ALPINE CITY COUNCIL MEETING AGENDA

NOTICE is hereby given that the **CITY COUNCIL** of Alpine City, Utah will hold a Public Meeting on **Tuesday, August 13, 2019 6:00 pm** at Alpine City Hall, 20 North Main, Alpine, Utah as follows:

I. CALL MEETING TO ORDER

A. Roll Call: Mayor Troy Stout
***Council Members may participate electronically by phone.**

II. EXECUTIVE SESSION: Discuss litigation

III. RETURN TO OPEN MEETING – 6:30 pm

A. Roll Call **Mayor Troy Stout**
B. Prayer: **Jason Thelin**
C. Pledge of Allegiance: **By invitation**

IV. CONSENT CALENDAR (These items are listed on the following page)

V. PUBLIC COMMENT

VI. ACTION/DISCUSSION ITEMS

A. The Ridge at Alpine, Phase II, Final Plat – Paul Kroff: The Council will consider approving the proposed subdivision consisting of 12 lots in the CR-40,000 to be accessed off Grove Dr. and Elkridge Lane.
B. Setback Exception Request – Site Plan on Main Street, BC Zone – Paul Anderson: The Council will consider approving an exception to the setback requirements in the commercial zone.
C. Commercial Structure Remodel – Alpine Animal Hospital: The Council will consider a request to change the siding on a building in the Gateway Historic zone.
D. Site Plan – Antenna Upgrade at Beck's Hill – T-Mobile: The Council will consider approving a request to upgrade the antenna on a cell tower on Beck's Hill.
E. Site Plan – Proposed Wireless Tower in Burgess Park – Verizon Wireless: The Council will consider approving the location of a wireless tower in Burgess Park.
F. Healey Park – Proposed Parking Lot Plan: The Council will consider approving the proposed parking lot plan in Healey Park.
G. Smooth Canyon Park – Proposed Parking Lot Plan: The Council will consider approving the proposed parking lot plan in Smooth Canyon Park.
H. Ordinance No. 2019- 18 Amending Development Code, Article 4.12: The Council will consider an amendment to Development Code to update references to the Uniform Fire Code and replace it with language from the International Fire Code.
I. Moyle Drive Access to Lambert Park

VII. COUNCIL COMMUNICATION

VIII. STAFF REPORTS

IX. EXECUTIVE SESSION: Discuss litigation, property acquisition, or the professional character, conduct or competency of personnel.

IV. CONSENT CALENDAR ITEMS

A. Minutes of the City Council Meeting of June 25, 2019
B. Partial Bond Release #1 – North Point View, Plat D: $52,867.15
C. Partial Bond Release #2 – The Ridge at Alpine, Phase I: $40,974.00
D. Partial Bond Release #6 - Alpine View Estates: $233,757.85
E. Partial Bond Release #1 – Conrad's Landing Plat C: $38,441.00
F. Award 2019 Overlay Project Bid – Staker and Parson Companies: $172,277.20.
G. Award Bid for Burgess Park North Playground Replacement – Great Western Recreation: $32,913.59
H. Final Payment Request: Water Tank Fire Project, Blue Rock Construction: $24,500.00
I. Contract Approval - Holbrook Asphalt, Pavement Preservation: $69,563.19
J. Partial Payment – Holbrook Asphalt, Pavement Preservation: $24,985.65
K. Morgan Pavement – Alpine Roads Crack Seal: $20,950.00
L. Partial Payment #3 – BMEI – PI Install, Phase III: $257,830.01
M. Red Pine Construction – Blue Spruce Road - $33,336.000

ADJOURN

Mayor Troy Stout
August 9, 2019

THE PUBLIC IS INVITED TO PARTICIPATE IN ALL CITY COUNCIL MEETINGS. If you need a special accommodation to participate, please call the City Recorder's Office at (801) 756-6347 x 4.
CERTIFICATE OF POSTING. The undersigned duly appointed recorder does hereby certify that the above agenda notice was on the bulletin board located inside City Hall at 20 North Main and sent by e-mail to The Daily Herald located in Provo, UT, a local newspaper circulated in Alpine, UT. This agenda is also available on our web site at www.alpinecity.org and on the Utah Public Meeting Notices website at www.utah.gov/pmn/index.html

PUBLIC MEETING AND PUBLIC HEARING ETIQUETTE

Please remember all public meetings and public hearings are now recorded.

- All comments **must** be recognized by the Chairperson and addressed through the microphone.
- When speaking to the Planning Commission/City Council, please stand, speak slowly and clearly into the microphone, and state your name and address for the recorded record.
- Be respectful to others and refrain from disruptions during the meeting. Please refrain from conversation with others in the audience as the microphones are very sensitive and can pick up whispers in the back of the room.
- Keep comments constructive and not disruptive.
- Avoid verbal approval or dissatisfaction of the ongoing discussion (i.e., booing or applauding).
- Exhibits (photos, petitions, etc.) given to the City become the property of the City.
- Please silence all cellular phones, beepers, pagers or other noise making devices.
- Be considerate of others who wish to speak by limiting your comments to a reasonable length, and avoiding repetition of what has already been said. Individuals may be limited to two minutes and group representatives may be limited to five minutes.
- Refrain from congregating near the doors or in the lobby area outside the council room to talk as it can be very noisy and disruptive. If you must carry on conversation in this area, please be as quiet as possible. (The doors must remain open during a public meeting/hearing.)

Public Hearing vs. Public Meeting

If the meeting is a **public hearing**, the public may participate during that time and may present opinions and evidence for the issue for which the hearing is being held. In a public hearing there may be some restrictions on participation such as time limits.

Anyone can observe a **public meeting**, but there is no right to speak or be heard there - the public participates in presenting opinions and evidence at the pleasure of the body conducting the meeting.

CONSENT CALENDAR

August 13, 2019

ALPINE CITY COUNCIL MEETING
Alpine City Hall, 20 N. Main, Alpine, UT
June 25, 2019

I. CALL MEETING TO ORDER. The meeting was called to order at 7:00 pm by Mayor Troy Stout.

A. Roll Call: The following were present and constituted a quorum:

Mayor Troy Stout
Council Members: Jason Thelin, Ramon Beck, Carla Merrill, Lon Lott, Kimberly Bryant
Staff: Shane Sorensen, Charmayne Warnock, David Church, Austin Roy, Chief Brian Gwilliam, Chief Reed Thompson, David Sanderson
Others: Stewart Black, Tanya Black, Ian Black, Devyn Black, Carley Porter, Scott Rice, Sylvia Christiansen, Will Jones

B. Prayer: Carla Merrill
C. Pledge of Allegiance: Devin Black

II. CONSENT CALENDAR

A. Minutes of the City Council Meeting June 25, 2019
B. Award Bid for Blue Spruce Road Reconstruction – Red Pine Construction: $41,714.00
C. Partial Bond Release #5 – Alpine View Estates: $148,091.65
D. Final Bond Release – North Point View, Plat C: $28,121.75
E. Bertha's Place Subdivision – Paper Bond Release - $164,777.73
F. Interlocal Agreement with Utah County Relating to the Community Development Block Grant Program
G. Expenditure of Park Impact Fees for Restroom Facility in Smooth Canyon Park - $115,139.00

Shane Sorensen said that they would be moving the existing restroom in Smooth Canyon Park to Healey Park and building a larger restroom for Smooth Canyon Park in a location that would allow them to expand the parking lot to the east instead of the north, which would work better for everyone.

MOTION: Lon Lott moved to approve the Consent Calendar. Ramon Beck seconded. Ayes: 4 Nays: 0. Motion passed. Kimberly Bryant was not present at the time of the motion.

Ayes	Nays
Jason Thelin	none
Ramon Beck	
Carla Merrill	
Lon Lott	

III. PUBLIC COMMENT. There were no comments.

IV. REPORTS and PRESENTATIONS

A. Financial Report- May 2019. Shane Sorensen presented the Financial Report as of May 2019.

V. DISCUSSION/ACTION ITEMS

A. PUBLIC HEARING – ALPINE CITY BUDGET FISCAL YEAR 2019-20

Shane Sorensen introduced the proposed budget which anticipated a tax increase. He said the increase would mainly cover the increased costs of the Lone Peak Public Safety District, which included the cost of Cedar Hills leaving the District and an increase in police salaries and benefits to improve recruitment and retention of qualified police

officers. There was a lot of competition with other cities for good officers because fewer and fewer people were opting to enter police service. Mr. Sorensen explained that the budget they adopted that evening would be more of a tentative budget pending the Truth and Taxation Hearing scheduled for August 20, 2019. After the Hearing, the final budget would be adopted along with the new tax rate before September 1st. He said the proposed budget was balanced. The proposed tax increase would be 31% for Alpine City's share, which translated to about $35.50 per year for every $100,000 in home value. The tax increase for a home valued at $600,000 would be about $211 a year.

Mayor Stout noted that the Council held a special meeting on June 6th to discuss the proposed tax increase and to receive public input. Those who attended generally support the proposed tax increase.

Mayor Stout open the Hearing to public comment.

Will Jones – Grove Drive. He said there were two points he wanted to make. First, if the City Council had annexed the Lambert Park Estates subdivision as requested by the developers, it would have increased the City's revenue by $70,000 a year with no costs. Instead, all the taxes, building permit fees, and impact fees would be going to the County. Second, he proposed that instead of raising taxes, the Council impose a fee on the utility bill for public safety services. The homes in the TR-10,000 zone, which mostly had smaller homes and residents on fixed incomes would pay a lesser fee. The fee for the other zones, CR-20,000, CR-40,000 would increase as the lot and home size increased and people generally had more money. That way they city would start getting increase revenue immediately instead of waiting until November when taxes were due.

Ramon Beck asked David Church if that would be legal fee.

David Church said that, in his opinion, it would not be a legal method of increasing revenue. He said cities didn't have the authority for that kind of tax and in other communities where it was done, it was being challenged. He said he had researched it over the years and advised cities that it was risky to provide public safety on a fee basis. If they did charge a fee, they could not justify it based on the zone. It had to be based on service, and typically residents in poorer neighborhoods placed a greater demand on police and EMS services. In addition, taxes were deductible and fees were not. He said that if elderly people had trouble paying their taxes, they could always apply for a circuit breaker for assistance with taxes. That option was not available to the elderly to offset fees.

David Church said the legislature determined what taxes were available to fund cities. Cities had authority for property tax, sales tax, and a tax on gas, power and phone. Cities were given a portion of state taxes for roads. He said Alpine City was at the maximum assessment on energy and sales tax, but not on phone tax, so they could consider increasing the phone tax. Shane Sorensen said that based on 2018, raising the phone tax would not generate what they needed.

David Church said people should be aware of that fact that the city spent almost 100% of the property taxes on police and fire service along with a bulk of the sales taxes. The rest of the city was operated on water and sewer fees. There was no fluff in Alpine City's budget. The Council could reduce their budget if they quit funding parks and recreation because that was about the only place where they could cut it.

Sylvia Christiansen – High Bench Road. She thanked the Council for taking care of their money. She said she had two questions. First, what was the redemption tax and what were tipping fees for trash service.

David Church said the redemption tax was the property taxes that were paid late. He said property owners had up to five years to pay their past due property taxes before the property went to a tax sale.

Shane Sorensen said the tipping fees were paid when the garbage was taken to the landfill. The City paid that fee directly to the landfill for the use of the landfill. The other line item for trash service was for the trucks that picked it up.

Kimberly Bryant arrived at 7:35 pm.

There were no more comments and Mayor Stout closed the public hearing.

B. Ordinance No. 2019-15 - Adoption of Budget FY2019-20

MOTION: Ramon Beck moved approve Ordinance No. 2019-15 approving the Budget for Fiscal Year 2019-20 and schedule a Truth in Taxation hearing for August 20, 2019. Carla Merrill seconded. Ayes: 5 Nays: 0. Motion passed.

Ayes	Nays
Jason Thelin	none
Ramon Beck	
Carla Merrill	
Kimberly Bryant	
Lon Lott	

C. PUBLIC HEARING – AMENDED BUDGET FISCAL YEAR 2018-19

Shane Sorensen explained that the first two amendments dealt with the recent lawsuit which transferred $1,000,000 from the Capital Project Fund into the General Fund in order to pay the judgement to Patterson. The second transfer was to cover the court costs which exceeded what was budgeted for court costs.

Mayor Troy Stout opened the Hearing for public comment. There were no comments and the Hearing was closed.

D. Ordinance No. 2019-16 – Amending the Budget for FY2018-19

MOTION: Ramon Beck moved to approve Ordinance No. 2019-16 Amending the Budget for Fiscal Year 2018-19. Kimberly Bryant seconded. Ayes: 5 Nays: 0. Motion passed.

Ayes	Nays
Jason Thelin	none
Ramon Beck	
Carla Merrill	
Kimberly Bryant	
Lon Lott	

E. Request to pay cash in lieu of water rights for Conrad's Landing Subdivision, Plat C – Steve McArthur.

Shane Sorensen said the developer was attempting to purchase water rights to meet the water requirement for the 7-lot subdivision, but in the event that he was unable to obtain them, he had requested to pay cash for water rights. He needed 9 acre-feet of water. For a cash payment in lieu of water rights, the ordinance required 125% of the cost of the water. A primary share of Alpine Irrigation water was valued at $6,000. There were three acre-feet in a primary share, which would make the cost $22,500. Shane Sorensen said the City used the cash to purchase shares as people wanted to sell them.

MOTION: Ramon Beck moved to approve Steve McArthur's request to pay cash in lieu of water rights for Conrad's Landing, Plat C at cost of $22,500. Lon Lott seconded. Ayes: 5 Nays: 0. Motion passed.

Ayes	Nays
Jason Thelin	none
Ramon Beck	
Carla Merrill	
Kimberly Bryant	
Lon Lott	

F. Fireworks Restriction Map for 2019

Fire Chief Reed Thompson said the proposed map from 2019 had not changed from the map they approved for 2018. Cities were required by the state legislature to adopt a map showing where fireworks were restricted.

MOTION: Lon Lott moved to approve the Fire Restriction map for 2019. Kimberly Bryant seconded. Ayes: 5 Nays: 0. Motion passed.

Ayes	Nays
Jason Thelin	none
Ramon Beck	
Carla Merrill	
Kimberly Bryant	
Lon Lott	

G. Site Plan – Setback Exception in BC Zone – Paul Anderson.

Austin Roy said Paul Anderson had withdrawn his request to have this on the agenda.

H. Ordinance No. 2019-11 Amending the Zoning Ordinance.

Austin Roy said the proposed amendment would require a setback of five feet between the main dwelling and an accessory structure. The other setbacks did not change. He said the Uniform Building Code required a setback of 5 feet between the dwelling and an accessory building.

Kimberly Bryant asked if there had been complaints about accessory buildings being too close to a house. Austin Roy said they'd had a call from someone who thought the house was built too close to the property line, but it was an accessory building built right next to the house and made of the same material so it appeared to be part of the house but was, in fact, a detached accessory building.

Chief Reed Thompson said the reason for the setback was that if a fire engulfed an accessory building or the main structure on one lot, it reduced the exposure to the home or neighboring homes.

The Council discussed the amendment and wondered if it would be overly restrictive. It was suggested there could be language allowing accessory building to be built closer to the house if fire resistant materials were used, but while that language was worked out, they voted to approve the amendment.

MOTION: Carla Merrill moved to approve Ordinance No. 2019-11 amending the zoning ordinance to require a setback of five feet between an accessory building and the main dwelling. Lon Lott seconded. Ayes: 3 Nays: 1 Motion passed. Jason Thelin was not present at the time of the motion.

Ayes	Nays
Ramon Beck	Kimberly Bryant
Carla Merrill	
Lon Lott	

Jason Thelin was excused from the meeting.

I. Ordinance No. 2019-14, Amending Uses in the BC Zone.

Austin Roy said this amendment was proposed by Jason Thelin. Since he was not present to discuss his reasons for proposing the change, action on the item was postponed.

MOTION: Carla Merrill moved to table item I, Ordinance No. 2019-14. Ramon Beck seconded. Ayes: 4 Nays: 0 Motion passed.

Ayes	Nays
Ramon Beck	none
Carla Merrill	
Kimberly Bryant	
Lon Lott	

VI. COUNCIL COMMUNICATION.

Ramon Beck

- He asked if the annexation petitions from the previous year were still in process. Charmayne Warnock said the applicant had not continued the process and the petition had lapsed.
- He said he'd seen people watering whenever they wanted and wondered if the water schedule was going to be enforced. Shane Sorensen said they did plan to restrict watering to a schedule. It would be enforced when they had to start pumping water for the PI system.

Carla Merrill

- She said she was worried about all the construction trucks coming down the emergency access road in Lambert Park. Shane Sorensen said that if the officers were there to witness it, they would be cited. Troy Stout asked about gating the road. Chief Reed Thompson said that gates added to response time in an emergency.
- She reported that she had been working with a committee to get the Bonneville Shoreline trail through Alpine.

Mayor Stout

- He invited everyone to drive up to the rodeo grounds and look at the hillside where the goats were grazing. Reed Thompson said they were being very effective in creating a fire break. He suggested they reduce the grazing area to a strip that was 50 feet across and make it longer to create a more effective fire break. It would protect a larger area of the park and cost less. Shane Sorensen said the goat owner charged $1,000 an acre. Troy Stout asked the Chief to identify high risk areas in the park.

Kimberly Bryant

- She asked about the fire drills at the demolition of Bank of American Fork. Chief Thompson said it had been a great way to train new fire fighters and they appreciated the opportunity the bank offered.

Lon Lott

- He reported on the Utah Lake Commission meeting. Utah lake was 25.9 feet below full. When it was full, they pumped it into the Jordan River. Strawberry was 91% full. The upper spillway by the reservoir was taller than Niagara Falls. They estimated a five to ten-year reserve.

VII. STAFF REPORTS

Shane Sorensen

- He'd sent out an email about a task force meeting that week if the Council was interested. UDOT would be doing work on Alpine Highway and SR-92.
- The PI meter project was two weeks from being complete.
- They were working on the storm drain on 600 North. There had been a lot of utility issues, but the pipe was in and they would begin restoration.

Austin Roy said they were facing a challenge with short term rentals. The ordinance did not allow rentals of less than 30 days but there were a number of them already operating in the city. The Council needed to decide what to do. Other cities had decided to allow them and regulate them since people were doing it anyway. Alpine already had about 30 such rentals. The City Council indicated they should look into allowing and regulating short term rentals.

Reed Thompson said Cedar Hills was beginning to move out, so the station in Alpine would have an extra person.

VIII. EXECUTIVE SESSION: None held.

MOTION: Carla Merrill moved to adjourn. Kimberly Bryant seconded. Ayes: 4 Nay: 0. Jason Thelin was not present at the time of the motion. Motion passed.

Ayes	Nays
Ramon Beck	none
Carla Merrill	
Kimberly Bryant	
Lon Lott	

The meeting was adjourned at 9:30 pm.

ALPINE CITY
ESCROW BOND RELEASE FORM
Bond Release 1

BOND HOLDER

Thru Period Ending: June 25, 2019

North Point Plat D
Location: 1150 N East View Lane

Description	Quantity	Units		Unit Price	Total Cost	% Completed This Period**	% Completed To Date**		Total This Period
SWPPP									
Silt Fence	870	LF	@	$3.00	$2,610.00	15.0%	95.0%	$	391.50
Concrete Washout	1	LS	@	$900.00	$900.00	15.0%	95.0%	$	135.00
Curb Inlet Protection	2	EACH	@	$500.00	$1,000.00	15.0%	95.0%	$	150.00
Toilet	1	LS	@	$700.00	$700.00	15.0%	95.0%	$	105.00
Re-seeding disturbed areas	1	LS	@	$1,000.00	$1,000.00	0.0%	0.0%	$	-
DIRT WORK									
Clear and Grub	23,400	SF	@	$0.14	$3,276.00	0.0%	95.0%	$	-
Cut	1,600	CY	@	$5.00	$8,000.00	0.0%	95.0%	$	-
Fill	1,000	CY	@	$5.00	$5,000.00	0.0%	95.0%	$	-
Cleanup	1	LS	@	$4,500.00	$4,500.00	0.0%	95.0%	$	-
GPS Model	1	LS	@	$1,000.00	$1,000.00	0.0%	95.0%	$	-
SEWER									
8" PVC Sewer Main	300	LF	@	$28.00	$8,400.00	0.0%	95.0%	$	-
Tie In to Exising	1	EACH	@	$200.00	$200.00	0.0%	95.0%	$	-
48" Dia. Manhole	3	EACH	@	$3,100.00	$9,300.00	0.0%	95.0%	$	-
4" Sewer Lateral	7	EACH	@	$1,200.00	$8,400.00	0.0%	95.0%	$	-
Bedding Material	560	TONS	@	$14.00	$7,840.00	0.0%	95.0%	$	-
Clean & Video	300	LS	@	$3.50	$1,050.00	0.0%	95.0%	$	-
Testing	3	LS	@	$350.00	$1,050.00	0.0%	95.0%	$	-
CULINARY WATER									
10" C900 Main	315	LF	@	$33.37	$10,511.55	0.0%	95.0%	$	-
10" MJ Bends	3	EACH	@	$388.00	$1,164.00	0.0%	95.0%	$	-
10"x6" Reducer	1	EACH	@	$252.00	$252.00	0.0%	95.0%	$	-
Connect to Existing	1	EACH	@	$300.00	$300.00	0.0%	95.0%	$	-
6' Fire Hydrant	1	EACH	@	$3,250.00	$3,250.00	0.0%	95.0%	$	-
Vavle Box	1	EACH	@	$90.00	$90.00	0.0%	95.0%	$	-
6" MjxFlg Gate Valve	1	EACH	@	$857.80	$857.80	0.0%	95.0%	$	-
10" Mega Lugs	8	EACH	@	$130.00	$1,040.00	0.0%	95.0%	$	-
6" Mega Lugs	2	EACH	@	$62.00	$124.00	0.0%	95.0%	$	-
6" Flg Pack	1	EACH	@	$23.00	$23.00	0.0%	95.0%	$	-
1" Water Services	7	EACH	@	$1,653.50	$11,574.50	0.0%	95.0%	$	-
Locate Wire	650	LF	@	$0.50	$325.00	0.0%	95.0%	$	-
Bedding Material	410	TONS	@	$14.00	$5,740.00	0.0%	95.0%	$	-
Thrust Blocks	4	EACH	@	$200.00	$800.00	0.0%	95.0%	$	-
PRESSURIZED IRRIGATION SYSTEM									
4" C900 Pipe	280	LF	@	$16.76	$4,692.80	0.0%	95.0%	$	-
4x2" Blow Off	1	EACH	@	$860.00	$860.00	0.0%	95.0%	$	-
1" PI Service	7	EACH	@	$1,000.00	$7,000.00	0.0%	95.0%	$	-
Locate Wire	580	LF	@	$0.50	$290.00	0.0%	95.0%	$	-
Connect to Existing	1	LS	@	$300.00	$300.00	0.0%	95.0%	$	-
Bedding Material	175	TONS	@	$14.00	$2,450.00	0.0%	95.0%	$	-
Thrust Blocks	1	EACH	@	$200.00	$200.00	0.0%	95.0%	$	-
Testing	1	LS	@	$1,500.00	$1,500.00	0.0%	95.0%	$	-
4" Mega Lug	1	EACH	@	$70.00	$70.00	0.0%	95.0%	$	-
IRRIGATION									
30" RCP	568	LF	@	$63.37	$35,994.16	0.0%	95.0%	$	-
60" Dia. Manhole	4	EACH	@	$2,940.00	$11,760.00	0.0%	95.0%	$	-
Bedding Material	375	TONS	@	$14.00	$5,250.00	0.0%	95.0%	$	-
1 Specialized Box	1	LS	@	$3,815.00	$3,815.00	0.0%	95.0%	$	-
Connect to Existing	1	LS	@	$750.00	$750.00	0.0%	95.0%	$	-
CONCRETE									
2' Curb and Gutter	710	LF	@	$18.00	$12,780.00	0.0%	95.0%	$	-
Sidewalk	2,910	SF	@	$4.70	$13,677.00	95.0%	95.0%	$	12,993.15
Mob	1	LS	@	$700.00	$700.00	95.0%	95.0%	$	665.00
Curb Tie-ins	2	EACH	@	$300.00	$600.00	95.0%	95.0%	$	570.00
ASPHALT									
3" Asphalt & 8" Base	13,600	SF	@	$2.40	$32,640.00	95.0%	95.0%	$	31,008.00
10" Subbase	16,585	SF	@	$0.90	$14,926.50	0.0%	95.0%	$	-
Saw Cut	30	LF	@	$2.00	$60.00	95.0%	95.0%	$	57.00
Manhole Collars	5	EACH	@	$650.00	$3,250.00	95.0%	95.0%	$	3,087.50
Water Valve Collars	1	EACH	@	$400.00	$400.00	95.0%	95.0%	$	380.00
OTHER									
Abandon Well	1	LS	@	$9,600.00	$9,600.00	0.0%	95.0%	$	-
Street Lights	2	EACH	@	$2,700.00	$5,400.00	0.0%	0.0%	$	-
Compaction & Asphalt Testing	1	LS	@	$3,500.00	$3,500.00	95.0%	95.0%	$	3,325.00

BASE BID TOTAL	$	272,743.31	Previously Released:	$ 200,158.99
10% Warranty Amount	$	27,274.33		
TOTAL BOND AMOUNT	**$**	**300,017.64**	**This Release:**	**$ 52,867.15**
Total Released to Date	**$**	**253,026.14**		
TOTAL BOND REMAINING	**$**	**46,991.50**		

At the discrection of the city, up to 95% of the Base Bid Total may be released as partial payments and 100% of the Base Bid Total will be released at final inspection. The 10% Warranty Amount will be held for the one year warranty period.

Marcus Watkins Developer	Date
Troy Stout Mayor	Date
Jed Muhlestein, P.E. City Engineer	6/26/2019 Date
City Council (by Charmayne Warnock - City Recorder)	Date

ALPINE CITY
ESCROW BOND RELEASE FORM
Release No. 2

Thru Period Ending: Jul. 1, 2019

The Ridge At Alpine Phase 1
Location: North Elk Ridge Lane

BOND HOLDER

Description	Quantity	Units		Unit Price	Total Cost	% Completed This Period**	% Completed To Date**	Total This Period
SWPPP								
Construction Entrance	1	EACH	@ $	2,500.00	$ 2,500.00	0.0%	95.0%	$ -
Silt Fence	2925	LF	@ $	2.00	$ 5,850.00	0.0%	95.0%	$ -
Inlet Protection	9	EACH	@ $	150.00	$ 1,350.00	0.0%	95.0%	$ -
Toilet Rental	60	EACH	@ $	100.00	$ 6,000.00	0.0%	0.0%	$ -
Toilet Pad Install	1	EACH	@ $	250.00	$ 250.00	0.0%	0.0%	$ -
Street Sweeping	1	LS	@ $	5,000.00	$ 5,000.00	0.0%	0.0%	$ -
Slope Stabilization (Reseeding disturbed areas)	10	AC	@ $	200.00	$ 2,000.00	0.0%	0.0%	$ -
Concrete Washout	1	LS	@ $	2,500.00	$ 2,500.00	0.0%	0.0%	$ -
MOBILIZATION & EARTH WORK								
Mobilization	1	LS	@ $	7,500.00	$7,500.00	0.0%	95.0%	$ -
Clearing and Grubbing	13	ACRE	@ $	1,300.00	$16,900.00	0.0%	95.0%	$ -
Site Cut/Fill	44500	CY	@ $	3.50	$155,750.00	0.0%	95.0%	$ -
					$0.00			
SANITARY SEWER								
Connect to Existing Sewer Manhole	1	EACH	@ $	2,500.00	$2,500.00	0.0%	95.0%	$ -
8" SDR 35 Sewer Main	1220	LF	@ $	35.00	$42,700.00	0.0%	95.0%	$ -
60" Sanitary Sewer Manhole	2	EACH	@ $	3,250.00	$6,500.00	0.0%	95.0%	$ -
48" Sanitary Sewer Manhole	5	EACH	@ $	2,950.00	$14,750.00	0.0%	95.0%	$ -
4" Sewer Lateral	11	EACH	@ $	980.00	$10,780.00	0.0%	95.0%	$ -
STORM DRAIN								
Connect to Existing Storm Drain Manhole	1	EACH	@ $	2,500.00	$2,500.00	0.0%	95.0%	$ -
15" ADS Storm Drain Pipe	820	LF	@ $	38.00	$31,160.00	0.0%	95.0%	$ -
18" ADS Storm Drain Pipe	62	LF	@ $	48.00	$2,976.00	0.0%	95.0%	$ -
60" Storm Drain Manhole	6	EACH	@ $	3,800.00	$22,800.00	0.0%	95.0%	$ -
Curb inlet Box	7	EACH	@ $	2,850.00	$19,950.00	0.0%	95.0%	$ -
4' x 4' Cleanout Box	4	EACH	@ $	3,500.00	$14,000.00	0.0%	95.0%	$ -
60" Storm Drain Sump	1	EACH	@ $	3,850.00	$3,850.00	0.0%	95.0%	$ -
Debris Flow Nets	1	LS	@ $	271,692.00	$271,692.00	0.0%	0.0%	$ -
Temporary Storm Drain Pond	8650	CY	@ $	3.50	$30,275.00	0.0%	0.0%	$ -
Storm Drain Pond B	8453	CY	@ $	3.50	$29,585.50	0.0%	0.0%	$ -
Storm Drain Pond A - Stormtech	1	LS	@ $	65,000.00	$65,000.00	50.0%	50.0%	$ 32,500.00
CULINARY WATER								
Connect to Existing Culinary Waterline	1	EACH	@ $	5,600.00	$5,600.00	0.0%	95.0%	$ -
8" PVC C900 Water Main	995	LF	@ $	28.00	$27,860.00	0.0%	95.0%	$ -
12" PVC C900 Water Main	425	LF	@ $	39.50	$16,787.50	0.0%	95.0%	$ -
8" CW Tee	1	EACH	@ $	800.00	$800.00	0.0%	95.0%	$ -
8" CW Bend	4	EACH	@ $	800.00	$3,200.00	0.0%	95.0%	$ -
12" CW Tee	1	EACH	@ $	1,200.00	$1,200.00	0.0%	95.0%	$ -
12" CW Bend	4	EACH	@ $	1,200.00	$4,800.00	0.0%	95.0%	$ -
12" CW Cross	1	EACH	@ $	2,500.00	$2,500.00	0.0%	95.0%	$ -
Temp Blowoff	4	EACH	@ $	1,550.00	$6,200.00	0.0%	95.0%	$ -
8" Gate Valve	7	EACH	@ $	1,950.00	$13,650.00	0.0%	95.0%	$ -
12" Gate Valve	1	EACH	@ $	3,265.00	$3,265.00	0.0%	95.0%	$ -
1" Water Services	11	EACH	@ $	1,250.00	$13,750.00	0.0%	95.0%	$ -
Fire Hydrant Assembly with Valve	3	EACH	@ $	5,500.00	$16,500.00	0.0%	95.0%	$ -
PRESSURIZED IRRIGATION SYSTEM								
Remove Existing 8" Pressurized Irrigaiton Line	200	LF	@ $	12.00	$2,400.00	0.0%	95.0%	$ -
Connect to Existing Irrigation Waterline	1	EACH	@ $	4,850.00	$4,850.00	0.0%	95.0%	$ -
4" PVC C900 Irrigation Main	650	LF	@ $	24.00	$15,600.00	0.0%	95.0%	$ -
6" PVC C900 Irrigation Main	65	LF	@ $	26.00	$1,690.00	0.0%	95.0%	$ -
12" PVC C900 Irrigation Main	885	LF	@ $	38.00	$33,630.00	0.0%	95.0%	$ -
4" PI Bend	6	EACH	@ $	725.00	$4,350.00	0.0%	95.0%	$ -
12" PI Tee	1	EACH	@ $	1,200.00	$1,200.00	0.0%	95.0%	$ -
12" PI Bend	3	EACH	@ $	1,200.00	$3,600.00	0.0%	95.0%	$ -
12" PI Cross	1	EACH	@ $	2,500.00	$2,500.00	0.0%	95.0%	$ -
Temp Blowoff	3	EACH	@ $	1,550.00	$4,650.00	0.0%	95.0%	$ -
4" Gate Valve	2	EACH	@ $	1,750.00	$3,500.00	0.0%	95.0%	$ -
6" Gate Valve	1	EACH	@ $	1,850.00	$1,850.00	0.0%	95.0%	$ -
12" Gate Valve	5	EACH	@ $	3,265.00	$16,325.00	0.0%	95.0%	$ -
1" Pressurized Irrigation Services	11	EACH	@ $	1,300.00	$14,300.00	0.0%	95.0%	$ -
1" PI Service - Trailhead Landscaping	1	EACH	@ $	1,300.00	$1,300.00	0.0%	95.0%	$ -
Air Vac Assemblies	2	EACH	@ $	5,600.00	$11,200.00	0.0%	95.0%	$ -
ROADWAY IMPROVEMENTS								
Sawcut And Remove Asphalt	6000	SF	@ $	0.85	$5,100.00	0.0%	95.0%	$ -
Asphalt Trench Patching (4" HMA AC20)	6000	SF	@ $	4.60	$27,600.00	0.0%	0.0%	$ -
Rough Grade and Proof Roll Native Subgrade	89200	SF	@ $	0.10	$8,920.00	95.0%	95.0%	$ 8,474.00
24" Curb Prep (6" Road Base)	2640	LF	@ $	4.00	$10,560.00	0.0%	0.0%	$ -
24" Curb & Gutter	2640	LF	@ $	14.00	$36,960.00	0.0%	0.0%	$ -
9" Untreated Base Course	49600	SF	@ $	0.95	$47,120.00	0.0%	0.0%	$ -

3" Hot Mix Asphalt (PG58-28, 1/2", 15% RAP)	49600	SF	@	$	1.30	$64,480.00	0.0%	0.0%	$	-
Sidewalk Prep (6" Road Base)	12630	SF	@	$	0.80	$10,104.00	0.0%	0.0%	$	-
Concrete Sidewalk (4' Wide x 6" Thick)	12630	SF	@	$	3.50	$44,205.00	0.0%	0.0%	$	-
ADA Ramp	6	EACH	@	$	1,250.00	$7,500.00	0.0%	0.0%	$	-
Trailhead Drive Approach w/ 6" UTBC	180	SF	@	$	4.30	$774.00	0.0%	0.0%	$	-
Trailhead Parking Lot Asphalt Millings (4" Thick)	4000	SF	@	$	0.95	$3,800.00	0.0%	0.0%	$	-
Concrete Valve Collars	22	EACH	@	$	350.00	$7,700.00	0.0%	0.0%	$	-
Concrete Manhole Collars	13	EACH	@	$	450.00	$5,850.00	0.0%	0.0%	$	-
Parking Lot Landscaping & Screening	1	LS	@	$	2,500.00	$2,500.00	0.0%	0.0%	$	-
OTHER										
Street Lights	3	EACH	@	$	2,750.00	$8,250.00	0.0%	0.0%	$	-
Mail Box and Pad	1	EACH	@	$	2,500.00	$2,500.00	0.0%	0.0%	$	-
Compaction Testing	1	LS	@	$	7,000.00	$7,000.00	0.0%	50.0%	$	-
Clean, Camera, Air Testing (SD and Sewer)	1	LS	@	$	5,000.00	$5,000.00	0.0%	0.0%	$	-
Waterline Testing, Bacteria, and Flushing	1	LS	@	$	3,500.00	$3,500.00	0.0%	0.0%	$	-
Street Signs	3	EACH	@	$	1,500.00	$4,500.00	0.0%	0.0%	$	-
Trails	1	LS	@	$	47,147.50	$47,147.50	0.0%	72.7%	$	-
Survey	1	LS	@	$	25,000.00	$25,000.00	0.0%	50.0%	$	-
Fort Creek Variable Speed Pump Project	1	LS	@	$	342,205.50	$342,205.50	0.0%	0.0%	$	-

BASE BID TOTAL	$	1,743,952.00	Previously Released:	$ 628,327.33
10% Warranty Amount	$	174,395.20		
TOTAL BOND AMOUNT	**$**	**1,918,347.20**	**This Release:**	**$ 40,974.00**
Total Released to Date	**$**	**669,301.33**		
TOTAL BOND REMAINING	**$**	**1,249,045.88**		

At the discretion of the city, up to 95% of the Base Bid Total may be released as

Paul Kroff
Developer

Date

Troy Stout
Mayor

Date

Jed Muhlestein, P.E.
City Engineer

7.9.19
Date

City Council
(by Charmayne Warnock - City Recorder)

Date

ALPINE CITY
ESCROW BOND RELEASE FORM
Release No. 6

Thru Period Ending: July 18, 2019

Alpine View Estates
Location: 400 West

BOND HOLDER

Description	Quantity	Units		Unit Price	Total Cost	% Completed This Period**	% Completed To Date**		Total This Period
MOBILIZATION & EARTH WORK									
Mobilization/General Conditions	1	LS	@	$20,000.00	$20,000.00	0.0%	95.0%	$	-
Clear And Grub 6" ROW (To Be Spread In Lots)	3295	CY	@	$3.50	$11,532.50	0.0%	95.0%	$	-
Cut And Fill ROW	22790	CY	@	$4.00	$91,160.00	0.0%	95.0%	$	-
SWPPP	1	LS	@	$8,500.00	$8,500.00	0.0%	95.0%	$	-
SANITARY SEWER									
Connect To Existing Sewer - Core	1	EACH	@	$1,700.00	$1,700.00	0.0%	95.0%	$	-
Connect To Existing Sewer - 5' PIP Manhole	1	EACH	@	$12,100.00	$12,100.00	0.0%	95.0%	$	-
Install 8" Sewer Main	2,010	LF	@	$35.00	$70,350.00	0.0%	95.0%	$	-
Install 4' Sewer Manholes (No Collars For Offsite)	10	EACH	@	$3,600.00	$36,000.00	0.0%	95.0%	$	-
Install 5' Sewer Manholes	1	EACH	@	$4,900.00	$4,900.00	0.0%	95.0%	$	-
Sewer Laterals	19	EACH	@	$1,700.00	$32,300.00	0.0%	95.0%	$	-
CULINARY WATER									
Connect To Existing Watermain - Hot Tap	1	EACH	@	$6,400.00	$6,400.00	0.0%	95.0%	$	-
Connect To Existing Watermain	1	EACH	@	$1,800.00	$1,800.00	0.0%	95.0%	$	-
Connect To Existing Secondary Watermain - Hot Tap	1	EACH	@	$4,200.00	$4,200.00	0.0%	95.0%	$	-
Connect To Existing Secondary Watermain	1	EACH	@	$1,800.00	$1,800.00	0.0%	95.0%	$	-
Install 8" Watermain	1,960	LF	@	$23.00	$45,080.00	0.0%	95.0%	$	-
Install Water Valve And Fittings	1	LS	@	$22,500.00	$22,500.00	0.0%	95.0%	$	-
Blow Off	1	EACH	@	$1,500.00	$1,500.00	0.0%	95.0%	$	-
Install Fire Hydrants	6	EACH	@	$5,200.00	$31,200.00	0.0%	95.0%	$	-
Water Services	19	EACH	@	$1,500.00	$28,500.00	0.0%	95.0%	$	-
Remove Water Service	1	EACH	@	$1,200.00	$1,200.00	0.0%	95.0%	$	-
STORM DRAIN									
Connect To Existing Storm Drain - Core	3	EACH	@	$1,318.63	$3,955.89	0.0%	95.0%	$	-
Plug Storm Drain	2	EACH	@	$950.00	$1,900.00	0.0%	95.0%	$	-
Remove Manhole	1	EACH	@	$1,000.00	$1,000.00	0.0%	95.0%	$	-
Install 15" RCP	1,240	LF	@	$38.00	$47,120.00	0.0%	95.0%	$	-
Install 24" RCP	70	LF	@	$58.00	$4,060.00	0.0%	95.0%	$	-
Install 24" ADS	795	LF	@	$53.00	$42,135.00	0.0%	95.0%	$	-
Install Combo Box	3	EACH	@	$6,400.00	$19,200.00	0.0%	95.0%	$	-
Install Storm Drain Sumps	4	EACH	@	$5,600.00	$22,400.00	0.0%	95.0%	$	-
Install Storm Drain Control Box	1	EACH	@	$8,700.00	$8,700.00	0.0%	95.0%	$	-
Install SDMH	9	EACH	@	$3,800.00	$34,200.00	6.1%	95.0%	$	2,090.00
Install SDCB	9	EACH	@	$2,600.00	$23,400.00	0.0%	95.0%	$	-
Detention Pond Earthwork	1	LS	@	$5,500.00	$5,500.00	95.0%	95.0%	$	5,225.00
ROADWAY IMPROVEMENTS									
24" Curb And Gutter	3,805	LF	@	$20.00	$76,100.00	75.0%	95.0%	$	57,075.00
Box Top Tie Ins	12	EACH	@	$350.00	$4,200.00	95.0%	95.0%	$	3,990.00
Sidewalk	15,010	SF	@	$6.00	$90,060.00	95.0%	95.0%	$	85,557.00
ADA Ramps	6	EACH	@	$1,200.00	$7,200.00	95.0%	95.0%	$	6,840.00
Asphalt Paving (3" Of Asphalt And 8" Of Roadbase)	69,530	SF	@	$2.10	$146,013.00	45.0%	95.0%	$	65,705.85
10" Structural Fill Under Roadway - Onsite Material	74,280	SF	@	$0.15	$11,142.00	0.0%	95.0%	$	-
Street Signs	3	EACH	@	$1,000.00	$3,000.00	0.0%	0.0%	$	-
PRESSURIZED IRRIGATION SYSTEM									
Install 6" Secondary Watermain	1,695	LF	@	$17.00	$28,815.00	0.0%	95.0%	$	-
Install 4" Secondary Watermain	265	LF	@	$14.00	$3,710.00	0.0%	95.0%	$	-
Install Secondary Water Valve And Fittings	1	LS	@	$13,500.00	$13,500.00	0.0%	95.0%	$	-
Blow Off	1	EACH	@	$2,200.00	$2,200.00	0.0%	95.0%	$	-
Secondary Water Services	19	EACH	@	$1,100.00	$20,900.00	0.0%	95.0%	$	-
PI Airvac	1	EACH	@	$2,500.00	$2,500.00	0.0%	95.0%	$	-
OTHER									
Street Lights	4	EACH	@	$2,500.00	$10,000.00	0.0%	78.3%	$	-
Mail Box and Pad	1	EACH	@	$2,500.00	$2,500.00	95.0%	95.0%	$	2,375.00
Trails	2,100	LF	@	$2.00	$4,200.00	0.0%	0.0%	$	-
Traffic Control	1	LS	@	$2,000.00	$2,000.00	35.0%	95.0%	$	700.00
Compaction Testing	1	LS	@	$7,000.00	$7,000.00	35.0%	95.0%	$	2,450.00
Clean, Camera, Air Testing (SD and Sewer)	1	LS	@	$5,000.00	$5,000.00	35.0%	95.0%	$	1,750.00
Waterline Testing, Bacteria, and Flushing	1	LS	@	$3,500.00	$3,500.00	0.0%	95.0%	$	-
Utility Crossings	17	EACH	@	$1,375.00	$23,375.00	0.0%	95.0%	$	-

BASE BID TOTAL	$	1,113,208.39	Previously Released:	$ 815,284.13
10% Warranty Amount	$	111,320.84		
TOTAL BOND AMOUNT	**$**	**1,224,529.23**	**This Release:**	**$ 233,757.85**
Total Released to Date	**$**	**1,049,041.98**		
TOTAL BOND REMAINING	**$**	**175,487.25**		

At the discretion of the city, up to 95% of the Base Bid Total may be released as partial payments and 100% of the Base Bid Total will be released at final inspection. The 10% Warranty Amount will be held for the one year warranty period.

Griffin Johnson
Developer

Date

Troy Stout Mayor	Date
 Jed Muhlestein, P.E. City Engineer	7/19/2019 Date
City Council (by Charmayne Warnock - City Recorder)	Date

ALPINE CITY
ESCROW BOND RELEASE FORM
Bond Release 1

BOND HOLDER

Thru Period Ending: July 1, 2019

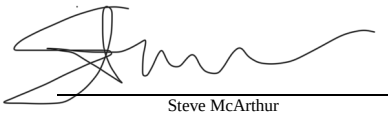
Conrads Landing Plat C
Location: 800 S Blue Moon Lane

Description	Quantity	Units		Unit Price	Total Cost	% Completed This Period**	% Completed To Date**		Total This Period
SWPPP									
Toilet	1	LS	@	$800.00	$800.00	15.0%	95.0%	$	120.00
Trackout Pad	1	LS	@	$3,500.00	$3,500.00	15.0%	95.0%	$	525.00
Concrete Washout	1	LS	@	$500.00	$500.00	15.0%	95.0%	$	75.00
Silt Fence	240	LF	@	$3.00	$720.00	15.0%	95.0%	$	108.00
Curb Inlet Protection	2	EACH	@	$300.00	$600.00	15.0%	95.0%	$	90.00
DIRT WORK									
Clear and Grub	40,960	SF	@	$0.18	$7,372.80	0.0%	95.0%	$	-
Import Fill to raise road	2,080	TONS	@	$12.00	$24,960.00	0.0%	95.0%	$	-
Fill Roadway	2,200	CY	@	$4.50	$9,900.00	0.0%	95.0%	$	-
Cleanup	1	LS	@	$5,000.00	$5,000.00	50.0%	50.0%	$	2,500.00
GPS Model	1	LS	@	$1,000.00	$1,000.00	0.0%	95.0%	$	-
SEWER									
8" PVC Sewer Main Deep	223	LF	@	$36.00	$8,028.00	0.0%	95.0%	$	-
8" PVC Sewer Main	314	LF	@	$28.00	$8,792.00	0.0%	95.0%	$	-
4" Sewer Lateral	6	EACH	@	$1,100.00	$6,600.00	0.0%	95.0%	$	-
48" Dia. Manhole	3	EACH	@	$3,100.00	$9,300.00	0.0%	95.0%	$	-
Bedding Material	510	TONS	@	$16.00	$8,160.00	0.0%	95.0%	$	-
Testing	3	LS	@	$300.00	$900.00	0.0%	95.0%	$	-
Clean & Video	537	LS	@	$3.50	$1,879.50	0.0%	95.0%	$	-
Tie In to Exising	1	EACH	@	$6,250.00	$6,250.00	0.0%	95.0%	$	-
CULINARY WATER									
8" C900 Main	420	LF	@	$25.74	$10,810.80	0.0%	95.0%	$	-
8" MJ Bends	2	EACH	@	$329.40	$658.80	0.0%	95.0%	$	-
6' Fire Hydrant	1	EACH	@	$4,481.00	$4,481.00	0.0%	95.0%	$	-
1" Water Services	6	EACH	@	$1,582.26	$9,493.56	0.0%	95.0%	$	-
Thrust Blocks	3	EACH	@	$200.00	$600.00	0.0%	95.0%	$	-
Locate Wire	720	LF	@	$0.50	$360.00	0.0%	95.0%	$	-
Bedding Material	320	TONS	@	$16.00	$5,120.00	0.0%	95.0%	$	-
Connect to Existing	1	EACH	@	$600.00	$600.00	0.0%	95.0%	$	-
8"x6" Reducer	1	EACH	@	$394.95	$394.95	0.0%	95.0%	$	-
6" C900 Pipe	20	LF	@	$20.00	$400.00	0.0%	95.0%	$	-
8" Mega Lugs	8	EACH	@	$76.70	$613.60	0.0%	95.0%	$	-
6" Mega Lugs	4	EACH	@	$60.00	$240.00	0.0%	95.0%	$	-
8" Gate Valve	1	EACH	@	$1,400.00	$1,400.00	0.0%	95.0%	$	-
Testing	1	LS	@	$1,500.00	$1,500.00	0.0%	95.0%	$	-
PRESSURIZED IRRIGATION SYSTEM									
6" C900 Pipe	420	LF	@	$20.59	$8,647.80	0.0%	95.0%	$	-
6" MJ Bend	2	EACH	@	$273.05	$546.10	0.0%	95.0%	$	-
1" PI Service	6	EACH	@	$900.00	$5,400.00	0.0%	95.0%	$	-
Thrust Blocks	3	EACH	@	$200.00	$600.00	0.0%	95.0%	$	-
6x2" Blow Off	1	EACH	@	$800.00	$800.00	0.0%	95.0%	$	-
Bedding Material	280	TONS	@	$16.00	$4,480.00	0.0%	95.0%	$	-
Locate Wire	650	LF	@	$1.00	$650.00	0.0%	95.0%	$	-
Testing	1	LS	@	$1,500.00	$1,500.00	0.0%	95.0%	$	-
6" MJ Gate Valve	1	LS	@	$960.00	$960.00	0.0%	95.0%	$	-
2" PI Drain	1	LS	@	$2,000.00	$2,000.00	0.0%	95.0%	$	-
Connect to Existing	1	LS	@	$400.00	$400.00	0.0%	95.0%	$	-
STORM DRAIN									
Double Curb Inlet (2x6x4)	1	EACH	@	$4,500.00	$4,500.00	0.0%	95.0%	$	-
Double Curb Inlet (3x6x6)	1	EACH	@	$6,750.00	$6,750.00	0.0%	95.0%	$	-
Snout	1	EACH	@	$800.00	$800.00	0.0%	95.0%	$	-
15" ADS	240	LF	@	$25.40	$6,096.00	0.0%	95.0%	$	-
Sumps 60"	1	EACH	@	$6,500.00	$6,500.00	0.0%	95.0%	$	-
Bedding Material	100	TONS	@	$16.00	$1,600.00	0.0%	95.0%	$	-
Pipe Collars	4	EACH	@	$100.00	$400.00	0.0%	95.0%	$	-
Detention Basin	1	LS	@	$10,750.00	$10,750.00	0.0%	95.0%	$	-
CONCRETE									
2' Curb and Gutter	920	LF	@	$17.00	$15,640.00	95.0%	95.0%	$	14,858.00
Sidewalk	4,600	SF	@	$4.50	$20,700.00	95.0%	95.0%	$	19,665.00
Sidewalk on Sunset Drive	740	SF	@	$4.25	$3,145.00	0.0%	0.0%	$	-
ASPHALT									
3" Asphalt & 8" Base	16,000	SF	@	$2.20	$35,200.00	0.0%	0.0%	$	-
10" Subbase	20,000	SF	@	$0.90	$18,000.00	0.0%	0.0%	$	-
Manhole Collars	3	EACH	@	$650.00	$1,950.00	0.0%	0.0%	$	-
Water Valve Collars	1	EACH	@	$450.00	$450.00	0.0%	0.0%	$	-
OTHER									
Street Lights	1	EACH	@	$2,700.00	$2,700.00	0.0%	0.0%	$	-
Mail Box and Pad	1	EACH	@	$2,500.00	$2,500.00	0.0%	0.0%	$	-
Traffic Control	1	LS	@	$2,000.00	$2,000.00	25.0%	75.0%	$	500.00
Compaction & Asphalt Testing	1	LS	@	$3,500.00	$3,500.00	0.0%	0.0%	$	-

BASE BID TOTAL	$	310,099.91	Previously Released:	$ 189,431.16
10% Warranty Amount	$	31,009.99		
TOTAL BOND AMOUNT	**$**	**341,109.90**	**This Release:**	**$ 38,441.00**

Total Released to Date	**$**	**227,872.16**
TOTAL BOND REMAINING	**$**	**113,237.74**

At the discrection of the city, up to 95% of the Base Bid Total may be released as partial payments and 100% of the Base Bid Total will be released at final inspection. The 10% Warranty Amount will be held for the one year warranty period.



Steve McArthur
Developer

Date

Troy Stout
Mayor

Date

7/17/2019

Jed Muhlestein, P.E.
City Engineer

Date

City Council
(by Charmayne Warnock - City Recorder)

Date

Contractors	Bid Amount	Rank
Engineer's Estimate	$217,079.40	
Staker & Parson Compar	$172,277.20	1
Kilgore Paving	$188,274.16	2
Geneva Rock Products	$203,161.52	4
Granite Construction	$197,548.00	3
Black Forest Paving	$280,527.60	6
Ridge Rock, Inc.	$214,807.12	5
Average	$209,432.60	

By Alpine City

PROJECT MANAGER: Shane L. Sorensen, P.E.

PROJECT: Alpine City - 2019 Overlay Project

CONSTRUCTION COST INDEX:

BID OPENING: Alpine City Hall

DATE: 22-Jul-19

FOR: Alpine City
20 North Main
Alpine, UT 84004

ITEM No.	DESCRIPTION	QUANTITY	UNITS	ENGINEER'S ESTIMATE UNIT PRICE	ENGINEER'S ESTIMATE ITEM TOTAL	BIDDER No. 1 Staker & Parson Companies UNIT PRICE	BIDDER No. 1 Staker & Parson Companies ITEM TOTAL	BIDDER No. 2 Kilgore Paving UNIT PRICE	BIDDER No. 2 Kilgore Paving ITEM TOTAL	BIDDER No. 3 Geneva Rock Products UNIT PRICE	BIDDER No. 3 Geneva Rock Products ITEM TOTAL
1	Mobilization (not to exceed 5%)	1	LS	$9,500.00	$9,500.00	$8,200.00	$8,200.00	$5,800.00	$5,800.00	$4,500.00	$4,500.00
2	Lane Levelling (more or less quantity)	80	Ton	$89.00	$7,120.00	$81.25	$6,500.00	$82.15	$6,572.00	$105.00	$8,400.00
3	2-inch Asphalt Overlay (including edge milling and traffic control)	99,540	SF	$1.05	$104,517.00	$0.82	$81,622.80	$0.98	$97,549.20	$1.06	$105,512.40
4	Variable Depth Overlay of 200 North (2" min. depth with 2.5" depth at centerline to build crown; including edge milling and traffic control)	79,952	SF	$1.20	$95,942.40	$0.95	$75,954.40	$0.98	$78,352.96	$1.06	$84,749.12
				Total:	**$217,079.40**		**$172,277.20**		**$188,274.16**		**$203,161.52**

ITEM No	DESCRIPTION	QUANTITY	UNITS	BIDDER No. 4 Granite Construction UNIT PRICE	BIDDER No. 4 Granite Construction ITEM TOTAL	BIDDER No. 5 Black Forest Paving UNIT PRICE	BIDDER No. 5 Black Forest Paving ITEM TOTAL	BIDDER No. 6 Ridge Rock, Inc. UNIT PRICE	BIDDER No. 6 Ridge Rock, Inc. ITEM TOTAL	AVERAGE COSTS UNIT PRICE	AVERAGE COSTS ITEM TOTAL
1	Mobilization (not to exceed 5%)	1	LS	$5,500.32	$5,500.32	$12,000.00	$12,000.00	$9,756.00	$9,756.00	$7,626.05	$7,626.05
2	Lane Levelling (more or less quantity)	80	Ton	$67.00	$5,360.00	$190.00	$15,200.00	$84.93	$6,794.40	$101.72	$8,137.73
3	2-inch Asphalt Overlay (including edge milling and traffic control)	99,540	SF	$1.00	$99,540.00	$1.30	$129,402.00	$1.06	$105,512.40	$1.04	$103,189.80
4	Variable Depth Overlay of 200 North (2" min. depth with 2.5" depth at centerline to build crown; including edge milling and traffic control)	79,952	SF	$1.09	$87,147.68	$1.55	$123,925.60	$1.16	$92,744.32	$1.13	$90,479.01
				Total:	**$197,548.00**		**$280,527.60**		**$214,807.12**		**$209,432.60**

* Denotes mathematical error on bid sheet.

I hereby certify that this is a true and correct Bid Tabulation for the Alpine City - 2019 Overlay Projects.

LICENSED PROFESSIONAL ENGINEER #295619 Shane Lynn Sorensen STATE OF UTAH 7-22-2019

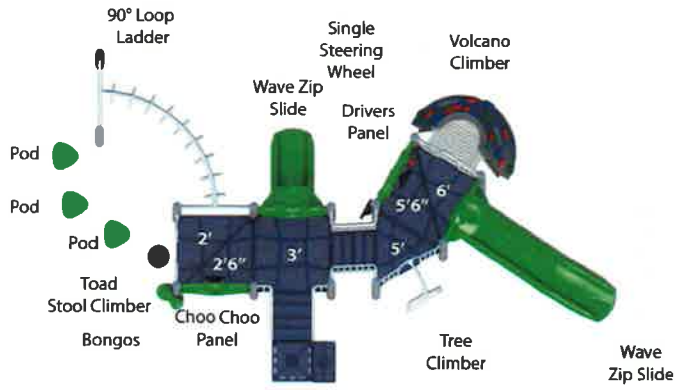
Shane L. Sorensen, P.E.
City Administrator/Public Works Director

To: **Shane Sorenson, City Manager**
From: **Jed Muhlestein, P.E., City Engineer**
Date: **July 11, 2019**
Subject: **Burgess Park Playground Replacement**

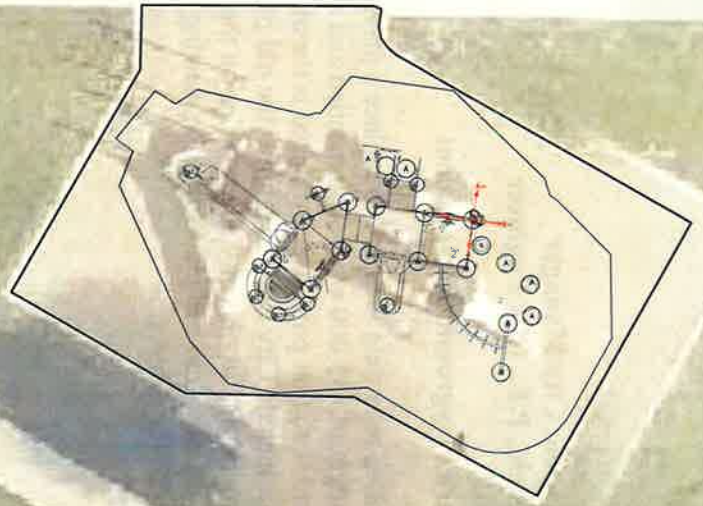
Back in March a letter was written regarding the need to replace a playground on the north end of Burgess Park. A suggested budget of $35,000 was recommended and approved for this. Staff is now requesting to move forward with that purchase. Attached is the quote for the materials and installation. The quote does not include City labor to remove the old playground or installation of fall material, estimated to be around $1500 plus city labor. Price on the equipment is slightly higher than it was previously but still within budget. Staff is requesting approval to order the equipment and move forward with the project.

GameTime Looper
Age Group: 5-12
Material Cost: $24,222.68
Shipping Cost: $1,890.91
Installation: $6,800
Fall Material: $1,500
Total: $34,413.59

Budgeted Amount: $35,000



Transfer Platform
w/ Access attachment



SCALE: 1" = 10'

REMARKS

Burgess Playground Use Zone
April, 2019

Plan View

Engineering File Number:

Drawing:

Sheet: 1 of 1

Burgess Park Looper Playground
Apline, UT

A STRONG FOUNDATION IN PLAY FOR OVER 50 YEARS

P: (435) 245-5055 / F: 435 245-5057 Lewis@gwpark.com

GREAT WESTERN
RECREATION

Burgess Park Looper Playground
Apline, UT

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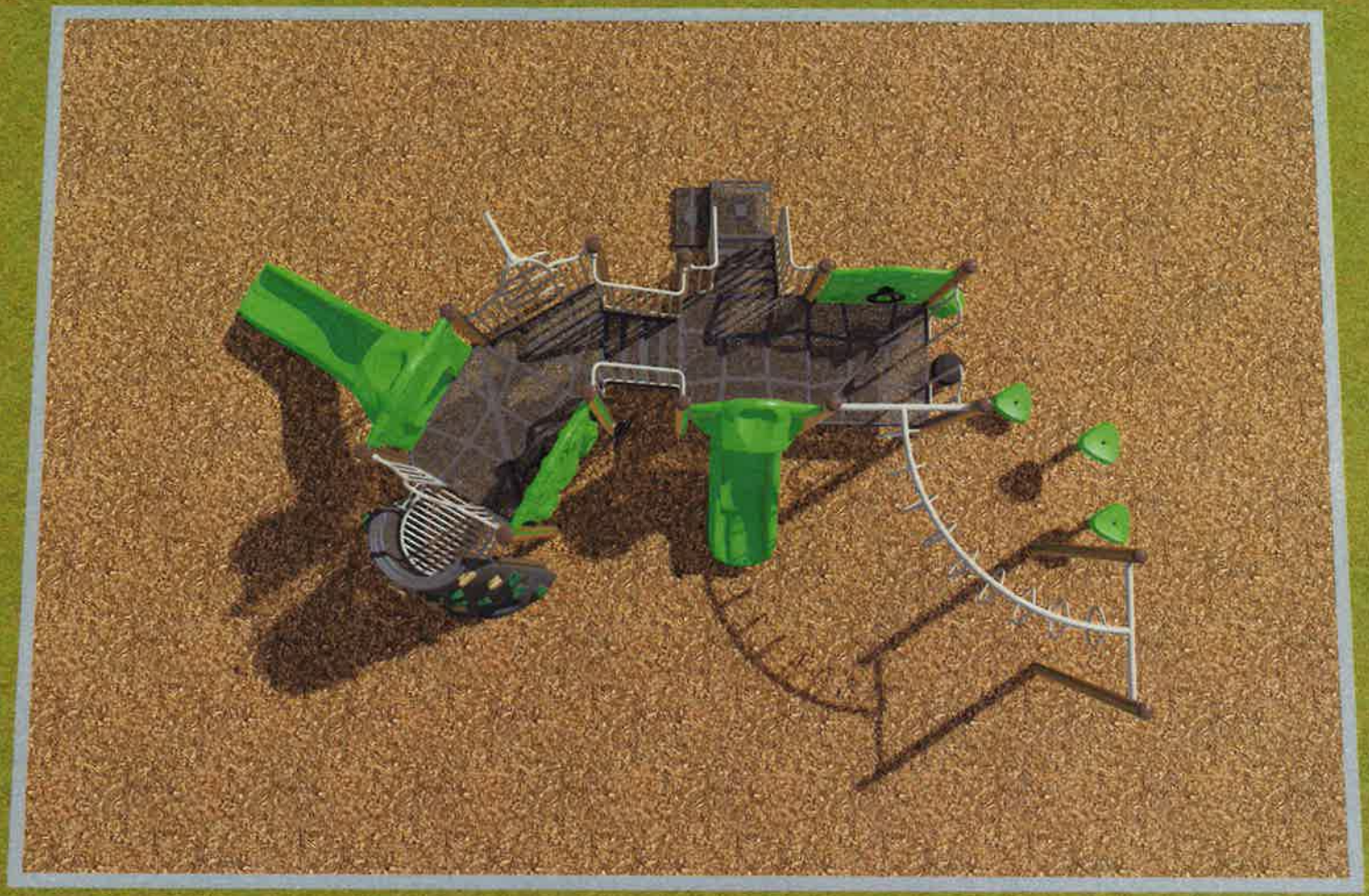

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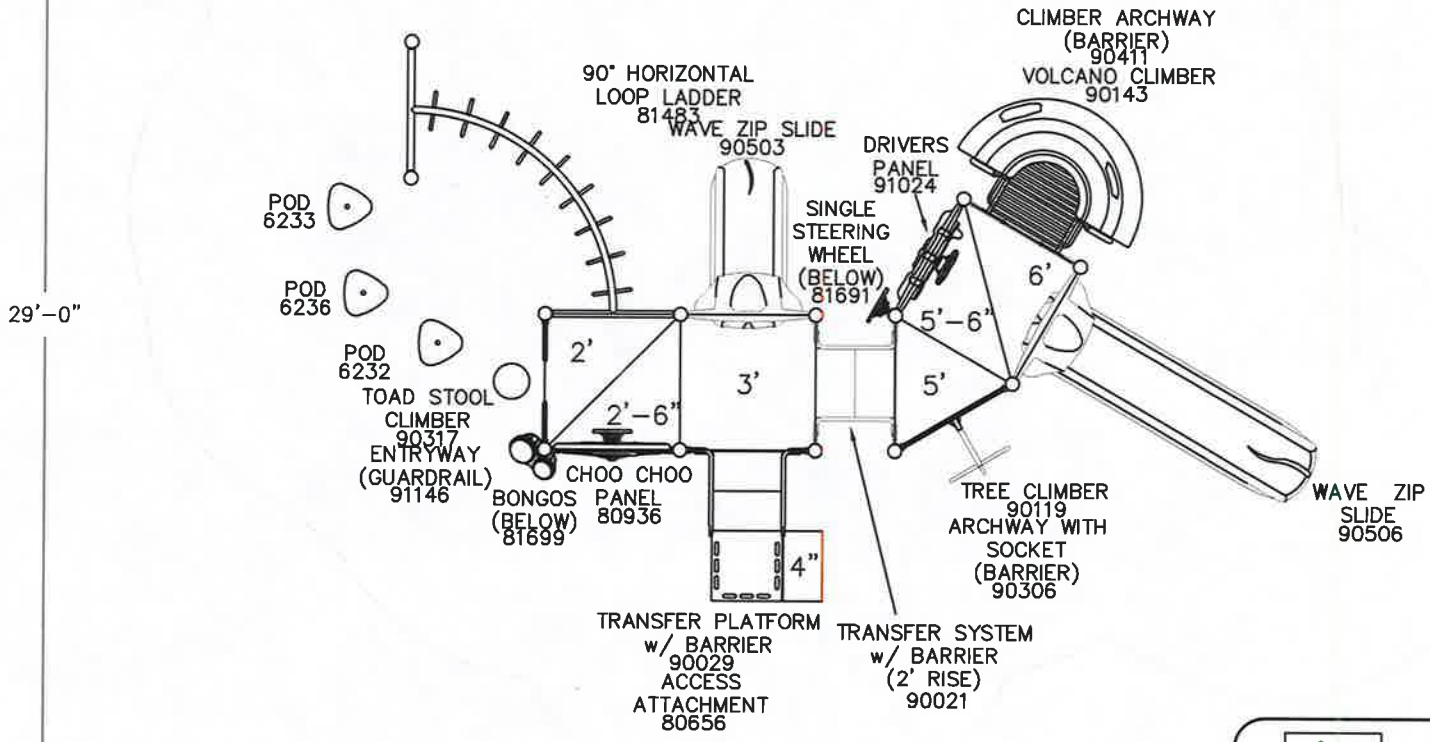
RECREATION



Sales Representative
Lewis Painter
lewis@gwpark.com
435-760-2416

GameTime
150 PlayCore Drive SE
Fort Payne, AL 35967
www.gametime.com

Alpine City

Alpine Utah

Representative
Lewis

This unit includes play events and routes of travel specifically designed to meet the 2010 DOJ ADA (Americans with Disabilities Act) Standards for Accessible Design.

