town. Please include this communication as part of the record being reviewed.

Regards,

Bethany & Michael Caruso  
(503)487-7737

## Melody Osborne

---

**From:** Jody Kropf <jody@redhillsmarket.com>  
**Sent:** Tuesday, June 16, 2020 9:39 AM  
**To:** Susan Baird; Melody Osborne  
**Subject:** Cell Tower Opposition

To Whom it may concern,

I would like to add an additional thought in opposition of the proposed cell tower in Dundee. Recently Newberg erected an unsightly tower directly in the view from my kitchen and deck. This monstrosity is another example of a complete lack of care for the esthetics of our beautiful community. Additionally, these new towers have extremely bright LED style, white strobe lights. These lights are extremely annoying and disruptive for anyone enjoying the evening outside. The speed, frequency and intensity of these lights are complete light pollution. In contrast, traditional warning lights on towers and bridges flash a slow, warm red light. My tree, sunrise and star view was replaced with shiny metal and intense strobe light. This is what would happen to the fine folks of Dundee if this tower was approved.

Thanks for considering my point of view and thank you in advance for your help in keeping Dundee a beautiful small town.



Jody P. Kropf  
**red hills market, kitchen & catering**  
chef/owner  
503.550.8193  
[redhillskitchen.com](http://redhillskitchen.com)  
[redhillsmarket.com](http://redhillsmarket.com)

rh  
k

Submitted via e-mail to: Melody.Osborne@dundeecity.org

June 15, 2020

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Sincerely,

Signature: Jody de Ruijter

Printed Name: Jody de Ruijter

Date: 6.15.2020

Address: 915 SW Tomahawk Pl Dundee, OR 97115

## Melody Osborne

---

**From:** Waller, Jeri L <Jeri.Waller@providence.org>  
**Sent:** Tuesday, June 16, 2020 9:38 AM  
**To:** Melody Osborne  
**Subject:** Dundee Planning Commissioners  
**Attachments:** [Untitled].pdf

Hello,

Attached you will find my signed objection letter for the installation of a 5G tower in Dundee.

Thank you,  
Jeri Waller  
503-858-0185

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This message is intended for the sole use of the addressee, and may contain information that is privileged, confidential and exempt from disclosure under applicable law. If you are not the addressee you are hereby notified that you may not use, copy, disclose, or distribute to anyone the message or any information contained in the message. If you have received this message in error, please immediately advise the sender by reply email and delete this message.

Submitted via e-mail to: Melody.Osborne@dundeecity.org

June 15, 2020

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Sincerely,

Signature: Jeri Waller

Printed Name: Jeri Waller

Date: 6/16/20

Address: 974 SW Tomahawk pl Dundee, OR 97115

## Melody Osborne

---

**From:** Jessica Marshall <marshall3289@gmail.com>  
**Sent:** Tuesday, June 16, 2020 3:27 PM  
**To:** Rob Daykin; Melody Osborne  
**Subject:** Proposed Cell Tower

Hello Mr. Daykin,

This letter is being sent to you in opposition of the proposed cell phone tower.

My husband and I bought our home in Dundee in 2006. At the time, we believed that this home would be a pit stop, a temporary place for us to live while I got my teaching degree from George Fox. Here we are, 2020, and we are still in our temporary home, but it's not temporary anymore and we are now a family of four. This little city has become our home. We love it here, we want to stay here and raise our little family here, in Dundee.

It has recently been brought to my attention that the city of Dundee is considering leasing out land near the fire department so that a cell tower can be put in, that the city stands to earn a considerable amount of much need money from this lease, and that residents will benefit from better cell service and the added resources that will/can be made available with the monies collected through the lease. These all sound like wonderful benefits of this venture, but what at what cost?

In the 14 years that we have lived in Dundee we have seen tremendous growth and revitalization. The work that has gone into the beautification and aesthetics of this city would be diminished by an ugly tower sitting in the middle of town, even if it is one of the "tree" towers. How will this affect local businesses? That area is surrounded by tasting rooms and restaurants and homes and open greenspaces and parks. I do not feel that the revenue generated would be worth the loss of all the hard work and time put into making Dundee the quaint, hip little city it has become over the past several years.

Yamhill county and especially the Newberg/Dundee area have enjoyed rapid home value increases after a devastating real estate market crash in 2008. It took us years to come back from that, but we are finally there. What will this tower do to property values? According to Environmental Health Trust, "over 90% of home buyers and renters are less interested in properties near cell towers *and* would pay less for a property in close vicinity to cellular antennas. Documentation of a price drop up to 20% is found in multiple surveys and published articles..." Realtor Magazine furthers this claim in their article "Cell Towers, Antennas Problematic for Buyers." where they posit that "...of the 1,000 survey respondents, 79 percent said that under no circumstances would they ever purchase or rent a property within a few blocks of a cell tower or antennas." There is so much information available that shows this cell tower will have a negative affect on people's home values, on my home value.

While I understand the appeal and draw for the city to install this tower and reap the financial benefit of lease, the cost to its residents is too high. I am against installing this cellular antenna at this location. Surely there has to be a better use for that land and a better place for this tower.

Sincerely,  
Jessica Marshall

You are

## Melody Osborne

---

**From:** Michael Sitter <msitter@gmail.com>  
**Sent:** Tuesday, June 16, 2020 4:50 PM  
**To:** Melody Osborne  
**Subject:** Type III Conditional Use permit and Site Development Review - File No. CU 20-06/SDR20-07 – Verizon Cell Tower (the “Application”)

June 15, 2020

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Sincerely,  
Signature: Mike Sitter Printed Name: Mike  
Sitter  
Date: June 16, 2020  
Address: 101 NW Brier Ave, Dundee, OR 97115

--  
Michael Sitter, RT (T) President

Professional Dosimetry Services  
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(206) 260-2434 (f)

## Melody Osborne

---

**From:** Jennifer Sitter <jensitter@gmail.com>  
**Sent:** Tuesday, June 16, 2020 4:41 PM  
**To:** Melody Osborne  
**Subject:** Type III - Conditional Use permit and Site Development Review - File No. CU 20-06/SDR20-07 – V

Submitted via e-mail to: [Melody.Osborne@dundeecity.org](mailto:Melody.Osborne@dundeecity.org)

Re: Type III Conditional Use permit and Site Development Review  
File No. CU 20-06/SDR 20-07 – Verizon Cell Tower (the “Application”)

Dear Dundee Planning Commissioners:

As a resident of Dundee, a part-owner of the Market Lofts, and a current member of the Dundee Tourism Committee, I am asking that you please **DENY** the proposed Application. The proposed tower would detract from tourism, hurt our local businesses, and should be denied on the following grounds:

1. The project’s noise violates Dundee nighttime noise standards;
2. Noise impacts to the Dundee Fire Station have not been studied;
3. The potential financial benefit to the City from a cell tower leases does not compensate for the untold liability the City may face for approving a cell tower just 1,000 feet from an elementary school;
4. The project’s aesthetics are not in keeping with the strict design aesthetics Dundee requires of new projects near Highway 99W. An 80-foot cell tower, even “disguised” as a tree, is unattractive and unappealing. We want to maintain the beautiful, quaint nature of our small town;
5. The applicant has failed to show why they can’t use the AT&T facility just 1.3 away; and
6. The applicant doesn’t need a new tower as they already have, according to their won report, “moderate” to “good” service in Dundee.

Even if you decide to approve this monstrosity, the existing conditions of approval are not sufficient to mitigate the negative impacts of the proposed use. Please consider (i) limiting tower height to mitigate aesthetic impacts, (ii) prohibiting emission of 5G signals, and (iii) requiring annual renewals of Applicant’s permit so the City and citizens are able to continue to evaluate the negative impacts of the tower.

Sincerely, Signature: \_\_\_\_\_ Jennifer Sitter \_\_\_\_\_ Printed Name: \_\_\_\_\_ Jennifer Sitter \_\_\_\_\_

Date: \_\_\_\_\_ June 16, 2020 \_\_\_\_\_

Address: 101 NW Brier Ave, Dundee, OR 97115

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[www.pulp-circumstance.com](http://www.pulp-circumstance.com)

facebook  
instagram

Additional  
Written  
Public  
Testimony  
06.17.2020

## Melody Osborne

---

**From:** Stephanie Thouvenel <2vtessie@gmail.com>  
**Sent:** Wednesday, June 17, 2020 8:06 AM  
**To:** Melody Osborne  
**Subject:** Strongly oppose a cell tower at the fire station

To those it may concern:

As a resident of Dundee, I strongly oppose a cell tower in downtown Dundee. There are MANY reasons why we should be concerned about a ridiculously ugly fake tower being installed in the middle of town, but I will be brief.

The fake tree tower on Illinois street is a joke in Newberg. We choose NOT to buy a home in that area because of it. Dundee is only just now beginning to live up to it's potential as a cute little town. A huge fake tree that doesn't even look like a tree, will lower our property values and make those in the surrounding area have a harder time selling their homes.

We are surrounded by cell phone towers, including AT&T towers! Why do we one right down town to become an eyesore? If we want to have a cute downtown that attracts tourists (and we do!) please do not approve this!

Stephanie Thouvenel

## Melody Osborne

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**From:** dgmckinney <dgmckinney@yahoo.com>  
**Sent:** Tuesday, June 16, 2020 6:09 PM  
**To:** Melody Osborne  
**Subject:** Cell tower in Dundee

I am opposed to the cell tower being placed in Dundee.  
It has been proven that these cell towers expose undue risk to the population.

Donna McKinney  
731 Se Logan Ln  
Dundee, Oregon

Sent from my iPhone

## Melody Osborne

---

**From:** Joseph Thouvenel <joseph2v@gmail.com>  
**Sent:** Tuesday, June 16, 2020 8:11 PM  
**To:** Melody Osborne  
**Subject:** No Cell Tower in Dundee

To Whom It May Concern,

I am writing to express my opposition to the construction of a cell tower on the Dundee Fire Station property.

As a Dundee resident who believes in the amazing potential of this community to become a premier destination for both visitors and residents alike, I believe a cell tower would be an eyesore for every person passing through town not to mention people who call this lovely community home. It would negatively impact property values and create possible environmental hazards.

I feel these cell towers have become a detriment to Newberg which is now littered with them throughout town. Even ones that are designed to look like trees come across as tacky and out of place. Please do not emulate this in our town.

If part of the rationale for building a cell tower is to increase city revenue then I will gladly volunteer my time and skills to work with you to think of other ways to generate income for our community.

Again, I strongly oppose the building of a cell tower in Dundee.

Joe Thouvenel

## Melody Osborne

---

**From:** Heidi Hege <heidimaebird@gmail.com>  
**Sent:** Tuesday, June 16, 2020 10:43 PM  
**To:** Melody Osborne  
**Subject:** Cell Tower in Dundee

Hello Melody,

My husband and I moved to Dundee almost 5 years ago from Portland to get away from the city and raise our kids in a more wholesome and rural setting. We love Dundee and the community we have found here.

I heard that the Dundee Planning Commission is considering an application for an 80 foot cell tower in Dundee. I have huge concerns for this kind of thing in our city and ask that you deny this application and do not bring this cell tower into our lovely little town!! I know of many many citizens in Dundee that do not want a tower like this in our town. I haven't looked into all the city regulations but I know the noise could be a factor. These towers are harmful to the environment both to animals, bees and humans. It would be a huge mistake to allow this in our town.

Thank you for hearing me.

Heidi Hege  
18700 Riverwood Rd, Dundee, OR 97115

## Melody Osborne

---

**From:** Dixie Hancock <dhancock@bhhsnw.com>  
**Sent:** Tuesday, June 16, 2020 7:56 PM  
**To:** Melody Osborne  
**Subject:** FW: Opposition to the cell tower

Melody,

Please add the comments below to my opposition. " Please add my name to the list opposing the installation of the cell town in downtown Dundee. It would seem there are less intrusive sites in Dundee such as near the bypass. The City has made such great strides to improve the image of downtown Dundee it seems a contradiction to approve this tower in the heart of town."

After further thoughts on this, I would also offer the possibility of the tower being situated up by the water tower near the cemetery, nestled close to the large fir trees so to fit into the landscape and be less obtrusive.

Thank you,  
Dixie Hancock

---

**From:** Matt Frey <stopdundeeceelltower@gmail.com>  
**Sent:** Thursday, June 11, 2020 3:24 PM  
**To:** Dixie Hancock <dhancock@bhhsnw.com>  
**Subject:** Re: Opposition to the cell tower

Hi Dixie,

Thanks for your support! I will add you to the opposed list.

If you could email the city your comments that would be great. It is important to get your opinion on the public record for the upcoming meeting.

You can also attend the zoom planning commission meeting to get your opinion heard.

If you have any other questions, just let me know.

Take care,  
Matt Frey

On Thu, 2020-06-11 at 13:48 +0000, Dixie Hancock wrote:

Please add my name to the list opposing the installation of the cell town in downtown Dundee. It would seem there are less intrusive sites in Dundee such as near the bypass. The City has made such great strides to improve the image of downtown Dundee it seems a contradiction to approve this tower in the heart of town.

Dixie Hancock  
225 SW Walnut Ave



Dixie Hancock, Principal Broker

Direct: 503-550-4465 Fax: 503-520-2483

[www.dhancock.bhhsnw.com](http://www.dhancock.bhhsnw.com)



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## Melody Osborne

---

**From:** cliffheim@gmail.com  
**Sent:** Wednesday, June 17, 2020 10:51 AM  
**To:** Melody Osborne  
**Subject:** Re: Cell tower

Dundee City council,

My family and I have grave concerns for the possibility of a cell tower being placed so close to our home, homes around us and more so right behind our community fire station. With continued exposure to RF/ MW radiation post the tower being installed, the risk to benefit weighs on the side of what is really best for our community and our first responders. There have been multiple fire stations around the country and internationally that have closed post tower installation from evidence of health issues that arose. There is no evidence that shows there is no risk to living in close proximity (1000' to 1500') to a cell tower. Multiple studies have shown that though in most cases there has not been enough radiation to heat body tissue there are increased numbers of multiple health issues (increased growth of cancer brain cells, childhood leukemia, headaches, change in sleep patterns, decreased memory, decreased attention and slower reaching time in school age children). The direct exposure to our first responders on a continual basis can not be allowed. Being in the same building for upwards of 24 hours at a time, with the close proximity puts our first responders at even a higher risk of health problems. Firefighters already have a much higher likelihood of contracting cancer over most occupation. They should not have to be exposed to possibly more risk while being ready to respond to the next emergency in our community.

No matter the dollar amount, we can not see how the health risks could be pushed aside. As citizens of this community we should not have to worry about the possibility of continued health problems just to gain some greater cell coverage. I have attached supporting articles and studies.

Thank you,

Clifton Heim  
519 SE 7th St.

<https://www.iaff.org/cell-tower-radiation/>

<https://www.google.com/amp/s/mdsafetech.org/2019/09/28/firefighters-fighting-fires-and-now-cell-towers/amp/>

<https://www.electrosmogprevention.org/cell-phone-safety-campaign/federal-cell-tower-roll-out-you-can-take-action/>

<https://www.smart-safe.com/blogs/news/watch-firefighters-report-neurological-damage-after-cell-tower-installation-near-their-station>

On Jun 9, 2020, at 10:01 AM, Melody Osborne <Melody.Osborne@dundeecity.org> wrote:

Clif,

Yes. If you want to put something in writing you may do that. Just email it to me. If I receive it by 5pm tomorrow it will go in the packet to the Commissioners; anything received after that day/time will be forwarded to the Commission as available.

Additional

Written

Public

Testimony

06.17.2020(2)

## Melody Osborne

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**From:** Robert Dunham <robertwdunhamii@yahoo.com>  
**Sent:** Wednesday, June 17, 2020 4:39 PM  
**To:** Melody Osborne  
**Subject:** Verizon cell tower

Hello Commissioners!

I'm a resident of Dundee, and I do not want this tower in our beautiful town. It's not going to benefit any of us directly, I'm against with all my heart, because those tower would take the soul from this wonderful place we call home.

