South Truckee Meadows/Washoe Valley Citizens Advisory Board

MEMORANDUM

To: Grace Sannazzaro, Staff Representative
Re: SB14.002 Verizon Wireless
From: Allayne Donnelly-Everett, Administrative Recorder
Date: March 19, 2014

Special Use Permit SB14-002 Verizon Wireless – Rich Johnson, Planning Manager, Verizon Wireless presented the request to construct a Wireless Communications Facility consisting of a 100 foot high specialty monopole designed as a faux windmill containing six antennas, and an equipment shelter containing telecommunications ground equipment, all of which shall be enclosed within a 50' x 50' fenced area on a ±35.73 acre parcel. The project is located at 205 US Highway 395N. on the west side of US 395 across the highway from Old Washoe Drive. Mr. Johnson provided photos of the proposed location of the tower. Applicant: Sacramento Valley LP dba Verizon Wireless. Grace Sannazzaro, Staff Representative was available to address questions and concerns. 775-328-3771 gsannazzaro@washoecounty.us **MOTION**: Malachy Horan moved to recommend denial of SB14-002 until such time that this application is presented to local residents for their opinions, and then bring the application back to the STM/WVCAB for further review and recommendations and that the engineering specifications be available for review. Eric Scheetz seconded the motion. **MOTION**: Malachy Horan amended his motion to include that Community Development staff work with Verizon Wireless to coordinate a meeting with local residents for their review and opinions. Eric Scheetz seconded the amended motion. The motion carried unanimously. Ms. Sannazzaro stated that the applicant is on the Board of Adjustment schedule and has the right to have their item heard or postpone their presentation until the item is brought back to the CAB. The applicant can also move forward to the Board of Adjustment for their approval or denial.

Comments and Concerns

- In response to questions raised, Mr. Johnson stated that they have cellular coverage but need additional capacity.
- In response to questions raised, Mr. Johnson stated that the tower is designed to be compatible for co-location.
- Grace Sannazzaro stated that Washoe County Code will not allow for more than six antennas on a tower so this tower is at capacity and will not allow for co-location of other carriers.
- Concerns were raised that a monopole that is supposed to look like a pine tree would be inappropriate.
- Support was stated for making the tower more aesthetically compatible with the neighborhood.
- Mr. Johnson stated that they would work with Washoe County Staff to design an appropriate tower.
- In response to questions raised, Ms. Sannazzaro stated that this ridgeline is not visually protected.
- In response to concerns raised, Mr. Johnson stated that Verizon would maintain the structure.
- In response to concerns raised, Mr. Johnson stated that the tower would be painted in a color that would blend (be compatible) with the surrounding area.
- Ms. Sannazzaro stated that Washoe County would require that the structure be painted a neutral color.
- Mr. Johnson stated that the tower would be engineered to withstand local winds.
- Ms. Sannazzaro stated that courtesy notices were mailed to 40 residents in the adjacent areas and there will be a public hearing by the Board of Adjustment on April 3, 2014.
- Ginger Pierce stated that she would personally deliver notices to all residents in Pleasant Valley.
- Malachy Horan stated concern that not enough residents have been notified of this proposed project. Malachy Horan also stated concern whether the engineering would be adequate.
- Mr. Johnson provided a copy of the engineering specifications for review.
- Support was stated for an installation that blends with the surrounding area.
- The applicant was asked to postpone presenting the application to the Board of Adjustment until such time that Community Development would coordinate a public meeting for Pleasant Valley residents.

SB14-002
Exhibit A

- Questions were raised whether there is enough time for notices to be sent to local residents prior to the Board of Adjustment hearing.
- Mr. Johnson stated that the purpose of this meeting was for public comments and recommendations.
- Questions were raised on how the comments from local residents would be brought forward to the Board of Adjustment.
- In response to questions raised, Mr. Johnson stated that the clock is running for their application to move forward but if a meeting with local residents gets them further down the road, that he would discuss that with staff.
- Jane Countryman stated for the record that she supports denial of the application because there is another windmill in the area that sticks out like a sore thumb. The tower needs to be more rustic and blend with the surrounding area.

cc: Commissioner David Humke
Tom Judy, Acting Chair
Sarah Tone, County Liaison
Nancy Leuenhagen, Community Relations Manager
Andrea Tavener, Program Assistant

From: Surface, Cheryl
Sent: Thursday, March 20, 2014 8:08 AM
To: Sannazzaro, Grace
Subject: FW: Verizon Wireless Antenna Request

Categories: No Changes Made

Grace-

This Verizon Wireless Cell Tower impacts the Washoe Valley Scenic Byway. This comment comes from the Washoe Valley Alliance, which has been the largest supporter of the Washoe Valley Scenic Byway.

Cheryl Surface| Park Planner
p 775.328-2019| f 775.829.8014
Washoe County|Community Services Department-Parks
P.O. Box 11130| Reno, NV 89520
www.washoecountyparks.com

From: naylorhome@charter.net [mailto:naylorhome@charter.net]
Sent: Wednesday, March 19, 2014 10:36 AM
To: Surface, Cheryl
Subject: Verizon Wireless Antenna Request

Hi Cheryl,

Wanted to make sure that you were aware of a request by Verizon Wireless to construct a 100' high cell tower behind the storage units at the North end of Washoe Valley. The request number is SB14-002. This request is coming up before the Board of Adjustment on April 3, 2014. In reading the Washoe County Development Code 110.324.50 (e)(10) it appears that this tower is less that 1000 ft. from the proposed trail in Washoe/Allen's Canyon. I know that you have worked hard to plan, acquire land and coordinate with Sierra Reflections to make this park a reality. I thought that the Parks Department might want to give Community Development and the Board of Adjustment some input on this proposed project.

Best Wishes, Bill Naylor

WALTERS ENGINEERING
CIVIL ENGINEERS ■ WATER SUPPLY

March 3, 2014

Grace Sannazzaro
Washoe County Planning & Development
1001 E Ninth St. Bldg. A
P.O. Box 11130
Reno, NV 89520

Subject: Planning Application for Verizon Wireless Communications Site

Ms. Sannazzaro,

Thanks for the courtesy notice – above subject (ATTACH I).

Tower and power lines O.K. subject to Washoe County permitting, legal protocol protecting neighborhood.

This input 1) because I am a contiguous neighbor and 2) I have documented decade of bullying by Verizon on their trespass issue – our California property.

Be careful!

Our 27A rural residential zoned parcel 046-060-01 will have 4 approx. 5A hilltop homes and a historic V&T remainder.

It is less than 1000' from the proposed Verizon tower.

We are contiguous neighbors to County's 046-080-01 (ATTACH II).

Last week Mirta and I overviewed the westerly-proposed tower site, and overhead power lines corridor from our above hilltop.

Additionally, the following are my comments specific to the numbered pages of Verizon's application given to me by Roger and Eric (thanks) on Friday 2-28-14:

Pg	
1	---"associated ground equipment"--- includes over 1000' of overhead lines and poles from Hwy 395 northerly to the 100' tower. Any agreement, if facility is built, must incorporate Verizon's demolish and removal and restoration when facility becomes obsolete – including poles and lines.
3	Antennas <u>are not</u> "---- over 1000' from residentially zoned property---"!
9	(mid page) – Technician visiting site twice per month seems insufficient and possibly 2 Individuals needed per OSHA. Last ¶ refers to <u>California</u> Government Code!

P.O. Box 18898 • RENO • NV • 89511-0327 • 775.741.8428
walterseng@att.net

SB14-002
Exhibit B

15 "West" photo shows Walters' hilltop homesites immediately easterly.
24-29 Insure engineers (O'Conner, Geil) licensed and insured appropriately in NV.
49 7. already designed – without consulting us (neighbors)!
51 12. Tower appears to be less than "req'd" 1000 ft from residential zoned property

Immediately east of court 4 at the Washoe County Tennis Complex is a tree tower with continuously humming machinery at its base. Very annoying.

Such noise at our property from the Verizon site (except from the weekly 15 min genset exercising, and power outages) will not be tolerated.

Request Verizon monitor/record current and after construction continuous noise levels at our hilltop, and westerly property line.

Hopefully this will avoid another costly confrontation with Verizon for which Mirta and I do not have legal resources.

Sincerely,

Brien B Walters

Brien and Mirta Walters

cc: Eric Young
Roger Pelham } without Verizons' Application & Attachmts

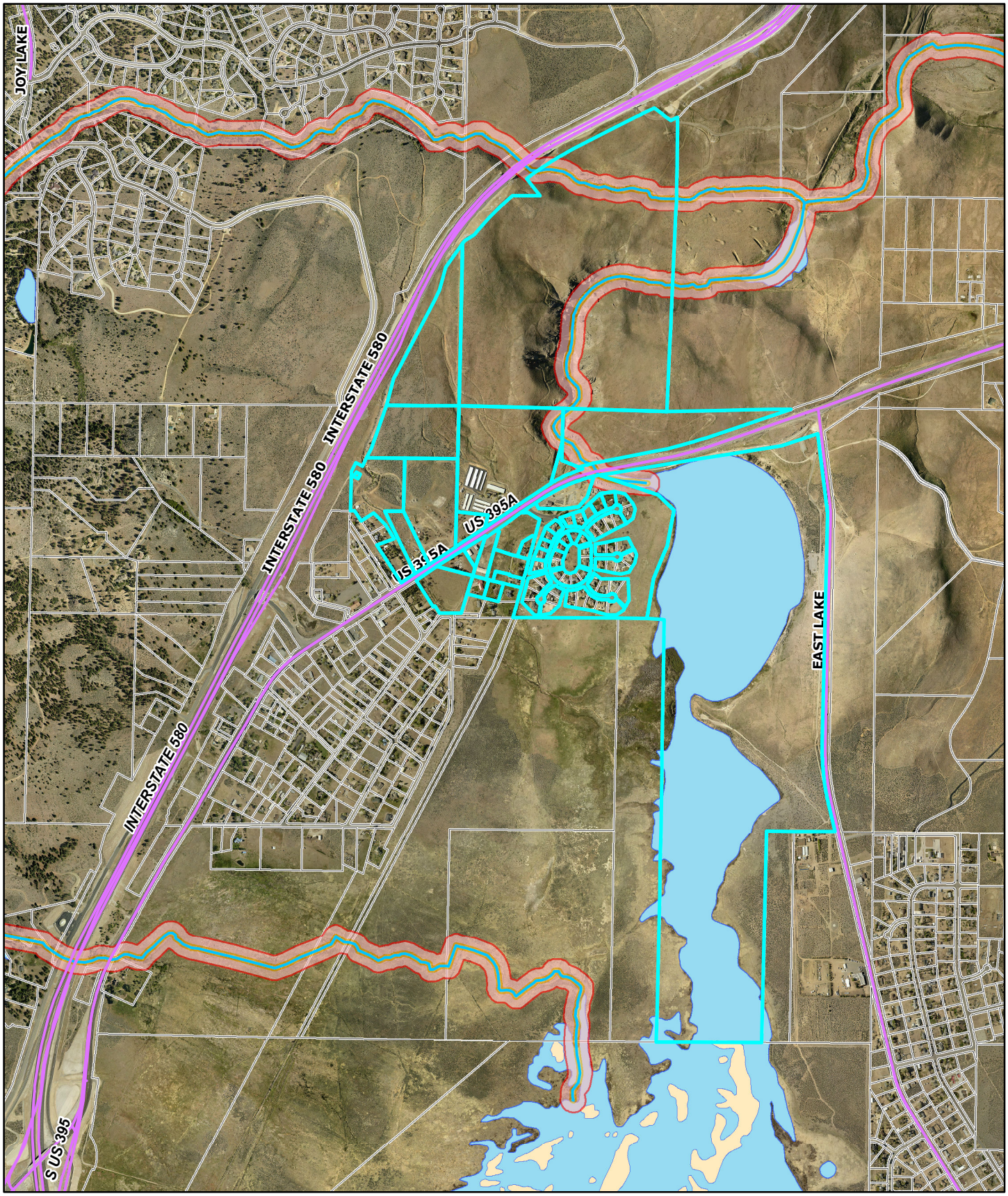
P.O. Box 18898 • RENO • NV • 89511-0327 • 775.741.8428
walterseng@att.net