Total Elevated Play Components	8			
Total Elevated Play Components Accessible By Ramp	0	Required	0	
Total Elevated Components Accessible By Transfer	8	Required	4	
Total Accessible Ground Level Components Shown	5	Required	3	
Total Different Types Of Ground Level Components	3	Required	3	

This play equipment is recommended for children ages 5 - 12

Minimum Area Required:

Scale:
This drawing can be scaled only when in an 18" x 24" format

IMPORTANT: Soft resilient surfacing should be placed in the use zones of all equipment, as specified for each type of equipment, and at depths to meet the critical fall heights as specified by the U.S. Consumer Product Safety Commission, ASTM standa d F 1487 and Canadian Standard CAN/CSA-Z-614

Drawn By: JV

Date: 7/11/19

Drawing Name: PS19019 Looper

Great Western Recreation 975 S. Hwy 89-91
Logan, UT 84321 435-245-5055
www.gwpark.com

QUOTE #99820

07/11/2019

Burgess Park Looper Playground

Alpine City
Attn: Jed Muhlestein
20 N Main
Alpine, UT 84004
Phone: 801-473-0076

Project #: P72347
Ship To Zip: 84004

Quantity	Part #	Description	Unit Price	Amount
1	RDU	Game Time - PS19019 Looper Play Structure	$31,688.00	$31,688.00
1	178749	Game Time - Owner's Kit	$55.00	$55.00
1	INSTALL	Game Time - Installation of Playground	$6,800.00	$6,800.00

Shipping to:
Alpine Utah 84004
*Customer to confirm address Site Address:
*Customer to confirm address

SubTotal:	$38,543.00
Discount:	($7,520.32)
Freight:	$1,890.91
Total Amount:	**$32,913.59**

*Freight charges are based on listed zip code and are subject to change, if shipping information changes.

Customer is responsible for offloading. No sitework or surfacing is included.

Contract: USC

Note: If you are issuing a P.O. or CONTRACT please make it payable to GameTime c/o Great Western. Checks should also be made payable to GameTime c/o Great Western*

Payment Options:

Credit Orders - Complete a GameTime Credit Application in order to receive approved credit. Allow 7-10 business days for processing time. An order deposit may be required.

Credit Card Orders - Visa, Mastercard, or American Express. Your credit card will be charged by GameTime.

Cash on Delivery(COD) - Checks made out to GameTime

This quotation is subject to policies in the current GameTime Playground Catalog and the following terms and conditions. Our quotation is based on shipment of all items at one time to a single destination, unless noted, and changes are subject to price adjustment. Purchases in excess of $1,000.00 to be supported by your written purchase order made out to GameTime, C/O Great Western.

Specifications: Specifications were current at the time of publication. GameTime has an ongoing policy of product improvement and therefore reserves the right to improve specifications or discontinue products without notice.

Terms of Sale: To governmental agencies and tax supported institutions, and those with approved credit, payment is due with 30 days from the date of invoice. A 1.5% per month finance charge will be imposed on all past due accounts. We also accept payment by VISA, Mastercard, or American Express. All other orders will requre a 50% deposit at the time of order entry. The balance will be due with a certified check upon receipt of shipment (C.O.D).

QUOTE #99820

07/11/2019

Prices: Prices are F.O.B factory and do not include freight charges. All prices listed were current at the time of puclication and quoted in U.S. funds. Prices are subject to change without notice. Current prices will apply at the time of shipment. Due to the abnormally high cost of fuel and its impact on many of the materials used in our industry, quotations are valid for 30 days only and prices may be subject to material and fuel surcharges at the time of shipment.

Freight Charges: Freight charges are determined and collected by the carrier unless GameTime is requested and agrees to prepay and add these costs to the invoice.

Taxes: If applicable, taxes will be added to the invoice except when a tax exempt certificate is provided with the purchase order at the time of order entry. Taxes will be applicable at the time of invoice.

Minimum Order: Our minimum order is $50 (USD). Any order less than $5,000 requires cash with order or payment by major credit card.

Order Cancellation: Once accepted, orders can be canceled only with the consent of GameTime, and on terms which will indemnify GameTime against loss. Canceled orders will be subject to a restocking fee. Equipment "built-to-order" is non-cancelable.

Domestic Shipments: Unless specifically given routing instructions on the purchase order, shipment will be made via the carrier we consider to be the most economical and practical in reaching the final destination. All domestic shipments are governed by ICC Regulations.

Delays in Transit: GameTime is not responsible for delays in transit and such delays shall not alter our invoicing terms. If your order does not reach you within a reasonable time after being advised that shipment went forward from our plant, GameTime will be glad to assist in the tracking process

Loss or Damage in Transit: GameTime is not responsible for loss or damage in transit. When we release the material to the carrier, a bill of lading is signed which states that the shipment was received from us complete and in good condition. A copy of this bill of lading is forwarded to you with the shipment and should be checked carefully with the materials you receive. Any shortage discrepancy or damage must be noted on the delivery receipt and signed by the carrier's representative. Failure to not expections on the delivery receipt may impair your right to recovery from the carrier.

Weights: All published weights are estimated and include appropriate packing materials. Actual weights may vary slightly.

Submittals: GameTime design proposal reflects the spirit and intent of the project plans and specifications. While some variations may exist between our quotation and the project design, the differences do not materially affect the intended use. GameTime designs and specifications are unique and not intended to be identical in all respects to other manufacturers. When requested we shall submit for review and approval by the owner's representative detailed drawings depicting the equipment to be furnished accompanied by specifications describing materials. Once approved, these drawings and specifications shall constitute the final documents for the project and shall take precedence over all other requirements.

Site Dimensions: Confirmation of final site dimensions and use zones are the responsibility of the owner.

Use Zones: Use zones shown are minimum safety zones required and should be clear of any overhead obstructions and any other encroachments. Please refer to ASTM 1487-11 a e1 for additional information regarding using zones and placement of playground equipment.

Installation: Shall be by a Certified GameTime Installer. Customer shall be responsible for scheduling coordination and site preparation. Site should be level and permit installation equipment access. Purchaser shall be responsible for unknown conditions such as buried utilities, tree stumps, bedrock or any concealed materials or conditions that may result in additional labor or material costs.

Burgess Park Looper Playground

QUOTE #99820

07/11/2019

*****ORDERS CANNOT BE PROCESSED WITHOUT COLOR OPTIONS. PLEASE CIRCLE YOUR COLOR CHOICE BELOW.**

Color Palette Name: (Circle One)

*Submarine *Jovial *Shine *Patriotic *Jellybean *Carnival *Papaya *Wisteria

*Deep Sea *Emerald *Bayou *Riverbank *Malibu *Rainforest *Atlantic

Enter Desired Custom Colors:

Uprights (Metal): Cirlce One
*Yellow *Butterscotch *Orange *Red *Burgundy *Royal Purple *Periwinkle *Sky Blue *Blue *Spring Green
*Light Green *Green *Dark Green *Brown *Beige *Bronze *Black *Starlight *Metallic *Champagne *White

Accents/Arches (Metal): Circle One
*Yellow *Butterscotch *Orange *Red *Burgundy *Royal Purple *Periwinkle *Sky Blue *Blue *Spring Green
*Light Green *Green *Dark Green *Brown *Beige *Bronze *Black *Starlight *Metallic *Champagne *White

Decks: Circle One
*Gray *Red *Blue *Brown

Plastics: Cirlce One
*Yellow *Orange *Red *Royal Purple *Periwinkle *Sky Blue *Blue *Dark Blue *Spring Green *Light Green *Green
*Brown *Beige *Champagne

Tubes (Plastic): Cirlce One
*Yellow *Orange *Red *Royal Purple *Periwinkle *Sky Blue *Blue *Dark Blue *Spring Green *Light Green *Green
*Brown *Beige *Champagn

Rock Plastics: Cirlce One
*Sandstone *Deep Granite *Red Rock (RockScape Only)

Metal Roofs: Circle One
*Yellow *Butterscotch *Orange *Red *Burgundy *Royal Purple *Periwinkle *Sky Blue *Blue *Spring Green *Light Green *Green *Dark Green *Brown *Beige *Bronze *Black *Starlight *Metallic *Champagne *White

Handgrips: Cirlce One
*Red *Green *Blue *Beige

HDPE: Cirlce One
*Yellow *Orange *Red *Purple *Sky Blue *Blue *Spring Green *Green *Beige *Black *Dolphin Gray

2 Color HDPE: Cirlce One
*Red/White *Sky Blue/White *Blue/Beige *Spring Green/White *Green/White *Green/Beige *Beige/Green *Black/White
*Dolphin Gray/Black

Canopy & Shade: Circle One
*Dandelion *Mesa *Lilac *Sky * Deep Sea *Tree Frog *Aquamarine *Azure *Evergreen *Sand *Cloud *Graphite *Khaki

Burgess Park Looper Playground

QUOTE #99820

07/11/2019

CUSTOMER ORDER ENTRY INFORMATION REQUIRED:

To Order:

Bill To:_____.

Company:_____.

Billing Contact:_____.

Address:_____.

City, State, Zip:_____.

Tel:_____.

Email:_____.

Ship To:_____.

Contact:_____.

Address:_____.

City, State, Zip:_____.

Tel:_____.

Email:_____.

SITE:

Address: _____

City, State, Zip: _____

*TO ENSURE WE HAVE ALL THE CORRECT INFORMATION, PLEASE **COMPLETELY** FILL OUT THE ORDER INFORMATION ABOVE!!

To Verify the information above is correct and colors are correct, please sign:

Customer Signature _____ Title_____

Please complete the acceptance portion of this quotation and provide color selections, purchase order copy and other key information requested. Acceptance of this proposal indicates your agreement to the terms and conditions stated herein.

Customer Signaure_____ Title_____

Burgess Park Looper Playground

QUOTE #99820

07/11/2019

TRANSPORTATION INFORMATION:

FP#_____

PO#_____

Address:_____

1. Name of Person meeting/unloading truck. _____
2. Email to send confirmation of this information to _____
3. Cell phone carrier of person meeting truck, AT&T ect. (This is used for Status Updates) which wil be sent to the person cell phone.
   * Cell_____
   * Cellular Carrier _____
4. What type of location are we delivering to? Business with dock _____ Without dock_____
   Park/Playground_____ School_____ Warehouse_____ Government Facility_____
5. What type of equipment will you be using to unload truck? Forklift with forks_____ Length of fors_____
   Lull_____ Man power only (by hand)_____ Other_____
6. What date range are you expecting delivery?_____

Once we have this information, we will send info to our Carrier and someone from the Carrier will contact the person you've provided and a scheduled delievery date will be arranged.

If for any reason you need to change any of this information please call and email so adjustments can be made.

FINAL PAYMENT REQUEST

Name of Contractor:	Blue Rock Construction				
Name of Owner:	Alpine City				
Date of Completion:	Amount of Contract:			Dates of Estimate:	
Original: 30-Sep-19	Original:	$24,500.00		From:	3-Jun-19
Revised:	Revised:			To:	15-Jul-19
Description of Job: Alpine City - Watertank Fire Project					
	Original Contract Amount				
Amount	This Period			Total To Date	
Amount Earned	$24,500.00			$24,500.00	
Amount Retained	$0.00			$0.00	
Previous Payments				$0.00	
Amount Due	$24,500.00		$	24,500.00	
Days Remaining	77 of	119		Percent Time Used:	35%
Estimated Percentage of Job Completed		100.00%			
Contractor's Construction Progress IS on schedule					

I hereby certify that I have carefully inspected the work and as a result of my inspection and to the best of my knowledge and belief, the quantities shown in this estimate are correct and have not been on previous estimates and the work has been performed in accordance with the Contract Documents

Recommended by: Alpine City Engineering Dept.

Date: 18-Jul-19

Jed Muhlestein, P.E.
City Engineer

Accepted by: Blue Rock Construction

Date: _____

Blue Rock Construction

Approved By: Alpine City

Date: _____

Troy Stout
Mayor

Project Owner: Alpine City
Project: Alpine City - Watertank Fire Project

Date: 17-Jul-19

Contractor: Blue Rock Construction

Original Contract Amount: **$24,500.00**
Revised Contract Amount:

						FINAL PAY REQUEST		Total Billing		
Item	Description	Quantity	Units	Unit Price	Amount	Quantity this Month	Earnings this Month	Quantity to Date	Earnings to Date	Percent Complete
BID SCHEDULE										
1	Mobilization (not to exceed 5%)	1	LS	$ 1,200.00	$ 1,200.00	1.0	$1,200.00	1	$1,200.00	100.0%
2	Clearing and Grubbing	1	LS	$ 5,000.00	$ 5,000.00	1.0	$5,000.00	1	$5,000.00	100.0%
3	Sawcut and Removal of Asphalt	165	LF	$ 110.91	$ 18,300.00	165.0	$18,300.00	165	$18,300.00	100.0%
	Total Bid/Contract				**$24,500.00**					
	Partial Payment Sub-Total						**$24,500.00**		**$24,500.00**	
Additive Alternates										
Change Orders									**$ -**	
	Change Order Sub-Total				**$0.00**		**$0.00**		**$0.00**	
	Total Revised				**$24,500.00**		**$24,500.00**		**$24,500.00**	
	5% Retainage				**~**				**$0.00**	
	Add Retainage									
	Total				**$24,500.00**		**$24,500.00**		**$24,500.00**	

HOLBROOK ASPHALT CO.
Asset Preservation

Utah Office
1545 E Commerce Dr.
St. George, UT 84790
435.652.4427

Nevada Office
2900 Meade Ave, Ste 7
Las Vegas, NV 89118
702.823.3902

Arizona Office
3806 S 16th Street
Phoenix, AZ 85040
602.307.0425

PROPOSAL

Date	Number
Jun 24, 2019	HAA 195210

www.HolbrookAsphalt.com

Client	Project Description	Project Location
City of Alpine C/O CITY OF ALPINE Attn: Shane Sorenson 201 N Main Street Alpine, Utah 84004	2019 High Density Mineral Bond **Advisor:** Aaron Eppley aaron@holbrookasphalt.com 435-703-0023	City of Alpine Creekside Park - 100 South and 600 East, Alpine, Utah 84004

	Description	Qty	U/M	Price	Total
	Creekside Park (100 South 600 East)				
452	**HA5 (HDMB) 117,920 Square Feet** • Clean & prepare surface using high pressure air & wire bristle brooms. Install "HA5" High Density Mineral Bond advanced performance pavement preservation treatment. No guarantee surface treatments will adhere to areas saturated with motor oil. HA5 meets demands of High Density Mineral Bond Specification established by agency engineers. INCLUDES: • Trail: 60,704 square feet • Parking Lots: 57,216 square feet	117,920	SqFt	$0.195	$22,994.40
574	**Pavement Markings (Existing Layout)** All Stripes, Symbols and Painting to follow existing pattern. Pricing is based on work being completed in 2 mobilizations. STRIPING INCLUDES • 4" White Line: 3,028 Lin. Feet • 48" ADA: 8 • (24) 12"x10' bar crosswalk with 4" border: 1 • 12" crosswalk bars beaded: 2	1		$1,991.25	$1,991.25
	Roadways (east of Creekside Park)				
452	**HA5 (HDMB) 212,274 Square Feet** • Clean & prepare surface using high pressure air & wire bristle brooms. Install "HA5" High Density Mineral Bond advanced performance pavement preservation treatment. No guarantee surface treatments will adhere to areas saturated with motor oil. HA5 meets demands of High Density Mineral Bond Specification established by agency engineers. • To be installed at an Increased application rate over existing chip seal.	212,274	SqFt	$0.21	$44,577.54

NOTES:
(1) Creekside Park to be completed prior to August 1, 2019.
(2) Traffic control will include 24-hour residential road closures. If additional closures/methods are required, additional traffic control costs will be added.
(3) Standard cleaning is included in the unit price. Items NOT considered to be Standard Cleaning include: heavy dirt, mud, construction or landscaping debris, and foreign material on the pavement surface. All non-standard cleaning requirements must be completed and approved by a Holbrook Asphalt representative prior to the start of project.
(4) All required bonding and taxes shall be added to project invoices.
(5) Pavement markings for Roadways may be added upon request.

Total	**$69,563.19**

HOLBROOK ASPHALT CO.
Asset Preservation

PROPOSAL

Date	Number
Jun 24, 2019	HAA 195210

Terms and Conditions

Proposal and pricing void 45 days from date listed on proposal. Any proposals signed that are dated longer than 45 days may have a revised and updated proposal resubmitted to client for signing.

EXCLUSIONS: Holbrook Asphalt Co. ("Contractor") is not liable for any ADA compliance, if needed, Client should consult with an ADA compliance professional prior to specific project approval. Engineering, tests, permits, inspection fees and bonding fees are not included in price unless stated otherwise. Client is responsible for having automatic or manual gates open on day of work. Any damage to gates, sensors or loop sensors above or below asphalt are responsibility of Client. Any hot-applied sealants will not be exactly level with pavement surface as material settles to fill voids. There may also be excess material on pavement surface. Regarding asphalt, concrete and excavation work: we are not responsible for subgrade scarification, re-compaction or concrete damage due to removal of asphalt. Pricing based on no more than depth dimensions listed. Upon construction, if it is determined that concrete or asphalt depth is greater than the estimation, client agrees to pricing adjustment as a result of project overrun. Not responsible for existing condition of subgrade, drainage in areas of less than 1% grade, adjustments of utilities, manholes and valve covers. We are not responsible for any damage to underground utilities and cost to repair the same.

PAYMENT TERMS: Due Upon Completion (Completion by line item 'Progress Billing' and/or completion of project core)

There may be concerns from Client following completion. Upon request, post-project walk-throughs may be scheduled to review concerns. Payment will remain due upon invoice. Contractor is committed to client satisfaction and resolving concerns, though at times, this may be delayed. As the Client, I agree to not withhold payment due to walk-through requests, cleaning, touch-up, or warranty concerns. I understand and agree that I will be billed for towing as incurred and will be due on receipt. I agree that if I demand to retain payment until warranty work or touch up is completed, the retainer will be a fixed amount of 5% of invoice, up to $750.00. Contractor reserves the right to charge up to 50% of Proposal Total if client cancels project within 25 days of scheduled project commencement. I agree that I may be billed as each line item is completed and each item may become their own respective invoice.

I understand that interest accrues on all past-due amounts at 24% per annum from invoice date, until paid in full; and may be billed collection fees of up to 40%, and Client agrees to pay all fees accrued by collection efforts. These terms apply to all amount(s) incurred by me and for whom I have committed management responsibility, regardless of timing. Total Proposal price includes one mobilization unless stated otherwise. Additional mobilizations may be billed up to $3,500 per additional mobilization. This agreement provides Client written Notice of Right to Lien. Pricing does not include Bonding or prevailing wage/Davis Bacon Certification, unless stated otherwise. By signing this proposal (contract), I agree that Holbrook Asphalt Co. may not be held liable for delays, conditions, or Acts of God beyond their control, which situations may delay or cause cancelation partially or entirely on any project. Delays include project demand and material supply.

INSURANCE: These insurance limits are listed by Holbrook Asphalt to inform Client of such. Any premiums above the following to be paid by Client. This disclosure overrules any other contract language wherein Holbrook Asphalt agrees to differing limits. Certificates available upon request.

GENERAL LIABILITY: $1m (inc.), $2m (agg.) AUTO: $1m UMBRELLA: $2m (inc.), $2m (agg.) PERSONAL INJ: $1m WORKERS COMP: $1

Ver.2018.3

* I have read and agree with these Terms and Conditions.

Signature _____ Print Name _____ Date _____

Holbrook Asphalt Co _____

HOLBROOK ASPHALT CO.

1545 E Commerce Dr
St. George UT 84790
United States

Invoice

Services Performed For

City of Alpine
Attn: Shane Sorenson
20 North Main Street
Alpine UT 84004
United States

Number	Date	PO/LD #
HAU197455	7/31/2019	

Terms

Due Upon Completion

Rep Information

Aaron Eppley, aaron@holbrookasphalt.com, 435-703-0023

Bill To

City of Alpine
Attn: Shane Sorenson
20 North Main Street
Alpine UT 84004
United States

Description

2019 High Density Mineral Bond

Description	Qty	U/M	Rate	Total
Creekside Park (100 South 600 East)	117,920	SqFt	0.195	22,994.40
HA5 (HDMB) 117,920 Square Feet Clean & prepare surface using high pressure air & wire bristle brooms. Install “HA5” High Density Mineral Bond advanced performance pavement preservation treatment. No guarantee surface treatments will adhere to areas saturated with motor oil. HA5 meets demands of High Density Mineral Bond Specification established by agency engineers. INCLUDES: Trail: 60,704 square feet Parking Lots: 57,216 square feet				
Pavement Markings (Existing Layout) All Stripes, Symbols and Painting to follow existing pattern. Pricing is based on work being completed in 2 mobilizations.	1	Ea	1,991.25	1,991.25
STRIPING INCLUDES: 4“ White Line: 3,028 Lin. Feet 48” ADA: 8 (24) 12“x10‘ bar crosswalk with 4“ border: 1 12” crosswalk bars beaded: 2				
NOTES: (1) Creekside Park to be completed prior to August 1, 2019. (2) Traffic control will include 24-hour residential road closures. If additional closures/methods are required, additional traffic control costs will be added. (3) Standard cleaning is included in the unit price. Items NOT considered to be Standard Cleaning include: heavy dirt, mud, construction or landscaping debris, and foreign material on the pavement surface. All non-standard cleaning requirements must be completed and approved by a Holbrook Asphalt representative prior to the start of project. (4) All required bonding and taxes shall be added to project invoices. (5) Pavement markings for Roadways may be added upon request.				

Total	24,985.65
Amount Due	$24,985.65

MORGAN PAVEMENT
625 South Main Street
Clearfield, Utah 84015
801-544-5947

Sold To:
ALPINE CITY
20 N MAIN
ALPINE, UT
84004
Attn: SHANE SORENSEN

Job Location:
ALPINE CRACK SEAL
TWINRIVER LOOP,RIVERVIEW DR,
FORT CIR,RIVER RD, RIVER CIR

Attn: LANDON WALLACE

INVOICE

Invoice Number:	J010631
Invoice Date:	Jul 06, 2019
Terms:	Net 30
Customer Code:	ALPINECI
Reference #1:	
Sales Cat/Slsmn:	MUNICIPAL/SMITR
Job Number:	194023TS
Job Description:	ALPINE CRACK SE
Reference #2:	

Description	Amount
BILL FOR WORK COMPLETED:	
TWIN RIVER LOOP AREA	
ASPHALT PATCHING AND CRACK SEAL	10,700.00
MIDTOWN ALPINE	
CRACK SEAL	10,250.00

- CONDITIONS -

Subtotal	20,950.00
Total Invoice	20,950.00

PARTIAL PAYMENT ESTIMATE
NO. 3

Name of Contractor:	***BMEI***				
Name of Owner:	***Alpine City***				
Date of Completion:		Amount of Contract:		Dates of Estimate:	
Original:	15-Sep-19	Original:	$671,595.00	From:	3-May-19
Revised:		Revised:	$671,595.00	To:	31-May-19
Description of Job:	***Alpine Pressurized Irrigation Installation Phase III***				

Amount	This Period	Total To Date
Amount Earned	$271,400.00	$519,082.50
Retainage Being Held	$13,570.00	$25,954.13
Retainage Being Released	$0.00	$0.00
Previous Payments		$235,298.37
Amount Due	**$257,830.00**	**$257,830.01**

Contractor's Construction Progress is ON SCHEDULE

I hereby certify that I have carefully inspected the work and as a result of my inspection and to the best of my knowledge and belief, the quantities shown in this estimate are correct and have not been shown on previous estimates and the work has been performed in accordance with the Contract Documents.

Recommended by Horrocks Engineers

Date: 7/18/2019

Kasey Chesnut
Project Manager

Accepted by: **BMEI**

Date: _____

Chad Walters
Project Manager

Approved By: **Alpine City**

Date: _____

Troy Stout
Mayor

Budget Code _____ Staff Initial _____

PROJECT: **Alpine Pressurized Irrigation Installation Phase III** **PAY PERIOD:** **1** **Apr-19**

ITEM NO.	NATURE OF WORK	CONTRACT ITEMS				QUANTITY		EARNINGS	
		Qty	Units	Unit Price	Bid Amt.	This Month	To Date	This Month	To Date
1	Mobilization	1	LS	$26,990.00	**$26,990.00**	**0.50**	**0.75**	**$13,495.00**	**$20,242.50**
2	Category 1 Install	1232	EA	$330.00	**$406,560.00**	**590.00**	**1127.00**	**$194,700.00**	**$371,910.00**
3	Category 2 Install	136	EA	$370.00	**$50,320.00**	**42.00**	**58.00**	**$15,540.00**	**$21,460.00**
4	Category 3 Install	20	EA	$390.00	**$7,800.00**	**0.00**	**19.00**		**$7,410.00**
5	Category 4 Install	20	EA	$495.00	**$9,900.00**	**1.00**	**1.00**	**$495.00**	**$495.00**
6	Install 1.5-inch	19	EA	$860.00	**$16,340.00**	**0.00**	**0.00**		**$0.00**
7	Install 2-inch	24	EA	$925.00	**$22,200.00**	**0.00**	**0.00**		**$0.00**
8	Surface Restoration Lawn	1180	EA	$85.00	**$100,300.00**	**478.00**	**929.00**	**$40,630.00**	**$78,965.00**
9	Surface Restoration Landscaped	155	EA	$105.00	**$16,275.00**	**53.00**	**155.00**	**$5,565.00**	**$16,275.00**
10	Surface Restoration Concrete / Paved	6	EA	$1,110.00	**$6,660.00**	**0.00**	**0.00**		**$0.00**
11	Surface Restoration Unimproved	110	EA	$75.00	**$8,250.00**	**13.00**	**31.00**	**$975.00**	**$2,325.00**
12	Item	0	LS	$0.00	**$0.00**	**0.00**	**0.00**		**$0.00**
13	Item	0	LS	$0.00	**$0.00**	**0.00**	**0.00**		**$0.00**
14	Item	0	LS	$0.00	**$0.00**	**0.00**	**0.00**		**$0.00**
15	Item	0	LS	$0.00	**$0.00**	**0.00**	**0.00**		**$0.00**
16	Item	0	LS	$0.00	**$0.00**	**0.00**	**0.00**		**$0.00**
17	Item	0	LS	$0.00	**$0.00**	**0.00**	**0.00**		**$0.00**
20	Item	0	LS	$0.00	**$0.00**	**0.00**	**0.00**		**$0.00**
		Subtotal			**$671,595.00**			**$271,400.00**	**$519,082.50**

Total **$671,595.00**

	TOTAL	$271,400.00	$519,082.50
AMOUNT RETAINED		**$13,570.00**	**$25,954.13**
RETAINAGE RELEASED			
PREVIOUS RETAINAGE			**$12,384.13**
PREVIOUS PAYMENTS			**$235,298.37**
AMOUNT DUE		**$257,830.00**	**$257,830.01**

Remit To:

KK&L ADMINISTRATION LLC
1106 S LEGACY VIEW STREET
SALT LAKE CITY UT 84104
Telephone: 801 679-6840

INVOICE

Invoice To:

Alpine City
20 NORTH MAIN
ALPINE UT 84004

For Work At:

ALPINE UT 84004

Invoice No.	**79-1006501**
Invoice Date	Jun 30 / 19
Our Division	7901 - Construction
Our Job No.	79010093
Our Customer No.	1122142
Your Ref. No.	

Project: ALPINE CITY PRESS IRRIG MTR P3

Progress Application No.	3		
Original Contract Amount		671,595.00	
Approved Changes To Date			
Revised Contract Amount		671,595.00	
Work Completed To	Jun 30 / 19		528,427.50
Less: Previously Invoiced			247,682.50
Gross Invoice Amount			280,745.00
Less: Holdback	(5.0 %)		(14,037.25)

Subtotal 266,707.75

Please Pay This Amount: USD 266,707.75

TERMS: 2% 10 Days, Net 30
Interest at 18% per annum charged on overdue accounts

Back–Up Detail

Invoice No.: 79–1006501 **Our Job No.:** 79010093 **Invoice Date:** Jun 30 / 19

Contractor: KK&L ADMINISTRATION LLC **Your Ref. No.:** **Work Completed To:** Jun 30 / 19 **Progress Application No.:** 3

Item No.	Description of Work	Unit	Contract Amount						Billing Summary						Remaining Balance	
			Original			Revised			Quantity			Payment				
			Qty	Unit Price	Total	Qty	Unit Price	Total	To Date	Previous	This Period	To Date	Previous	This Period	Qty	$
	Original Contract															
1	Mobilization	LS	1.00	26,990.00	26,990.00	1.00	26,990.00	26,990.00	0.75	0.25	0.50	20,242.50	6,747.50	13,495.00	0.25	6,747.50
2	Cat 1 – Instl New 1" Water Met	EA	1,232.00	330.00	406,560.00	1,232.00	330.00	406,560.00	1,127.00	537.00	590.00	371,910.00	177,210.00	194,700.00	105.00	34,650.00
3	Cat 2 – Instl New 1" Water Met	LS	136.00	370.00	50,320.00	136.00	370.00	50,320.00	58.00	16.00	42.00	21,460.00	5,920.00	15,540.00	78.00	28,860.00
4	Cat 3 – Instl New 1" Water Met	LS	20.00	390.00	7,800.00	20.00	390.00	7,800.00	19.00	19.00	0.00	7,410.00	7,410.00	0.00	1.00	390.00
5	Cat 4 – Instl New 1" Water Met	EA	20.00	495.00	9,900.00	20.00	495.00	9,900.00	1.00	0.00	1.00	495.00	0.00	495.00	19.00	9,405.00
6	Instl New 1.5" Water Meters	EA	19.00	860.00	16,340.00	19.00	860.00	16,340.00	0.00	0.00	0.00	0.00	0.00	0.00	19.00	16,340.00
7	Instl New 2" Water Meters	EA	24.00	925.00	22,200.00	24.00	925.00	22,200.00	0.00	0.00	0.00	0.00	0.00	0.00	24.00	22,200.00
8	Surface Resto in Lawn Sod	EA	1,180.00	85.00	100,300.00	1,180.00	85.00	100,300.00	929.00	451.00	478.00	78,965.00	38,335.00	40,630.00	251.00	21,335.00
9	Surface Resto in Landscaped	EA	155.00	105.00	16,275.00	155.00	105.00	16,275.00	155.00	102.00	53.00	16,275.00	10,710.00	5,565.00	0.00	0.00
10	Surface Resto in Concrete Pave	EA	6.00	1,110.00	6,660.00	6.00	1,110.00	6,660.00	0.00	0.00	0.00	0.00	0.00	0.00	6.00	6,660.00
11	Surface Resto in Unimproved	EA	110.00	75.00	8,250.00	110.00	75.00	8,250.00	31.00	18.00	13.00	2,325.00	1,350.00	975.00	79.00	5,925.00
	Subtotal				**$671,595.00**			**$671,595.00**				**$519,082.50**	**$247,682.50**	**$271,400.00**		**$152,512.50**
	Original Contract Total				**$671,595.00**			**$671,595.00**				**$519,082.50**	**$247,682.50**	**$271,400.00**		**$152,512.50**
	Approved Changes															
12	Increase in Landscaped Resto	EA	89.00	105.00	9,345.00	89.00	105.00	9,345.00	89.00	0.00	89.00	9,345.00	0.00	9,345.00	0.00	0.00
	Subtotal				**$9,345.00**			**$9,345.00**				**$9,345.00**	**$0.00**	**$9,345.00**		**$0.00**
	Approved Changes Total				**$9,345.00**			**$9,345.00**				**$9,345.00**	**$0.00**	**$9,345.00**		**$0.00**
	Total				**$680,940.00**			**$680,940.00**				**$528,427.50**	**$247,682.50**	**$280,745.00**		**$152,512.50**

Submitted By: _____ **Date:** _____

Approved By: _____ **Date:** _____

BMEI

1070	Meadow Cir	2	sod	
1055	Meadow Cir	2	sod	
158	Meadow Brook Dr.	2	sod	
177	Meadow Brook Dr.	2	sod	
198	Meadow Brook Dr.	2	land	
235	Meadow Brook Dr.	2	land	
252	Meadow Brook Dr.	1	sod	
285	Meadow Brook Dr.	1	land	
1099	Brook Cir.	2	sod	
1077	Brook Cir.	1	land	
1076	Brook Cir.	2	land	
1098	Brook Cir.	2	land	
148	Alpine Blvd	2	land	
156	Alpine Blvd	4	land	
250	Alpine Blvd	1	sod	Service 1
250	Alpine Blvd	1	sod	Service 2
250	Alpine Blvd	1	sod	Service 3
250	Alpine Blvd	1	sod	Service 4
288	N Alpine BLVD	1	land	
951	E 300 N	1	land	
971	E 300 N	1	land	
1031	E 300 N	1	sod	
1030	E 300 N	1	land	
1033	E 300 N	1	sod	
1171	E 300 N	1	sod	
1195	E 300 N	1	land	
1289	E 300 N	1	un	
1315	E 300 N	1	sod	
1343	E 300 N	2	sod	
1168	McDaniel Cir	2	land	
1173	McDaniel Cir	1	sod	
1147	McDaniel Cir	1	sod	
375	Country Manor Lane	1	sod	
380	Country Manor Lane	2	land	
1454	Bald Mountain Cir	1	land	
1472	Bald Mountain Cir	1	sod	

1486	Bald Mountain Cir	1	land
1495	Bald Mountain Cir	1	land
1481	Bald Mountain Cir	1	land
1463	Bald Mountain Cir	2	sod
497	Bald Mountain Dr	2	sod
400	Bald Mountain Dr	1	land
521	Bald Mountain Dr	1	land
542	Bald Mountain Dr	1	sod
553	Bald Mountain Dr	1	land
580	Bald Mountain Dr	1	sod
601	Bald Mountain Dr	1	sod
575	Bald Mountain Dr	2	sod
297	Bald Mountain Dr	2	sod
269	Bald Mountain Dr	2	sod
243	Bald Mountain Dr	1	sod
215	Bald Mountain Dr	1	sod
162	Bald Mountain Dr	2	land
130	Bald Mountain Dr	1	land
108	Bald Mountain Dr	1	land
76	Bald Mountain Dr	2	land
87	Bald Mountain Dr	2	sod
12	Bald Mountain Dr	1	land
24	Bald Mountain Dr	1	land
52	Bald Mountain Dr	1	land
37	Bald Mountain Dr	1	land
86	Bald Mountain Dr	1	sod
125	Holly Dr	2	un
196	Holly Dr	2	sod
1370	Preston Dr	1	sod
1355	Preston Dr	1	sod
1331	Preston Dr	1	sod
1302	Preston Dr	2	sod
174	Holly Cir	2	land
133	Wildflower Dr	2	land
193	Wildflower Dr	1	sod
211	Wildflower Dr	1	sod
210	Wildflower Dr	1	land
192	Wildflower Dr	2	sod

S&E

339	Red Pine	1	sod	
319	Red Pine	1	sod	
309	Red Pine	1	sod	
264	E 280 S	1	sod	
342	E 280 S	1	sod	
364	E 280 S	1	sod	
370	E 280 S	1	sod	
367	E 280 S	1	land	
349	E 280 S	1	sod	
313	E 280 S	1	land	
378	River Meadows	1	sod	
375	River Meadows	1	sod	
347	River Meadows	1	sod	Service 1
347	River Meadows	1	sod	Service 2
333	River Meadows	1	sod	
302	River Meadows	1	sod	
332	River Meadows	1	sod	
352	River Meadows	1	sod	
88	Piccadilly Cir	1	sod	
62	Piccadilly Cir	1	sod	
46	Piccadilly Cir	1	sod	
24	Piccadilly Cir	1	land	
79	Piccadilly Cir	1	sod	
518	E 100 S	1	sod	
500	E 100 S	1	sod	
480	E 100 S	1	sod	
468	E 100 S	1	sod	
436	E 100 S	1	sod	
422	E 100 S	1	sod	
411	E 100 S	1	sod	
393	E 100 S	1	sod	
377	E 100 S	1	sod	
20	N 300 E	1	sod	
30	N 300 E	1	sod	
82	N 300 E	1	sod	
132	N 300 E	1	sod	
160	N 300 E	1	sod	
216	N 300 E	1	sod	
240	N 300 E	1	sod	
250	N 300 E	1	sod	
280	N 300 E	1	sod	
239	N 300 E	1	sod	

247	N 300 E	1	sod
265	N 300 E	1	sod
182	S 400 E	1	sod
185	S 400 E	1	sod
358	Dry Creek Ln	1	sod
372	Dry Creek Ln	1	sod
242	N 200 E	1	sod
254	N 200 E	1	sod
268	N 200 E	1	sod
220	N 200 E	1	sod
241	N 200 E	1	land
285	N 200 E	1	sod
295	N 200 E	1	sod
346	N 200 E	1	sod
241	N 200 E	1	sod
254	N 200 E	1	sod
255	N 200 E	1	sod
281	N 200 E	1	land
295	N 200 E	1	land
310	Grove Dr	1	sod
303	Grove Dr	1	sod
218	E 300 N	1	land
240	E 300 N	1	sod
295	E 300 N	1	sod
313	E 300 N	1	land
299	E 300 N	1	land
263	E 300 N	1	sod
331	E 300 N	1	sod
383	E 300 N	1	sod
364	E 300 N	1	sod
374	E 300 N	1	sod
244	Matisse	1	sod
301	Matisse	1	sod
226	Matisse	1	sod
139	Bordeaux	1	sod
121	Bordeaux	1	sod
126	Bordeaux	1	sod
121	Bordeaux	1	sod
93	Bordeaux	1	sod
292	Bordeaux	1	sod

108	Bordeaux	1	sod
310	Bordeaux	1	sod
328	Bordeaux	1	land
415	Ponderosa	1	sod
146	Bordeaux	1	sod
127	Bordeaux	1	land
109	Bordeaux	1	sod
91	Bordeaux	1	sod
117	Bordeaux	1	sod
319	Matisse	1	sod
337	Matisse	1	land
355	Matisse	1	sod
373	Matisse	1	sod
151	Glacier Lily	1	sod
125	Glacier Lily	1	sod
101	Glacier Lily	1	sod
87	Glacier Lily	1	sod
134	Glacier Lily	1	sod
407	Glacier Lily	1	sod
420	Glacier Lily	1	sod
440	Glacier Lily	1	sod
462	Glacier Lily	1	sod
478	Glacier Lily	1	sod
433	Glacier Lily	1	sod
469	Glacier Lily	1	sod
258	Deerfield Ct	1	sod
279	Deerfield Ct	1	sod
267	Deerfield Ct	1	sod
327	Deerfield Dr	1	sod
351	Deerfield Dr	1	sod
217	Deerfield Dr	1	sod
303	Deerfield Dr	1	sod
306	Deerfield Dr	1	sod
330	Deerfield Dr	1	land
354	Deerfield Dr	1	sod
371	Silver Circle	1	sod
342	Red Pine	1	sod
405	Whitby Woodlands	1	sod

402	Whitby Woodlands	1	sod
434	Whitby Woodlands	1	land
437	Whitby Woodlands	1	sod
495	Whitby Woodlands	1	sod
522	Whitby Woodlands	1	sod
511	Whitby Woodlands	1	sod
461	Whitby Woodlands	1	land
112	Whitby Woodlands	1	sod
221	N Main St	1	sod
233	N Main St	1	sod
255	N Main St	1	sod
256	N Main St	1	sod
305	N Main St	1	sod
333	N Main St	1	land
357	N Main St	1	land
360	N Main St	1	sod
378	N Main St	1	sod
19	Hunter's Ridge Cir	1	sod
41	Hunter's Ridge Cir	1	sod
65	Hunter's Ridge Cir	1	sod
80	Hunter's Ridge Cir	1	sod
330	Hunter's Ridge Cir	1	sod
22	Hunter's Ridge Cir	1	sod
52	Strong	1	sod
32	Strong	1	sod
45	Strong	1	sod
25	Strong	1	sod
99	Bordeaux	1	land
346	Hunter's Ridge	1	sod
368	Hunter's Ridge	1	sod
380	Hunter's Ridge	1	land
385	Hunter's Ridge	1	land
377	Hunter's Ridge	1	sod
361	Hunter's Ridge	1	sod
334	N Main St	1	sod
452	N Main St	1	sod
454	N Main St	1	sod
480	N Main St	1	sod
475	N Main St	1	sod
465	N Main St	1	sod
455	N Main St	1	sod

596	N Main St	1	land
511	N Main St	2	sod
525	N Main St	2	sod
504	N Main St	2	sod
558	N Main St	2	land
32	Sledhill Cir	1	sod
64	Sledhill Cir	1	sod
67	Sledhill Cir	1	sod
13	Sledhill Cir	1	land
46	Pioneer Rd	1	land
25	Pioneer Rd	1	sod
70	Pioneer Rd	1	sod
75	Pioneer Rd	1	sod
90	Pioneer Rd	1	sod
101	Pioneer Rd	1	sod
116	Pioneer Rd	1	sod
125	Pioneer Rd	1	sod
165	Pioneer Rd	1	sod
177	Pioneer Rd	1	sod

KOA

339	Bristol Ct	1	sod
369	Bristol Ct	1	land
389	Bristol Ct	1	sod
411	Bristol Ct	1	sod
461	Bristol Ct	1	sod
481	Bristol Ct	1	sod
491	Bristol Ct	1	sod
492	Bristol Ct	1	sod
458	Bristol Ct	1	sod
441	Bristol Ct	1	sod
612	Canterbury Lane	1	land
638	Canterbury Lane	1	sod
662	Canterbury Lane	1	sod
688	Canterbury Lane	1	sod
712	Canterbury Lane	1	sod
736	Canterbury Lane	1	sod
758	Canterbury Lane	1	sod
782	Canterbury Lane	1	sod
804	Canterbury Lane	1	sod
828	Canterbury Lane	1	sod
843	Canterbury Lane	1	land

817	Canterbury Lane	1	sod
747	Canterbury Lane	1	sod
452	Canterbury Lane	1	sod
653	Canterbury Lane	1	sod
471	Coventry Lane	1	sod
478	Coventry Lane	1	sod
502	Coventry Lane	1	sod
518	Coventry Lane	1	sod
542	Coventry Lane	1	sod
564	Coventry Lane	1	sod
592	Coventry Lane	1	sod
618	Coventry Lane	1	sod
645	Coventry Lane	1	sod
613	Coventry Lane	1	sod
694	Windsor Ct.	1	sod
657	Windsor Ct.	1	sod
633	Windsor Ct.	1	sod
621	Windsor Ct.	1	sod
620	Windsor Ct.	1	sod
628	Windsor Ct.	1	sod
648	Windsor Ct.	1	sod
682	Windsor Ct.	1	sod
719	Hampton Ct	1	sod
653	Hampton Ct	1	sod
652	Hampton Ct	1	sod
662	Hampton Ct	1	sod
686	Hampton Ct	1	sod
714	Hampton Ct	1	sod
407	700 N	1	sod
389	700 N	1	sod
388	700 N	1	sod
404	700 N	1	sod
425	700 N	1	sod
665	Grove Dr.	1	land
621	Grove Dr.	1	sod
615	Grove Dr.	1	sod
668	Grove Dr.	1	land
785	Grove Dr.	1	land
741	Grove Dr.	1	land
645	Wayne Ct	1	sod
381	Wayne Ct	1	sod

358	Wayne Ct	1	sod
344	Wayne Ct	1	sod
299	Pioneer Dr	1	sod
256	Pioneer Dr	1	un
239	Pioneer Dr	1	sod
227	Pioneer Dr	1	sod
623	Patterson Dr	1	land
641	Patterson Dr	1	sod
673	Patterson Dr	1	land
741	Patterson Dr	1	un
668	Patterson Dr	1	un
744	Patterson Dr	1	un
648	Patterson Dr	1	sod
664	Patterson Dr	1	un
481	Eastview Dr	1	sod
474	Eastview Dr	1	sod
457	Eastview Dr	1	sod
456	Eastview Dr	1	sod
447	Eastview Dr	1	sod
442	Eastview Dr	1	sod
429	Eastview Dr	1	sod
428	Eastview Dr	1	sod
411	Eastview Dr	1	sod
404	Eastview Dr	1	sod
391	Eastview Dr	1	sod
388	Eastview Dr	1	sod
373	Eastview Dr	1	sod
372	Eastview Dr	1	sod
358	Eastview Dr	1	sod
355	Eastview Dr	1	sod
328	Eastview Dr	1	un
337	Eastview Dr	1	sod
310	Eastview Dr	1	sod
300	Eastview Dr	1	sod
873	Eastview Dr	1	sod
875	Eastview Dr	1	sod
895	Eastview Dr	1	sod
920	Eastview Dr	1	sod
925	Eastview Dr	1	sod
350	Eastview Cir	1	sod
370	Eastview Cir	1	sod
390	Eastview Cir	1	sod
402	Eastview Cir	1	land

405	Eastview Cir	1	land
400	Eastview Cir	1	sod
375	Eastview Cir	1	sod
355	Eastview Cir	1	sod
1023	Eastview Dr	1	land
228	Eastview Dr	1	land
248	Eastview Dr	1	sod
285	Eastview Dr	1	land
317	Eastview Dr	1	land
308	Eastview Dr	1	land
344	Eastview Dr	1	land
347	Eastview Dr	1	land
1020	Eastview Dr	1	land
1030	Eastview Dr	1	sod
1002	Eastview Dr	1	sod
1001	Eastview Dr	1	sod
980	Eastview Dr	1	sod
965	Eastview Dr	1	land
960	Eastview Dr	1	sod
955	Eastview Dr	1	sod
945	Eastview Dr	1	sod
940	Eastview Dr	1	sod
380	Appletree Dr	1	sod
395	Appletree Dr	1	sod
400	Appletree Dr	1	sod
443	Appletree Dr	1	land
446	Appletree Dr	1	land
451	Appletree Dr	1	sod
452	Appletree Dr	1	sod
475	Appletree Dr	1	sod
476	Appletree Dr	1	sod
499	Appletree Dr	1	sod
498	Appletree Dr	1	sod
549	Grove Cir	1	sod
546	Grove Cir	1	sod
578	Grove Cir	1	land
589	Grove Cir	1	sod
480	Peach Tree Cir	1	sod
464	Peach Tree Cir	2	sod
460	Peach Tree Cir	1	sod
455	Peach Tree Cir	1	sod
467	Peach Tree Cir	2	land
483	Peach Tree Cir	1	sod

638	Grove Dr	1	sod
624	Mountainville Cir	1	sod
595	Mountainville Cir	1	sod
588	Mountainville Cir	1	sod
407	Mountainville Cir	1	sod
561	Mountainville Cir	1	sod
543	Mountainville Cir	1	sod
522	Mountainville Cir	2	sod
525	Mountainville Cir	1	sod
496	Mountainville Cir	1	sod
489	Mountainville Cir	1	sod
509	Mountainville Cir	2	land
396	Mountainville Dr	1	sod
484	Mountainville Dr	1	sod
517	Mountainville Dr	1	sod
538	Mountainville Dr	1	sod
533	Mountainville Dr	1	sod
509	Mountainville Dr	1	land
471	Mountainville Dr	1	sod
518	Wilderness Dr	1	land
561	Wilderness Dr	2	land
590	Wilderness Dr	1	sod
580	Wilderness Dr	1	sod
604	Wilderness Dr	1	sod
615	Wilderness Dr	1	sod
618	Wilderness Dr	1	sod
625	Wilderness Dr	1	un
633	Wilderness Dr	1	sod
626	Wilderness Dr	1	sod
496	Wilderness Dr	1	sod
489	Wilderness Dr	1	sod
474	Wilderness Dr	1	sod
374	Wilderness Dr	1	land
371	Wilderness Dr	1	sod
543	Wilderness Dr	1	sod
333	Wilderness Dr	1	land
354	Wilderness Dr	1	land
634	Wilderness Dr	1	sod
537	Wilderness Dr	2	sod
575	Wilderness Dr	1	sod
553	Wilderness Dr	1	sod
670	Wilderness Dr	1	sod

405	E 300 N	1	sod
435	E 300 N	2	sod
435	E 426 N	1	sod
455	E 426 N	1	land
500	E 426 N	1	sod
458	E 426 N	1	sod
438	E 426 N	1	land
406	E 426 N	1	sod
403	E 426 N	1	sod
378	E 426 N	1	sod
373	E 426 N	1	sod
352	E 426 N	1	sod
319	E 426 N	1	sod
320	E 426 N	1	sod
299	E 426 N	1	land
300	E 426 N	2	sod
444	Grove Dr	1	land
406	Grove Dr	1	sod
277	E 350 N	1	land
299	E 350 N	1	sod
646	N 610 E	1	sod
706	N 610 E	1	sod
610	E 770 N	1	sod
554	E 770 N	2	land
550	E 770 N	1	sod
607	E 770 N	1	sod
651	E 770 N	1	un
739	Coventry Ln	1	sod
775	Coventry Ln	1	sod
778	Coventry Ln	1	sod
791	Coventry Ln	1	land
794	Coventry Ln	1	sod
817	Coventry Ln	1	sod
833	Coventry Ln	1	sod
724	Coventry Ln	1	sod
702	Coventry Ln	2	land
701	Coventry Ln	1	land
648	Coventry Ln	1	sod
762	Coventry Ln	1	sod
722	Stamford Ct	1	sod

721	Stamford Ct	1	sod	
705	Stamford Ct	1	land	
708	Stamford Ct	1	land	
701	Sunburst Ln	1	land	
722	Sunburst Ln	1	sod	
733	Alpine BLVD	1	sod	
940	Quail Hollow Dr	1	sod	
934	Quail Hollow Dr	1	sod	
632	Quail Hollow Dr	1	sod	
566	Quail Hollow Dr	1	sod	
522	Quail Hollow Dr	1	land	
488	Quail Hollow Dr	1	sod	
602	Quail Hollow Dr	1	sod	
1012	Lamar Cir	1	sod	
955	Quail Ridge Cir	1	sod	Service 1
955-	Quail Ridge Cir	1	sod	Service 2
955=	Quail Ridge Cir	1	un	Service 3
837	Quail Ridge Cir	1	sod	
819	Quail Ridge Cir	1	sod	
904	Quail Ridge Cir	1	un	
922	Quail Ridge Cir	1	sod	
Lot E	Quail Ridge Cir	1	sod	
946	Quail Ridge Cir	1	sod	
Lot-	Sunburst Ln	1	sod	Lot South of 701 Sunburst Ln
731	Sunburst Ln	1	sod	
774	Sunburst Ln	1	sod	
777	Sunburst Ln	1	sod	
824	Sunburst Ln	1	land	
827	Sunburst Ln	1	sod	
956	Sunburst Ln	1	land	
991	Sunburst Ln	1	land	
961	Sunburst Ln	1	sod	
870	860 E	1	sod	
861	Main St	1	sod	
837	Main St	1	land	
817	Main St	1	land	
799	Main St	1	land	
804	Main St	1	sod	
790	Main St	1	land	

763	Main St	1	land
762	Main St	1	land
750	Main St	1	sod
731	Main St	1	sod
728	Main St	1	sod
717	Main St	1	sod
712	Main St	1	sod
703	Main St	1	land
690	Main St	1	land
683	Main St	1	sod
671	Main St	1	sod
672	Main St	1	land
654	Main St	1	sod
625	Main St	1	land
632	Main St	1	sod
612	Main St	1	sod
629	Main St	1	sod
1092	Grove Dr	1	un
595	Grove Dr	1	sod
580	Grove Dr	1	sod
581	Grove Dr	1	land
560	Grove Dr	1	land
563	Grove Dr	1	sod
542	Grove Dr	1	sod
539	Grove Dr	1	sod
516	Grove Dr	1	land
521	Grove Dr	1	sod
499	Grove Dr	1	land
468	Grove Dr	1	sod
710	Alpine Dr	1	sod
710	Alpine Dr	1	sod
740	Alpine Dr	1	sod
758	Alpine Dr	1	sod
788	Alpine Dr	1	sod
393	Dry Creek Orchard Ln	1	sod
411	Dry Creek Orchard Ln	1	sod
433	Dry Creek Orchard Ln	1	sod
449	Dry Creek Orchard Ln	1	sod
467	Dry Creek Orchard Ln	1	sod
154	500 E	1	sod
176	500 E	1	sod
539	Blackhawk Ln	1	land

561	Blackhawk Ln	1	sod	
583	Blackhawk Ln	1	sod	
550	Blackhawk Ln	1	sod	
560	300 N	1	sod	
546	300 N	1	land	
519	300 N	1	land	
499	300 N	1	land	
981	Quail Hollow	1	land	
691	Alpine BLVD	1	land	Service 1
691-	Alpine BLVD	1	land	Service 2
639	Alpine BLVD	1	sod	Service 1
580	Alpine BLVD	1	sod	
530	Alpine BLVD	1	land	
639-	Alpine BLVD	1	land	Service 2
525	Alpine BLVD	1	sod	
517	Alpine BLVD	1	sod	
477	Alpine BLVD	1	sod	
466	Alpine BLVD	1	sod	
436	Alpine BLVD	1	land	
447	Alpine BLVD	1	sod	
412	Alpine BLVD	1	sod	
419	Alpine BLVD	1	land	
1134	Fox Meadow	1	sod	
1166	Fox Meadow	1	sod	
1163	Fox Meadow	1	sod	
1192	Fox Meadow	1	land	Service 1
1192-	Fox Meadow	1	sod	Service 2
1171	Wintergreen Ct	1	sod	
1205	Wintergreen Ct	1	sod	
1210	Wintergreen Ct	1	sod	
1190	Wintergreen Ct	1	sod	
499	Aspen Ridge Ln	1	land	
478	Aspen Ridge Ln	1	sod	
646	Country Manor Ln	1	sod	
595	Country Manor Ln	1	sod	
547	Country Manor Ln	1	sod	
508	Country Manor Ln	1	sod	
485	Country Manor Ln	1	sod	
445	Country Manor Ln	1	land	
433	Country Manor Ln	1	land	

409	Country Manor Ln	1	land	
299	Country Manor Ln	1	sod	
265	Country Manor Ln	1	land	
215	Country Manor Ln	1	sod	
505	Country Manor Ln	1	sod	
189	Country Manor Ln	1	sod	
185	Country Manor Ln	1	land	
153	Country Manor Ln	1	sod	
150	Country Manor Ln	1	sod	
125	Country Manor Ln	1	sod	
94	Country Manor Ln	1	sod	
1281	Willow Springs Cir	1	land	
1292	Willow Springs Cir	1	land	
1298	Willow Springs Cir	1	sod	
470	Country Manor Cir	2	sod	Service 1
470-	Country Manor Cir	1	sod	Service 2
1309	Country Manor Cir	1	sod	
1270	Country Manor Cir	1	sod	Service 1
1270-	Country Manor Cir	1	sod	Service 2
10	Wildflower Dr	1	sod	
13	Wildflower Dr	1	sod	
1245	Pine Ridge Cir	1	land	
1260	Pine Ridge Cir	1	sod	
1279	Pine Ridge Cir	1	sod	
1305	Pine Ridge Cir	1	land	
1312	Pine Ridge Cir	1	land	
1311	Willow Springs Cir	1	sod	
1314	Willow Springs Cir	1	land	

Red Pine Construction, LLC
520 South 850 East
Suite A4
Lehi, UT 84043

Invoice

Date	Invoice #
7/18/2019	1292

Bill To

Alpine City
20 North Main Street
Alpine, UT 84004

Job Address

Blue Spruce

P.O. No.	Terms
	Net 30

Item	Quantity	Description	Rate	Amount
		Repave Blue Spruce Road		
Excavation	5,940	Remove 2.5" of Asphalt, Haul Off and Dispose	0.95	5,643.00
Excavation	5,940	Fine Grade Roadbase and Pave 3" of Asphalt	1.38	8,197.20
Excavation	3	Collar Water Can	350.00	1,050.00
		Subtotal		14,890.20
		Over Ex Blue Spruce and Install Grid		
Excavation	5,940	Supply and Install Mirafi BXG120	0.22	1,306.80
Excavation	5,940	Remove 12" of Existing Material and Haul Off	1.35	8,019.00
Excavation	5,940	Place Roadbase and Compact 12" Roadbase	0.50	2,970.00
Excavation	410	Import of Roadbase	15.00	6,150.00
		Subtotal		18,445.80

Total	**$33,336.00**
Payments/Credits	$0.00
Balance Due	**$33,336.00**

ALPINE CITY COUNCIL AGENDA

SUBJECT: Final Plat – The Ridge at Alpine Phase 2

FOR CONSIDERATION ON: 13 August 2019

PETITIONER: Paul Kroff

ACTION REQUESTED BY PETITIONER: Approve the final plat.

BACKGROUND INFORMATION:

The final plat for Phase 2 of The Ridge at Alpine Subdivision includes 12 lots ranging in size from 0.69 acres to 1.02 acres on a site that is approximately 12.70 acres. The site is located in the CR-40,000 zone.

STAFF RECOMMENDATION:

Review and consider approving the Final Plat and plans for Phase 2 of The Ridge at Alpine PRD Subdivision.

ALPINE CITY
STAFF REPORT
August 1, 2019

To: Alpine City Planning Commission

From: Staff

Prepared By: Austin Roy, City Planner
Planning & Zoning Department

Jed Muhlestein, City Engineer
Engineering & Public Works Department

Re: **The Ridge at Alpine Phase 2 – Final**

Applicant:	Paul Kroff, representing Steve Zolman
Project Location:	North of Elk Ridge Lane and west of Alpine Cove
Zoning:	CR-40,000 Zone
Acreage:	12.70 Acres
Lot Number & Size:	12 lots ranging from 0.69 acres to 1.02 acres
Request:	Recommend approval of the plat

SUMMARY

The Ridge at Alpine development consists of 72 lots on 189.5 acres, with this Phase 2 being 12 lots on 12.70 acres. The development is located in the CR 40,000 zone, west of the Alpine Cove subdivision and north east of Heritage Hills Plat A. A map is attached showing Phase 2 and how it correlates to the rest of the development. The Ridge at Alpine has been approved as a Planned Residential Development (PRD).

BACKGROUND

Phase 1 of The Ridge at Alpine was approved by the City Council on October 23, 2019. Trails, open space, and conservation were approved with the Phase 1 Plat.

Applicant is now seeking approval of Phase 2 of The Ridge at Alpine.

ANALYSIS

Lot Width and Area

Lot width requirements for the CR-40,000 zone are 110 feet for a standard lot, and 80 feet for a cul-de-sac lot located on a curve. All proposed lots meet the width requirement.

Lots in the CR-40,000 zone are required to be a minimum of 40,000 square feet in size. However, the Ridge at Alpine was approved as a PRD at concept and preliminary and thus is permitted to have smaller lots, with the smallest lot proposed on the plat being 0.69 acres or 30,010 square feet. This matches what was presented and approved at preliminary.

Lots 40 and 41 are double fronted lots and require that a **"NO ACCESS" restriction be place on the east sides of these lots. The label should be shown on the final plat.**

Use
The developer is proposing that the lots be used for single-unit detached dwellings, which is consistent with the permitted uses for the CR-40,000 zone.

It should be noted that a portion of property on the south side of Catherine Way, near Grove Drive, was previously shown to be public open space (see attached exhibit). The proposed Phase 2 plat currently does not include this property. Staff would not recommend the property be included as public open space; right-of-way dedication would be more appropriate for the size and location of the property. Public Open Space is typically preserved for the use and general enjoyment of the public. Staff does not envision this small strip of land being developed into something the general public could come and enjoy, but it could be useful for future infrastructure or street projects. **Staff recommends the property be included and shown on the plat as dedicated right-of-way.**

Sensitive Lands (Wildland Urban Interface)
Phase 2 is located in the Wildland Urban Interface and will have to meet the access requirements, see Engineering and Public Works Review below, and Loan Peak Fire Department review/comments.

Trails
There are no trails in Phase 2. All trails were recorded with Phase 1 of the development.

General Plan
The proposed final plat meets all criteria of the City General Plan.

REVIEWS

PLANNING AND ZONING DEPARTMENT REVIEW
The analysis section in the body of this report serves as the Planning and Zoning Department review.

ENGINEERING AND PUBLIC WORKS DEPARTMENT REVIEW
Streets
The Phase 2 street system extends Elk Ridge Lane to provide frontage and access to the 12 new lots. This phase will connect Elk Ridge Lane to Grove Drive providing an alternate exit route for traffic from the northern areas of the City. The intersection at the 90-degree bend in Grove Drive will also be improved at this time, though the design is currently not shown in the plans. **The**

right of way improvements at the intersection of Grove Drive and Catherine Way (the 90-degree bend) are required with this phase and should be shown on the plans. The Developer was required to contribute funds for the improvement of this intersection when Phase 1 was recorded. These improvement costs will not be added to the construction bond of Phase 2 and will be returned to the Developer once the improvements are constructed and accepted by the City.

Elk Ridge Lane ends on a dead-end street longer than 150 feet, less than 450 feet (404 feet). A temporary turnaround, and associated easement for it, would be required at the end of the street. (Dev. Code 4.07.040.3.D)

Utilities – Culinary Water

The culinary system was discussed at length at Preliminary, the details are included below. Phase 2 will include the appropriate infrastructure to serve the proposed twelve lots as well as stub for future lots on the south side and east sides of Catherine Way and Elk Ridge Lane respectively.

The subdivision is very close to the 5,350-foot elevation, which is the highest elevation the existing water system can serve and still provide the minimum 40 psi required by ordinance. The culinary water master plan calls for a new 10-inch main to be installed from the Grove tank to the 90-degree bend in Grove Drive that would provide minimum fire flows to the area. The development agreement specifies it is the responsibility of the developer to bring offsite utilities to the development (section 4.2.1). Discussions have indicated that the size of homes desired in the upper portion of the development may require a larger line to meet the fire protection demands. The developer has elected to install a 16-inch line instead of the 10-inch, which increases fire flows to 2,750 gpm. With 2,750 gpm available fire flow, the maximum sized home to be built without the need for fire sprinklers or alternate construction materials would be 11,300 square feet based on the International Fire Code. Because the homes are located within the Urban/Wildland Interface, the Fire Chief may still require fire sprinklers by law.