Be blessed and thanks for thinking of what truly matters.

Robert Dunham  
620 se Logan lane

Sent from my iPhone

## Melody Osborne

---

**From:** Evan Karp <evan@domaineserene.com>  
**Sent:** Wednesday, June 17, 2020 4:26 PM  
**To:** Melody Osborne  
**Cc:** Ryan Harris; Rob Daykin; Saj Jivanjee; Keeley O'Brien; Matthew Frey, L.Ac.  
**Subject:** Cell Tower Objection Testimony - Ryan Harris  
**Attachments:** Cell Tower Objection WCLP RH.pdf

Hi Melody,

Please see the attached testimony being submitted on behalf of Ryan Harris.

Regards,  
Evan

### Evan Karp

Chief Financial Officer  
Domaine Serene Vineyards & Winery / Château de la Créé  
t. 971.545.2240  
[www.domaineserene.com](http://www.domaineserene.com)



Dundee Planning Commission City of Dundee  
620 SW 5th Street Dundee, OR 97115

June 17, 2020

Dear Members of the Planning Commission,

My name is Ryan Harris and I am a founding member of Wine Country Legacy Partners, LLC. Our Company owns multiple Central Business District tax lots directly across from the Dundee Fire Department as well as a single tax lot adjacent to the Dundee Fire Department.

Our goal at Wine Country Legacy Partners is to develop wine country properties to build long-term value for ourselves and for the community. We aim to do this in Dundee with appropriate and sustainable investments that enrich the local community and quality of life of residents while enhancing residential and commercial property values in the area.

We are attracted to Dundee for many reasons, including the high potential we see for it and by the vision of the Mayor, City Council and Planning Commission to beautify the town while encouraging high-end development. We believe that the aesthetic improvements and resultant increasing land values will attract new investment into the community that will build the tax base and ultimately benefit the community in the form of increased resources for schools, infrastructure and public services. We believe strongly that Dundee can benefit from this "Virtuous Cycle" of investment well into the future.

Concurrently we believe that the proposed cell tower proposed to be located in downtown Dundee would be a major step back from the positive progress that the city has made and aspires to make in the near future. Why would the City go to such efforts and expense to masterplan and beautify the City and take such a major step back by building an eyesore in the center of town? I have to wonder why the Planning Commission would impose a 3-story limit on buildings and then approve a 10-story cell tower that would be far less attractive than a well-designed building.

Aside from the health concerns associated with cell towers that are being actively debated across the globe, we are convinced as businesspeople that this move would drastically and negatively impact our property values. It would certainly change our opinion about the direction of Dundee and therefore impacts our desire to invest in the future development of Dundee. We were shocked to learn that the City could be willing to sell out the aesthetic future of the town for a meager amount of revenue that would be more than offset by the lost tax revenue associated with the declining values due to the tower.

We are surprised to see the City of Dundee taking advantage of the zoning exception that it received for the Fire Department to now extend into non-related, revenue producing activities. We firmly believe this kind of self-dealing is immoral and possibly illegal.

We are also disappointed with the attempt by Verizon / ACOM to seek approval for a variance during a global pandemic. Due to COVID-19, as well as the afore mentioned testimony, more time is clearly needed to properly research this issue. In accordance with 197.763 (6){b), we would like to request that we leave the record open for additional written evidence, arguments or testimony from concerned neighbors and businesses, as well as our legal counsel and business advisors.

We feel strongly about this matter and are prepared to appeal this matter to the Oregon Land Use Board of Appeals and beyond to the Oregon State Supreme Court, if necessary. We hope that the City of Dundee will vigorously pursue other options, so they do not unnecessarily scar the town forever and deplete resources from the citizens that could better spent on urban development and the betterment of the community.

We would also like to point out that this is the fourth attempt by Verizon to receive approval to construct an 80-foot tower. We are squandering taxpayer resources on this matter and should remain focused on more important matters.

Sincerely,

A handwritten signature in black ink, appearing to be 'RH' or similar initials, written in a cursive style.

Ryan Harris Founding Member  
Wine Country Legacy Partners, LLC

## Melody Osborne

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**From:** Evan Karp <evan@domaineserene.com>  
**Sent:** Wednesday, June 17, 2020 4:36 PM  
**To:** Melody Osborne  
**Cc:** Ryan Harris; Rob Daykin; Keeley O'Brien; Saj Jivanjee; Matthew Frey, L.Ac.  
**Subject:** Cell Tower Objection Testimony - Evan Karp  
**Attachments:** Cell Tower Objection WCLP EK.pdf

Hi Melody,

Please see the attached testimony in opposition to the Mayor's Cell Tower.

Regards,  
Evan

**Evan Karp**  
Chief Financial Officer  
Domaine Serene Vineyards & Winery / Château de la Créé  
t. 971.545.2240  
[www.domaineserene.com](http://www.domaineserene.com)



Dundee Planning Commission City of Dundee  
620 SW 5th Street  
Dundee, OR 97115

June 17, 2020

Dear Members of the Planning Commission,

My name is Evan Karp and I am a founding member of Wine Country Legacy Partners, LLC. Our Company owns multiple tax lots directly across from the Dundee Fire Department, as well as a single tax lot adjacent to the Dundee Fire Department.

Our organization is providing testimony in opposition to an application that was filed by Tammy Hamilton from ACOM Consulting on behalf of Verizon Wireless, as it relates to a cell tower to be located at the Dundee Fire Department.

We have the following concerns about this application:

1. **Closest Residentially Zoned Parcel** - The Applicant has noted that there is 305 feet between the cell tower and the closest residentially zoned parcel, however, we believe the methodology used to prepare the line drawing is incorrect.

*Issue 1*

The City's on-line zoning map shows the right-of-way as un-zoned, so under Section 17.201.020.A, the street is zoned Residential and a structure greater than 35' in height is within 300' of a residentially zoned property.

*Issue 2*

The Applicant has not provided sufficient evidence that the proposed cell tower is beyond 300 feet of a residential development, as there is no drawing of the base, the tower, and the accompanying devices. This is an important issue, given that the Applicant noted that the tower is within five feet of the legal limit.

*Issue 3*

The Applicant utilized should provide a formal survey to confirm that the model is accurate. Our understanding of state law is that the Applicant has the burden of proof to show that it meets all zoning requirements.

2. **Effect on Property Values** - Locating a cell phone tower in the heart of Dundee will lower property values for both residents, businesses and local government.

We are attaching three articles to support this position, one from the NY Times, one from the Appraisal Journal and another from concerned citizens in Burbank who recently went through a similar issue.

The NY Times noted that the "Federal Communications Act of 1996 says health concerns are not a valid reason for a municipality to deny zoning for a cell tower or antenna. Property values and aesthetics, however, do qualify, according to the Act."

In the Burbank article, the author notes "putting cell towers near residential properties is just bad business. For residential owners, it means decreased property values. For local businesses (realtors and brokers) representing and listing these properties, it will create decreased income. And for city government, it results in decreased revenue (property taxes)."

The Journal of Appraisal notes that "the issue of greatest concern for survey respondents in both the case study and control areas is the impact and proximity to [cell towers] on future

property values. Overall, respondents would pay from 10% - 19% less to over 20% less for a property if it were in close proximity to a [cell tower]."

All three articles clearly illustrate that there is no way to mitigate the negative impact on property values under 17.404.030, as the cell tower is what causes the impact.

We were perplexed to learn that the annual revenues generated from the proposed lease pales in comparison to the expected decrease in residential and commercial property values, as well as resultant reduction in the property tax base.

3. **Alternative Locations** - In the Site Design Review, the Applicant notes that "there are not any nearby other carrier facilities that would work," however, we note that "the nearest tower is .53 miles away. The Applicant should be asked to provide additional information about why this tower is not suitable for their purposes.
4. **The Lease** - A copy of the proposed lease between The City of Dundee and the Applicant was not provided in the meeting packet, therefore, we were unable to determine if there is additional information in the lease that might clarify some of our concerns.
5. **Landowner Equity** – If the City of Dundee does is willing to accept an 80-foot cell tower, the city should work with voters to change the law so that all landowners are allowed to build up to 80 feet.

While the City of Dundee appears to have complied with the notice regulations, we are concerned that they did not expand the notification boundary beyond 100 feet to provide greater transparency into this issue, especially given the potential unintended consequences for the community. Only a handful of businesses were notified about this issue, which is why we have incurred time and expense to notify our community to the best of our ability.

Due to COVID-19, coupled with the afore mentioned testimony, more time is clearly needed to properly research this issue. In accordance with 197.763 (6)(b), we would like to request that we leave the record open for additional written evidence, arguments or testimony from concerned neighbors and businesses, as well as our legal counsel and business advisors.

Sincerely,



Evan T. Karp  
Founding Member  
Wine Country Legacy Partners, LLC

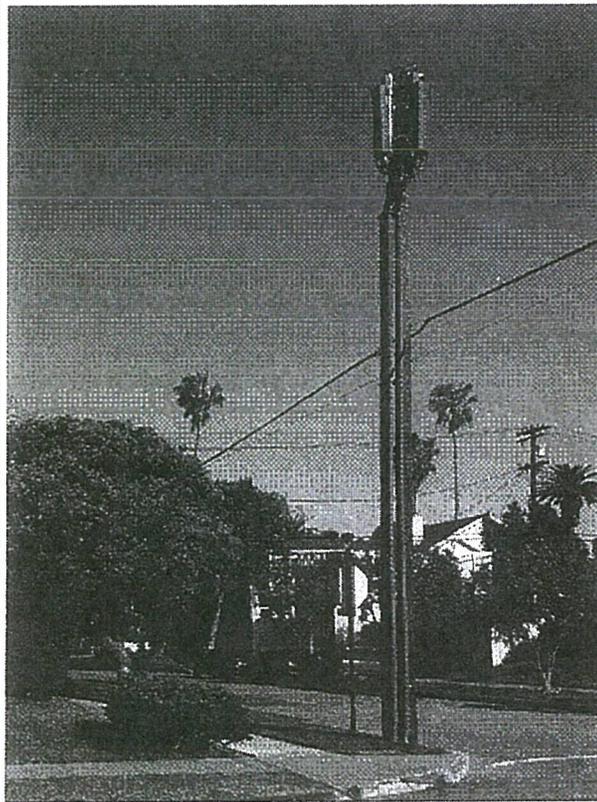
# Burbank ACTION (Against Cell Towers In Our Neighborhood)

[Home](#) >

## DECREASED REAL ESTATE VALUE

Note: This page is best viewed using [Mozilla Firefox](#) internet browser.

*For residents in other communities opposing proposed wireless facilities in your neighborhood: in addition to the real estate studies you send and share with your local officials, talk to your local real estate professionals and inform and educate them about the negative effects on local property values that cell towers have, and ask them to submit letters of support to city officials, or have them sign a petition that will be forwarded onto your city officials. See examples below. It's very important to have your local real estate professionals back up what the experts report in their studies to make your arguments real and relative to your specific community. You can also educate your local homeowners associations and neighborhood councils about the negative property value effects and have them submit letters and sign*



How would you like one of these ugly monsters installed on the sidewalk next to your home? This one was installed in a public right of way (PROW, aka sidewalk) on Via De La Paz in beautiful Pacific Palisades, because the City of Los Angeles currently lacks rigorous regulations concerning proposed PROW wireless installations. Why isn't the Los Angeles City Council and Attorney updating the city's ordinance like residents are asking? Photo courtesy Pacific Palisades Residents Association, <http://pprainc.org/>

## Menu

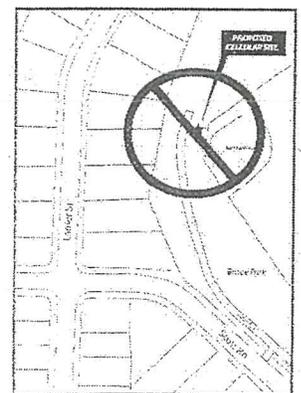
**Burbank residents: Sign our Petition now, "Burbank Residents Oppose Smart Meters":**  
<http://burbankaction.wordpress.com>

**Visit our Burbank ACTION blog:**  
<http://burbankaction.wordpress.com>

**Calendar - upcoming events:**  
<http://burbankaction.wordpress.com>

**Go to our "Smart Meter Concerns" Section:**  
<https://sites.google.com/site/smart-meter-concerns>

**Join our facebook page -** network, share and post info that's going on in your community, inform and help other communities



*Click below for more info:*

**Burbank UPDATES:**

petitions, too. Check out the other pages on this website (click links in right column) for other helpful information.

Residents are justifiably concerned about proposed cell towers reducing the value of their homes and properties. Who would want to live right next to one, or under one? And imagine what it's like for people who purchase or build their dream home or neighborhood, only to later have an unwanted cell tower installed just outside their window?

This negative effect can also contribute to urban blight, and a deterioration of neighborhoods and school districts when residents want to move out or pull their children out because they don't want to live or have their children attend schools next to a cell tower.

People don't want to live next to one not just because of health concerns, but also due to aesthetics and public safety reasons, i.e., cell towers become eyesores, obstructing or tarnishing cherished views, and also can attract crime, are potential noise nuisances, and fire and fall hazards.

These points underscore why wireless facilities are commercial facilities that don't belong in residential areas, parks and schools, and find out why they should be placed in alternative, less obtrusive locations. In addition, your city officials have the power to regulate the placement and appearance of cell towers, as long as such discrimination is not unreasonable, and especially if you show them that you already have coverage in your area.

As mentioned on our Home Page, putting cell towers near residential properties is just bad business. For residential owners, it means decreased property values. For local businesses (realtors and brokers) representing and listing these properties, it will create decreased income. And for city governments, it results in decreased revenue (property taxes).

Read this New York Times news story, "A Pushback Against Cell Towers," published in the paper's Real Estate section, on August 27, 2010:

[http://www.nytimes.com/2010/08/29/realestate/29Lizo.html?\\_r=1&ref=realestate](http://www.nytimes.com/2010/08/29/realestate/29Lizo.html?_r=1&ref=realestate).

A number of organizations and studies have documented the detrimental effects of cell towers on property values.