SB14-002
Exhibit B

From: Cathy Rotes [catrot@sbcglobal.net]
Sent: Friday, March 21, 2014 11:52 AM
To: Sannazzaro, Grace
Subject: Re: proposed cell tower-cathy rotes

Morning,

I personally would be against this tower. I feel we have enough towers in our area. I'm not sure how helpful our homeowners association will be because even though St James property line boarders the other property it's on the other side of the freeway and we're wondering if we would have much weight. I need to go and try to find out just where this tower will be. On the map I know but I'm not sure what hill it will sit in correlation to St James. Donna Peterson said she would send an e-mail to our homeowners telling them about the meeting.
As I said before I will be out of town on April 4th but if this goes any further I would like to be informed.
Good luck and I will be in touch,
Cathy Rotes



PUBLIC NOTICE MAP
SPECIAL USE PERMIT SB14-002
Verizon Wireless
205 US Highway 395 North
APN 046-08-42
30 Separate Property Owners
Noticed within 700 feet of Subject Parcel

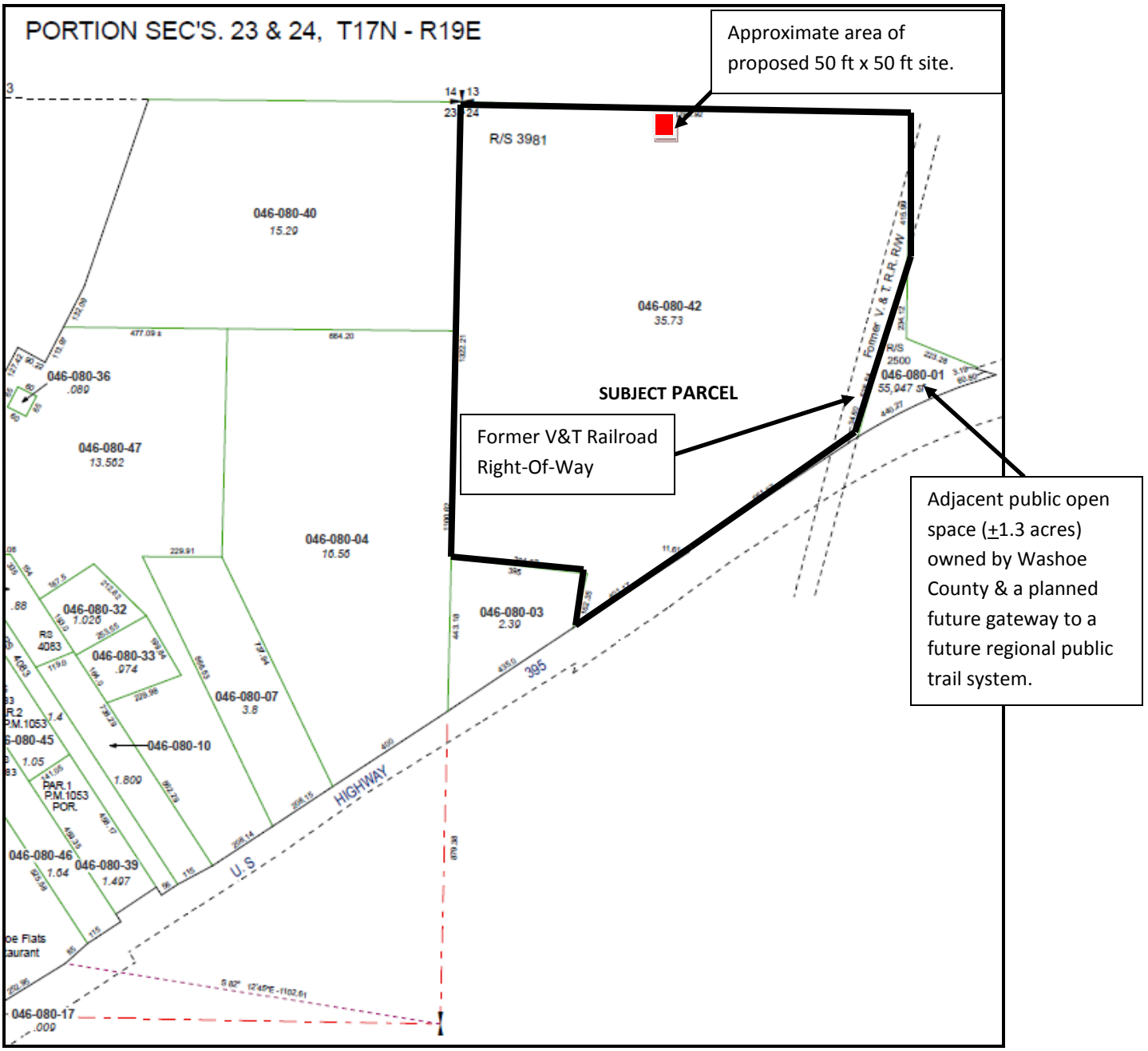
Date: February 2014
Source: Washoe County Planning & Development