The fire flow for this development was dependent upon the completion of the water system improvements in Three Falls and Fort Canyon Road. These improvements are complete and in operation.

1-inch laterals with ¾-inch meters are required, and shown, for each new lot.

The Fire Chief has reviewed and approved the culinary system design.

Utilities – Pressurized Irrigation

Phase 2 will include the appropriate infrastructure to serve the proposed twelve lots as well as stub for future lots on the south side and east sides of Catherine Way and Elk Ridge Lane respectively. New 1-inch laterals are shown to be installed for each new lot. Horrocks Engineers has modeled the site and recommends a 12-inch irrigation main to be installed from Grove Drive to the intersection of Elk Ridge and East View Lane. This is a master planned improvement and is larger than needed for the subdivision but benefits the city as a whole. The minimum required mainline size in residential roads is a 6-inch line. The city would be

responsible for and use impact fees to pay the cost of upsizing this mainline to 12-inch. The 12-inch line would need extended to East View Lane as shown on the plans. The remainder of the subdivision would use 6-inch lines for main roads including the northern most cul-de-sac and 4-inch lines for the minor cul-de-sacs. Connection to the lines in Grove Drive and Elk Ridge is shown on the plans.

Source of water is an ongoing problem in the high zone, where the development is proposed. The development agreement discusses the responsibility of the developer to install a variable speed pump at the Fort Creek booster station which could be used to pump water to this zone from the low zone. The design of this system is in process and being built with Phase 1.

Utilities – Sewer

All proposed lots in Phase 2 will be served by gravity flow 8-inch main line sewer lines with 4-inch service laterals. Sewer will connect to Phase 1 of the development, which in turn, connects to Elk Ridge Lane and the rest of the City sewer infrastructure.

Utilities – Storm Drain

Each phase of development must be able to stand alone in terms of infrastructure. For Phase 2, there are two main concerns with the storm drain design. First, because the development is being built in phases, the storm drain basin designed to capture most of the water for the development is not being built until a future phase is developed. Because of this, a temporary basin is currently being built as part of Phase 1 construction to capture runoff from this phase. **Approval of Phase 2 should be dependent on the City receiving and accepting storm water calculations that show adequate capacity for Phase 2 stormwater runoff.** Second, there is a low point in the road of Catherine Way, just above an existing residence. If the stormwater system gets plugged at this location, water will flow into the yard of that residence. **Prior to City Council approval, the Developer should provide a plan to Staff for review which shows how flooding will be mitigated at this location.**

It was discussed at previous meetings the requirement to pipe the overflow waters of Schoolhouse Springs through the development with a 30-inch pipe. This will occur in portions of phase 2. The plans show a 30-inch pipe being built outside of the development phase. **Maintenance easements should be required to be recorded with the plat for the 30-inch pipe where it falls outside of the platted area of the Phase 2.**

A Land Disturbance Permit would be required prior to construction which ensures a Storm Water Pollution Prevention Plan (SWPPP) is followed. All disturbed areas of the site are required to be revegetated after construction.

The storm drain system was discussed at length at Preliminary. For information purposes the details of that are included here:

The storm water system design and drainage report has been submitted, reviewed, and approved with some redline comments. There are four main topics to cover concerning storm water.

1. School House Springs Drainage and Existing Irrigation Ditches.
   The school house springs drainage enters Alpine City on the top west side of

Alpine Cove. From there it travels southward until it enters the Zolman property. Section 4.7.19 of the development code requires existing ditches to be piped. A 30-inch pipe is proposed to capture this drainage and route it through the property.

The Northfield Ditch also runs through the property. This ditch has been abandoned and therefore will not be required to be piped through the property. The plans require welding a metal plate at the upstream head gates to ensure water will not enter the abandoned ditch.

2. Onsite Drainage.

   Onsite drainage consists of a piped system to capture and route water to three different detention basins. Each basin is designed for the 100-yr storm event which releases water to the existing drainages in the area. On Catherine Way there is a low point in the road which would cause flooding problems for events greater than a 10-year storm. Because of this a drainage swale is proposed between lots 44, 45 and 49, 50. The swale would adequately route larger storm event flows to the pond south of Annie Circle without causing a flooding risk for the nearby homes. This swale should remain open, no fences allowed. Notes to be placed on Final Plat for that phase.

3. Hillside/Offsite Drainage.

   The geotechnical report highlighted the issue of debris flows that would enter the development from the west side in the event of post fire flows or heavy rainfall events. The Developer contracted with IGES to design debris flow nets to capture these flows and mitigate the potential problem. The nets are designed to capture the debris, water would be allowed to pass through the nets and continue down the drainage. The water that passes the nets would follow Savannah Cir, Elk Ridge Lane, Zachary Way, and Annie Circle to make its was to the detention pond. Calculations have been done to show that the homes along this route would not be flooded in the event of a post fire situation if they were required to build at least 1.75 feet above the curb. A note will be placed on the final plat for the appropriate phases and checked prior to Final Approval for this requirement. The Drainage Reports and IGES design for debris flow nets were attached to the Preliminary report and can be found there.

4. Low Impact Development.

   March 1, 2016, the State of Utah implemented into the General MS4 Permit (Small Municipal Separate Storm Sewer Systems) the requirement of all developments to evaluate Low Impact Development (aka - LID) for their site. LID is a measure of handling storm water and improving water quality. LID emphasizes conservation and the use of on-site natural features to protect water quality. There are many ways to meet the LID requirement. LID can be met by the use of drainage swales, rainwater harvesting, curb cuts to direct water to smaller local basins, and so on. The developer shows in the storm water calculations that LID will be implemented at the building permit level with each new lot retaining the 90th percentile storm, which equates to about a 2-year, 1-hr rainfall event for Alpine City. This is something Alpine is doing for all new homes within the city as required by the State. This is not done just as a measure of protecting water quality, but also protecting against runoff from one property to another.

Geotechnical Report

The proposed development falls within the Geologic Hazards Overlay Zone as well as the Urban/Wildland Interface. The developer provided a Geotechnical Report, it was included at Preliminary and discussed in depth there. Of particular interest is an area of mass grading and fill of an existing ravine that ran through the property along the westerly borders. Phase 2 does include some of those properties. The City has no records of compaction or what type of material was used to fill the ravine. The report did pay specific attention to this area and has provided recommendations for building there; mainly over excavation and import of engineered fill to remedy any potential settlement. The report is mentioned on the Phase 2 plat.

Hazard Reports

The Developer contracted with IGES to provide further information regarding certain hazards. The report covers rock fall and debris flow in more depth. It was determined that there is a low to moderate rock fall hazard for most the lots along the westerly side of the development. The report calls for the need to study the rockfall hazard in more depth to ensure building setbacks of those lots are adequate. **The Developer has not submitted a rockfall study for the westerly lots at this time. Approval of Phase 2 should be conditioned upon a study being submitted, reviewed, and approved by Staff prior to City Council approval.** The buildable area (3.1.11 – Buildable Area) of the lots are directly impacted by the results of the study and should be analyzed prior to City Council approval. The plat should be updated to reflect the findings of the study.

The report recommended disclosure to future buyers of lots along the westerly side of the potential rock-fall hazard. A note should be placed on the plat for any phase of development that contains these lots; Phase 2 contains some of these lots. The plat has been redlined to add the note.

Other

The City water policy needs to be met prior to recordation of the plat.

There are redlines on plat and plans that would need corrected prior to recordation and construction.

An engineer's estimate for Phase 2 (excluding the Grove Drive/Catherine Way intersection improvements) shall be turned in to the City Engineer for bonding purposes.

The property has existing buildings onsite. Prior to the recordation of any phase of development that contains existing buildings, the existing building(s) must be removed, existing services either re-used or cut/capped/removed or a bond provided to ensure those things will happen prior to a building permit being issued on the affected lot(s).

LONE PEAK FIRE DEPARTMENT REVIEW

See the attached review from the Lone Peak Fire Department.

NOTICING

Notice has been properly issued in the manner outlined in City and State Code

STAFF RECOMMENDATION

Review staff report and findings and make a recommendation to City Council to either approve or deny the proposed subdivision. Findings are outlined below.

Findings for a Positive Motion:

A. The plan generally aligns with previous approvals for The Ridge at Alpine;
B. Proposed roadway construction appears to meet Alpine City design standards;
C. Frontage improvements are shown throughout the development;
D. The roadway connection to Elk Ridge Lane and associated infrastructure would be a benefit to the City of Alpine.

Findings for Negative Motion:

A. The plat does not include the small portion of property south of Catherine Way, as shown on previous approvals. This property should be included and shown as public right-of-way;
B. A rockfall study was not submitted with the plans;
C. A flood mitigation plan to protect the existing home south of Catherine Way needs reviewed prior to final approval.

MODEL MOTIONS

SAMPLE MOTION TO APPROVE

I motion to recommend approval of the proposed Conrad's Landing Plat C with the following conditions:

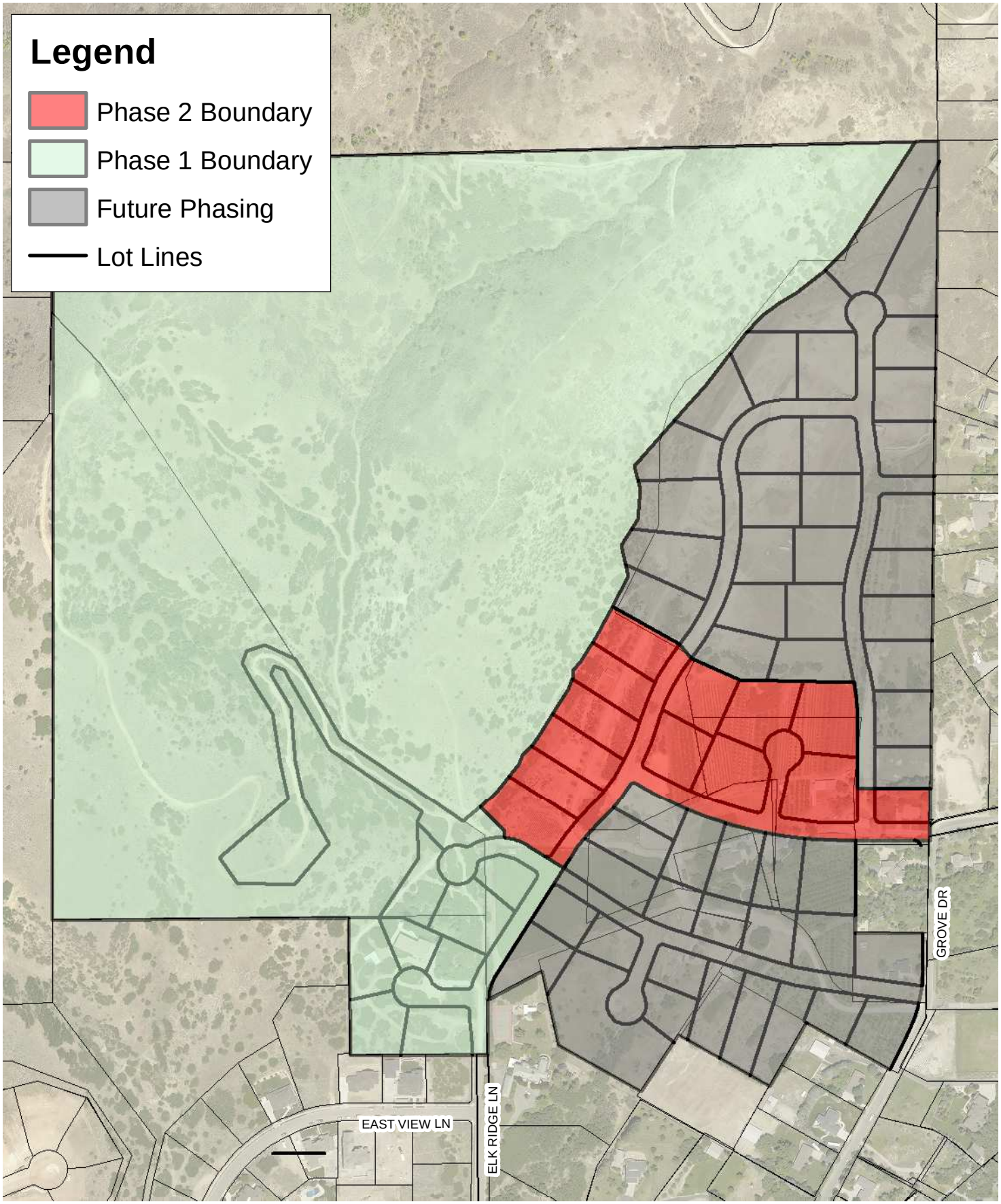
- The Developer provide a temporary turn-a-round at the end of Elk Ridge Lane;
- The Developer include the right of way improvements at in intersection of Grove Drive and Catherine Way;
- The Developer provide storm water calculations that show adequate capacity for Phase 2 stormwater runoff in the temporary pond constructed with Phase 1;
- The Developer provide a flood mitigation plan for the existing home below Catherine Way, to be reviewed by the City Engineer, prior City Council approval;
- The Developer provide maintenance easements for the 30-inch stormwater pipe, to be recorded along with the plat of Phase 2;
- The Developer submit a rockfall study for the westerly lots prior to City Council approval;
- The Developer either remove existing buildings or provide a bond for the removal of them prior to recording the plat;
- The Developer include the property south of Catherine Way on the plat, shown as dedicated right-of-way;
- The Developer place "No Access" labels on the east sides of lots 40 and 41 on the plat;
- The Developer address redlines on the plat and plans;
- The Developer submit a cost estimate;

- The Developer meet the water policy.

SAMPLE MOTION TO DENY

I motion to recommend that the plat amendment Conrad's Landing Plat C be denied based on the following:

- **Insert finding**



THE RIDGE AT ALPINE
Phasing Map

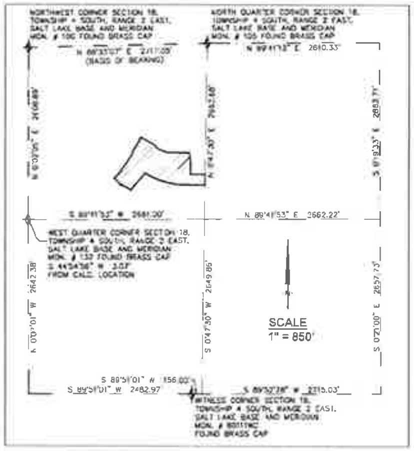
1 inch = 400 feet

0 100 200 400 600 800 Feet

N

THE RIDGE AT ALPINE SUBDIVISION PHASE 2

LOCATED IN
NW 1/4 OF SECTION 18, TOWNSHIP 4 SOUTH, RANGE 2 EAST,
SALT LAKE BASE AND MERIDIAN
PREPARED FOR: SBP HOLDINGS INC.



LEGEND

- SECTIONAL MONUMENTATION (FOUND, TYPE, DATE, AGENCY AND LOCATION ETC. AS SHOWN ON THE PLAT)
- SPECIFIES SURVEY CONTROL MONUMENT TO BE SET (CLASS 1, RING & LID SET TO CITY STANDARD).
- ALL BOUNDARY AND PROPERTY (LOT) CORNERS TO BE SET WITH 5/8" REBAR AND CAP STAMPED BUSH & GUDGELL, UNLESS OTHERWISE SPECIFIED ON THE PLAT.
- BOUNDARY LINE
- LOT LINE
- EASEMENT LINE
- SECTION LINE
- QUARTER SECTION LINE
- STREET CENTER LINE
- URBAN WILDLAND INTERFACE LINE

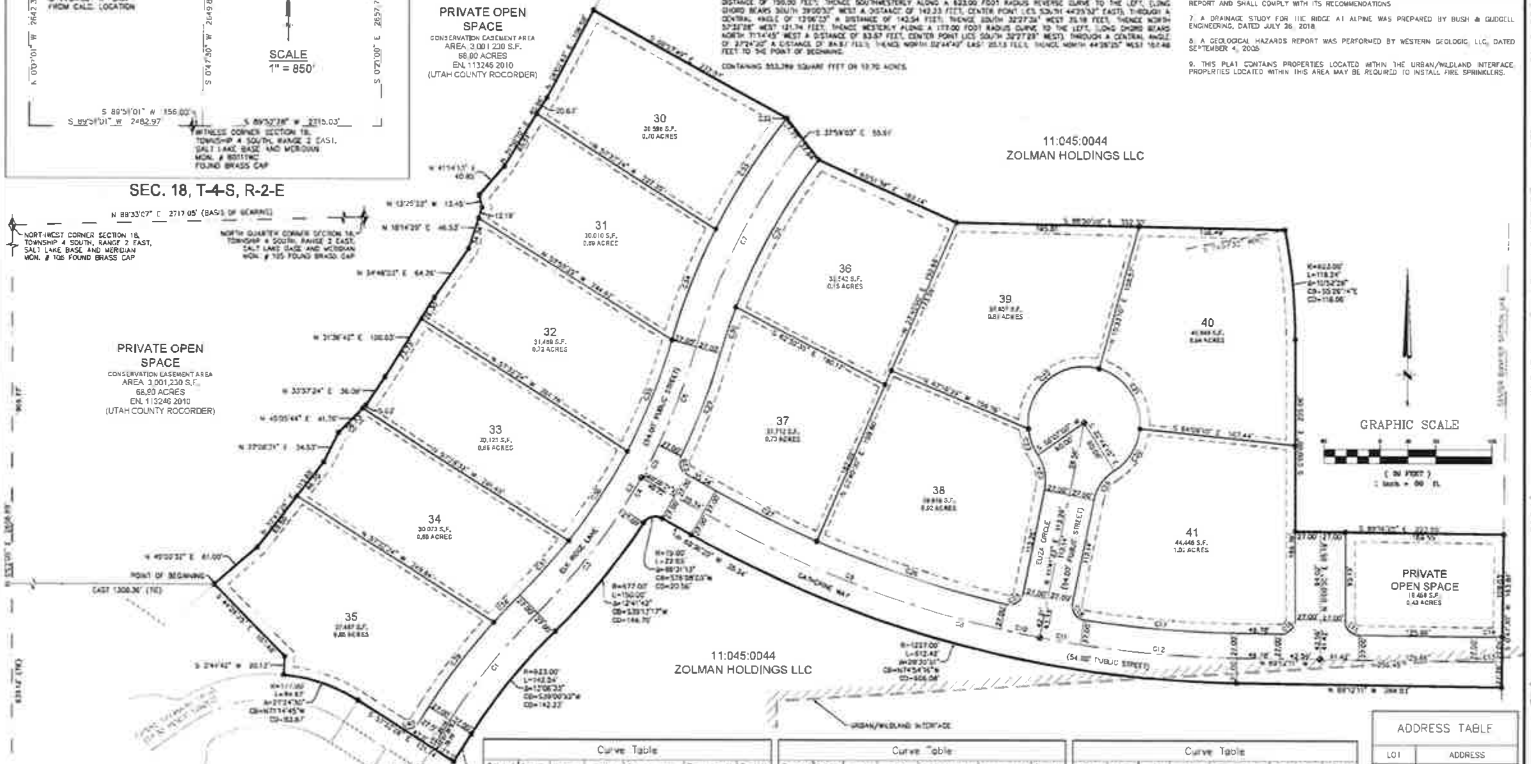
BOUNDARY DESCRIPTION

BEGINNING AT A POINT THAT LIES NORTH 00°02'25" EAST ALONG THE SECTION LINE 839.12 FEET AND EAST 1308.36 FEET FROM THE WEST QUARTER CORNER OF SECTION 18, TOWNSHIP 4 SOUTH, RANGE 2 EAST, SALT LAKE BASE AND MERIDIAN, AND RUNNING THENCE NORTH 49°00'32" EAST 81.00 FEET; THENCE NORTH 37°47'28" EAST 110.83 FEET; THENCE NORTH 27°06'31" EAST 34.53 FEET; THENCE NORTH 45°05'44" EAST 41.75 FEET; THENCE NORTH 33°57'24" EAST 36.08 FEET; THENCE NORTH 31°36'42" EAST 100.03 FEET; THENCE NORTH 34°48'03" EAST 64.26 FEET; THENCE NORTH 18°14'29" EAST 46.53 FEET; THENCE NORTH 13°25'32" WEST 13.45 FEET; THENCE NORTH 41°14'12" EAST 40.65 FEET; THENCE NORTH 31°50'10" EAST 65.00 FEET; THENCE NORTH 38°00'49" EAST 108.58 FEET; THENCE SOUTH 83°53'49" EAST 237.07 FEET; THENCE SOUTH 37°59'03" EAST 53.61 FEET; THENCE SOUTH 80°50'36" EAST 352.74 FEET; THENCE SOUTH 88°50'06" EAST 352.30 FEET; THENCE SOUTHERLY ALONG A 623.00 FOOT RADIUS NON-TANGENT CURVE TO THE RIGHT, (LONG CHORD BEARS SOUTH 05°26'14" EAST A DISTANCE OF 118.06 FEET, CENTER POINT LIES SOUTH 79°37'32" WEST), THROUGH A CENTRAL ANGLE OF 10°52'28" A DISTANCE OF 118.24 FEET; THENCE SOUTH 00°00'20" EAST 205.08 FEET; THENCE SOUTH 89°16'25" EAST 223.55 FEET TO A POINT ON THE CENTER QUARTER SECTION LINE; THENCE SOUTH 00°47'30" WEST ALONG SAID LINE 163.84 FEET; THENCE NORTH 89°12'11" WEST 384.63 FEET; THENCE WESTERLY ALONG A 1227.00 FOOT RADIUS CURVE TO THE RIGHT, (LONG CHORD BEARS NORTH 74°54'16" WEST A DISTANCE OF 606.08 FEET, CENTER POINT LIES NORTH 00°47'49" EAST), THROUGH A CENTRAL ANGLE OF 28°35'51" A DISTANCE OF 612.42 FEET; THENCE NORTH 60°36'20" WEST 25.34 FEET; THENCE WESTERLY ALONG A 15.00 FOOT RADIUS CURVE TO THE LEFT, (LONG CHORD BEARS SOUTH 75°58'23" WEST A DISTANCE OF 20.36 FEET, CENTER POINT LIES SOUTH 29°23'38" WEST), THROUGH A CENTRAL ANGLE OF 85°21'13" A DISTANCE OF 22.63 FEET; THENCE SOUTHWESTERLY ALONG A 677.00 FOOT RADIUS REVERSE CURVE TO THE RIGHT, (LONG CHORD BEARS SOUTH 39°13'17" WEST A DISTANCE OF 149.70 FEET, CENTER POINT LIES NORTH 57°07'34" WEST), THROUGH A CENTRAL ANGLE OF 12°41'42" A DISTANCE OF 150.00 FEET; THENCE SOUTHWESTERLY ALONG A 623.00 FOOT RADIUS REVERSE CURVE TO THE LEFT, (LONG CHORD BEARS SOUTH 39°00'32" WEST A DISTANCE OF 142.23 FEET, CENTER POINT LIES SOUTH 44°25'32" EAST), THROUGH A CENTRAL ANGLE OF 13°06'23" A DISTANCE OF 142.54 FEET; THENCE SOUTH 32°27'36" WEST 35.18 FEET; THENCE NORTH 57°32'28" WEST 121.74 FEET; THENCE WESTERLY ALONG A 177.00 FOOT RADIUS CURVE TO THE LEFT, (LONG CHORD BEARS NORTH 71°14'45" WEST A DISTANCE OF 83.67 FEET, CENTER POINT LIES SOUTH 32°27'28" WEST), THROUGH A CENTRAL ANGLE OF 27°24'20" A DISTANCE OF 84.67 FEET; THENCE NORTH 02°44'42" EAST 20.13 FEET; THENCE NORTH 44°28'25" WEST 157.46 FEET TO THE POINT OF BEGINNING.

CONTAINING 553,288 SQUARE FEET OR 12.70 ACRES.

GENERAL NOTES

1. THERE EXISTS A 10.00 PUBLIC UTILITY AND DRAINAGE EASEMENT ALONG ALL STREET SIDE PROPERTY LINES AND ALONG ALL EXTERIOR PROPERTY LINES, AND A 5.00 FOOT PUBLIC UTILITY AND DRAINAGE EASEMENT ALONG ALL INTERIOR PROPERTY LINES UNLESS OTHERWISE NOTED.
2. SETBACKS SHALL BE PER THE CR 40,000 ZONE WHICH ARE 30 FEET FRONT AND REAR, SIDE YARD SETBACKS TO BE AN AGGREGATE OF 30 FEET WITH 12 FEET BEING MINIMUM.
3. NO DWELLING OR STRUCTURES ALLOWED IN PUBLIC UTILITY EASEMENTS WITHOUT WRITTEN CONSENT FROM ALL UTILITY PROVIDERS AND OBTAINING A BUILDING PERMIT.
4. ALL STREETS SHOWN ON THIS PLAT ARE PUBLIC.
5. A GEOTECHNICAL INVESTIGATION WAS PERFORMED BY INTERMOUNTAIN GEOENVIRONMENTAL SERVICES, INC. THE INVESTIGATION RESULTS AND SPECIFIC RECOMMENDATIONS FOR THE CONSTRUCTION OF FOUNDATIONS AND FLOOR SLABS ARE COMPILED IN A REPORT DATED AUGUST 23, 2016. A COPY OF THIS REPORT IS ON FILE WITH UTAH COUNTY. OWNERS, BUILDERS AND CONTRACTORS SHOULD BECOME FAMILIAR WITH THIS REPORT AND SHALL COMPLY WITH ITS RECOMMENDATIONS.
6. A DEBRIS-FLOW NET ASSESSMENT WAS PERFORMED BY INTERMOUNTAIN ENVIRONMENTAL SERVICES, INC. THE ASSESSMENT RESULTS AND SPECIFIC RECOMMENDATIONS FOR THE MITIGATION OF DEBRIS-FLOWS FROM BIG HOLLOW DRAINAGE ARE COMPILED IN THE REPORT DATED APRIL 2, 2018. BUILDERS AND CONTRACTORS SHOULD BECOME FAMILIAR WITH THIS REPORT AND SHALL COMPLY WITH ITS RECOMMENDATIONS.
7. A DRAINAGE STUDY FOR THE RIDGE AT ALPINE WAS PREPARED BY BUSH & GUDGELL ENGINEERING, DATED JULY 26, 2018.
8. A GEOLOGICAL HAZARDS REPORT WAS PERFORMED BY WESTERN GEOLOGIC, LLC, DATED SEPTEMBER 4, 2006.
9. THIS PLAT CONTAINS PROPERTIES LOCATED WITHIN THE URBAN/WILDLAND INTERFACE. PROPERTIES LOCATED WITHIN THIS AREA MAY BE REQUIRED TO INSTALL FIRE SPRINKLERS.



Curve Table

Curve #	Length	Radius	Delta	Chord Direction	Chord Length	Tangent
C1	148.72	650.00	13°06'33"	S 39°00'52" W	148.39	74.68
C2	335.01	650.00	29°31'48"	N 30°48'14" E	331.31	171.31
C3	144.02	650.00	12°41'42"	N 39°13'17" E	143.73	72.31
C4	39.48	800.00	2°28'47"	N 31°26'23" E	39.47	19.74
C5	39.48	800.00	2°28'47"	N 27°36'16" E	39.47	19.74
C6	112.04	800.00	8°52'22"	N 22°38'31" E	111.90	56.16
C7	251.64	650.00	22°10'54"	S 27°07'47" W	250.07	127.42
C8	598.94	1200.00	28°35'51"	S 74°54'16" E	592.75	305.85
C9	343.27	1200.00	16°23'24"	S 68°48'02" E	342.10	172.82
C10	42.97	1200.00	2°03'06"	S 78°01'17" E	42.97	21.49
C11	44.11	1200.00	2°06'22"	S 80°06'01" E	44.11	22.06
C12	166.60	1200.00	8°57'00"	S 85°12'41" E	166.49	84.44
C13	27.59	300.00	3°09'43"	N 49°12'21" E	27.58	13.80
C14	27.58	473.00	3°20'30"	N 84°21'24" E	27.58	13.80

Curve Table

Curve #	Length	Radius	Delta	Chord Direction	Chord Length	Tangent
C15	23.25	15.00	88°12'11"	S 44°39'56" E	21.07	14.79
C16	23.77	15.00	90°47'49"	N 45°25'34" E	21.36	15.21
C17	164.80	1173.00	8°03'00"	S 85°10'41" E	164.67	82.54
C18	24.31	15.00	92°50'34"	S 34°43'54" E	21.73	15.78
C19	39.77	50.00	45°34'23"	S 34°39'34" W	38.73	21.00
C20	53.84	60.00	51°24'36"	N 21°23'17" E	52.05	28.89
C21	84.06	60.00	80°17'42"	N 34°18'00" W	77.37	50.61
C22	117.06	60.00	111°47'10"	S 49°30'35" W	99.36	88.60
C23	28.95	60.00	27°39'00"	S 20°03'30" E	28.67	14.77
C24	39.77	50.00	45°34'23"	N 11°05'49" W	38.73	21.00
C25	23.51	15.00	81°19'04"	N 57°20'56" E	21.48	15.30
C26	214.53	1173.00	10°28'39"	S 71°45'22" E	214.33	107.56
C27	121.85	1173.00	5°54'45"	S 63°33'43" E	120.59	60.58
C28	22.53	15.00	86°03'12"	S 17°05'44" E	20.54	14.18

Curve Table

Curve #	Length	Radius	Delta	Chord Direction	Chord Length	Tangent
C29	116.83	677.00	9°53'22"	N 20°38'31" E	118.34	58.49
C30	53.03	623.00	4°52'39"	S 19°28'40" W	53.02	26.53
C31	181.52	623.00	16°41'37"	S 29°15'48" W	180.88	91.41
C32	1.43	623.00	0°07'54"	N 36°33'29" E	1.43	0.72
C33	257.29	677.00	22°37'15"	S 27°20'56" W	255.55	130.41
C34	127.95	677.00	10°49'42"	S 21°27'14" W	127.77	64.17
C35	127.81	623.00	11°45'16"	N 21°54'56" E	127.59	64.13
C36	115.09	623.00	10°35'04"	N 32°05'08" E	114.93	57.71
C37	78.19	623.00	7°11'29"	N 41°38'24" E	78.14	39.15
C38	40.23	677.00	3°24'18"	S 42°52'07" W	40.23	20.12
C39	114.86	677.00	9°43'13"	S 37°18'43" W	114.53	57.47
C40	33.56	15.00	90°00'00"	N 77°27'40" E	21.21	15.00

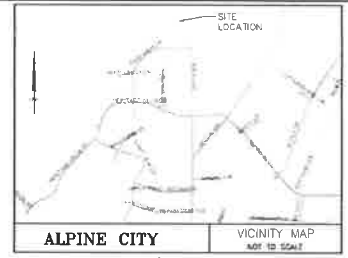
ADDRESS TABLE

LOT	ADDRESS
30	???? N. ELK RIDGE LN.
31	???? N. ELK RIDGE LN.
32	???? N. ELK RIDGE LN.
33	???? N. ELK RIDGE LN.
34	???? N. ELK RIDGE LN.
35	???? N. ELK RIDGE LN.
36	???? N. ELK RIDGE LN.
37	???? N. ELK RIDGE LN.
39	??? E. ELIZA CR.
38	??? E. ELIZA CR.
40	??? E. ELIZA CR
41	??? E. ELIZA CR

BUSH & GUDGELL, INC.
Engineers - Planners - Surveyors
655 East 4500 South
Salt Lake City, Utah 84107
Phone (801) 685-6184 / Fax (801) 685-6185
www.bushandgudgell.com

PREPARED FOR:
SBC HOLDINGS INC
PAUL KROFF
185 N PFEIFFERHORN
ALPINE, UTAH 84004

DATE: 7-17-19
FILE: 182085 PH2 FP
SHEET 1 OF 1



ALPINE CITY | VICINITY MAP
NOT TO SCALE

SURVEYOR'S CERTIFICATE

I, D. GREGG MEYERS, DO HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR, AND THAT I HOLD LICENSE NO. 312770 IN ACCORDANCE WITH TITLE 58, CHAPTER 22, PROFESSIONAL ENGINEERS AND LAND SURVEYORS LICENSING ACT AND HAVE COMPLETED A SURVEY OF THE PROPERTY DESCRIBED HEREON IN ACCORDANCE WITH SECTION 17-23-17 UTAH STATE CODE, AND HAVE VERIFIED ALL MEASUREMENTS AND PLACED MONUMENTS AS REPRESENTED ON THIS PLAT. I FURTHER CERTIFY THAT BY AUTHORITY OF THE HEREON OWNER(S) I HAVE SUBDIVIDED SAID TRACT OF LAND DESCRIBED HERE ON INTO LOTS, PUBLIC STREETS, PUBLIC EASEMENTS, HEREAFTER TO BE KNOWN AS

THE RIDGE AT ALPINE SUBDIVISION PHASE 2

AND THAT THE SAME HAS BEEN CORRECTLY SURVEYED AND STAKED ON THE GROUND AS SHOWN ON THIS PLAT.

7/17/2019
DATE:
BUSH AND GUDGELL INC.

FIRST REVIEW
D. GREGG MEYERS REGISTERED LAND SURVEYOR UTAH LICENSE NUMBER 312770

OWNER'S DEDICATION

KNOW ALL MEN BY THESE PRESENTS THAT THE UNDERSIGNED OWNERS OF THE ABOVE DESCRIBED TRACT OF LAND, HAVING CAUSED THE SAME TO BE SUBDIVIDED INTO LOTS, PUBLIC STREETS AND EASEMENTS TO BE HEREAFTER KNOWS AS THE ALPINE RIDGE SUBDIVISION PHASE 2, DO HEREBY DEDICATED FOR PERPETUAL USE, ALL OF THE PUBLIC STREETS AND PARCELS OF LAND IF ANY SHOWN ON THIS PLAT AS INTENDED FOR PUBLIC USE.

IN WITNESS WHEREOF ______ HAVE HEREUNTO SET __________ THIS ______ DAY OF ________ A.D., 20___

BY:

ACKNOWLEDGMENT

STATE OF ______________ }
COUNTY OF ______________ } S.S.

ON THE ___ DAY OF ______________ 20__ PERSONALLY APPEARED BEFORE ME, THE UNDERSIGNED NOTARY PUBLIC IN AND FOR SAID STATE AND COUNTY, __________ WHO BEING BY ME DULY SWORN, DID SAY THAT HE IS THE __________ OF MISSION CORC LLC, AND THAT HE EXECUTED THE FOREGOING OWNER'S DEDICATION IN BEHALF OF SAID BEING AUTHORIZED AND EMPOWERED TO DO SO BY THE OPERATING AGREEMENT OF COMPANY, LLC, AND HE DID DULY ACKNOWLEDGE TO ME THAT SUCH LIMITED LIABILITY COMPANY EXECUTED THE SAME FOR THE USES AND PURPOSES STATED THEREIN.

COMMISSION NUMBER: | NOTARY PUBLIC

MY COMMISSION EXPIRES: | NOTARY PUBLIC RESIDES IN:

ACCEPTANCE BY LEGISLATIVE BODY

THE __________ OF ______________ COUNTY OF UTAH, APPROVES THIS SUBDIVISION AND HEREBY ACCEPTS THE DEDICATION OF ______________ ALL STREETS, EASEMENTS, AND OTHER PARCELS OF LAND INTENDED FOR PUBLIC PURPOSES FOR THE PERPETUAL USE OF THE PUBLIC THIS ________ DAY __________ A.D. 20__

APPROVED
ENGINEER (SEE SEAL BELOW)

ATTEST
CLERK - RECORDER (SEE SEAL BELOW)

PLANNING COMMISSION APPROVAL

APPROVED THIS ________ DAY OF __________ A.D. 20__ BY THE ALPINE CITY PLANNING COMMISSION

DIRECTOR - SECRETARY | CHAIRMAN, PLANNING COMMISSION

APPROVAL AS TO FORM

APPROVED AS TO FORM THIS ________ DAY OF __________ A.D. 20__

CITY ATTORNEY

THE RIDGE AT ALPINE SUBDIVISION PHASE 2

LOCATED IN
NW 1/4 OF SECTION 18, TOWNSHIP 4 SOUTH, RANGE 2 EAST, SALT LAKE BASE AND MERIDIAN
PREPARED FOR:
SBP HOLDINGS INC

PAGE 1 OF 1

SURVEYOR'S SEAL	NOTARY PUBLIC SEAL	CITY ENGINEERS SEAL	CLERK-RECORDER SEAL

PROVIDE OFF-ST
PARKING STALLS
TRAIL HEAD

33
30,127 S.F.
0.69 ACRES

34
30,076 S.F.
0.69 ACRES

35
37,402 S.F.
0.86 ACRES

37
31,712 S.F.
0.73 ACRES

38
39,918 S.F.
0.92 ACRES

41
44,446 S.F.
1.02 ACRES

1
21,629 S.F.
0.50 ACRES

PRIVATE
OPEN SPACE
0.42 ACRES

0.69 ACRES

ELIZA CIR

CATHERINE WAY

GROVE DR

PUBLIC
OPEN SPACE
3201 S.F.
0.07 ACRES

OPEN SPACE NOT SHOWN ON PLAT. DOES THE CITY WANT PUBLIC OPEN SPACE?

CORINNE HAMILTON & MICHAEL P RUSSON
DOCUMENT ENTRY NO. 20603-2013
11:045:0137

GROVE DR

COCOLALLA LLC
11:045:0041

SAVANNAH CIR

46
20,377 S.F.
0.47 ACRES

47
30,017 S.F.
0.69 ACRES

45
30,184 S.F.
0.69 ACRES

44
30,444 S.F.
0.70 ACRES

43
30,384 S.F.
0.70 ACRES

42
38,289 S.F.
0.88 ACRES

48
31,950 S.F.
0.73 ACRES

ZACHARY WAY

49
20,729 S.F.
0.48 ACRES

50
21,155 S.F.
0.49 ACRES

51
23,531 S.F.
0.54 ACRES

52
33,168 S.F.
0.76 ACRES

53
30,456 S.F.
0.70 ACRES

FUTURE
PHASE 3

69
20,095 S.F.
0.46 ACRES

71
30,106 S.F.
0.69 ACRES

70
37,397 S.F.
0.86 ACRE

PHASE 1

62
22,568 S.F.
0.52 ACRES

63
30,002 S.F.
0.69 ACRES

61
20,492 S.F.
0.47 ACRES

ANNIE CIR

67
20,092 S.F.
0.46 ACRES

68
20,030 S.F.
0.46 ACRES

ADAM CIR

POND "B"
PRIVATE
OPEN SPACE
329 S.F.
0.01 ACRES

59
20,120 S.F.
0.46 ACRES

60
20,009 S.F.
0.46 ACRES

58
30,738 S.F.
0.71 ACRES

57
31,100 S.F.
0.71 ACRES

56
31,514 S.F.
0.72 ACRES

55
20,184 S.F.
0.46 ACRES

54
29,798 S.F.
0.68 ACRES

PUBLIC
OPEN SPACE
87186 S.F.
2.00 ACRES

POND "C"

PROVIDE 27
OFF-STREET PARKING
STALLS AT PARK

64
30,003 S.F.
0.69 ACRES

POND "A"

EXISTING ELK R

(TRACT 4)
KEVIN & ROBIN TOWLE
SERIAL NO. 11-045-0244

WAYNE R. &
JUDITH O. PACK
11:045:0022

DALE C. &

2+00

1+00

B&G PROJECT NUMBER 162085

THE RIDGE AT ALPINE SUBDIVISION - PHASE 2
A RESIDENTIAL DEVELOPMENT
CONSTRUCTION DRAWINGS
LOCATED IN ALPINE, UTAH

SECTION 18, T 4 S, R 2 E, SLB&M

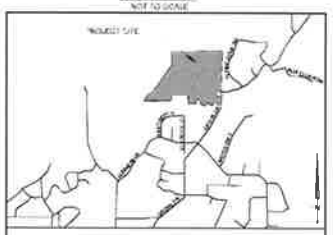
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES
3	DETAIL SHEET
4	SITE & SIGNAGE PLAN
5	WATER & SEWER PLAN
6	GRADING AND DRAINAGE PLAN
7	PLAN AND PROFILE - ELK RIDGE LANE STA: 7+00 TO STA: 13+00
8	PLAN AND PROFILE - ELK RIDGE LANE STA: 13+00 TO STA: 20+00
9	PLAN AND PROFILE - CATHERINE WAY STA: 0+00 TO STA: 8+00
10	PLAN AND PROFILE - CATHERINE WAY STA: 8+00 TO END
11	PLAN AND PROFILE - ANNIE CIRCLE & ELIZA CIRCLE
12	ADA HANDICAP RAMP LOCATIONS AND ELEVATIONS
13	EROSION CONTROL PLAN
14	EROSION CONTROL DETAILS
15	UTILITIES CROSSING

AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY

Call before you Dig

1-800-662-4111

VICINITY MAP
NOT TO SCALE



ALPINE CITY, UTAH

OWNER / DEVELOPER
Zolman Properties
ALPINE, UT 84107

GENERAL NOTES

1) CONTRACTOR IS RESPONSIBLE TO VERIFY LOCATIONS OF ALL UTILITIES PRIOR TO COMMENCEMENT OF WORK IN ANY ZONE.
2) ALL WORK AND MATERIALS SHALL COMPLY WITH ALPINE CITY STANDARD SPECIFICATIONS.
3) PROJECTS SHALL INSTALL AN INFORMATIONAL SIGN ON SITE BEFORE CONSTRUCTION BEGINS. THIS SIGN WILL HAVE A MINIMUM SIZE, PLACEMENT LOCATION AND CONTENT INFORMATION WITH THE COMPANY NAME, PHONE CONTACT AND GRADING PERMIT NUMBER.
4) PROJECTS SHALL SUBMIT A DUST CONTROL PLAN WITH DETAILS ON EQUIPMENT, SCHEDULING AND REPORTING OF DUST CONTROL ACTIVITIES.
5) A MANDATORY PRE-CONSTRUCTION MEETING WILL BE REQUIRED ON ALL PROJECTS PRIOR TO ANY GRUBBING, GRADING OR CONSTRUCTION ACTIVITIES. THE PERMIT HOLDER WILL BE REQUIRED TO NOTIFY ALL DEVELOPMENT SERVICE INSPECTORS.
6) FOLLOW APPENDIX 'J' STANDARDS FOUND IN THE IBC.
7) ALL OBJECTS SHALL BE KEPT OUT OF THE SIGHT DISTANCE CORRIDORS THAT MAY OBSTRUCT THE DRIVER'S VIEW.

DUST CONTROL

THESE DUST CONTROL MEASURES MUST BE OBSERVED AT ALL TIMES

EARTH MOVING ACTIVITIES:

1) APPLY WATER BY MEANS OF TRUCKS, HOSES AND/OR SPRINKLERS AT SUFFICIENT FREQUENCY AND QUANTITY, PRIOR TO CONDUCTING, DURING AND AFTER EARTHMOVING ACTIVITIES.
2) PRE-APPLY WATER TO THE DEPTH OF THE PROPOSED CUTS ON EQUIPMENT PENETRATION.
3) APPLY WATER AS NECESSARY AND PRIOR TO EXPECTED WIND EVENTS.
4) OPERATE HAUL VEHICLES APPROPRIATELY IN ORDER TO MINIMIZE FUGITIVE DUST AND APPLY WATER AS NECESSARY DURING LOADING OPERATIONS.

DISTURBED SURFACE AREAS OR INACTIVE CONSTRUCTION SITES:

1) WHEN ACTIVE CONSTRUCTION OPERATIONS HAVE CEASED, APPLY WATER AT SUFFICIENT FREQUENCY AND QUANTITY TO DEVELOP A SURFACE CRUST AND PRIOR TO EXPECTED WIND EVENTS.
2) INSTALL FENCE BARRIER AND/OR "NO TRESPASSING" SIGNS TO PREVENT ACCESS TO DISTURBED SURFACE AREAS.

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COVER SHEET
THE RIDGE AT ALPINE
PLANNED RESIDENTIAL DEVELOPMENT
PREPARED FOR: PAUL KROFF

SHEET 1 OF 15

GENERAL NOTES

A. COMPLIANCE

1. ALL WORK TO CONFORM WITH THE GOVERNING MUNICIPALITY'S STANDARDS, SPECIFICATIONS AND RESOLUTIONS.
2. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THESE CONTRACT DOCUMENTS AND THE MOST RECENT, ADOPTED EDITIONS OF THE FOLLOWING: INTERNATIONAL BUILDING CODE (IBC); THE INTERNATIONAL PLUMBING CODE; STATE DRINKING WATER REGULATIONS; APWA MANUAL OF STANDARD PLANS AND SPECIFICATIONS; ADA ACCESSIBILITY GUIDELINES.
3. ALL CONSTRUCTION SHALL BE AS SHOWN ON THESE PLANS. ANY REVISIONS MUST HAVE PRIOR WRITTEN APPROVAL.

B. PERMITTING AND INSPECTIONS

1. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING SURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED, NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED THOROUGHLY REVIEWED PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
2. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND NOTIFYING ARCHITECT/ENGINEER OR INSPECTING AUTHORITY 48 HOURS IN ADVANCE OF COVERING UP ANY PHASE OF CONSTRUCTION REQUIRING OBSERVATION.
3. ANY WORK IN THE PUBLIC RIGHT-OF-WAY WILL REQUIRE PERMITS FROM THE APPROPRIATE CITY, COUNTY OR STATE AGENCY CONTROLLING THE ROAD AND WITH APPROPRIATE INSPECTIONS.

C. COORDINATION & VERIFICATION

1. ALL DIMENSIONS, GRADES & UTILITY DESIGNS SHOWN ON THE PLANS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION FOR NECESSARY PLAN OR GRADE CHANGES. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS, IF NOT VERIFIED AND NOTIFICATION OF CONFLICTS HAVE NOT BEEN BROUGHT TO THE ATTENTION OF THE ENGINEER.
2. CONTRACTOR MUST VERIFY ALL EXISTING CONDITIONS BEFORE BIDDING AND BRING UP ANY QUESTIONS BEFOREHAND. NO ALLOWANCE WILL BE MADE FOR DISCREPANCIES OR OMISSIONS THAT CAN BE EASILY OBSERVED.
3. CONTRACTOR TO COORDINATE WITH ALL OTHER DISCIPLINES, INCLUDING BUT NOT LIMITED TO: LANDSCAPE PLANS, SITE ELECTRICAL SITE LIGHTING PLANS AND ELECTRICAL SERVICE TO THE BUILDING(S), MECHANICAL PLANS FOR LOCATION OF SERVICES TO THE BUILDING(S), INCLUDING FIRE PROTECTION, ARCHITECTURAL SITE PLAN FOR DIMENSIONS, ACCESSIBLE ROUTES, ETC., NOT SHOWN ON CIVIL PLANS.
4. CONTRACTOR IS TO COORDINATE LOCATION OF NEW TELEPHONE SERVICE, GAS SERVICE, CABLE, ETC. TO BUILDING WITH THE APPROPRIATE UTILITY COMPANY. FOR TELEPHONE, CONTRACTOR TO FURNISH CONDUIT, PLYWOOD BACKBOARD, AND GROUND WIRE, AS REQUIRED.

D. SAFETY AND PROTECTION

1. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION.
2. CONTRACTOR IS RESPONSIBLE FOR THE SAFETY OF THE PROJECT AND SHALL MEET ALL OSHA REQUIREMENTS.
3. CONTRACTOR IS RESPONSIBLE FOR CONFORMING TO LOCAL AND FEDERAL CODES GOVERNING SHORING AND BRACING OF EXCAVATIONS AND TRENCHES AND FOR THE PROTECTION OF WORKERS AND PUBLIC.
4. CONTRACTOR SHALL TAKE ALL MEASURES NECESSARY TO PROTECT ALL EXISTING PUBLIC AND PRIVATE PROPERTY, ROADWAYS AND UTILITY IMPROVEMENTS. DAMAGE TO EXISTING IMPROVEMENTS CAUSED BY THE CONTRACTOR MUST BE REPAIRED BY THE CONTRACTOR AT HIS/HER EXPENSE TO THE SATISFACTION OF THE OWNER OF SAID IMPROVEMENTS.
5. CONTRACTOR IS REQUIRED TO KEEP ALL CONSTRUCTION ACTIVITIES WITHIN THE APPROVED PROJECT LIMITS. THIS INCLUDES, BUT IS NOT LIMITED TO, VEHICLE AND EQUIPMENT STAGING, MATERIAL STORAGE AND LIMITS OF TRENCH EXCAVATION.
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN PERMISSION AND/OR EASEMENTS FROM THE APPROPRIATE GOVERNMENT AGENCY AND/OR INDIVIDUAL PROPERTY OWNER(S) FOR WORK OR STAGING OUTSIDE OF THE PROJECT LIMITS.
7. CONTRACTOR SHALL PROVIDE BARRICADES, SIGNS, FLASHERS, OTHER EQUIPMENT AND FLAG PERSONS NECESSARY TO ENSURE THE SAFETY OF WORKERS, VISITORS AND PUBLIC. ALL CONSTRUCTION SIGNING, BARRICADING, AND TRAFFIC DELINEATION SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.
8. CONTRACTOR SHALL COMPLY WITH LOCAL NOISE ORDINANCE STANDARDS.
9. CONTRACTOR IS RESPONSIBLE FOR DUST CONTROL ACCORDING TO GOVERNING AGENCY STANDARDS.
10. CONTRACTOR SHALL TAKE ALL NECESSARY AND PROPER PRECAUTIONS TO PROTECT ADJACENT PROPERTIES FROM ANY AND ALL DAMAGE THAT MAY OCCUR FROM STORM WATER RUNOFF AND/OR DEPOSITION OF DEBRIS RESULTING FROM ANY AND ALL WORK IN CONNECTION WITH CONSTRUCTION. SUBMIT A STORM WATER POLLUTION PREVENTION PLAN, IF REQUIRED.
11. WORK IN PUBLIC STREETS, ONCE BEGUN, SHALL BE PROSECUTED TO COMPLETION WITHOUT DELAY AS TO PROVIDE MINIMUM INCONVENIENCE TO ADJACENT PROPERTY OWNERS AND TO THE TRAVELING PUBLIC.
12. CONTRACTOR SHALL PROVIDE ALL NECESSARY HORIZONTAL AND VERTICAL TRANSITIONS BETWEEN NEW CONSTRUCTION AND EXISTING SURFACES TO PROVIDE FOR PROPER DRAINAGE AND FOR INGRESS AND EGRESS TO NEW CONSTRUCTION.
13. NATURAL VEGETATION AND SOIL COVER SHALL NOT BE DISTURBED PRIOR TO ACTUAL CONSTRUCTION OF A REQUIRED FACILITY OR IMPROVEMENT. MASS CLEARING OF THE SITE IN ANTICIPATION OF CONSTRUCTION SHALL BE AVOIDED. CONSTRUCTION TRAFFIC SHALL BE LIMITED TO ONE APPROACH TO THE SITE. THE APPROACH SHALL BE DESIGNATED BY THE OWNER OR GOVERNING AGENCY.
14. THE CONTRACTOR SHALL TAKE REASONABLE MEASURES TO PROTECT EXISTING IMPROVEMENTS FROM DAMAGE AND ALL SUCH IMPROVEMENTS DAMAGED BY THE CONTRACTOR'S OPERATION SHALL BE REPAIRED OR RECONSTRUCTED TO THE ENGINEER/OWNER'S SATISFACTION AT THE EXPENSE OF THE CONTRACTOR.

E. GRADING / SOILS

1. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT, WHICH BY REFERENCE ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND IN CASE OF CONFLICT SHALL TAKE PRECEDENCE, UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS, OR IN THE SPECIFICATIONS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCY BETWEEN THE SOILS REPORT AND THESE PLANS AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING ALL SOFT, YIELDING OR UNSUITABLE MATERIALS AND REPLACING WITH SUITABLE MATERIALS AS SPECIFIED IN THE SOILS REPORT.
3. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED TO 95% OF MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM TEST D-1557, EXCEPT UNDER BUILDING FOUNDATIONS WHERE IT SHALL BE 98% MIN. OF MAXIMUM DENSITY. MOISTURE CONTENT AT TIME OF PLACEMENT SHALL NOT EXCEED 2% ABOVE NOR 3% BELOW OPTIMUM.
4. CONTRACTOR SHALL SUBMIT A COMPACTION REPORT PREPARED BY A QUALIFIED REGISTERED SOILS ENGINEER, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITH THE BUILDING PAD AREA AND AREAS TO BE PAVED, HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE SOILS REPORT.
5. SITE CLEARING SHALL INCLUDE THE LOCATING AND REMOVAL OF ALL UNDERGROUND TANKS, PIPES, VALVES, ETC.
6. ALL EXISTING VALVES, MANHOLES, ETC. SHALL BE RAISED OR LOWERED TO GRADE AS REQUIRED.

F. UTILITIES

1. THE LOCATIONS OF UNDERGROUND FACILITIES SHOWN ON THESE PLANS ARE BASED ON FIELD SURVEYS AND LOCAL UTILITY COMPANY RECORDS. IT SHALL BE THE CONTRACTOR'S FULL RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES, EITHER DIRECT OR THROUGH BLUE STAKE TO LOCATE THEIR FACILITIES PRIOR TO STARTING CONSTRUCTION.
2. CONTRACTOR TO VERIFY BY POTHOLING BOTH THE VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO INSTALLING ANY NEW LINES. NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR DAMAGE AND REPAIR TO THESE FACILITIES CAUSED BY HIS WORK FORCE.
3. CONTRACTOR MUST START AT LOW END OF ALL NEW GRAVITY UTILITY LINES. MECHANICAL SUB-CONTRACTOR MUST BE PROVIDED CIVIL SITE DRAWINGS FOR COORDINATION AND TO CHECK THE FLOW FROM THE LOWEST POINT IN BUILDING TO THE FIELD VERIFIED CONNECTION AT THE EXISTING MAIN. NO EXTRA COMPENSATION IS TO BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO FAILURE TO COMPLY WITH THESE REQUIREMENTS.
4. CONTRACTOR IS TO VERIFY LOCATION, DEPTH, SIZE, TYPE, AND OUTSIDE DIAMETERS OF UTILITIES IN THE FIELD BY POTHOLING A MINIMUM OF 300 FEET AHEAD. PIPELINE CONSTRUCTION TO AVOID CONFLICTS WITH DESIGNED PIPELINE GRADE AND ALIGNMENT. EXISTING UTILITY INFORMATION SHOWN ON PLANS OR OBTAINED FROM UTILITY COMPANIES OR BLUE STAKES MUST BE ASSUMED AS APPROXIMATE, REQUIRING FIELD VERIFICATION.
5. CULINARY WATER AND FIRE SERVICE LINES TO BE CONSTRUCTED IN ACCORDANCE WITH LOCAL GOVERNING MUNICIPALITY STANDARDS AND SPECIFICATIONS.
6. SANITARY SEWER MAINS AND LATERALS TO BE CONSTRUCTED IN ACCORDANCE WITH LOCAL GOVERNING MUNICIPALITY SEWER DISTRICT STANDARDS AND SPECIFICATIONS.
7. STORM SEWER TO BE CONSTRUCTED IN ACCORDANCE WITH THE GOVERNING MUNICIPALITY STANDARDS AND SPECIFICATIONS.
8. ALL STORM DRAIN AND IRRIGATION CONDUITS SHALL BE INSTALLED WITH WATER TIGHT JOINTS AND CONNECTIONS.
9. ALL STORM DRAIN PIPE PENETRATIONS INTO BOXES SHALL BE CONSTRUCTED WITH WATER TIGHT SEALS ON THE OUTSIDE AND GROUTED SMOOTH WITH A NON-SHRINK GROUT ON THE INSIDE. CONDUITS SHALL BE CUT OFF FLUSH WITH THE INSIDE OF THE BOX.
10. NO CHANGE IN THE DESIGN OF UTILITIES AS SHOWN WILL BE MADE BY THE CONTRACTOR WITHOUT THE WRITTEN APPROVAL OF THE GOVERNING MUNICIPALITY, OR OTHER AUTHORITY HAVING JURISDICTION OVER THAT UTILITY.
11. ALL STORM DRAIN CONDUITS AND BOXES SHALL BE CLEAN AND FREE OF ROCKS, DIRT, AND CONSTRUCTION DEBRIS PRIOR TO FINAL INSPECTION.

G. SURVEY CONTROL

1. CONTRACTOR MUST PROVIDE A REGISTERED LAND SURVEYOR OR PERSONS UNDER THE SUPERVISION OF A REGISTERED LAND SURVEYOR TO SET STAKES FOR THE ALIGNMENT AND GRADE OF EACH MAIN AND/OR FACILITY AS SHOWN ON THE PLANS. THE STAKES SHALL BE MARKED WITH THE HORIZONTAL LOCATION (STATION OR LOT CORNER) AND VERTICAL LOCATION (GRADE) WITH CUTS AND/OR FILLS TO THE APPROVED GRADE OF THE MAIN AND OR FACILITY AS SHOWN ON THE PLANS.
2. THE CONTRACTOR SHALL PROTECT ALL STAKES AND MARKERS FOR VERIFICATION PURPOSES.
3. CONTRACTOR WILL BE RESPONSIBLE FOR FURNISHING, MAINTAINING, OR RESTORING LINE CONDITION ALL MONUMENTS AND REFERENCE MARKS WITHIN THE PROJECT SITE.

H. AMERICAN DISABILITIES ACT

1. PEDESTRIAN / ADA ROUTES SHALL MEET THE FOLLOWING SPECIFICATIONS:
   - ROUTES SHALL HAVE A 2.00% (1:50) MAXIMUM CROSS SLOPE.
   - ROUTES SHALL HAVE A 5.00% (1:20) MAXIMUM RUNNING SLOPE.
   - RAMPS SHALL HAVE A 8.33% (1:12) MAXIMUM RUNNING SLOPE.
2. ADA PARKING STALLS AND ADJACENT ROUTES SHALL HAVE A 2.00% MAXIMUM SURFACE SLOPE IN ANY DIRECTION.
3. THE CONTRACTOR SHALL ADHERE TO THE ABOVE SPECIFICATIONS. IN THE EVENT OF A DISCREPANCY IN THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO ANY CONSTRUCTION.

LEGEND

PROPOSED	EXISTING	
		SECTION LINE
		CENTER LINE
		PROPERTY LINE
R/W	R/W	RIGHT OF WAY LINE
		EASEMENT LINE
		DITCH FLOWLINE
		FENCE LINE
		CABLE TV LINE
		FIBER OPTIC CABLE
		NATURAL GAS LINE
		IRRIGATION LINE
		OVERHEAD POWER LINE
		POWER LINE
		TELEPHONE LINE
		SANITARY SEWER LINE
		STORM DRAIN LINE
		WATER LINE
		FENCE
		EDGE OF ASPHALT
		SETBACK LINE
		ADA ROUTE (Max Slope 2%)
		CONTOUR LINE
		CURB & GUTTER (STANDARD)
		CURB & GUTTER (OUTFALL)
		CONCRETE PAVEMENT
		STD. DUTY ASPHALT
		HEAVY DUTY ASPHALT
		SIDEWALK

- SECTION CORNER (FOUND)
- SECTION CORNER (NOT FOUND)
- STREET MONUMENT
- BRASS CAP MONUMENT
- POWER POLE
- UTILITY POLE
- GUY ANCHOR
- POWER TRANSFORMER
- LIGHT POLE
- TELEPHONE RISER/MANHOLE
- TRAFFIC SIGNAL BOX/LIGHT
- WATER METER
- WATER VALVE
- FIRE HYDRANT
- SANITARY SEWER MANHOLE
- SANITARY SEWER CLEANOUT
- STORM DRAIN MANHOLE
- STORM DRAIN CURB INLET
- STORM DRAIN CATCH BASIN
- 5185 SPOT ELEVATION
- FLOW DIRECTION
- SIGN (PER PLAN)
- STOP SIGN

ABBREVIATIONS

AC	ACRE	LP	LOW POINT	SEC	SECTION
BM	BENCHMARK	MAX	MAXIMUM	SPECS	SPECIFICATIONS
BOW	BOTTOM OF WALL	MIN	MINIMUM	SQ	SQUARE
℄	CENTERLINE	MON	MONUMENT	SQ FT	SQUARE FEET
CP	CONTROL POINT	N	NORTH	SQ YD	SQUARE YARD
CU FT	CUBIC FOOT	NTS	NOT TO SCALE	STA	STATION
CU YD	CUBIC YARD	OG	ORIGINAL GROUND	STD	STANDARD
CONC	CONCRETE	PC	POINT OF CURVATURE	STM	STORM
CONST	CONSTRUCTION	PCC	POINT OF COMPOUND CURVE	T	TOWNSHIP
CMP	CORRUGATED METAL PIPE	PI	POINT OF INTERSECTION	TBC	TOP BACK OF CURB
DIA or Ø	DIAMETER	PRC	POINT OF REVERSE CURVE	TOA	TOP OF ASPHALT
E	EAST	PT	POINT OF TANGENCY	TOC	TOP OF CONCRETE
EOA	EDGE OF ASPHALT	POC	POINT OF CONNECTION	TOS	TOP OF SIDEWALK
ELEV	ELEVATION	PWR	POWER	TOW	TOP OF WALL
EX	EXISTING	℄	PROPERTY LINE	TRANS	TRANSFORMER
FFE	FINISHED FLOOR ELEVATION	PVC	POLYVINYL CHLORIDE PIPE	UNLESS NOTED OTHERWISE	
FG	FINISHED GRADE	R	RANGE	WCR	WATER
FT	FEET	RCP	REINFORCED CONCRETE PIPE	WV	WATER VALVE
GB	GRADE BREAK	R&C	REBAR & CAP	W	WEST
HDPE	HIGH DENSITY POLYETHYLENE	REV	REVISION		
HP	HIGH POINT	ROW	RIGHT-OF-WAY		
HW	HIGH WATER	SLB&M	SALT LAKE BASE & MERIDIAN		
HWY	HIGHWAY	S	SOUTH		
IE	INVERT ELEVATION	SAD	SEE ARCHITECTURAL DRAWINGS		
IRR	IRRIGATION	SS	SANITARY SEWER		
LF	LINEAR FEET	SD	STORM DRAIN		

PROJECT BENCHMARK

THE BENCHMARK FOR THIS SURVEY IS THE UTAH COUNTY SURVEYOR SECTION MONUMENT TIE NO. 49-6 WC ALSO KNOWN AS GIS MONUMENT NUMBER 60111 WITH COUNTY PUBLISHED NGVD 29 DATUM ELEVATIONS, DESCRIBED MORE PARTICULARLY AS FOLLOWS:

49-6 WC

3" UTAH COUNTY BRASS CAP SET IN CONCRETE FLUSH WITH THE GROUND 9'± EAST OF RETAINING WALL. WITNESS CORNER TO THE SOUTH CORNER OF SECTION 18, TOWNSHIP 4S, RANGE 2E, SLB&M.

ELEVATION: 5091.20 US SURVEY FEET.