1. The Appraisal Institute, the largest global professional membership organization for appraisers with 91 chapters throughout the world, spotlighted the issue of cell towers and the

- **June 3-17, 2011:** City of Burbank Planning & Transportation Division issues its draft updated wireless facility ordinance -- it fails to protect our residential areas -- go here to read how you can help: <https://sites.google.com/17-2011-resident-respons-comments-to-proposed-wtf-ordinance-update>
- Read Burbank ACTION resident response to proposed Draft Update of our Wireless Telecommunications Facility Ordinance [here](#).
- Please go [here](#) for our list of "Top 20" Resident Recommendations -- thanks to residents who have e-mailed these to our city officials. To read about the Dec. 1, 2010 Community Meeting, click the item under "Burbank UPDATES" in the column to your right.
- [Dec. 1, 2010: Community Meeting](#)
- [August 31, 2010: City Council Meeting - Interim Regulations Approved](#)
- [July 26, 2010: Planning Board Meeting - Interim Regulations Approved](#)
- [June 14, 2010 Study Session and Upcoming TBD Community Meeting](#)
- [Dec. 8, 2009 Study Session & City Hall Meetings](#)
- [Nov. 16, 2009 Planning Board and](#)

fair market value of a home and educated its members that a cell tower **should, in fact, cause a decrease in home value.**

The definitive work on this subject was done by Dr. Sandy Bond, who concluded that "media attention to the potential health hazards of [cellular phone towers and antennas] has spread concerns among the public, resulting in increased resistance" to sites near those towers. **Percentage decreases mentioned in the study range from 2 to 20%** with the percentage moving toward the higher range the closer the property. These are a few of her studies:

a. "The effect of distance to cell phone towers on house prices" by Sandy Bond, Appraisal Journal, Fall 2007, see attached. Source, Appraisal Journal, found on the Entrepreneur website,

<http://www.entrepreneur.com/tradejournals/article/1718>

or

[http://www.prrs.net/papers/Bond\\_Squires\\_Using\\_GIS](http://www.prrs.net/papers/Bond_Squires_Using_GIS)

b. Sandy Bond, Ph.D., Ko-Kang Wang, "The Impact of Cell Phone Towers on House Prices in Residential Neighborhoods," The Appraisal Journal, Summer 2005; see attached. Source: Goliath business content website, [http://goliath.ecnext.com/coms2/gi\\_0199-5011857/The-impact-of-cell-phone.html](http://goliath.ecnext.com/coms2/gi_0199-5011857/The-impact-of-cell-phone.html)

c. Sandy Bond also co-authored, "Cellular Phone Towers: Perceived impact on residents and property values" University of Auckland, paper presented at the Ninth Pacific-Rim Real Estate Society Conference, Brisbane, Australia, January 19-22, 2003; see attached. Source: Pacific Rim Real Estate Society website, [http://www.prrs.net/Papers/Bond\\_The\\_Impact\\_Of\\_Ce](http://www.prrs.net/Papers/Bond_The_Impact_Of_Ce)

2. Industry Canada (Canadian government department promoting Canadian economy), "Report On the National Antenna Tower Policy Review, Section D – The Six Policy Questions, Question 6. What evidence exists that property values are impacted by the placement of antenna towers?"; see attached. Source: Industry Canada <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08353.html> website,

3. New Zealand Ministry for the Environment, "Appendix 5: The Impact of Cellphone Towers on Property Values"; see attached. Source: New Zealand Ministry for the Environment website, <http://www.mfe.govt.nz/publications/rma/nes->

Nov. 17 City Hall Meetings

- November 12, 2009 Public Meeting

**City of Burbank website: Wireless ordinance updates**

**Burbank Leader Newspaper Stories and Editorials**

**Tools: Reasons To Deny A Proposed Cell Tower and/or push for stronger regulations:**

- Reasonable Discrimination Allowed
- Decrease In Property Value
- We Already Have Good Coverage: Significant Gap and 911
- Alternative Locations and Supplemental Application forms
- Aesthetics and Public Safety
- Public Right of Way Developments
- Noise and Nuisance and notes about Clearwire

On a local level, residents and real estate professionals have also informed city officials about the detrimental effects of cell towers on home property values.

1. **Glendale, CA:** During the January 7, 2009 Glendale City Council public hearing about a proposed T-mobile cell tower in a residential neighborhood, local real estate professional Addora Beall described how a Spanish home in the Verdugo Woodlands, listed for 1 million dollars, sold \$25,000 less because of a power pole across the street. "Perception is everything," said Ms. Beall stated. "If the public perceives it to be a problem, then it is a problem. It really does affect property values." See Glendale City Council meeting, January 7, 2009, video of Addora Beall comments @ 2:35:24:  
[http://glendale.granicus.com/MediaPlayer.php?view\\_id=12&clip\\_id=1227](http://glendale.granicus.com/MediaPlayer.php?view_id=12&clip_id=1227)

2. **Windsor Hills/View Park, CA:** residents who were fighting off a T-Mobile antenna in their neighborhood received letters from real estate companies, homeowner associations and resident organizations in their community confirming that real estate values would decrease with a cell phone antenna in their neighborhood. To see copies of their letters to city officials, look at the . Report from Los Angeles County Regional Planning Commission regarding CUP Case No. 200700020-(2), from L.A. County Board of Supervisors September 16, 2009, Meeting documents, Los Angeles County website, here at:  
<http://file.lacounty.gov/bos/supdocs/48444.pdf>

a. See page 295, August 31, 2008 Letter from Donna Bohanna, President/Realtor of Solstice International Realty and resident of Baldwin Hills to Los Angeles Board of Supervisors explaining negative effect of cell tower on property values of surrounding properties. "As a realtor, I must disclose to potential buyers where there are any cell towers nearby. I have found in my own experience that there is a very real stigma and cellular facilities near homes are perceived as undesirable."

b. See page 296, March 26, 2008 Letter from real estate professional Beverly Clark, "Those who would otherwise purchase a home, now considered desirable, can be deterred by a facility like the one proposed and this significantly reduces sales prices and does so immediately...I believe a facility such as the one proposed

- [Health Effects: Science & Research](#)
- [Watch these videos - Glendale and other residents protest cell towers and ask for new ordinances - great examples:](#) read, watch and learn how these residents and other local groups organized their effective presentations before their elected reps. What they did will inspire and may help you.

**DVDs and Books:**  
you can view and read

**Take Action:**

[Read and Sign the Petition](#)

[Write and Call Our City Leaders](#)

**Other Links:**

- [Actions Taken](#)
- [Other Communities Saying "No"](#)
- [Important Organizations](#)

will diminish the buyer pool, significantly reduce homes sales prices, alter the character of the surrounding area and impair the use of the residential properties for their primary uses.”

c. See Page 298, The Appraiser Squad Comment Addendum, about the reduced value of a home of resident directly behind the proposed installation after the city had approved the CUP for a wireless facility there: “The property owner has listed the property...and has had a potential buyer back out of the deal once this particular information of the satellite communication center was announced...there has been a canceled potential sale therefore it is relevant and determined that this new planning decision can have some negative effect on the subject property.”

d. See Page 301, PowerPower presentation by residents about real estate values: “The California Association of Realtors maintains that ‘sellers and licensees must disclose material facts that affect the value or desirability of the property,’ including ‘known conditions outside of and surrounding’ it. This includes ‘nuisances’ and zoning changes that allow for commercial uses.”

e. See Pages 302-305 from the Baldwin Hills Estates Homeowners Association, the United Homeowners Association, and the Windsor Hills Block Club, opposing the proposed cell tower and addressing the effects on homes there: “Many residents are prepared to sell in an already depressed market or, in the case of one new resident with little to no equity, simply walk away if these antennas are installed.

f. See Pages 362-363, September 17, 2008, Letter from resident Sally Hampton, of the Windsor Hills Homeowner’s Assoc., Item K, addressing effects of the proposed facility on real estate values.

3. **Santa Cruz, CA:** Also attached is a story about how a preschool closed up because of a cell tower installed on its grounds; “Santa Cruz Preschool Closes Citing Cell Tower Radiation,” Santa Cruz Sentinel, May 17, 2006; Source, EMFacts website: <http://www.emfacts.com/weblog/?p=466>.

4. **Merrick, NY:** For a graphic illustration of what we don't want happening here in Burbank, just look at Merrick, NY, where NextG wireless facilities are being installed, resulting in declining

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home real estate values. Look at this Best Buyers Brokers Realty website ad from this area, "Residents of Merrick, Seaford and Wantaugh Complain Over Perceived Declining Property Values: <http://www.bestbuyerbroker.com/blog/?p=86>.

5. **Burbank, CA:** As for Burbank, at a City Council public hearing on December 8, 2009, hillside resident and a California licensed real estate professional Alex Safarian informed city officials that local real estate professionals he spoke with agree about the adverse effects the proposed cell tower would have on property values:

"I've done research on the subject and as well as spoken to many real estate professionals in the area, and they all agree that there's no doubt that cell towers negatively affect real estate values. Steve Hovakimian, a resident near Brace park, and a California real estate broker, and the publisher of "Home by Design" monthly real estate magazine, stated that he has seen properties near cell towers lose up to 10% of their value due to proximity of the cell tower...So even if they try to disguise them as tacky fake metal pine trees, as a real estate professional you're required by the California Association of Realtors: that sellers and licensees must disclose material facts that affect the value or desirability of a property including conditions that are known outside and surrounding areas."

(See City of Burbank Website, Video, Alex Safarian comments @ 6:24:28, [http://burbank.granicus.com/MediaPlayer.php?view\\_id=6&clip\\_id=848](http://burbank.granicus.com/MediaPlayer.php?view_id=6&clip_id=848))

Indeed, 27 Burbank real estate professionals in December 2009, signed a petition/statement offering their professional opinion that the proposed T-Mobile cell tower at Brace Canyon Park would negatively impact the surrounding homes, stating:

"It is our professional opinion that cell towers decrease the value of homes in the area tremendously. Peer reviewed research also concurs that cell sites do indeed cause a decrease in home value. We encourage you to respect the wishes of the residents and deny the proposed T-Mobile lease at this location. We also request that you strengthen your zoning ordinance regarding wireless facilities like the neighboring city of Glendale has done, to create preferred and non preferred zones that will protect the welfare of our residents and their properties as well as Burbank's real estate business professionals and the City of Burbank. Higher

property values mean more tax revenue for the city, which helps improve our city." (Submitted to City Council, Planning Board, City Manager, City Clerk and other city officials via e-mail on June 18, 2010. To see a copy of this, scroll down to bottom of page and click "Subpages" or go here:  
<http://sites.google.com/site/nocelltowerinourneighborhood/home/real-estate-value/burbank-real-estate-professionals-statement> )

Here is a list of additional articles on how cell towers negatively affect the property values of homes near them:

- The Observer (U.K.), "Phone masts blight house sales: Health fears are alarming buyers as masts spread across Britain to meet rising demand for mobiles," Sunday May 25, 2003 or go here:  
<http://www.guardian.co.uk/money/2003/may/25/houseprice>
- "Cell Towers Are Sprouting in Unlikely Places," The New York Times, January 9, 2000 (fears that property values could drop between 5 and 40 percent because of neighboring cell towers)
- "Quarrel over Phone Tower Now Court's Call," Chicago Tribune, January 18, 2000 (fear of lowered property values due to cell tower)
- "The Future is Here, and It's Ugly: a Spreading of Technobligh of Wires, Cables and Towers Sparks a Revolt," New York Times, September 7, 2000
- "Tower Opponents Ring Up a Victory," by Phil Brozynski, in the *Barrington [Illinois] Courier-Review*, February 15, 1999, 5, reporting how the Cuba Township assessor reduced the value of twelve homes following the construction of a cell tower in Lake County, IL. See attached story:  
<http://spot.colorado.edu/~maziara/appeal&attachments/New43-LoweredPropertyValuation/>
- In another case, a Houston jury awarded 1.2 million to a couple because a 100-foot-tall cell tower was determined to have lessened the value of their property and caused them mental anguish: Nissimov, R., "GTE Wireless Loses Lawsuit over Cell-Phone Tower," Houston Chronicle, February 23, 1999, Section A, page 11. (Property values depreciate by about 10 percent because of the tower.)

Read about other "Tools" on our website that may help you and your fellow residents oppose a cell tower in your neighborhood in the column to the right. These include:

- [Reasonable Discrimination Allowed](#)
- [We Already Have Good Coverage: Significant Gap and 911](#)
- [Alternative Locations and Supplemental Application forms](#)
- [Aesthetics and Safety](#)
- [Noise and Nuisance and notes about Clearwire](#)
- [Health Effects: Science & Research](#)

Also print out this helpful article on court decisions from the communications law firm of Miller & Van Eaton (with offices in D.C. and San Francisco) that you can pull and read to realize what rights you may or may not have in opposing a wireless facility in your neighborhood:

[http://www.millervaneaton.com/content.agent?page\\_name=HT%3A++IMLA+Article+Tower+Siting+Nov+2008](http://www.millervaneaton.com/content.agent?page_name=HT%3A++IMLA+Article+Tower+Siting+Nov+2008)  
(click the link once you get to this page).

Other important decisions and actions taken by courts and local governments can be found in our [Actions Taken page](#).

[Watch how other resident groups](#) organized effective presentations at their public hearings so you can pick up their techniques and methods.

You can read and find additional organizations and resident groups that have organized opposition efforts against cell towers and wireless facilities, on our [Other Communities Saying "No" and Important Organizations](#) pages.

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Subpages (1): [Burbank Real Estate Professionals Statement](#)

## Comments

You do not have permission to add comments.

# A Pushback Against Cell Towers

By MARCELLE S. FISCHLER AUG. 27, 2010

Wantagh

TINA CANARIS, an associate broker and a co-owner of RE/MAX Hearthstone in Merrick, has a \$999,000 listing for a high ranch on the water in South Merrick, one of a handful of homes on the block on the market. But her listing has what some consider a disadvantage: a cell antenna poking from the top of a telephone pole at the front of the 65-by-100-foot lot.

“Even houses where there are transformers in front” make “people shy away,” Ms. Canaris said. “If they have the opportunity to buy another home, they do.”

She said cell antennas and towers near homes affected property values, adding, “You can see a buyer’s dismay over the sight of a cell tower near a home just by their expression, even if they don’t say anything.”

By blocking, or seeking to block, cell towers and antennas over the course of the last year, Island homeowners have given voice to concerns that proximity to a monopole or antenna may not be just aesthetically unpleasing but also harmful to property values. Many also perceive health risks in proximity to radio frequency radiation emissions, despite industry assertions and other evidence disputing that such emissions pose a hazard.

Emotions are running so high in areas like Wantagh, where an application for six cell antennas on the Farmingdale Wantagh Jewish Center is pending, that the Town of Hempstead imposed a moratorium on applications until Sept. 21. That is the date for a public hearing on a new town ordinance stiffening requirements.

At a community meeting on Aug. 16 at Wantagh High School, Dave Denenberg, the Nassau county legislator for Bellmore, Wantagh and Merrick, told more than 200 residents that 160 cell antennas had been placed on telephone poles in the area in the last year by NextG, a wireless network provider.

“Everyone has a cellphone,” Mr. Denenberg said, “but that doesn’t mean you have to have cell installations right across the street from your house.” Under the old town code, installations over 30 feet high required an exemption or a variance. But in New York, wireless providers have public utility status, like LIPA and Cablevision, and they can bypass zoning boards.

Earlier this month in South Huntington, T-Mobile was ordered to take down a new 100-foot monotower erected on property deemed environmentally sensitive (and thus requiring a variance). Andrew J. Campanelli, a civil rights lawyer in Garden City, said a group of residents had hired him to oppose the cellular company’s application.

“They were worried about the property values,” Mr. Campanelli said. “If your home is near a cell antenna, the value of your property is going down at least 4 percent. Depending on the size of the tower and the proximity, it is going down 10 percent.”

In January, in an effort to dismantle 50 cell antennas on a water tower across from a school in the village of Bayville, Mr. Campanelli filed a federal lawsuit that cited health risks and private property rights.

In a statement, Dr. Anna F. Hunderfund, the Locust Valley superintendent, said that in February 2009 the district had engaged a firm to study the cellphone installations near the Bayville schools, finding that the tower “posed no significant health risks,” and she noted that the emission levels fell well below amounts deemed unsafe by the Federal Communications Commission.

In June 2009, Sharon Curry, a psychologist in Merrick, woke up to find a cell antenna abutting her backyard, level to her 8-year-old son's bedroom window.

Puzzled by its presence, particularly because she lives next to an elementary school, she did research to see if there was cause for concern. What she learned about possible health impacts, she said, led her to seek help from civic associations and to form a group, Moms of Merrick Speak Out, to keep new cell towers out. She said she was seeking the "responsible" placement of cell antennas, away from homes and schools.

The Federal Communications Act of 1996 says health concerns are not a valid reason for a municipality to deny zoning for a cell tower or antenna. Property values and aesthetics, however, do qualify, according to the act.

Frank Schilero, an associate broker with RE/MAX Innovations in Wantagh, has a listing on a \$629,000 home down the street from the Farmingdale Wantagh Jewish Center, where the application is pending to put six cell antennas on the roof.

"People don't like living next to cell towers, for medical reasons or aesthetics," Mr. Schilero said. "Or they don't want that eyesore sticking up in their backyards." There is an offer on his listing, he added, but since the buyer heard about the possible cell antennas she has sought more information from the wireless companies about their size and impact.

Charles Kovit, the Hempstead deputy town attorney, said that under the proposed code change any new towers or antennas would have to be 1,500 feet from residences, schools, houses of worship and libraries.

The town recently hired a consultant, Richard A. Comi of the Center for Municipal Solutions in Glenmont, to review antenna applications.

Under the new ordinance, applications for wireless facilities would require technical evidence that they had a "gap" in coverage necessitating a new tower.

"If not, they will get denied," Mr. Kovit said. The wireless companies would also have to prove that the selected location had "the least negative impact on area

character and property values.” If another location farther away from homes can solve the gap problem, “they are going to have to move.”