Planning and Development

WASHOE COUNTY NEVADA

Post Office Box 11130
Reno, Nevada 89520
(775) 328-3600

SB14-002
Exhibit C

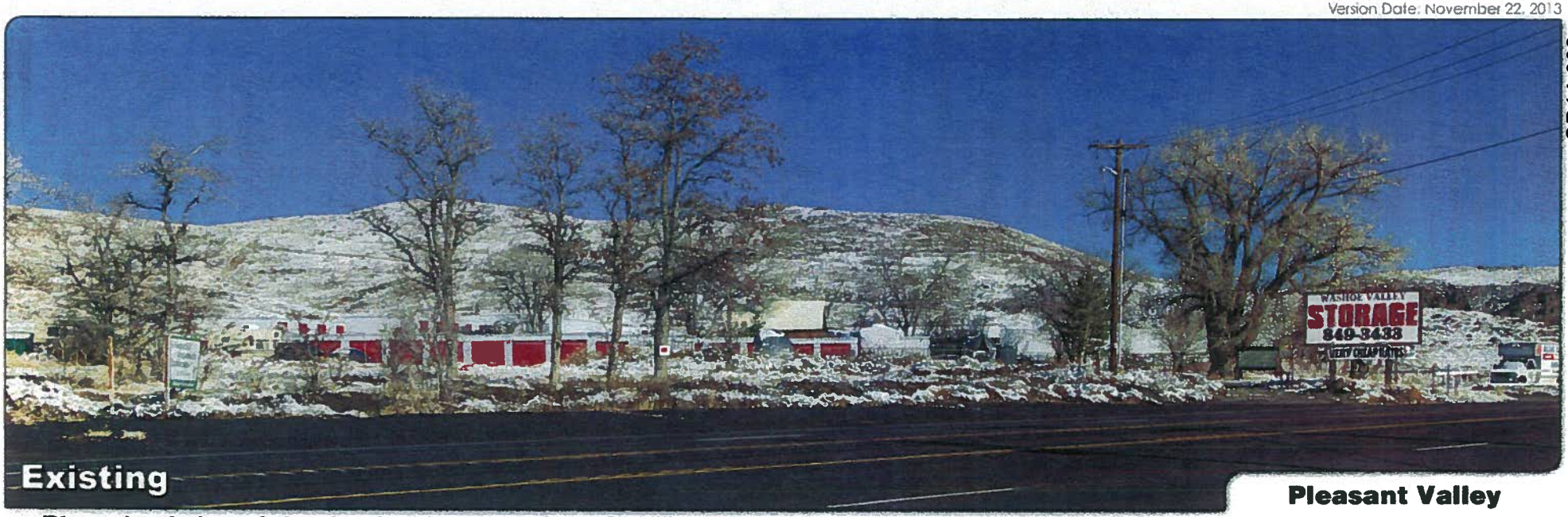


Washoe County Assessor's Map 046-08

SB14-002
Exhibit D

Version Date: November 22, 2013

SB14-002
Exhibit E

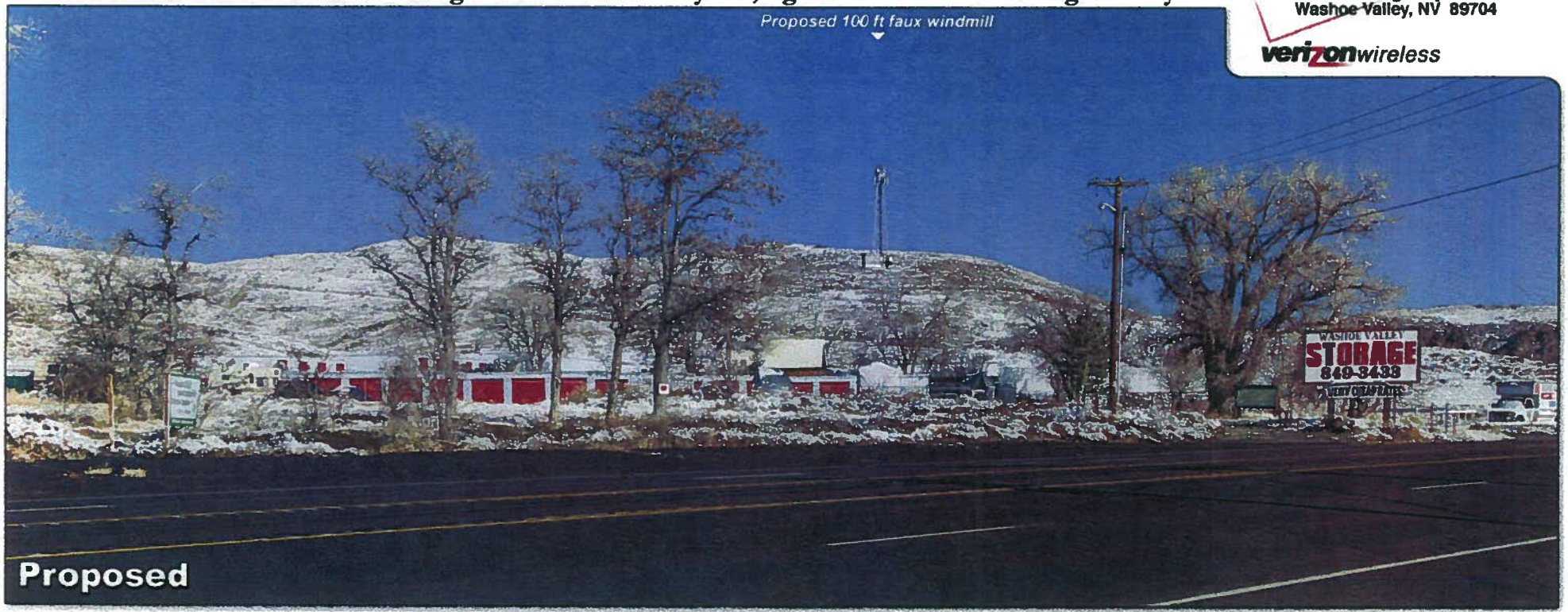


Pleasant Valley

205 US Highway 395
Washoe Valley, NV 89704

verizonwireless

Photosimulation of the view looking north from Old Hwy 395, right across from the storage facility.



Version Date: November 22, 2013

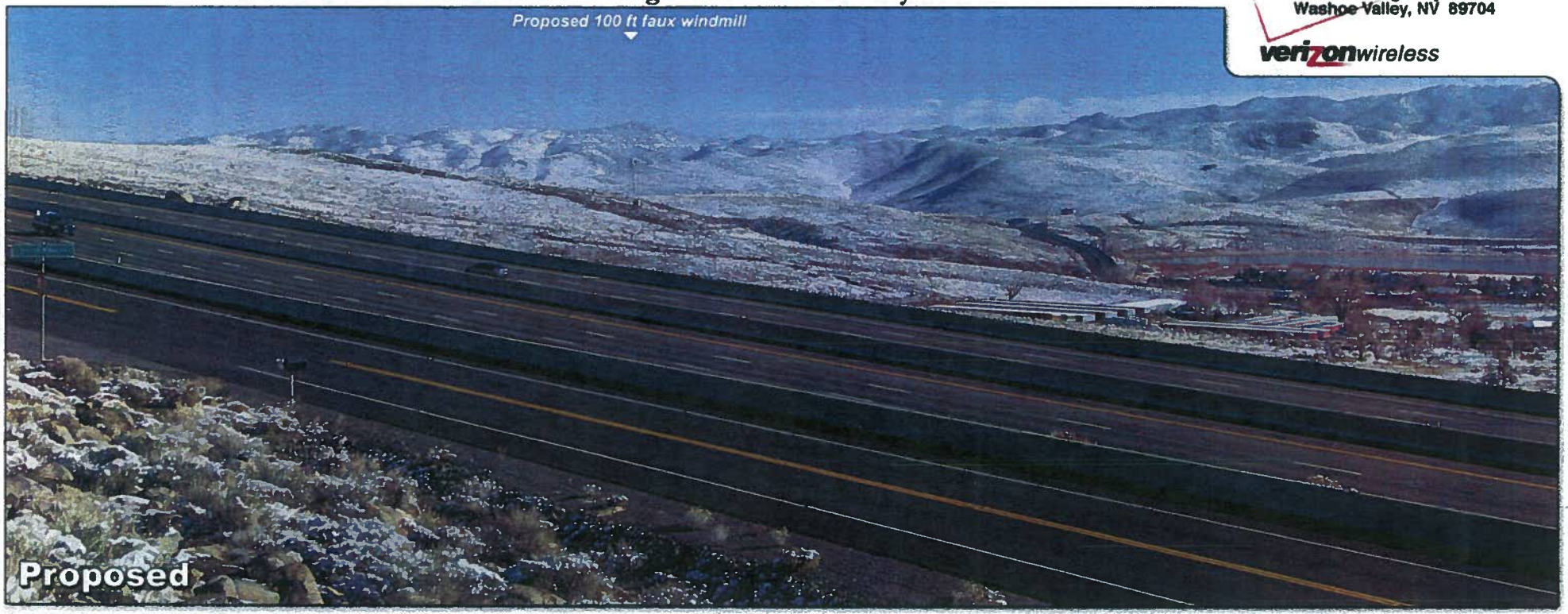
SB14-002
Exhibit E

Pleasant Valley

205 US Highway 395
Washoe Valley, NV 89704

verizonwireless

Photosimulation of the view looking east from across Hwy 395.



Version Date: November 22, 2013

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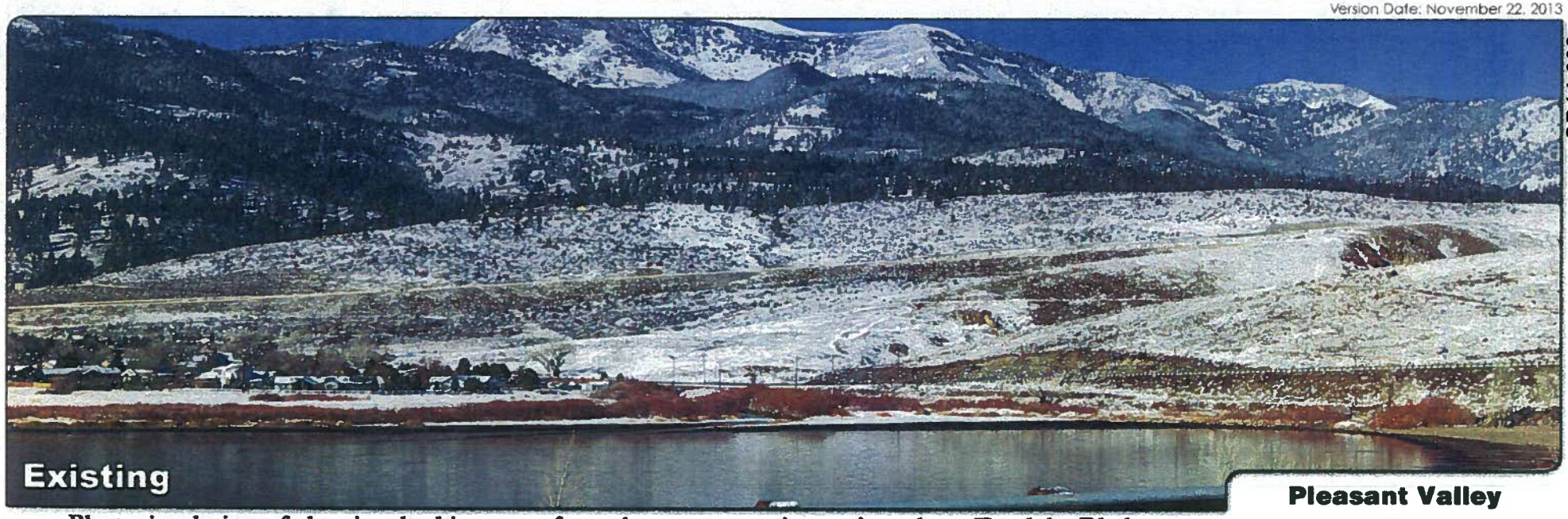
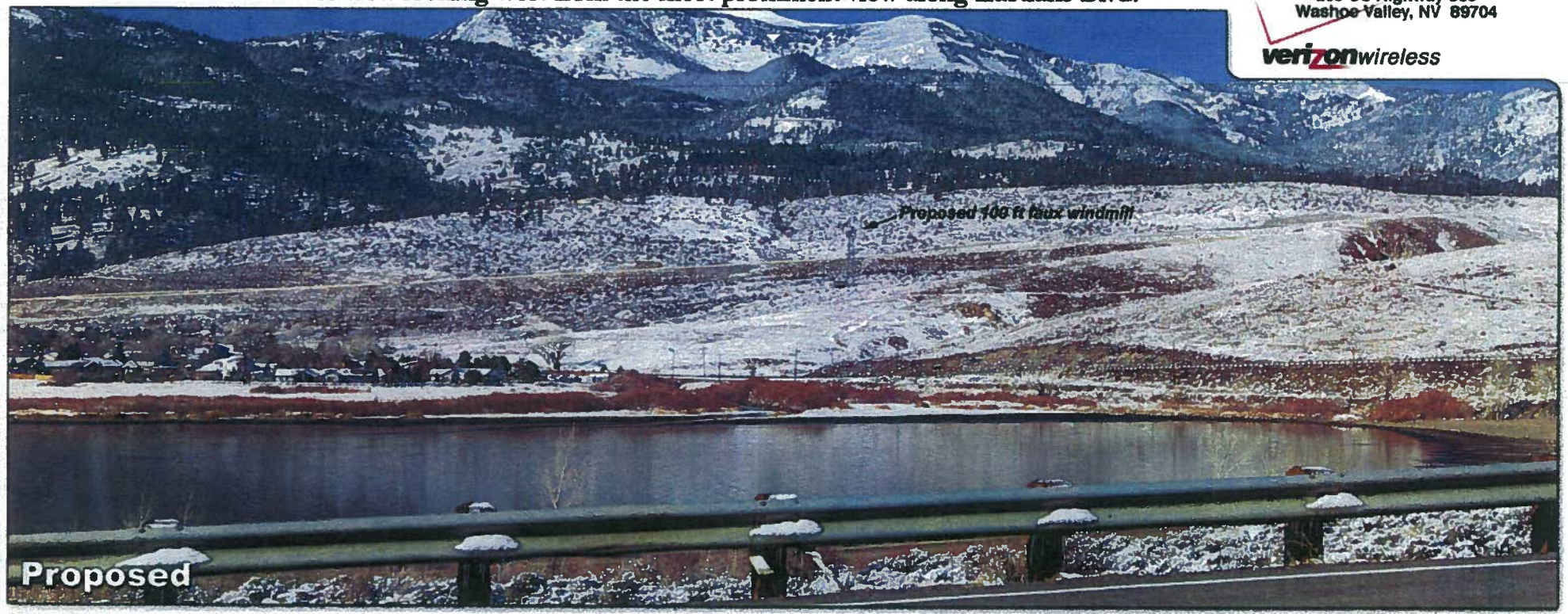


Pleasant Valley

205 US Highway 395
Washoe Valley, NV 89704

verizonwireless

Photosimulation of the view looking west from the most prominent view along Eastlake Blvd.