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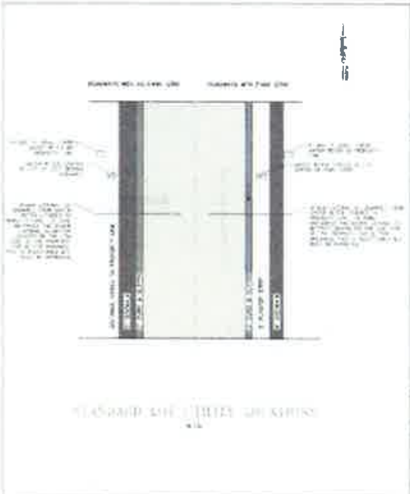
GENERAL NOTES
THE RIDGE AT ALPINE
PLANNED RESIDENTIAL DEVELOPMENT
PREPARED FOR: PAUL KROFF

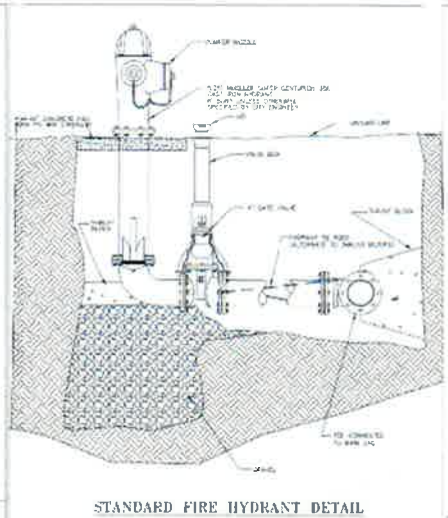
SHEET 2 OF 15

X:\16200-16299\16285 Paul Kroff Alpine Sub\16285 CDs PH 2.dwg



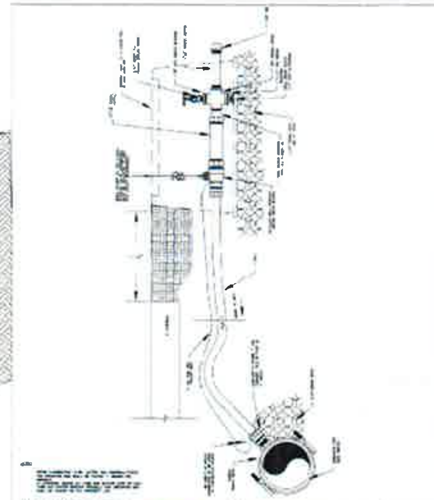
STANDARD SITE UTILITY MARKINGS

STANDARD SITE UTILITY LOCATIONS — ALPINE CITY — 12

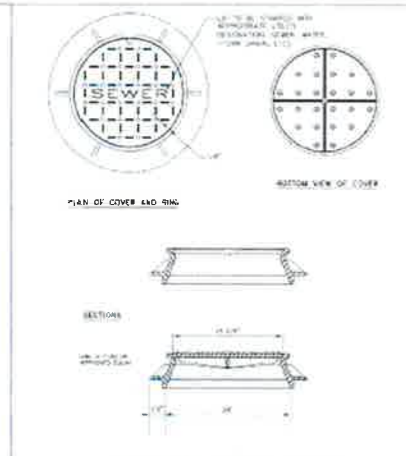


STANDARD FIRE HYDRANT DETAIL

TYPICAL FIRE HYDRANT — ALPINE CITY — 23

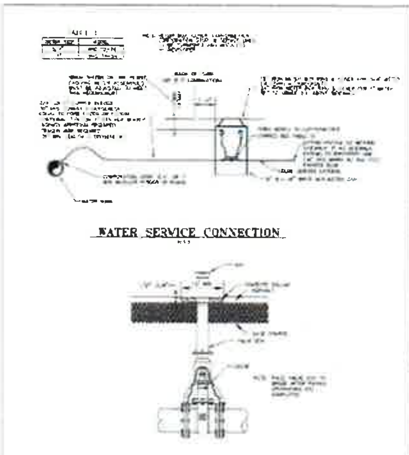


Pressurized Irrigation Distribution System — ALPINE CITY — 24



HEAVY DUTY, 400 LB. MINIMUM, MANHOLE RING AND COVER

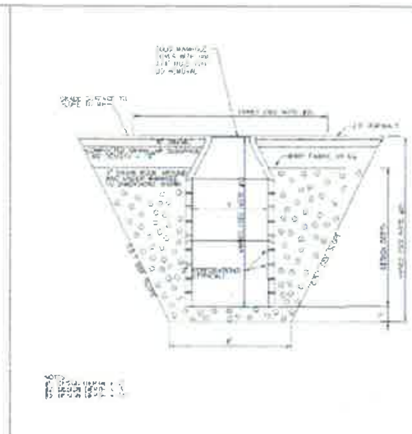
MANHOLE RING & COVER (typical) — ALPINE CITY — 16



WATER SERVICE CONNECTION

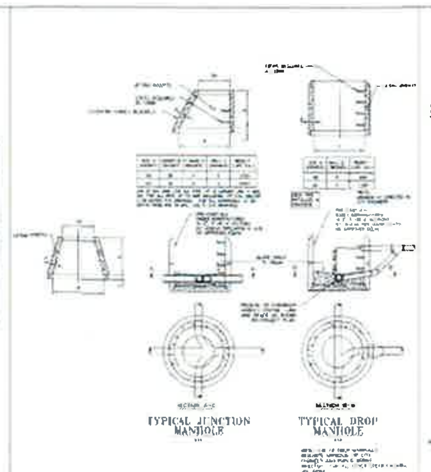
VALVE BOX COLLAR DETAIL

VALVE & WATER CONNECTION DETAIL — ALPINE CITY — 26



STORM DRAINAGE SUMP

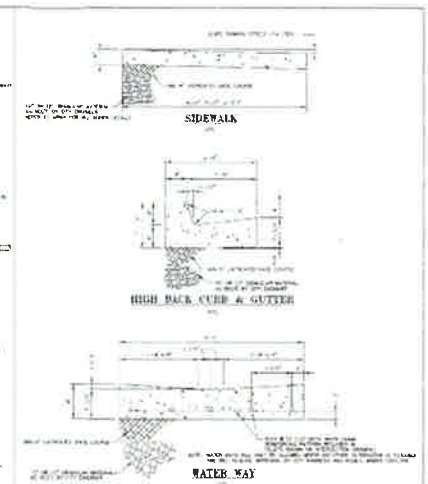
TYPICAL STORM DRAINAGE SUMP — ALPINE CITY — 18



TYPICAL JUNCTION MANHOLE

TYPICAL DROP MANHOLE

SEWER MANHOLE (TYPICAL) — ALPINE CITY — 17



SIDEWALK

HIGH BACK CURB & GUTTER

WATER WAY

SIDEWALK, CURB & GUTTER, WATER WAY — ALPINE CITY — 4

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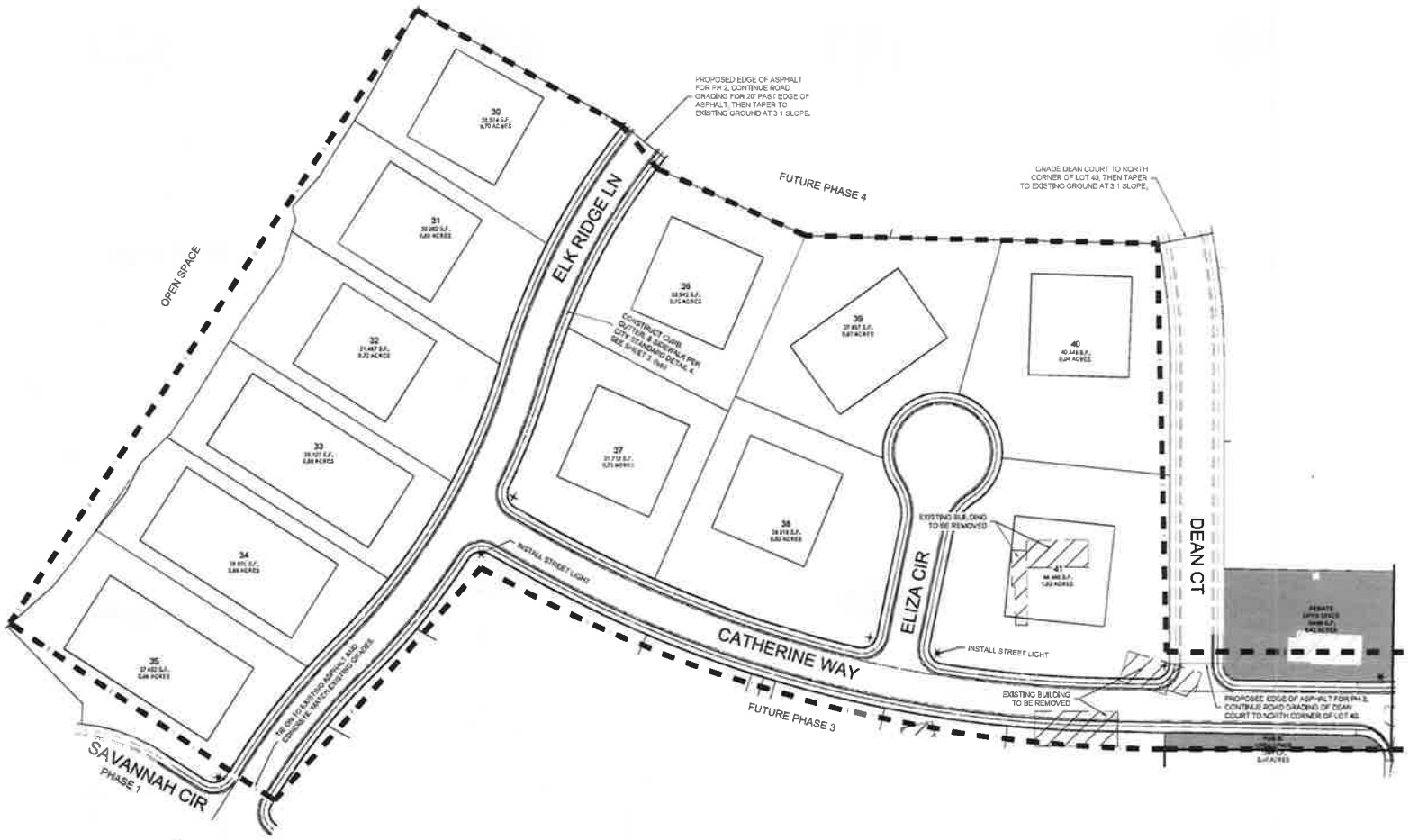
SCALE: AS SHOWN

DETAIL SHEET
THE RIDGE AT ALPINE
PLANNED RESIDENTIAL DEVELOPMENT
PREPARED FOR: PAUL KROFF

SHEET 3 OF 15



GRAPHIC SCALE

(IN FEET)
1 inch = 80 ft.

LEGEND

- PROJECT BOUNDARY
- PROPOSED LOT LINE
- UTILITY AND DRAINAGE EASEMENT
- PROPOSED CURB & GUTTER
- EXISTING CURB & GUTTER
- PROJECT PHASE LINE
- UNDOCUMENTED FILL AREA REFER TO GEOTECH REPORT FOR DETAILS
- STREET AND STOP SIGN
- STREETLIGHT

NOTE
INSTALL STREET AND STOP SIGNS PER CITY STANDARD.
STREETLIGHT LOCATION BY CITY OF ALPINE PUBLIC WORKS DEPARTMENT.

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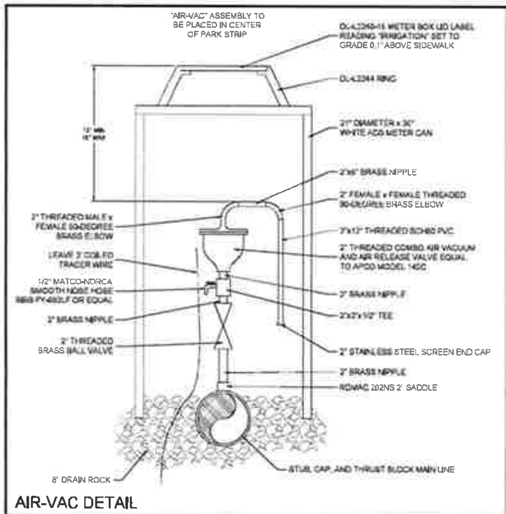
SITE & SIGNAGE PLAN

THE RIDGE AT ALPINE
PLANNED RESIDENTIAL DEVELOPMENT
PREPARED FOR: PAUL KROFF

SHEET 4 OF 15



AIR-VAC DETAIL

UTILITY LEGEND

SEWER

4" PVC SEWER LATERAL UNLESS OTHERWISE NOTED

EXISTING SEWER LINE

IRRIGATION

C-900 IRRIGATION "PURPLE" PIPE (SIZED AS NOTED ON PLANS)

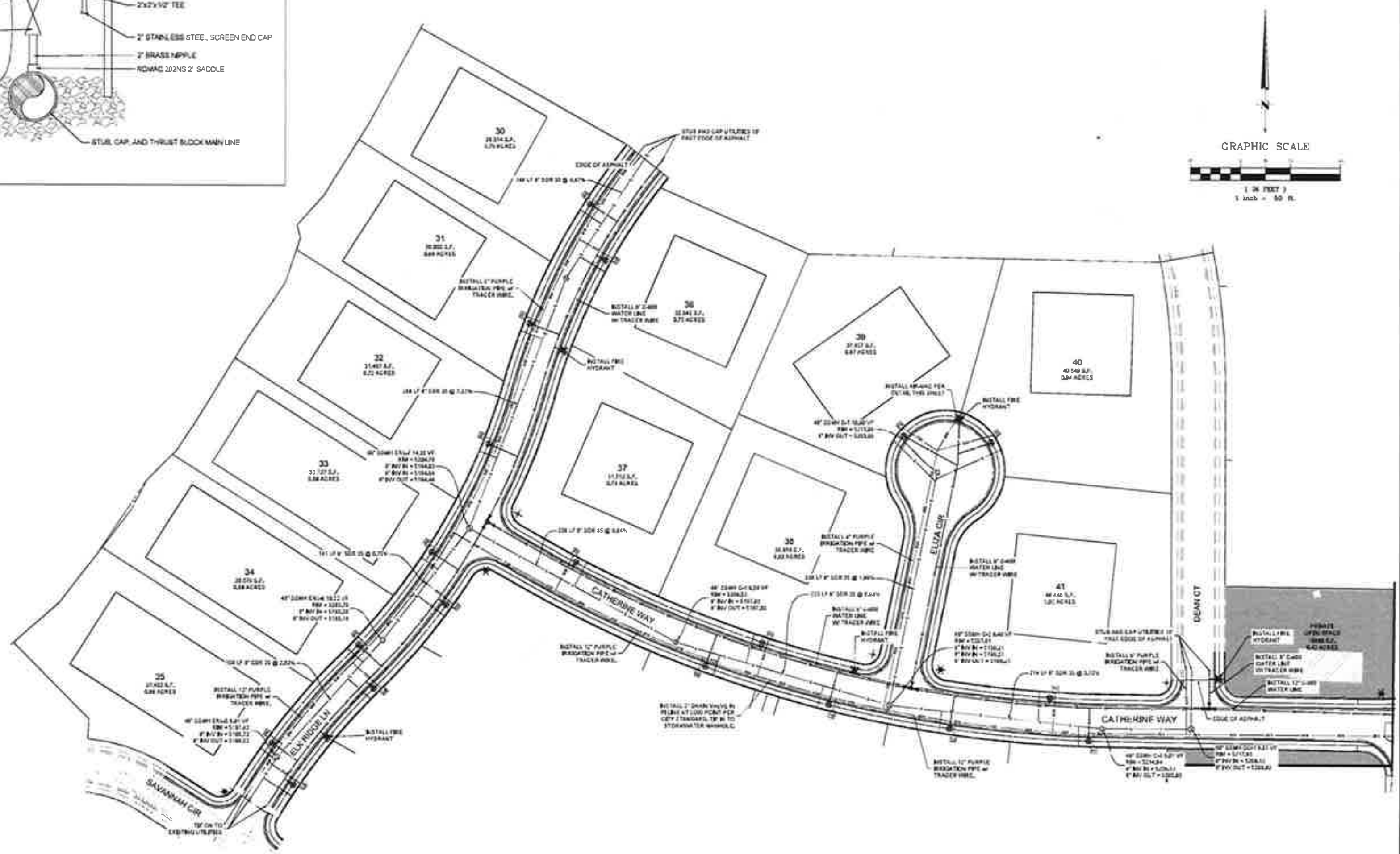
WATER

FIRE HYDRANT

C-900 CULINARY WATER LINE 8" UNLESS SIZE NOTED OTHERWISE

WATER NOTES

1. ALL WATERLINE WORKS MUST BE INSTALLED BY A CONTRACTOR THAT HAS BEEN PRE-QUALIFIED BY THE ALPINE CITY WATER DEPARTMENT.
2. ALL CONSTRUCTION SHALL CONFORM TO THE "ALPINE CITY STANDARD SPECIFICATIONS FOR DESIGN AND CONSTRUCTION", "THE UNIFORM PLUMBING CODE" AND THE "UNIFORM BUILDING CODE" LATEST EDITION AS ADMINISTERED BY ALPINE CITY.
3. CONTRACTOR SHALL POTHOLE ALL PIPELINES AND VERIFY LOCATION AND DEPTH PRIOR TO PROCEEDING WITH ANY BUILDING OR PIPELINE CONSTRUCTION.
4. THE POTABLE WATER SUPPLY TO LAWN IRRIGATION SYSTEMS SHALL BE PROTECTED AGAINST BACKFLOW PER THE INTERNATIONAL PLUMBING CODE (IPC) SECTION 608.16.5 AND FOR FIRE SPRINKLER SYSTEMS PER (IPC) 608.16.4.
5. ALL BACKFLOW ASSEMBLY INSTALLATION AND TEST REQUIREMENTS SHALL BE IN ACCORDANCE WITH ALPINE CITY.
6. 12 GAUGE WIRE SHALL BE TAPED TO ALL WATER LINES FOR LOCATING PURPOSES. THE WIRE SHALL BE BROUGHT UP AT EACH VALVE BOX AND HYDRANT.
7. THRUST RESTRAINT ON THE NEW PIPELINE WILL BE AS SHOWN ON THE DETAILS. USE MEGA-LUG ON THE FITTINGS AND FIELD LOCK GASKETS ON THE REQUIRED LENGTH OF RESTRAINED PIPE.
8. ASPHALT REPLACED OVER THE PIPE TRENCHING IS TO MATCH EXISTING PAVEMENT DEPTHS WITH A 6" OVER CUT FROM EDGE OF THE TRENCH LINE ON EACH SIDE OF THE TRENCH.
9. CONTRACTORS SHALL CUT OFF AND CAP (BACK AT THE WATER MAIN) ALL EXISTING SERVICE LINES OR UNUSED STUB LINES THAT WILL BE ABANDONED.
10. ANY CHANGES MADE IN THE FIELD MUST BE FIRST APPROVED AND DOCUMENTED BY ALPINE CITY WATER SERVICES ENGINEER.
11. WATER METER LOCATIONS TO BE STAKED.



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SEWER & WATER PLAN
THE RIDGE AT ALPINE
PLANNED RESIDENTIAL DEVELOPMENT
PREPARED FOR: PAUL KROFF

SHEET 5 OF 15

LEGEND

- EXISTING GROUND CONTOUR
- FINISH GROUND CONTOUR IRRIGATION
- INSTALL 8" PRESSURIZED IRRIGATION WATER LINE
- INSTALL PRESSURIZED IRRIGATION LATERAL AND METER
- INSTALL 8" C900 CULINARY WATER LINE
- INSTALL 3/4" CULINARY SERVICE LATERAL COMPLETE WITH METER AND BARREL
- INSTALL FIRE HYDRANT COMPLETE WITH VALVE
- INSTALL 8" SDR35 SANITARY SEWER LINE
- INSTALL SANITARY SEWER MANHOLE
- INSTALL 4" SEWER LATERAL AT 2% MINIMUM SLOPE
- PAD ELEVATION
- STORM DRAIN (PER PLAN)
- PROPOSED LOT LINE
- PROPOSED CURB & GUTTER
- EXISTING CURB & GUTTER

NOTES
1. ALL CONSTRUCTION TO BE COMPLETED PER ALPINE CITY STANDARDS AND SPECIFICATIONS

NOTES

APPROXIMATELY 3,068 CU.YD. OF CUT, 18,471 CU.YD. OF FILL AND 15,783 CU.YD. OF IMPORT MATERIAL IS REQUIRED (FOR GRADING PERMIT ONLY) THE CONTRACTOR SHOULD VERIFY THE QUANTITIES FOR COMPLETION OF WORK, QUANTITIES ARE BASED ON FINISH GRADE OF ROADS & PADS.

ALL IMPORTED STRUCTURAL FILL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO DELIVERY TO THE SITE. ALL IMPORTED STRUCTURAL FILL SHALL BE PLACED IN 8-INCH LOOSE HORIZONTAL LIFTS AND COMPACTED TO A MINIMUM OF 95 PERCENT OF MAXIMUM DRY DENSITY (ASTM D-1557).

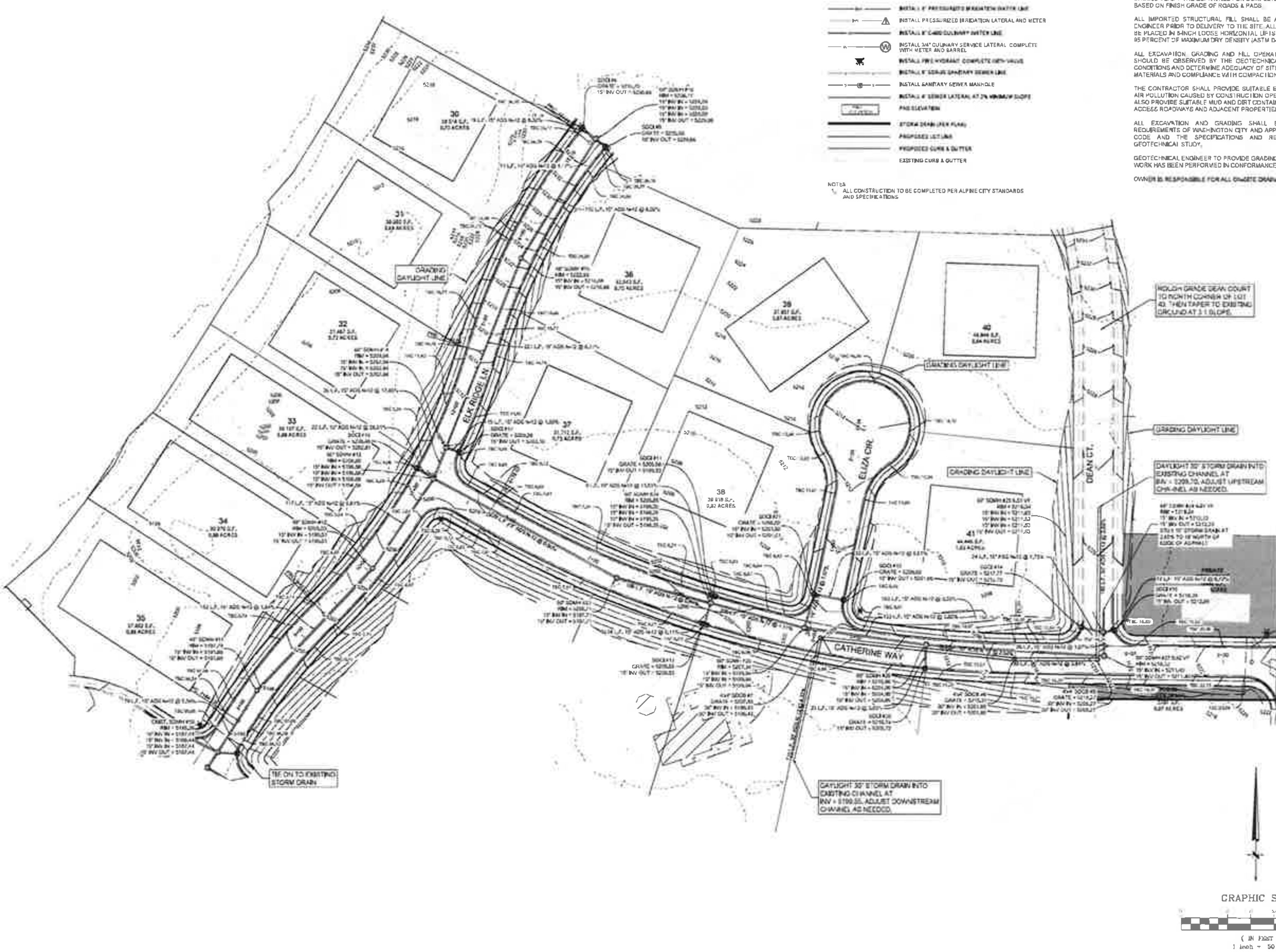
ALL EXCAVATION, GRADING AND FILL OPERATIONS WITHIN THE BUILDING AREA SHOULD BE OBSERVED BY THE GEOTECHNICAL ENGINEER TO VERIFY SUB-SOIL CONDITIONS AND DETERMINE ADEQUACY OF SITE PREPARATION, SUITABILITY OF FILL MATERIALS AND COMPLIANCE WITH COMPACTION REQUIREMENTS.

THE CONTRACTOR SHALL PROVIDE SUITABLE EQUIPMENT TO CONTROL DUST AND AIR POLLUTION CAUSED BY CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL ALSO PROVIDE SUITABLE MUD AND DIRT CONTAINMENT TO MAINTAIN THE WORK SITE, ACCESS ROADWAYS AND ADJACENT PROPERTIES IN A CLEAN CONDITION.

ALL EXCAVATION AND GRADING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF WASHINGTON CITY AND APPENDIX K OF THE UNIFORM BUILDING CODE AND THE SPECIFICATIONS AND REQUIREMENTS INCLUDED IN THE GEOTECHNICAL STUDY.

GEOTECHNICAL ENGINEER TO PROVIDE GRADING COMPLETION REPORT TO CONFIRM WORK HAS BEEN PERFORMED IN CONFORMANCE WITH THEIR RECOMMENDATIONS.

OWNER IS RESPONSIBLE FOR ALL ONSITE DRAINAGE AND DETENTION.



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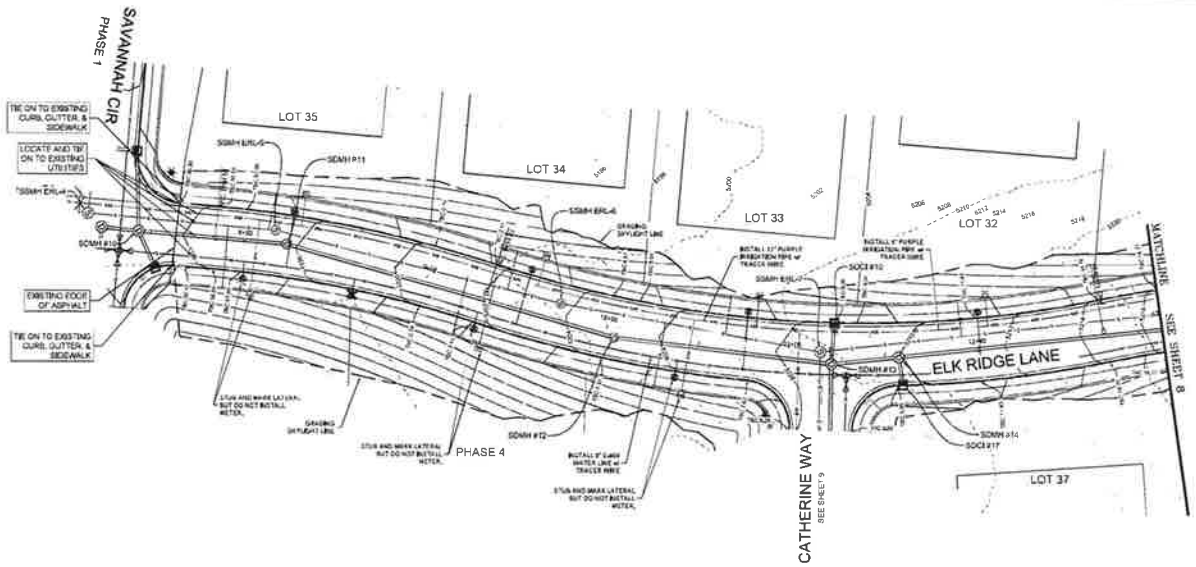
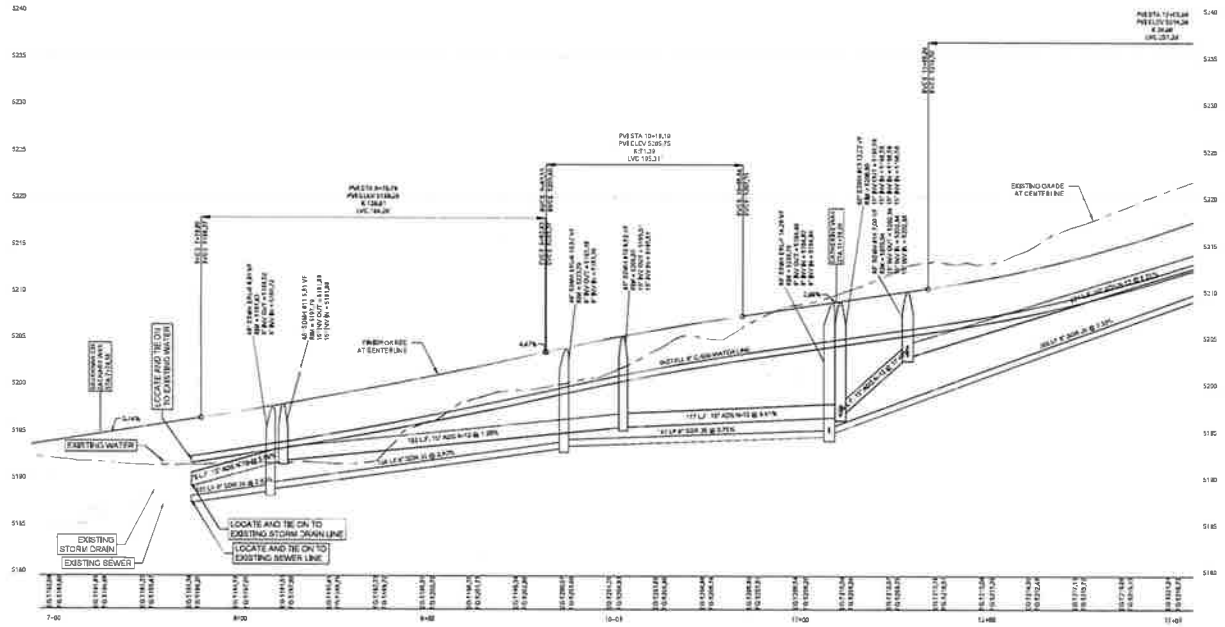
GRADING AND DRAINAGE PLAN
THE RIDGE AT ALPINE
PLANNED RESIDENTIAL DEVELOPMENT
PREPARED FOR: PAUL KROFF

SHEET
6 OF 15





ELK RIDGE LANE (STA 7+00 - 13+00)

GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.

LEGEND

- EXISTING GROUND CONTOUR
- FINISH GROUND CONTOUR IRRIGATION
- INSTALL 3" PRESSURIZED IRRIGATION WATER LINE
- INSTALL PRESSURIZED IRRIGATION LATERAL AND METER
- INSTALL 8" C900 CULINARY WATER LINE
- INSTALL 2" CULINARY SERVICE LATERAL COMPLETE WITH METER AND BARREL
- INSTALL FIRE HYDRANT, COMPLETE WITH VALVE
- INSTALL 8" SDR35 SANITARY SEWER LINE
- INSTALL SANITARY SEWER MANHOLE
- INSTALL 4" SEWER LATERAL AT 2% MINIMUM SLOPE
- PAD ELEVATION
- STORM DRAIN (PER PLAN)
- PROPOSED LOT LINE
- PROPOSED CURB & GUTTER
- EXISTING CURB & GUTTER

NOTES:
1. ALL CONSTRUCTION TO BE COMPLETED PER ALPINE CITY STANDARDS AND SPECIFICATIONS

54' STREET CROSS SECTION

PLAN & PROFILE ELK RIDGE LN

THE RIDGE AT ALPINE SUBDIVISION

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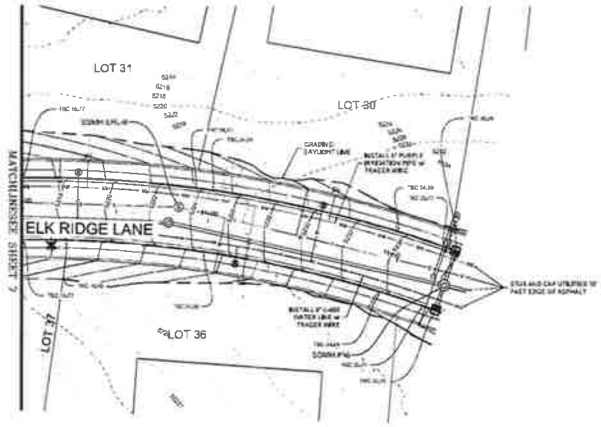
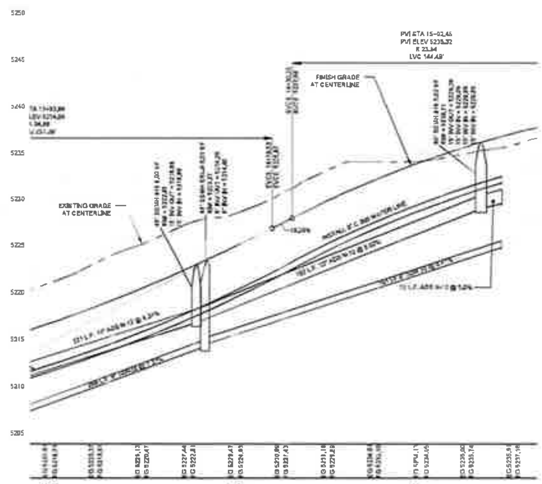


GRAPHIC SCALE

(IN FEET)
1 inch = 30 ft.



ELK RIDGE LANE (STA 13+00 - 15+00)

LEGEND

- EXISTING GROUND CONTOUR
- FINISH GROUND CONTOUR IRRIGATION
- INSTALL 8" PRESSURIZED IRRIGATION WATER LINE
- INSTALL PRESSURIZED IRRIGATION LATERAL AND METER
- INSTALL 8" C-900 CULINARY WATER LINE
- INSTALL 3/4" CULINARY SERVICE LATERAL COMPLETE WITH METER AND BARREL
- INSTALL FIRE HYDRANT COMPLETE WITH VALVE
- INSTALL 8" SDR-35 SANITARY SEWER LINE
- INSTALL SANITARY SEWER MANHOLE
- INSTALL 4" SEWER LATERAL AT 2% MINIMUM SLOPE
- PAD ELEVATION
- STORM DRAIN (PER PLAN)
- PROPOSED LOT LINE
- PROPOSED CURB & GUTTER
- EXISTING CURB & GUTTER

NOTES
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54' STREET CROSS SECTION

PLAN & PROFILE ELK RIDGE LN

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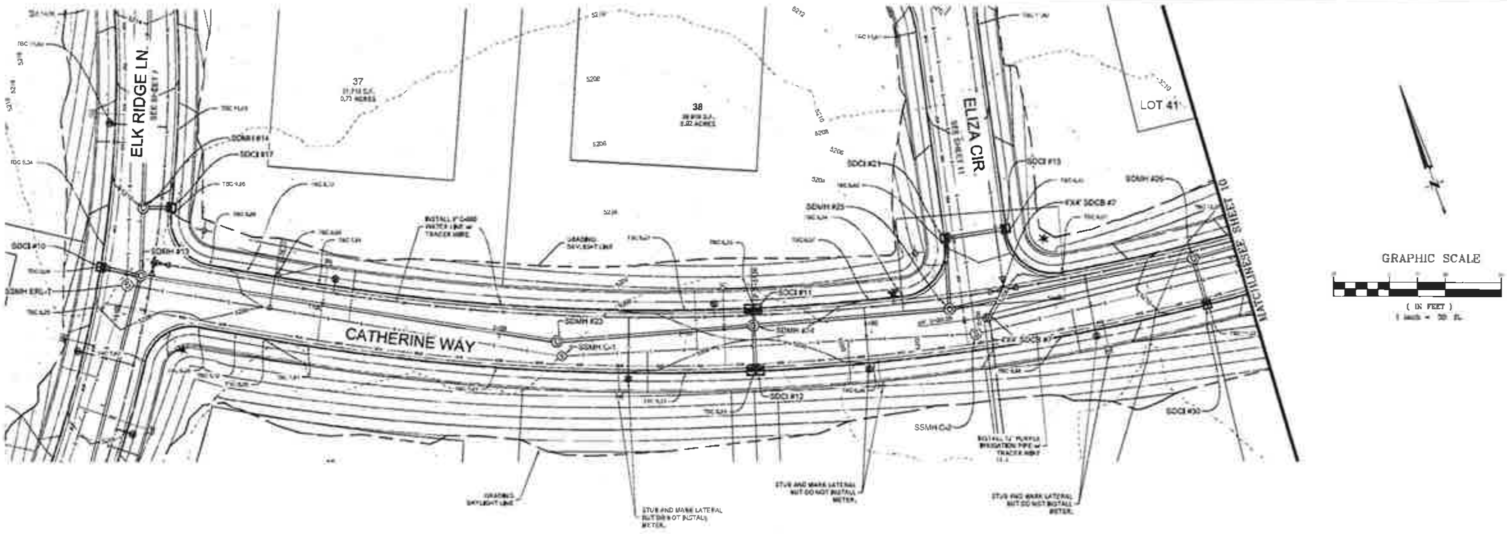
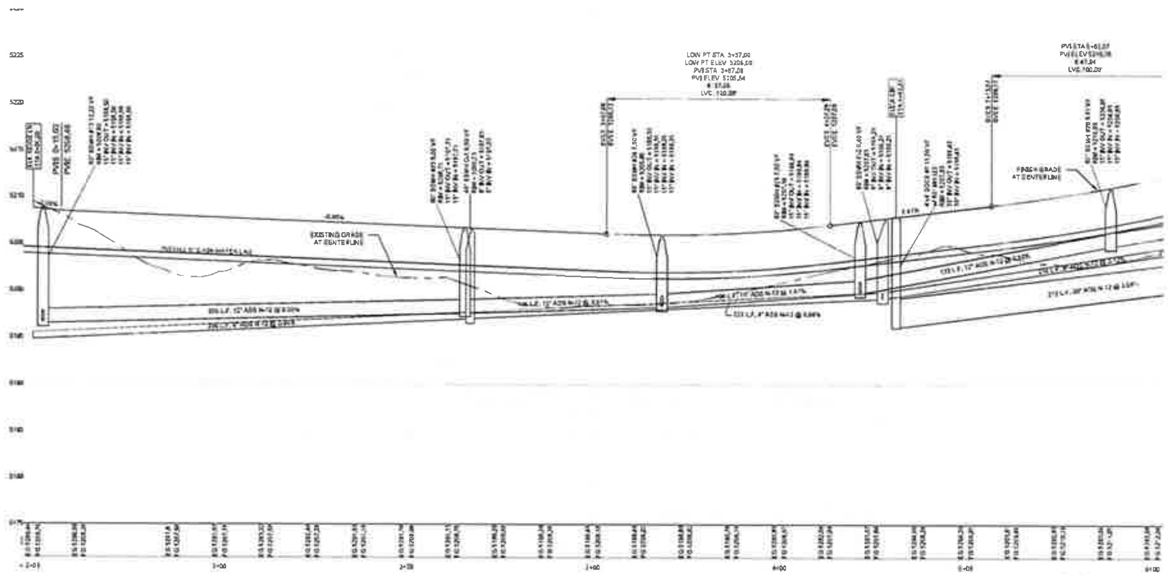


54' STREET CROSS SECTION



CATHERINE WAY (STA 0+00 - 6+00)

LEGEND

- EXISTING GROUND CONTOUR
- FINISH GROUND CONTOUR
- INSTALL 8" PRESSURIZED IRRIGATION WATER LINE
- INSTALL PRESSURIZED IRRIGATION LATERAL AND METER
- INSTALL 8" C900 CULINARY WATER LINE
- INSTALL 3/4" CULINARY SERVICE LATERAL COMPLETE WITH METER AND BARREL
- INSTALL FIRE HYDRANT, COMPLETE WITH VALVE
- INSTALL 8" SDR-35 SANITARY SEWER LINE
- INSTALL SANITARY SEWER MANHOLE
- INSTALL 4" SEWER LATERAL AT 2% MINIMUM SLOPE
- SPOT ELEVATION
- STORM DRAIN (PER PLAN)
- PROPOSED LOT LINE
- PROPOSED CURB & GUTTER
- EXISTING CURB & GUTTER

NOTES:
1. ALL CONSTRUCTION TO BE COMPLETED PER ALPINE CITY STANDARDS AND SPECIFICATIONS

PLAN & PROFILE CATHERINE WAY

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PLAN & PROFILE
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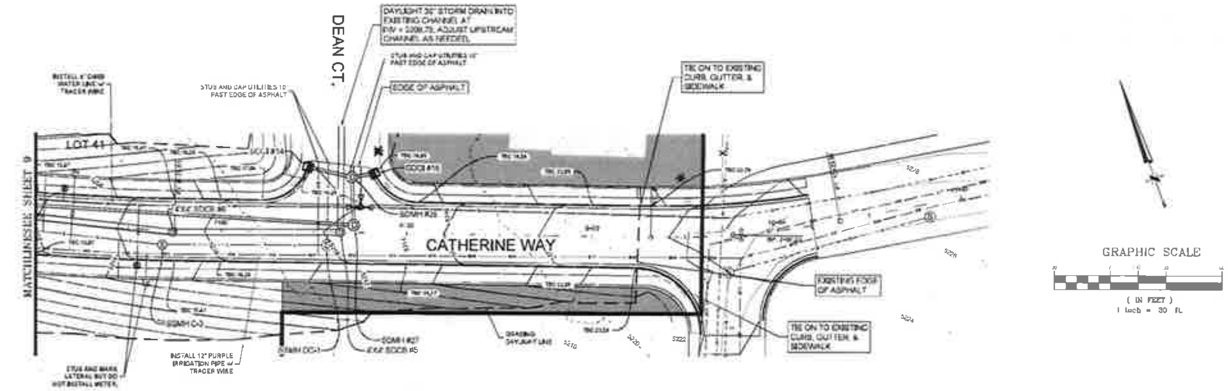

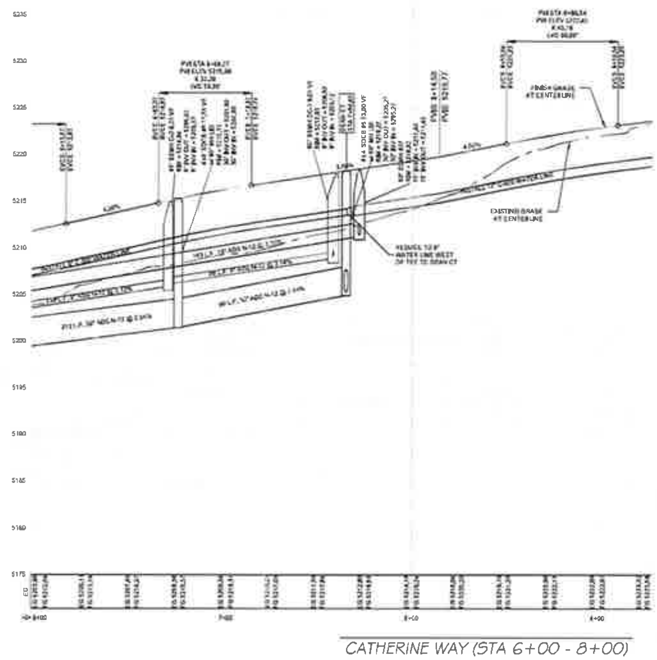

LEGEND

	EXISTING GROUND CONTOUR
	FINISH GROUND CONTOUR IRRIGATION
	INSTALL 6" PRESSURIZED IRRIGATION WATER LINE
	INSTALL PRESSURIZED IRRIGATION LATERAL AND METER
	INSTALL 8" C900 CULINARY WATER LINE
	INSTALL 3/4" CULINARY SERVICE LATERAL COMPLETE WITH METER AND BARREL
	INSTALL FIRE HYDRANT COMPLETE WITH VALVE
	INSTALL 8" SDR-35 SANITARY SEWER LINE
	INSTALL SANITARY SEWER MANHOLE
	INSTALL 4" SEWER LATERAL AT 2% MINIMUM SLOPE
	SPOT ELEVATION
	STORM DRAIN (PER PLAN)
	PROPOSED LOT LINE
	PROPOSED CURB & GUTTER
	EXISTING CURB & GUTTER

NOTES
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SHEET
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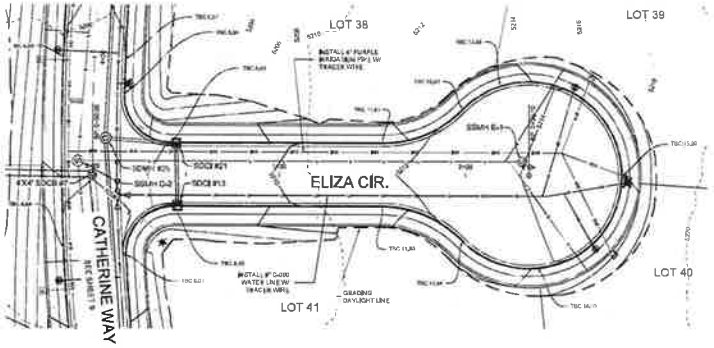
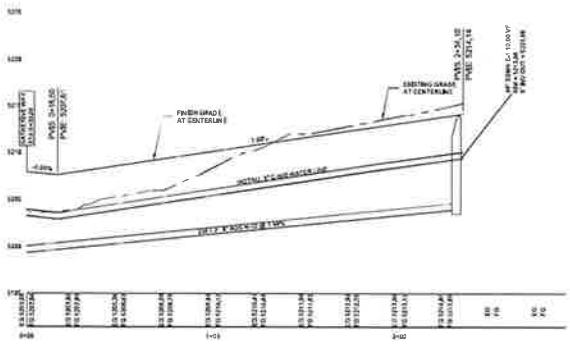
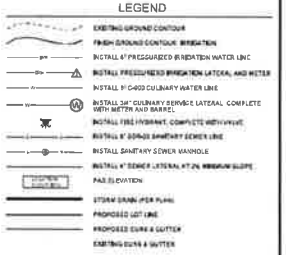




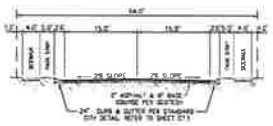
ELIZA CIRCLE (STA 0+00 - 2+50)

LEGEND



NOTES
1. ALL CONSTRUCTION TO BE COMPLETED PER ALPINE CITY STANDARDS AND SPECIFICATIONS

54' STREET CROSS SECTION



PLAN & PROFILE ANNIE CIRCLE & ELIZA CIRCLE

THE RIDGE AT ALPINE SUBDIVISION

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PLAN & PROFILE
THE RIDGE AT ALPINE
PLANNED RESIDENTIAL DEVELOPMENT
PREPARED FOR: PAUL KROFF

SHEET
11 OF 15

X:\16200-16299\16285\16285 Paul Kroff Alpine Sub\16285 C3s Pri 2.dwg

ADA RAMPS AT CATHERINE WAY & ELIZA CIRCLE

ADA RAMPS AT CATHERINE WAY & ELKRIDGE LANE

ADA RAMPS AT DEAN COURT & CATHERINE WAY

GRAPHIC SCALE

(IN FEET)
1 inch = 10 ft.

ADA HANDICAP LOCATIONS & ELEVATIONS

THE RIDGE AT ALPINE SUBDIVISION

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ADA HANDICAP LOCATIONS & ELEVATIONS
THE RIDGE AT ALPINE
PLANNED RESIDENTIAL DEVELOPMENT
PREPARED FOR: PAUL KROFF

SHEET
12 OF 15

1. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING AND CONTROLLING EROSION DUE TO WIND AND RUNOFF. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR MAINTAINING THE EROSION CONTROL FACILITIES SHOWN.

2. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DUE TO UNFORESEEN PROBLEMS OR IF THE PLAN DOES NOT FUNCTION AS INTENDED. ADDITIONAL CONTROL DEVISES MAY BE REQUIRED UPON INSPECTION OF PROPOSED FACILITIES.

3. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING THE STREETS CLEAN AND FREE FROM DEBRIS FROM TRAFFIC FROM THE SITE.

4. ALL STORM DRAIN FACILITIES ON SITE AND ADJACENT TO THE SITE NEED TO BE PROTECTED FROM SITE RUNOFF. INLET PROTECTION DEVICES SHALL BE INSTALLED IMMEDIATELY UPON INDIVIDUAL INLETS BECOMING FUNCTIONAL.

5. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE PAVED, SEEDED WITH NATIVE VEGETATION, OR LANDSCAPED. REFER TO LANDSCAPE PLANS FOR SEED MIX AND PLANTING SPECIFICATIONS.

6. EROSION CONTROL STRUCTURES BELOW SODDED AREAS MAY BE REMOVED ONCE SOD AND FINAL LANDSCAPING ARE IN PLACE. EROSION CONTROL STRUCTURES BELOW SEEDED AREAS MUST REMAIN IN PLACE UNTIL THE ENTIRE AREA HAS ESTABLISHED A MATURE COVERING OF HEALTHY VEGETATION. EROSION CONTROL IN PROPOSED PAVEMENT AREAS SHALL REMAIN IN PLACE UNTIL PAVEMENT IS COMPLETE.

7. CONTRACTOR SHALL USE VEHICLE TRACKING CONTROL AT ALL LOCATIONS WHERE VEHICLES WILL ENTER OR EXIT THE SITE. CONTROL FACILITIES WILL BE MAINTAINED WHILE CONSTRUCTION IS IN PROGRESS. MOVED WHEN NECESSARY AND REMOVED WHEN THE SITE IS PAVED.

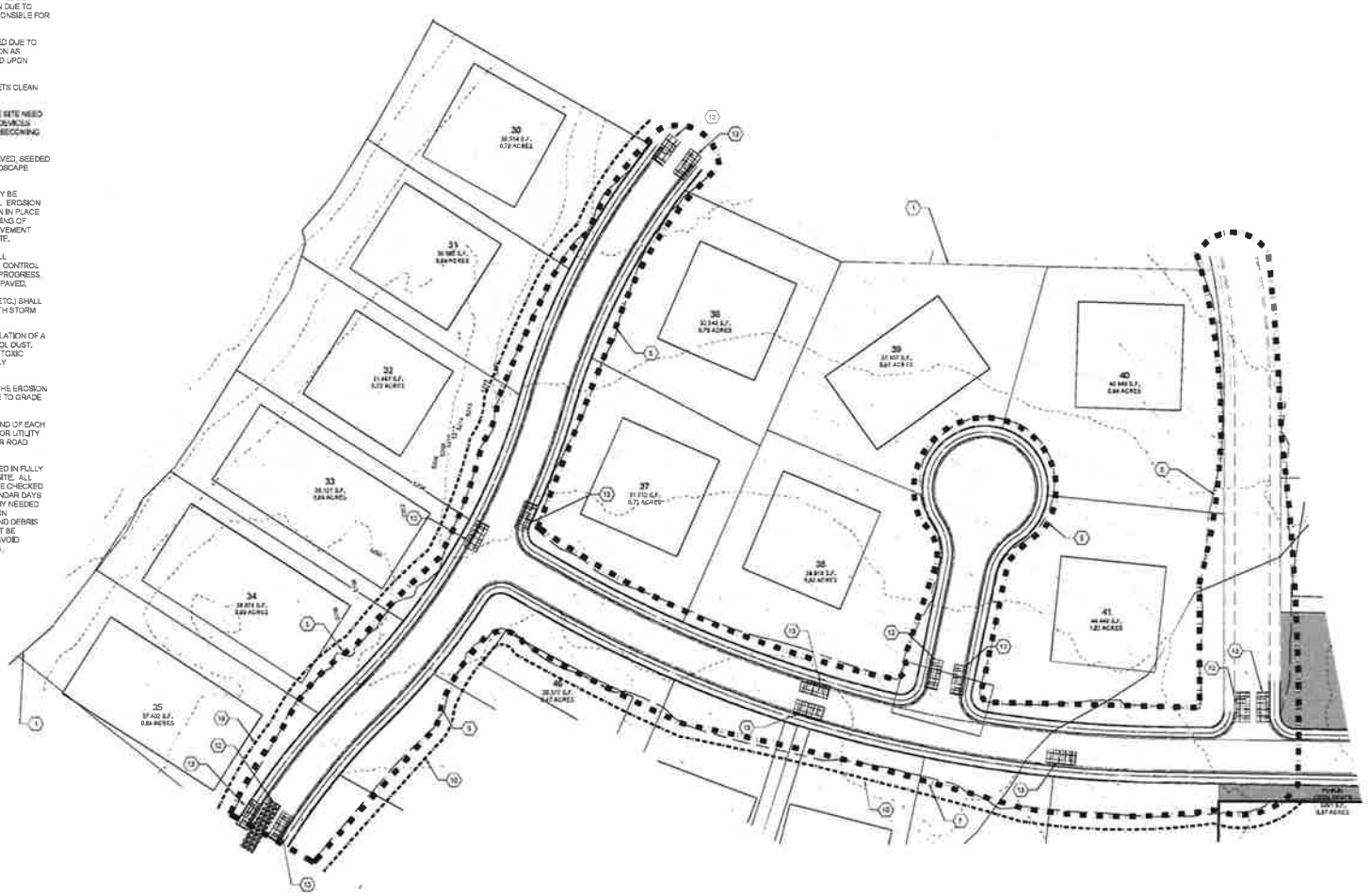
8. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, ETC.) SHALL BE DISPOSED OF IN A MANNER THAT PREVENTS CONTACT WITH STORM WATER DISCHARGES FROM THE SITE

9. BLOWING DUST MUST BE CONTROLLED AT ALL TIMES. INSTALLATION OF A SILT SCREEN AND SITE WATERING SHALL BE USED TO CONTROL DUST. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS ABSOLUTELY PROHIBITED.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION CONTROL MEASURES (SILT FENCES, STRAW BALES, ETC.) DUE TO GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT.

11. ALL OFF-SITE CONSTRUCTION SHALL BE STABILIZED AT THE END OF EACH WORKING DAY. THIS INCLUDES BACKFILLING OF TRENCHES FOR UTILITY CONSTRUCTION AND PLACEMENT OF BITUMINOUS PAVING FOR ROAD CONSTRUCTION.

12. ALL MEASURES CONTAINED IN THIS PLAN SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A RAINFALL EVENT. ANY NEEDED CLEANING AND REPAIRS NEED TO BE DONE IMMEDIATELY UPON DISCOVERY. ALL UTILITY LINES SHALL BE CLEANED OF DIRT AND DEBRIS PRIOR TO BEING PUT INTO SERVICE. DOWN-GRADE LINES MUST BE PROTECTED FROM WASH-WATER DURING THE CLEANING TO AVOID CONTAMINATION AND COMPROMISING OUTFALL CLEANLINESS.



BMP'S NOTES

1. PROPERTY BOUNDARY
2. CONCRETE WASHOUT
3. ENTRANCE / OUTLET TIRE WASH
4. PORTABLE TOILET LOCATION
5. LIMITS OF CONSTRUCTION
6. SLOPE STABILIZATION
9. SEDIMENT BASIN
10. SILT FENCE
12. STABILIZED CONSTRUCTION ENTRANCE
13. STORM DRAIN INLET PROTECTION
14. STREET SWEEPING AND VACUUMING

LEGEND

- LIMITS OF CONSTRUCTION
- EXISTING 1' CONTOUR
- SILT FENCING
- PROPOSED STORM DRAIN
- DRAINAGE FLOW & DIRECTION
- INLET PROTECTION
- SILT SOCK
- TEMP. CONSTRUCTION EXIT

GRAPHIC SCALE

(IN FEET)
1 inch = 100ft.

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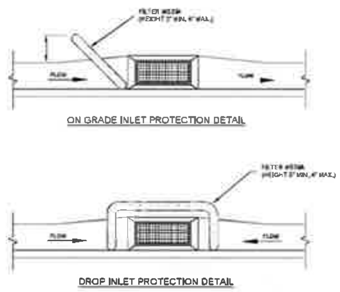
EROSION CONTROL PLAN

THE RIDGE AT ALPINE
PLANNED RESIDENTIAL DEVELOPMENT
PREPARED FOR: PAUL KROFF

SHEET
13 OF 15



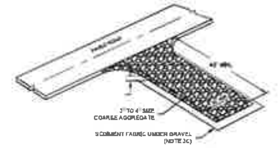
Inlet Protection - Gravel Sock 124

INSTALLATION

A. [illegible]
B. [illegible]
C. [illegible]

MAINTENANCE

A. REQUIRES PERIODIC TOP DRESSING WITH ADDITIONAL STONES.
B. PREVENT TRACKING OR FLOW OF MUD INTO THE PUBLIC RIGHT-OF-WAY.
C. PERIODIC TOP DRESSING WITH 2 INCHES STONE MAY BE REQUIRED AS CONDITIONS DEMAND AND REPAIR ANY STRUCTURES USED TO TRAP SEDIMENTS.
D. INSPECT DAILY FOR LOSS OF GRAVEL OR SEDIMENT BUILDUP.
E. INSPECT ADJACENT AREAS FOR SEDIMENT DEPOSIT AND INSTALL ADDITIONAL CONTROLS AS NECESSARY EXPAND STABILIZED ARE AS REQUIRED TO ACCOMMODATE ACTIVITIES.



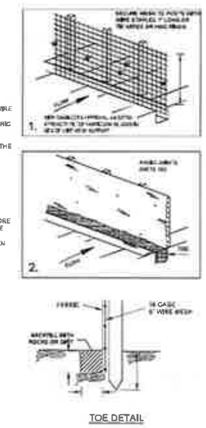
Stabilized Roadway Entrance 126

INSTALLATION

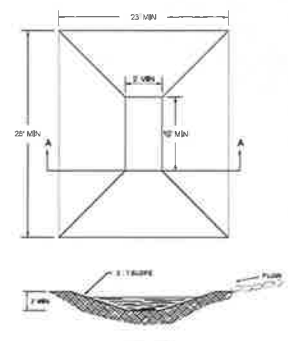
A. SYNTHETIC FILTER FABRIC SHALL BE A PERVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER, OR POLYETHYLENE YARN. SYNTHETIC FILTER FABRIC SHALL CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 6 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 2 DEG F TO 120 DEG F.
B. BURLAP SHALL BE 10 OUNCES PER SQUARE YARD OF FABRIC.
C. POSTS FOR SILT FENCES SHALL BE EITHER 2 X4" DIAMETER WOOD OR 1.33 POUNDS PER LINEAR FOOT STEEL WITH A MINIMUM LENGTH OF 5 FEET. STEEL POSTS SHALL HAVE PROJECTIONS FOR FASTENING WIRE TO THEM.
D. THE FABRIC IS CUT ON SITE TO DESIRED WIDTH, UNROLLED, AND DRAPED OVER THE BARRIER. THE FABRIC TOE IS SECURED WITH ROCKS OR DIRT. THE FABRIC IS SECURED TO THE MESH WITH TWIN STAPLES OR SIMILAR DEVICES.
E. WHEN ATTACHING TWO SILT FENCES TOGETHER, PLACE THE END POST OF THE SECOND FENCE INSIDE THE END POST OF THE FIRST FENCE. ROTATE BOTH POSTS AT LEAST 180 DEGREES ON A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FILTER FABRIC. DRIVE BOTH POSTS INTO THE GROUND AND BURY THE FLAP.
F. WHEN USED TO CONTROL SEDIMENTS FROM A STEEP SLOPE, SILT FENCES SHOULD BE PLACED AWAY FROM THE TOE OF THE SLOPE FOR INCREASED HOLDING CAPACITY.

MAINTENANCE

A. INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL.
B. SHOULD THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSE OR BECOME INEFFECTIVE BEFORE THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
C. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ON-HALF THE HEIGHT OF THE BARRIER.
D. RE-ANCHOR FENCE AS NECESSARY TO PREVENT SHORTCUTTING.
E. INSPECT FOR RUNOFF BYPASSING ENDS OF BARRIERS OR UNDERCUTTING BARRIERS.



Silt Fence 122



Concrete Washout Area

SILT FENCE CONSTRUCTION SPECIFICATIONS

1. FENCE POSTS SHALL BE A MINIMUM OF 36" LONG DRIVEN 16" MINIMUM INTO THE GROUND. WOOD POSTS SHALL BE 11/2" X 11/2" SQUARE (MINIMUM) CUT, OR 13/4" DIAMETER (MINIMUM) ROUND AND SHALL BE OF SOUND QUALITY HARDWOOD. STEEL POSTS WILL BE STANDARD T OR U SECTION WEIGHTING NOT LESS THAN 1.00 POND PER LINEAR FOOT.

2. [illegible] OR STAPLES AT TOP AND MID-SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F

TENSILE STRENGTH	50 LBS/IN (MIN.)	TEST: MSMT 509
TENSILE MODULUS	20 LBS/IN (MIN.)	TEST: MSMT 509.2
FLOW RATE	0.3 GAL FT / MINUTE (MAX.)	TEST: MSMT 322
FILTERING EFFICIENCY	75% (MIN.)	TEST: MSMT 322

3. WHERE ENDS OF GEOTEXTILE FABRIC COME TOGETHER, THEY SHALL BE OVERLAPPED, FOLDED AND STAPLED TO PREVENT SEDIMENT BYPASS.

4. SILT FENCE SHALL BE INSPECTED AFTER EACH RAINFALL EVENT AND MAINTAINED WHEN BULGES OCCUR OR WHEN SEDIMENT ACCUMULATION REACHED 50% OF THE FABRIC HEIGHT.

SILT FENCE DESIGN CRITERIA

SLOPE STEEPNESS	(MAXIMUM) SLOPE LENGTH	(MAXIMUM) SILT FENCE LENGTH
FLATTER THAN 50:1	UNLIMITED	UNLIMITED
50:1 TO 10:1	125 FEET	1,000 FEET
10:1 TO 5:1	100 FEET	750 FEET
5:1 TO 3:1	60 FEET	500 FEET
3:1 TO 2:1	40 FEET	250 FEET
2:1 AND STEEPER	20 FEET	125 FEET

NOTE: IN AREAS OF LESS THAN 2% SLOPE AND SANDY SOILS (USDA GENERAL CLASSIFICATION SYSTEM, SOIL CLASS A) MAXIMUM SLOPE LENGTH AND SILT FENCE LENGTH WILL BE UNLIMITED. IN THESE AREAS A SILT FENCE MAY BE THE ONLY PERIMETER CONTROL REQUIRED.

BALE DIKE CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE, ON THE CONTOUR, AND IN A ROW WITH THE ENDS OF EACH BALE TIGHTLY ABUTTING THE ADJACENT BALES.

2. [illegible]

3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE 12" TO 18" INTO THE GROUND. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE TOP OF THE BALE.

4. STRAW BALE [illegible]

5. ALL BALES SHALL BE REMOVED WHEN THE SITE HAS BEEN STABILIZED. THE TRENCH WHERE THE BALES WERE LOCATED SHALL BE GRADED FLUSH AND STABILIZED.

OPERATION AND MAINTENANCE NOTES

1. EROSION, SEDIMENTATION AND DUST CONTROL REQUIREMENTS VARY SIGNIFICANTLY DURING THE CONSTRUCTION PHASE. IMPLEMENTOR OF PLAN SHALL BE RESPONSIBLE OF SELECTING AND MAINTAINING APPLICABLE BMP'S.

2. [illegible]

3. IMPLEMENTOR MAY USE OTHER BMP'S AS NECESSARY TO MAXIMIZE EROSION, SEDIMENTATIOON AND DUST CONTROL. SEE WWW.EPA.GOV/NPDES/MENUOFBMPS.

4. ALL STORM WATER BMPS SHOULD BE INSPECTED FOR CONTINUED EFFECTIVENESS AND STRUCTURAL INTEGRITY ON A REGULAR BASIS FOR THE LIFE OF THE CONSTRUCTION PROJECT. GENERALLY, ALL BMPS SHOULD BE CHECKED AFTER EACH STORM EVENT IN ADDITION TO THE REGULARLY SCHEDULED INSPECTIONS. SCHEDULED INSPECTIONS VARY BETWEEN BMPS. STRUCTURAL BMPS LIKE STORM DRAIN DROP INLET PROTECTION MIGHT REQUIRE MORE FREQUENT INSPECTION THAN OTHER BMPS TO ENSURE PROPER OPERATION. INSPECTION AND MAINTENANCE OF BMPS SHOULD CONTINUE UNTIL ALL CONSTRUCTION ACTIVITIES HAVE ENDED AND ALL AREAS OF A SITE HAVE BEEN PERMANENTLY STABILIZED. DURING EACH INSPECTION, THE INSPECTOR SHOULD DOCUMENT WHETHER THE BMP IS PERFORMING CORRECTLY, ANY DAMAGE TO THE BMP SINCE THE LAST INSPECTION, AND WHAT SHOULD BE DONE TO REPAIR THE BMP IF DAMAGE HAS OCCURRED.