A version of this article appears in print on August 29, 2010, on Page RE9 of the New York edition with the headline: A Pushback Against Cell Towers.

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# The Impact of Cell Phone Towers on House Prices in Residential Neighborhoods

by Sandy Bond, PhD, and Ko-Kang Wang

## abstract

This article examines whether proximity to cellular phone towers has an impact on residential property values and the extent of any impact. First, a survey approach is used to examine how residents perceive living near cellular phone base stations (CPBSs) and how residents evaluate the impacts of CPBSs. Next, a market study attempts to confirm the perceived value impacts reported in the survey by analyzing actual property sales data. A multiple regression analysis in a hedonic pricing framework is used to measure the price impact of proximity to CPBSs. Both the survey and market sales analysis find that CPBSs have a negative impact on the prices of houses in the study areas.

The introduction of cellular phone systems and the rapid increase in the number of users of cellular phones have increased exposure to electromagnetic fields (EMFs). Health consequences of long-term use of cellular phones are not known in detail, but available data indicates that development of nonspecific health symptoms is possible.<sup>1</sup> Conversely, it appears health effects from cellular phone equipment (antennas and base stations) pose few, if any, known health hazards.<sup>2</sup>

A concern associated with cellular phone usage is the siting of cellular phone transmitting antennas (CPTAs) and cellular phone base stations (CPBSs). In New Zealand, CPBS sites are increasingly in demand as the major cellular phone companies there, Telecom and Vodafone, upgrade and extend their network coverage. This demand could provide the owner of a well-located property a yearly income for the siting of a CPBS.<sup>3</sup> However, new technology that represents potential hazards to human health and safety may cause property values to diminish due to public perceptions of hazards. Media attention to the potential health hazards of CPBSs has spread concerns among the public, resulting in increased resistance to CPBS sites.

Some studies suggest a positive correlation between long-term exposure to the electromagnetic fields and certain types of cancer,<sup>4</sup> yet other studies report inconclusive results on health effects.<sup>5</sup> Notwithstanding the research results, media reports indicate that the extent of opposition from some property owners

1. Stanislaw Szmigielski and Elizbieta Sobiczewska, "Cellular Phone Systems and Human Health—Problems with Risk Perception and Communication," *Environmental Management and Health* 11, no. 4 (2000): 352–368.
2. Jerry R. Barnes, "Cellular Phones: Are They Safe?" *Professional Safety* 44, no. 12 (Dec. 1999): 20–23.
3. R. Williams, "Phone Zone—Renting Roof Space to Ma Bell," *The Property Business* 12 (April 2001): 6–7.
4. C. M. Krause et al., "Effects of Electromagnetic Field Emitted by Cellular Phones on the EEG During a Memory Task," *Neuroreport* 11, no. 4 (2000): 761–764.
5. Independent Expert Group on Mobile Phones, *Mobile Phones and Health* (Report to the United Kingdom Government, 2000), <http://www.iegmp.org.uk>.

affected by the siting of CPBSs remains strong.<sup>6</sup> However, the extent to which such attitudes are reflected in lower property values for homes located near CPBSs is not known.

Understanding the impact of CPBSs on property values is important to telecommunications companies both for planning the siting of CPBSs and for determining likely opposition from property owners. Similarly, property appraisers need to understand the valuation implications of CPBSs when valuing CPBS-affected property. The owners of affected property also want to understand the magnitude of any effects, particularly if compensation claims or an award for damages are to be made based on any negative effects on value.

The research here uses a case study approach to determine residents' perceptions towards living near CPBSs in Christchurch, New Zealand, and to quantify these effects in monetary terms according to an increasing or decreasing percentage of property value. The case study uses both an opinion survey and an econometric analysis of sales transaction data. A comparison of the results can be used to help appraisers value affected property as well as to resolve compensation issues and damage claims in a quantitative way. Further, the results provide a potential source of information for government agencies in assessing the necessity for increased information pertaining to CPBSs.

The following provides a brief review of the cellular phone technology and relevant literature. Then, the next section describes the research procedure used, including descriptions of the case study and control areas. The results are then discussed, and the final section provides a summary and conclusion.

### **Cellular Telephone Technology<sup>7</sup>**

Cellular (mobile) telephones are sophisticated two-way radios that use ultrahigh frequency (UHF) radio waves to communicate information. The information is passed between a mobile phone and a network of low-powered transceivers, called mobile phone sites or cell sites. As mobile sites are very low powered they serve only a limited geographic area (or "cell"), varying from a few hundred meters to several kilometers; they can handle only a limited number of calls at one time. When a mobile phone

user on the move leaves one cell and enters another, the next site automatically takes over the call, allowing contact to be maintained.

When a mobile phone call is initiated, the phone connects to the network by using radio signals to communicate with the nearest mobile phone site. The mobile phone sites in a network are interlinked by cable or microwave beam, enabling phone calls to be passed from one cell to another automatically. A mobile phone site is typically made up of a mast with antennas connected to equipment stored in a cabinet. Power is fed into the cabinet by underground cable. The antennas are designed to transmit most of the signal away horizontally, or just below horizontal, rather than at steep angles to the ground.

Mobile phone sites can only accommodate a limited number of calls at any one time. When this limit is reached, the mobile phone signal is transferred to the next nearest site. If this site is full or is too far away, the call will fail.

Cell site capacity is a major issue for telecommunication companies. As the number of people using mobile phones grows, more and more cell sites are required to meet customer demand for reliable coverage. At the end of March 2002, Telecom had more than 1.5 million mobile phone customers and more than 750 mobile phone sites throughout New Zealand. Vodafone had over 1.1 million mobile phone customers.<sup>8</sup> In areas, such as Auckland (the largest city in New Zealand, with close to a third of the NZ population), where almost complete coverage has been achieved, the main issue is ensuring that there is the capacity to handle the ever-increasing number of mobile phones and calls.

### **Locating Cellular Phone Sites**

For cellular phone service providers, the main goals when locating cell sites are (1) finding a site that provides the best possible coverage in the area without causing interference with other cells, and (2) finding a site that causes the least amount of environmental impact on the surrounding area. Service providers usually attempt to locate cell sites on existing structures such as buildings, where antennas can be mounted on the roof to minimize the environmental impact. If this is not possible, a mast will need to be erected to support the antennas for the new cell site.

6. S. Fox, "Cell Phone Antenna Worries Family," *East & Bays Courier*, November 8, 2002, 1.

7. The information in this section was sourced from Telecom, <http://www.telecom.co.nz>; New Zealand Ministry for the Environment, <http://www.mfe.govt.nz>; and New Zealand Ministry of Health, <http://www.moh.govt.nz>.

8. Vodafone, "Cell Sites and the Environment," [http://www.vodafone.co.nz/aboutus/vdfn\\_about\\_cellsites.pdf](http://www.vodafone.co.nz/aboutus/vdfn_about_cellsites.pdf) (accessed December 19, 2002) and "Mobile Phones and Health," [http://www.vodafone.co.nz/aboutus/vdfn\\_about\\_health\\_and\\_safety.pdf](http://www.vodafone.co.nz/aboutus/vdfn_about_health_and_safety.pdf) (accessed December 19, 2002); and Telecom, "Mobile Phone Sites and Safety," <http://www.telecom.co.nz/content/0,3900,27116-1536,00.html> (accessed December 19, 2002).

Service providers prefer to locate cell sites in commercial or industrial areas due to the "resource consent" procedure required by the Resource Management Act 1991<sup>9</sup> for towers located in residential areas.

Despite the high level of demand for better cell phone coverage, the location of cell sites continues to be a contentious issue. The majority of people want better cell phone coverage where they live and work, but they do not want a site in their neighborhood. Thus, cell sites in or near residential areas are of particular concern. Concerns expressed usually relate to health, property values, and visual impact.<sup>10</sup>

In general, uncertainties in the assessment of health risks from base stations are presented and distributed in reports by organized groups of residents who protest against siting of base stations. When the media publishes these reports it amplifies the negative bias and raises public concerns. According to Covello, this leads to incorrect assessment of risks and threats by the public, with a tendency to overestimate risks from base stations and neglect risks from the use of cell phones.<sup>11</sup>

### Assessment of Environmental Effects

Under the Resource Management Act 1991 (RMA), an assessment of environmental effects is required every time an application for resource consent is made. Information that must be provided includes "an assessment of any actual or potential effects that the activity may have on the environment, and the ways in which any adverse effects may be mitigated."<sup>12</sup> An assessment of the environmental effects of cell sites would take into consideration such things as health and safety effects; visual effects; effects on the neighborhood; and interference with radio and television reception.

### Radio Frequency and Microwave Emissions from CPBSs

According to the Ministry for the Environment, the factors that affect exposure to radiation are as follows:

- Distance. Increasing the distance from the emitting source decreases the radiation's strength and decreases the exposure.

- Transmitter power. The stronger the transmitter, the higher the exposure.
- Directionality of the antenna. Increasing the amount of antennas pointing in a particular direction increases the transmitting power and increases the exposure.
- Height of the antenna above the ground. Increasing the height of an antenna increases the distance from the antenna and decreases the exposure.
- Local terrain. Increasing the intervening ridgelines decreases the exposure.<sup>15</sup>

The amount of radiofrequency power absorbed by the body (the dose) is measured in watts per kilogram, known as the specific absorption rate (SAR). The SAR depends on the power density in watts per square meter. The radio frequencies from cellular phone systems travel in a "line of sight." The antennas are designed to radiate energy horizontally so that only small amounts of radio frequencies are directed down to the ground. The greatest exposures are in front of the antenna so that near the base of these towers, exposure is minimal. Further, power density from the transmitter decreases rapidly as it moves away from the antenna. However, it should be noted that by initially walking away from the base, the exposure rises and then decreases again. The initial increase in exposure corresponds to the point where the lobe from the antenna beam intersects the ground.<sup>14</sup>

### Health Effects

According to Szmigielski and Sobiczewska, the analogue phone system (using the 800–900 megahertz band) and digital phone system (using the 1850–1990 megahertz band) expose humans to electromagnetic field (EMF) emissions: radio frequency radiation (RF) and microwave radiation (MW), respectively. These two radiations are emitted from both cellular phones and CPBSs.<sup>15</sup>

For years cellular phone companies have assured the public that cell phones are safe. They state that the particular set of radiation parameters associated with cell phones is the same as any other ra-

9. The Resource Management Act 1991 is the core of the legislation intended to help achieve sustainability in New Zealand; see <http://www.mfe.govt.nz/laws/rma>.

10. Szmigielski and Sobiczewska; and Barnes.

11. Vincent T. Covello, "Risk Perception, Risk Communication, and EMF Exposure: Tools and Techniques for Communicating Risk Information," in *Risk Perception, Risk Communication and Its Application to EMF Exposure: Proceedings of the World Health Organization and ICNIRP Conference*, ed. R. Matthes, J. H. Bernhardt, M. H. Repucholi, 179–214 (Munich, Germany, May 1998).

12. Section 88(4), (b), Resource Management Act 1991.

13. Ministry for the Environment and Ministry of Health, *National Guidelines for Managing the Effects of Radiofrequency Transmitters*, available at <http://www.mfe.govt.nz> and <http://www.moh.govt.nz> (accessed May 21, 2002).

14. *Ibid.*; and Szmigielski and Sobiczewska.

15. Szmigielski and Sobiczewska.

dio signal. However, reported scientific evidence challenges this view and shows that cell phone radiation causes various effects, such as altered brain activity, memory loss, and fatigue.<sup>16</sup>

According to Cherry, there is also strong evidence to conclude that cell sites are risk factors for certain types of cancer, heart disease, neurological symptoms and other effects.<sup>17</sup> The main concerns related to EMF emissions from CPBSs are linked to the fact that radio frequency fields penetrate exposed tissues.

Public concern regarding both cell phones and CPBSs in many countries has led to establishment of independent expert groups to carry out detailed reviews of the research literature. Research on the health effects of exposures to RF are reviewed by, for instance, the NZ Radiation Laboratory, the World Health Organization, the International Commission on Non-Ionizing Radiation Protection (ICNIRP), the Royal Society of Canada, and the UK Independent Expert Group on Mobile Phones. The reviews conclude that there are no clearly established health effects for low levels of exposure. Such exposures typically occur in publicly accessible areas around radio frequency transmitters. However, there are questions over the delayed effects of exposure.

While present medical and epidemiological studies reveal weak association between health effects and low-level exposures of RF/MW fields, controversy remains among scientists, producers, and the general public. Negative media attention has fuelled the perception of uncertainty over the health effects from cell phone systems. Further scientific or technological information is needed to allay fears of the public about cell phone systems.

**Radio Frequency Radiation Exposure Standards International Standards.** The reviews of research on the health effects of exposures to RF have helped establish exposure standards that limit RF exposures to a safe level. Most standards—including those set by the ICNIRP, the American National Standards Institute (ANSI), and New Zealand—are based on the most-adverse potential effects.

The 1998 ICNIRP guidelines have been accepted by the world's scientific and health communities; these guidelines are both consistent with other stated standards and published by a highly respected and independent scientific organization. The ICNIRP is responsible for providing guidance and advice on the health hazards of nonionizing radiation for the World Health Organization (WHO) and the International Labour Office.<sup>18</sup>

**The New Zealand Standard.** In New Zealand, when a mobile phone site is being planned, radio frequency engineers calculate the level of electromagnetic energy (EME) that will be emitted by the site. The level of EME is predicted by taking into account factors such as power output, cable loss, antenna gain, path loss, and height and distance from the antenna. These calculations allow engineers to determine the maximum possible emissions in a worst-case scenario, i.e., as if the site was operated at maximum power all the time. The aim is to ensure that EME levels are below international and NZ standards in areas where the general public has unrestricted access.

All mobile phone sites in New Zealand must comply in all respects with the NZ standard for radio frequency exposures.<sup>19</sup> This standard is the same as used in most European countries, and is more stringent than that used in the United States, Canada, and Japan. Some local communities in New Zealand have even lower exposure-level standards; however, in reality mobile phone sites only operate at a fraction of the level set by the NZ standard. The National Radiation Laboratory has measured exposures around many operating cell sites, and maximum exposures in publicly accessible areas around the great majority of sites are less than 1% of the exposure limit of the NZ standard. Exposures are rarely more than a few percent of the limit, and none have been above 10%.

### Court Decisions

Two court cases in New Zealand have alleged adverse effects due to CPBSs: *McIntyre v. Christchurch City*

16. K. Mann and J. Rösche, "Effects of Pulsed High-Frequency Electromagnetic Fields on Human Sleep," *Neuropsychobiology* 33, no. 1 (1996): 41–47; Krause et al.; Alexander Borbely et al., "Pulsed High-Frequency Electromagnetic Field Affects Human Sleep and Sleep Electroencephalogram," *Neurosci Lett*, 275, no. 3 (1999): 207–210; L. Kellenyi et al., "Effects of Mobile GSM Radiotelephone Exposure on the Auditory Brainstem Response (ABR)," *Neurobiology* 7, no. 1 (1999): 79–81; B. Hocking, "Preliminary Report: Symptoms Associated with Mobile Phone Use," *Occup Med* 48, no. 6 (Sept. 1998): 357–360; and others as reported in Neil Cherry, *Health Effects Associated with Mobil Base Stations in Communities: The Need for Health Studies*, Environmental Management and Design Division, Lincoln University (June 8, 2000); <http://pages.britishlibrary.net/orange/cherryonbasestations.htm>.

17. Cherry.

18. Ministry for the Environment and Ministry of Health.

19. NZS 2772.1:1999, "Radiofrequency Fields Part I: Maximum Exposure Levels – 3kHz to 300GHz." This standard was based largely on the 1998 ICNIRP recommendations for maximum human exposure levels to radio frequency. The standard also includes a requirement for minimizing radio frequency exposure. See National Radiation Laboratory, *Cell Sites* (March 2001), 7; available at <http://www.nrl.moh.govt.nz/CellsiteBooklet.pdf>.