Version Date: November 22, 2013

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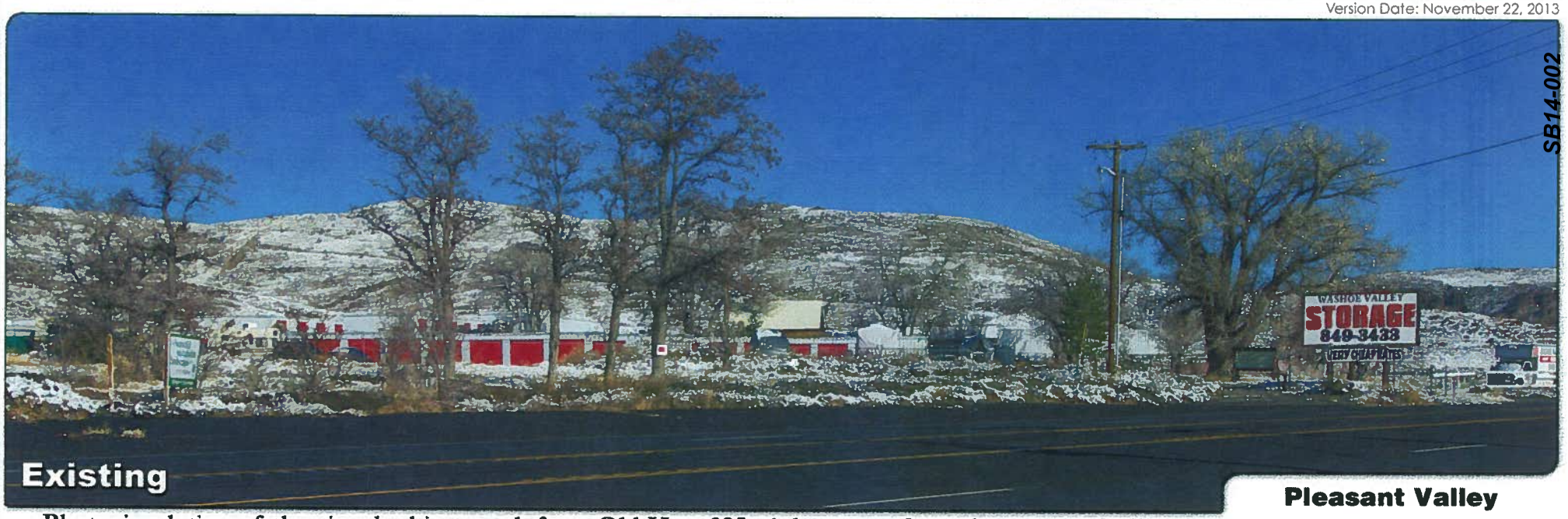
Exhibit E

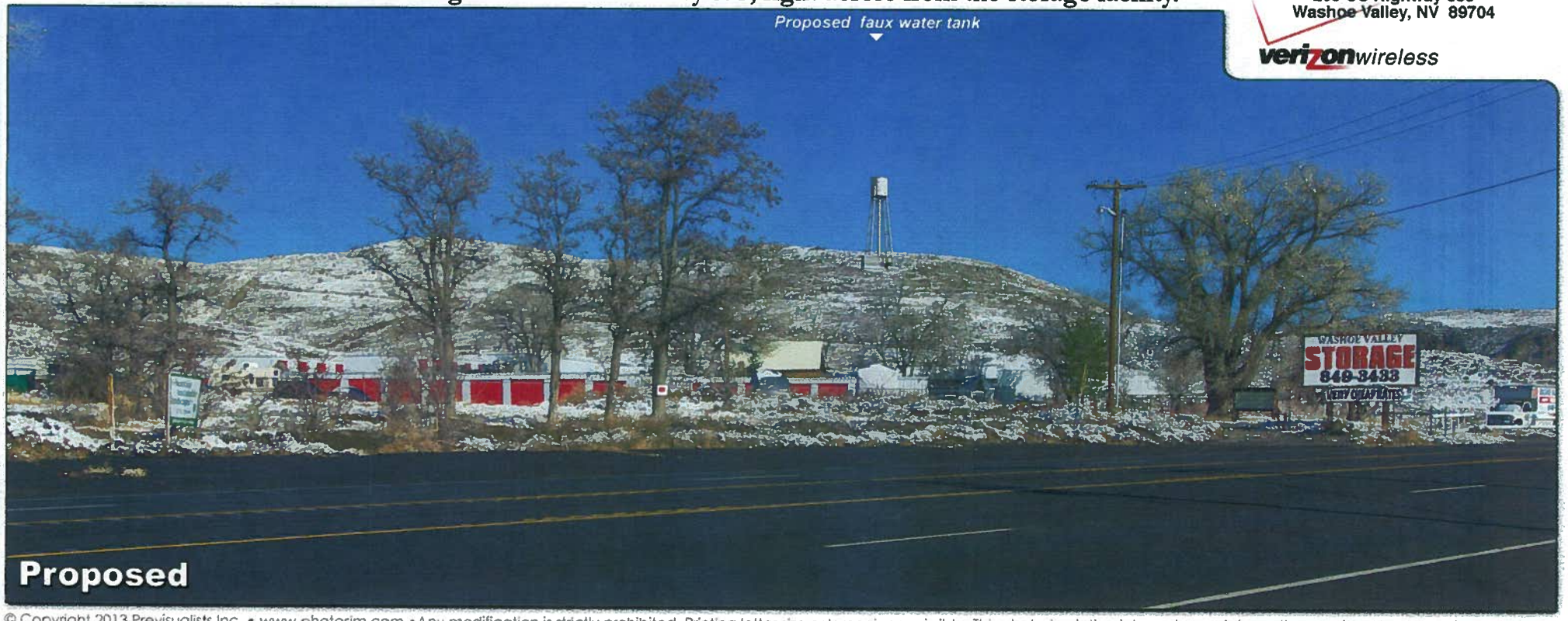


Pleasant Valley

205 US Highway 395
Washoe Valley, NV 89704

verizonwireless

Photosimulation of the view looking north from Old Hwy 395, right across from the storage facility.



Version Date: November 22, 2013

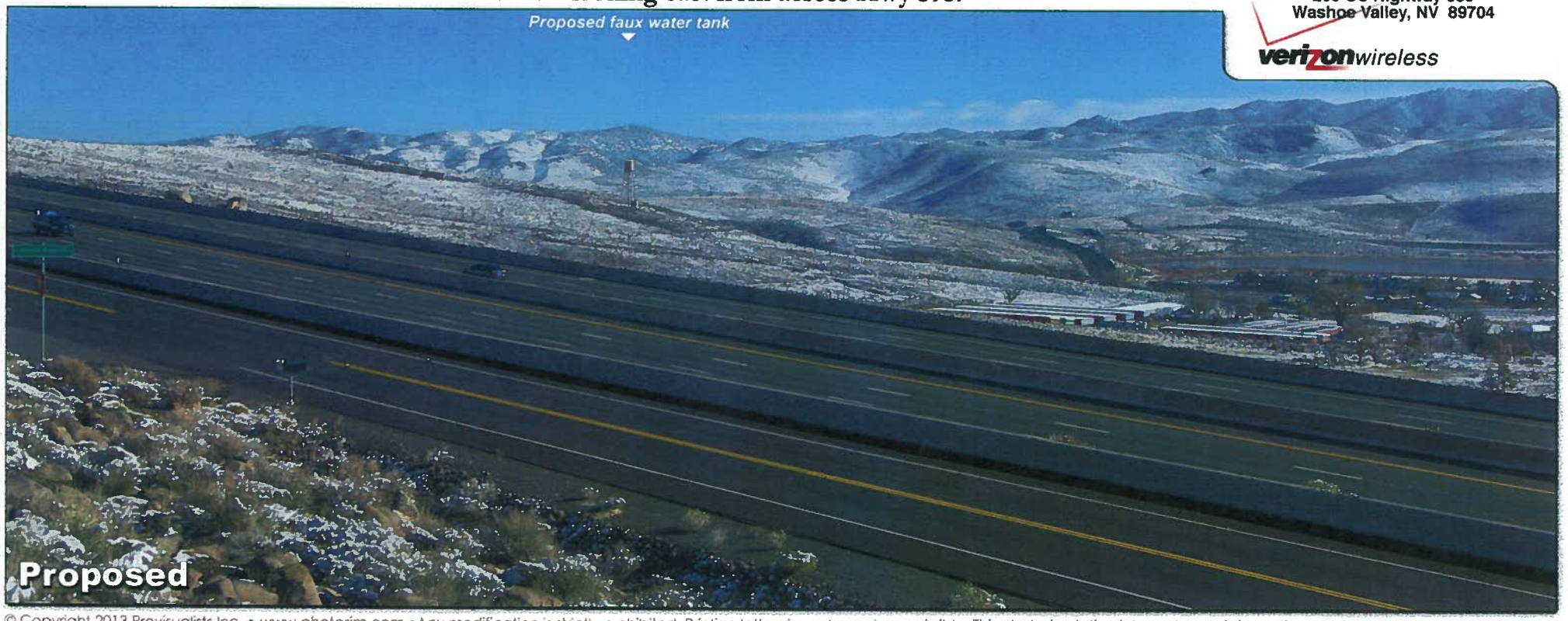
SB14-002
Exhibit E

Pleasant Valley

205 US Highway 395
Washoe Valley, NV 89704

verizonwireless

Photosimulation of the view looking east from across Hwy 395.