EROSION & SEDIMENT CONTROL NOTES

SILT FENCING
1. INSPECT AND MAINTAIN SILT FENCES AFTER EACH RAIN STORM.
2. MAKE SURE THE BOTTOM OF THE SILT FENCE IS BURIED IN THE GROUND.
3. SECURELY ATTACH THE MATERIAL TO THE STAKES.
4. DON'T PLACE SILT FENCES IN THE MIDDLE OF A WATERWAY OR USE THEM AS A CHECK DAM.
5. MAKE SURE STORMWATER IS NOT FLOWING AROUND THE SILT FENCE.

CONSTRUCTION ENTRANCES
1. REMOVE MUD AND DIRT FROM THE TIRES OF CONSTRUCTION VEHICLES BEFORE THEY ENTER A PAVED ROADWAY.
2. PROPERLY SIZE ENTRANCE BMPS FOR ALL ANTICIPATED VEHICLES.
3. MAKE SURE THAT THE CONSTRUCTION ACCESS DOES NOT BECOME BURIED IN SOIL.

SLOPES
1. ROUGH GRADE OR TERRACE SLOPES.
2. BREAK UP LONG SLOPES WITH SEDIMENT BARRIERS [illegible]

DIRT STOCKPILES
1. COVER OR SEED ALL DIRT STOCKPILES.

STORM DRAIN INLET PROTECTION
1. USE ROCK OR OTHER APPROPRIATE MATERIAL TO COVER THE STORM DRAIN INLET TO FILTER OUT TRASH AND DEBRIS.
2. MAKE SURE THE ROCK SIZE IS APPROPRIATE (USUALLY 1 TO 2 INCHES IN DIAMETER).
3. IF YOU USE INLET FILTERS, MAINTAIN THEM REGULARLY.

PROTECT NATURAL FEATURES
1. MINIMIZE CLEARING.
2. MINIMIZE THE AMOUNT OF EXPOSED SOIL.
3. IDENTIFY AND PROTECT AREAS WHERE EXISTING VEGETATION, SUCH AS TREES, WILL NOT BE DISTURBED BY CONSTRUCTION ACTIVITY.
4. PROTECT STREAMS, STREAM BUFFERS, WILD WOODLANDS, WETLANDS, OR OTHER SENSITIVE AREAS FROM ANY DISTURBANCE OR CONSTRUCTION ACTIVITY BY FENCING OR OTHERWISE CLEARLY MARKING THESE AREAS.

CONSTRUCTION PHASING
1. SEQUENCE CONSTRUCTION ACTIVITIES SO THAT THE SOIL IS NOT EXPOSED FOR LONG PERIODS OF TIME.
2. SCHEDULE OR LIMIT GRADING TO SMALL AREAS.
3. INSTALL KEY SEDIMENT CONTROL PRACTICES BEFORE SITE GRADING BEGINS.
4. SCHEDULE SITE STABILIZATION ACTIVITIES, SUCH AS LANDSCAPING, TO BE COMPLETED IMMEDIATELY AFTER THE LAND HAS BEEN GRADED TO ITS FINAL CONTOUR.

VEGETATIVE BUFFERS
1. PROTECT AND INSTALL VEGETATIVE BUFFERS ALONG WATERBODIES TO SLOW AND FILTER STORMWATER RUNOFF.
2. MAINTAIN BUFFERS BY MOWING OR REPLANTING PERIODICALLY TO ENSURE THEIR EFFECTIVENESS.

SITE STABILIZATION
1. VEGETATE, MULCH, OR OTHERWISE STABILIZE ALL EXPOSED AREAS [illegible]

DUST CONTROL NOTES

TEMPORARY MEASURES

1. VEGETATIVE COVERINGS: TEMPORARY SEEING AND MULCHING MAY BE APPLIED TO COVER BARE SOIL AND TO PREVENT WIND EROSION. THE SOIL MUST BE KEPT MOIST TO ESTABLISH COVER.

2. BARRIERS: SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND BLOWN SOIL. BARRIERS PLACES AT RIGHT ANGLES TO PREVAILING WIND CURRENTS AT INTERVALS OF ABOUT 15 TIMES THE BARRIER HEIGHT ARE EFFECTIVE IN CONTROLLING WIND EROSION.

3. CALCIUM CHLORIDE: THIS MATERIAL IS APPLIED AT A RATE THAT WILL KEEP [illegible] DUE TO VARYING SITE AND CLIMATIC CONDITIONS.

4. IRRIGATION: THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. THE SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS WET AND REPEATED AS NECESSARY. IF THIS METHOD IS TO BE EMPLOYED AT A CONSTRUCTION SITE, IT IS RECOMMENDED THAT A TEMPORARY GRAVEL ROCK ENTRANCE BE CREATED TO PREVENT MUD FROM SPREADING ONTO LOCAL STREETS.

5. TILLAGE: THIS PRACTICE ROUGHENS THE SOIL AND BRINGS CLODS TO THE SURFACE. IT IS AN EMERGENCY MEASURE THAT SHOULD BE USED BEFORE WIND EROSION STARTS. PLOWING SHOULD BEGIN ON THE WINDWARD SIDE OF THE SITE USING CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTH HARROWS, OR SIMILAR PLOWS.

6. ADHESIVES: USE SPRAY-ON ADHESIVES ACCORDING TO TABLE 1. THESE ADHESIVES FORM FAIRLY IMPENETRABLE SURFACES, AND SHOULD BE USED ONLY IF OTHER METHODS PROVE TO BE DIFFICULT TO WORK WITH.

[illegible]

1. PERMANENT VEGETATION: SEEDING AND SODDING SHOULD BE DONE TO PERMANENTLY STABILIZE EXPOSED AREAS AGAINST WIND EROSION. IT IS RECOMMENDED THAT EXISTING TREES AND LARGE SHRUBS BE ALLOWED TO REMAIN IN PLACE TO THE GREATEST EXTENT POSSIBLE DURING SITE GRADING PROCESSES.
2. STONE: COARSE GRAVEL OR CRUSHED STONE MAY BE PLACED OVER HIGHLY ERODIBLE SOILS.
3. TOPSOILING: THIS METHOD IS RECOMMENDED WHEN PERMANENT VEGETATION CANNOT BE ESTABLISHED ON A SITE. TOPSOILING IS A PROCESS IN WHICH LESS EROSIVE MATERIAL IS PLACED ON TOP OF HIGHLY ERODIBLE SOILS.

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EROSION CONTROL DETAILS
THE RIDGE AT ALPINE
PLANNED RESIDENTIAL DEVELOPMENT
PREPARED FOR: PAUL KROFF

ALPINE PLANNING COMMISSION AGENDA

SUBJECT: Setback Exception – Proposed Site Plan in Business/Commercial Zone

FOR CONSIDERATION ON: 13 August 2019

PETITIONER: Paul Anderson

ACTION REQUESTED BY PETITIONER: Review and approve the proposed setback exceptions.

BACKGROUND INFORMATION:

The petitioner is seeking an exception to the setback requirements for a commercial structure in the Business/Commercial Zone. The property is an odd shaped lot adjacent to Dry Creek and the Main Street Bridge.

The petitioner is seeking two different setback exceptions: first, a front-setback of 15 feet from the front property line on Main Street; and second, a zero side-setback for the north property boundary bordering Dry Creek. The petitioner has stated that without the exceptions it would be difficult to place a building on the odd shaped lot.

The Development Code states that the Planning Commission may grant exceptions to the setback requirements for the Business/Commercial and Gateway Historic Zones.

Article 3.07.050.2

In commercial developments adjacent to other commercial areas, the side yard and rear yard setbacks will be not less than 20 feet unless recommended by the Planning Commission and approved by the City Council where circumstances justify.

Article 3.11.040.3.e

The Planning Commission may recommend exceptions to the Business Commercial Zone requirements regarding parking, building height, signage, setbacks and use if it finds that the plans proposed better implement the design guidelines to the City Council for approval.

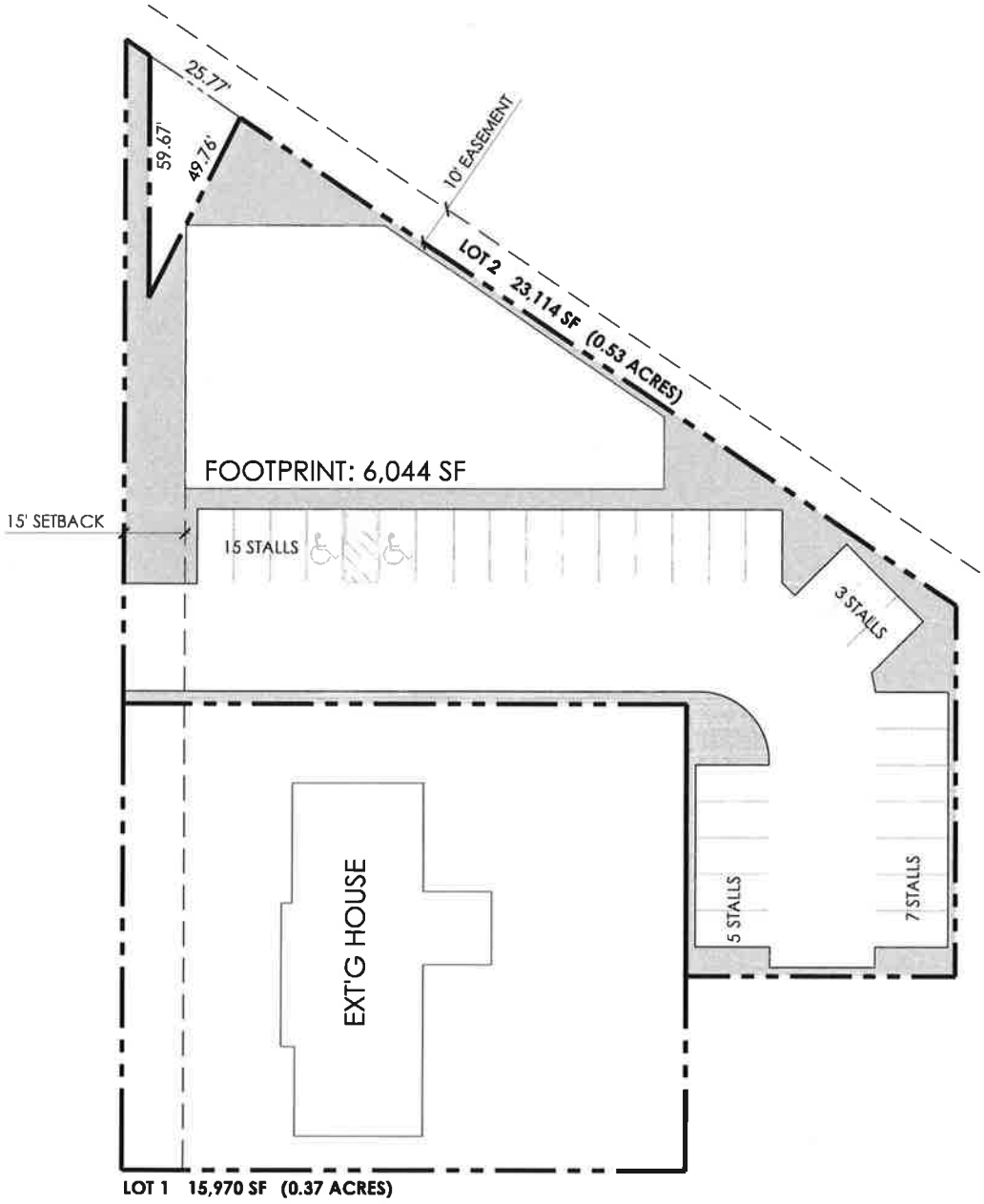
Model Motions:

Review and consider approving the proposed setback exceptions.

Sample Motion to Approve:
I motion to approve the setback exceptions as proposed.

Sample Motion to Deny:
I motion that the proposed setback exception be denied based on the following:

- ***Insert Finding***



0 10' 20' 40' 80'

SCALE: 1"=20'

NORTH

aeurbia architects and engineers

ALPINE PHYSICAL THERAPY

ALPINE CITY COUNCIL AGENDA

SUBJECT: Commercial Structure Remodel – Alpine Animal Hospital

FOR CONSIDERATION ON: 13 August 2019

PETITIONER: Dr. Michael Kendig

ACTION REQUESTED BY PETITIONER: Approve the proposed remodel.

BACKGROUND INFORMATION:

The Alpine Animal Hospital is seeking to remodel their facility with new siding. The colors and design of the building would be changing from the current design. Article 3.11.030 of the Alpine City Development Code states the Planning Commission must recommend and the City Council approve, any proposed alteration, reconstruction, enlargement or remodel if such alteration, reconstruction enlargement or remodel involves exterior design, material, finish grade line, landscaping or orientation of the structure. Elevations and material samples have been provided for review. Existing brick and roofing (shakes) to remain. See packet for details on Gateway/Historic Zone requirements.

Planning Commission made the following motion to approve the proposed remodel:

MOTION: *Sylvia Christiansen moved to recommend approval of the Alpine Animal Hospital Remodel with the condition that they paint door the same color as hardy board. John MacKay seconded the motion. There were 5 Ayes and 0 Nays (recorded below). The motion passed.*

Ayes:	***Nays:***
Bryce Higbee	*None*
Alan MacDonald	
John MacKay	
Jessica Smuin	
Sylvia Christiansen	

MODEL MOTIONS:

Sample Motion to Approve:
I motion to approve the remodel of the Alpine Animal Hospital as proposed.

Alternative Motion to Approve:
I motion to approve the proposed remodel of the Alpine Animal Hospital with the following conditions:

- ***Insert Finding***

Motion to Deny:
I make a motion that the proposed remodel of the Alpine Animal Hospital be denied based on the following:

- ***Insert Finding***

Siding Solutions & Construction

Render 1 of 1 -- 06/23/19

Gateway Historic District Design Guidelines

Adopted by Resolution 2015-11

Purpose and Intent

Gateway Historic District will become a village of mixed uses, promoting a pedestrian friendly atmosphere and providing excellence in landscaping and architecture, in a setting which honors and preserves the past while promoting the future.

1. In the interest of preserving the character of the Gateway-Historic District, it is necessary to regulate to a certain extent the new construction that is built there. New structures should only affect the district in a positive manner, and not in detrimental ways.

2. Respecting the heritage of Alpine associated with the historical structures in the district.

3. Utilize approaches that have been shown to encourage the sustainability of historic districts and neighborhoods.

The guidelines for the following elements are intended to encourage compatible new construction. In the event that these guidelines conflict with the Alpine City Zoning Ordinance, the Zoning Ordinance will be followed.

Guidelines

1. New developments should:

    a. Mimic details of older buildings
    b. Use similar materials
    c. Make mundane uses look good
    d. Include design features on blank walls

2. All new development projects should achieve a determination of design appropriateness from the Planning Commission.

3. New construction should respect and build upon the historical legacy of downtown Alpine and borrow historic features from the area. It should be

designed for its specific context. Elements that should influence the design of new development include building form, massing, scale, materials and colors.

Gateway Historic District Design Criteria

1. Relation to the Surrounding Area (Massing, Scale, Orientation)
2. Height
3. Exterior Walls and Surfaces
4. Windows and Doors
5. Exterior Trim and Decorative Detailing
6. Roofing
7. Materials (Texture, Color, Finishes)
8. Streetscaping

1

Relation to the Surrounding Area

(Massing, Scale, Orientation)

New construction that utilizes appropriate massing and scale can affect historic districts in a positive manner. New structures should take their own place in time.

Design Standards

- New structures should relate to the fundamental characteristics of the district, but may use their own style and method of construction.
- Orientation of new construction should be to the street to establish a pedestrian-friendly quality.
- One major entrance should orient to each street to which the building abuts for easy access by pedestrians from the street and sidewalk.
- Corner entrances may be used for buildings orienting to two streets at an intersection.
- New construction should not be dramatically greater in scale than surrounding structures in the district.
- The perceived width of new construction should be visually compatible with adjacent structures. Wider buildings should be divided into modules to convey a sense of traditional construction.
- The building form of new construction should be similar to surrounding structures but should not necessarily a direct imitation.

2

Height

New construction should respect the overall height limits established in the city code for the underlying zone.

Design Standards

- The height of buildings should be compatible with adjacent historic structures.
- Creative historic design elements fitting for the area can be considered.

3

Exterior Walls and Surfaces

The type of materials used for new construction can greatly enhance the relationship to surrounding historical structures while maintaining individual identity.

Design Standards

- The use of stone, brick, wood, or stucco is encouraged for use as the primary exterior material.
- Plastics, vinyl and CMU (concrete masonry unit) are prohibited.
- Innovative use of other materials may be considered.

4

Windows and Doors

Windows and doors of new construction should relate to the general character of the area.

Design Standards

- Windows with a vertical emphasis shall be encouraged over a horizontal orientation.
- Scale, proportion, and character of windows and doors should be carefully considered and should relate to the intended general character of the area.
- The simple shape of windows is encouraged.
- If new construction is built to the sidewalk, the use of awnings or canopies should be considered for providing protection to the pedestrian.
- The ground floor of the primary façade should include transparency at the pedestrian level.

5

Exterior Trim and Decorative Detailing

New construction can be enhanced by the wise use of exterior trim and decorative detailing. Using these details to break up uninspiring solid surfaces can help avoid the box-like appearance often seen in new construction.

Design Standards

- Trim and detailing should be simple in material and design.
- Materials that are compatible to the primary exterior material should be used.
- Excessive ornamentation is not recommended.
- The following factors should be considered in determining whether or not a particular finishing material is acceptable:

    1. Durability and low maintenance characteristics.
    2. Consistency with the overall design goals.
    3. Location on the building.
    4. Potential shielding by landscaping or other feature.
    5. The visibility of the site from public streets and neighboring uses.
    6. A mansard roof is prohibited

6

Roofing

The style and form of the roof on new construction can contribute to the success of blending in with surrounding historic structures.

Design Standards

- Traditional rooflines are preferred.
- Smaller structures should use a hip, gable, or shed roof.
- Flat roofs may be considered for use on structures where the context is appropriate.
- Flat roofs shall provide a cornice or other decorative treatment.
- The character or design of the front and rear façades of all buildings shall demonstrate a variety in depth, relief, rhythm and roof line height, with changes occurring in all of these areas at least every forty feet.
- Mechanical equipment shall not be visible from the street.

7

Materials – Texture, Color, Finishes

Good attention to design and color is expected in the Gateway Historic District to help all buildings become more complimentary to each other and assist the creation of a unique and cohesive environment. The materials used for the finish of the exterior surface of new construction should be compatible with the nature of the surrounding area.

Design Standards

- The use of color schemes should be compatible with the surrounding area. Simplicity is encouraged – excessive amounts of different colors should not be used.
- Avoid pure white as a façade color, and if masonry must be painted, it should be done in a natural hue.
- The natural colors of brick masonry, stone, or other existing building materials should dominate the color scheme of the building. Other colors should be respectful of adjacent buildings.
- A predominant color should be used with one or two other accent colors.
- The texture and finish of new construction should attempt to convey a modern building while still respecting the historic character of the area.
- The cornice, window frames, ornamental details, signs and storefronts should all blend in as an attractive harmonious unit.

8

Streetscaping

Streetscapes should be incorporated in sidewalk areas adjacent to Main Street.

Design Standards

- At least one streetscape feature should be installed and maintained every thirty (30) linear feet along sidewalks, nearest to the curb.
- Acceptable streetscape features include, but are not limited to, the following: trees, planters, benches, drinking fountains, decorative garbage canisters, outdoor clocks, bike racks, and water features.
- Businesses are encouraged to coordinate the installation of streetscape elements with surrounding properties.
- Installation of plazas and gathering spaces where people may linger is encouraged.
- Installation of planters with trees and shrubs to create areas to sit are encouraged.
- Providing benches in strategic areas to encourage mingling and gathering is encouraged.

3.11.010 Purpose And Intent

The purpose of this chapter is to maintain a high character of community development, to protect and preserve property, to promote the stability of property values and to protect real estate from impairment or destruction of value for the general community welfare by regulating the exterior architectural characteristics of structures and preservation and protection of buildings of architectural or historical significance throughout the hereinafter defined Gateway/Historic District.

It is the further purpose of this Title to recognize and preserve the historical and architectural character of this community, which has been greatly influenced by the architecture of an earlier period in this community's history. It is also the intent of the district to allow for a mixture of commercial and residential uses. These purposes shall be served by the regulation of exterior design, use of materials, the finish grade line, landscaping and orientation of all commercial structures hereinafter altered, constructed, reconstructed, erected, enlarged or remodeled, removed or demolished for commercial purposes in the hereinafter defined Gateway/Historic District.

(Ord. No. 2002-06, 07/09/2002; Amended by Ord. No. 2010-19, 11/09/10)

3.11.020 District Boundaries

There is hereby established a Gateway-Historic District Overlay Zone which shall include the area shown as Business Commercial (BC) on the Alpine City Zoning Map.

(Ord. No. 2002-06, 07/09/2002; Amended by Ord. No. 2010-19, 11/09/10)

3.11.030 Applicability

An application for a site plan shall be filed with the City Planner whenever:

1. A commercial structure, as defined by this Zoning Ordinance, whether public or private, within the above describe district is proposed to be constructed or erected; or
2. An existing commercial structure is proposed to be altered, reconstructed, enlarged, or remodeled if such alteration, reconstruction, enlargement, or remodeling involves the exterior design, material, finish grade line, landscaping or orientation of the structure; or
3. An existing structure is proposed to be altered, reconstructed, enlarged or remodeled into a commercial structure, if such alteration, reconstruction, enlargement or remodeling involves the exterior design, material, finish grade line, landscaping or orientation of the structure.

(Ord. No. 2002-06, 07/09/2002; Amended by Ord. No. 2010-19, 11/09/10)

3.11.040 Site Plan Process

1. During the review process, the City Planner and City Engineer, the Planning Commission, and the City Council may request reasonable additional information from the applicant from time to time; and may ask other advisors to review the plan if, in the opinion of the City, it may contribute to a decision in the best interest of the City.

   After submittal of the required application materials, no excavation or alteration of the property may be undertaken prior to written final approval by the City Council of the site plan. Excavation or alteration of the property prior to approval may be cause for disapproval. Additionally, work on existing structures prior to final approval is not permitted.

2. **City Planner and City Engineer**

   a. The applicant shall meet with the City Planner and City Engineer to review the proposed site plan before submitting an application.

   b. The applicant shall prepare a concept site plan, properly and accurately drawn to scale.

   c. The City Planner and City Engineer shall review the site plan to determine compliance with the Alpine City General Plan and applicable City ordinances.

   d. When the City Planner and City Engineer determines that the site plan is ready for Planning Commission review, the City Planner, in consultation with the Planning Commission Chairperson, shall establish a review date. The applicant may prepare a site plan that incorporates all changes recommended by City Planner and City Engineer.

3. **Planning Commission**

   a. The applicant shall submit the following to the City Planner at least fourteen (14) days before the scheduled Planning Commission meeting:

      i. the site plan application;

      ii. pay the associated fee(s) in accordance with the current fee schedule (payable to Alpine City);

      iii. four (4) D size (22" x 34") copies of the site plan;

      iv. ten (10) 11" x 17" copies of the site plan drawn to scale;

      v. building elevations including building height;

      vi. a landscape plan including a list of plant types; and

      vii. an electronic copy of the site plan and building elevations in a compatible format as specified by City Staff.

      In addition, the application shall be accompanied by a detailed narrative description of the proposed design or change of design, use of materials, finish grade line, landscaping. In addition, the Planning Commission may require submission of colored perspectives or architectural renderings in applications where the Planning Commission feels it is required.

   b. The site plan will not be presented to the Planning Commission until the application is complete, including submitting all required information and paying all fees. The application must be complete and accepted in writing by the City Planner.

   c. The Planning Commission shall give guidance to the applicant to assist in meeting the requirements and constraints for development within Alpine City.

   d. The Planning Commission shall determine whether the site plan promotes, preserves and enhances the distinctive historical village character of the community and would not be at variance with existing structures within that portion of the district in which the site plan is or is proposed to be located as to be detrimental to the interests of the District as set forth in DCA 3.11.010. In conducting its review, the Planning Commission shall make examination of and give consideration to the elements of the Gateway Historic District Design Guidelines.

   e. The Planning Commission may recommend exceptions to the Business Commercial Zone requirements regarding parking, building height, signage, setbacks and use if it finds that the plans proposed better implement the design guidelines to the City Council for approval.

   f. If the Planning Commission finds that the proposed site plan complies with all applicable requirements, it shall recommend approval to the City Council. If the Planning Commission finds that the proposed site plan does not meet the requirements, it shall recommend disapproval of the site plan.

4. **City Council**

   a. Following the recommendation of approval or disapproval of the site plan by the Planning Commission, the City Council shall consider the site plan at a public meeting. If the City Council determines that the site plan is in conformity with all applicable requirements and any reasonable conditions as recommended by City Staff, the Planning Commission, or on its own initiative, it shall approve the site plan.

   b. If the City Council determines that the site plan is not in conformity with all applicable requirements or any reasonable conditions imposed, it shall disapprove the site plan specifying the reasons for such disapproval.

(Ord. No. 2002-06, 07/09/2002; Amended by Ord. No. 2010-19, 11/09/10)

3.11.050 Plan Requirements

The site plan shall include the following items:

1. Address of the site plan
2. A vicinity map
3. The property boundaries of the proposed site plan and the names of all adjacent property owners
4. The location of all existing and proposed easements
5. Lot dimensions
6. Location and orientation of all structures on the lot
7. Setbacks of all structures on the lot
8. Location of garbage dumpster
9. Location of all existing and proposed utilities
10. Parking plan
11. Lighting plan
12. Other information which may allow the City Planner, City Engineer, Planning Commission, and City Council to evaluate the proposed site plan.

(Ord. No. 2002-06, 07/09/2002; Amended by Ord. No. 2010-19, 11/09/10)

3.11.060 Repair Or Maintenance Exception

Nothing in this Chapter shall be construed to prevent any ordinary repair or maintenance of an exterior architectural feature or any ordinary planting and landscaping now in the District.

(Ord. No. 2002-06, 07/09/2002; Amended by Ord. No. 2010-19, 11/09/10)

3.11.070 Permitted Uses

The permitted uses listed in the Business Commercial Zone shall be permitted in the Gateway/Historic Zone.

(Ord. No. 2002-06, 07/09/2002; Amended by Ord. No. 2010-19, 11/09/10)

3.11.080 Conditional Uses

The conditional uses listed in the Business Commercial Zone shall be conditional uses in the Gateway/Historic Zone.

(Ord. No. 2002-06, 07/09/2002; Amended by Ord. No. 2010-19, 11/09/10)

3.11.090 Water Rights Requirements

Developments occurring under the provisions of this Chapter must comply with the water rights requirements of Alpine City.

(Ord. No. 2002-06, 07/09/2002; Amended by Ord. No. 2010-19, 11/09/10)

ALPINE CITY COUNCIL AGENDA

SUBJECT: Site Plan – Antenna Upgrade at Beck's Hill

FOR CONSIDERATION ON: 13 August 2019

PETITIONER: T-Mobile

ACTION REQUESTED BY PETITIONER: Review and approve the proposed antenna upgrade.

BACKGROUND INFORMATION:
T-Mobile is seeking to upgrade three antennas, three Remote Radio Heads, and install one hybrid cable. Proposed upgrade is on an existing wireless telecommunications facility at Beck's Hill.

Article 3.27.030 states:

State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station. For purposes of this Part, the term ''eligible facilities request'' means any request for modification of an existing wireless tower or base station that involves:

- *collocation of new transmission equipment;*
- *removal of transmission equipment; or*
- *replacement of transmission equipment.*

The Planning Commission recommends approval of the proposed antenna upgrade:

***MOTION**: Alan MacDonald moved to recommend approval of the proposed T-Mobile Antenna Upgrade at Beck's Hill. John MacKay seconded the motion. There were 5 Ayes and 0 Nays (recorded below). The motion passed.*

Ayes:	***Nays:***
Bryce Higbee	*None*
Alan MacDonald	
John MacKay	
Jessica Smuin	
Sylvia Christiansen	

Proposed upgrades do not substantially change the physical dimensions of the tower or base station. Included in this packet is:

- Cover Letter from the petitioner.

- Project Description from the petitioner.
- Site Plan, engineering, and elevations.
- Full engineered Structural Analysis Report.
- Chronology of FCC Laws.
- FCC Rules and Regulations.
- Alpine City Wireless Telecommunications Ordinance.

CROWN CASTLE

116 Inverness Dr E ESte. 300
Englewood, CO 80112

Phone: (801) 979-9077
Fax:
www.crowncastle.com

May 21, 2019

CITY OF ALPINE, UT
20 North Main Street, Alpine, UT 84004

RE: Eligible Facilities Request to modify equipment on a communications tower located at:
651 S Bateman, Alpine, UT, 84004
Crown Site Number: 822343 / Crown Site Name: Alpine_Shepherd_Hill
Customer Site Number: SL01122A / Application Number: 489718

Crown Castle USA Inc. ("Crown Castle") on behalf of T-Mobile West LLC ("T-Mobile") is submitting the attached Eligible Facilities Request application to replace transmission equipment on a telecommunications tower located at 651 S Bateman, Alpine, UT 84004 in CITY OF ALPINE, UT (the "Alpine_Shepherd_Hill Tower").

Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, commonly known as the "Spectrum Act" (Pub. Law No. 112-96, 126 Stat 156), mandates that state and local governments "may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station." Additionally, if "the reviewing State or local government determines that the application is incomplete" [they] "must provide written notice to the applicant within 30 days of receipt of the application, clearly and specifically delineating all missing documents or information." Under federal law, an Eligible Facilities Request is deemed granted with written notification in sixty (60) days after an application is filed with a local jurisdiction, excluding tolling. Based on the submittal date of May 20, 2019, 30 days will expire on June 19, 2019; 60 days will expire on July 19, 2019.

T-Mobile proposes to modify the "Alpine_Shepherd_Hill Tower" as follows:

- REMOVE (3) ANTENNAS
- REMOVE (3) RRUs
- INSTALL (3) ANTENNAS
- INSTALL (3) RRUs
- INSTALL (1) HYBRID CABLE

Itemized list of submittal documents:

- Eligible Facility Request Letter - Project Description
- Zoning Application
- Building Permit Application
- Construction Drawings, Site Plan, Elevations, Equipment Detail
- Structural Analysis

CROWN CASTLE

116 Inverness Dr E ESte. 300
Englewood, CO 80112

Phone: (801) 979-9077
Fax:
www.crowncastle.com

T-Mobile is committed to working cooperatively with all jurisdictions around the country to secure expeditious approval of requests to modify existing personal wireless service facilities. If you should require more information regarding the Spectrum Act, please do not hesitate to contact me with your questions.

Sincerely,

Craig Chagnon

Craig Chagnon
Craig.Chagnon@crowncastle.com
(801) 979-9077

Crown Castle
2055 S. Stearman Drive
Chandler, AZ 85286

Site Name:	822343 - Alpine_Shepherd_Hill
Site Location:	651 S Bateman, Alpine, UT 84004
Tower Owner:	Crown Castle
Project Applicant:	Crown Castle
Project Name:	T-Mobile L600 Equipment Upgrade

Scope of Work:

Application is for T-Mobile L600 equipment. Customer proposes to remove (3) antennas and install (3) antennas, remove (3) Remote Radio Heads, and install (3) Remote Radio Heads, install (1) hybrid cable.

Maintenance:

The subject site is a single-carrier site, so the anticipated maintenance schedule would be very light. As the facility operator, Crown Castle would visit the site at least once/year to perform scheduled inspections, brush clearance, and generally ensure that the facility is compliant. As Crown's tenant, it is anticipated that T-Mobile would visit the site perhaps 4 to 6 times annually. These inspections would be to inspect cellular ground equipment, antennas, coax cabling, electrical systems, etc. to ensure seamless and proper delivery of wireless services. Both inspections are done by standard trucks or similar vehicles during daytime hours.

Service Area:

The T-Mobile L600 project is a technology/network upgrade of the equipment on site. It will provide an increase in capacity and will provide faster service for the network users in this area. The service area of this tower is small, a mile or less in any direction. This is a unique location and a critical site providing immediate area coverage that would not otherwise be available.

Licenses and Permits:

T-Mobile and Crown Castle are active and current with all required licenses from the FAA and FCC.

Radio Frequency Emissions:

T-Mobile has an excellent record of compliance with all applicable FCC radio frequency emission regulations and is committed to maintain their record as a leader within their industry.

Crown Castle agrees to comply with all applicable Federal Communication Commission RF requirements and regulations.

Liaison:CRAIG CHAGNON
Real Estate Specialist
Rocky Mountain Region, UT, WY, CO
CROWN CASTLE | WEST AREA
801-979-9077
Craig.chagnon@crowncastle.com
116 INVERNESS DR. EAST STE# 280
ENGLEWOOD, CO 80112
www.CrownCastle.com

FCC (Federal Communications Commission)

Timeline / Chronology of events

Red indicates a Law

- **Mar 16, 2001** – Nationwide Programmatic Agreement for the Collocation of Wireless Antennas – defined "Substantial Change"
- **Feb 22, 2012** – 6409 of the Middle Class Tax Relief and Job Creation Act (aka Spectrum Act)
- **Jan 25, 2013** – PUBLIC NOTICE guidance statement issued for 6409
- **Sept 26, 2013** – In order to seek input from interested parties on much needed clarifications to 6409, the FCC undertook the process of "NPRM" ***Notice of Proposed Rulemaking***
- **Oct 17, 2014** – Report and Order Adopted – FCC 14-153
- **Jan 8, 2015** – Federal Register "The Law" – Summary/Clarification of the R&O – "the implementation"
- **Apr 8, 2015** – Report and Order became Effective; Published in the National Register – FCC 14-153 "***Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies***"
- Several jurisdictions partnered together and filed a lawsuit against the FCC implementation
- **Dec 18, 2015** – Court decision made. Litigation was not successful and the plaintiffs chose not to file with the US Supreme Court. We're done—there are no more legal challenges available.

T-Mobile

T-MOBILE SITE NUMBER: SL01122A
T-MOBILE SITE NAME: ALPINE_SHEPHERD_HILL
SITE TYPE: MONOPOLE
TOWER HEIGHT: 22'-0"

BUSINESS UNIT #: 822343
SITE ADDRESS: 651 S BATEMAN ALPINE, UT 84004
COUNTY: UTAH
JURISDICTION: CITY OF ALPINE, UT

T-MOBILE L600 PROJECT

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	ALPINE_SHEPHERD_HILL
SITE ADDRESS:	651 S BATEMAN ALPINE, UT 84004
COUNTY:	UTAH
MAP/PARCEL #:	11-023-0117
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	40° 26' 39.30"
LONGITUDE:	-111° 46' 46.30"
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	5,000 FT
CURRENT ZONING:	----
JURISDICTION:	CITY OF ALPINE, UT
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	CLYDE SHEPHERD
TOWER OWNER:	CROWN CASTLE USA INC 116 INVERNESS DR. EAST STE# 280 ENGLEWOOD, CO 80112
APPLICANT/CARRIER:	T-MOBILE 121 W. ELECTION RD., SUITE 330 DRAPER, UT 84020
CROWN CASTLE USA INC. APPLICATION ID:	489718
ELECTRIC PROVIDER:	ROCKY MOUNTAIN POWER (866) 870-3419
TELCO PROVIDER:	CENTURYLINK (800) 244-1111

PROJECT TEAM

DESIGNER FIRM:	BROADUS SERVICES 4 COUNTRY PLACE CIRCLE DALWORTHINGTON GARDENS, TX 76016 PH: (817) 349-3449
ENGINEER FIRM:	JACOB GORALSKI, PLLC 1106 COLBI ST. KENNEDALE, TX 76060 PH: (817) 456-2621 CONTACT: JACOB GORALSKI, PLLC
CROWN CASTLE CONTACTS:	116 INVERNESS DR. EAST STE# 280 ENGLEWOOD, CO 80112 TALISSA FUGATE - PROJECT MANAGER TALISSA.FUGATE@CROWNCASTLE.COM (602) 845-1719 NATHAN STRONG - CONSTRUCTION MANAGER NATHAN.STRONG.CONTRACTOR@CROWNCASTLE.COM (801) 376-2448 NICK CHAPMAN - A&E SPECIALIST NICHOLAS.CHAPMAN@CROWNCASTLE.COM (480) 734-2434
T-MOBILE CONTACTS :	BLAKE HANSON BLAKE@RAGEDEVELOPMENT.COM

DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1.1	SITE PLAN
C-1.2	EXISTING AND FINAL EQUIPMENT LAYOUTS
C-2	EXISTING AND FINAL ELEVATIONS
C-3	ANTENNA PLAN AND SCHEDULE
C-4	ANTENNA SPECIFICATIONS
C-5	EQUIPMENT SPECIFICATIONS
C-6	ANTENNA CONFIGURATION KEY
C-7	EQUIPMENT CONFIGURATION KEY
G-1	ANTENNA AND UTILITY FRAME GROUNDING DETAILS
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

TOWER
- REMOVE (3) ANTENNAS
- REMOVE (3) RRUs
- INSTALL (3) ANTENNAS
- INSTALL (3) RRUs
- INSTALL (1) HYBRID CABLE

GROUND
- NO CHANGE

DESIGN PACKAGE BASED ON THE APPLICATION
ID: 489718
REVISION: 0

NOTES:
PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT 800-788-7011 & CROWN CONSTRUCTION MANAGER

CALL UTAH ONE CALL
(800) 662-4111
CALL 3 WORKING DAYS
BEFORE YOU DIG!

LOCATION MAP

NO SCALE

DRIVING DIRECTIONS FROM T-MOBILE LOCAL OFFICE (121 W. ELECTION RD. DRAPER, UT 84020) HEAD WEST TOWARD S ELECTION RD. TURN RIGHT TOWARD S ELECTION RD. TURN LEFT ONTO S ELECTION RD. TURN LEFT ONTO LONE PEAK PKWY. USE THE 2ND FROM THE LEFT LANE TO TURN LEFT ONTO W 12300 S. SLIGHT RIGHT TO MERGE ONTO I-15 S TOWARD PROVO. TAKE EXIT 284 TOWARD HIGHLAND ALPINE. KEEP LEFT, FOLLOW SIGNS FOR UT-92 AND MERGE ONTO UT-92 E. SLIGHT RIGHT ONTO UT-92/TIMPANOGOS HWY COMMUTER LN. CONTINUE TO FOLLOW UT-92. TURN LEFT ONTO 5300 W. CONTINUE ONTO UT-74 N/S MAIN ST. TURN RIGHT ONTO SUNSET DR. TURN LEFT ONTO BATEMAN LN.

APPLICABLE CODES/REFERENCE DOCUMENTS

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS 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:

CODE TYPE	CODE
BUILDING	2015 IBC
ELECTRICAL	2017 NEC

REFERENCE DOCUMENTS:
STRUCTURAL ANALYSIS: BY OTHERS

MOUNT ANALYSIS: BY OTHERS

SITE PHOTO:

T-Mobile
12920 SE 38TH STREET
BELLEVUE, WA 98006

BROADUS services
4 COUNTRY PLACE CIRCLE
DALWORTHINGTON GARDENS
TEXAS 76016
OFFICE: (817) 349 3449
FAX: 800 401 4234

T-MOBILE SITE NUMBER:
SL01122A
BU #: **822343**
ALPINE_SHEPHERD_HILL

651 S. BATEMAN
ALPINE, UT 84004

EXISTING 22'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	05/01/2019	WHS	FINAL	ELG

PROFESSIONAL ENGINEER
No. 9226401-2202
JACOB GORALSKI
STATE OF UTAH

5/9/2019

JACOB GORALSKI, PLLC
CONSULTING ENGINEER
JACOB GORALSKI, PLLC
UT PE# 9226401-2202
1106 COLBI ST.
KENNEDALE, TX 76060
(817) 456-2621

SHEET NUMBER: T-1
REVISION: 0

SITE WORK GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION.
3. ALL SITE WORK TO COMPLY WITH QAS-STD-10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE" AND LATEST VERSION OF TIA 1019 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
4. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS.
5. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
6. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, OWNER AND/OR LOCAL UTILITIES.
7. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE.
8. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
9. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
10. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
11. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE PROJECT SPECIFICATIONS.
12. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
13. NOTICE TO PROCEED- NO WORK TO COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED AND THE ISSUANCE OF A PURCHASE ORDER.
14. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN STANDARD CED-STD-10253 INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH THE ANSI/TIA-322 (LATEST EDITION).

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND IN ACCORDANCE WITH ASTM A36 UNLESS OTHERWISE NOTED.
2. BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE (3/4"ø) CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
3. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8"ø ASTM A307 BOLTS UNLESS NOTED OTHERWISE.
4. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. SLAB FOUNDATION DESIGN ASSUMING ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

   CONCRETE CAST AGAINST EARTH.....3 IN.
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 AND LARGER.....2 IN.
   #5 AND SMALLER & WWF.....1 1/2 IN.
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALLS.....3/4 IN.
   BEAMS AND COLUMNS.....1 1/2 IN.
5. A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE. IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

MASONRY NOTES:

1. HOLLOW CONCRETE MASONRY UNITS SHALL MEET A.S.T.M. SPECIFICATION C90, GRADE N. TYPE 1. THE SPECIFIED DESIGN COMPRESSIVE STRENGTH OF CONCRETE MASONRY (F'm) SHALL BE 1500 PSI.
2. MORTAR SHALL MEET THE PROPERTY SPECIFICATION OF A.S.T.M. C270 TYP. "S" MORTAR AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI.
3. GROUT SHALL MEET A.S.T.M. SPECIFICATION C475 AND HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2000 PSI.
4. CONCRETE MASONRY SHALL BE LAID IN RUNNING (COMMON) BOND.
5. WALL SHALL RECEIVE TEMPORARY BRACING. TEMPORARY BRACING SHALL NOT BE REMOVED UNTIL GROUT IS FULLY CURED.

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

CONTRACTOR-	
SUBCONTRACTOR-	GENERAL CONTRACTOR (CONSTRUCTION)
CARRIER-	T-MOBILE
TOWER OWNER-	CROWN CASTLE USA INC.
OEM-	ORIGINAL EQUIPMENT MANUFACTURER

2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR AND CROWN CASTLE USA INC.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO SCALE AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR AND CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWINGS.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

ABBREVIATIONS AND SYMBOLS:

ABBREVIATIONS:

AGL	ABOVE GRADE LEVEL
BTS	BASE TRANSCEIVER STATION
(E)	EXISTING
MIN.	MINIMUM
REF	REFERENCE
RF	RADIO FREQUENCY
T.B.D.	TO BE DETERMINED
T.B.R.	TO BE RESOLVED
TYP	TYPICAL
REQ	REQUIRED
EGR	EQUIPMENT GROUND RING
AWG	AMERICAN WIRE GAUGE
MGB	MASTER GROUND BAR
EG	EQUIPMENT GROUND
BCW	BARE COPPER WIRE
SIAD	SMART INTEGRATED ACCESS DEVICE
GEN	GENERATOR
IGR	INTERIOR GROUND RING (HALO)
RBS	RADIO BASE STATION

SYMBOLS:

- SOLID GROUND BUS BAR
- SOLID NEUTRAL BUS BAR
- SUPPLEMENTAL GROUND CONDUCTOR
- 2-POLE THERMAL-MAGNETIC CIRCUIT BREAKER
- SINGLE-POLE THERMAL-MAGNETIC CIRCUIT BREAKER
- CHEMICAL GROUND ROD
- TEST WELL
- DISCONNECT SWITCH
- METER
- EXOTHERMIC WELD (CADWELD) (UNLESS OTHERWISE NOTED)
- MECHANICAL CONNECTION
- GROUNDING WIRE

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC, HILTI EPOXY ANCHORS ARE REQUIRED BY CROWN CASTLE USA INC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
5. CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
6. EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH PLASTIC TAPE PER COLOR SCHEDULE. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (I.E. PANEL BOARD AND CIRCUIT ID'S).
8. PANEL BOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
10. POWER, CONTROL AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET & DRY) OPERATION LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED UNLESS OTHERWISE SPECIFIED.
11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET AND DRY) OPERATION LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET AND DRY) OPERATION WITH OUTER JACKET LISTED OR LABELED FOR THE LOCATION USED UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75° C (90° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E. RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT) OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
21. WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER).
22. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHIN ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
23. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL; SHALL MEET OR EXCEED UL 50 AND RATED NEMA 1 (OR BETTER) INDOORS OR NEMA 3R (OR BETTER) OUTDOORS.
24. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
25. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
26. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
27. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
28. INSTALL PLASTIC LABEL ON THE METER CENTER TO SHOW "T-MOBILE".
29. ALL CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

GREENFIELD GROUNDING NOTES:

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
3. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 AWG SOLID TINNED COPPER FOR OUTDOOR BTS.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
15. APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 FT. OF MAIN GROUND WIRES WITH 1-#2 AWG TIN-PLATED COPPER GROUND CONDUCTOR.
19. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS, WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 TINNED SOLID IN 3/4" LIQUID TIGHT CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE LIQUID TIGHT CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).

NEC INSULATOR COLOR CODE

DESCRIPTION	PHASE/CODE LETTER	WIRE COLOR
240/120 1Ø	LEG 1	BLACK
	LEG 2	RED
AC NEUTRAL	N	WHITE
GROUND (EGC)	G	GREEN
VDC POS	+	*RED-POLARITY MARK AT TERMINATION
VDC NEG	-	*BLACK-POLARITY MARK AT TERMINATION
240V OR 208V, 3Ø	PHASE A	BLACK
	PHASE B	RED(ORG. IF HI LEG)
	PHASE C	BLUE
480V, 3Ø	PHASE A	BROWN
	PHASE B	ORANGE
	PHASE C	YELLOW

* SEE NEC 210.5(C)(1) AND (2)

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TEXAS 76016
OFFICE: (817) 349 3449
FAX: 800 401 4234

T-MOBILE SITE NUMBER:
SL01122A
BU #: **822343**
ALPINE_SHEPHERD_HILL

651 S. BATEMAN
ALPINE, UT 84004

EXISTING 22'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	05/01/2019	WHS	FINAL	ELG

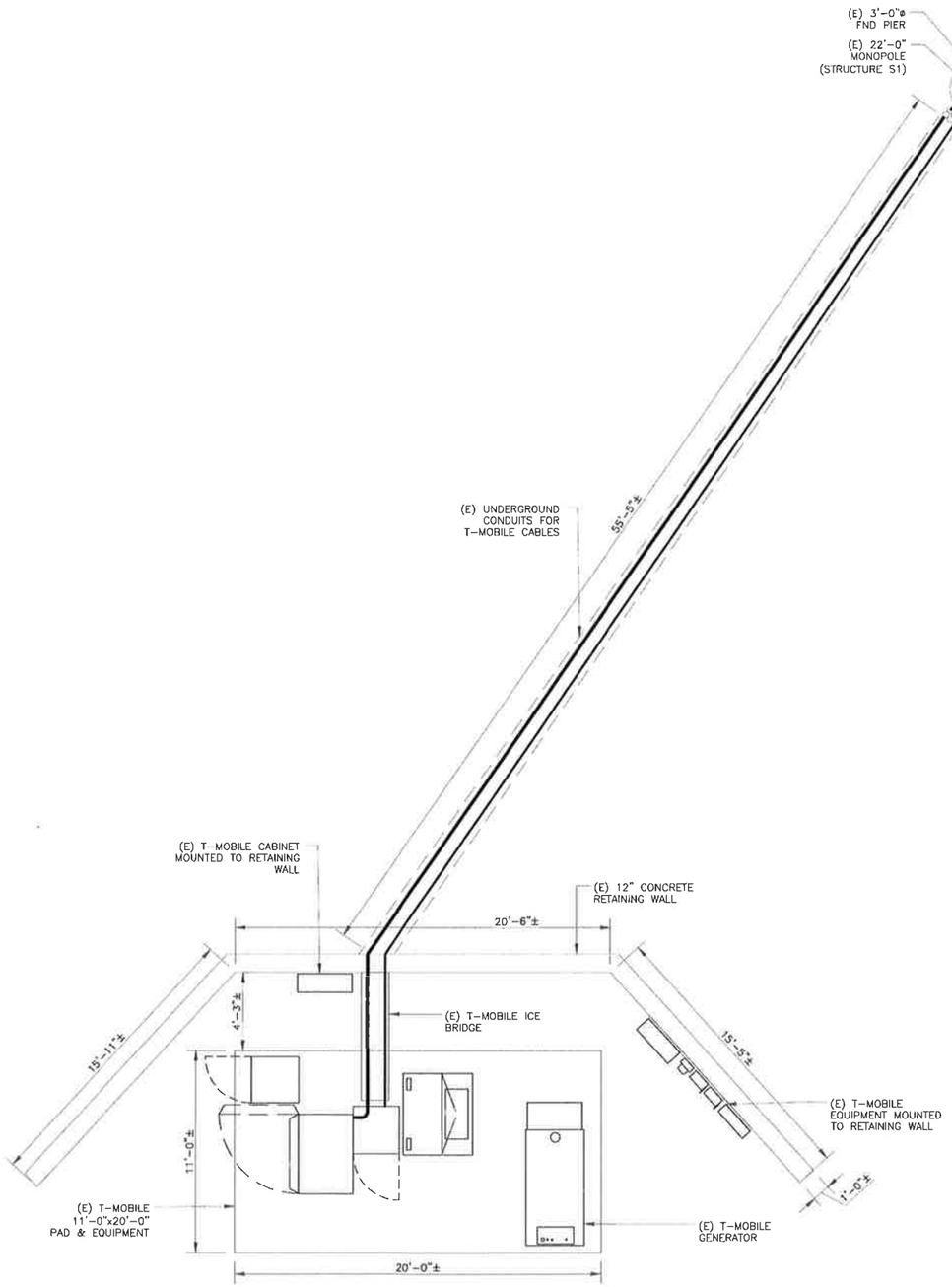
PROFESSIONAL ENGINEER
No. 9228401-2202
JACOB GORALSKI
STATE OF UTAH

5/9/2019

JACOB GORALSKI, PLLC
CONSULTING ENGINEER
JACOB GORALSKI, PLLC
UT PE# 9226401-2202
1106 COLBI ST.
KENNEDALE, TX 76060
(817) 456-2621

SHEET NUMBER: T-2

REVISION: 0



1 SITE PLAN
SCALE: 1/4"=1'-0" (FULL SIZE)
1/8"=1'-0" (11x17)

N

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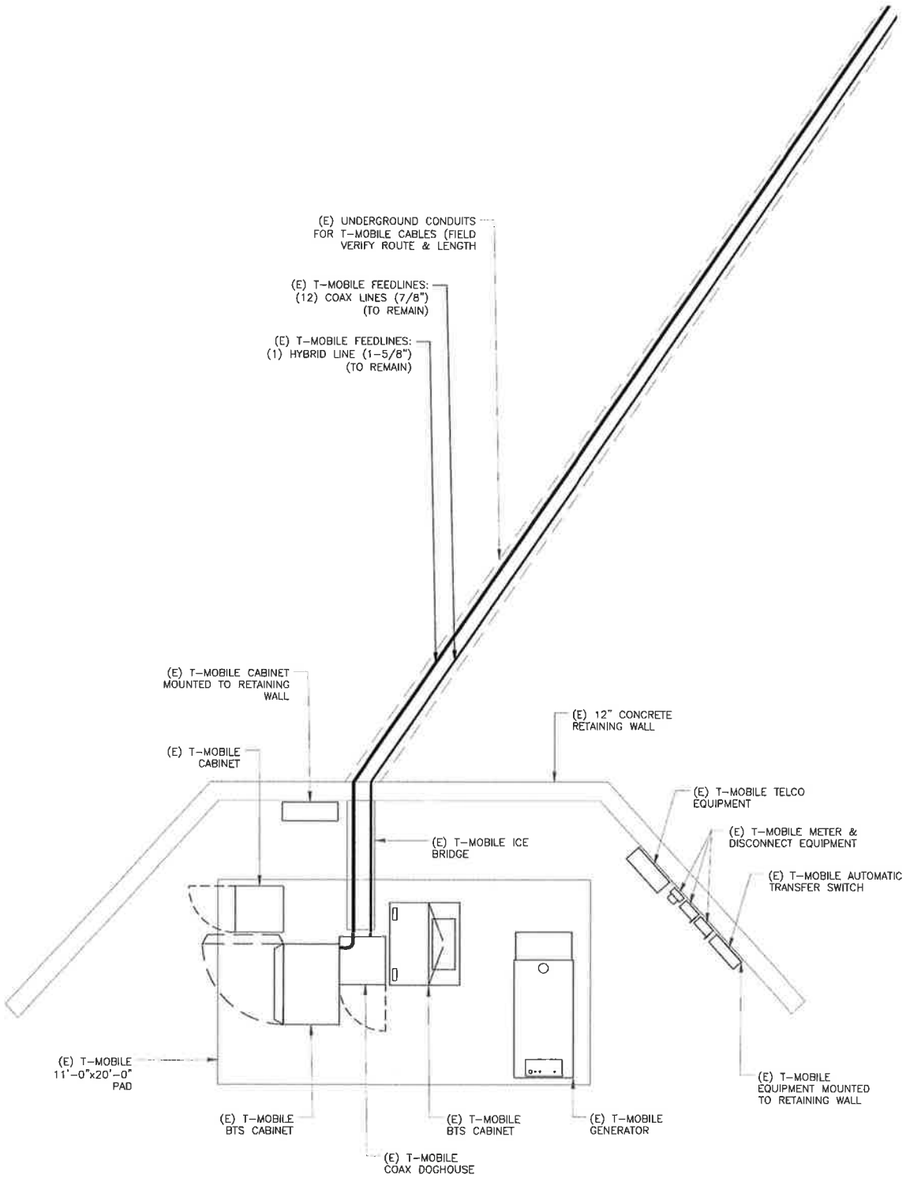
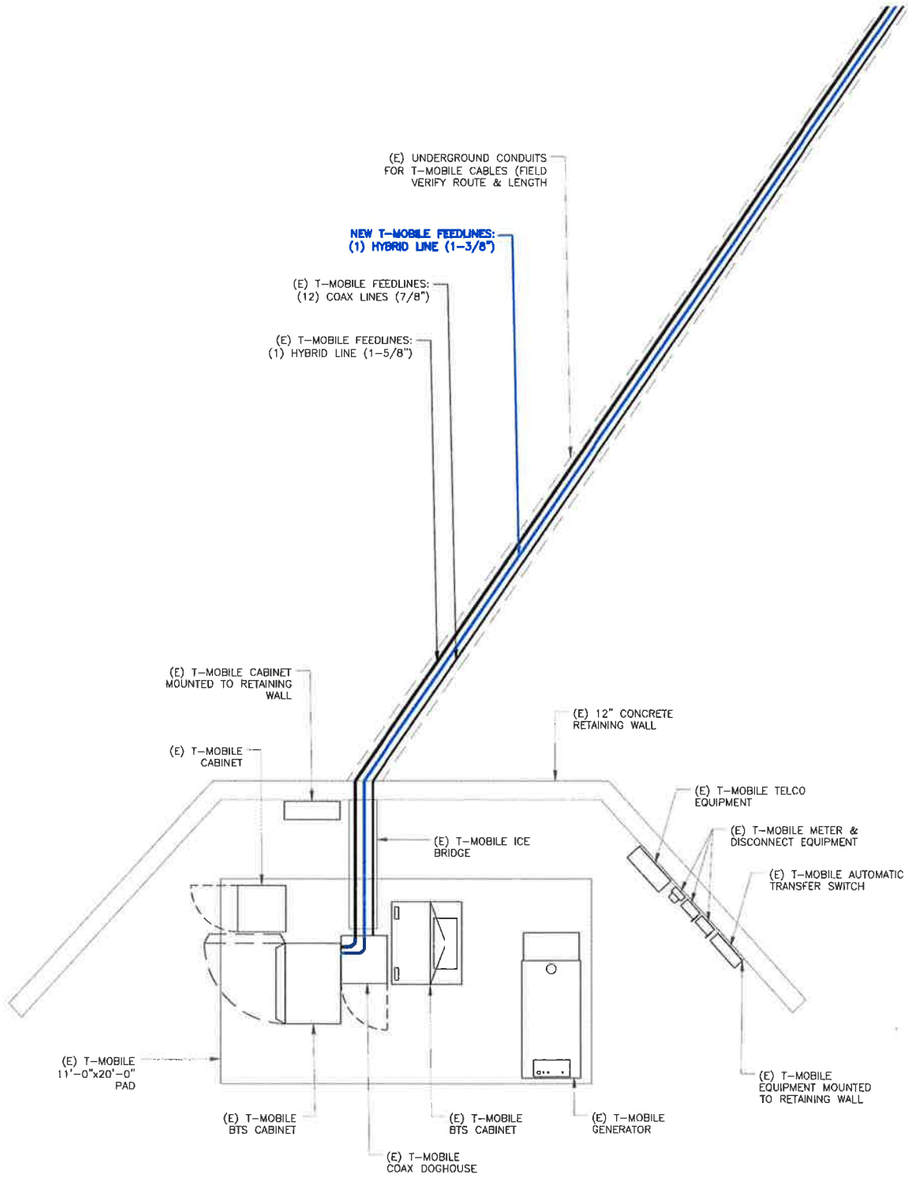
SHEET NUMBER: C-1.1
REVISION: 0



1 EXISTING EQUIPMENT LAYOUT PLAN

SCALE: 2' 1' 0 2' 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)

N



GROUND SCOPE OF WORK

REMOVED
(1) DUS41

REMAIN
(1) DUW30, (1) DUG20, (6) RUS01 B2

NEW
(2) BB 6630

2 FINAL EQUIPMENT LAYOUT PLAN

SCALE: 2' 1' 0 2' 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)

N

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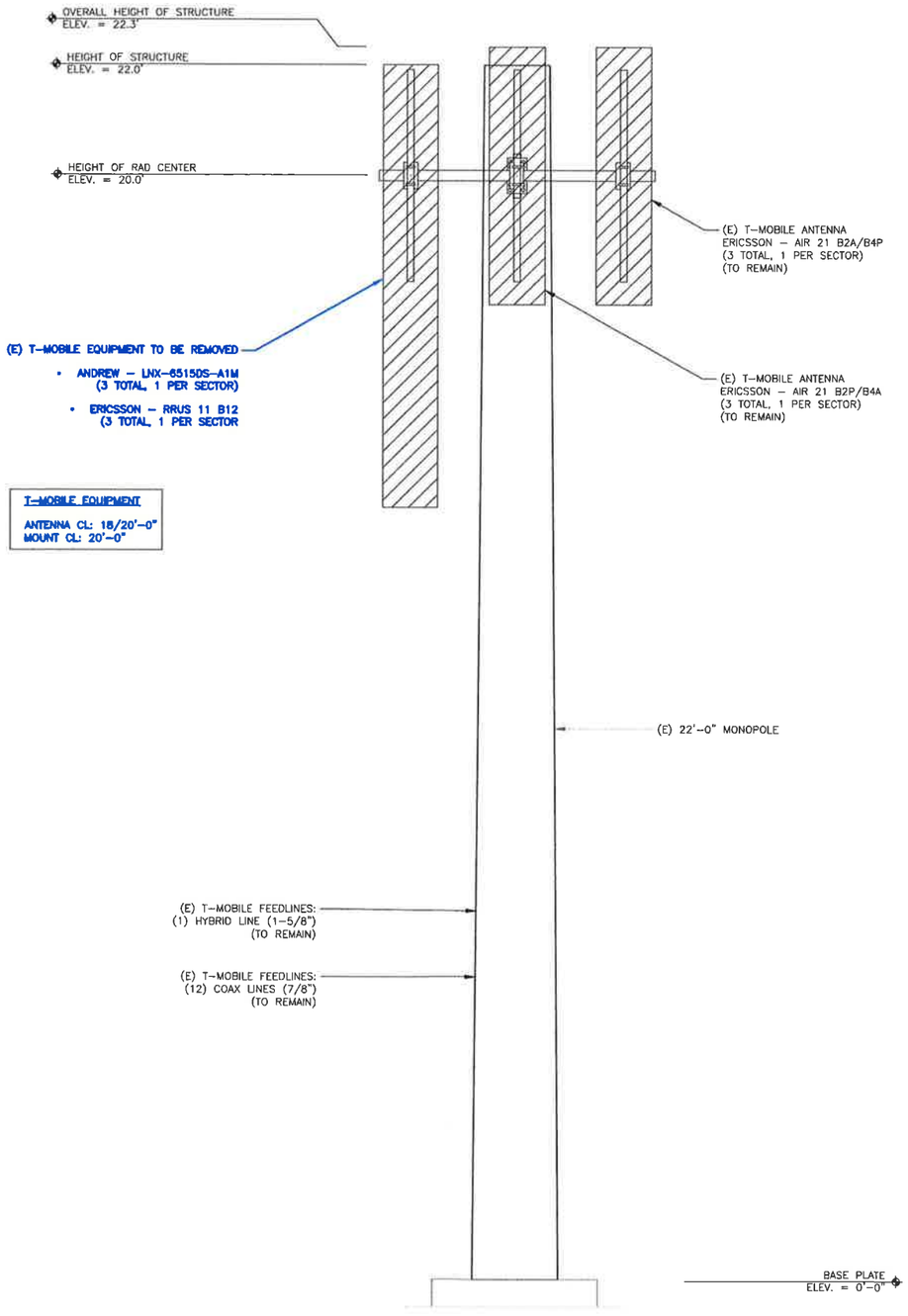
SHEET NUMBER: C-1.2

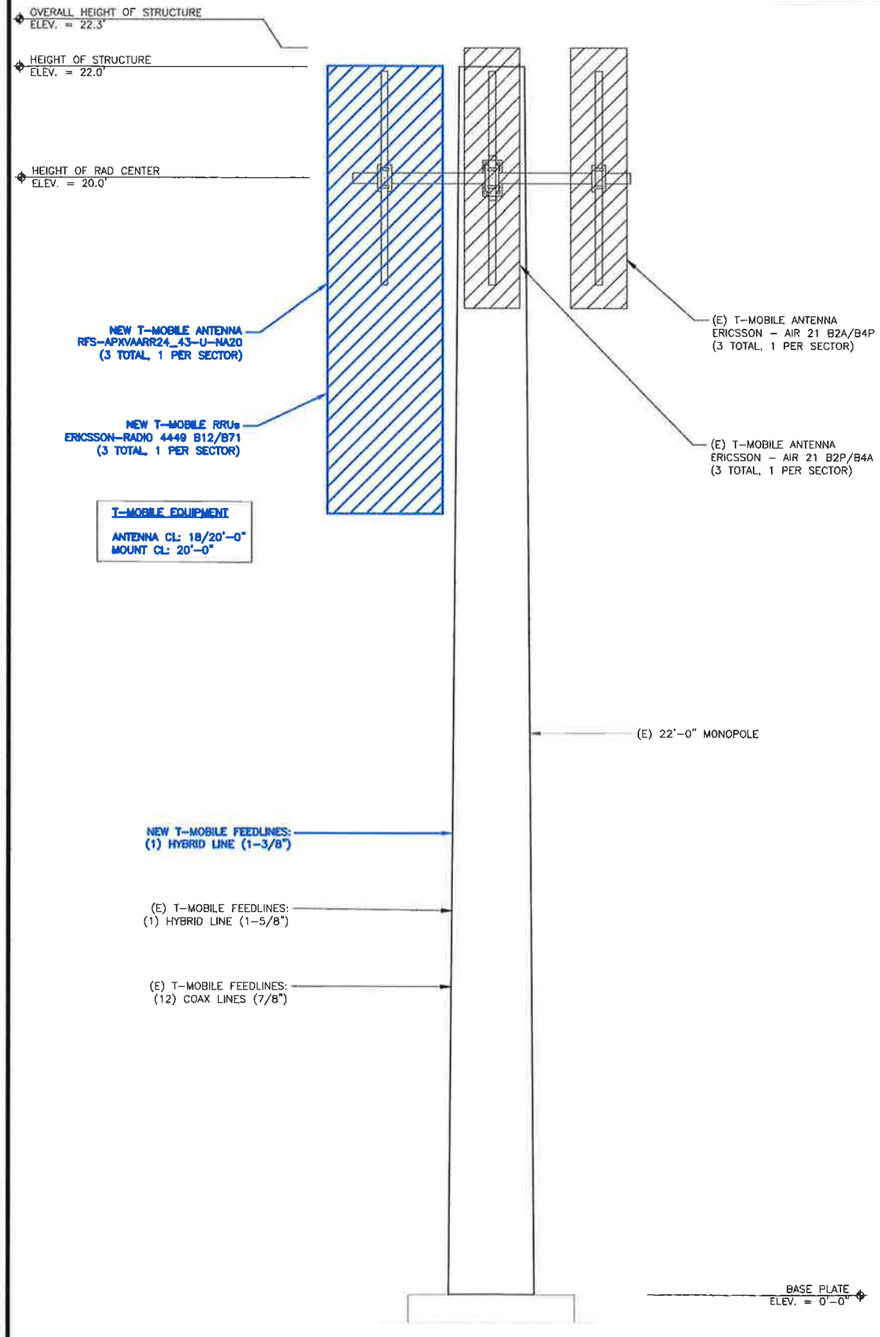
REVISION: 0



1 EXISTING ELEVATION
SCALE: NOT TO SCALE

MOUNT ANALYSIS NOTE:

1. THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID WHEN ACCOMPANIED BY A CORRESPONDING PASSING MOUNT ANALYSIS.
2. CONSTRUCTION MANAGER/GENERAL CONTRACTOR SHALL REVIEW THE MOUNT ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION.
3. ANY REQUIRED MOUNT MODIFICATION DESIGN OR MOUNT REPLACEMENT SHALL BE APPROVED BY EOR.