*Council*<sup>20</sup> and *Shirley Primary School v. Telecom Mobile Communications Ltd.*<sup>21</sup> Very few cell site cases have actually proceeded to Environment Court hearings. In these two cases the plaintiffs claimed that there was a risk of adverse health effects from radio frequency radiation emitted from cell phone base stations and that the CPBSs had adverse visual effects.

In *McIntyre*, Bell South applied for resource consent to erect a CPBS. The activity was a noncomplying activity under the Transitional District Plan. Residents objected to the application. Their objections were related to the harmful health effects from radio frequency radiation. In particular, they argued it would be an error of law to decide, based on the present state of scientific knowledge, that there are no harmful health effects from low-level radio frequency exposure. It was also argued that the Resource Management Act contains a precautionary policy and also requires a consent authority to consider potential effects of low probability but high impact in reviewing an application.

The Planning Tribunal considered residents' objections and heard experts' opinions as to the potential health effects, and granted the consent, subject to conditions. It was found that there would be no adverse health effects from low levels of radiation from the proposed transmitter, not even effects of low probability but high potential impact.

In *Shirley Primary School*, Telecom applied to the Christchurch City Council for resource consent to establish, operate, and maintain a CPBS on land adjacent to the Shirley Primary School. This activity was a noncomplying activity under the Transitional District Plan. Again, the city council granted the consent subject to conditions. However, the school appealed the decision, alleging the following four adverse effects:

- Risk of adverse health effects from the radio frequency radiation emitted from the cell site
- Adverse psychological effects on pupils and teachers because of the perceived health risks
- Adverse visual effects
- Reduced financial viability of the school if pupils withdraw because of the perceived adverse health effects

The court concluded that the risk of the children or teachers at the school developing leukemia or other cancers from radio frequency radiation emitted by

the cell site is extremely low, and the risk to the pupils of developing sleep disorders or learning disabilities because of exposure to radio frequency radiation is higher, but still very small. Accordingly, the Telecom proposal was allowed to proceed.

In summary, the Environmental Court ruled that there are no established adverse health effects from the emission of radio waves from CPBSs and no epidemiological evidence to show this. The court was persuaded by the ICNIRP guidelines that risk of health effects from low-level exposure is very low and that the cell phone frequency imposed by the NZ standard is safe, being almost two and one-half times lower than that of the ICNIRP.

The court did concede that while there are no proven health effects, there was evidence of property values being affected by both of the health allegations. The court suggested that such a reduction in property values should not be counted as a separate adverse effect from, for example, adverse visual or amenities effects. That is, a reduction in property values is not an environmental effect in itself; it is merely evidence, in monetary terms, of the other adverse effects noted.

In a third case, *Goldfinch v. Auckland City Council*,<sup>22</sup> the Planning Tribunal considered evidence on potential losses in value of the properties of objectors to a proposal for the siting of a CPBS. The court concluded that the valuer's monetary assessments support and reflect the adverse effects of the CPBS. Further, it concluded that the effects are more than just minor as the CPBS stood upon the immediately neighboring property.

## Literature Review

While experimental and epidemiological studies have focused on the adverse health effects of radiation from the use of cell phones and CPBSs, few studies have been conducted to ascertain the impact of CPBSs on property values. Further, little evidence of property value effects has been provided by the courts. Thus, the extent to which opposition from property owners affected by the siting of CPBSs is reflected in lower property values is not well known in New Zealand.

Two studies have been conducted to ascertain the adverse health and visual effects of CPBSs on property values. Telecom commissioned Knight Frank (NZ) Ltd to undertake a study in Auckland in 1998/

20. NZRMA 289 (1996).

21. NZRMA 66 (1999).

22. NZRMA 97 (1996).

99 and commissioned Telfer Young (Canterbury) Ltd to undertake a similar study in Christchurch in 2001. Although the studies show that there is not a statistically significant effect on property prices where CPBSs are present,<sup>23</sup> the research in both cases involves only limited sales data analysis. Further, no surveys of residents' perceptions were undertaken, and the studies did not examine media attention to the sites and the impact this may have on saleability of properties in close proximity to CPBSs. Finally, as the sponsoring party to the research was a telecommunication company it is questionable whether the results are completely free from bias. Hence, the present study aims to help fill the research void on this contentious topic in an objective way.

CPBSs are very similar structures to high-voltage overhead transmission lines (HVOTLs); therefore it is worthwhile to review the body of literature on the property values effects of HVOTLs. The only recently published study in New Zealand on HVOTLs effects is by Bond and Hopkins.<sup>24</sup> Their research consists of both a regression analysis of residential property transaction data and an opinion survey to determine the attitudes and reactions of property owners in the study area toward living close to HVOTLs and pylons.

The results of the sales analysis indicate that having a pylon close to a particular property is statistically significant and has a negative effect of 20% at 10–15 meters from the pylon, decreasing to 5% at 50 meters. This effect diminishes to a negligible amount after 100 meters. However, the presence of a transmission line in the case study area has a minimal effect and is not a statistically significant factor in the sale prices.

The attitudinal study results indicate that nearly two-thirds of the respondents have negative feelings about the HVOTLs. Proximity to HVOTLs determines the degree of negativity: respondents living closer to the HVOTLs expressed more negative feelings towards them than those living farther away. It appears, however, from a comparison of the results, that the negative feelings expressed are often not reflected in the prices paid for such properties.

There have been a number of HVOTLs studies carried out in the United States and Canada. A major review and analysis of the literature by Kroll and Priestley indicates that in about half the studies, HVOTLs have not affected property values and in the rest of the studies there is a loss in property value between 2%–10%.<sup>25</sup> Kroll and Priestley are generally critical of most valuer-type studies because of the small number of properties included and the failure to use econometric techniques such as multiple regression analysis. They identify the Colwell study as one of the more careful and systematic analyses of residential impacts.<sup>26</sup> That study, carried out in Illinois, finds that the strongest effect of HVOTLs is within the first 15 meters, but the effect dissipates quickly with distance, disappearing beyond 60 meters.

A Canadian study by Des Rosiers, using a sample of 507 single-family house sales, finds that severe visual encumbrance due to a direct view of either a pylon or lines exerts a significant, negative impact on property values; however location adjacent to a transmission corridor may increase value.<sup>27</sup> This was particularly evident where the transmission corridor was on a well-wooded, 90-meter right-of-way. The proximity advantages include enlarged visual field and increased privacy. The decrease in value from the visual impact of the HVOTLs and pylons (on average between 5% and 10% of mean house value) tends to be cancelled out by the increase in value from proximity to the easement.

A study by Wolverton and Bottemiller<sup>28</sup> uses a paired-sale analysis of home sales in 1989–1992 to ascertain any difference in sale price between properties abutting rights-of-way of transmission lines (subjects) in Portland, Oregon; Vancouver, Washington; and Seattle, Washington; and those located in the same cities but not abutting transmission line rights-of-way (comparisons). Subjects sold during the study period were selected first; then a matching comparison was selected that was as similar to the subject as possible. The study results did not support a finding of a price effect from abutting an HVTL right-of-way. In their conclusion, the authors

23. Mark Dunbar, Telfer Young research valuer, personal communication with Bond, 2002. The results of these studies have not been made publicly known. The study by Knight Frank of Auckland was conducted by Robert Albrecht.

24. S. G. Bond and J. Hopkins, "The Impact of Transmission Lines on Residential Property Values: Results of a Case Study in a Suburb of Wellington, New Zealand," *Pacific Rim Property Research Journal* 6, no. 2 (2000): 52–60.

25. C. Kroll and T. Priestley, "The Effects of Overhead Transmission Lines on Property Values: A Review and Analysis of the Literature," Edison Electric Institute (July 1992).

26. Peter F. Colwell, "Power Lines and Land Value," *Journal of Real Estate Research* 5, no. 1 (Spring 1990): 117–127.

27. François Des Rosiers, "Power Lines, Visual Encumbrance and House Values: A Microspatial Approach to Impact Measurement," *Journal of Real Estate Research* 23, no. 3 (2002): 275–301.

28. Marvin L. Wolverton and Steven C. Bottemiller, "Further Analysis of Transmission Line Impact on Residential Property Values," *The Appraisal Journal* (July 2003): 244–252.

warn that the results cannot and should not be generalized outside of the data. They explain that

limits on generalizations are a universal problem for real property sale data because analysis is constrained to properties that sell and sold properties are never a randomly drawn representative sample. Hence, generalizations must rely on the weight of evidence from numerous studies, samples, and locations.<sup>29</sup>

Thus, despite the varying results reported in the literature on property value effects from HVOTLs, each study adds to the growing body of evidence and knowledge on this (and similar) valuation issue(s). The study reported here is one such study.

### **Opinion Survey Research Objectives and Methodology**

Research by Abelson;<sup>30</sup> Chalmers and Roehr;<sup>31</sup> Kinnard, Geckler and Dickey;<sup>32</sup> Bond;<sup>33</sup> and Flynn et al.,<sup>34</sup> recommend the use of market sales analysis in tandem with opinion survey studies to measure the impact of environmental hazards on residential property values. The use of more than one approach provides the opportunity to compare the results from each and to derive a more informed conclusion than obtained from relying solely on one approach. Thus, the methods selected for this study include a public opinion survey and a hedonic house price approach (as proposed by Freeman<sup>35</sup> and Rosen<sup>36</sup>). A comparison of the results from both of these techniques will reveal the extent to which the market reacts to cell phone towers.

#### **Public Opinion Survey**

An opinion survey was conducted to investigate the current perceptions of residents towards living near CPBSs and how this proximity might affect property values. Case study areas in the city of Christchurch were selected for this study. The study included residents in ten suburbs: five case study areas (within 300 meters of a cell phone tower) and five control areas (over 1 kilometer from the cell phone tower). The five case study suburbs were

matched with five control suburbs that had similar living environments (in socioeconomic terms) except for the presence of a CPBS.

The number of respondents to be surveyed (800) and the nature of the data to be gathered (perceptions/personal feelings towards CPBSs) governed the choice of a self-administered questionnaire as the most appropriate collection technique. Questionnaires were mailed to residents living in the case study and control areas.

A self-administered survey helps to avoid interviewer bias and to increase the chances of an honest reply where the respondent is not influenced by the presence of an interviewer. Also, mail surveys provide the time for respondents to reflect on the questions and answer these at their leisure, without feeling pressured by the time constraints of an interview. In this way, there is a better chance of a thoughtful and accurate reply.

The greatest limitation of mail surveys is that a low response rate is typical. Various techniques were used to help overcome this limitation, including careful questionnaire design; inclusion of a free-post return envelope; an accompanying letter ensuring anonymity; and reminder letters. An overall response rate of 46% was achieved for this study.

The questionnaire contained 45 individual response items. The first question acted as an identifier to determine whether the respondent was a homeowner or tenant. While responses from both groups were of interest, the former was of greater importance, as they are the group of purchasers/sellers that primarily influence the value of property. However, it was considered relevant to survey both groups as both are affected by proximity to a CPBS to much the same extent from an occupiers' perspective, i.e., they both may perceive risks associated with a CPBS. It was hypothesized that tenants, being less-permanent residents, would perceive the effects in a similar way, but to a much lesser degree.

Other survey questions related to overall neighborhood environmental desirability; the timing of

29. *Ibid.*, 252.

30. P. W. Abelson, "Property Prices and Amenity Values," *Journal of Environmental Economics and Management* 6 (1979): 11-28.

31. James A. Chalmers and Scott Roehr, "Issues in the Valuation of Contaminated Property," *The Appraisal Journal* (January 1993): 28-41.

32. W. N. Kinnard, M. B. Geckler, and S. A. Dickey, "Fear (as a Measure of Damages) Strikes Out: Two Case Studies Comparisons of Actual Market Behaviour with Opinion Survey Research" (paper presented at the Tenth Annual American Real Estate Society Conference, Santa Barbara, California, April 1994).

33. S. G. Bond, "Do Market Perceptions Affect Market Prices? A Case of a Remediated Contaminated Site," in *Real Estate Valuation Theory*, ed. K. Wang and M. L. Wolverton, 285-321 (Boston: Kluwer Academic Publishers, 2002).

34. James Flynn et al., "Survey Approach for Demonstrating Stigma Effects in Property Value Litigation," *The Appraisal Journal* (Winter 2004): 35-45.

35. A. Myrick Freeman, *The Benefits of Environmental Improvement: Theory and Practice* (Baltimore: John Hopkins Press, 1979).

36. Sherwin Rosen, "Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition," *Journal of Political Economy* 82, no. 1 (Jan/Feb 1974): 34-55.

the CPBS's construction and its proximity in relation to the respondent's home; the importance placed on the CPBS as a factor in relocation decisions and on the price/rent the respondent was prepared to pay for the house; how a CPBS might affect the price the respondent would be willing to pay for the property; and the degree of concern regarding the effects of CPBSs on health, stigma, aesthetics, and property values. The surveys were coded to identify the property address of the respondent. This enabled each respondent's property to be located on a map and to show this in relation to the cell site.

Eighty questionnaires<sup>37</sup> were distributed to each of the ten suburbs (five case study and five control areas) in Christchurch. Respondents were instructed to complete the survey and return it in the free-post, self-addressed envelope provided. The initial response rate was 31%. A month later, a further 575 questionnaires with reminder letters were sent out to residents who had not yet responded. A total response rate of 46% was achieved. Response rates from each suburb ranged from 53% (Linwood) to 61% (Bishopdale).

The questionnaire responses were coded and entered into a computerized database.<sup>38</sup> The analysis of responses included the calculation of means and percentage of responses to each question to allow for an overview of the response patterns in each area.

### Case Study and Control Areas

The suburbs of Beckenham, Papanui, Upper Riccarton, Bishopdale, and St Albans were selected for the case study because there is at least one CPBS within each of these communities. Census data, providing demographic and socioeconomic characteristics of geographic areas, was used to select the control suburbs of Spreydon, Linwood, Bromley, Avonhead, and Ilam.<sup>39</sup> The control areas are located further away (over 1 kilometer) from the CPBS in their matched case study area. As well as matching demographic and socioeconomic characteristics, each suburb was selected based on its similarity to its matched case study area in terms of living environment and housing stock, distance to the central

business district, and geographic size; the only dissimilarity is that there are no CPBSs in the control areas. (See Appendix I for a location map.)

Demographic statistics show that Bromley and Ilam comprise a younger population (median age about 35), with Bishopdale and Upper Riccarton having an older population (median age about 40). The ethnic breakdown of each suburb indicates that Papanui and Spreydon have the highest proportion of Europeans (about 90%), Bromley has the highest proportion of both Maoris and Pacific Islanders (15.9% and 8.5% respectively), while Ilam, Avonhead, and Upper Riccarton have the highest proportion of Asians (16.1% to 18.5%).<sup>40</sup>

Median household and median family incomes (MHI and MFI) are highest in Ilam and Avonhead (MHI: \$34,751NZ, \$53,405NZ; MFI: \$51,530NZ, \$65,804NZ, respectively) and lowest in Linwood and Beckenham (MHI: \$22,275NZ, \$26,598NZ; MFI: \$29,675NZ, \$35,847NZ respectively).<sup>41</sup> Residents of St Albans West have the highest levels of education (21.7% have a degree or a higher degree) followed by Upper Riccarton (18.7%), Ilam (16.7%), and Avonhead (16.2%). These same suburbs have the highest proportion of professionals by occupational class (20.5% to 27.5%). Residents of Bromley have the lowest education (40% have no qualification) and the lowest proportion of professionals (5.5%).<sup>42</sup>

In summary, the socioeconomic data shows that Ilam is the more superior suburb, followed by Avonhead, Upper Riccarton, St Albans West, and Papanui. The lower socioeconomic areas are, in decreasing order, Spreydon, Bishopdale, Bromley, Beckenham, and Linwood.

### Survey Results

A summary of the main findings from the survey is presented in Appendix II, and the survey results are discussed in the following.