Version Date: March 12, 2014

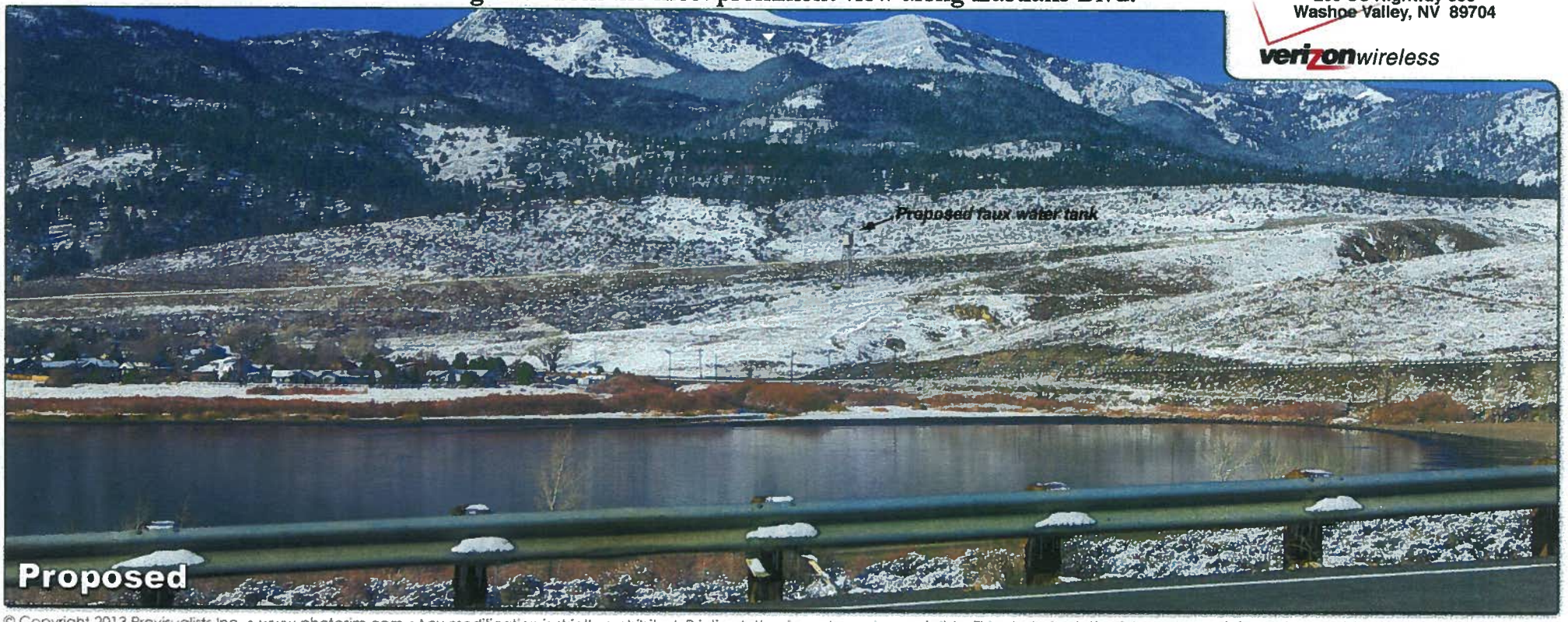
SB14-002
Exhibit E

Pleasant Valley

205 US Highway 395
Washoe Valley, NV 89704

verizonwireless

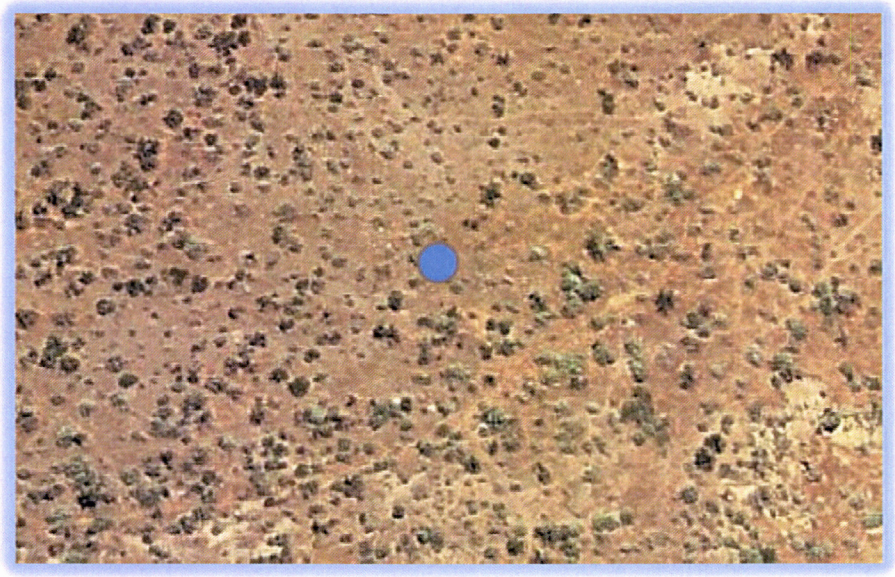
Photosimulation of the view looking west from the most prominent view along Eastlake Blvd.



Radio Frequency- Electromagnetic Energy (RF-EME) Compliance Report

Site No. N/A
Pleasant Valley
205 US Highway 395 N
Washoe Valley, Nevada 89704
Washoe County
39.331253; -119.804981 NAD83

EBI Project No. 69132002
November 12, 2013



Prepared for:

Complete Wireless Consulting Inc
2009 V Street
Sacramento, CA 95818

Prepared by:

EBI Consulting
environmental | engineering | due diligence

SB14-002
Exhibit F

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APPENDICES

EXECUTIVE SUMMARY

Purpose of Report

EnviroBusiness Inc. (dba EBI Consulting) has been contracted by Verizon Wireless to conduct radio frequency electromagnetic (RF-EME) modeling for Verizon Site N/A located at 205 US Highway 395 N in Washoe Valley, Nevada to determine RF-EME exposure levels from proposed Verizon wireless communications equipment at this site. As described in greater detail in Section 2.0 of this report, the Federal Communications Commission (FCC) has developed Maximum Permissible Exposure (MPE) Limits for general public exposures and occupational exposures. This report summarizes the results of RF-EME modeling in relation to relevant FCC RF-EME compliance standards for limiting human exposure to RF-EME fields.

Statement of Compliance

A site is considered out of compliance with FCC regulations if there are areas that exceed the FCC exposure limits and there are no RF hazard mitigation measures in place. Any carrier which has an installation that contributes more than 5% of the applicable MPE must participate in mitigating these RF hazards.

As presented in the sections below, based on worst-case predictive modeling, there are no modeled areas on any accessible rooftop or ground-level walking/working surface related to the proposed antennas that exceed the FCC's occupational or general public exposure limits at this site.

Recommended control measures are outlined in Section 5.0 and within a Site Safety Plan (attached); this plan includes instructions to shut down and lockout/tagout this wireless equipment in accordance with Verizon's standard operating protocol.

1.0 INTRODUCTION

Radio frequency waves are electromagnetic waves from the portion of the electromagnetic spectrum at frequencies lower than visible light and microwaves. The wavelengths of radio waves range from thousands of meters to around 30 centimeters. These wavelengths correspond to frequencies as low as 3 cycles per seconds (or hertz [Hz]) to as high as one gigahertz (one billion cycles per second).

Personal Communication (PCS) facilities used by Verizon in this area operate within a frequency range of 700-2100 MHz. Facilities typically consist of: 1) electronic transceivers (the radios or cabinets) connected to wired telephone lines; and 2) antennas that send the wireless signals created by the transceivers to be received by individual subscriber units (PCS telephones). Transceivers are typically connected to antennas by coaxial cables.

Because of the short wavelength of PCS services, the antennas require line-of-site paths for good propagation, and are typically installed a distance above ground level. Antennas are constructed to concentrate energy towards the horizon, with as little energy as possible scattered towards the ground or the sky. This design, combined with the low power of PCS facilities, generally results in no possibility for exposure to approach Maximum Permissible Exposure (MPE) levels, with the exception of in areas in the immediate vicinity of the antennas.

MPE limits do not represent levels where a health risk exists, since they are designed to provide a substantial margin of safety. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size or health.

2.0 SITE DESCRIPTION

This project site includes six (6) wireless telecommunication antennas (at three sector locations) on a windmill located at 205 US Highway 395 N in Washoe Valley, Nevada.

Verizon Antenna Information (proposed Configuration)									
Antenna# and Model	Frequency (MHz)	# of Transmitters	Transmit Power (Watts)	Azimuth	Gain (dBd)	Feet above Ground (CL)	X	Y	Z
A1 Unknown	850 1900	6 3	20 16	45°	12 16	84 ft AGL	21	22	80
A2 Unknown	700 2100	1 2	20 40	45°	12 16	84 ft AGL	24	20	80
B1 Unknown	850 1900	6 3	20 16	155°	12 16	84 ft AGL	24	10	80
B2 Unknown	700 2100	1 2	20 40	155°	12 16	84 ft AGL	20	8	80
C1 Unknown	850 1900	6 3	20 16	200°	12 16	84 ft AGL	15	8	70

C2 Unknown	700 2100	1 2	20 40	200°	12 16	84 ft AGL	11	9	70

The FCC guidelines incorporate two separate tiers of exposure limits that are based upon occupational/controlled exposure limits (for workers) and general population/uncontrolled exposure limits for members of the general public that may be exposed to antenna fields. While access to this site is considered controlled, the analysis has considered exposures with respect to both controlled and uncontrolled limits as an untrained worker may access adjacent rooftop locations. Additional information regarding controlled/uncontrolled exposure limits is provided in Section 3.0. Appendix B presents a site safety plan that provides a plan view of the windmill with antenna locations.

3.0 FEDERAL COMMUNICATIONS COMMISSION (FCC) REQUIREMENTS

The FCC has established Maximum Permissible Exposure (MPE) limits for human exposure to Radiofrequency Electromagnetic (RF-EME) energy fields, based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP) and, over a wide range of frequencies, the exposure limits developed by the Institute of Electrical and Electronics Engineers, Inc. (IEEE) and adopted by the American National Standards Institute (ANSI) to replace the 1982 ANSI guidelines. Limits for localized absorption are based on recommendations of both ANSI/IEEE and NCRP.