2 FINAL ELEVATION
SCALE: NOT TO SCALE

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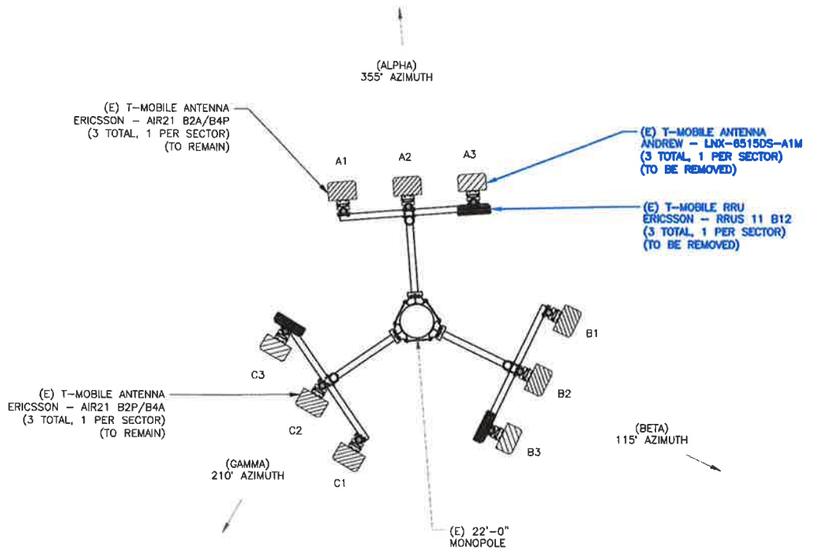
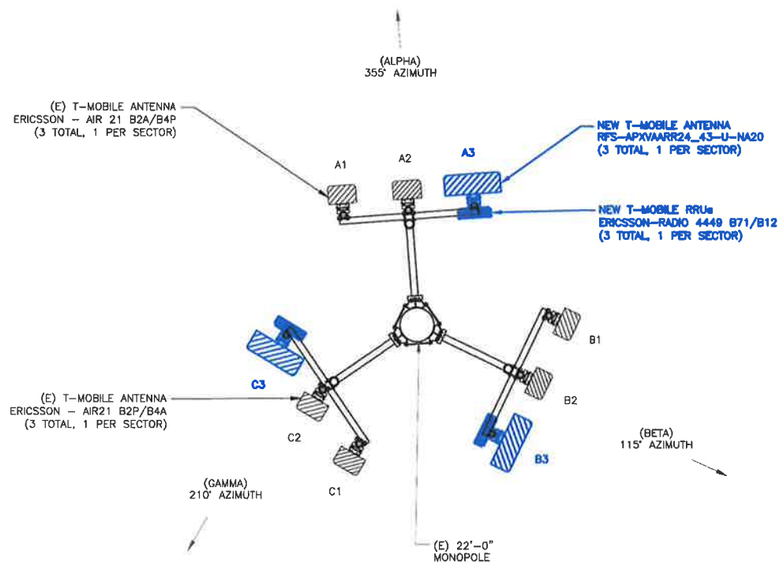
SHEET NUMBER: C-2

REVISION: 0



1 EXISTING ANTENNA LAYOUT
SCALE: NOT TO SCALE

N



2 NEW ANTENNA LAYOUT
SCALE: NOT TO SCALE

N

3 ANTENNA PHOTO
SCALE: NOT TO SCALE

4 NOT USED
SCALE: NOT TO SCALE

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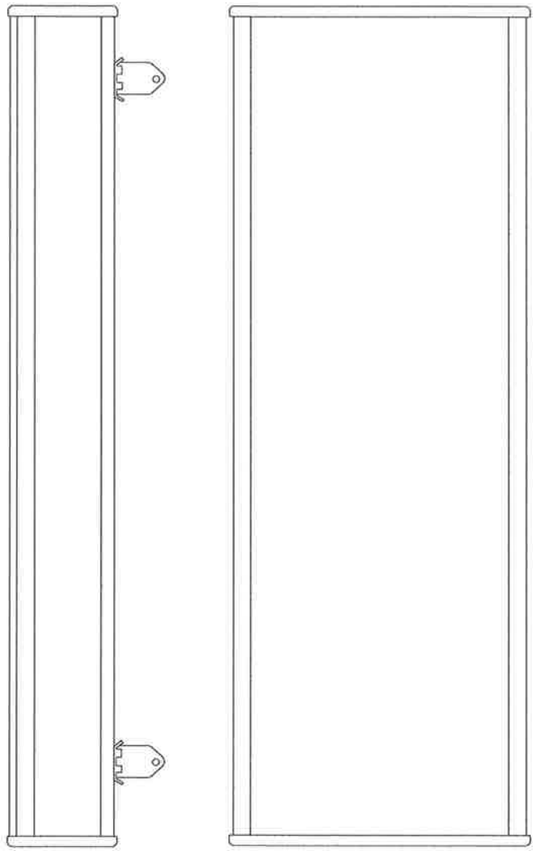
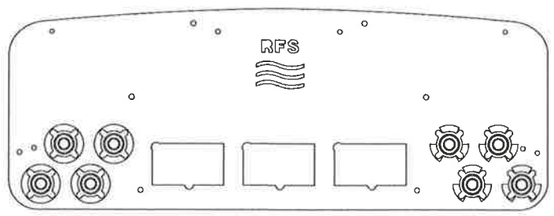
SHEET NUMBER: C-3
REVISION: 0





RFS – APXVAARR24_43-U-NA20
SIZE (HxWxD): 95.9x24x8.7 IN.
MOUNTING HARDWARE P/N: BSAMNT-4
RATED WIND VELOCITY:150.0 MPH
CONNECTOR TYP: 8 X 4.3-10 FEMALE

1 RFS – APXVAARR24_43-U-NA20
SCALE: NOT TO SCALE

2 NOT USED
SCALE: NOT TO SCALE

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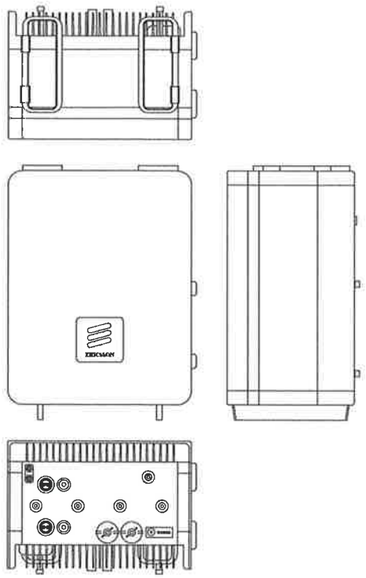
SHEET NUMBER: C-4
REVISION: 0

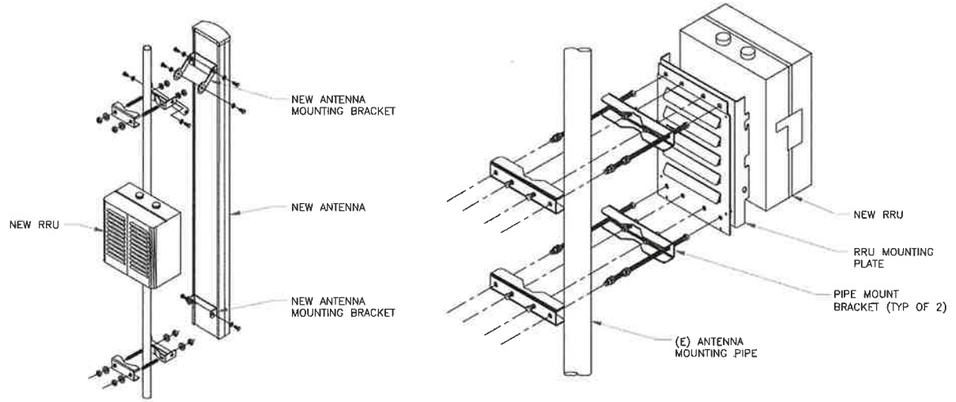


ERICSSON – RADIO 4449 B12/B71
WEIGHT: 75.0 LBS
SIZE (HxWxD): 15.0x13.2x10.4 IN.

1 ERICSSON–RADIO 4449 B12/B71
SCALE: NOT TO SCALE

2 NOT USED
SCALE: NOT TO SCALE

3 NOT USED
SCALE: NOT TO SCALE



NOTE:
ALL PIPES BRACKETS AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE

4 ANTENNA & RRU MOUNTING DETAIL
SCALE: NOT TO SCALE

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5/9/2019

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SHEET NUMBER: C-5
REVISION: 0

ANTENNA KEY														
STATUS	ANTENNA NUMBER	COLOR CODE	BEAM WIDTH	ANTENNA VENDOR	MODEL NO.	AZIMUTH	ELECTRICAL DOWNTILT	MECHANICAL DOWNTILT	ANTENNA ℄ AGL	TYPE	COAXIAL FEEDER		HYBRID CABLE FEEDER	
											SIZE	LENGTH	QUANTITY	COLOR CODE
EXISTING	A1	RED 1/RW+BW RED 2/RW+BW – –	TBD	ERICSSON	AIR 21 B2A/B4P	355°	2°	0°	22'-0"	UMTS PCS GSM PCS –	7/8"	100'	(2) HYBRID CABLE	GREY 1
EXISTING	A2	– – RED 3/YB RED 4/YB	TBD	ERICSSON	AIR 21 B2P/B4A	355°	2°	0°	22'-0"	– LTE AWS	7/8"	100'	SHARED WITH A1	GREY 1
NEW	A3	RED 1/RB+W RED 2/RB+W RED 3/RB+W RED 4/RB+W – – – –	TBD	RFS	APXVAARR24_43-U-NA20	355°	2°	0°	18'-0"	LTE 700 LTE 600 –	– –	– –	SHARED WITH A1 SHARED WITH A1	GREY 1 GREY 1
EXISTING	B1	YELLOW 1/RW+BW YELLOW 2/RW+BW – –	TBD	ERICSSON	AIR 21 B2A/B4P	115°	2°	0°	22'-0"	UMTS PCS GSM PCS –	7/8"	100'	SHARED WITH A1	GREY 1
EXISTING	B2	– – YELLOW 3/YB YELLOW 4/YB	TBD	ERICSSON	AIR 21 B2P/B4A	115°	2°	0°	22'-0"	– LTE AWS	7/8"	100'	SHARED WITH A1	GREY 1
NEW	B3	YELLOW 1/RB+W YELLOW 2/RB+W YELLOW 3/RB+W YELLOW 4/RB+W – – – –	TBD	RFS	APXVAARR24_43-U-NA20	115°	2°	0°	18'-0"	LTE 700 LTE 600 –	– –	– –	SHARED WITH A1 SHARED WITH A1	GREY 1 GREY 1
EXISTING	C1	BLUE 1/RW+BW BLUE 2/RW+BW – –	TBD	ERICSSON	AIR 21 B2A/B4P	210°	5°	0°	22'-0"	UMTS PCS GSM PCS –	7/8"	100'	SHARED WITH A1	GREY 1
EXISTING	C2	– – BLUE 3/YB BLUE 4/YB	TBD	ERICSSON	AIR 21 B2P/B4A	210°	5°	0°	22'-0"	– LTE AWS	7/8"	100'	SHARED WITH A1	GREY 1
NEW	C3	BLUE 1/RB+W BLUE 2/RB+W BLUE 3/RB+W BLUE 4/RB+W – – – –	TBD	RFS	APXVAARR24_43-U-NA20	210°	6°	0°	18'-0"	LTE 700 LTE 600 –	– –	– –	SHARED WITH A1 SHARED WITH A1	GREY 1 GREY 1

1 ANTENNA CONFIGURATION KEY
SCALE: NOT TO SCALE

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T-MOBILE SITE NUMBER:
SL01122A
BU #: **822343**
ALPINE_SHEPHERD_HILL

651 S. BATEMAN
ALPINE, UT 84004

EXISTING 22'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	05/01/2019	WHS	FINAL	ELG

PROFESSIONAL ENGINEER
No. 9226401-2202
JACOB GORALSKI
STATE OF UTAH

5/9/2019

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SHEET NUMBER: C-6
REVISION: 0

ANTENNA NOTES:

1. ANTENNA CONTRACTOR SHALL INSURE THAT ALL ANTENNA MOUNTING PIPES ARE PLUMB.
2. COAXIAL FEEDER & FIBER LENGTHS INDICATED ARE APPROXIMATE.
3. ANTENNA COAXIAL FEEDERS & ANTENNA JUMPERS SHALL BE COLOR CODED PER T-MOBILE REQUIREMENTS. IN ADDITION TO THE COLOR CODE IN THE ANTENNA KEY THE FOLLOWING CHECKER STRIPE SHALL BE ADDED TO EACH ANTENNA COAXIAL FEEDER & ANTENNA JUMPER.

   LTE 600 – WHITE STRIPE
   LTE 700 – RED-BLACK CHECKER STRIPE
   LTE PCS – GREEN-BLACK CHECKER STRIPE
   LTE AWS – YELLOW-BLACK CHECKER STRIPE
   UMTS PCS – RED-WHITE CHECKER STRIPE
   UMTS AWS – GREEN-WHITE CHECKER STRIPE
   GSM PCS – BLACK-WHITE CHECKER STRIPE

4. LMU COAXIAL FEEDERS & JUMPERS SHALL BE COLOR CODED BROWN 1 STRIPE & BROWN 2 STRIPE. IN ADDITION TO THE COLOR CODE THE FOLLOWING ANTENNA SECTOR COLOR STRIPE SHALL BE ADDED TO EACH ANTENNA SECTOR LMU COAXIAL FEEDER & JUMPER.

   ALPHA- RED STRIPE
   BETA- YELLOW STRIPE
   GAMMA- BLUE STRIPE
   DELTA- GREEN STRIPE
   EPSILON- WHITE STRIPE
   ZETA- PURPLE STRIPE

5. UMTS AWS LINE 1 & 2 TO HAVE TMA, MOUNTED ON PIPE BEHIND ANTENNA POSITION #2.
6. MULTI-PORTS ANTENNAS: TERMINATE UNUSED ANTENNA PORTS WITH CONNECTOR CAP & WEATHERPROOF THOROUGHLY. JUMPERS FROM TMAS MUST TERMINATE TO OPPOSITE POLARIZATIONS IN EACH SECTOR.
7. CONTRACTOR MUST FOLLOW ALL MANUFACTURERS' RECOMMENDATIONS REGARDING THE INSTALLATION OF COAXIAL CABLES, CONNECTORS & ANTENNAS.
8. MINIMUM BEND RADIUS:

   LDF4-50A (1/2" HARD LINE) = 5"
   FSJ4-50B (1/2" SUPER FLEX) = 1 1/4"
   AVA5-50A (7/8" HARD LINE) = 10"
   AVA7-50A (1 5/8 HARD LINE) = 15"
   LDF7-50A (1 5/8" HARD LINE) = 20"

9. CONTRACTOR SHALL RECORD THE SERIAL, SECTOR & POSITION OF EACH ACTUATOR INSTALLED AT THE ANTENNAS AND FURNISH THE INFORMATION TO T-MOBILE.
10. WEATHERPROOF ALL ANTENNA CONNECTORS WITH SELF-AMALGAMATING TAPE.
11. ANTENNA CONTRACTOR SHALL PERFORM A "TAPE DROP" MEASUREMENT TO CONFIRM/VALIDATE ANTENNA CENTERLINE (ACL) HEIGHT. CONTRACTOR SHALL SUBMIT A COMPLETED HEIGHT VERIFICATION FORM TO THE CONSTRUCTION MANAGER.
12. ALL FIBER RUNS CONTAINED IN ONE COMMSCOPE HYBRID DC-FIBER CABLE MODEL #ASU9325TYP01 FROM LOWER COVP TO UPPER COVP. HYBRID SHALL BE COLOR CODED PER T-MOBILE REQUIREMENTS. (CONTRACTOR SHALL VERIFY REQUIRED LENGTH WITH T-MOBILE OPERATIONS)

EQUIPMENT KEY – GROUND EQUIPMENT

LOCATION	VENDOR	EQUIPMENT	MODEL NO.	TECH	QTY.	STATUS
MOUNTED IN CABINET	ERICSSON	SYSTEM MODULE	DUW30	UTMS PCS	2	EXISTING
			DUG20	GSM PCS	1	EXISTING
			BB 6630	**LTE 700, LTE 600, LTE AWS**	**1**	**NEW**
			BB 6630	**N600 (DARK)**	**1**	**NEW**
			RUS01 B2	UMTS PCS, GSM PCS	6	EXISTING

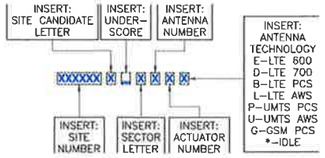
EQUIPMENT KEY – TOWER EQUIPMENT

ANTENNA SECTOR	VENDOR	EQUIPMENT	MODEL NO.	TECH	QTY.	STATUS
1 PER SECTOR	**ERICSSON**	**RRU**	**RADIO 4449 B71+B12**	**LTE 600 LTE 700**	**3**	**NEW**

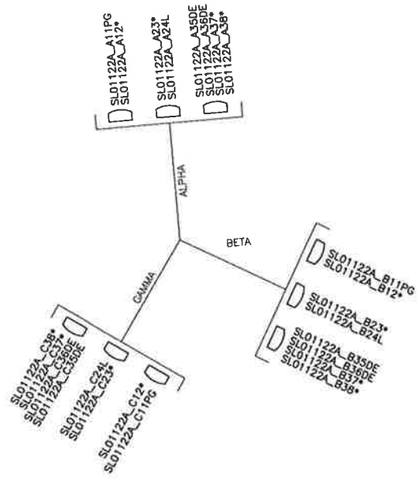
EQUIPMENT KEY – FEEDLINE

LOCATION	VENDOR	EQUIPMENT	MODEL NO.	LENGTH	QTY.	STATUS
MULTI-SECTOR	HUBER+SUHNER	HYBRID CABLE	MLE HYBRID 9PWR/18FIBER RL2	100'-0'	1	EXISTING
MULTI-SECTOR	ANDREW	COAX	AVA5-50	100'-0'	12	EXISTING
MULTI-SECTOR	**ERICSSON**	**HYBRID CABLE**	**HCS 8X12 6AWG**	**100'-0'**	**1**	**NEW**

1 EQUIPMENT CONFIGURATION KEYS
SCALE: NOT TO SCALE



BASE STATION ID
(TO BE USED FOR "BASE STATION ID" DATA FIELD IN THE TMO UPGRADE APPLICATION SOFTWARE)



2 RET ACTUATOR NAMING DIAGRAM
SCALE: NOT TO SCALE

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T-MOBILE SITE NUMBER:
SL01122A
BU #: **822343**
ALPINE_SHEPHERD_HILL

651 S. BATEMAN
ALPINE, UT 84004

EXISTING 22'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
0	05/01/2019	WHS	FINAL	ELG

PROFESSIONAL ENGINEER
No. 9226401-2202
JACOB GORALSKI
STATE OF UTAH

5/9/2019

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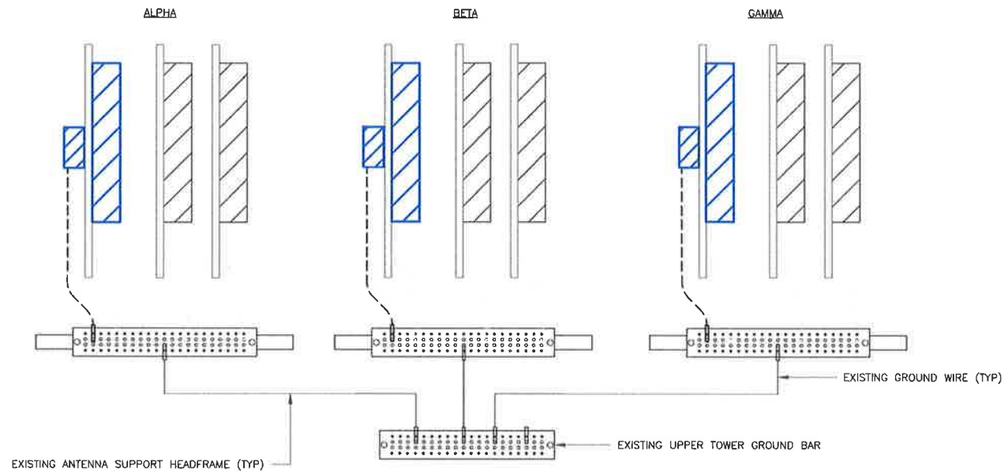
SHEET NUMBER: C-7
REVISION: 0



1 ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE

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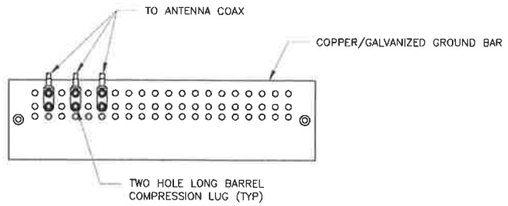
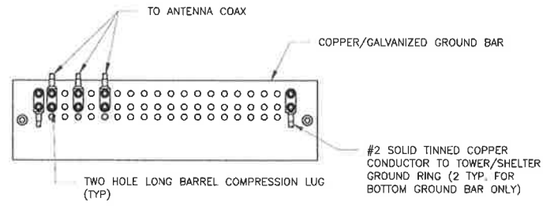
SHEET NUMBER: G-1
REVISION: 0



NOTES:

1. DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
3. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL.

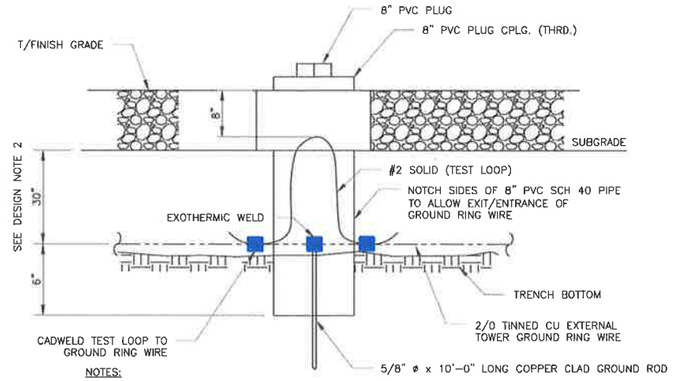
1 ANTENNA GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

1. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
2. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
3. GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

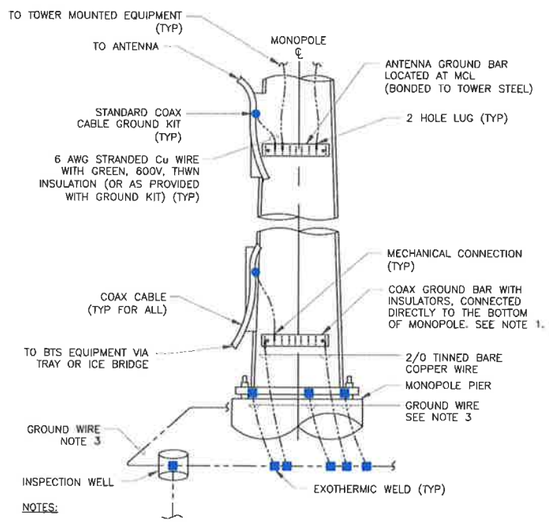
2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE



NOTES:

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL.
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

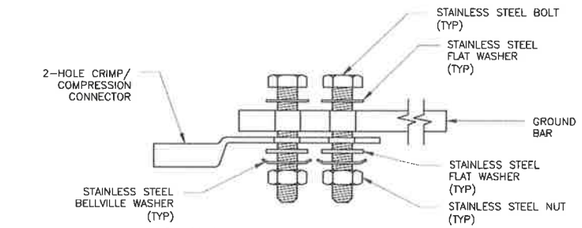
3 INSPECTION WELL DETAIL
SCALE: NOT TO SCALE



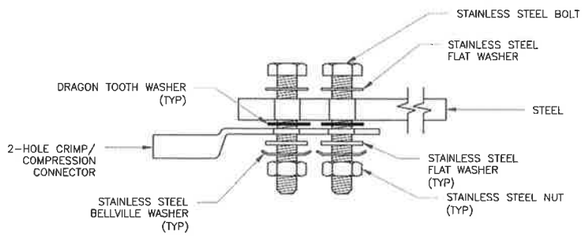
NOTES:

1. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATIONS AND CONNECTION ORIENTATION. COAXIAL CABLES EXCEEDING 200 FEET ON THE TOWER SHALL HAVE GROUND KITS AT THE MIDPOINT. PROVIDE AS REQUIRED.
2. ONLY MECHANICAL CONNECTIONS ARE ALLOWED TO BE MADE TO CROWN CASTLE TOWERS. ALL MECHANICAL CONNECTIONS SHALL BE TREATED WITH AN ANTI-OXIDANT COATING.
3. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF THE RECOGNIZED EDITION OF ANSI/TIA 222 AND NFPA 780.

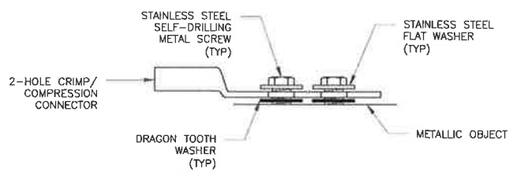
4 TYPICAL ANTENNA CABLE GROUNDING
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

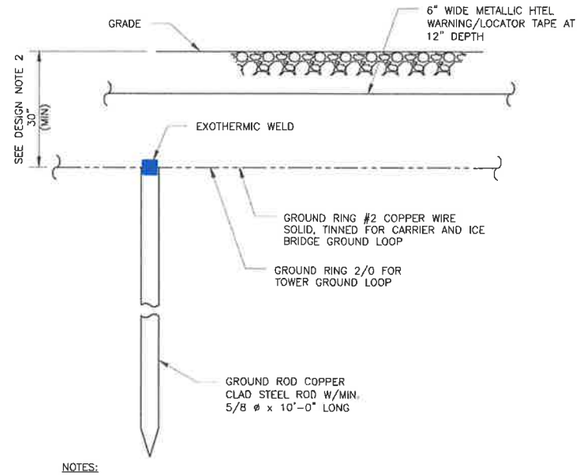


SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

5 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

1. GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL
2. GROUND WIRE SHALL BE MIN. 30" BELOW GRADE OR 6" BELOW FROST LINE. (WHICH EVER IS GREATER) AS PER N.E.C. ARTICLE 250-50(D)

6 GROUND ROD DETAIL
SCALE: NOT TO SCALE

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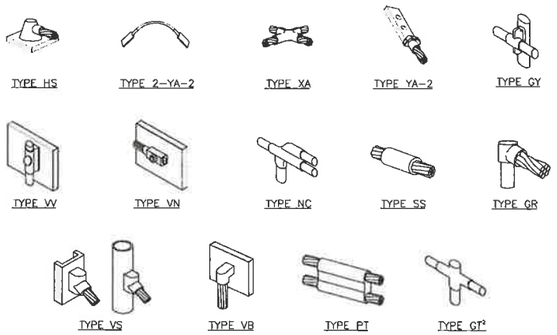
SHEET NUMBER: G-2
REVISION: 0

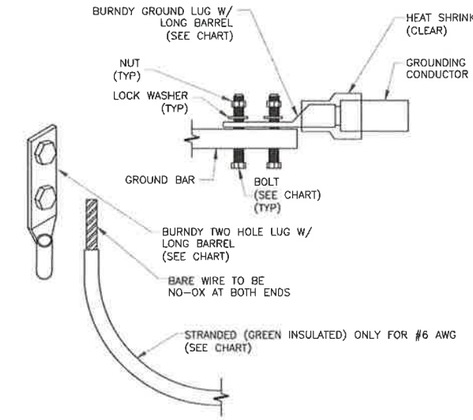


NOTE:

1. ERICO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH CONSTRUCTION MANAGER FOR SPECIFIC MOLDS TO BE USED FOR THIS PROJECT.
2. MOLD TYPE ONLY TO BE USED BELOW GRADE WHEN CONNECTING GROUND RING TO GROUND ROD.

1 CADWELD GROUNDING CONNECTIONS
SCALE: NOT TO SCALE

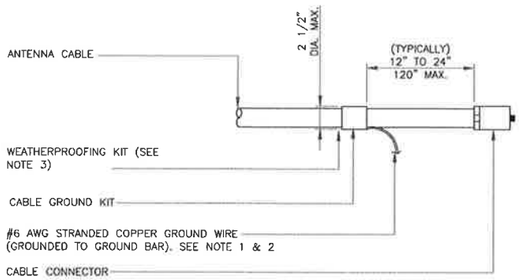
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT



NOTES:

1. ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER,GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

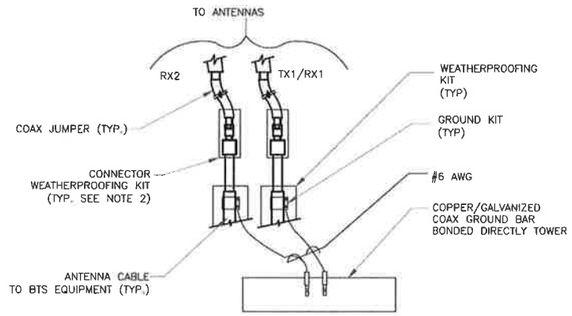
2 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

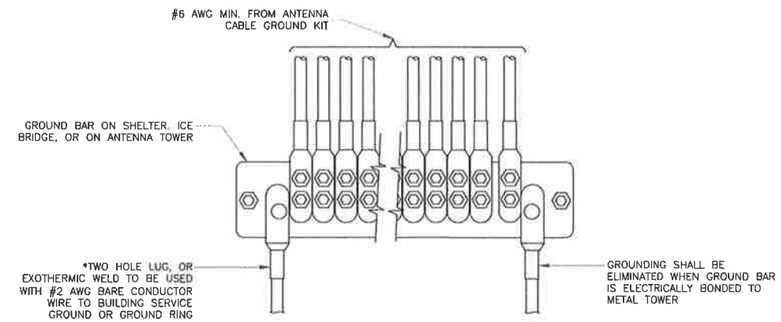
3 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



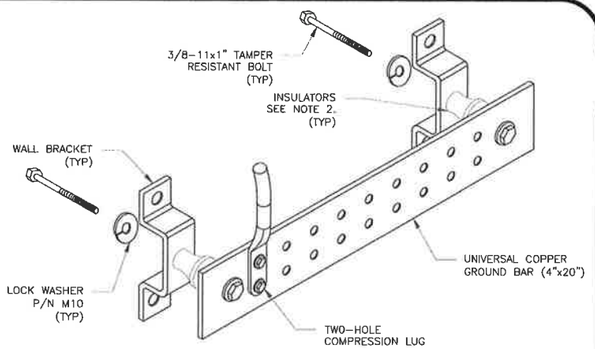
NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE USED.

4 GROUND CABLE CONNECTION
SCALE: NOT TO SCALE



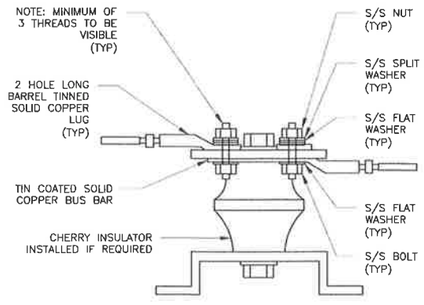
5 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



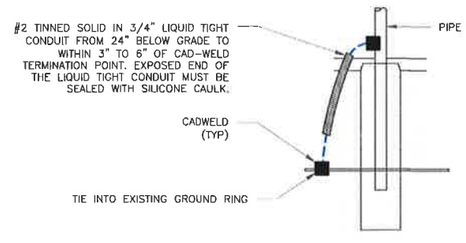
NOTES:

1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

6 GROUND BAR DETAIL
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE



8 TRANSITIONING GROUND DETAIL
SCALE: NOT TO SCALE

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SHEET NUMBER: G-3
REVISION: 0

Date: **April 26, 2019**

MORRISON HERSHFIELD

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Charlotte, NC 28277

Morrison Hershfield
1455 Lincoln Parkway, Suite 500
Atlanta, GA 30346
(770) 379 8500

Subject:	**Structural Analysis Report**	
Carrier Designation:	***T-Mobile* Co-Locate**	
	Carrier Site Number:	SL01122A
	Carrier Site Name:	Alpine_Shepherd_Hill
Crown Castle Designation:	**Crown Castle BU Number:**	822343
	Crown Castle Site Name:	Alpine_Shepherd_Hill
	Crown Castle JDE Job Number:	570464
	Crown Castle Work Order Number:	1728618
	Crown Castle Order Number:	489718 Rev. 0
Engineering Firm Designation:	**Morrison Hershfield Project Number:**	CN6-517 / 1900361
Site Data:	**651 S Bateman, Alpine, Utah County, UT 84004** **Latitude *40° 26' 39.3"*, Longitude *-111° 46' 46.3"*** **20 Foot – Valmont Monopole Tower**	

Dear Ms. Simeone,

Morrison Hershfield is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC5: Proposed Equipment Configuration **Sufficient Capacity**

This analysis utilizes an ultimate 3-second gust wind speed of 115 mph as required by the 2015 International Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Respectfully submitted by:

G. Lance Cooke, P.E. (UT License No. 6297930-2202)
Senior Engineer

G. Lance Cooke
2019.04.26
07:47:05-07'00'

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 20 ft Valmont monopole and the original drawings are not available. A tower mapping was performed by Tower Engineering Professionals, Inc. in May of 2013. The tower geometry and member sizes have been obtained from the above mentioned report and are considered to be accurate.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	115 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	0.5 in
Wind Speed with Ice:	40 mph
Seismic Ss:	1.234
Seismic S1:	0.452
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
20.0	20.0	3	Ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	12 1 1	7/8 1-5/8 1-3/8
		3	Ericsson	ERICSSON AIR 21 B4A B2P w/ Mount Pipe		
		3	RFS	APXVAARR24_43-U-NA20 w/ Mount Pipe		
		3	Ericsson	RADIO 4449 B12/B71		
		1	-	T-Arm Mount [TA 702-3]		

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	Tower Engineering Professionals, Inc.	3842115	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Tower Engineering Professionals, Inc. (Mapped)	3865964	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Tower Engineering Professionals, Inc. (Mapped)	3865960	CCISITES

3.1) Analysis Method

tnxTower (version 8.0.5.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

1) Tower and structures were built and maintained in accordance with the manufacturer's specifications.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Table 1 and the referenced drawings.
3) Yield strengths of 35 ksi for the monopole shaft, 36 ksi for the base plate and anchor bolts have been assumed based on experience with similar towers and are considered to be correct.
4) Structural reinforcement details of the foundation are unknown. The rebar area was assumed to be 0.33% of the foundation area.
5) Concrete compressive strength of 3 ksi and reinforcement yield strength of 60 ksi are assumed based on experience with similar towers and are considered to be correct.

This analysis may be affected if any assumptions are not valid or have been made in error. Morrison Hershfield should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 3 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	20 - 17	Pole	Pipe 12.75" x 0.330" (SCH30)	1	-2.38	425.88	5.4	Pass
L2	17 - 0	Pole	Pipe 12.75" x 0.330" (SCH30)	2	-3.43	425.88	34.9	Pass
							Summary	
						Pole (L2)	34.9	Pass
						Rating =	34.9	Pass

Table 4 - Tower Component Stresses vs. Capacity – LC5

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	32.1	Pass
1	Base Plate		14.7	Pass
1	Base Foundation	0	12.7	Pass
1	Base Foundation Soil Interaction		46.4	Pass

Structure Rating (max from all components) =	46.4%*

Notes:
1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
2) *Rating per TIA-222-H, Section 15.5.

4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A

TNXTOWER OUTPUT

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-35	35 ksi	63 ksi			

TOWER DESIGN NOTES

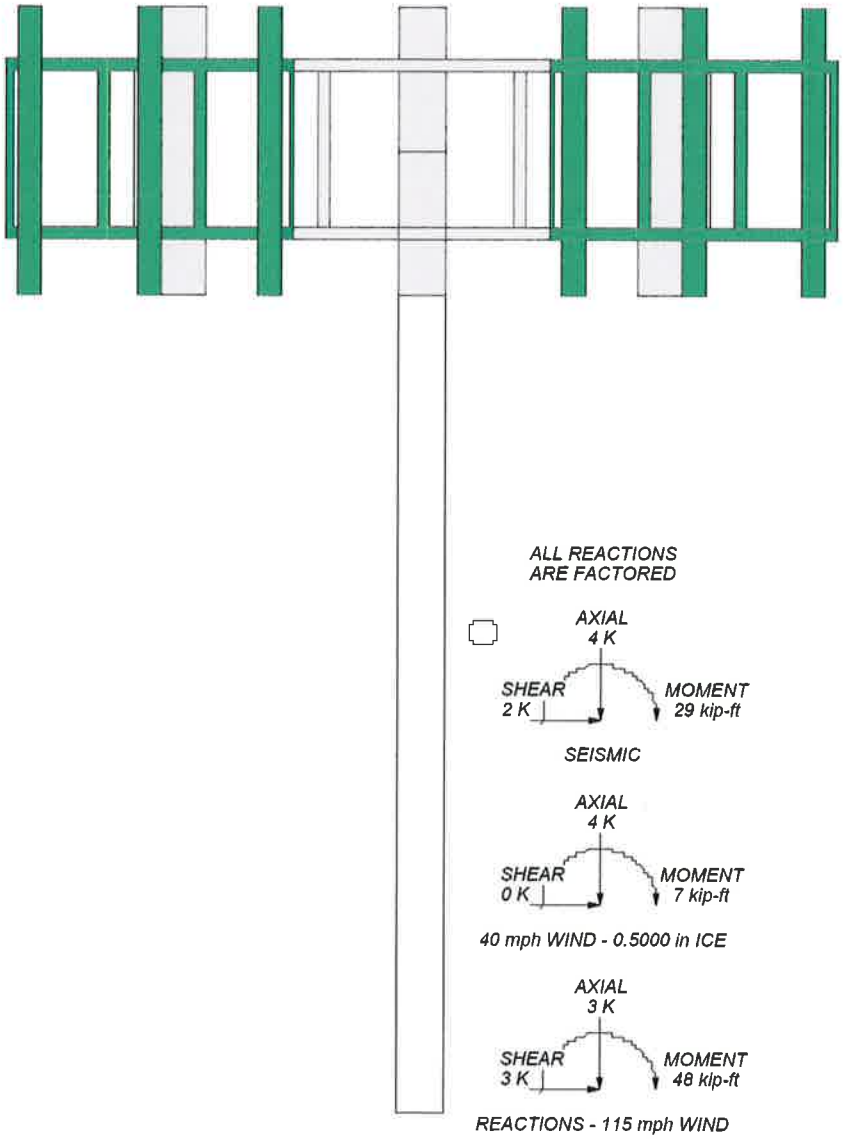
1. Tower is located in Utah County, Utah.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 115 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 40 mph basic wind with 0.50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. CCISeismic Note: Seismic loads generated by CCISeismic 3.2.3
9. CCISeismic Note: Seismic calculations are in accordance with TIA-222-H
10. TOWER RATING: 34.9%

Section	Size	Length (ft)	Grade	Weight (K)
1	Pipe 12.75" x 0.330" (SCH30)	3.00	A53-B-35	0.1
2	Pipe 12.75" x 0.330" (SCH30)	17.00		0.7

20.0 ft

17.0 ft

0.0 ft



ALL REACTIONS ARE FACTORED

SEISMIC

40 mph WIND - 0.5000 in ICE

REACTIONS - 115 mph WIND

Morrison Hershfield
Consulting Engineers
1455 Lincoln Parkway, Suite 500
Atlanta, GA 30346
Phone: (770) 379 8500
FAX: (770) 379 8501

Job: CN6-517 / 1900361		
Project: 822343 / Alpine_Shepherd_Hill		
Client: Crown Castle USA	Drawn by: KCM	App'd:
Code: TIA-222-H	Date: 04/26/19	Scale: NTS
Path:		Dwg No. E-1

Tower Input Data

The tower is a monopole.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower is located in Utah County, Utah.
Tower base elevation above sea level: 5028.00 ft.
Basic wind speed of 115 mph.
Risk Category II.
Exposure Category C.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.00 ft.
Nominal ice thickness of 0.5000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 40 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
CCISeismic Note: Seismic loads generated by CCISeismic 3.2.3.
CCISeismic Note: Seismic calculations are in accordance with TIA-222-H.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.05.
Tower analysis based on target reliabilities in accordance with Annex S.
Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$, $K_{es}(E_v \text{ and } E_h) = 1.0$.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned		Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression
	Use Code Stress Ratios		Use Clear Spans For KL/r		All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys		Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice	√	Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-H Bracing Resist. Exemption
	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Use TIA-222-H Tension Splice Exemption
	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
	Secondary Horizontal Braces Leg		Sort Capacity Reports By Component	√	Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs		Pole Without Linear Attachments
					Pole With Shroud Or No Appurtenances
					Outside and Inside Corner Radii Are Known

Pole Section Geometry

Section	*Elevation*	*Section Length*	*Pole Size*	*Pole Grade*	*Socket Length*
	ft	*ft*			*ft*
L1	20.00-17.00	3.00	Pipe 12.75" x 0.330" (SCH30)	A53-B-35 (35 ksi)	
L2	17.00-0.00	17.00	Pipe 12.75" x 0.330" (SCH30)	A53-B-35 (35 ksi)	

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft^2	in					in	in	in
L1 20.00-17.00				1	1	1			
L2 17.00-0.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
******										
Safety Line 3/8"	A	No	Surface Ar (CaAa)	20.00 - 1.00	1	1	0.450 0.450	0.3750		0.22
Climbing Pegs	A	No	Surface Ar (CaAa)	20.00 - 9.00	1	1	0.400 0.500	0.7050		1.80
******										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
******									
AVA5-50(7/8)	C	No	No	Inside Pole	20.00 - 1.50	12	No Ice	0.00	0.30
							1/2" Ice	0.00	0.30
***									
HCS 6X12 6AWG(1-3/8)	C	No	No	Inside Pole	20.00 - 1.50	1	No Ice	0.00	1.70
							1/2" Ice	0.00	1.70
MLE Hybrid 9Power/18Fiber RL 2(1-5/8)	C	No	No	Inside Pole	20.00 - 1.50	1	No Ice	0.00	1.07
							1/2" Ice	0.00	1.07
******									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	20.00-17.00	A	0.000	0.000	0.324	0.000	0.01
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.02
L2	17.00-0.00	A	0.000	0.000	1.164	0.000	0.02
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.10

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	20.00-17.00	A	0.401	0.000	0.000	0.805	0.000	0.01
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.02
L2	17.00-0.00	A	0.371	0.000	0.000	2.945	0.000	0.03
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.10

Feed Line Center of Pressure

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L1	20.00-17.00	-0.1010	-0.9610	-0.1150	-1.0943
L2	17.00-0.00	-0.0673	-0.6407	-0.0788	-0.7500

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	2	Safety Line 3/8"	17.00 - 20.00	1.0000	1.0000
L1	3	Climbing Pegs	17.00 - 20.00	1.0000	1.0000
L2	2	Safety Line 3/8"	1.00 - 17.00	1.0000	1.0000
L2	3	Climbing Pegs	9.00 - 17.00	1.0000	1.0000

User Defined Loads - Seismic

Description	Elevation	Offset From Centroid	Azimuth Angle	E_v	E_{hx}	E_{hz}	E_h
	ft	ft	°	K	K	K	K
CCISeismic Tower Section 1 - 1	18.50	0.00	0.0000	0.02	0.00	0.00	0.08
CCISeismic Tower Section 2 - 1	13.50	0.00	0.0000	0.05	0.00	0.00	0.14
CCISeismic Tower Section 2 - 2	5.00	0.00	0.0000	0.07	0.00	0.00	0.07
CCISeismic ericsson ERICSSON AIR 21 B2A B4P w/ Mount Pipe	20.00	0.00	0.0000	0.02	0.00	0.00	0.07
CCISeismic ericsson ERICSSON AIR 21 B2A B4P w/ Mount Pipe	20.00	0.00	0.0000	0.02	0.00	0.00	0.07
CCISeismic ericsson ERICSSON AIR 21 B2A B4P w/ Mount Pipe	20.00	0.00	0.0000	0.02	0.00	0.00	0.07
CCISeismic 5' horizontal x 3" Pipe Mount	20.00	0.00	0.0000	0.01	0.00	0.00	0.03
CCISeismic 5' horizontal x 3" Pipe Mount	20.00	0.00	0.0000	0.01	0.00	0.00	0.03
CCISeismic 5' horizontal x 3" Pipe Mount	20.00	0.00	0.0000	0.01	0.00	0.00	0.03
CCISeismic tower mounts (cci) T-Arm Mount [TA 702-3]	20.00	0.00	0.0000	0.06	0.00	0.00	0.23
CCISeismic ericsson ERICSSON AIR 21 B4A B2P w/ Mount Pipe	20.00	0.00	0.0000	0.02	0.00	0.00	0.07
CCISeismic ericsson ERICSSON AIR 21 B4A B2P w/ Mount Pipe	20.00	0.00	0.0000	0.02	0.00	0.00	0.07
CCISeismic ericsson ERICSSON AIR 21 B4A B2P w/ Mount Pipe	20.00	0.00	0.0000	0.02	0.00	0.00	0.07
CCISeismic rfs celwave APXVAARR24_43-U-NA20 w/ Mount Pipe	20.00	0.00	0.0000	0.03	0.00	0.00	0.11
CCISeismic rfs celwave APXVAARR24_43-U-NA20 w/ Mount Pipe	20.00	0.00	0.0000	0.03	0.00	0.00	0.11
CCISeismic rfs celwave APXVAARR24_43-U-NA20 w/ Mount Pipe	20.00	0.00	0.0000	0.03	0.00	0.00	0.11
CCISeismic ericsson RADIO 4449 B12/B71	20.00	0.00	0.0000	0.01	0.00	0.00	0.05
CCISeismic ericsson RADIO 4449 B12/B71	20.00	0.00	0.0000	0.01	0.00	0.00	0.05
CCISeismic ericsson RADIO 4449 B12/B71	20.00	0.00	0.0000	0.01	0.00	0.00	0.05
CCISeismic miscl (mh) Safety Line 3/8" From 1 to 20 (10ft to20ft)	15.00	0.00	0.0000	0.00	0.00	0.00	0.00
CCISeismic miscl (mh) Safety Line 3/8" From 1 to 20 (1ft to10ft)	5.50	0.00	0.0000	0.00	0.00	0.00	0.00
CCISeismic Climbing Pegs From 9 to 20 (10ft to20ft)	15.00	0.00	0.0000	0.00	0.00	0.00	0.01
CCISeismic Climbing Pegs From 9 to 20 (9ft to10ft)	9.50	0.00	0.0000	0.00	0.00	0.00	0.00
CCISeismic (12) andrew AVA5-50(7/8) From 1.5 to 20 (10ft to20ft)	15.00	0.00	0.0000	0.01	0.00	0.00	0.02
CCISeismic (12) andrew AVA5-50(7/8) From 1.5 to 20 (1.5ft to10ft)	5.75	0.00	0.0000	0.01	0.00	0.00	0.01
CCISeismic ericsson HCS 6X12 6AWG(1-3/8) From 1.5 to 20 (10ft to20ft)	15.00	0.00	0.0000	0.00	0.00	0.00	0.01

Description	Elevation	Offset From Centroid	Azimuth Angle	E_v	E_{hx}	E_{hz}	E_h
	ft	ft	°	K	K	K	K
CCISeismic ericsson HCS 6X12 6AWG(1-3/8) From 1.5 to 20 (1.5ft to10ft)	5.75	0.00	0.0000	0.00	0.00	0.00	0.00
CCISeismic huber and suhner MLE Hybrid 9Power/18Fiber RL 2(1-5/8) From 1.5 to 20 (10ft to20ft)	15.00	0.00	0.0000	0.00	0.00	0.00	0.01
CCISeismic huber and suhner MLE Hybrid 9Power/18Fiber RL 2(1-5/8) From 1.5 to 20 (1.5ft to10ft)	5.75	0.00	0.0000	0.00	0.00	0.00	0.00

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
******									
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	6.33 6.78	5.64 6.43	0.11 0.17
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	6.33 6.78	5.64 6.43	0.11 0.17
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	6.33 6.78	5.64 6.43	0.11 0.17
5' horizontal x 3" Pipe Mount	A	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	1.25 1.63	1.25 1.63	0.04 0.07
5' horizontal x 3" Pipe Mount	B	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	1.25 1.63	1.25 1.63	0.04 0.07
5' horizontal x 3" Pipe Mount	C	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	1.25 1.63	1.25 1.63	0.04 0.07
T-Arm Mount [TA 702-3]	C	None		0.0000	20.00	No Ice 1/2" Ice	5.64 6.55	5.64 6.55	0.34 0.43
***									
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	6.32 6.76	5.63 6.41	0.11 0.17
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	6.32 6.76	5.63 6.41	0.11 0.17
ERICSSON AIR 21 B4A B2P w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	6.32 6.76	5.63 6.41	0.11 0.17
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	20.48 21.23	11.02 12.55	0.16 0.30
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	20.48 21.23	11.02 12.55	0.16 0.30
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	20.48 21.23	11.02 12.55	0.16 0.30
RADIO 4449 B12/B71	A	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	1.65 1.81	1.30 1.44	0.08 0.09
RADIO 4449 B12/B71	B	From Leg	4.00 0.00 0.00	0.0000	20.00	No Ice 1/2" Ice	1.65 1.81	1.30 1.44	0.08 0.09
RADIO 4449 B12/B71	C	From Leg	4.00 0.00	0.0000	20.00	No Ice 1/2" Ice	1.65 1.81	1.30 1.44	0.08 0.09

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft	C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
******			0.00					

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service
51	1.2 Dead+1.0 Ev+1.0 Eh 0 deg
52	0.9 Dead-1.0 Ev+1.0 Eh 0 deg
53	1.2 Dead+1.0 Ev+1.0 Eh 30 deg
54	0.9 Dead-1.0 Ev+1.0 Eh 30 deg
55	1.2 Dead+1.0 Ev+1.0 Eh 60 deg

Comb. No.	Description
56	0.9 Dead-1.0 Ev+1.0 Eh 60 deg
57	1.2 Dead+1.0 Ev+1.0 Eh 90 deg
58	0.9 Dead-1.0 Ev+1.0 Eh 90 deg
59	1.2 Dead+1.0 Ev+1.0 Eh 120 deg
60	0.9 Dead-1.0 Ev+1.0 Eh 120 deg
61	1.2 Dead+1.0 Ev+1.0 Eh 150 deg
62	0.9 Dead-1.0 Ev+1.0 Eh 150 deg
63	1.2 Dead+1.0 Ev+1.0 Eh 180 deg
64	0.9 Dead-1.0 Ev+1.0 Eh 180 deg
65	1.2 Dead+1.0 Ev+1.0 Eh 210 deg
66	0.9 Dead-1.0 Ev+1.0 Eh 210 deg
67	1.2 Dead+1.0 Ev+1.0 Eh 240 deg
68	0.9 Dead-1.0 Ev+1.0 Eh 240 deg
69	1.2 Dead+1.0 Ev+1.0 Eh 270 deg
70	0.9 Dead-1.0 Ev+1.0 Eh 270 deg
71	1.2 Dead+1.0 Ev+1.0 Eh 300 deg
72	0.9 Dead-1.0 Ev+1.0 Eh 300 deg
73	1.2 Dead+1.0 Ev+1.0 Eh 330 deg
74	0.9 Dead-1.0 Ev+1.0 Eh 330 deg

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	20 - 17	Pole	Max Tension	26	0.00	0.00	0.00
			Max. Compression	26	-3.21	0.00	0.00
			Max. Mx	20	-2.38	6.80	0.00
			Max. My	2	-2.38	0.00	6.79
			Max. Vy	20	-2.29	6.80	0.00
			Max. Vx	2	-2.29	0.00	6.79
L2	17 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-4.36	0.02	0.01
			Max. Mx	20	-3.43	47.80	0.01
			Max. My	2	-3.43	0.01	47.80
			Max. Vy	20	-2.53	47.80	0.01
			Max. Vx	2	-2.53	0.01	47.80
			Max. Torque	4			-0.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	4.36	0.00	0.00
	Max. H_x	21	2.58	2.52	0.00
	Max. H_z	2	3.43	0.00	2.52
	Max. M_x	2	47.80	0.00	2.52
	Max. M_z	8	47.78	-2.52	0.00
	Max. Torsion	34	0.00	0.18	-0.32
	Min. Vert	60	2.10	-1.37	-0.79
	Min. H_x	8	3.43	-2.52	0.00
	Min. H_z	14	3.43	0.00	-2.52
	Min. M_x	14	-47.78	0.00	-2.52
	Min. M_z	20	-47.80	2.52	0.00
	Min. Torsion	28	-0.00	-0.18	0.32

Tower Mast Reaction Summary

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead Only	2.86	0.00	0.00	-0.01	0.01	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	3.43	0.00	-2.52	-47.80	0.01	0.00
0.9 Dead+1.0 Wind 0 deg - No Ice	2.58	0.00	-2.52	-47.71	0.01	0.00
1.2 Dead+1.0 Wind 30 deg - No Ice	3.43	1.26	-2.19	-41.39	-23.88	0.00
0.9 Dead+1.0 Wind 30 deg - No Ice	2.58	1.26	-2.19	-41.32	-23.84	0.00
1.2 Dead+1.0 Wind 60 deg - No Ice	3.43	2.19	-1.26	-23.90	-41.37	0.00
0.9 Dead+1.0 Wind 60 deg - No Ice	2.58	2.19	-1.26	-23.86	-41.30	0.00
1.2 Dead+1.0 Wind 90 deg - No Ice	3.43	2.52	0.00	-0.01	-47.78	0.00
0.9 Dead+1.0 Wind 90 deg - No Ice	2.58	2.52	0.00	-0.01	-47.69	0.00
1.2 Dead+1.0 Wind 120 deg - No Ice	3.43	2.19	1.26	23.89	-41.37	0.00
0.9 Dead+1.0 Wind 120 deg - No Ice	2.58	2.19	1.26	23.85	-41.30	0.00
1.2 Dead+1.0 Wind 150 deg - No Ice	3.43	1.26	2.19	41.38	-23.88	0.00
0.9 Dead+1.0 Wind 150 deg - No Ice	2.58	1.26	2.19	41.31	-23.84	0.00
1.2 Dead+1.0 Wind 180 deg - No Ice	3.43	0.00	2.52	47.78	0.01	0.00
0.9 Dead+1.0 Wind 180 deg - No Ice	2.58	0.00	2.52	47.70	0.01	0.00
1.2 Dead+1.0 Wind 210 deg - No Ice	3.43	-1.26	2.19	41.38	23.91	0.00
0.9 Dead+1.0 Wind 210 deg - No Ice	2.58	-1.26	2.19	41.31	23.86	0.00
1.2 Dead+1.0 Wind 240 deg - No Ice	3.43	-2.19	1.26	23.89	41.40	0.00
0.9 Dead+1.0 Wind 240 deg - No Ice	2.58	-2.19	1.26	23.85	41.32	0.00
1.2 Dead+1.0 Wind 270 deg - No Ice	3.43	-2.52	0.00	-0.01	47.80	0.00
0.9 Dead+1.0 Wind 270 deg - No Ice	2.58	-2.52	0.00	-0.01	47.72	0.00
1.2 Dead+1.0 Wind 300 deg - No Ice	3.43	-2.19	-1.26	-23.90	41.40	0.00
0.9 Dead+1.0 Wind 300 deg - No Ice	2.58	-2.19	-1.26	-23.86	41.32	0.00
1.2 Dead+1.0 Wind 330 deg - No Ice	3.43	-1.26	-2.19	-41.39	23.91	0.00
0.9 Dead+1.0 Wind 330 deg - No Ice	2.58	-1.26	-2.19	-41.32	23.86	0.00
1.2 Dead+1.0 Ice+1.0 Temp	4.36	0.00	0.00	-0.01	0.02	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	4.36	0.00	-0.37	-6.66	0.02	0.00
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	4.36	0.18	-0.32	-5.77	-3.30	0.00
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	4.36	0.32	-0.18	-3.34	-5.74	0.00
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	4.36	0.37	0.00	-0.01	-6.63	0.00
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	4.36	0.32	0.18	3.31	-5.74	0.00
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	4.36	0.18	0.32	5.75	-3.30	0.00
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	4.36	0.00	0.37	6.64	0.02	-0.00
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	4.36	-0.18	0.32	5.75	3.34	-0.00
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	4.36	-0.32	0.18	3.31	5.78	-0.00
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	4.36	-0.37	0.00	-0.01	6.67	0.00
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	4.36	-0.32	-0.18	-3.34	5.78	0.00
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	4.36	-0.18	-0.32	-5.77	3.34	0.00
Dead+Wind 0 deg - Service	2.86	0.00	-0.68	-12.60	0.01	0.00
Dead+Wind 30 deg - Service	2.86	0.34	-0.59	-10.91	-6.28	0.00
Dead+Wind 60 deg - Service	2.86	0.59	-0.34	-6.30	-10.89	0.00
Dead+Wind 90 deg - Service	2.86	0.68	0.00	-0.01	-12.58	0.00
Dead+Wind 120 deg - Service	2.86	0.59	0.34	6.29	-10.89	0.00
Dead+Wind 150 deg - Service	2.86	0.34	0.59	10.90	-6.28	0.00
Dead+Wind 180 deg - Service	2.86	0.00	0.68	12.58	0.01	0.00
Dead+Wind 210 deg - Service	2.86	-0.34	0.59	10.90	6.31	0.00
Dead+Wind 240 deg - Service	2.86	-0.59	0.34	6.29	10.91	0.00
Dead+Wind 270 deg - Service	2.86	-0.68	0.00	-0.01	12.60	0.00
Dead+Wind 300 deg - Service	2.86	-0.59	-0.34	-6.30	10.91	0.00
Dead+Wind 330 deg - Service	2.86	-0.34	-0.59	-10.91	6.31	0.00
1.2 Dead+1.0 Ev+1.0 Eh 0 deg	3.91	0.00	-1.58	-29.34	0.01	0.00
0.9 Dead-1.0 Ev+1.0 Eh 0 deg	2.10	0.00	-1.58	-29.23	0.01	0.00
1.2 Dead+1.0 Ev+1.0 Eh 30 deg	3.91	0.79	-1.37	-25.41	-14.65	0.00
0.9 Dead-1.0 Ev+1.0 Eh 30 deg	2.10	0.79	-1.37	-25.32	-14.60	0.00
1.2 Dead+1.0 Ev+1.0 Eh 60 deg	3.91	1.37	-0.79	-14.68	-25.39	0.00
0.9 Dead-1.0 Ev+1.0 Eh 60 deg	2.10	1.37	-0.79	-14.62	-25.30	0.00
1.2 Dead+1.0 Ev+1.0 Eh 90 deg	3.91	1.58	0.00	-0.01	-29.32	0.00
0.9 Dead-1.0 Ev+1.0 Eh 90 deg	2.10	1.58	0.00	-0.01	-29.22	0.00
1.2 Dead+1.0 Ev+1.0 Eh 120 deg	3.91	1.37	0.79	14.66	-25.39	0.00
0.9 Dead-1.0 Ev+1.0 Eh 120 deg	2.10	1.37	0.79	14.61	-25.30	0.00
1.2 Dead+1.0 Ev+1.0 Eh 150 deg	3.91	0.79	1.37	25.40	-14.65	0.00
0.9 Dead-1.0 Ev+1.0 Eh 150 deg	2.10	0.79	1.37	25.31	-14.60	0.00
1.2 Dead+1.0 Ev+1.0 Eh 180 deg	3.91	0.00	1.58	29.33	0.01	0.00
0.9 Dead-1.0 Ev+1.0 Eh 180 deg	2.10	0.00	1.58	29.22	0.01	0.00
1.2 Dead+1.0 Ev+1.0 Eh 210 deg	3.91	-0.79	1.37	25.40	14.68	0.00
0.9 Dead-1.0 Ev+1.0 Eh 210 deg	2.10	-0.79	1.37	25.31	14.62	0.00

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
1.2 Dead+1.0 Ev+1.0 Eh 240 deg	3.91	-1.37	0.79	14.66	25.42	0.00
0.9 Dead-1.0 Ev+1.0 Eh 240 deg	2.10	-1.37	0.79	14.61	25.32	0.00
1.2 Dead+1.0 Ev+1.0 Eh 270 deg	3.91	-1.58	0.00	-0.01	29.35	0.00
0.9 Dead-1.0 Ev+1.0 Eh 270 deg	2.10	-1.58	0.00	-0.01	29.24	0.00
1.2 Dead+1.0 Ev+1.0 Eh 300 deg	3.91	-1.37	-0.79	-14.68	25.42	0.00
0.9 Dead-1.0 Ev+1.0 Eh 300 deg	2.10	-1.37	-0.79	-14.62	25.32	0.00
1.2 Dead+1.0 Ev+1.0 Eh 330 deg	3.91	-0.79	-1.37	-25.41	14.68	0.00
0.9 Dead-1.0 Ev+1.0 Eh 330 deg	2.10	-0.79	-1.37	-25.32	14.62	0.00