#### Response Rates

Of the 800 questionnaires mailed to homeowners and tenants in the case study and control areas (400 to each group), 50% from the case study area and 41%

37. Approved by the University of Auckland Human Subjects Ethics Committee (reference 2002/185).

38. The computer program SPSS was selected as the appropriate analytical tool for processing the data.

39. The census is conducted in New Zealand every five years, and the data used to define the control areas is from the latest census conducted in 2001, see Christchurch City Area Unit Profile, 2001 at <http://www.ccc.govt.nz/Census/ChristchurchCityAreaUnitProfile.xls>.

40. Christchurch City Area Unit Profile statistics.

41. \$1NZ = \$0.65US, thus, \$34,751NZ = \$22,588US.

42. The median house price for Christchurch city in August 2003 was \$185,000NZ/\$120,000US (New Zealand national median house price at this time was \$215,000NZ/\$140,000US), <http://www.reinz.co.nz/files/HousingFacts-Sample-Pg1-5.pdf> (accessed March 17, 2004). Median house prices in each individual suburb could not be obtained as the median sales data from the Real Estate Institute of NZ (REINZ) contains more than one suburb in each location grouping.

from the control area were completed and returned. Over three-quarters (78.5%) of the case study respondents were homeowners compared to 94% in the control area.

### Desirability of the Suburb as a Place to Live

More than half (58.5%) the case study respondents have lived in their suburb for more than five years (compared to 65% in the control group) and a quarter (25%) have lived in their suburb between 1 and 4 years (compared to 28% in the control group).

Around two-thirds (65% of the case study respondents and 68% of the control group respondents) rated their neighborhoods as either above average or superior as a place to live when compared with other similar named suburbs. The reasons given for this include close proximity to amenities (shops, library, medical facilities, public transport, and recreational facilities) and good schools.

Reasons given for rating the case study neighborhoods inferior to other similar neighborhoods include lower house prices, older homes, more student housing and lower-income residents. The reasons given by the control group respondents for an inferior rating include distance from the central business district (Avonhead); smell from the sewerage oxidation ponds and composting ponds (Bromley); and lower socioeconomic area and noise from the airport (Linwood).

### Feelings About a CPBS as an Element of the Neighborhood

In the case study areas, a CPBS had already been constructed when only 59% of the respondents bought their houses or began renting in the neighborhood. Some responded that they were not notified that the CPBS was to be built, that they had no opportunity to object to it, and that they felt they should have been consulted about its construction. For the respondents who said that proximity to the tower was of concern to them, the most common reasons given for this were the impact of the CPBS on health, aesthetics, and property values. Nearly three-quarters (74%) of the respondents said they would have gone ahead with the purchase or rental of their property anyway if they had known that the CPBS was to be constructed.

In the control areas nearly three-quarters (72%) of the respondents indicated they would be opposed to construction of a CPBS nearby. The location of a CPBS would be taken into account by 85% of respondents if they were to consider moving. As with the case study respondents, the control group respondents who were concerned about proximity to a

CPBS were most often concerned about the effects of CPBSs on health, aesthetics, and property values.

### Impact on Decision to Purchase or Rent

In the case study areas, the tower was visible from the houses of 46% of the respondents, yet two-thirds (66%) of these said it was barely noticeable, and one-quarter said it mildly obstructed their view. When asked in what way the CPBS impacts the enjoyment of living in their home, 57% responded that its impact was related to health concerns, 21% said it impacted neighborhood aesthetics, 20% said it impacted property value, and 12% said it impacted the view from their property.

When asked about the impact that the CPBS had on the price/rent they were prepared to pay for their property, over half the case study respondents (53.1%) said that the tower was not constructed at the time of purchase/rental, and 51.4% of the respondents said the proximity to the CPBS did not affect the price they were prepared to pay for the property. Nearly 3% said they were prepared to pay a little less, 2% said they were prepared to pay a little more. For the control group respondents, 45% of the respondents would pay substantially less for a property if a CPBS were located nearby, over one-third (38%) were prepared to pay just a little less for such a property, and 17% responded that a CPBS would not influence the price they would pay.

Only 10% of the case study respondents gave an indication of the impact that the CPBS had on the price/rent they were prepared to pay for the property; one-third of these felt it would decrease price/rent by 1% to 9%. For the control group, over one-third (38%) of the respondents felt that a CPBS would decrease price/rent by more than 20%, and a similar number (36%) said they would be prepared to pay 10% to 19% less for property located near a CPBS. The responses are outlined in Table 1.

**Table 1** Impact of a CPBS on Purchase/Rental Price Decision

Price/Rent Effect	Percent of Case Study Respondents (Control Group Responses)
20% more	5% (3%)
10-19% more	10% (2%)
1-9% more	14% (2%)
1-9% less	33% (19%)
10-19% less	24% (36%)
20% or greater reduction in price/rent	14% (38%)

Interestingly, it would seem that those living farther away from the CPBSs (the control group) are far more concerned about proximity to CPBSs than those living near CPBSs (the case study group); they indicated that a CPBS would have a greater price/rent effect. The possible explanations for this are discussed in the survey results section.

### Concerns About Proximity to the CPBS

Most case study respondents were not worried about the effects of proximity to a CPBS related to health (50%), stigma (55%), future property value (61%), or aesthetics (63%). About one-quarter to one-third of these respondents were somewhat worried about the impact of proximity to a CPBS on health (58%), stigma (54%), future property value (25%), or aesthetics (25%). From the list of issues, respondents were most worried about future property value, but only 13.5% of the respondents responded this way.

Here again, control group respondents were much more concerned about the effects of proximity to a CPBS than their case study counterparts. Of the possible concerns about CPBSs on which respondents were asked to comment, control group respondents were most worried about the negative effects on future property values and aesthetics. Nearly half the respondents were worried a lot about these issues. Similar responses were recorded for the possibility of harmful health effects in the future from CPBSs (42% were worried a lot about this) and stigma associated with houses near CPBSs (34% were worried a lot). The responses regarding concerns about living near a CPBS are shown in Table 2.

In both the case study and control areas, the issue of greatest concern for respondents was the impact of proximity to CPBSs on future property values. The main concerns related to CPBSs were the unknown potential health effects, the possible socioeconomic implications of the siting of CPBSs, and how CPBSs affect property values. There also were concerns that the city council was not notifying the public about the possible construction of CPBSs.

### Discussion of the Survey Results

The results were mixed, with responses from residents ranging from having no concerns to being very concerned about proximity to a CPBS. In general, those people living in areas farther from CPBSs were much more concerned about issues related to proximity to CPBSs than residents who lived near CPBSs.

Over 40% of the control group respondents were worried a lot about future health risks, aesthetics, and future property values compared with the case study areas, where only 13% of the respondents were worried a lot about these issues. However, in both the case study and control areas, the impact of proximity to CPBSs on future property values is the issue of greatest concern for respondents. If purchasing or renting a property near a CPBS, over a third (38%) of the control group respondents said a CPBS would reduce the price of their property by more than 20%. The perceptions of the case study respondents were again less negative, with a third saying they would reduce the price by only 1%–9%, and 24% saying they would reduce the price by 10%–19%.

The lack of concern shown by the case study respondents may be due to the CPBSs being either not visible or only barely visible from their homes. The CPBSs may be far enough away from respondents' properties (as was indicated by many respondents, particularly in St Albans West, Upper Riccarton, and Bishopdale) or hidden by trees and consequently not perceived as affecting the properties. The results may have been quite different had the CPBS being more visually prominent.

Alternatively, the apparent lower sensitivity to CPBSs of case study residents compared to the control group residents may be due to cognitive dissonance reduction. In this case, respondents may be unwilling to admit, due to the large amounts of money already paid, that they may have made a poor purchase or rental decision in buying or renting property located near a CPBS. Similarly, the homeowners may be unwilling to admit there are concerns about CPBSs when the CPBSs were built

**Table 2** Concerns about Living Near a CPBS\*

Concern	Does not worry me	Worries me somewhat	Worries me a lot
Possibility of harmful health effects	50% (20%)	38% (38%)	12% (42%)
Stigma effect	55% (21%)	34% (45%)	12% (34%)
Effect on future property values	61% (15%)	25% (37%)	13% (47%)
Aesthetics	63% (18%)	25% (37%)	11% (45%)

\* Percent of case study respondents having that concern (control group respondents). All numbers are rounded.

after they had purchased their homes, because to do so might have a negative impact on property values.

Regardless of the reasons for the difference in responses from the case study and control groups, the overall results show that residents perceive CPBSs negatively. In both the case study and control areas, the impact of proximity to CPBSs on future property values was the issue of greatest concern for respondents. Overall, respondents felt that proximity to a CPBS would reduce value by from 10% to over 20%. The second part of the study outlined below, involving an econometric analysis of Christchurch property sales transaction data, helps to confirm these results.

Respondents' comments added at the end of the survey indicate that residents have ongoing concerns about CPBSs. Although some people accepted the need for CPBSs, they said that they did not want them built in their back yard, or they preferred that they be disguised to blend better with their environment.

### Market Study Research Objectives and Methodology

A market study was undertaken to test the hypothesis that in suburbs where there is a CPBS it will be possible to observe discounts to the selling price of homes located near these structures. Such discounts would be observed where buyers of proximate homes view the CPBSs in negative terms due to a perceived risk of adverse effects on health, aesthetics, and property value.

The literature dealing specifically with the measurement of the impact of environmental hazards on residential sale prices (including proximity to transmission lines, landfill sites, and ground water contamination) indicates the popularity of hedonic pricing models, as introduced by Court<sup>43</sup> and later Griliches,<sup>44</sup> and further developed by Freeman<sup>45</sup> and Rosen.<sup>46</sup> The more recent studies, including those by Dotzour;<sup>47</sup> Simons and Sementelli;<sup>48</sup> and Reichert,<sup>49</sup> focus on proximity to an environmental hazard and demonstrate that this reduces residential house prices by varying amounts depending on

the distance from the hazard.<sup>50</sup> However, there are no known published studies that use hedonic housing models to measure the impact of proximity to a CPBS on residential property values.

As in the previous residential house price studies, the standard hedonic methodology was used here to quantify the impact of a CPBS on sale prices of homes located near a CPBS. The results from this study in tandem with the opinion survey results will help test the hypothesis that proximity to a CPBS has a negative impact on property value and will reveal the extent to which the market reacts to CPBSs.

### Model Specification

A hedonic price model is constructed by treating the price of a property as a function of its utility-bearing attributes. Independent variables used in the model to account for the property attributes are limited to those available in the data set and known, based on other well-tested models reported in the literature and from valuation theory, to be related to property price. The basic model used to analyze the impact on sale price of a house located near a CPBS, is as follows:

$$P_i = f(X_{1,i}, X_{2,i}, \dots, X_{n,i})$$

where:

$P_i$  = property price at the  $i$ th location  
 $X_{1,i} \dots X_{n,i}$  = individual characteristics of each sold property (e.g., land area, age of house, floor area, sale date, construction materials, house condition, CPBS construction date, etc.)

The more recent hedonic pricing studies that demonstrate the effects of proximity to an environmental hazard use different functional forms to represent the relationship between price and various property characteristics.<sup>51</sup> In hedonic housing models the linear and log-linear models are most popular. The linear model implies constant partial effects between house prices and housing characteristics, while the log-linear model allows for nonlinear price effects and is shown in the following equation:

43. A. T. Court, "Hedonic Price Indexes with Automotive Examples," in *The Dynamics of Automobile Demand* (New York: General Motors, 1939).

44. Zvi Griliches, ed. *Price Indexes and Quality Change* (Cambridge, Mass.: Harvard University Press, 1971).

45. Freeman.

46. Rosen.

47. Mark Dotzour, "Groundwater Contamination and Residential Property Values," *The Appraisal Journal* (July 1997): 279-285.

48. Robert A. Simons and Arthur Sementelli, "Liquidity Loss and Delayed Transactions with Leaking Underground Storage Tanks," *The Appraisal Journal* (July 1997): 255-260.

49. Alan K. Reichert, "Impact of a Toxic Waste Superfund Site on Property Values," *The Appraisal Journal* (October 1997): 381-392.

50. Only Dotzour found no significant impact of the discovery of contaminated groundwater on residential house prices. This was likely due to the nonhazardous nature of the contamination where the groundwater was not used for drinking purposes.

51. See for example L. Dale et al., "Do Property Values Rebound from Environmental Stigmas? Evidence from Dallas," *Land Economics* 75, no. 2 (May 1999): 311-326; Dotzour; Simons and Sementelli; and Reichert.

$$\ln P_i = b_0 + b_1 \times X_{1,i} + b_2 \times X_{2,i} + b_3 \times X_{3,i} \\ \dots \dots \dots + b_n \times X_{n+1} + a_0 \times D_0 + \\ \dots \dots \dots + a_m \times D_m + e_i$$

where:

$\ln P_i$  = the natural logarithm of sale price

$b_0$  = the intercept

$b_1 \dots b_n; a_0 \dots a_m$  = the model parameters to be estimated, i.e., the implicit unit prices for increments in the property characteristics

$X_1 \dots X_n$  = the continuous characteristics, such as land area

$D_0 \dots D_m$  = the categorical (dummy) variables, such as whether the sale occurred before (0) or after (1) the CPBS was built

Sometimes the natural logarithm of land area and floor area is also used. The parameters are estimated by regressing property sales on the property characteristics and are interpreted as the households' implicit valuations of different property attributes. The null hypothesis states that the effect of being located near a CPBS does not explain any variation in property sale prices.

### The Data

Part of the process for selecting appropriate case study areas was identifying areas where there had been a sufficient number of property sales to provide statistically reliable and valid results. Sales were required for the period before and after the CPBS had been built in order to study the impact of the CPBS on the surrounding properties' sale prices.

Further, due to the multitude of factors that combine to determine a neighborhood's character, such as proximity to the central business district, standard of schooling, recreational facilities provided, standard of housing, proximity to amenities, and the difficulty in allowing for these separately, sales located in areas with comparable neighborhood characteristics were preferred.

Four of the suburbs in the survey case study met the criteria for the market study: St Albans, Beckenham, Papanui, and Bishopdale. No sales data was available for Upper Riccarton after the CPBS was built in this suburb, hence this suburb was not included in the market analysis study. As each CPBS was built at a different date, the sales from each suburb were sepa-

rately analyzed. The uniformity of locational and neighborhood characteristics in each of these suburbs allows the analysis to be simplified and to focus on the properties' physical attributes. The relative homogeneity of housing, locational, and neighborhood attributes was verified through field inspections.

The dependent variable is the property sale price. The data set includes 4285 property sales that occurred between 1986 and 2002 (approximately 1000 sales per suburb).<sup>52</sup>

The independent data set was limited to those variables that correspond to property attributes known and suspected to influence price. These variables are floor area (m<sup>2</sup>); land area (ha); age of the house (the year the house was built); tower (a dummy variable indicating whether the sale occurred before or after the CPBS was built); sale date (month and year); time of sale based on the number of quarters before or after the CPBS was built (to help control for movements in house prices over time); category of residential property (stand-alone dwelling, dwelling converted into flats, ownership unit, etc); quality of the principal structure (as assessed by an appraiser); and roof and wall materials. The number of bedrooms was not available in the data set, but would not have been included as an independent variable since the number of bedrooms is highly correlated with floor area.

Since the GIS coordinates of properties for the initial analysis were not available, street name was included as an independent variable instead. To a limited extent, street name helped to control for the proximity effects of a CPBS. It was suspected that houses on a street close to a CPBS may, on average, sell for less than houses on a street farther away from the CPBS.

While views, particularly water views, have been shown in previous empirical studies to be an important attribute affecting sale price, in the present study the flat contour of the landscape where the homes are located, together with the suburban nature of the environment surrounding these, precluded any significant views. Thus, views were not included in the analysis. Further, due to the large number of sales included in the analysis, inspections of each individual property were not made to determine the view, if any, of a CPBS from each house. It was felt that it is not merely the view that may impact on price, but also proximity to a CPBS due to the potential effect this may have on health, cell phone coverage, and neighborhood aes-

52. These sales were obtained from Headway Systems Ltd, a data distribution and system development company. Headway is the major supplier of property market sales information to New Zealand's valuation profession; it is jointly owned by the NZ Institute of Valuers (NZIV) and PT Investments, a consortium of 28 shareholders from within the property industry.

thetics. Hence, view of a CPBS was not included as an independent variable. The variable descriptions are listed in Table 3. Variable codes are shown in Appendix III and basic descriptive statistics for selected quantitative variables are shown in Appendix IV.