The FCC guidelines incorporate two separate tiers of exposure limits that are based upon occupational/controlled exposure limits (for workers) and general public/uncontrolled exposure limits for members of the general public.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/ controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general public/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

General public/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment-related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Table 1 and Figure 1 (below), which are included within the FCC's OET Bulletin 65, summarize the MPE limits for RF emissions. These limits are designed to provide a substantial margin of safety. They vary by frequency to take into account the different types of equipment that may be in operation at a particular facility and are "time-averaged" limits to reflect different durations resulting from controlled and uncontrolled exposures.

The FCC's MPEs are measured in terms of power (mW) over a unit surface area (cm^2). Known as the power density, the FCC has established an occupational MPE of 5 milliwatts per square centimeter (mW/cm^2) and an uncontrolled MPE of 1 mW/cm2 for equipment operating in the 1900 MHz frequency

range. For the Verizon equipment operating at 700 MHz or 850 MHz, the FCC's occupational MPE is 2.83 mW/cm^2 and an uncontrolled MPE of 0.57 mW/cm^2. These limits are considered protective of these populations.

Table 1: Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure

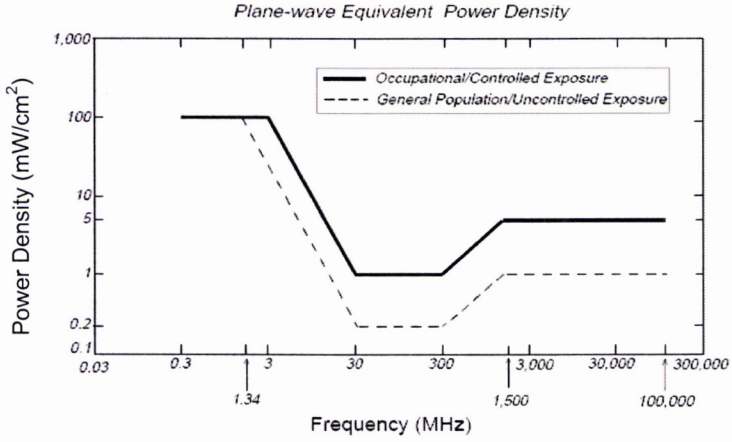
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time [E]^2, [H]^2, or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f^2)*	6
30-300	61.4	0.163	1.0	6
300-1,500	--	--	f/300	6
1,500-100,000	--	--	5	6

(B) Limits for General Public/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time [E]^2, [H]^2, or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f^2)*	30
30-300	27.5	0.073	0.2	30
300-1,500	--	--	f/1,500	30
1,500-100,000	--	--	1.0	30

f = Frequency in (MHz)
* Plane-wave equivalent power density

Figure 1. FCC Limits for Maximum Permissible Exposure (MPE)



Based on the above, the most restrictive thresholds for exposures of unlimited duration to RF energy for several personal wireless services are summarized below:

Personal Wireless Service	Approximate Frequency	Occupational MPE	Public MPE
Personal Communication (PCS)	1,950 MHz	5.00 mW/cm^2	1.00 mW/cm^2
Cellular Telephone	870 MHz	2.90 mW/cm^2	0.58 mW/cm^2

Personal Wireless Service	Approximate Frequency	Occupational MPE	Public MPE
Specialized Mobile Radio	855 MHz	2.85 mW/cm^2	0.57 mW/cm^2
Most Restrictive Freq, Range	30-300 MHz	1.00 mW/cm^2	0.20 mW/cm^2

MPE limits are designed to provide a substantial margin of safety. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

Personal Communication (PCS) facilities used by Verizon in this area operate within a frequency range of 700-2100 MHz. Facilities typically consist of: 1) electronic transceivers (the radios or cabinets) connected to wired telephone lines; and 2) antennas that send the wireless signals created by the transceivers to be received by individual subscriber units (PCS telephones). Transceivers are typically connected to antennas by coaxial cables.

Because of the short wavelength of PCS services, the antennas require line-of-site paths for good propagation, and are typically installed above ground level. Antennas are constructed to concentrate energy towards the horizon, with as little energy as possible scattered towards the ground or the sky. This design, combined with the low power of PCS facilities, generally results in no possibility for exposure to approach Maximum Permissible Exposure (MPE) levels, with the exception of areas directly in front of the antennas.

4.0 WORST-CASE PREDICTIVE MODELING

EBI has performed theoretical modeling using RoofView® software to estimate the worst-case power density at the site rooftop and ground-level resulting from operation of the antennas. RoofView® is a widely-used predictive modeling program that has been developed by Richard Tell Associates to predict both near field and far field RF power density values for roof-top and tower telecommunications sites produced by vertical collinear antennas that are typically used in the cellular, PCS, paging and other communications services. The models utilize several operational specifications for different types of antennas to produce a plot of spatially-averaged power densities that can be expressed as a percentage of the applicable exposure limit.

The modeling is based on worst-case assumptions for the number of antennas and transmitter power. The modeling assumes a maximum 12-12-12 radio configuration for Sectors A, B and C, with a power level of 43 dbM (20 watts) per transmitter for 850 and 700 frequencies, 42 dbM (16 watts) per transmitter for the 1900 frequencies, and 46 dbM (40 watts) per transmitter for the 2100 frequencies, in order to provide a worst-case evaluation of predicted MPE levels. The assumptions used in the modeling are based upon information provided by Verizon, and information gathered from other sources. The parameters used for the modeling are summarized in the RoofView® export files presented in Appendix C.

There are no other wireless carriers with equipment installed at this site.

Based on worst-case predictive modeling, there are no modeled areas on any accessible rooftop or ground-level walking/working surface related to the proposed Verizon antennas that exceed the FCC's occupational or general public exposure limits at this site. At the nearest walking/working surfaces to the Verizon antennas, the maximum power density generated by the Verizon antennas is approximately 1.60 percent of the FCC's general public limit (0.32 percent of the FCC's occupational limit). The composite exposure level from all carriers on this site is approximately 1.60 percent of the FCC's general public limit (0.32 percent of the FCC's occupational limit) at the nearest walking/working surface to each antenna.

The Site Safety Plan also presents areas where Verizon Wireless antennas contribute greater than 5% of the applicable MPE limit for a site. A site is considered out of compliance with FCC regulations if there are areas that exceed the FCC exposure limits and there are no RF hazard mitigation measures in place. Any carrier which has an installation that contributes more than 5% of the applicable MPE must participate in mitigating these RF hazards.

The inputs used in the modeling are summarized in the RoofView® export file presented in Appendix C. A graphical representation of the RoofView® modeling results is presented in Appendix B. It should be noted that RoofView is not suitable for modeling microwave dish antennas; however, these units are designed for point-to-point operations at the elevations of the installed equipment rather than ground level coverage.

5.0 MITIGATION/SITE CONTROL OPTIONS

EBI's modeling indicates that there are no areas in front of the Verizon antennas that exceed the FCC standards for occupational or general public exposure. All exposures above the FCC's safe limits require that individuals be elevated above the ground. In order to alert people accessing the rooftop, a NOC Information sign is recommended for installation at each access point to the rooftop.

Barriers are recommended for installation when possible to block access to the areas in front of the antennas that exceed the FCC general public and/or occupational limits. Barriers may consist of rope, chain, or fencing. Painted stripes should only be used as a last resort. There are no barriers recommended on this site.

These protocols and recommended control measures have been summarized and included with a graphic representation of the antennas and associated signage and control areas in a RF-EME Site Safety Plan, which is included as Appendix B. Individuals and workers accessing the roof should be provided with a copy of the attached Site Safety Plan, made aware of the posted signage, and signify their understanding of the Site Safety Plan.

Implementation of the signage recommended in the Site Safety Plan and in this report will bring this site into compliance with the FCC's rules and regulations.

6.0 SUMMARY AND CONCLUSIONS

EBI has prepared a Radiofrequency – Electromagnetic Energy (RF-EME) Compliance Report for telecommunications equipment installed by Verizon Site Number N/A located at 205 US Highway 395 N in Washoe Valley, Nevada to determine worst-case predicted RF-EME exposure levels from wireless communications equipment installed at this site. This report summarizes the results of RF-EME modeling in relation to relevant Federal Communications Commission (FCC) RF-EME compliance standards for limiting human exposure to RF-EME fields.

As presented in the sections above, based on the FCC criteria, there are no modeled areas on any accessible rooftop or ground-level walking/working surface related to the proposed antennas that exceed the FCC's occupational or general public exposure limits at this site. Workers should be informed about the presence and locations of antennas and their associated fields. Recommended control measures are outlined in Section 5.0 and within a Site Safety Plan (attached); this plan includes procedures to shut down and lockout/tagout this wireless equipment in accordance with Verizon's standard operating protocol.

7.0 LIMITATIONS

This report was prepared for the use of Verizon Wireless. It was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same locale under like circumstances. The conclusions provided by EBI are based solely on the information provided by the client. The observations in this report are valid on the date of the investigation. Any additional information that becomes available concerning the site should be provided to EBI so that our conclusions may be revised and modified, if necessary. This report has been prepared in accordance with Standard Conditions for Engagement and authorized proposal, both of which are integral parts of this report. No other warranty, expressed or implied, is made.

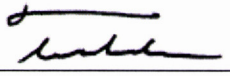
Appendix A

Certifications

Preparer Certification

I, Tama Troutman, state that:

- I am an employee of EnviroBusiness Inc. (d/b/a EBI Consulting), which provides RF-EME safety and compliance services to the wireless communications industry.
- I have successfully completed RF-EME safety training, and I am aware of the potential hazards from RF-EME and would be classified "occupational" under the FCC regulations.
- I am familiar with the FCC rules and regulations as well as OSHA regulations both in general and as they apply to RF-EME exposure.
- I have reviewed the data provided by the client and incorporated it into this Site Compliance Report such that the information contained in this report is true and accurate to the best of my knowledge.