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.00	-2.86	0.00	0.00	2.86	0.00	0.000%
2	0.00	-3.43	-2.52	0.00	3.43	2.52	0.000%
3	0.00	-2.58	-2.52	0.00	2.58	2.52	0.000%
4	1.26	-3.43	-2.19	-1.26	3.43	2.19	0.000%
5	1.26	-2.58	-2.19	-1.26	2.58	2.19	0.000%
6	2.19	-3.43	-1.26	-2.19	3.43	1.26	0.000%
7	2.19	-2.58	-1.26	-2.19	2.58	1.26	0.000%
8	2.52	-3.43	0.00	-2.52	3.43	0.00	0.000%
9	2.52	-2.58	0.00	-2.52	2.58	0.00	0.000%
10	2.19	-3.43	1.26	-2.19	3.43	-1.26	0.000%
11	2.19	-2.58	1.26	-2.19	2.58	-1.26	0.000%
12	1.26	-3.43	2.19	-1.26	3.43	-2.19	0.000%
13	1.26	-2.58	2.19	-1.26	2.58	-2.19	0.000%
14	0.00	-3.43	2.52	0.00	3.43	-2.52	0.000%
15	0.00	-2.58	2.52	0.00	2.58	-2.52	0.000%
16	-1.26	-3.43	2.19	1.26	3.43	-2.19	0.000%
17	-1.26	-2.58	2.19	1.26	2.58	-2.19	0.000%
18	-2.19	-3.43	1.26	2.19	3.43	-1.26	0.000%
19	-2.19	-2.58	1.26	2.19	2.58	-1.26	0.000%
20	-2.52	-3.43	0.00	2.52	3.43	0.00	0.000%
21	-2.52	-2.58	0.00	2.52	2.58	0.00	0.000%
22	-2.19	-3.43	-1.26	2.19	3.43	1.26	0.000%
23	-2.19	-2.58	-1.26	2.19	2.58	1.26	0.000%
24	-1.26	-3.43	-2.19	1.26	3.43	2.19	0.000%
25	-1.26	-2.58	-2.19	1.26	2.58	2.19	0.000%
26	0.00	-4.36	0.00	0.00	4.36	0.00	0.000%
27	0.00	-4.36	-0.37	0.00	4.36	0.37	0.000%
28	0.18	-4.36	-0.32	-0.18	4.36	0.32	0.000%
29	0.32	-4.36	-0.18	-0.32	4.36	0.18	0.000%
30	0.37	-4.36	0.00	-0.37	4.36	0.00	0.000%
31	0.32	-4.36	0.18	-0.32	4.36	-0.18	0.000%
32	0.18	-4.36	0.32	-0.18	4.36	-0.32	0.000%
33	0.00	-4.36	0.37	0.00	4.36	-0.37	0.000%
34	-0.18	-4.36	0.32	0.18	4.36	-0.32	0.000%
35	-0.32	-4.36	0.18	0.32	4.36	-0.18	0.000%
36	-0.37	-4.36	0.00	0.37	4.36	0.00	0.000%
37	-0.32	-4.36	-0.18	0.32	4.36	0.18	0.000%
38	-0.18	-4.36	-0.32	0.18	4.36	0.32	0.000%
39	0.00	-2.86	-0.68	0.00	2.86	0.68	0.000%
40	0.34	-2.86	-0.59	-0.34	2.86	0.59	0.000%
41	0.59	-2.86	-0.34	-0.59	2.86	0.34	0.000%
42	0.68	-2.86	0.00	-0.68	2.86	0.00	0.000%
43	0.59	-2.86	0.34	-0.59	2.86	-0.34	0.000%
44	0.34	-2.86	0.59	-0.34	2.86	-0.59	0.000%
45	0.00	-2.86	0.68	0.00	2.86	-0.68	0.000%
46	-0.34	-2.86	0.59	0.34	2.86	-0.59	0.000%
47	-0.59	-2.86	0.34	0.59	2.86	-0.34	0.000%
48	-0.68	-2.86	0.00	0.68	2.86	0.00	0.000%
49	-0.59	-2.86	-0.34	0.59	2.86	0.34	0.000%
50	-0.34	-2.86	-0.59	0.34	2.86	0.59	0.000%
51	0.00	-3.91	-1.58	0.00	3.91	1.58	0.000%
52	0.00	-2.10	-1.58	0.00	2.10	1.58	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
53	0.79	-3.91	-1.37	-0.79	3.91	1.37	0.000%
54	0.79	-2.10	-1.37	-0.79	2.10	1.37	0.000%
55	1.37	-3.91	-0.79	-1.37	3.91	0.79	0.000%
56	1.37	-2.10	-0.79	-1.37	2.10	0.79	0.000%
57	1.58	-3.91	0.00	-1.58	3.91	0.00	0.000%
58	1.58	-2.10	0.00	-1.58	2.10	0.00	0.000%
59	1.37	-3.91	0.79	-1.37	3.91	-0.79	0.000%
60	1.37	-2.10	0.79	-1.37	2.10	-0.79	0.000%
61	0.79	-3.91	1.37	-0.79	3.91	-1.37	0.000%
62	0.79	-2.10	1.37	-0.79	2.10	-1.37	0.000%
63	0.00	-3.91	1.58	0.00	3.91	-1.58	0.000%
64	0.00	-2.10	1.58	0.00	2.10	-1.58	0.000%
65	-0.79	-3.91	1.37	0.79	3.91	-1.37	0.000%
66	-0.79	-2.10	1.37	0.79	2.10	-1.37	0.000%
67	-1.37	-3.91	0.79	1.37	3.91	-0.79	0.000%
68	-1.37	-2.10	0.79	1.37	2.10	-0.79	0.000%
69	-1.58	-3.91	0.00	1.58	3.91	0.00	0.000%
70	-1.58	-2.10	0.00	1.58	2.10	0.00	0.000%
71	-1.37	-3.91	-0.79	1.37	3.91	0.79	0.000%
72	-1.37	-2.10	-0.79	1.37	2.10	0.79	0.000%
73	-0.79	-3.91	-1.37	0.79	3.91	1.37	0.000%
74	-0.79	-2.10	-1.37	0.79	2.10	1.37	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00000001
3	Yes	4	0.00000001	0.00000001
4	Yes	4	0.00000001	0.00000001
5	Yes	4	0.00000001	0.00000001
6	Yes	4	0.00000001	0.00000001
7	Yes	4	0.00000001	0.00000001
8	Yes	4	0.00000001	0.00000001
9	Yes	4	0.00000001	0.00000001
10	Yes	4	0.00000001	0.00000001
11	Yes	4	0.00000001	0.00000001
12	Yes	4	0.00000001	0.00000001
13	Yes	4	0.00000001	0.00000001
14	Yes	4	0.00000001	0.00000001
15	Yes	4	0.00000001	0.00000001
16	Yes	4	0.00000001	0.00000001
17	Yes	4	0.00000001	0.00000001
18	Yes	4	0.00000001	0.00000001
19	Yes	4	0.00000001	0.00000001
20	Yes	4	0.00000001	0.00000001
21	Yes	4	0.00000001	0.00000001
22	Yes	4	0.00000001	0.00000001
23	Yes	4	0.00000001	0.00000001
24	Yes	4	0.00000001	0.00000001
25	Yes	4	0.00000001	0.00000001
26	Yes	4	0.00000001	0.00000001
27	Yes	4	0.00000001	0.00000001
28	Yes	4	0.00000001	0.00000001
29	Yes	4	0.00000001	0.00000001
30	Yes	4	0.00000001	0.00000001
31	Yes	4	0.00000001	0.00000001
32	Yes	4	0.00000001	0.00000001
33	Yes	4	0.00000001	0.00000001
34	Yes	4	0.00000001	0.00000001
35	Yes	4	0.00000001	0.00000001
36	Yes	4	0.00000001	0.00000001
37	Yes	4	0.00000001	0.00000001
38	Yes	4	0.00000001	0.00000001
39	Yes	4	0.00000001	0.00000001

40	Yes	4	0.00000001	0.00000001
41	Yes	4	0.00000001	0.00000001
42	Yes	4	0.00000001	0.00000001
43	Yes	4	0.00000001	0.00000001
44	Yes	4	0.00000001	0.00000001
45	Yes	4	0.00000001	0.00000001
46	Yes	4	0.00000001	0.00000001
47	Yes	4	0.00000001	0.00000001
48	Yes	4	0.00000001	0.00000001
49	Yes	4	0.00000001	0.00000001
50	Yes	4	0.00000001	0.00000001
51	Yes	4	0.00000001	0.00000001
52	Yes	4	0.00000001	0.00000001
53	Yes	4	0.00000001	0.00000001
54	Yes	4	0.00000001	0.00000001
55	Yes	4	0.00000001	0.00000001
56	Yes	4	0.00000001	0.00000001
57	Yes	4	0.00000001	0.00000001
58	Yes	4	0.00000001	0.00000001
59	Yes	4	0.00000001	0.00000001
60	Yes	4	0.00000001	0.00000001
61	Yes	4	0.00000001	0.00000001
62	Yes	4	0.00000001	0.00000001
63	Yes	4	0.00000001	0.00000001
64	Yes	4	0.00000001	0.00000001
65	Yes	4	0.00000001	0.00000001
66	Yes	4	0.00000001	0.00000001
67	Yes	4	0.00000001	0.00000001
68	Yes	4	0.00000001	0.00000001
69	Yes	4	0.00000001	0.00000001
70	Yes	4	0.00000001	0.00000001
71	Yes	4	0.00000001	0.00000001
72	Yes	4	0.00000001	0.00000001
73	Yes	4	0.00000001	0.00000001
74	Yes	4	0.00000001	0.00000001

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	20 - 17	0.913	71	0.3229	0.0000
L2	17 - 0	0.711	71	0.3164	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
20.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	71	0.913	0.3229	0.0000	3891
18.50	CCISeismic Tower Section 1 - 1	71	0.810	0.3210	0.0000	3891
15.00	CCISeismic miscl (mh) Safety Line 3/8" From 1 to 20 (10ft to20ft)	71	0.592	0.3023	0.0000	3891
13.50	CCISeismic Tower Section 2 - 1	71	0.511	0.2860	0.0000	4022
9.50	CCISeismic Climbing Pegs From 9 to 20 (9ft to10ft)	71	0.327	0.2224	0.0000	5652
5.75	CCISeismic (12) andrew AVA5-50(7/8) From 1.5 to 20 (1.5ft to10ft)	71	0.186	0.1426	0.0000	9339
5.50	CCISeismic miscl (mh) Safety Line 3/8" From 1 to 20 (1ft to10ft)	71	0.177	0.1367	0.0000	9763
5.00	CCISeismic Tower Section 2 - 2	71	0.160	0.1249	0.0000	10740

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	20 - 17	1.506	22	0.5366	0.0000
L2	17 - 0	1.171	22	0.5249	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
20.00	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	22	1.506	0.5366	0.0000	2311
18.50	CCISeismic Tower Section 1 - 1	22	1.335	0.5330	0.0000	2311
15.00	CCISeismic miscl (mh) Safety Line 3/8" From 1 to 20 (10ft to20ft)	22	0.973	0.5013	0.0000	2311
13.50	CCISeismic Tower Section 2 - 1	22	0.840	0.4741	0.0000	2388
9.50	CCISeismic Climbing Pegs From 9 to 20 (9ft to10ft)	22	0.536	0.3683	0.0000	3356
5.75	CCISeismic (12) andrew AVA5-50(7/8) From 1.5 to 20 (1.5ft to10ft)	22	0.304	0.2360	0.0000	5545
5.50	CCISeismic miscl (mh) Safety Line 3/8" From 1 to 20 (1ft to10ft)	22	0.290	0.2263	0.0000	5797
5.00	CCISeismic Tower Section 2 - 2	22	0.262	0.2068	0.0000	6377

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	20 - 17 (1)	Pipe 12.75" x 0.330" (SCH30)	3.00	0.00	0.0	12.8761	-2.38	405.60	0.006
L2	17 - 0 (2)	Pipe 12.75" x 0.330" (SCH30)	17.00	0.00	0.0	12.8761	-3.43	405.60	0.008

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	20 - 17 (1)	Pipe 12.75" x 0.330" (SCH30)	6.80	133.66	0.051	0.00	133.66	0.000
L2	17 - 0 (2)	Pipe 12.75" x 0.330" (SCH30)	47.81	133.66	0.358	0.00	133.66	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	20 - 17 (1)	Pipe 12.75" x 0.330" (SCH30)	2.29	121.68	0.019	0.00	132.87	0.000
L2	17 - 0 (2)	Pipe 12.75" x 0.330" (SCH30)	2.53	121.68	0.021	0.00	132.87	0.000

Pole Interaction Design Data

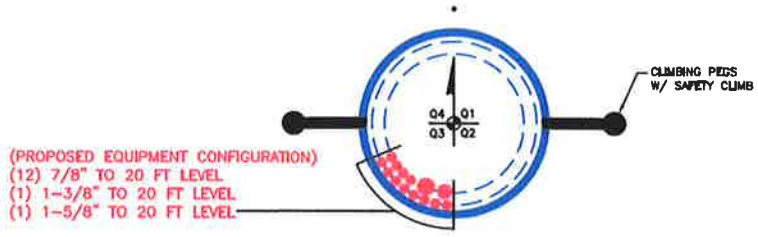
Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	20 - 17 (1)	0.006	0.051	0.000	0.019	0.000	0.057	1.050	4.8.2
L2	17 - 0 (2)	0.008	0.358	0.000	0.021	0.000	0.367	1.050	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	20 - 17	Pole	Pipe 12.75" x 0.330" (SCH30)	1	-2.38	425.88	5.4	Pass
L2	17 - 0	Pole	Pipe 12.75" x 0.330" (SCH30)	2	-3.43	425.88	34.9	Pass
							Summary	
						Pole (L2)	34.9	Pass
						RATING =	**34.9**	**Pass**

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 22343 TOWER BASE

APPENDIX C

ADDITIONAL CALCULATIONS

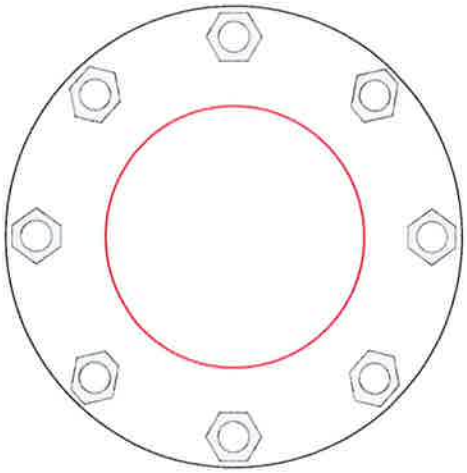
Monopole Base Plate Connection

Site Info	
BU #	822342
Site Name	Alpine_Shepherd_Hill
Order #	489718 Rev. 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{er} (in)	2.5

Applied Loads	
Moment (kip-ft)	47.81
Axial Force (kips)	3.43
Shear Force (kips)	2.53

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

(8) 1-1/2" ø bolts (A36 N; Fy=36 ksi, Fu=58 ksi) on 19.5" BC

Base Plate Data

22.5" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Stiffener Data

N/A

Pole Data

12.75" x 0.33" round pole (A53-B-35; Fy=35 ksi, Fu=60 ksi)

Analysis Results

Anchor Rod Summary *(units of kips, kip-in)*

Pu_c = 15.1	ϕPn_c = 50.76	**Stress Rating**
Vu = 0.32	ϕVn = 15.23	**32.1%**
Mu = 0.51	ϕMn = 12.99	**Pass**

Base Plate Summary

Max Stress (ksi):	4.99	(Flexural)
Allowable Stress (ksi):	32.4	
Stress Rating:	**14.7%**	**Pass**

Drilled Pier Foundation

BU # :	822343
Site Name:	Alpine_Shepherd_Hill
Order Number:	489718 Rev. 0

TIA-222 Revison:	H
Tower Type:	Monopole

Applied Loads	Comp.	Uplift
Moment (kip-ft)	47.81	
Axial Force (kips)	3.43	
Shear Force (kips)	2.53	

Material Properties		
Concrete Strength, f'c:	3	ksi
Rebar Strength, Fy:	60	ksi

Pier Design Data		
Depth	6.33	ft
Ext. Above Grade	0.45833	ft
Pier Section 1		
From 0.45833' above grade to 0.91667' below grade		
Pier Diameter	3.5	ft
Rebar Quantity	8	
Rebar Size	7	
Clear Cover to Ties	3	in
Tie Size	3	
Pier Section 2		
From 0.91667' below grade to 8.33' below grade		
Pier Diameter	4	ft
Rebar Quantity	10	
Rebar Size	7	
Clear Cover to Ties	3	in
Tie Size	3	

Analysis Results		
Soil Lateral Capacity	*Compression*	*Uplift*
$D_{v=0}$ (ft from TOC)	4.29	-
Soil Safety Factor	2.73	-
Max Moment (kip-ft)	58.29	-
Rating*	*46.4%*	-
Soil Vertical Capacity	*Compression*	*Uplift*
Skin Friction (kips)	14.49	-
End Bearing (kips)	216.30	-
Weight of Concrete (kips)	19.15	-
Total Capacity (kips)	230.79	-
Axial (kips)	22.58	-
Rating*	*9.3%*	-
Reinforced Concrete Capacity	*Compression*	*Uplift*
Critical Depth (ft from TOC)	4.25	-
Critical Moment (kip-ft)	58.28	-
Critical Moment Capacity	436.36	-
Rating*	*12.7%*	-

Min. Steel is assumed

Soil Interaction Rating*	**46.4%**
Structural Foundation Rating*	**12.7%**

Check Limitation	
Apply TIA-222-H Section 15.5:	☑
N/A	☐

*Rating per TIA-222-H Section 15.5

Soil Profile

Groundwater Depth	n/a	ft	# of Layers: 3

Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ_{soil} (pcf)	$\gamma_{concrete}$ (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	3.5	3.5	108	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	3.5	6	2.5	108	150	0	39	0.000	0.000	0.27	0.27			Cohesionless
3	6	8.33	2.33	108	150	0	36	0.000	0.000	0.37	0.37	22.95		Cohesionless

CROWN CASTLE

BU:	822343	Structure:	A
WO:	1728618		
Order:	489718	Rev:	0

Location

	Decimal Degrees		Deg	Min	Sec
Lat:	40.444250	+	40	26	39.30
Long:	-111.779528	-	111	46	46.30

Code and Site Parameters

Seismic Design Code:	TIA-222-H*	
Site Soil:	D	Dense Soil/Soft Rock
Risk Category:	II	

USGS Seismic Reference			
	S_S:	1.2340	g
	S_1:	0.4520	g
	T_L:	8	s

Seismic Design Category Determination

Importance Factor, I_e:	1
Acceleration-based site coefficient, F_a:	1.0064
Velocity-based site coefficient, F_v:	1.5480

Design spectral response acceleration short period, S_{DS}:	0.8279	g
Design spectral response acceleration 1 s period, S_{D1}:	0.4665	g

Seismic Design Category Based on S_{DS}:	D
Seismic Design Category Based on S_{D1}:	D
Seismic Design Category Based on S_1:	N/A
Controlling Seismic Design Category:	D

*Using ASCE 7-10 Seismic Parameters

CROWN CASTLE

BU:	822343	Structure:	A
WO:	1728618		
Order:	489718	Rev:	0

Tower Details

Tower Type:	Stepped Monopole		
Height, h:	20	ft	
Effective Seismic Weight, W:	2.86	kips	
Amplification Factor, A_s:	1.0		2.7.8.1

Seismic Base Shear

Response Modification Factor, R:	1.5		
Discrete Appurtenance Weight in Top 1/3 of Structure, W_u:	1.84401	kips	
W_L:	1.018161367	kips	
E:	29000.0	ksi	
g:	386.088	in/s^2	
Average Moment of Inertia, I_{avg}:	248.4534906	in^4	
F_a:	2.708625061	hz	
Approximate Fundamental Period Monopole, T_a:	0.3692	s	2.7.7.1.3.3
Seismic Response Coefficient, C_s	0.5520		2.7.7.1.1
Seismic Response Coefficient Max 1, C_{smax}	0.8423		2.7.7.1.1
Seismic Response Coefficient Max 2, C_{smax}	N/A		2.7.7.1.1
Seismic Response Coefficient Min 1, C_{smin}	0.0364		2.7.7.1.1
Seismic Response Coefficient Min 2, C_{smin}	N/A		2.7.7.1.1
Controlling Seismic Response Coefficient, C_{sc}	0.5520		
Seismic Base Shear, V	1.580	kips	2.7.7.1.1

Vertical Distribution Factors

Period Related Exponent, k:	1.000	2.7.7.1.2
Sum of $w_i h_i^k$	47.24	2.7.7.1.2

Tower Section Loads								
Section Number	Length	Top Height	Mid Height, h_x	Section Weight, w_x	$w_x h_x^k$	C_{vx}	F_{ah}	F_{av}
1 - 1	3.00	20.00	18.50	0.1314	2.43	0.0515	0.0813	0.0218
2 - 1	7.00	17.00	13.50	0.3067	4.14	0.0876	0.1385	0.0508
2 - 2	10.00	10.00	5.00	0.4381	2.19	0.0464	0.0733	0.0726
			Sum					

Discrete Loads						
Name	h_x	w_x	$w_x h_x^k$	C_{vx}	F_{ah}	F_{av}
ericsson ERICSSON AIR 21 B2A B4P w/ Mount Pipe	20.00	0.1100	2.20	0.0466	0.0736	0.0182
ericsson ERICSSON AIR 21 B2A B4P w/ Mount Pipe	20.00	0.1100	2.20	0.0466	0.0736	0.0182
ericsson ERICSSON AIR 21 B2A B4P w/ Mount Pipe	20.00	0.1100	2.20	0.0466	0.0736	0.0182
5' horizontal x 3" Pipe Mount	20.00	0.0417	0.83	0.0176	0.0279	0.0069
5' horizontal x 3" Pipe Mount	20.00	0.0417	0.83	0.0176	0.0279	0.0069
5' horizontal x 3" Pipe Mount	20.00	0.0417	0.83	0.0176	0.0279	0.0069
tower mounts (cci) T-Arm Mount [TA 702-3]	20.00	0.3390	6.78	0.1435	0.2267	0.0561
ericsson ERICSSON AIR 21 B4A B2P w/ Mount Pipe	20.00	0.1100	2.20	0.0466	0.0736	0.0182
ericsson ERICSSON AIR 21 B4A B2P w/ Mount Pipe	20.00	0.1100	2.20	0.0466	0.0736	0.0182
ericsson ERICSSON AIR 21 B4A B2P w/ Mount Pipe	20.00	0.1100	2.20	0.0466	0.0736	0.0182
rfs celwave APXVAARR24_43-U-NA20 w/ Mount Pipe	20.00	0.1600	3.20	0.0677	0.1070	0.0265
rfs celwave APXVAARR24_43-U-NA20 w/ Mount Pipe	20.00	0.1600	3.20	0.0677	0.1070	0.0265
rfs celwave APXVAARR24_43-U-NA20 w/ Mount Pipe	20.00	0.1600	3.20	0.0677	0.1070	0.0265
ericsson RADIO 4449 B12/B71	20.00	0.0800	1.60	0.0339	0.0535	0.0132
ericsson RADIO 4449 B12/B71	20.00	0.0800	1.60	0.0339	0.0535	0.0132
ericsson RADIO 4449 B12/B71	20.00	0.0800	1.60	0.0339	0.0535	0.0132
Sum		[illegible]	[illegible]			

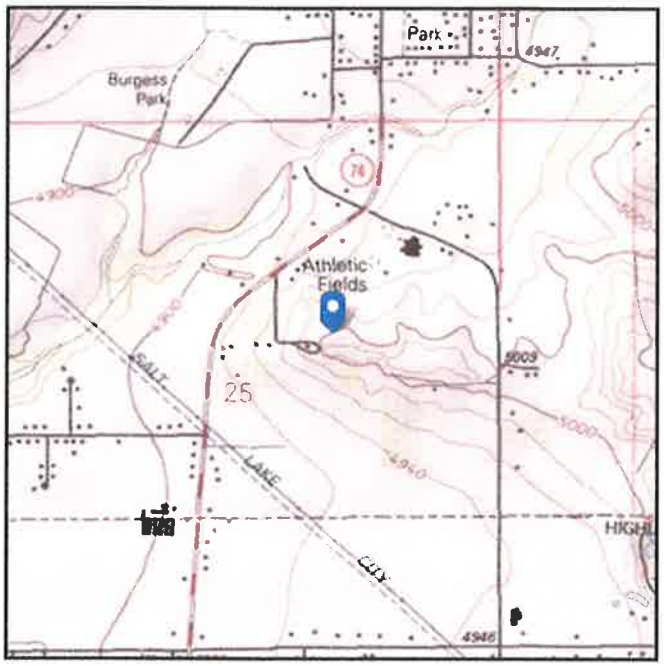
Linear Loads								
Name	Start Height	End Height	h_i	w_i	$w_i h_i^k$	C_{vi}	F_{ph}	F_{pv}
miscl (mh) Safety Line 3/8" From 1 to 20	10.00	20.00	15.00	0.0022	0.03	0.0007	0.0011	0.0004
miscl (mh) Safety Line 3/8" From 1 to 20	1.00	10.00	5.50	0.0020	0.01	0.0002	0.0004	0.0003
Climbing Pegs From 9 to 20	10.00	20.00	15.00	0.0180	0.27	0.0057	0.0090	0.0030
Climbing Pegs From 9 to 20	9.00	10.00	9.50	0.0018	0.02	0.0004	0.0006	0.0003
(12) andrew AVA5-50(7/8) From 1.5 to 20	10.00	20.00	15.00	0.0360	0.54	0.0114	0.0181	0.0060
(12) andrew AVA5-50(7/8) From 1.5 to 20	1.50	10.00	5.75	0.0306	0.18	0.0037	0.0059	0.0051
ericsson HCS 6X12 6AWG(1-3/8) From 1.5 to 20	10.00	20.00	15.00	0.0170	0.26	0.0054	0.0085	0.0028
ericsson HCS 6X12 6AWG(1-3/8) From 1.5 to 20	1.50	10.00	5.75	0.0145	0.08	0.0018	0.0028	0.0024
huber and suhner MLE Hybrid 9Power/18Fiber RL 2(1-5/8) From 1.5 to 20	10.00	20.00	15.00	0.0107	0.16	0.0034	0.0054	0.0018
huber and suhner MLE Hybrid 9Power/18Fiber RL 2(1-5/8) From 1.5 to 20	1.50	10.00	5.75	0.0091	0.05	0.0011	0.0017	0.0015
			Sum	[illegible]	[illegible]			

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 5027.98 ft (NAVD 88)
Latitude: 40.44425
Longitude: -111.779528



Wind

Results:

Wind Speed:	115 Vmph
10-year MRI	76 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	96 Vmph
Data Source:	ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014
Date Accessed:	Thu Apr 25 2019

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is not in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2.

Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

ASCE
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Seismic

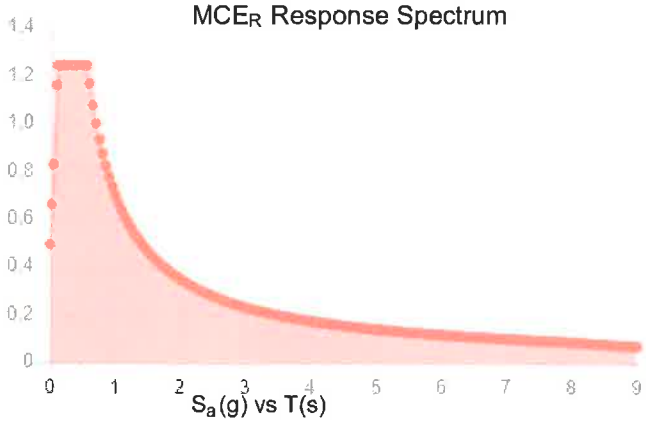
Site Soil Class: D - Stiff Soil

Results:

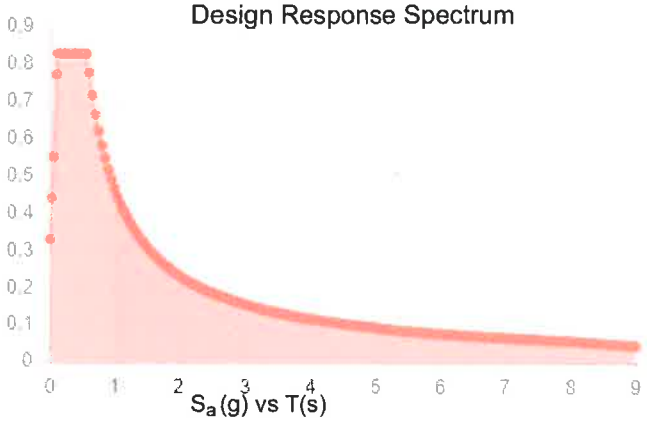
S_S :	1.234	S_{DS} :	0.828
S_1 :	0.452	S_{D1} :	0.466
F_a :	1.006	T_L :	8
F_v :	1.548	PGA :	0.531
S_{MS} :	1.242	PGA_M :	0.531
S_{M1} :	0.699	F_{PGA} :	1
		I_e :	1

Seismic Design Category D

MCE_R Response Spectrum



Design Response Spectrum



Data Accessed: Thu Apr 25 2019

Date Source: USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

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Ice

Results:

Ice Thickness:	0.25 in.
Concurrent Temperature:	15 F
Gust Speed:	40 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Thu Apr 25 2019

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

3.27 Wireless Telecommunications Ordinance

T- Mobile
Antenna Upgrade

3.27.010 General Provisions

1. **Title**. This Ordinance shall be known as the Wireless Telecommunications Ordinance.
2. **Purpose & Intent**. The unique character, landscapes and scenic vistas of Alpine are among its most valuable assets. Preserving and promoting those assets are essential to the long- range social and economic wellbeing of the City and its inhabitants. Protecting these assets requires sensitive placement and design of wireless communication facilities so that these facilities remain in scale and harmony with the existing character of the community.
    a. To amend Ordinance No. 2006-06 to accommodate new technology and develop regulations on the use and development of City property for new cell tower facilities.
    b. To regulate personal wireless services antennas, with or without support structures, and related electronic equipment and equipment structures.
    c. To provide for the orderly establishment of personal wireless services facilities in the City.
    d. To minimize the number of antenna support structures by encouraging the co-location of multiple antennas on a single new or existing structure.
    e. To establish siting, appearance and safety standards that will help mitigate the potential impacts related to the construction, use and maintenance of personal wireless communication facilities.
    f. To comply with the Telecommunication Act of 1996 by establishing regulations that (1) do not prohibit or have the effect of prohibiting the provision of personal wireless services, (2) do not unreasonably discriminate among providers of functionally equivalent services, and (3) are not based on the environmental effects of radio frequency emissions to the extent that such facilities comply with the Federal Communications Commission's regulations concerning such emissions.
3. **Findings**
    a. Personal wireless services facilities (PWSF) are an integral part of the rapidly growing and evolving telecommunications industry, and present unique zoning challenges and concerns by the City.
    b. The City needs to balance the interests and desires of the telecommunications industry and its customers to provide competitive and effective telecommunications systems in the City, against the sometimes differing interests and desires of others concerning health, safety, welfare, and aesthetics, and orderly planning of the community.
    c. The City has experienced an increased demand for personal wireless services facilities to be located in the City, and expects the increased demand to continue in the future.
    d. It is in the best interests of the City to have quality personal wireless services facilities available, which necessarily entails the erection of personal wireless services facilities in the City.
    e. The unnecessary proliferation of personal wireless services facilities through the City creates a negative visual impact on the community.
    f. The visual effects of personal wireless services facilities can be mitigated by fair standards regulating their siting, construction, maintenance and use.
    g. A private property owner who leases space for a personal wireless services facility is the only one who receives compensation for the facility, even though numerous other property owners in the area are adversely affected by the location of the facility.
    h. Chapter 69-3, Utah Code Annotated, grants cities the authority to create or acquire sites to accommodate the erection of telecommunications tower in order to promote the location of telecommunication towers in a manageable area and to protect the aesthetics and environment of the area. The law also allows the City to require the owner of any tower to accommodate the multiple use of the tower by other companies where feasible and to pay the City the fair market rental value for the use of any City-owned site.
    i. Telecommunications towers located on government property with the lease payments being paid to Alpine City instead of individual property owners evenly distributes the income from the lease payments to all citizens of Alpine through increased government services thus indirectly compensating all of the citizens of Alpine for the impact all citizens experience. The public policy objectives to reduce the proliferation of telecommunications towers and to mitigate their impact can be best facilitated by locating telecommunications and antenna support structures on property owned, leased or used by Alpine City as a highest priority whenever feasible.

4. **Definitions**. The following words shall have the described meaning when used in this ordinance, unless a contrary meaning is apparent from the context of the word.
    a. Antenna. A transmitting or receiving device used in telecommunications that radiates or captures radio signals.
    b. Antenna Support Structure. Any structure that can be used for the purpose of supporting an antenna(s).
    c. City. The City of Alpine, Utah.
    d. City-owned property. Real property that is owned by the City.
    e. Close to Tower Mount. Also known as slim mount, antennas on cell towers mounted very close to tower in order to appeal less noticeable.
    f. Co-location. The location of an antenna on an existing structure, tower or building that is already being used for personal wireless services facilities.
    g. Monopole. A single, self-supporting, cylindrical pole that acts as the support structure for one (1) or more antennas for a personal wireless services facility.
    h. Personal Wireless Services. Commercial mobile telecommunications services, unlicensed wireless communications services, and common carrier wireless telecommunications exchange access services.
    i. Personal Wireless Services Antenna. An antenna used in connection with the provision of personal wireless services.
    j. Personal Wireless Services Facilities (PWSF). Facilities for the provision of personal wireless services. Personal wireless services facilities include transmitters, antennas, structures supporting antennas, and electronic equipment that is typically installed in close proximity to a transmitter.
    k. Private Property. Any real property not owned by the City, even if the property is owned by another public or government entity.
    l. Quasi public use. Uses such as a school or church or other uses defined as quasi public uses in DCA 3.01.110.
    m. Tower. A freestanding structure that is used as a support structure for antenna.
    n. Whip antenna. An antenna that is cylindrical in shape. Whip antennas can be directional or omnidirectional and vary in size depending on the frequency and gain for which they are designed.

5. **Applicability**. This ordinance (the Wireless Telecommunications Ordinance) applies to both commercial and private low power radio services and facilities, such as "cellular" or PCS (personal communications system) communications and paging systems. This ordinance shall not apply to the following types of communications devices, although they may be regulated by other City ordinances and policies.
    a. Amateur Radio. Any tower or antenna owned and operated by an amateur radio operator licensed by the Federal Communication Commission.
    b. Amateur T.V. Any tower or antenna owned and operated by an amateur T.V. operator licensed by the Federal Communication Commission.
    c. Satellite. Any device designed for over-the-air reception of television broadcast signals, multichannel multipoint distribution service or direct satellite service.
    d. Cable. Any cable television head-end or hub towers and antennas used solely for cable television services.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

3.27.020 Location And Types Of Towers/Antennas

1. **Personal Wireless Services Facilities Site Locations**. The following are currently approved locations:
    a. Co-location on an existing tower.
    b. City owned property.
    c. Property in conjunction with a quasi-public or public use.

d. Commercial property in the business commercial zone.

No new towers shall be located in Lambert Park.

New towers shall be located no closer than a one-quarter (1/4) mile radius from another tower and shall be no closer to a residence than two (2) times the height of the tower.

If the applicant desires to locate on a site other than the approved sites listed above, the applicant shall have the burden of demonstrating to the City why it cannot locate on an approved site. To do so, the applicant shall provide the following information to the City:

i. The identity and location of any approved sites located within the desired service area.

ii. The reason(s) why the approved sites are not technologically, legally, or economically feasible. The applicant must make a good faith effort to locate towers and antennas on an approved site. The City may request information from outside sources to justify or
rebut the applicant's reason(s) for rejecting an approved site.

iii. Why the proposed site is essential to meet the service demands of the geographic service area and the citywide network. If the applicant desires to construct a monopole, the applicant shall also submit a detailed written description of why the applicant cannot obtain coverage using existing towers.

2. **Permitted and Non-Permitted Towers and Antennas**

a. Permitted. The following are permitted:

i. Co-location on existing towers.

ii. Existing towers may be maintained, used, and upgraded or replaced. A replacement tower shall not exceed the height of the tower being replaced.

iii. Monopoles are permitted subject to the following:

(1) A monopole shall not exceed eighty feet (80').

iv. Roof-mounted Antennas are permitted subject to the following:

(1) A roof-mounted antenna shall be screened, constructed, and/or colored to match the structure to which it is attached.

(2) A roof-mounted antenna shall be set back from the building edge one (1) foot for every one (1) foot of antenna height and shall not exceed fifteen (15) feet in height.

v. All new antennas shall be slim-mounted or mounted to an existing array.

b. Not Permitted. The following are not permitted:

i. Lattice Towers. Lattice appearance is not permitted.

ii. Guyed Towers.

3. **Co-location Requirement**. Unless otherwise authorized by the approving authority for good cause shown, every new tower shall be designed and constructed to be of sufficient size and capacity to accommodate at least two (2) additional wireless telecommunications providers on the structure in the future.

4. **Lease Agreement**. The City has no implied obligation to lease any particular parcel of City-owned property to an applicant. The City shall enter into a standard lease agreement with the applicant for any facility built on City property. The Mayor or designee is hereby authorized to execute the standard lease agreement on behalf of the City. The lease shall contain the condition that the approving authority must first approve the site plan before the lease can take effect, and that failure to obtain such approval renders the lease null and void.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

3.27.030 Procedure

State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station. For purposes of this Part, the term "eligible facilities request" means any request for modification of an existing wireless tower or base station that involves:

- collocation of new transmission equipment;

- removal of transmission equipment; or
- replacement of transmission equipment.

1. **Application Requirements**. Any person desiring to develop, construct or establish a personal wireless services facility in the City shall submit an application for site plan approval to the City. A site plan shall be required for all new towers and antennas and any modification or replacement of a tower or antenna. The City shall not consider the application until all required information has been included. The application shall be submitted to the City Planner at least fourteen (14) days prior to the public meeting at which it will be presented to the Planning Commission. The applicant shall include the following:

    a. Fee. The applicable fee shall be paid to the City Recorder, payable to Alpine City, as set forth in the Alpine City Consolidated Fee Schedule.

    b. Site Plan. A site plan meeting the City's standard requirements for site plans.

    c. Notification Letter. The applicant shall submit a list of all property owners within five hundred (500) feet of the boundaries of the property where the proposed tower or antenna is to be located. The applicant shall also submit envelopes that have been stamped and addressed to all property owners on the list. The City may require a greater distance if deemed necessary or appropriate. The City shall prepare a notification letter to be sent to the property owners on the list submitted by the applicant to be mailed out at least seven (7) days prior to the public meeting at which the application will be presented to Planning Commission. The letter shall contain the following information:

        i. Address or location of the proposed tower, co-location, tower modification, etc.

        ii. Name of the applicant.

        iii. Type of tower/antenna (e.g. monopole, roof antenna, etc.)

        iv. Date, time, and place of the public meeting at which the application will be presented to the Planning Commission.

    d. Sign. The applicant shall erect a sign of sufficient durability, and print and size quality that is reasonably calculated to give notice to passers-by. The sign shall be posted at least fourteen (14) days prior to the public meeting at which the application will be presented to the Planning Commission. The sign:

        i. Shall be 4 ft. (H) x 8 ft. (W)

        ii. Shall not be more than six (6) feet in height from the ground to the highest point of the sign; and

        iii. Shall be posted five (5) feet inside the property line in a visible location on the property where the tower/antenna is to be located. If the property is located in such a spot that the sign would not be visible from the street, the sign shall be erected in another location close by that will give notice to passers-by, or at Alpine City Hall. The applicant shall be responsible to obtain permission of the property owner to erect the sign. The sign shall include the following information:

            (1) Address of location of the proposed tower, co-location, tower modification, etc.

            (2) Type of tower/antenna (e.g. monopole, roof antenna, etc.)

            (3) Date, time, and place of the public meeting at which the application will be presented to the Planning Commission.

    e. Written Information. The following written information shall be submitted:

        i. Maintenance. A description of the anticipated maintenance needs for the facility, including frequency of service, personnel needs, equipment needs, and traffic noise or safety impacts of such maintenance.

        ii. Service Area. A description of the service area for the antenna or tower and a statement as to whether the antenna or tower is needed for coverage or capacity.

        iii. Licenses and Permits. Copies of all licenses and permits required by other agencies and governments with jurisdiction over the design, construction, location and operation of the antenna.

        iv. Radio Frequency Emissions. A written commitment to comply with applicable Federal Communications Commission radio frequency emission regulations.

        v. Liaison. The name of a contact person who can respond to questions concerning the application and the proposed facility. Include name, address, telephone number, facsimile number and electronic mail address, if applicable.

2. **Approval Process**. The application and site plan shall be reviewed by the City pursuant to its standard site plan approval process. The City shall process all applications within a reasonable time and shall not unreasonably discriminate among providers of functionally equivalent services. Any decision to deny a request to place, construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record. The application and site plan will be reviewed by Planning Commission for a recommendation to City Council. The City Council shall review the application and site plan and shall act as the land use authority in approving or denying the application and site plan.

   The Planning Commission may, if it deems necessary, require each application to be reviewed independently by a certified radio frequency engineer, licensed to do such work in the State of Utah. The purpose of the review is to determine if other locations are available to achieve an equivalent signal distribution and not significantly affect the operation of the telecommunications facility. Such a review may be required when an applicant indicates that no other acceptable location exists. The costs of an independent review shall be borne by the applicant.

3. **Building Permits**

   a. General Requirements. No tower or antenna support structure shall be constructed until the applicant obtains a building permit from the City. No building permit shall be issued for any project for which a site plan or amended site plan is required, until the site plan or amended site plan has been approved by the appropriate authority. If the design or engineering of the antenna support structure is beyond the expertise of the Building Official, the City may require third party review by an engineer selected by the City prior to the issuance of a building permit. The applicant shall pay an additional fee to cover the cost of the third party review.

   b. Additional Requirements for New Towers. If the applicant is constructing a new tower, the applicant shall, if requested by the City, submit a written report from a qualified structural engineer licensed in the State of Utah, documenting the following:

      i. Height and design of the new tower, including technical, engineering, economic, and other pertinent factors governing selection of the proposed design.

      ii. Seismic load design and wind load design for the new tower.

      iii. Total anticipated capacity of the new tower, including number and types of antennas which can be accommodated.

      iv. Structural failure characteristics of the new tower and a demonstration that the site and setbacks are adequate size to contain debris.

      v. Soil investigation report, including structural calculations.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

3.27.040 Safety

1. **Regulation Compliance**

   a. Compliance with FCC and FAA Regulations. All operators of personal wireless services facilities shall demonstrate compliance with applicable Federal Communication Commission (FCC) and Federal Aviation Administration (FAA) regulations, including FCC radio frequency regulations, at the time of application and periodically thereafter as requested by the City. Failure to comply with the applicable regulations shall be grounds for revoking a site plan.

   b. Other Licenses and Permits. The operator of every personal wireless services facility shall submit copies of all licenses and permits required by other agencies and governments with the jurisdiction over the design, construction, location and operation of the facility to the City, shall maintain such licenses and permits in good standing, and shall provide evidence of renewal or extension thereof upon request by the City.

2. **Protection Against Climbing**. Towers shall be protected against unauthorized climbing by removing the climbing pegs from the lower 20 feet of the towers.

3. **Fencing**. Towers shall be fully enclosed by a minimum 6-foot tall fence or wall, as directed by the City, unless the City determines that a wall or fence is not needed or appropriate for a particular site due to conditions specific to the site.

4. **Security Lighting Requirement**. Towers shall comply with the FAA requirements for lighting. The City may also require security lighting for the site. If security lighting is used, the lighting impact on surrounding residential areas shall be minimized by using indirect lighting, where appropriate.

5. **Emergency**. The City shall have the authority to move or alter a personal wireless services facility in case of emergency. Before taking any such action, the City shall first notify the owner of the facility, if feasible.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

3.27.050 Additional Requirements

1. **Regulations for Accessory Structures**

    a. Storage Areas and Solid Waste Receptacles. No outside storage or solid waste receptacles shall be permitted on site.

    b. Equipment Enclosures. All electronic and other related equipment and appurtenances necessary for the operation of any personal wireless services facility shall, whenever possible, be located within a lawfully pre-existing structure or completely below grade. When a new structure is required to house such equipment, the structure shall be harmonious with, and blend with, the natural features, buildings and structures surrounding such structure.

    c. Accessory Buildings. Freestanding accessory buildings used with a personal wireless services facility shall not exceed 450 square feet and shall comply with the setback requirements for structures in the zone in which the facility is located.

2. **Parking**. The City may require a minimum of one (1) parking stall for sites containing a personal wireless services facility and/or accessory buildings, if there is insufficient parking available on the site.
3. **Maintenance Requirements**. All personal wireless services facilities shall be maintained in a safe, neat, and attractive manner.
4. **Landscaping**. A landscaping plan shall be submitted to the Planning Commission who will make a recommendation to the City Council who will approve the landscape plan.
5. **Site Restoration Upon Abandonment**. All sites shall be restored to the original configuration upon abandonment.
6. **Fencing**. The City will determine the type of fencing used on wireless telecommunications sites on a case by case basis. In the case of the Rodeo Grounds, the fencing shall match the existing fencing. Fencing will recommend by the Planning Commission and approved by the City Council.
7. **Color and material standards**. The City shall make an administrative decision as to the color. To the extent the personal wireless services facilities extend above the height of the vegetation immediately surround it, they shall be painted in a nonreflective light gray, light blue or other hue, which blends with the skyline and horizon or a brown to blend in with the surrounding hillside.
8. **Facility Lighting and Signage Standards**. Facility lighting shall be designed so as to meet but not exceed minimum requirements for security, safety and/or FAA regulations. Lighting of antennas or support structures shall be prohibited unless required by the FAA and no other alternatives are available. In all instances, the lighting shall be designed so as to avoid glare and minimize illumination on adjacent properties. Lighting shall also comply with any applicable City lighting standards.
9. **Facility Signs**. Signs shall be limited to those needed to identify the numbers to contact in an emergency, public safety warnings, certifications or other required seals. These signs shall also comply with the requirements of the City's sign regulations.
10. **Utility Lines**. All utility lines serving new cell towers shall be located underground.
11. **Business License**. Each facility shall be considered as a separate use; and an annual business license shall be required for each facility.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

FEDERAL REGISTER

Vol. 80 Thursday,

No. 5 January 8, 2015

Part IV

Federal Communications Commission

47 CFR Parts 1 and 17

Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies; Final Rule

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 1 and 17

[WT Docket Nos. 13–238, 13–32; WC Docket No. 11–59; FCC 14–153]

Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: In this document, the Federal Communications Commission (Commission) adopts rules to update and tailor the manner in which it evaluates the impact of proposed deployments of wireless infrastructure on the environment and historic properties. The Commission also adopts rules to clarify and implement statutory requirements applicable to State and local governments in their review of wireless infrastructure siting applications, and it adopts an exemption from its environmental public notification process for towers that are in place for only short periods of time. Taken together, these steps will reduce the cost and delays associated with facility siting and construction, and thereby facilitate the delivery of more wireless capacity in more locations to consumers throughout the United States.

DATES: Effective February 9, 2015, except for § 1.40001, which shall be effective April 8, 2015; however, §§ 1.40001(c)(3)(i), 1.40001(c)(3)(iii), 1.140001(c)(4), and 17.4(c)(1)(vii), which have new information collection requirements, will not be effective until approved by the Office of Management and Budget (OMB). The Commission will publish a document in the **Federal Register** announcing OMB approval and the relevant effective date.

FOR FURTHER INFORMATION CONTACT: Peter Trachtenberg, Spectrum and Competition Policy Division, Wireless Telecommunications Bureau, (202) 418–7369, email *Peter.Trachtenberg@fcc.gov.*

SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Report and Order (R&O), WT Docket Nos. 13–238, 13–32; WC Docket No. 11–59; FCC 14–153, adopted October 17, 2014 and released October 21, 2014. The full text of this document is available for inspection and copying during business hours in the FCC Reference Information Center, Portals II, 445 12th Street SW., Room CY–A257, Washington, DC 20554. Also, it may be purchased from the Commission's duplicating contractor at Portals II, 445 12th Street SW., Room CY–B402, Washington, DC 20554; the contractor's Web site, *http://www.bcpiweb.com;* or by calling (800) 378–3160, facsimile (202) 488–5563, or email *FCC@BCPIWEB.com.* Copies of the R&O also may be obtained via the Commission's Electronic Comment Filing System (ECFS) by entering the docket number WT Docket 13–238. Additionally, the complete item is available on the Federal Communications Commission's Web site at *http://www.fcc.gov.*

I. NEPA and NHPA Review of Small Wireless Facilities

1. The Commission first adopts measures to update its review processes under the National Environmental Policy Act of 1969 (NEPA) and section 106 of the National Historic Preservation Act of 1966 (NHPA or section 106), with a particular emphasis on accommodating new wireless technologies that use smaller antennas and compact radio equipment to provide mobile voice and broadband service. These technologies, including distributed antenna systems (DAS), small cells, and others, can be deployed on a variety of non-traditional structures such as utility poles, as well as on rooftops and inside buildings, to enhance capacity or fill in coverage gaps. Updating the Commission's environmental and historic preservation rules will enable these innovations to flourish, delivering more broadband service to more communities, while reducing the need for potentially intrusive new construction and safeguarding the values the rules are designed to protect.

2. The Commission's environmental and historic preservation rules have traditionally been directed toward the deployment of macrocells on towers and other tall structures. Since 1974, these rules have excluded collocations of antennas from most of the requirements under the Commission's NEPA review process, recognizing the benefits to the environment and historic properties from the use of existing support structures over the construction of new structures. These exclusions have limitations. The collocation exclusion under NEPA, which was first established in 1974, on its face encompasses only deployments on existing towers and buildings, as these were the only support structures widely used 40 years ago, and does not encompass collocations on existing utility poles, for example. The collocation exclusions in the Commission's process for historic preservation review under section 106 do not consider the scale of small wireless facility deployments.

3. Thus, while small wireless technologies are increasingly deployed to meet the growing demand for high mobile data speeds and ubiquitous coverage, the Commission's rules and processes under NEPA and section 106, even as modified over time, have not reflected those technical advances. Accordingly, the Commission concludes that it will serve the public interest to update its environmental and historic preservation rules in large measure to account for innovative small facilities, and the Commission takes substantial steps to advance the goal of widespread wireless deployment, including clarifying and amending its categorical exclusions. The Commission concludes that these categorical exclusions, as codified in Section 1.1306(c) and Note 1 of its rules, do not have the potential for individually or cumulatively significant environmental impacts. The Commission finds that these clarifications and amendments will serve both the industry and the conservation values its review process was intended to protect. These steps will eliminate many unnecessary review processes and the sometimes cumbersome compliance measures that accompany them, relieving the industry of review process requirements in cases where they are not needed. These steps will advance the goal of spurring efficient wireless broadband deployment while also ensuring that the Commission continues to protect environmental and historic preservation values.

A. NEPA Categorical Exclusions

1. Regulatory Background

4. Section 1.1306 (Note 1) clarifies that the requirement to file an Environmental Assessment (EA) under section 1.1307(a) generally does not apply to "the mounting of antenna(s) on an existing building or antenna tower" or to the installation of wire or cable in an existing underground or aerial corridor, even if an environmentally sensitive circumstance identified in section 1.1307(a) is present. Note 1 reflects a preference first articulated by the Commission in 1974, and codified into Note 1 in 1986, that "[t]he use of existing buildings, towers or corridors is an environmentally desirable alternative to the construction of new facilities and is encouraged."

2. Antennas Mounted on Existing Buildings and Towers

a. Clarification of "Antenna"

5. The Commission first clarifies that the term "antenna" as used in Note 1 encompasses all on-site equipment associated with the antenna, including transceivers, cables, wiring, converters, power supplies, equipment cabinets and shelters, and other comparable equipment. The Commission concludes that this is the only logically consistent interpretation of the term, as associated equipment is a standard part of such collocations, and the antennas subject to NEPA review cannot operate without it. Thus, interpreting the term "antenna" as omitting associated equipment would eviscerate the categorical exclusion by requiring routine NEPA review for nearly every collocation. Such an interpretation would frustrate the categorical exclusion's purpose. The Commission also notes that its interpretation of "antenna" in this context is consistent with how the Commission has defined the term "antenna" in the comparable context of its process for reviewing effects of proposed deployments on historic properties. Specifically, the Commission's section 106 historic preservation review is governed by two programmatic agreements, and in both, the term "antenna" encompasses all associated equipment.

6. Further, if associated equipment presented significant concerns, the Commission would expect that otherwise excluded collocations that included such equipment would, at some point over the past 40 years, have been subject to environmental objections or petitions to deny. The Commission is unaware of any such objections or petitions directed at backup generators or any other associated equipment, or of any past EAs that found any significant environmental effect from such equipment. The Commission finds some commenters' generalized assertions of a risk of environmental effects to be unpersuasive, and the Commission reaffirms that the collocations covered by Note 1, including the collocation of associated equipment addressed by its clarification, will not individually or cumulatively have a significant effect on the human environment. While Alexandria *et al.* submit a declaration from Joseph Monaco asserting that "[m]inor additions to existing facilities could have significant effects even if only incremental to past disturbances," the Commission finds this position is inconsistent with the Commission's finding that the mounting of antennas on existing towers and buildings will not have significant effects, and with the Commission's experience administering the NEPA process, in which a collocation has never been identified by the Commission or the public to have caused a significant environmental effect. The Commission further notes that the proffered examples appear to confuse consideration under the Commission's NEPA process with review under local process, which the Commission does not address here. To the extent that rare circumstances exist where "even the smallest change could result in a significant effect, based on the intrinsic sensitivity of a particular resource," the Commission concludes that such extraordinary circumstances are appropriately addressed through sections 1.1307(c) and (d), as necessary.

7. The Commission finds unpersuasive Tempe's argument that the NEPA categorical exclusion for collocation should not encompass backup generators in particular. Tempe argues that generators cause "fumes, noise, and the potential for exposure to hazardous substances if there is a leak or a spill" and "should not be allowed to be installed without the appropriate oversight." The Wireless Telecommunications Bureau addressed all of these potential impacts in its Final Programmatic Environmental Assessment for the Antenna Structure Registration Program (PEA), and did not find any to be significant. Tempe's own comments, moreover, confirm that backup generators are already subject to extensive local, State, and Federal regulation, suggesting that further oversight from the Commission would not meaningfully augment existing environmental safeguards. In assessing environmental effect, an agency may factor in an assumption that the action is performed in compliance with other applicable regulatory requirements in the absence of a basis in the record beyond mere speculation that the action threatens violations of such requirements. Tempe's comments support the Commission's conclusion that such regulations applicable to backup generators address Tempe's concerns. The Commission finds that cell sites with such generators will rarely if ever be grouped in sufficient proximity to present a risk of cumulative effects.

8. The Commission finds no reason to interpret "antenna" in the Note 1 NEPA collocation categorical exclusion to omit backup generators or other kinds of backup power equipment. The Commission finds that the term "antenna" as used in the categorical exclusion should be interpreted to encompass the on-site equipment associated with the antenna, including backup power sources. Further, the need for such power sources at tower sites is largely undisputed, as backup power is critical for continued service in the event of natural disasters or other power disruptions—times when the need and demand for such service is often at its greatest. The Commission amends Note 1 to clarify that the categorical exclusion encompasses equipment associated with the antenna, including the critical component of backup power.

9. Finally, the Commission notes that sections 1.1306(b)(1)–(3) and 1.1307(c) and (d) of its rules provide for situations where environmental concerns are presented and, as called for by the requirement that categorical exclusions include consideration of extraordinary circumstances, closer scrutiny and potential additional environmental review are appropriate. The Commission concludes that individual cases presenting extraordinary circumstances in which collocated generators or other associated equipment may have a significant effect on the environment, including cases in which closely spaced generators may have a significant cumulative effect or where the deployment of such generators would violate local codes in a manner that raises environmental concerns, will be adequately addressed through these provisions.

b. Antennas Mounted in the Interior of Buildings

10. The Commission clarifies that the existing NEPA categorical exclusion for mounting antennas "on" existing buildings applies to installations in the interior of existing buildings. An antenna mounted on a surface inside a building is as much "on" the building as an antenna mounted on a surface on the exterior, and the Commission finds nothing in the language of the categorical exclusion, in the adopting order, or in the current record supporting a distinction between collocations on the exterior or in the interior that would limit the scope of the categorical exclusion to exterior collocations. To the contrary, it is even more likely that indoor installations will have no significant environmental effects in the environmentally sensitive areas in which proposed deployments would generally trigger the need to prepare an EA, such as wilderness areas, wildlife preserves, and flood plains. The existing Note 1 collocation categorical exclusion reflects a finding that collocations do not individually or cumulatively have a significant effect on

the human environment, even if they would otherwise trigger the requirement of an EA under the criteria identified in sections 1.1307(a)(1)–(3) and (5)–(8). The Commission finds that this conclusion applies equally or even more strongly to an antenna deployed inside a building than to one on its exterior, since the building's exterior structure would serve as a buffer against any effects. The Commission notes that the First Responder Network Authority (FirstNet), the National Telecommunications and Information Administration (NTIA), and other agencies have adopted categorical exclusions covering internal modifications and equipment additions inside buildings and structures. For example, in adopting categorical exclusions as part of its implementation of the Broadband Technology Opportunities Program, NTIA noted that excluding interior modifications and equipment additions reflects long-standing categorical exclusions and administrative records, including in particular "the legacy categorical exclusions from the U.S. Department of Agriculture, U.S. Department of Homeland Security, and the Federal Emergency Management Agency." While a Federal agency cannot apply another agency's categorical exclusion to a proposed Federal action, it may substantiate a categorical exclusion of its own based on another agency's experience with a comparable categorical exclusion. This long-standing practice of numerous agencies that conduct comparable activities, reflecting experience that confirms the propriety of the categorical exclusion, provides further support for the conclusion that internal collocations will not individually or cumulatively have a significant effect on the human environment. With respect to Tempe's concern about generators being placed inside buildings as the result of collocations, the Commission relies on local building, noise, and safety regulations to address these concerns, and the Commission anticipates that such regulations will almost always require generators to be outside of any residential buildings where their use would present health or safety concerns or else place very strict requirements on any placement in the interior. The Commission finds it appropriate to amend Note 1 to clarify that the Note 1 collocation categorical exclusion applies to the mounting of antennas in the interior of buildings as well as the exterior.

c. Antennas Mounted on Other Structures

11. The Commission adopts its proposal to extend the categorical exclusion for collocations on towers and buildings to collocations on other existing man-made structures. The Commission concludes that deployments covered by this extension will not individually or cumulatively have a significant impact on the human environment. The Commission updates the categorical exclusion adopted as part of Note 1 in 1986 to reflect the modern development of wireless technologies that can be collocated on a much broader range of existing structures. This measure will facilitate collocations and speed deployment of wireless broadband to consumers without significantly affecting the environment.

12. In finding that it is appropriate to broaden the categorical exclusion contained in section 1.1306 Note 1 to apply to other structures, the Commission relies in part on its prior findings regarding the environmental effects of collocations. In implementing NEPA requirements in 1974, for example, the Commission found that mounting an antenna on an existing building or tower "has no significant aesthetic effect and is environmentally preferable to the construction of a new tower, provided there is compliance with radiation safety standards." In revising its NEPA rules in 1986, the Commission found that antennas mounted on towers and buildings are among those deployments that will normally have no significant impact on the environment. The Commission notes in particular that collocations will typically add only marginal if any extra height to a structure, and that in 2011, in a proceeding addressing the Commission's NEPA requirements with respect to migratory birds, the Commission reaffirmed that collocations on towers and buildings are unlikely to have environmental effects and thus such collocations are categorically excluded from review for impact on birds. Further, given that towers and buildings are typically much taller than other man-made structures on which antennas will be collocated, the Commission expects that there will be even less potential for significant effects on birds from collocations on such other structures.

13. In the *Infrastructure NPRM,* the Commission tentatively concluded that the same determination applies with regard to collocations on other structures such as utility poles and water towers. Numerous commenters support this determination, and opponents offer no persuasive basis to distinguish the environmental effects of collocations on antenna towers and buildings from the effects of collocations on other existing structures. Indeed, in this regard, the Commission notes that buildings and towers, which are already excluded under Note 1, are typically taller than structures such as utility poles and road signs. While some commenters raise concerns about possible water-tank contamination or driver distraction, these concerns do not present persuasive grounds to limit the categorical exclusion. Under sections 1.1306(a) and (b), collocations on structures such as water tanks and road signs are already categorically excluded from the obligation to file an EA unless they occur in the environmentally sensitive circumstances identified in sections 1.1307(a) or (b) (such as in wildlife preserves or flood plains). Nothing in the record leads the Commission to find that collocations in such sensitive areas that currently require EAs present greater risks of water tank contamination or driver distraction than collocations outside such areas. For similar reasons, the Commission is also not persuaded by Springfield's argument that extending the categorical exclusion to other structures without "qualifying delimitations for how DAS facilities are defined and where they may be installed may have unacceptable impacts on historic and other sensitive neighborhoods." Springfield offers no argument to explain why the NEPA categorical exclusion for collocations on utility poles should be more restrictive than the exclusion for collocations on buildings. Moreover, the Commission notes that the NEPA categorical exclusion the Commission addresses here does not exclude the proposed collocation from NHPA review for effects on historic properties or historic districts.

14. The Commission also notes that the exclusion from section 106 review in the Collocation Agreement is not limited to collocations on towers and buildings but also specifically includes collocations on other existing non-tower structures. Further, the U.S. Fish and Wildlife Service has found collocations on existing non-tower structures to be environmentally desirable with regard to impacts on birds, noting that they will in virtually every circumstance have less impact than would construction of a new tower.

15. Considering that collocating on these structures is necessary for broadband deployment, and in light of the environmental benefits of

encouraging collocation rather than the construction of new structures, the Commission finds that extending the categorical exclusion to other structures advances the public interest and meets its obligations under NEPA.

3. Categorical Exclusion of Deployments in Communications or Utilities Rights-of-Way

16. The Commission adopts a categorical exclusion for certain wireless facilities deployed in above-ground utility and communications rights-of-way. The Commission finds that such deployments will not individually or cumulatively have a significant effect on the environment. Given that DAS and small-cell nodes are often deployed in communications and utilities rights-of-way, the Commission concludes that the categorical exclusion will significantly advance the deployment of such facilities in a manner that safeguards environmental values.

17. Specifically, this categorical exclusion, which the Commission incorporates into its rules as section 1.1306(c), covers construction of wireless facilities, including deployments on new or replacement poles, only if: (1) The facility will be located in a right-of-way that is designated by a Federal, State, local, or Tribal government for communications towers, above-ground utility transmission or distribution lines, or any associated structures and equipment; (2) the right-of-way is in active use for such designated purposes; and (3) the facility will not constitute a substantial increase in size over existing support structures that are located in the right-of-way within the vicinity of the proposed construction.

18. Although the Commission sought comment, in the *Infrastructure NPRM,* on whether to adopt a categorical exclusion that covered facilities also located within fifty feet of a communications or utility right-of-way, similar to the exclusion from section 106 review in section III.E. of the National Programmatic Agreement (NPA), the Commission limits its NEPA categorical exclusion to facilities deployed within existing communications and utility rights-of-way. Industry commenters that support applying the categorical exclusion to deployments within fifty feet of a right-of-way do not explain why the conclusion that deployments in the right-of-way will not have a significant effect on the human environment also apply outside of a right-of-way. Such ground would not necessarily be in active use for the designated purposes, and there could well be a greater potential outside the right-of-way for visual impact or new or significant ground disturbance that might have the potential for significant environmental effects. Finally, the record supports the conclusion that a categorical exclusion limited to deployments within the rights-of-way will address most of the deployments that would be covered by a categorical exclusion that also encompassed deployments nearby. Sprint, for example, emphasizes that "many DAS and small cells will be attached to existing structures and installed *within utility rights-of-way corridors.*"

19. For purposes of this categorical exclusion, the Commission defines a substantial increase in size in similar fashion to how it is defined in the Collocation Agreement. Thus, a deployment would result in a substantial increase in size if it would: (1) Exceed the height of existing support structures that are located in the right-of-way within the vicinity of the proposed construction by more than 10% or twenty feet, whichever is greater; (2) involve the installation of more than four new equipment cabinets or more than one new equipment shelter; (3) add an appurtenance to the body of the structure that would protrude from the edge of the structure more than twenty feet, or more than the width of the structure at the level of the appurtenance, whichever is greater (except that the deployment may exceed this size limit if necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable); or (4) involve excavation outside the current site, defined as the area that is within the boundaries of the leased or owned property surrounding the deployment or that is in proximity to the structure and within the boundaries of the utility easement on which the facility is to be deployed, whichever is more restrictive.

20. The Commission notes that it has found a similar test appropriate in other contexts, including under its environmental rules. In particular, the first three criteria that the Commission specifies above to define the scope of the NEPA rights-of-way categorical exclusion also define the scope of the rights-of-way exclusion from historic preservation review under the NPA. Similarly, for purposes of Antenna Structure Registration, the Commission does not require environmental notice for a proposed tower replacement if, among other criteria, the deployment will not cause a substantial increase in size under the first three criteria of the Collocation Agreement, and there will be no construction or excavation more than 30 feet beyond the existing antenna structure property. Further, given that the industry now has almost a decade of experience applying this substantial increase test to construction in the rights-of-way under the NPA exclusion, and in light of the efficiencies to be gained from using a similar test here, the Commission finds the Collocation Agreement test, as modified here, to be appropriate in this context.