**Table 3 Variable Descriptions**

Variable*	Definition
SLNETX	Sale price of the house (NZ\$)
SITSTX	Street name
CATGYX2	Category of dwelling: D, E, etc.†
CATGYX4	Quality of the structure: A, B, C†
TIMESOLD.Q	Using the time the cell phone tower was built as a baseline quarter, the number of quarters before (–) and after (+) it was built
AGE	Year the house was built
LANDAX	Land area (ha)
MATFAX	Total floor area (m <sup>2</sup> )
WALLCNX	Wall construction: W, B, C, etc. †
ROOFCNX	Roof construction: W, B, C, etc. †
TOWER	An indicator variable: 0 if before the cell phone tower was built, or 1 after it was built

\* Sale price is the dependent variable.

† See Appendix III for explanation of variable codes.

### Market Study Results

An econometric analysis of Christchurch property transaction data helped to confirm the opinion survey results. In the analysis of selected suburbs, the sales data from sales that occurred before a CPBS was built was compared to sales data from after a CPBS was built to determine any variance in price, after accounting for all the relevant independent variables.

### Empirical Results

The model of choice is one that best represents the relationships between the variables and has a small variance and unbiased parameters. Various models were tested and the results are described in the next section. The following statistics were used to help select the most appropriate model: the adjusted coefficient of determination (adjusted  $R^2$ ); the standard error of the regression equation; the AIC<sup>53</sup> and BIC<sup>54</sup> statistics; and  $t$ -test of significance of the coefficients and  $F$ -statistic.

### Significance of Variables and the Equation: St Albans

As hedonic prices can vary significantly across different functional forms, various commonly used functional forms were examined to determine the model specification that best describes the relationship between price and the independent variables. Also, to test the belief that the relationship between *Price* and *Land Area* is not a linear function of *Price*, the variable *LANDAX* (land area) was transformed to reflect the correct relationship. Several transformations were tested including: linear of *SLNETX* (sale price) and log of *LANDAX*; log of *SLNETX* and linear of *LANDAX*; and log of *SLNETX* and log of *LANDAX*. All dummy variables remained in their linear form in each model.

It was found that the best result was obtained from using the log of *SLNETX* and log of *LANDAX*, and the linear form of all the dummy variables. Taking the log of an independent variable implies diminishing marginal benefits. For example, an extra 50 square meters of land area on a 550-square-meter site would be worth less than the previous 50 square meters. The log-log model shows the percent change in price for a one-percent change in the independent variable, while all other independent variables are held constant (as explained in Hill, Griffiths, and Judge).<sup>55</sup>

In the semilogarithmic equation the interpretation of the dummy variable coefficients involves the use of the formula:  $100(e^{b_n} - 1)$ , where  $b_n$  is the dummy variable coefficient.<sup>56</sup> This formula derives the percentage effect on price of the presence of the factor represented by the dummy variable and is advocated over the alternative, and commonly misused, formula of  $100 \cdot (b_n)$ . The resulting model included all the available variables as follows:

$$\begin{aligned} \log(SLNETX) = & \alpha + \beta_1 \times TOWER + \beta_2 \times SITSTX \\ & + \beta_3 \times CATGYX2 + \beta_4 \times CATGYX4 \\ & + \beta_5 \times TIMESOLD \times Q + \beta_6 \times AGE \\ & + \beta_7 \times \log(LANDAX) \\ & + \beta_8 \times MATFAX \\ & + \beta_9 \times WALLCNX \\ & + \beta_{10} \times ROOFCNX \end{aligned}$$

53. AIC is the Akaike Information Criterion, and is a "goodness of fit" measure involving the standard error of the regression adjusted by a penalty factor. The model selected is the one that minimizes this criterion (Microsoft SPSSPC Online Guide, 1997).

54. The BIC is the Bayesian Information Criterion. Like the AIC, BIC takes into account both how well the model fits the observed data, and the number of parameters used in the model. The model selected is the one that adequately describes the series and has the minimum SBC. The SBC is based on Bayesian (maximum-likelihood) considerations. (Microsoft SPSSPC Online Guide, 1997).

55. R. Carter Hill, William E. Griffiths, and George G. Judge, *Undergraduate Econometrics* (New York: John Wiley & Sons, 1997).

56. See Robert Halvorsen and Raymond Palmquist, "The Interpretation of Dummy Variables in Semi-Logarithmic Equations," *American Economic Review* 70, no. 3 (1980): 474–475.

From the regression output, the variables *ROOFCNX* and *WALLCNX* were found to be insignificant so these were removed from the model and the regression was rerun. The table in Appendix V summarizes these results. The *F*-statistic (123) shows that the estimated relationship in the model is statistically significant at the 95% confidence level and that at least one of the coefficients of the independent variables within the model is not zero.

Table 4 summarizes the model selection test statistics. Based on the AIC and BIC, the regression that excludes the variables *ROOFCNX* and *WALLCNX* is superior to the regression that includes them (AIC and BIC are minimized). For this reason, the model excluding these variables was selected for analysis, and it is discussed next.

**Table 4** Test Statistics — St Albans

	Adjusted $R^2$	AIC	BIC
Full Model	0.82	-118.38	36.55
Sub Model	0.82	-121.64	5.95

Tests for normality, heteroskedasticity, and multicollinearity generally indicated that the model was adequately specified and that the data were not severely ill conditioned (heteroskedasticity and multicollinearity were diminished when the data were transformed).

The coefficient of determination ( $R^2$ ) indicates that approximately 82% of the variation in sale price is explained by the variation in the independent variable set. All variable coefficients had the expected signs,<sup>57</sup> except for *TOWER*, which was positive. The positive coefficient for *TOWER* shows that, when all the other variables are held constant, after the installation of a CPBS in St Albans, the price of a house would increase by  $e^{0.1153} = 1.12$  (12%). A possible explanation is that cell phone technology was quite new at the time (1994), and as there had been little in the media about possible adverse health effects from CPBSs, people may have perceived it as a benefit as they were likely to get better cell phone coverage.

The most significant variables were *TIMESOLD.Q* (the quarter in which the sale occurred before or after the CPBS was built),  $\log(LANDAX)$  (log of land area), and *MATFAX* (total floor area) and all have a positive influence on

price. The positive *TIMESOLD.Q* indicates that the market was increasing over time since the CPBS was built (1994), but only to a limited extent (1.38%). The positive log of land area and total floor area shows that prices increase with increasing size.

The regression coefficient on  $\log(LANDAX)$  is 0.5285, which indicates that, on average, a 10% increase in *LANDAX* will generate a 3.285% increase in price. The positive coefficient for *MATFAX* indicates that, when all the other variables are held constant, for each additional m<sup>2</sup> the price would increase by  $e^{0.0022514} = 1.0022514$  (0.22% increase).

#### Significance of Variables and the Equation: Papanui

The same functional form used for St Albans was used for Papanui. From the regression output, the variable *CATGYX2* was found to be insignificant so it was removed from the model and the regression was rerun; Appendix VI summarizes the results. The *F*-statistic (152) shows that the estimated relationship in the model is statistically significant at the 95% confidence level and that at least one of the coefficients of the independent variables within the model is not zero.

Table 5 summarizes the model selection test statistics. Based on the AIC and BIC, the regression that excludes the variable *CATGYX2* is superior to the regression that includes it (AIC and BIC are minimized). For this reason, the model excluding this variable was selected for analysis, and is discussed next.

**Table 5** Test Statistics — Papanui

	Adjusted $R^2$	AIC	BIC
Full Model	0.87	-509.91	-371.99
Sub Model	0.87	-510.57	-381.56

The coefficient of determination ( $R^2$ ) indicates that approximately 87% of the variation in sale price is explained by the variation in the independent variable set. This would be considered high in comparison with the amount of explanation obtained in similar hedonic house studies reported in the literature.<sup>58</sup> All variable coefficients had the expected signs.

The most significant variables were *TIMESOLD.Q*, *MATFAX* (total floor area), and *TOWER*. The former two have a positive influence on price. The positive *TIMESOLD.Q* indicates that the

57. Note that the variable *AGE* is positive as this variable indicates the year the house was built; therefore, the higher the year, the younger the home. Newer houses have less wear and tear than older homes and sell, on average, for more than older homes.

58. For example, Reichert obtained an adjusted  $R^2$  of 84%; Simons and Sementelli, 78%; Abelson, 68%; Dotzour, 56%–61%.

market was increasing over time since the CPBS was built (2000), but only by 1.4% per quarter. The positive coefficient for *MATFAX* indicates that, when all the other variables are held constant, the price would increase by  $e^{0.0012576} \approx 1.00427$  (0.43%), with increasing size. The negative coefficient for *TOWER* shows that, when all the other variables are held constant, after the installation of a CPBS in Papanui, the price of a house would decrease by  $e^{-0.2540} \approx 0.79$  (21% decrease).

#### Significance of Variables and the Equation: Beckenham

The same functional form used for Papanui and St Albans was used for Beckenham. From the regression output, the variable *ROOFCNX* was found to be insignificant so it was removed from the model and the regression was rerun; Appendix VII summarizes these results. The *F*-statistic (214) shows that the estimated relationship in the model is statistically significant at the 95% confidence level and that at least one of the coefficients of the independent variables within the model is not zero.

Table 6 summarizes the model selection test statistics. Based on the AIC and BIC, the regression that excludes the variable *ROOFCNX* is superior to the regression that includes it (AIC and BIC are minimized). For this reason, the model excluding this variable was selected for analysis.

**Table 6 Test Statistics — Beckenham**

	Adjusted R <sup>2</sup>	AIC	BIC
Full Model	0.89	-819.00	-641.39
Sub Model	0.89	-818.66	-650.66

The coefficient of determination (*R*<sup>2</sup>) indicates that approximately 89% of the variation in sale price is explained by the variation in the independent variable set. Again, as with the model for Papanui this amount of explanation would be considered high.

The most significant variables were *TIMESOLD.Q*, *MATFAX*, and *TOWER*. The former two have a positive influence on price. The positive *TIMESOLD.Q* indicates that the market was increasing over time since the CPBS was built in 2000, but only by 1.91% per quarter. The positive coefficient for *MATFAX* indicates that, when all the other variables are held constant, the price would increase by  $e^{0.0012051} \approx 1.00421$  (0.42%), with increasing size. The negative coefficient for *TOWER* shows that, when all the other variables are held constant, after the installation of a

CPBS in Beckenham, the price of a house would decrease by  $e^{-0.23019} \approx 0.795$  (20.7% decrease).

#### Significance of Variables and the Equation: Bishopdale

The same functional form used for the other three suburbs was used for Bishopdale. From the regression output, the variables *ROOFCNX* and *CATGYX* were found to be insignificant so these were removed from the model and the regression was rerun; Appendix VIII summarizes these results. The *F*-statistic (122) shows that the estimated relationship in the model is statistically significant at the 95% confidence level and that at least one of the coefficients of the independent variables within the model is not zero.

**Table 7 Test Statistics — Bishopdale**

	Adjusted R <sup>2</sup>	AIC	BIC
Full Model	0.79	-927.48	-775.71
Sub Model	0.79	-929.32	-796.52

Table 7 summarizes the model selection test statistics. Based on the AIC and BIC, the regression that excludes the variable *ROOFCNX* and *CATGYX* is superior to the regression that includes it (AIC and BIC are minimized). For this reason, the model excluding these variables was selected for analysis.

Again, the most significant variables were *TIMESOLD.Q* and *MATFAX*; the variable of interest, *TOWER*, was not a significant variable in the model so it is not discussed further. The former two variables have a positive influence on price. The positive *TIMESOLD.Q* indicates that the market was increasing over time since the CPBS was built in 1994, but only at 0.98% per quarter. The positive coefficient for *MATFAX* indicates that, when all the other variables are held constant, the price would increase by  $e^{0.0059665} \approx 1.004$  (0.40%), with increasing size.

#### Summary of Results

The above analysis shows that the most significant variables and their impact on price were similar between suburbs. This indicates the relative stability of the coefficients between each model. Interestingly, the impact of *TOWER* on price (a decrease of between 20.7% and 21%) was very similar in the two suburbs where the towers were built in the year 2000. This may be due to the much greater media publicity given to CPBSs after the two legal cases in Christchurch (*McIntyre* and *Shirley Primary School*

in 1996 and 1999, respectively). The two suburbs where *TOWER* was either insignificant or increased prices by around 12%, were suburbs where towers had been built in 1994, prior to the media publicity.

### Limitations of the Research

The main limitation affecting this survey was in the selection of the case study areas. Specifically, the areas selected had CPBSs that were not highly visible to residents. If more-visible CPBSs had been selected, the results may have been quite different. Thus, caution must be used in making generalizations from this study or applying the results directly to other similar studies or valuation assignments. Factors that could affect results are the distance of homes from the CPBS, the style and appearance of the CPBS, how visible the CPBS is to residents, the type of home (single family, multifamily, rental, etc.), and the socioeconomic make-up of the resident population.

To help address the proximity factor, a study is in progress examining the role of distance to the CPBSs and price effects; that study uses GIS analysis to determine the impact this has on residential property prices. It is expected that this will provide a more precise estimation of the impact of a CPBS on price.

It must be kept in mind that these results are the product of only one case study carried out in a specific area (Christchurch) at a specific time (2003). The above results indicate that value effects from CPBSs may vary over time as market participants' perceptions change. Perceptions toward CPBSs can change either positively or negatively over time. For example, as the World Health Organization's ten-year study of the health effects from CPBSs is completed and becomes available, consumers' attitudes may become more positive or negative depending on the outcome of that study. Consequently, studies of the price effects of CPBSs need to be conducted over time.

### Areas for Further Study

This research has focused on residents' perceptions of negative effects from proximity to CPBSs and how these impact property values, rather than the scientific or technological estimates of these risks. The technologists' objective view of risk is that risk is measurable solely in terms of probabilities and severity of consequences, whereas the public, while taking experts' assessments into account, view risk more subjectively, based on other factors. Further, the results of scientific studies about the health effects of radio frequency and microwave radiation

from CPBSs are not consistent. Residents' perceptions and assessments of risk vary according to a wide range of psychological, social, institutional, and cultural processes, and this may explain why their assessments differ from those of the experts.

Given the public concerns about the potential risks arising from being located nearby a CPBS, it is important for future studies to focus more attention on the kinds of risks the public associates with CPBSs and the level of risk perceived. How far away from the CPBS do people feel they have to be to be safe? What CPBS design, size, and surrounding landscape would help CPBSs to be more publicly acceptable? What social, economic, educational, and other demographic variables influence how people perceive the risks from CPBSs? Do residents that are heavy users of cell phones have a different perception of CPBSs than residents who make little use of this technology? Are these perceived risks reflected in property values and to what extent? Do these perceived risks vary over time and to what degree?

Answers to these questions, if shared among researchers and made public, could lead to the development of a global database to assist appraisers in determining the perceived level of risk associated with CPBSs and other similar structures.<sup>59</sup> Knowledge of the extent that these risks are incorporated into property prices and how they vary over time will lead to more accurate value assessments of properties in close proximity to CPBSs and other similar structures.

### Summary and Conclusions

Focusing on four case study neighborhoods in Christchurch, New Zealand, this article presents the results from both an opinion survey and market sales analysis undertaken in 2003 to determine residents' perceptions towards living near a CPBS and how this may impact property prices. From the results, it appears that people who live close to CPBSs perceive the sites less negatively than those who live farther away.

The issue of greatest concern for survey respondents in both the case study and control areas is the impact of proximity to CPBSs on future property values. Overall, respondents would pay from 10%–19% less to over 20% less for a property if it were in close proximity to a CPBS.