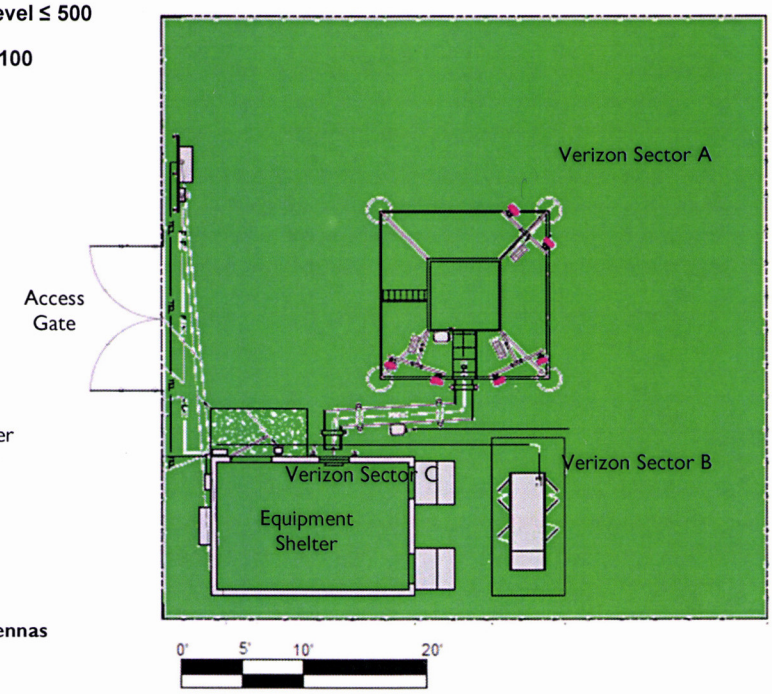


Appendix B

Radio Frequency Electromagnetic Energy Safety/ Signage Plans

% of FCC Public Exposure Limit

- **Exposure Level ≥ 5,000**
- **500 < Exposure Level ≤ 5000**
- **100 < Exposure Level ≤ 500**
- **Exposure Level ≤ 100**



*For Clarity, Other Carrier Antennas are Not Shown.

Legend

- **Verizon Antennas**
- **Other Carrier Antennas**

Roofview: Composite Exposure Levels
Facility Operator: Verizon Wireless
Site Name: Pleasant Valley
Verizon Site Number: N/A
Report Date: 11-12-13

EBI Consulting ♦ 21 B Street ♦ Burlington, MA 01803 ♦ 1.800.786.2346

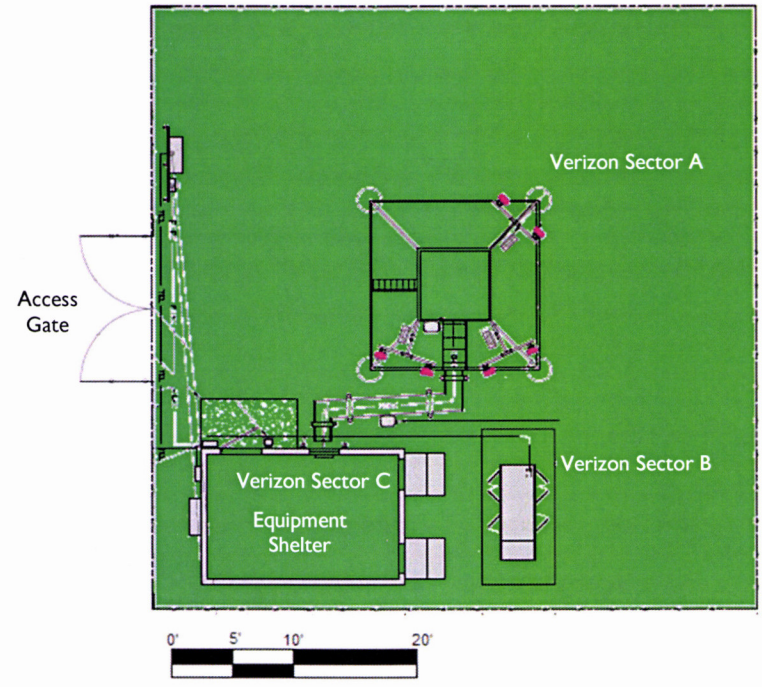
EBI Consulting
environmental | engineering | due diligence

SB14-002
Exhibit F

% of FCC Public Exposure Limit

Exposure Level >5

Exposure Level ≤ 5



*For Clarity, Other Carrier Antennas are Not Shown.

Legend

Verizon Antennas

Other Carrier Antennas

Roofview: Verizon Exposure Levels

Facility Operator: Verizon Wireless

Site Name: Pleasant Valley

Verizon Site Number: N/A

Report Date: 11-12-13

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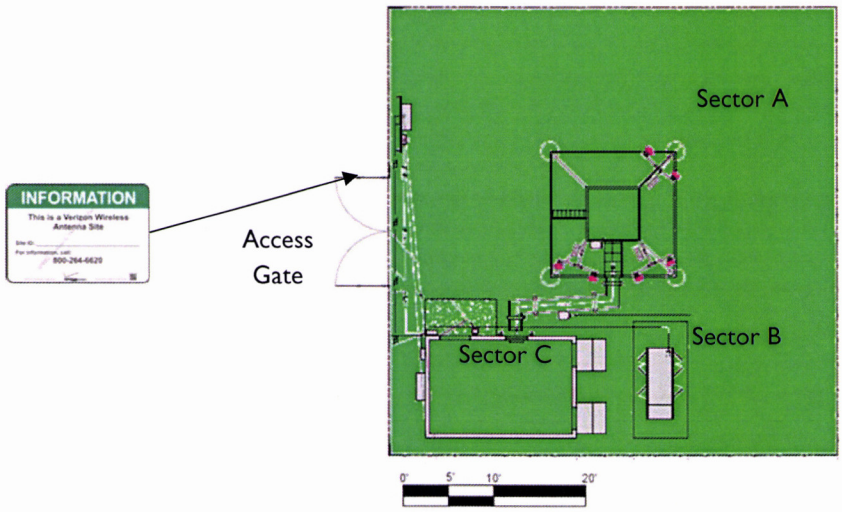
SB14-002
Exhibit F

Verizon Signage Plan



Sign Image	Description	Posting Instructions	Required Signage
	**NOC Information Sign** Informational sign with NOC Phone Number and Base Transceiver Station (BTS) Number	Securely post at every point of access to the site.	1 on compound access gate

Signage Plan
Facility Operator: Verizon Wireless
Site Name: Pleasant Valley
Verizon Site Number: N/A
Report Date: 11-12-13

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SB14-002
Exhibit F

Appendix C

Roofview® Export File

StartMapDefinition

Roof Max \	Roof Max)	Map Max \	Map Max)	Y Offset	X Offset	Number of envelope		List Of Area
120	100	150	120	20	20	1	$AE$81:$D $AE$81:$DZ$200	$AE$81:$D

StartSettingsData

Standard	Method	Uptime	Scale Factc	Low Thr	Low Color	Mid Thr	Mid Color	Hi Thr	Hi Color	Over Color	Ap Ht Mult	Ap Ht Method
4	2	1	1	100	1	500	4	5000	2	3	1.5	1

StartAntennaData It is advisable to provide an ID (ant 1) for all antennas

ID	Name	(MHz) Freq	Trans Power	Trans Count	Coax Len	Coax Type	Other Loss	Input Power	Calc Power	Mfg	Model	(ft) X	(ft) Y	(ft) Z	Type	(ft) Aper	dBd Gain	BWdth Pt Dir	Uptime Profile	ON flag
VZN A1		850	20	6	10	1/2 LDF	0.5		101.2002	Unknown	Unknown	21	22	80			8	12 85;45		ON•
VZN A1		1900	16	3	10	1/2 LDF	0.5		40.48007	Unknown	Unknown	21	22	80			8	16 85;45		ON•
VZN A2		700	20	1	10	1/2 LDF	0.5		17.14076	Unknown	Unknown	24	20	80			8	12 85;45		ON•
VZN A2		2100	40	2	10	1/2 LDF	0.5		67.46678	Unknown	Unknown	24	20	80			8	16 85;45		ON•
VZN B1		850	20	6	10	1/2 LDF	0.5		101.2002	Unknown	Unknown	24	10	80			8	12 85;155		ON•
VZN B1		1900	16	3	10	1/2 LDF	0.5		40.48007	Unknown	Unknown	24	10	80			8	16 85;155		ON•
VZN B2		700	20	1	10	1/2 LDF	0.5		17.14076	Unknown	Unknown	20	8	80			8	12 85;155		ON•
VZN B2		2100	40	2	10	1/2 LDF	0.5		67.46678	Unknown	Unknown	20	8	80			8	16 85;155		ON•
VZN C1		850	20	6	10	1/2 LDF	0.5		101.2002	Unknown	Unknown	15	8	70			8	12 85;200		ON•
VZN C1		1900	16	3	10	1/2 LDF	0.5		40.48007	Unknown	Unknown	15	8	70			8	16 85;200		ON•
VZN C2		700	20	1	10	1/2 LDF	0.5		17.14076	Unknown	Unknown	11	9	70			8	12 85;200		ON•
VZN C2		2100	40	2	10	1/2 LDF	0.5		67.46678	Unknown	Unknown	11	9	70			8	16 85;200		ON•

StartSymbolData

Sym	Map Mark	Roof X	Roof Y	Map Label	Description (notes for this table only)
Sym		5	35	AC Unit	Sample symbols
Sym		14	5	Roof Access	
Sym		45	5	AC Unit	
Sym		45	20	Ladder	

WASHOE COUNTY
COMMUNITY SERVICES DEPARTMENT
Engineering and Capital Projects Division

"Dedicated to Excellence in Public Service"

1001 East 9th Street PO Box 11130 Reno, Nevada 89520 Telephone: (775) 328-2040 Fax: (775) 328-3699

INTEROFFICE MEMORANDUM

DATE: March 06, 2014

TO: Grace Sannazzaro, Planning and Development Division

FROM: Leo R. Vesely, P.E., Engineering and Capitol Projects Division

SUBJECT: **SB14-002**
APN 046-080-42
VERIZON WIRELESS

I have reviewed the referenced special use permit case and recommend the following conditions:

1. A complete set of construction improvement drawings, including an on-site grading plan, shall be submitted when applying for a building/grading permit. Grading shall comply with best management practices (BMP's) and shall include detailed plans for grading, site drainage, erosion control (including BMP locations and installation details), slope stabilization, and mosquito abatement. Placement or removal of any excavated materials shall be indicated on the grading plan. Silts shall be controlled on-site.

2. The applicant shall provide permanent easements for the lease area, access and utilities. A copy of the easements shall be submitted to the Engineering Division prior to issuance of a building permit.

3. All existing and proposed easements shall be shown on the site and/or grading plan. The County Engineer shall determine compliance with this condition.

LRV/lrv

Community Services Department

Planning & Development Division

Regional Parks & Open Space

TO: **Grace Sannazzaro, Planner**

FROM: **Jennifer Budge, CPRP, Park Planner**

DATE: **March 7, 2014**

SUBJECT: **Special Use Permit Case Number SB14-002 (Verizon Wireless)**

The proposed project lies within Park District 3C and is adjacent to public open space owned by Washoe County (APN 046-080-01). This area will serve as a gateway to a future regional public trail system utilizing St. James Village land to the northeast of the project site up Washoe Canyon connecting to Galena Canyon and west to Callahan and Galena Creek Parks.