The opinion survey results were generally confirmed by the market sales analysis using a hedonic house price approach. The results of the sales analysis show prices of properties were reduced by around 21% after a CPBS was built in the neighborhood. How-

59. For example, high-voltage overhead transmission lines.

ever, this result varies between neighborhoods, with a positive impact on price being recorded in one neighborhood, possibly due to the CPBS being built in that suburb before any adverse media publicity about CPBSs appeared in the local Christchurch press.

Research to date reports no clearly established health effects from radio frequency emissions of CPBSs operated at or below the current safety standards, yet recent media reports indicate that people still perceive that CPBSs have harmful effects. Thus, whether or not CPBSs are proven to be free from health risks is only relevant to the extent that buyers of properties near CPBSs perceive this to be true. Even buyers who believe that there are no adverse health effects from CPBSs, knowing that other potential buyers might think the reverse, will probably seek a price discount for a property located near a CPBS.

The comments of survey participants indicate the ongoing concerns that residents have about CPBSs. There is the need to increase the public's understanding of how radio frequency transmitting facilities operate and the strict exposure-limit standards imposed on the telecommunication industry. As more information is discovered that refutes concerns regarding adverse health effects from CPBSs, and as information about the NZ safety standards are made more publicly available, the perception of risk may gradually change, eliminating the discounts for neighboring properties.

### **Additional Reading**

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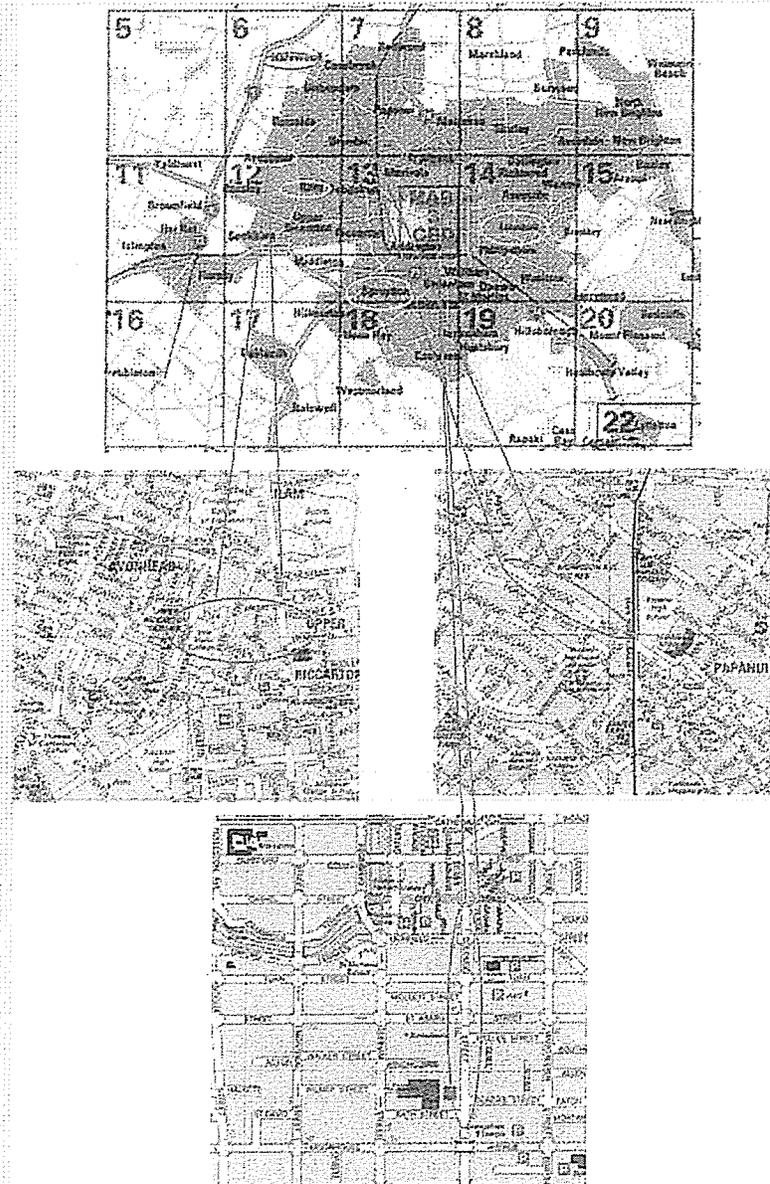
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### Appendix I Location Map



Areas circled in white at the top are without a cell phone tower, while areas circled in the bottom three maps have a cell phone tower.  
 Source: <http://www.ccc.govt.nz/maps/Wises/>

## Appendix II Summary of the Survey Results

Variable	Response	Valid Percent (%)	
		Case Study	Control
Occupancy	Homeowner	78.5	94.2
	Tenant	21.5	5.8
How long have you lived there?	Less than 6 months	8.0	2.6
	6 months-1 year	8.6	4.5
	1-4 years	25.1	27.7
	More than 5 years	58.3	65.2
How would you rate the desirability of your neighborhood?	Superior	27.4	30.9
	Above Average	37.4	36.8
	Average	28.5	27.0
	Below Average	5.6	4.6
	Inferior	1.1	0.7
Would you be opposed to construction of a cell phone tower nearby?	Yes		72.1
	No		27.9
When you purchased/began renting was the cell phone tower already constructed?	Yes	39.3	
	No	60.7	
Was the proximity of the cell phone tower a concern to you?	Yes	20.0	
	No	80.0	
Would you have gone ahead with rental/purchase if you had known a cell phone site was to be constructed?	Yes	73.9	
	No	26.1	
Is location of a cell phone tower a factor you would consider when moving?	Yes		83.4
	No		16.6
Is the cell phone tower visible from your house?	Yes	45.7	
	No	54.3	
If yes, how much does it impact on your view?	Very obstructive	9.6	
	Mildly obstructive	24.5	
	Barely noticeable	66.0	
In what way does it impact on the enjoyment of living in your house?	Views	11.8	
	Aesthetics	20.6	
	Health concerns	36.8	
	Change in property value	19.9	
	Other	11.0	
Effect a nearby cell phone tower would have on the price/rent you would pay for the property	Tower wasn't constructed	53.1	
	Pay substantially more	0.0	0.0
	Pay a little more	2.3	0.0
	Pay a little less	2.8	37.6
	Pay substantially less	0.6	45.4
	Not influence price	51.4	17.0
% Effect a nearby cell phone tower would have on the price/rent you would pay for the property	20% higher or more	5	3.2
	10-19% more	10	1.6
	1-9% more	14	2.4
	1-9% less	33	19.2
	10-19% less	24	36.0
	20% or a greater reduction	14	37.6
Concern about the possibility of harmful health effects in the future	Does not worry me	50.3	19.9
	Worries me somewhat	38.0	38.4
	Worries me a lot	11.7	41.7
Concern about the stigma associated with houses near the cell phone sites	Does not worry me	54.6	20.8
	Worries me somewhat	33.9	45.0
	Worries me a lot	11.5	34.2
Concern about the affect on your properties value in the future	Does not worry me	61.3	15.4
	Worries me somewhat	25.4	37.2
	Worries me a lot	13.3	47.4
Concern about the aesthetic problems caused by the tower	Does not worry me	63.3	18.2
	Worries me somewhat	25.4	37.0
	Worries me a lot	11.3	44.8

## Appendix III Variable Codes

### Category of Dwelling

Code	Definition
D	Dwelling houses are of a fully detached or semi-detached style situated on their own clearly defined piece of land.
E	Converted dwelling houses that are now used as rental flat.
F	Ownership home units which may be single storey or multi-storey and which do not have the appearance of dwelling houses.
H	Home and income. The dwelling is the predominant use, and there is an additional unit of use attached to or associated with the dwelling house that can be used to produce income.
R	Rental flats that have been purpose built.

### Quality of the Principal Structure

Code	Definition
A	Superior design and quality of fixtures and fittings is first class.
B	The design is typical of its era and the quality of the fixtures and fittings is average to good.
C	The design is below the level generally expected for the era, or the level of fixtures and fittings is barely adequate and possibly of below average quality.

### Building Materials: Walls and Roof

Code	Definition
W	Wood
B	Brick
C	Concrete
S	Stone
R	Roughcast
F	Fibrolite
M	Malthoid
P	Plastic
I	Iron
A	Aluminium
G	Glass
T	Tiles
X	*

## Appendix IV Descriptive Statistics

Variable	Mean	Std. dev.	Median	Minimum	Maximum	Range
<b>St Albans:</b>						
Sale Price (\$)	221,957	110,761	200,000	42,000	839,000	797,000
Land Area (ha)	0.0658	0.0331	0.0579	0.0261*	0.3794	0.3533
Floor Area (m <sup>2</sup> )	161	70.40	150	50	450	400
<b>Beckenham:</b>						
Sale Price (\$)	116,012	50,037	111,000	21,500	385,000	363,500
Land Area (ha)	0.0601	0.0234	0.0553	0.0164*	0.2140	0.1976
Floor Area (m <sup>2</sup> )	115	32.50	110	40	340	300
<b>Papanui:</b>						
Sale Price (\$)	127,661	51,114	119,000	43,000	375,000	332,000
Land Area (ha)	0.0685	0.0289	0.0675	0.0310	0.3169	0.2859
Floor Area (m <sup>2</sup> )	122	34.60	110	56	290	234
<b>Bishopdale:</b>						
Sale Price (\$)	136,786	41,390	134,500	56,000	342,000	286,000
Land Area (ha)	0.0679	0.0163	0.0653	0.0400	0.2028	0.1628
Floor Area (m <sup>2</sup> )	125	31.20	118	64	290	226

\* These small land areas are related to apartments or units in a block of apartments/units that have the land area apportioned on a pro rata basis.

## Appendix V Regression Model: St Albans

$$\log(\text{SLNETX}) = \text{TOWER} + \text{CATGYX2} + \text{CATGYX4} - \text{TIMESOLD.Q} + \text{AGE} + \log(\text{LANDAX}) + \text{MATFAX} + \text{SITSTX}$$

Residuals:	Min	1Q	Median	3Q	Max
	-0.72855	-0.15032	0.01593	0.14263	0.72047
Coefficients:	Estimate	Std. Error	t-value	Pr(>  t )	
(Intercept)	9.1781868	0.6769096	13.559	< 2e-16 ***	
TOWER	0.1133186	0.0318188	3.561	0.000395 ***	
CATGYX2D	0.1846417	0.0702520	2.628	0.008776 **	
CATGYX2O	0.0334663	0.1008594	0.332	0.740134	
CATGYX4B	-0.1551409	0.0245485	-6.320	4.75e-10 ***	
CATGYX4C	-0.1483169	0.0722959	-2.052	0.040600 *	
TIMESOLD.Q	0.0136663	0.0008208	16.650	< 2e-16 ***	
AGE	0.0016408	0.0003521	4.660	3.81e-06 ***	
log(LANDAX)	0.3285367	0.0283610	11.584	< 2e-16 ***	
MATFAX	0.0022314	0.0001962	11.373	< 2e-16 ***	
SITSTXAIKMANS RD	0.4029259	0.0533671	7.550	1.41e-13 ***	
SITSTXBEVERLEY ST	0.2330787	0.0803137	2.902	0.003827 **	
SITSTXBristol ST	0.1706840	0.0521716	3.272	0.001124 **	
SITSTXBROWNS RD	0.2492536	0.0720854	3.458	0.000579 ***	
SITSTXCOX ST	0.3055798	0.0581672	5.253	2.00e-07 ***	
SITSTXGORDON AVE	0.0823422	0.0679833	1.211	0.226236	
SITSTXKNOWLES ST	0.1690979	0.0558911	3.025	0.002576 **	
SITSTXMANSFIELD AVE	0.2954242	0.0652983	4.524	7.16e-06 ***	
SITSTXMCDUGALL AVE	0.3303105	0.0623720	5.296	1.60e-07 ***	
SITSTXMURRAY PL	0.3613773	0.0629166	5.744	1.40e-08 ***	
SITSTXOFFICE RD	0.3681146	0.0543368	6.775	2.71e-11 ***	
SITSTX Other	0.0618491	0.0736629	0.840	0.401416	
SITSTXPAPANUI RD	0.1940369	0.0560474	3.462	0.000570 ***	
SITSTXRANFURLY ST	0.1701716	0.0617504	2.756	0.006012 **	
SITSTXST ALBANS ST	0.1458665	0.0571172	2.554	0.010873 *	
SITSTXWEBB ST	0.1895432	0.0725061	2.614	0.009143 **	
SITSTXWESTON RD	0.2084419	0.0527555	3.951	8.60e-05 ***	

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
 Residual standard error: 0.2175 on 677 degrees of freedom  
 Multiple R-Squared: 0.8253, Adjusted R-squared: 0.8186  
 F-statistic: 123 on 26 and 677 DF, p-value: < 2.2e-16

## Appendix VI Regression Model: Papanui

$$\ln(\text{formula} = \log(\text{SLNETX})) \sim \text{TOWER} + \text{SITSTX} + \text{TIMESOLD.Q} + \text{AGE} + \log(\text{LANDAX}) + \text{MATFAX} + \text{WALLCNX} + \text{ROOFCNX} + \text{CATGYX4}, \text{data} = \text{Papanui.final}$$

Residuals:	Min	1Q	Median	3Q	Max
	-0.484987	-0.098006	0.003859	0.106253	0.563126
Coefficients:	Estimate	Std. Error	t-value	Pr(>  t )	
(Intercept)	5.9482316	0.6998186	8.500	< 2e-16 ***	
TOWER	-0.2339640	0.0240908	-9.712	< 2e-16 ***	
SITSTXHOANI ST	0.1966982	0.0265429	7.411	4.26e-13 ***	
SITSTXLANGDONS RD	-0.1192547	0.0281242	-4.240	2.58e-05 ***	
SITSTXLEANDER ST	0.0305555	0.0449437	0.680	0.496853	
SITSTXMATSONS AVE	0.0949636	0.0292461	3.247	0.001231 **	
SITSTXMORELAND AVE	-0.0892332	0.0397622	-2.244	0.025183 *	
SITSTXMORRISON AVE	-0.1984492	0.0289772	-6.848	1.84e-11 ***	
SITSTX Other	-0.1543194	0.0337436	-4.573	5.83e-06 ***	
SITSTXSAILS ST	-0.0761412	0.0433455	-1.757	0.079490	
SITSTXSAWTELL PL	0.1840793	0.0393904	4.673	3.66e-06 ***	
SITSTXSAWYERS ARMS RD	0.0872393	0.0201388	4.332	1.73e-05 ***	
SITSTXST JAMES AVE	0.2497688	0.0289940	8.615	< 2e-16 ***	
TIMESOLD.Q	0.0138914	0.0004137	33.575	< 2e-16 ***	
AGE	0.0029307	0.0003512	8.345	4.85e-16 ***	
log(LANDAX)	0.0904764	0.0270812	3.341	0.000886 ***	
MATFAX	0.0042576	0.0002410	17.664	< 2e-16 ***	
WALLCNXC	0.0054100	0.0200666	0.270	0.787558	
WALLCNXF	-0.0980851	0.0464442	-2.112	0.035106 *	
WALLCNXO	-0.1158407	0.0468334	-2.473	0.013655 *	
WALLCNXR	-0.0670051	0.0244382	-2.742	0.006291 **	
WALLCNXW	-0.0679166	0.0192628	-3.526	0.000454 ***	
WALLCNXX	-0.0571365	0.0358369	-1.594	0.111381	
ROOFCNXI	0.1502973	0.1139845	1.319	0.187810	
ROOFCNXO	0.0870092	0.1164152	0.747	0.455111	
ROOFCNXT	0.0954874	0.1138506	0.839	0.401965	
CATGYX4B	-0.0623758	0.0343487	-1.816	0.069872 *	
CATGYX4C	-0.3669901	0.0905659	-4.052	5.74e-05 ***	

Signif. codes: 0 '\*\*\*' 0.001 '\*\*' 0.01 '\*' 0.05 '.' 0.1 ' ' 1  
 Residual standard error: 0.1579 on 604 degrees of freedom  
 Multiple R-Squared: 0.8718, Adjusted R-squared: 0.8661  
 F-statistic: 152.2 on 27 and 604 DF, p-value: < 2.2e-16