This area encompasses a portion of the historic Virginia and Truckee Railway (V & T) and is an important visual corridor for the residents and visitors to the community. Recently, the terrain was significantly impacted by the Washoe Fire, which not only destroyed historic trussells and other remnants of the V & T Railway, but impacted native vegetation. With the introduction of invasive species (including noxious weeds) since the fire, efforts should be made to not further impact drainage to Steamboat Creek (located at the base of Washoe Canyon), create additional disturbance during construction that would cause additional erosion due to the steep topography, or introduce additional invasive species. Visual impacts to the surrounding scenic viewshed should also be considered.

Goals applicable from Washoe County's Regional Open Space and Natural Resource Management Plan:

Goal 1 (page 43): Protect the regions visual and scenic resources
Goal 2 (page 44): Preserve and protect the visual integrity of our region's hillsides, ridges and hilltops.

Staff recommend the follow conditions for consideration:

1. Applicant will construct the project using Best Management Practices (BMP) to reduce the introduction of noxious weeds to the project area, as it is a watershed that leads to a tributary of the Truckee River (Steamboat Creek).

Applicant will require all contractors and subcontractors to use BMP's as outlined in the attached sample at all times while on the project site.

2. Disturbed land as part of the project will be revegetated with an approved seed mix and application method consistent with the surrounding environment. Placement of stockpile materials will be in a pre-approved location and protected to ensure no contamination of Steamboat Creek during construction of the project.

3. Applicant will make every effort reasonably possible to collaborate with local residents to ensure that the project blends into the natural environment as much as possible, as this is a significant scenic corridor.

University of Nevada
Cooperative Extension

Fact Sheet FS-03-59

Measures to Prevent the Spread of Noxious and Invasive Weeds During Construction Activities

Steven Siegel, Environmental Scientist
Sierra Pacific Power Company

Susan Donaldson, Water Quality Education Specialist
University of Nevada Cooperative Extension

Invasive weeds are plants that have been introduced into an environment outside of their native range, where they have few or no natural enemies to limit their spread. Invasive weeds affect us all–as homeowners, taxpayers, consumers, tourists, and land managers. Some invasive weeds are designated as noxious in Nevada state law, requiring control by the property owner or manager.

The spread of invasive and noxious weeds is a significant issue in construction projects that involve land disturbance. Earth moving activities contribute to the spread of weeds, as does the use of contaminated construction fill, seed, or erosion-control products. Permits for construction projects may now require that measures be incorporated to identify and manage these weeds.

Experience has demonstrated that prevention is the least expensive and most effective way to halt the spread of noxious and invasive weeds. Preventing the establishment or spread of weeds relies upon:

- Educating workers about the importance of managing weeds on an ongoing basis;
- Properly identifying weed species;
- Avoiding or treating existing weed populations; and
- Incorporating measures into projects that prevent weed seeds or other plant parts from establishing new or bigger populations such as certification of weed-free products.

A search was conducted of Internet sites and published permit requirements that incorporate weed prevention measures to determine appropriate practices to prevent weed spread during projects involving land disturbance. These measures may not be applicable or appropriate for all projects, but the list below should contain at least a few useful measures for any project. The weed management process should include education, weed identification, avoidance or treatment and reclamation of bare or disturbed areas. Following the list of management practices, we have provided sample suggested language for inclusion in contracts for projects that may be impacted by weed invasion.

Construction and Property Maintenance

1. Incorporate a strategy of integrated weed management into construction layout, design, and project alternatives evaluation.
2. Remove or treat seed sources and other viable reproducing plant parts that could be spread by construction disturbance or by passing vehicles or foot traffic.
3. Avoid moving weed-infested gravel, rock and other fill materials to relatively weed-free locations. Gravel and fill should come from weed-free sources. Inspect gravel pits and fill sources to identify weed-free sources.
4. Identify existing noxious weeds along access roads and control them before construction equipment moves into relatively weed-free areas.
5. Clean off-road equipment (power or high-pressure cleaning) of all mud, dirt, and plant parts before moving into relatively weed-free areas.
6. Minimize the removal of roadside vegetation during construction, maintenance and other ground-disturbing activities.
7. Use only certified weed-free straw and mulch for erosion control projects. Consider the use of weed-free fiber roll barriers or sediment logs.
8. Minimize contact with roadside sources of weed seed that could be transported to other areas.
9. Keep active road construction sites that are in relatively weed-free areas closed to vehicles that are not involved with construction.
10. Road maintenance programs should include monitoring and treatment for noxious weeds.
11. Provide training to management and workers on the identification of noxious weeds, the importance of noxious weed control and measures to minimize their spread.
12. Quickly treat individual plants or small infestations before they become established, produce seed or are able to spread.

Seeding and Planting

1. Obtain soil components and mulches from weed-free sources.
2. Purchase and use only certified weed-free seed.
3. Reestablish vegetation on all bare ground (including areas denuded by fire) to minimize weed spread.
4. Ensure establishment and maintenance of vigorous, desirable vegetation to discourage weeds.
5. Minimize contact with sources of weed seed in areas not yet revegetated.
6. Monitor all seeded sites for weed infestation. Treat all weeds adjacent to newly seeded areas prior to planting and treat planted areas for weeds in the first growing season.
7. Mulch to minimize the amount of noxious weed seeds that will reach the soil surface and subsequently germinate.

Grazing and Livestock Management

1. Refrain from grazing or moving cattle through populations of noxious weeds while they are setting seed or when fruit is ripened.

2. Purchase only weed-free hay and other feed.
3. Keep cattle and other livestock out of newly planted areas.
4. Employ rotational grazing and other management strategies that minimize soil disturbance.
5. Purge animals with weed-free feed for five days before moving them from infested to non-infested areas

General

1. Identify and map noxious weed populations on lands that you own or manage. Provide mapping information using the protocol for your state's weed mapping efforts. Contact the Natural Resources Conservation Service, 775-784-5863 ext. 118, for Nevada's protocol.
2. Suppress fires that may impact native plant populations. Clean vehicles that may contribute to the spread of weeds during fire fighting activities.
3. Minimize soil disturbances caused by water, vehicle, and animal traffic in weed infested areas.
4. Minimize transport of weed seeds or reproductive weed parts by irrigation water.

Suggested Construction Contract Wording for Weed Prevention

Note: This section is provided as an example of language that can be included in construction contracts when appropriate to help prevent the spread of weeds. Nevada Revised Statutes Chapter 555 advises that the control of noxious weeds is the responsibility of every landowner or occupant. This suggested contract wording can be modified as needed to fit individual projects.

Prior to any construction disturbance you will:

- Identify and map all noxious and invasive weed populations present in the project area
- Treat or contain any weed populations that may be impacted or disturbed by construction activity
- Flag all weed populations to be avoided
- Provide training to construction workers and equipment operators on the identification of weeds to be avoided
- Certify that all construction material sources used for supplies of sand, gravel, rock and mulch are weed-free prior to obtaining or transporting any material from them
- Obtain and use only certified weed-free straw or use fiber roll logs for sediment containment
- Wash and inspect all vehicles for weed seeds and plant parts prior to bringing them onto the job site
- Install stormwater Best Management Practices to prevent erosion of the job site and the potential transport of weedy material onto or off of the job site

During construction you will:

- Minimize ground disturbance and vegetation removal as much as possible and practical

- Wash, or using an air compressor, blow clean all vehicles (including tires and undercarriage) that may have entered weed-infested areas prior to entering uninfested areas of the job site
- Restrict vehicles or other traffic that may transport weed seeds or plant material from entering the job site unless they are first washed and inspected

After construction is complete you or the property owner will:

- Revegetate or otherwise prevent the establishment of weeds in all areas of the job site through a program of monitoring and post-construction weed treatment for the life of the project
- Revegetate using soil components and mulches obtained from non-weed infested sources
- Utilize seed and other plant materials that has been checked and certified as noxious weed-free and that has a weed content of 0.05 percent or less
- Revegetate using plant materials that have a high likelihood of survival
- Maintain all planted material and native vegetation located on the project site for the life of the project

---

References:

California Bureau of Land Management. 2003. Weed Management and Prevention Guidelines for Public Lands. http://www.ca.blm.gov/pa/weeds/weedprevent.html

Center for Invasive Plant Management. 2003. Guidelines for Coordinated Weed Management of Noxious Weeds: Development of Weed Management Areas, Section IV: Prevention and Early Detection and Appendix 1: Sample Contracts, Agreements and Memorandums of Understanding. http://www.weedcenter.org/management/guidelines/tableofcontents.html

Colorado Bureau of Land Management. 1991. Prototype Weed Prevention Measures. http://www.co.blm.gov/botany/lolostip.htm

Lewis County Noxious Weed Control Board. 2003. Weed Prevention. Washington State University Cooperative Extension. Lewis County, Washington.

Sheley, Roger and Kim Goodwin. 2000. Plan Now For Noxious Weed Invasion. Montana State University.

Sheley, R., M. Manoukian and G. Marks. 2000. Preventing Noxious Weed Invasion. Pp. 69-72 in: Biology and Management of Noxious Rangeland Weeds, ed. R.L. Sheley and J.K. Petroff. Oregon State University Press, Corvalis, Oregon.

Trainor, Meghan and A.J. Bussan. 2000. Integrated Weed Management; Preventing Weed Invasion. Montana State University Extension.

For more information, contact:

University of Nevada Cooperative Extension
5305 Mill St., Reno, NV 89502
(775) 784-4848

Nevada Department of Agriculture
405 South 21st Street, Sparks, NV 89431
(775) 353-3673

AIR QUALITY MANAGEMENT DIVISION, WASHOE COUNTY HEALTH DISTRICT

From: Albee, Charlene
Sent: Thursday, February 27, 2014 8:38 AM
To: DeLozier, Sara; Sannazzaro, Grace
Subject: RE: WC Development Applications for your Review

Good Morning,

The Air Quality Management Division has completed the review of Item 5: Verizon Wireless. The determination has been made that this project is not expected to have any air quality impacts and will therefore not require any additional comments.

Thank you for the opportunity to review the proposed project.

Charlene Albee, REM
Director, Air Quality Management Division
Washoe County Health District
1001 East Ninth Street, Suite B171
Reno, NV 89512
P.O. Box 11130
Reno, Nevada 89520-0027
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www.ourcleanair.com