21. The Commission concludes that facilities subject to this categorical exclusion will not have a significant effect on the environment either individually or cumulatively, and that the categorical exclusion is appropriate. In the *NPA Report and Order,* 70 FR 556 Jan 4, 2005, the Commission found that excluding construction in utilities or communications rights-of-way from historic preservation review was warranted because, "[w]here such structures will be located near existing similar poles, . . . the likelihood of an incremental adverse impact on historic properties is minimal." The Commission finds that the potential incremental impacts on the environment are similarly minimal. Indeed, deploying these facilities should rarely involve more than minimal new ground disturbance, given that constructing the existing facilities likely disturbed the ground already and given the limitations on the size of any new poles. Moreover, any new pole will also cause minimal visual effect because by definition comparable structures must already exist in the vicinity of the new deployment in that right-of-way, and new poles covered by this categorical exclusion will not be substantially larger. Further, because such corridors are already employed for utility or communications uses, and the new deployments will be comparable in size to such existing uses, these additional uses are unlikely to trigger new NEPA concerns. Any such concerns would have already been addressed when such corridors were established, and the size of the deployments the Commission categorically excludes will not be substantial enough to raise the prospect of cumulative effects.

22. The Commission also finds support for these conclusions in the categorical exclusions adopted by other agencies, including FirstNet. In establishing its own categorical exclusions, FirstNet noted as part of its Administrative Record that its anticipated activities in constructing a nationwide public safety broadband network would primarily include "the installation of cables, cell towers, antenna collocations, buildings, and

power units," for example in connection with "Aerial Plant/Facilities," "Towers," "Collocations," "Power Units," and "Wireless Telecommunications Facilit[ies.]" It defined a "Wireless Telecommunications Facility" as "[a]n installation that sends and/or receives radio frequency signals, including directional, omni-directional, and parabolic antennas, structures, or towers (no more than 199 feet tall with no guy wires), to support receiving and/or transmitting devices, cabinets, equipment rooms, accessory equipment, and other structures, and the land or structure on which they are all situated." To address its NEPA obligations in connection with these activities, FirstNet adopted a number of categorical exclusions, including a categorical exclusion for "[c]onstruction of wireless telecommunications facilities involving no more than five acres (2 hectares) of physical disturbance at any single site." In adopting this categorical exclusion, FirstNet found that it was "supported by long-standing categorical exclusions and administrative records. In particular, these include categorical exclusions from the U.S. Department of Commerce, U.S. Department of Agriculture, and U.S. Department of Energy."

23. The Commission finds that FirstNet's anticipated activities encompass the construction of wireless facilities and support structures in the rights-of-way, and are therefore comparable to the wireless facility deployments the Commission addresses here. Further, the Commission notes that the categorical exclusions adopted by FirstNet are broader in scope than the categorical exclusion the Commission adopts for facilities deployed within existing rights-of-way. The Commission further notes that several other agencies have found it appropriate to categorically exclude other activities in existing rights-of-way unrelated to telecommunications.

24. The Commission finds that the categorical exclusion addresses some concerns raised by municipalities, and the Commission finds that other concerns they raise are not relevant to the environmental review process. First, the Commission notes that the categorical exclusion it adopts addresses Coconut Creek's objection to above-ground deployments in areas with no above-ground infrastructure because the Commission limits it to rights-of-way in active use for above-ground utility structures or communications towers. Second, concerns about hazards to vehicular or pedestrian traffic are logically inapplicable. As the Commission noted in connection with deployments on structures other than communications towers and buildings, such concerns do not currently warrant the submission of an EA. Rather, EAs are routinely required for deployments in communications or utility rights-of-way only if they meet one of the criteria specified in section 1.1307(a) or (b). Deployments in the communications or utility rights-of-way have never been identified in the Commission's rules as an environmentally sensitive category; indeed, the use of such rights-of-way for antenna deployments is environmentally desirable as compared to deployments in other areas. Finally, the Commission finds it unnecessary to adopt Tempe's proposed limitation, whether it is properly understood as a proposal to categorically exclude only one non-substantial increase at a particular site or in the same general vicinity, as such limitation has proven unnecessary in the context of historic preservation review. Having concluded that wireless facility deployments in communications or utility rights-of-way have no potentially significant environmental effects individually or cumulatively, the Commission finds no basis to limit the number of times such a categorical exclusion is used either at a particular site or in the same general vicinity. Indeed, the categorical exclusion encourages an environmentally responsible approach to deployment given that, as Note 1 and section 1.1306(c) make clear, the use of existing corridors "is an environmentally desirable alternative to the construction of new facilities." And, apart from environmental considerations, it would be contrary to the public interest to unnecessarily limit the application of this categorical exclusion.

25. To the extent that commenters propose extending the Note 1 aerial and underground corridor categorical exclusion to include components of telecommunications systems other than wires and cables, the Commission declines to do so. The Commission finds that the new section 1.1306(c) categorical exclusion the Commission adopts for deployments in communications or utilities rights-of-way will provide substantial and appropriate relief, and that the record in this proceeding does not justify a further expansion of the Note 1 categorical exclusion. Further, the existing Note 1 categorical exclusion for wires and cables in underground and aerial corridors is broader than the categorical exclusion for installations on existing buildings or antenna towers because it is not limited by section 1.1307(a)(4) (section 106 review) or 1.1307(b) (RF emissions), while collocations on existing buildings or towers are subject to these provisions. The Commission notes that even parties advocating an extension of the categorical exclusion for installation of wire and cable to additional telecommunications components concede that the extension should not apply to review of RF emissions exposure, as the existing categorical exclusion does. This distinction underscores that the existing categorical exclusion of cables and wires in aerial and underground corridors is based on an analysis that does not directly apply to other communications facilities.

B. NHPA Exclusions

1. Regulatory Background

26. Section 1.1307(a)(4) of the Commission's rules directs licensees and applicants, when determining whether a proposed action may affect historic properties, to follow the procedures in the rules of the Advisory Council on Historic Preservation (ACHP) as modified by the Collocation Agreement and the NPA, two programmatic agreements that took effect in 2001 and 2005, respectively. The Collocation Agreement excludes collocations on buildings or other non-tower structures outside of historic districts from routine section 106 review unless: (1) The structure is inside the boundary of a historic district, or it is within 250 feet of the boundary of a historic district and the antenna is visible from ground level within the historic district; (2) the structure is a designated National Historic Landmark or is listed in or eligible for listing in the National Register of Historic Places (National Register); (3) the structure is over 45 years old; or (4) the proposed collocation is the subject of a pending complaint alleging adverse effect on historic properties.

2. New Exclusions

27. In addition to seeking comment on whether the Commission should add an exclusion from section 106 review for DAS and small cells generally, the *Infrastructure NPRM* sought comment on whether to expand the existing categorical exclusion for collocations to cover collocations on structures subject to review solely because of the structure's age—that is, to deployments that are more than 45 years old but that are not (1) inside the boundary of a historic district, or within 250 feet of the boundary of a historic district; (2) located on a structure that is a

designated National Historic Landmark or is listed in or eligible for listing in the National Register; or (3) the subject of a pending complaint alleging adverse effect on historic properties.

28. As an initial matter, the Commission finds no basis to hold categorically that small wireless facilities such as DAS and small cells are not Commission undertakings. While PCIA argues that small facilities could be distinguished, it does not identify any characteristic of such deployments that logically removes them from the analysis applicable to other facilities. Having determined that DAS and small cell deployments constitute Federal undertakings subject to section 106, the Commission considers its authority based on section 800.3(a)(1) of ACHP's rules to exclude such small facility deployments from section 106 review. It is clear under the terms of section 800.3(a)(1) that a Federal agency may determine that an undertaking is a type of activity that does not have the potential to cause effects to historic properties, assuming historic properties were present, in which case, "the agency has no further obligations under section 106 or this part [36 part 800, subpart B]."

29. The commenters that propose a general exclusion for DAS and small cell deployments assert that under any circumstances, such deployments have the potential for at most minimal effects, but they do not provide evidence to support such a broad conclusion. Moreover, several commenters, including several SHPOs, express concerns that such deployments do have the potential for effects in some cases. The Commission cannot find on this record that DAS and small-cell facilities qualify for a general exclusion, and the Commission therefore concludes, after consideration of the record, that any broad exclusion of such facilities must be implemented at this time through the development of a "program alternative" as defined under ACHP's rules. The Commission is committed to making deployment processes as efficient as possible without undermining the values that section 106 protects. The Commission staff are working on a program alternative that, through consultation with stakeholders, will ensure thorough consideration of all applicable interests, and will culminate in a system that eliminates additional bureaucratic processes for small facilities to the greatest extent possible consistent with the purpose and requirements of section 106.

30. The Commission further concludes that it is in the public interest to immediately adopt targeted exclusions from its section 106 review process that will apply to small facilities (and in some instances larger antennas) in many circumstances and thereby substantially advance the goal of facilities deployment. The Commission may exclude activities from section 106 review upon determining that they have no potential to cause effects to historic properties, assuming such properties are present. As discussed in detail below, the Commission finds two targeted circumstances that meet this test, one applicable to utility structures and the other to buildings and any other non-tower structures. Pursuant to these findings the Commission establishes two exclusions.

31. First, the Commission excludes collocations on existing utility structures, including utility poles and electric transmission towers, to the extent they are not already excluded in the Collocation Agreement, if: (1) The collocated antenna and associated equipment, when measured together with any other wireless deployment on the same structure, meet specified size limitations; and (2) the collocation will involve no new ground disturbance. Second, the Commission excludes collocations on a building or other non-tower structure, to the extent they are not already excluded in the Collocation Agreement, if: (1) There is an existing antenna on the building or other structure; (2) certain requirements of proximity to the existing antenna are met, depending on the visibility and size of the new deployment; (3) the new antenna will comply with all zoning conditions and historic preservation conditions on existing antennas that directly mitigate or prevent effects, such as camouflage or concealment requirements; and (4) the deployment will involve no new ground disturbance. With respect to both of these categories—utility structures and other non-tower structures—the Commission extends the exclusion only to deployments that are not (1) inside the boundary of a historic district, or within 250 feet of the boundary of a historic district; (2) located on a structure that is a designated National Historic Landmark or is listed in or eligible for listing in the National Register; or (3) the subject of a pending complaint alleging adverse effect on historic properties. In other words, these exclusions address collocations on utility structures and other non-tower structures where historic preservation review would otherwise be required under existing rules only because the structures are more than 45 years old. The Commission's action here is consistent with its determination in the NPA to apply a categorical exclusion based upon a structure's proximity to a property listed in or eligible to be listed in the National Register rather than whether a structure is over 45 years old regardless of eligibility. Consistent with section 800.3(a)(1), the Commission finds collocations meeting the conditions stated above have no potential to affect historic properties even if such properties are present. The Commission nevertheless finds it appropriate to limit the adopted exclusions. Given the sensitivities articulated in the record, particularly those from the National Conference of State Historic Preservation Officers (NCSHPO) and other individual commenting SHPOs, regarding deployments in historic districts or on historic properties, the Commission concludes that any broader exclusions require additional consultation and consideration, and are more appropriately addressed and developed through the program alternative process that Commission staff have already begun.

a. Collocations on Utility Structures

32. Pursuant to section 800.3(a)(1) of ACHP's rules, the Commission finds that antennas mounted on existing utility structures have no potential for effects on historic properties, assuming such properties are present, where the deployment meets the following conditions: (1) The antenna and any associated equipment, when measured together with any other wireless deployments on the same structure, meets specified size limitations; and (2) the deployment will involve no new ground disturbance. Notwithstanding this finding of no potential for effects even assuming historic properties are present, the Commission limits this exclusion (as described above) in light of the particular sensitivities related to historic properties and districts. Accordingly, this exclusion does not apply to deployments that are (1) inside the boundary of a historic district, or within 250 feet of the boundary of a historic district; (2) located on a structure that is a designated National Historic Landmark or is listed in or eligible for listing in the National Register; or (3) the subject of a pending complaint alleging adverse effect on historic properties. In other words, this new targeted exclusion addresses collocations on utility structures where historic preservation review would otherwise be required under existing rules only because the structures are more than 45 years old.

33. For purposes of this exclusion, the Commission defines utility structures as utility poles or electric transmission towers in active use by a "utility" as defined in section 224 of the Communications Act, but not including light poles, lamp posts, and other structures whose primary purpose is to provide public lighting. Utility structures are, by their nature, designed to hold a variety of electrical, communications, or other equipment, and they already hold such equipment. Their inherent characteristic thus incorporates the support of attachments, and their uses have continued to evolve with changes in technology since they were first used in the mid-19th century for distribution of telegraph services. Indeed, the Commission notes that other, often larger facilities are added to utility structures without review. For example, deployments of equipment supporting unlicensed wireless operations like Wi-Fi access occur without the Commission's section 106 review in any case, as do installations of non-communication facilities such as municipal traffic management equipment or power equipment such as electric distribution transformers. The addition of DAS or small cell facilities to these structures is therefore fully consistent with their existing use.

34. While the potential for effects from any deployments on utility structures is remote at most, the Commission concludes that the additional conditions described above support a finding that there is no such potential at all, assuming the presence of historic properties. First, the Commission limits the size of equipment covered by this exclusion. In doing so, the Commission draws on a PCIA proposal, which includes separate specific volumetric limits for antennas and for enclosures of associated equipment, but the Commission modifies the definition in certain respects to meet the standard in ACHP's rules that the undertaking must have no potential for effects. Specifically, the Commission provides that the deployment may include covered antenna enclosures no more than three cubic feet in volume per enclosure, or exposed antennas that fit within an imaginary enclosure of no more than three cubic feet in volume per imaginary enclosure, up to an aggregate maximum of six cubic feet. The Commission further provides that all equipment enclosures (or imaginary enclosures) associated with the collocation on any single structure, including all associated equipment but not including separate antennas or enclosures for antennas, must be limited cumulatively to seventeen cubic feet in volume. Further, collocations under this rule will be limited to collocations that cause no new ground disturbance.

35. Because the Commission finds that multiple collocations on a utility structure could have a cumulative impact, the Commission further applies the size limits defined above on a cumulative basis taking into account all pre-existing collocations. Specifically, if there is a pre-existing wireless deployment on the structure, and any of this pre-existing equipment would remain after the collocation, then the volume limits apply to the cumulative volume of such pre-existing equipment and the new collocated equipment. Thus, for the new equipment to come under this exclusion, the sum of the volume of all pre-existing associated equipment that remains after the collocation and the new equipment must be no greater than seventeen cubic feet, and the sum of the volume of all collocated antennas, including pre-existing antennas that remain after the collocation, must be no greater than six cubic feet. The Commission further provides that the cumulative limit of seventeen cubic feet for wireless equipment applies to all equipment on the ground associated with an antenna on the structure as well as associated equipment physically on the structure. Thus, application of the limit is the same regardless of whether equipment associated with a particular deployment is deployed on the ground next to a structure or on the structure itself. While some commenters oppose an exclusion based solely on PCIA's volumetric definition, the Commission finds that the Commission's exclusion addresses their concerns. For example, Tempe and the CA Local Governments express concern that PCIA's definition would allow an unlimited number of ground-mounted cabinets. The Commission's approach provides that associated ground equipment must also come within the volumetric limit for equipment enclosures, however, and therefore does not allow for unlimited ground-based equipment. Further, because the Commission applies the size limit on a cumulative basis, the Commission's exclusion directly addresses concerns that the PCIA definition would allow multiple collocations that cumulatively exceed the volumetric limits. Consistent with a proposal by PCIA, the Commission finds that certain equipment should be omitted from the calculation of the equipment volume, including: (1) Vertical cable runs for the connection of power and other services, the volume of which may be impractical to calculate and which should in any case have no effect on historic properties, consistent with the established exclusion of cable in pre-existing aerial or underground corridors; (2) ancillary equipment installed by other entities that is outside of the applicant's ownership or control, such as a power meter installed by the electric utility in connection with the wireless deployment, and (3) comparable equipment from pre-existing wireless deployments on the structure.

36. To meet the standard under section 800.3(a)(1), the Commission further imposes a requirement of no new ground disturbance, consistent for the most part with the NPA standard. Under the NPA standard, no new ground disturbance occurs so long as the depth of previous disturbance exceeds the proposed construction depth (excluding footings and other anchoring mechanisms) by at least two feet. The Commission finds that footings and anchorings should be included in this context to ensure no potential for effects. Therefore, the Commission's finding is limited to cases where there is no ground disturbance or the depth and width of previous disturbance exceeds the proposed construction depth and width, including the depth and width of any proposed footings or other anchoring mechanisms, by at least two feet. Some Tribal Nations have indicated that exclusions of small facilities from section 106 review might be reasonable if there is no excavation but that any ground disturbance would be cause for concern. The Commission finds that the restrictions it places on both of the Commission's new section 106 exclusions are sufficient to address this concern and ensure that there is no potential for effects on historic properties of Tribal religious or cultural significance. These restrictions include a strict requirement for both exclusions of no new ground disturbance and restrictions on the size and placement of equipment. Furthermore, both exclusions are limited to collocations (and therefore do not include new or replacement support structures).

37. Adoption of this exclusion will provide significant efficiencies in the section 106 process for DAS and small-cell deployments. Many DAS and small-cell installations involve collocations on utility structures. PCIA also estimates that excluding collocations on these wooden poles would increase the estimated number of excluded collocation structures by a factor of 10—which would dramatically advance wireless infrastructure deployment

without impacting historic preservation values.

b. Collocations on Buildings and Other Non-Tower Structures

38. Verizon proposes an exclusion for collocations on any building or other structure over 45 years old if: (1) The antenna will be added in the same location as other antennas previously deployed; (2) the height of the new antenna will not exceed the height of the existing antennas by more than three feet, or the new antenna will not be visible from the ground regardless of the height increase; and (3) the new antenna will comply with any requirements placed on the existing antennas by the State or local zoning authority or as a result of any previous historic preservation review process.

39. Section 800.3(a)(1) of ACHP rules authorizes an exclusion only where the undertaking does not have the potential to cause effects on historic properties, assuming such historic properties are present. While the Commission concludes that this standard allows for an exclusion applicable to many collocations on buildings and other structures that already house collocations, the Commission finds insufficient support in the record to adopt Verizon's proposed exclusion in its entirety. While Verizon states that adding an antenna to a building within the scope of its proposal would not have an effect that differs from those caused by existing antennas, the Commission must also consider the cumulative effects of additional deployments on the integrity of a historic property to the extent that they add incompatible visual elements. Further, while Verizon relies heavily on the requirement that any new deployment must meet the same conditions as the existing deployment, the Commission cannot assume that conditions placed on a previous deployment are always sufficient to prevent any effects, particularly in the event of multiple additional deployments. Indeed, it is often the case that mitigating conditions are designed to offset effects rather than eliminate or reduce them entirely. The Commission concludes that with certain modifications to Verizon's proposal, deployments covered by the test would have no potential for effects.

40. Specifically, the Commission finds that collocations on buildings or other non-tower structures over 45 years old will have no potential for effects on historic properties if: (1) There is an existing antenna on the building or structure; (2) one of the following criteria is met: (a) The new antenna will not be visible from any adjacent streets or surrounding public spaces and will be added in the same vicinity as a pre-existing antenna; (b) the new antenna will be visible from adjacent streets or surrounding public spaces, provided that (i) it will replace a pre-existing antenna, (ii) the new antenna will be located in the same vicinity as the pre-existing antenna, (iii) the new antenna will be visible only from adjacent streets and surrounding public spaces that also afford views of the pre-existing antenna, (iv) the new antenna will not be more than three feet larger in height or width (including all protuberances) than the pre-existing antenna, and (v) no new equipment cabinets will be visible from the adjacent streets or surrounding public spaces; or (c) the new antenna will be visible from adjacent streets or surrounding public spaces, provided that (i) it will be located in the same vicinity as a pre-existing antenna, (ii) the new antenna will be visible only from adjacent streets and surrounding public spaces that also afford views of the pre-existing antenna, (iii) the pre-existing antenna was not deployed pursuant to the exclusion based on this finding, (iv) the new antenna will not be more than three feet larger in height or width (including all protuberances) than the pre-existing antenna, and (v) no new equipment cabinets will be visible from the adjacent streets or surrounding public spaces; (3) the new antenna will comply with all zoning conditions and historic preservation conditions applicable to existing antennas in the same vicinity that directly mitigate or prevent effects, such as camouflage or concealment requirements; and (4) the deployment of the new antenna will involve no new ground disturbance. Notwithstanding its finding of no potential for effects even assuming historic properties are present, the Commission limits this exclusion in light of many parties' particular sensitivities related to historic properties and districts. As with the exclusion for collocations on utility poles, this exclusion does not apply to deployments that are (1) inside the boundary of a historic district, or within 250 feet of the boundary of a historic district; (2) located on a structure that is a designated National Historic Landmark or is listed in or eligible for listing in the National Register; or (3) the subject of a pending complaint alleging adverse effect on historic properties. In other words, this new targeted exclusion addresses collocations on non-tower structures where historic preservation review would otherwise be required under existing rules only because the structures are more than 45 years old.

41. Consistent with the Verizon proposal, the Commission requires that there must already be an antenna on the building or other structure and that the new antenna be in the same vicinity as the pre-existing antenna. For this purpose, a non-visible new antenna is in the "same vicinity" as a pre-existing antenna if it will be collocated on the same rooftop, façade or other surface, and a visible new antenna is in the "same vicinity" as a pre-existing antenna if it is on the same rooftop, façade, or other surface and the centerpoint of the new antenna is within 10 feet of the centerpoint of the pre-existing antenna. Combined with the other criteria discussed below, this requirement is designed to assure that a new antenna will not have any incremental effect on historic properties, assuming they exist, as there will be no additional incompatible elements.

42. In addition to Verizon's proposed requirement that the deployment be in the same vicinity as an existing antenna, the Commission also adopts a condition of no-visibility from adjoining streets or any surrounding public spaces, with two narrow exceptions. For the general case, the Commission's no-effects finding will apply only to a new antenna that is not visible from any adjacent streets or surrounding public spaces and is added in the same vicinity as a pre-existing antenna. In adopting this standard, the Commission is informed by the record and also in part by General Services Administration (GSA) Preservation Note 41, entitled "Administrative Guide for Submitting Antenna Projects for External Review." Preservation Note 41 recommends that an agency may recommend a finding of no effect where the antenna will not be visible from the surrounding public space or streets and the antenna will not harm original historic materials or their replacements-in-kind. The Commission notes that, in addition to the measures ensuring that there are no incremental visual effects from covered facilities, the Commission's finding of no effects in this case is also implicitly based on a requirement, as the GSA Note recommends, that the deployment will not harm original historic materials. Even assuming a building is historic, however, as required by section 800.3(a)(1), this "no harm" criterion would be satisfied by ensuring that any anchoring on the building was not performed on the historic materials of the property or their replacements-in-kind. It is therefore unnecessary to expressly impose a "no harm" condition

in this case, as the exclusion the Commission adopts does not apply to historic properties. Necessarily, any anchoring of deployments subject to the exclusion will not be in any historic materials of the property. The Commission also notes that, under the criteria the Commission adopts, the deployment will occur only where another antenna has already been reviewed under section 106 and approved for deployment in the same vicinity, and any conditions imposed on that prior deployment to minimize or eliminate historic impact, including specifications of where, how, or under what conditions to construct, are part of the Commission's "no effect" finding and would apply as a condition of the exclusion.

43. The Commission makes a narrow exception to the no-visibility requirement where the new antenna would replace an existing antenna in the same vicinity and where the addition of the new antenna would not constitute a substantial increase in size over the replaced antenna. In this situation, no additional incompatible visual element is being added, as one antenna is a substitution for the other. The Commission permits an insubstantial increase in size in this situation. For purposes of this criterion, the replacement facility would represent a substantial increase in size if it is more than three feet larger in height or width (including all protuberances) than the existing facility, or if it involves any new equipment cabinets that are visible from the street or adjacent public spaces. The Commission declines to adopt the NPA definition of "substantial increase," which allows greater increases in height or width in some cases, because it applies to towers, not to antenna deployments, and it is therefore overbroad with respect to the replacement of an existing antenna. The Commission further notes that no one has objected to Verizon's proposed limit on increases of three feet in this context. Also, since the Commission is required to ensure no potential for effects on historic properties assuming such properties are present, the Commission finds it appropriate to adopt a more stringent test than in the context of a program alternative. For these reasons, any increase in the number of equipment cabinets that are visible from the street or adjacent public spaces in connection with a replacement antenna constitutes a substantial increase in size. In combination with the requirements that the new antenna be within 10 feet of the replaced antenna and that the pre-existing antenna be visible from any ground perspective that would afford a view of the new antenna these requirements ensure that the replacement deployment will not have an additional visual effect.

44. Under its second partial exception to the no-visibility requirement, the new antenna may be in addition to, rather than a replacement of, a pre-existing antenna, but must meet the other requirements applicable to replacement antennas. The Commission requires that the pre-existing antenna itself not have been deployed pursuant to this exception. While this exception will allow an additional visual element to be added, the element is again limited to a comparably-sized antenna in the same viewshed (and again does not include any new visible associated equipment). Further, because the pre-existing antenna may not itself have been deployed pursuant to this no-effects finding, deployments cannot be daisy-chained across the structure, which might present a potential for cumulative effects.

45. Consistent with the Verizon proposal, the Commission requires that the new antenna comply with all zoning and historic preservation conditions applicable to existing antennas in the same vicinity that directly mitigate or prevent effects, such as camouflage, concealment, or painting requirements. The Commission does not extend that requirement to conditions that have no direct relationship to the facility's effect or how the facility is deployed, such as a condition that requires the facility owner to pay for historic site information signs or other conditions intended to offset harms rather than prevent them. Its goal is to assure that any new deployments have no effects on historic properties. Payments or other forms of mitigation applied to antennas previously deployed on the building or structure that were intended to compensate for any adverse effect on historic properties caused by those antennas but were not intended to prevent that effect from occurring do not advance its goal of assuring no effects from such collocations. The Commission does not require that the new antenna comply with such conditions.

46. As with the exclusion the Commission adopts for collocations on utility structures, the Commission imposes a strict requirement of no new ground disturbance. Thus, the exclusion will permit ground disturbance only where the depth and width of previous disturbance exceeds the proposed construction depth and width (including footings and other anchoring mechanisms) by at least two feet.

3. Antennas Mounted in the Interior of Buildings

47. The Collocation Agreement provides that "[a]n antenna may be mounted on a building" without section 106 review except under certain circumstances, *e.g.*, the building is a historic property or over 45 years of age. The Commission clarifies that section V of the Collocation Agreement covers collocations in buildings' interiors. Given the limited scope of the exclusion of collocations on buildings under the Collocation Agreement (*e.g.*, the building may not itself be listed in or eligible for listing in the National Register or in or near a historic district), there is no reason to distinguish interior collocations from exterior collocations for purposes of assessing impacts on historic properties.

II. Environmental Notification Exemption for Registration of Temporary Towers

48. If pre-construction notice of a tower to the FAA is required, the Commission's rules also require the tower owner to register the antenna structure in the Commission's Antenna Structure Registration (ASR) system, prior to construction or alteration. To fulfill responsibilities under NEPA, the Commission requires owners of proposed towers, including temporary towers that must be registered in the ASR system to provide local and national notice prior to submitting a completed ASR application. Typically, the ASR notice process takes approximately 40 days.

49. On May 15, 2013, in the *Environmental Notification Waiver Order* (*Waiver Order*), the Commission granted an interim waiver of the ASR environmental notification requirements for temporary towers meeting certain criteria. The Commission provided that the interim waiver would remain in effect pending the completion of a rulemaking to address the issues raised in the petition. In the *Infrastructure NPRM*, the Commission proposed to adopt a permanent exemption from the ASR pre-construction environmental notification requirements consistent with the interim exemption granted in the *Waiver Order*.

50. The Commission now adopts a permanent exemption from its ASR environmental notification requirements for temporary towers that (1) will be in place for no more than 60 days; (2) require notice of construction to the FAA; (3) do not require marking or lighting under FAA regulations; (4) will be less than 200 feet in height; and (5) will either involve no excavation or

involve excavation only where the depth of previous disturbance exceeds the proposed construction depth (excluding footings and other anchoring mechanisms) by at least two feet. The Commission finds that establishing the proposed exemption is consistent with its obligations under NEPA and the Council on Environmental Quality (CEQ) regulations, and will serve the public interest.

51. As the Commission observed in the *Infrastructure NPRM,* the ASR notice process takes approximately 40 days and can take as long as two months. The record confirms that absent the exemption, situations would arise where there is insufficient time to complete this process before a temporary tower must be deployed to meet near-term demand. The record, as well as the Commission's own experience in administering the environmental notice rule, shows that a substantial number of temporary towers that would qualify for the exemption require registration. The Commission finds that absent an exemption, application of the ASR notice process to these temporary towers will interfere with the ability of service providers to meet important short term coverage and capacity needs.

52. At the same time, the benefits of environmental notice are limited in the case of temporary towers meeting these criteria. The purpose of environmental notice is to facilitate public discourse regarding towers that may have a significant environmental impact. The Commission finds that towers meeting the specified criteria are highly unlikely to have significant environmental effects due to their short duration, limited height, absence of marking or lighting, and minimal to no excavation. As the Commission explained in the *Waiver Order,* its experience in administering the ASR public notice process confirms that antenna structures meeting the waiver criteria rarely if ever generate public comment regarding potentially significant environmental effects or are determined to require further environmental processing. In particular, since the *Waiver Order* has been in place, the Commission has seen no evidence that a temporary tower exempted from notification by the waiver has had or may have had a significant environmental effect. The Commission finds that the limited benefits of notice in these cases do not outweigh the potential detriment to the public interest of prohibiting the deployment of towers in circumstances in which the notification process cannot be completed quickly enough to address short-term deployment needs. Further, having concluded that pre-construction environmental notification is categorically unnecessary in the situations addressed here, the Commission finds it would be inefficient to require the filing and adjudication of individual waiver requests for these temporary towers. The Commission concludes that adoption of the exemption is warranted.

53. The Commission also adopts the proposal to require no post-construction environmental notice for temporary towers that qualify for the exemption. Ordinarily, when pre-construction notice is waived due to an emergency situation, the Commission requires environmental notification shortly after construction because such a deployment may be for a lengthy or indefinite period of time. The Commission finds that requiring post-construction notification for towers intended to be in place for the limited duration covered by the exemption is not in the public interest as the exempted period is likely to be over or nearly over by the time the notice period ends. Additionally, the Commission notes again that it has rarely seen temporary antenna structures generate public comment regarding potentially significant environmental effects. The Commission further notes that of the many commenters supporting an exemption, none opposed its proposal to exempt qualifying temporary towers from post-construction environmental notification.

54. The Commission finds that the objections to the proposed exemption raised by Lee County, Tempe, and Orange County are misplaced. They express concerns that a temporary towers exemption would eliminate local review (including local environmental review) and antenna structure registration requirements. The exemption the Commission adopts does neither of these things. First, the temporary towers measure does not exempt any deployment from any otherwise applicable requirement under the Commission's rules to provide notice to the FAA, to obtain an FAA "no-hazard" determination, or to complete antenna structure registration. In raising its concern, Orange County notes that it "operates . . . a large regional airport that has recently expanded through construction of a third terminal." The Commission finds the exemption poses no threat to air safety. As noted, deployments remains subject to all applicable requirements to notify the FAA and register the structure in the ASR system. If the Commission or the FAA requires either painting or lighting, *i.e.,* because of a potential threat to aviation, the exemption does not apply. Nor does the exemption impact any local requirements. Further, the Commission provides, as proposed in the *Infrastructure NPRM,* that towers eligible for the notification exemption are still required to comply with the Commission's other NEPA requirements, including filing an EA in any of the environmentally sensitive circumstances identified by the rules. The Commission further provides that if an applicant determines that it needs to complete an EA for a temporary tower otherwise eligible for the exemption, or if the relevant bureau makes this determination pursuant to section 1.1307(c) or (d) of the Commission's rules, the application will not be exempt from the environmental notice requirement.

55. The Commission concludes that making the exemption available for towers less than 200 feet above ground level is appropriate and adequate to ensure that the exemption serves the public interest both by minimizing potential significant environmental effects and by enabling wireless providers to more effectively respond to large or unforeseen spikes in demand for service. CTIA indicates that carriers deploy temporary towers more than 150 feet tall to replace damaged towers of similar height, and that having to use shorter towers to stand in for damaged towers may reduce coverage and thereby limit the availability of service during emergencies. The Commission agrees with CTIA that reducing the maximum tower height could undermine the intended purpose of the exemption. Further, the proposed limit of less than 200 feet will allow appropriate flexibility for taller temporary models, as they become available.

56. The Commission concludes that 60 days is an appropriate time limit for the deployment of towers under this exemption. This time limit has substantial support in the record, and the Commission finds that 60 days strikes the proper balance between making this exemption a useful and effective tool for facilitating urgently needed short term communications deployments and facilitating public involvement in Commission decisions that may affect the environment. The brief duration of the covered deployments renders post-construction notification unnecessary in the public interest because the deployment will be removed by the time a post-construction notice period is complete or shortly thereafter. As the intended deployment period grows, however, the applicability of that reasoning erodes. For emergency deployments that may last up to six months or even longer, post-

construction notice will generally be warranted, as the Commission has indicated previously. Thus, the Commission finds that the existing procedure—*i.e.*, site-specific waivers that are generally conditioned on post-construction notice—remains appropriate for emergency towers that will be deployed for longer periods than those covered by the narrow exemption the Commission establishes in this proceeding.

57. The Commission declines to define consequences or to adopt special enforcement mechanisms for misuse of the exemption, as proposed by some commenters. The Commission agrees with Springfield, however, that the Commission should adopt a measure to prevent the use of consecutive deployments under the exemption to effectively exceed the time limit. The Commission therefore requires that at least 30 days must pass following the removal of one exempted temporary tower before the same applicant may rely on the exemption for another temporary tower covering substantially the same service area. While AT&T argues that the Commission should not adopt measures to prevent "speculative abuses," the Commission concludes that this narrow limitation on the consecutive use of the exemption will help to ensure that it applies only to deployments of brief duration, as intended. Further, the Commission is not persuaded by CTIA's argument that such a restriction would interfere with a carrier's flexibility to respond to unforeseen events. The restriction places no limit on the number of exempt towers that can be deployed at any one time to cover a larger combined service area. The Commission also notes that its rule provides for extensions of the 60-day period in appropriate cases, which should further ensure that applicants have sufficient flexibility to respond to unforeseen events.

58. The Commission further clarifies that under appropriate conditions, such as natural disasters or national emergencies, the relevant bureau may grant waivers of this limitation applicable to defined geographic regions and periods. In addition, a party subject to this limitation at a particular site may still request a site-specific waiver of the notice requirements for a subsequent temporary deployment at that site.

59. To implement the new temporary towers exemption, Commission staff will modify FCC Form 854. The Commission notes that the modification of the form is subject to approval by the Office of Management and Budget (OMB). To ensure clarity, the Commission provides that the exemption will take effect only when the Wireless Telecommunications Bureau issues a Public Notice announcing OMB's approval. The Commission further provides that, until the new exemption is effective, the interim waiver of notification requirements for temporary towers remains available.

III. Implementation of Section 6409(a)

A. Background

60. Congress adopted section 6409 in 2012 as a provision of Title VI of the Middle Class Tax Relief and Job Creation Act of 2012, which is more commonly known as the Spectrum Act. Section 6409(a), entitled "Facility Modifications," has three provisions. Subsection (a)(1) provides that "[n]otwithstanding section 704 of the Telecommunications Act of 1996 [codified as 47 U.S.C. 332(c)(7)] or any other provision of law, a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station." Subsection (a)(2) defines the term "eligible facilities request" as any request for modification of an existing wireless tower or base station that involves (a) collocation of new transmission equipment; (b) removal of transmission equipment; or (c) replacement of transmission equipment. Subsection (a)(3) provides that "[n]othing in paragraph (a) shall be construed to relieve the Commission from the requirements of the National Historic Preservation Act or the National Environmental Policy Act of 1969." Aside from the definition of "eligible facilities request," section 6409(a) does not define any of its terms. Similarly, neither the definitional section of the Spectrum Act nor that of the Communications Act contains definitions of the section 6409(a) terms. In the *Infrastructure NPRM,* the Commission sought comment on whether to address the provision more conclusively and comprehensively. The Commission found that it would serve the public interest to seek comment on implementing rules to define terms that the provision left undefined, and to fill in other interstices that may serve to delay the intended benefits of section 6409(a).

B. Discussion

61. After reviewing the voluminous record in this proceeding, the Commission decides to adopt rules clarifying the requirements of section 6409(a), and implementing and enforcing these requirements, in order to prevent delay and confusion in such implementation. As the Commission noted in the *Infrastructure NPRM,* collocation on existing structures is often the most efficient and economical solution for mobile wireless service providers that need new cell sites to expand their existing coverage area, increase their capacity, or deploy new advanced services. The Commission agrees with industry commenters that clarifying the terms in section 6409 will eliminate ambiguities in interpretation and thus facilitate the zoning process for collocations and other modifications to existing towers and base stations. Although these issues could be addressed over time through judicial decisions, the Commission concludes that addressing them now in a comprehensive and uniform manner will ensure that the numerous and significant disagreements over the provision do not delay its intended benefits.

62. The record demonstrates very substantial differences in the views advanced by local government and wireless industry commenters on a wide range of interpretive issues under the provision. While many localities recommend that the Commission defer to best practices to be developed on a collaborative basis, the Commission finds that there has been little progress in that effort since enactment of section 6409(a) well over two years ago. While the Commission generally encourages the development of voluntary best practices, the Commission is also concerned that voluntary best practices, on their own, may not effectively resolve many of the interpretive disputes or ensure uniform application of the law in this instance. In light of these disputes, the Commission takes this opportunity to provide additional certainty to parties.

63. *Authority.* The Commission finds that it has authority under section 6003 of the Spectrum Act to adopt rules to clarify the terms in section 6409(a) and to establish procedures for effectuating its requirements. The Commission also has broad authority to "take any action necessary to assist [FirstNet] in effectuating its duties and responsibilities" to construct and operate a nationwide public safety broadband network. The rules the Commission adopts reflect the authority conferred by these provisions, as they will facilitate and expedite infrastructure deployment in qualifying cases and thus advance wireless broadband deployment by commercial entities as well as FirstNet.

1. Definition of Terms in Section 6409(a)

a. Scope of Covered Services

64. The Commission first addresses the scope of wireless services to which the provision applies through the definitions of both "transmission equipment" and "wireless tower or base station." After considering the arguments in the record, the Commission concludes that section 6409(a) applies both to towers and base stations and to transmission equipment used in connection with any Commission-authorized wireless communications service. The Commission finds strong support in the record for this interpretation. With respect to towers and base stations, the Commission concludes that this interpretation is warranted given Congress's selection of the broader term "wireless" in section 6409(a) rather than the narrow term "personal wireless service" it previously used in section 332(c)(7), as well as Congress's express intent that the provisions of the Spectrum Act "advance wireless broadband service," promoting "billions of dollars in private investment," and further the deployment of FirstNet. The Commission finds that interpreting "wireless" in the narrow manner that some municipal commenters suggest would substantially undermine the goal of advancing the deployment of broadband facilities and services, and that interpreting section 6409(a) to facilitate collocation opportunities on a broad range of suitable structures will far better contribute to meeting these goals, and is particularly important to further the deployment of FirstNet. The Spectrum Act directs the FirstNet authority, in carrying out its duty to deploy and operate a nationwide public safety broadband network, to "enter into agreements to utilize, to the maximum extent economically desirable, existing . . . commercial or other communications infrastructure; and . . . Federal, State, tribal, or local infrastructure." For all of these reasons, the Commission finds it appropriate to interpret section 6409(a) as applying to collocations on infrastructure that supports equipment used for all Commission-licensed or authorized wireless transmissions.

65. The Commission is not persuaded that Congress's use of the term "base station" implies that the provision applies only to mobile service. As noted in the *Infrastructure NPRM,* the Commission's rules define "base station" as a feature of a mobile communications network, and the term has commonly been used in that context. It is important, however, to interpret "base station" in the context of Congress's intention to advance wireless broadband service generally, including both mobile and fixed broadband services. The Commission notes, for example, that the Spectrum Act directs the Commission to license the new commercial wireless services employing H Block, AWS–3, and repurposed television broadcast spectrum under "flexible-use service rules"—*i.e.,* for fixed as well as mobile use. Moreover, in the context of wireless broadband service generally, the term "base station" describes fixed stations that provide fixed wireless service to users as well as those that provide mobile wireless service. Indeed, this is particularly true with regard to Long Term Evolution (LTE), in which base stations can support both fixed and mobile service. The Commission finds that, in the context of section 6409(a), the term "base station" encompasses both mobile and fixed services.

66. The Commission is also not persuaded that it should exclude "broadcast" from the scope of section 6409(a), both with respect to "wireless" towers and base stations and with respect to transmission equipment. The Commission acknowledges that the term "wireless providers" appears in other sections of the Spectrum Act that do not encompass broadcast services. The Commission does not agree, however, that use of the word "wireless" in section 6409's reference to a "tower or base station" can be understood without reference to context. The Commission interprets the term "wireless" as used in section 6409(a) in light of the purpose of this provision in particular and the larger purposes of the Spectrum Act as a whole. The Commission finds that Congress intended the provision to facilitate collocation in order to advance the deployment of commercial and public safety broadband services, including the deployment of the FirstNet network. The Commission agrees with NAB that including broadcast towers significantly advances this purpose by "supporting the approximately 25,000 broadcast towers as collocation platforms." The Commission notes that a variety of industry and municipal commenters likewise support the inclusion of broadcast towers for similar reasons. Finally, the Commission observes that this approach is consistent with the Collocation Agreement and the NPA, both of which define "tower" to include broadcast towers. These agreements address "wireless" communications facilities and collocation for any "communications" purposes. They extend to any "tower" built for the sole or primary purpose of supporting any "FCC-licensed" facilities. The Commission finds these references particularly persuasive in ascertaining congressional intent, since section 6409(a) expressly references the Commission's continuing obligations to comply with NEPA and NHPA, which form the basis for these agreements.

67. The Commission further concludes that a broad interpretation of "transmission equipment" is similarly appropriate in light of the purposes of section 6409(a) in particular and the Spectrum Act more generally. The statute's Conference Report expresses Congress's intention to advance wireless broadband service generally, and as PCIA states, a broad definition of this term will ensure coverage for all wireless broadband services, including future services not yet contemplated. Defining "transmission equipment" broadly will facilitate the deployment of wireless broadband networks and will "minimize the need to continually redefine the term as technology and applications evolve." The Commission also notes that a broad definition reflects Congress's definition of a comparable term in the context of directly related provisions in the same statute; in section 6408, the immediately preceding provision addressing uses of adjacent spectrum, Congress defined the term "transmission system" broadly to include "any telecommunications, broadcast, satellite, commercial mobile service, or other communications system that employs radio spectrum."

68. The Commission disagrees with commenters who contend that including broadcast equipment within covered transmission equipment does not advance the goals of the Spectrum Act. While broadcast equipment does not itself transmit wireless broadband signals, its efficient collocation pursuant to section 6409(a) will expedite and minimize the costs of the relocation of broadcast television licensees that are reassigned to new channels in order to clear the spectrum that will be offered for broadband services through the incentive auction, as mandated by the Spectrum Act. The Commission concludes that inclusion of broadcast service equipment in the scope of transmission equipment covered by the provision furthers the goals of the legislation and will contribute in particular to the success of the post-incentive auction transition of television broadcast stations to their new channels. The Commission notes that the language of section 6409(a) is broader than that used in section

332(c)(7), and it is reasonable to construe it in a manner that does not differentiate among various Commission-regulated services, particularly in the context of mandating approval of facilities that do not result in any substantial increase in physical dimensions.

69. The Commission further rejects arguments that Congress intended these terms to be restricted to equipment used in connection with personal wireless services and public safety services. The Communications Act and the Spectrum Act already define those narrower terms, and Congress chose not to employ them in section 6409(a), determining instead to use the broader term, "wireless." The legislative history supports the conclusion that Congress intended to employ broader language. In the Conference Report, Congress emphasized that a primary goal of the Spectrum Act was to "advance wireless broadband service," which would "promot[e] billions of dollars in private investment, and creat[e] tens of thousands of jobs." In light of its clear intent to advance wireless broadband deployment through enactment of section 6409(a), the Commission finds it implausible that Congress meant to exclude facilities used for such services.

b. Transmission Equipment

70. The Commission adopts the proposal in the *Infrastructure NPRM* to define "transmission equipment" to encompass antennas and other equipment associated with and necessary to their operation, including power supply cables and backup power equipment. The Commission finds that this definition reflects Congress's intent to facilitate the review of collocations and minor modifications, and it recognizes that Congress used the broad term "transmission equipment" without qualifications that would logically limit its scope.

71. The Commission is further persuaded by wireless industry commenters that power supplies, including backup power, are a critical component of wireless broadband deployment and that they are necessary to ensure network resiliency. Indeed, including backup power equipment within the scope of "transmission equipment" under section 6409(a) is consistent with Congress's directive to the FirstNet Authority to "ensure the . . . resiliency of the network." Tempe's assertion that backup power is not technically "necessary" because transmission equipment can operate without it is unpersuasive. Backup power is certainly necessary to operations during those periods when primary power is intermittent or unavailable. The Commission also concludes that "transmission equipment" should be interpreted consistent with the term "antenna" in the NPA and, given that the NPA term encompasses "power sources" without limitation, the Commission finds that "transmission equipment" includes backup power sources. Finally, while the Commission recognizes the concerns raised by local government commenters regarding the potential hazards of backup power generators, the Commission finds that these concerns are fully addressed in the standards applicable to collocation applications discussed below.

72. The Commission defines "transmission equipment" under section 6409(a) as any equipment that facilitates transmission for any Commission-licensed or authorized wireless communication service, including, but not limited to, radio transceivers, antennas and other relevant equipment associated with and necessary to their operation, including coaxial or fiber-optic cable, and regular and backup power supply. This definition includes equipment used in any technological configuration associated with any Commission-authorized wireless transmission, licensed or unlicensed, terrestrial or satellite, including commercial mobile, private mobile, broadcast, and public safety services, as well as fixed wireless services such as microwave backhaul or fixed broadband.

c. Existing Wireless Tower or Base Station

73. The Commission adopts the definitions of "tower" and "base station" proposed in the *Infrastructure NPRM* with certain modifications and clarifications, in order to give independent meaning to both of these statutory terms, and consistent with Congress's intent to promote the deployment of wireless broadband services. First, the Commission concludes that the term "tower" is intended to reflect the meaning of that term as it is used in the Collocation Agreement. The Commission defines "tower" to include any structure built for the sole or primary purpose of supporting any Commission-licensed or authorized antennas and their associated facilities.

74. As proposed in the *Infrastructure NPRM,* the Commission interprets "base station" to extend the scope of the provision to certain support structures other than towers. Specifically, the Commission defines that term as the equipment and non-tower supporting structure at a fixed location that enable Commission-licensed or authorized wireless communications between user equipment and a communications network. The Commission finds that the term includes any equipment associated with wireless communications service including, but not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, regular and backup power supply, and comparable equipment. The Commission notes that this definition reflects the types of equipment included in its definition of "transmission equipment," and that the record generally supports this approach. For example, DC argues that the Commission should define a base station as "generally consist[ing] of radio transceivers, antennae, coaxial cable, a regular and backup power supply, and other associated electronics." TIA concurs that the term "base station" encompasses transmission equipment, including antennas, transceivers, and other equipment associated with and necessary to their operation, including coaxial cable and regular and backup power equipment.

75. The Commission further finds, consistent with the Commission's proposal, that the term "existing . . . base station" includes a structure that, at the time of the application, supports or houses an antenna, transceiver, or other associated equipment that constitutes part of a "base station" as defined above, even if the structure was not built for the sole or primary purpose of providing such support. As the Commission noted in the *Infrastructure NPRM,* while "tower" is defined in the Collocation Agreement and the NPA to include only those structures built for the sole or primary purpose of supporting wireless communications equipment, the term "base station" is not used in these agreements. The Commission rejects the proposal to define a "base station" to include any structure that is merely capable of supporting wireless transmission equipment, whether or not it is providing such support at the time of the application. The Commission agrees with municipalities' comments that by using the term "existing," section 6409(a) preserves local government authority to initially determine what types of structures are appropriate for supporting wireless transmission equipment if the structures were not built (and thus were not previously approved) for the sole or primary purpose of supporting such equipment. Some wireless industry commenters also support its interpretation that,

while a tower that was built for the primary purpose of housing or supporting communications facilities should be considered "existing" even if it does not currently host wireless equipment, other structures should be considered "existing" only if they support or house wireless equipment at the time the application is filed.

76. The Commission finds that the alternative definitions proposed by many municipalities are unpersuasive. First, the Commission rejects arguments that a "base station" includes only the transmission system equipment, not the structure that supports it. This reading conflicts with the full text of the provision, which plainly contemplates collocations on a base station as well as a tower. Section 6409(a) defines an "eligible facilities request" as a request to modify an existing wireless tower or *base station* by collocating on it (among other modifications). This statutory structure precludes the Commission from limiting the term "base station" to transmission equipment; collocating on base stations, which the statute envisions, would be conceptually impossible unless the structure is part of the definition as well. The Commission further disagrees that defining "base station" to include supporting structures will deprive "tower" of all independent meaning. The Commission interprets "base station" not to include wireless deployments on towers. Further, the Commission interprets "tower" to include all structures built for the sole or primary purpose of supporting Commission-licensed or authorized antennas, and their associated facilities, regardless of whether they currently support base station equipment at the time the application is filed. Thus, "tower" denotes a structure that is covered under section 6409(a) by virtue of its construction. In contrast, a "base station" includes a structure that is not a wireless tower only where it already supports or houses such equipment.

77. The Commission is also not persuaded by arguments that "base station" refers only to the equipment compound associated with a tower and the equipment located upon it. First, no commenters presented evidence that "base station" is more commonly understood to mean an equipment compound as opposed to the broader definition of all equipment associated with transmission and reception and its supporting structures. Furthermore, the Collocation Agreement's definition of "tower," which the Commission adopts in the R&O, treats equipment compounds as part of the associated towers for purposes of collocations; if towers include their equipment compounds, then defining base stations as equipment compounds alone would render the term superfluous. The Commission also notes that none of the State statutes and regulations implementing section 6409(a) has limited its scope to equipment and structures associated with towers. In addition, the Commission agrees with commenters who argue that limiting the definition of "base station" (and thus the scope of section 6409(a)) to structures and equipment associated with towers would compromise the core policy goal of bringing greater efficiency to the process for collocations. Other structures are increasingly important to the deployment of wireless communications infrastructure; omitting them from the scope of section 6409(a) would mean the statute's efficiencies would not extend to many if not most wireless collocations, and would counterproductively exclude virtually all of the small cell collocations that have the least impact on local land use.

78. Some commenters arguing that section 6409(a) covers no structures other than those associated with towers point to the Conference Report, which, in describing the equivalent provision in the House bill, states that the provision "would require approval of requests for modification of cell towers." The Commission does not find this ambiguous statement sufficient to overcome the language of the statute as enacted, which refers to "modification of an existing wireless tower *or base station.*" Moreover, this statement from the report does not expressly state a limitation on the provision, and thus may reasonably be read as a simplified reference to towers as an important application of its mandate. The Commission does not view this language as indicating Congress's intention that the provision encompasses only modifications of structures that qualify as wireless towers.

79. The Commission thus adopts the proposed definition of "base station" to include a structure that currently supports or houses an antenna, transceiver, or other associated equipment that constitutes part of a base station at the time the application is filed. The Commission also finds that "base station" encompasses the relevant equipment in any technological configuration, including DAS and small cells. The Commission disagrees with municipalities that argue that "base station" should not include DAS or small cells. As the record supports, there is no statutory language limiting the term "base station" in this manner. The definition is sufficiently flexible to encompass, as appropriate to section 6409(a)'s intent and purpose, future as well as current base station technologies and technological configurations, using either licensed or unlicensed spectrum.

80. While the Commission does not accept municipal arguments to limit section 6409(a) to equipment or structures associated with towers, the Commission rejects industry arguments that section 6409(a) should apply more broadly to include certain structures that neither were built for the purpose of housing wireless equipment nor have base station equipment deployed upon them. The Commission finds no persuasive basis to interpret the statutory provision so broadly. The Commission agrees with Alexandria et al. that the scope of section 6409(a) is different from that of the Collocation Agreement, as the statutory provision clearly applies only to collocations on an existing "wireless tower or base station" rather than any existing "tower or structure." Further, interpreting "tower" to include structures "similar to a tower" would be contrary to the very Collocation Agreement to which these commenters point, which defines "tower" in the narrower fashion that the Commission adopts. The Commission also agrees with municipalities as a policy matter that local governments should retain authority to make the initial determination (subject to the constraints of section 332(c)(7)) of which non-tower structures are appropriate for supporting wireless transmission equipment; its interpretations of "tower" and "base station" preserve that authority.

81. Finally, the Commission agrees with Fairfax that the term "existing" requires that wireless towers or base stations have been reviewed and approved under the applicable local zoning or siting process or that the deployment of existing transmission equipment on the structure received another form of affirmative State or local regulatory approval (*e.g.*, authorization from a State public utility commission). Thus, if a tower or base station was constructed or deployed without proper review, was not required to undergo siting review, or does not support transmission equipment that received another form of affirmative State or local regulatory approval; the governing authority is not obligated to grant a collocation application under section 6409(a). The Commission further clarifies that a wireless tower that does not have a permit because it was not in a zoned area when it was built, but was lawfully constructed, is an "existing" tower. The Commission finds that its

interpretation of "existing" is consistent with the purposes of section 6409(a) to facilitate deployments that are unlikely to conflict with local land use policies and preserve State and local authority to review proposals that may have impacts. First, it ensures that a facility that was deployed unlawfully does not trigger a municipality's obligation to approve modification requests under section 6409(a). Further, it guarantees that the structure has already been the subject of State or local review. This interpretation should also minimize incentives for governing authorities to increase zoning or other regulatory review in cases where minimally intrusive deployments are currently permitted without review. For example, under this interpretation, a homeowner's deployment of a femtocell that is not subject to any zoning or other regulatory requirements will not constitute a base station deployment that triggers obligations to allow deployments of other types of facilities at that location under section 6409(a). By thus preserving State and local authority to review the first base station deployment that brings any non-tower structure within the scope of section 6409(a), the Commission ensures that subsequent collocations of additional transmission equipment on that structure will be consistent with congressional intent that deployments subject to section 6409(a) will not pose a threat of harm to local land use values.

82. On balance, the Commission finds that the foregoing definitions are consistent with congressional intent to foster collocation on various types of structures, while addressing municipalities' valid interest in preserving their authority to determine which structures are suitable for wireless deployment, and under what conditions.

d. Collocation, Replacement, Removal, Modification

83. The Commission concludes again that it is appropriate to look to the Collocation Agreement for guidance on the meaning of analogous terms, particularly in light of section 6409(a)(3)'s specific recognition of the Commission's obligations under NHPA and NEPA. As proposed in the *Infrastructure NPRM* and supported by the record, the Commission concludes that the definition of "collocation" for purposes of section 6409(a) should be consistent with its definition in the Collocation Agreement. The Commission defines "collocation" under section 6409(a) as "the mounting or installation of transmission equipment on an eligible support structure for the purpose of transmitting and/or receiving radio frequency signals for communications purposes." The term "eligible support structure" means any structure that falls within the definitions of "tower" or "base station." Consistent with the language of section 6409(a)(2)(A)–(C), the Commission also finds that a "modification" of a "wireless tower or base station" includes collocation, removal, or replacement of an antenna or any other transmission equipment associated with the supporting structure.

84. The Commission disagrees with municipal commenters who argue that collocations are limited to mounting equipment on structures that already have transmission equipment on them. That limitation is not consistent with the Collocation Agreement's definition of "collocation," and would not serve any reasonable purpose as applied to towers built for the purpose of supporting transmission equipment. Nevertheless, the Commission observes that the Commission's approach leads to the same result in the case of "base stations;" since its definition of that term includes only structures that already support or house base station equipment, section 6409(a) will not apply to the first deployment of transmission equipment on such structures. Thus, the Commission disagrees with CA Local Governments that adopting the Commission's proposed definition of collocation would require local governments to approve deployments on anything that could house or support a component of a base station. Rather, section 6409(a) will apply only where a State or local government has approved the construction of a structure with the sole or primary purpose of supporting covered transmission equipment (*i.e.*, a wireless tower) or, with regard to other support structures, where the State or local government has previously approved the siting of transmission equipment that is part of a base station on that structure. In both cases, the State or local government must decide that the site is suitable for wireless facility deployment before section 6409(a) will apply.

85. The Commission finds that the term "eligible facilities request" encompasses hardening through structural enhancement where such hardening is necessary for a covered collocation, replacement, or removal of transmission equipment, but does not include replacement of the underlying structure. The Commission notes that the term "eligible facilities request" encompasses any "modification of an existing wireless tower or base station that involves" collocation, removal, or replacement of transmission equipment. Given that structural enhancement of the support structure is a modification of the relevant tower or base station, the Commission notes that permitting structural enhancement as a part of a covered request may be particularly important to ensure that the relevant infrastructure will be available for use by FirstNet because of its obligation to "ensure the safety, security, and resiliency of the [public safety broadband] network. . . ." In addition to hardening for Public Safety, commercial providers may seek structural enhancement for many reasons, for example, to increase load capacity or to repair defects due to corrosion or other damage. The Commission finds that such modification is part of an eligible facilities request so long as the modification of the underlying support structure is performed in connection with and is necessary to support a collocation, removal, or replacement of transmission equipment. The Commission further clarifies that, to be covered under section 6409(a), any such structural enhancement must not constitute a substantial change as defined below.

86. The Commission agrees with Alexandria et al., that "replacement," as used in section 6409(a)(2)(C), relates only to the replacement of "transmission equipment," and that such equipment does not include the structure on which the equipment is located. Even under the condition that it would not substantially change the physical dimensions of the structure, replacement of an entire structure may affect or implicate local land use values differently than the addition, removal, or replacement of transmission equipment, and the Commission finds no textual support for the conclusion that Congress intended to extend mandatory approval to new structures. Thus, the Commission declines to interpret "eligible facilities requests" to include replacement of the underlying structure.

e. Substantial Change and Other Conditions and Limitations

87. After careful review of the record, the Commission adopts an objective standard for determining when a proposed modification will "substantially change the physical dimensions" of an existing tower or base station. The Commission provides that a modification substantially changes the physical dimensions of a tower or base station if it meets any of the following criteria: (1) for towers

outside of public rights-of-way, it increases the height of the tower by more than 10%, or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater; for those towers in the rights-of-way and for all base stations, it increases the height of the tower or base station by more than 10% or 10 feet, whichever is greater; (2) for towers outside of public rights-of-way, it protrudes from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater; for those towers in the rights-of-way and for all base stations, it protrudes from the edge of the structure more than six feet; (3) it involves installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets; (4) it entails any excavation or deployment outside the current site of the tower or base station; (5) it would defeat the existing concealment elements of the tower or base station; or (6) it does not comply with conditions associated with the prior approval of construction or modification of the tower or base station unless the non-compliance is due to an increase in height, increase in width, addition of cabinets, or new excavation that does not exceed the corresponding "substantial change" thresholds identified above. The Commission further provides that the changes in height resulting from a modification should be measured from the original support structure in cases where the deployments are or will be separated horizontally, such as on buildings' rooftops; in other circumstances, changes in height should be measured from the dimensions of the tower or base station inclusive of originally approved appurtenances and any modifications that were approved prior to the passage of the Spectrum Act. Beyond these standards for what constitutes a substantial change in the physical dimensions of a tower or base station, the Commission further provides that for applications covered by section 6409(a), States and localities may continue to enforce and condition approval on compliance with generally applicable building, structural, electrical, and safety codes and with other laws codifying objective standards reasonably related to health and safety.

88. The Commission initially concludes that it should adopt a test that is defined by specific, objective factors rather than the contextual and entirely subjective standard advocated by the Intergovernmental Advisory Committee (IAC) and municipalities. Congress took care to refer, in excluding certain modifications from mandatory approval requirements, to those that would substantially change the tower or base station's "physical dimensions." The Commission also finds that Congress intended approval of covered requests to occur in a timely fashion. While the Commission acknowledges that the IAC approach would provide municipalities with maximum flexibility to consider potential effects, the Commission is concerned that it would invite lengthy review processes that conflict with Congress's intent. Indeed, some municipal commenters anticipate their review of covered requests under a subjective case-by-case approach could take even longer than their review of collocations absent section 6409(a). The Commission also anticipates that disputes arising from a subjective approach would tend to require longer and more costly litigation to resolve given the more fact-intensive nature of the IAC's open-ended and context-specific approach. The Commission finds that an objective definition, by contrast, will provide an appropriate balance between municipal flexibility and the rapid deployment of covered facilities. The Commission finds further support for this approach in State statutes that have implemented section 6409(a), all of which establish objective standards.

89. The Commission further finds that the objective test for "substantial increase in size" under the Collocation Agreement should inform its consideration of the factors to consider when assessing a "substantial change in physical dimensions." This reflects its general determination that definitions in the Collocation Agreement and NPA should inform its interpretation of similar terms in section 6409(a). Further, as noted in the *Infrastructure NPRM,* the Commission has previously relied on the Collocation Agreement's test in comparable circumstances, concluding in the *2009 Declaratory Ruling* that collocation applications are subject to a shorter shot clock under section 332(c)(7) to the extent that they do not constitute a "substantial increase in size of the underlying structure." The Commission has also applied a similar objective test to determine whether a modification of an existing registered tower requires public notice for purposes of environmental review. The Commission notes that some municipalities support this approach, and the Commission further observes that the overwhelming majority of State collocation statutes adopted since the passage of the Spectrum Act have adopted objective criteria similar to the Collocation Agreement test for identifying collocations subject to mandatory approval. The Commission notes as well that there is nothing in the record indicating that any of these objective State-law tests have resulted in objectionable collocations that might have been rejected under a more subjective approach. The Commission is persuaded that it is reasonable to look to the Collocation Agreement test as a starting point in interpreting the very similar "substantial change" standard under section 6409(a). The Commission further decides to modify and supplement the factors to establish an appropriate balance between promoting rapid wireless facility deployment and preserving States' and localities' ability to manage and protect local land-use interests.

90. First, the Commission declines to adopt the Collocation Agreement's exceptions that allow modifications to exceed the usual height and width limits when necessary to avoid interference or shelter the antennas from inclement weather. The Commission agrees with CA Local Governments that these issues pose technically complex and fact-intensive questions that many local governments cannot resolve without the aid of technical experts; modifications that would not fit within the Collocation Agreement's height and width exceptions are thus not suitable for expedited review under section 6409(a).

91. Second, the Commission concludes that the limit on height and width increases should depend on the type and location of the underlying structure. Under the Collocation Agreement's "substantial increase in size" test, which applies only to towers, a collocation constitutes a substantial increase in size if it would increase a tower's height by 10% or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater. In addition, the Collocation Agreement authorizes collocations that would protrude by twenty feet, or by the width of the tower structure at the level of the appurtenance, whichever is greater. The Commission finds that the Collocation Agreement's height and width criteria are generally suitable for towers, as was contemplated by the Agreement.

92. These tests were not designed with non-tower structures in mind, and the Commission finds that they may often fail to identify substantial changes to non-tower structures such as

buildings or poles, particularly insofar as they would permit height and width increases of 20 feet under all circumstances. Instead, considering the proposals and arguments in the record and the purposes of the provision, the Commission concludes that a modification to a non-tower structure that would increase the structure's height by more than 10% or 10 feet, whichever is greater, constitutes a substantial change under section 6409(a). Permitting increases of up to 10% has significant support in the record. Further, the Commission finds that the adoption of a fixed minimum best serves the intention of Congress to advance broadband service by expediting the deployment of minor modifications of towers and base stations. Without such a minimum, the Commission finds that the test will not properly identify insubstantial increases on small buildings and other short structures, and may undermine the facilitation of collocation, as vertically collocated antennas often need 10 feet of separation and rooftop collocations may need such height as well. Further, the fact that the 10-foot minimum is substantially less than the 20-foot minimum limit under the Collocation Agreement and many State statutes or the 15-foot limit proposed by some commenters provides additional assurance that the Commission's interpretation of what is considered substantial under section 6409(a) is reasonable.

93. The Commission also provides, as suggested by Verizon and PCIA, that a proposed modification of a non-tower structure constitutes a "substantial change" under section 6409(a) if it would protrude from the edge of the structure more than six feet. The Commission finds that allowing for width increases up to six feet will promote the deployment of small facility deployments by accommodating installation of the mounting brackets/arms often used to deploy such facilities on non-tower structures, and that it is consistent with small facility deployments that municipalities have approved on such structures. The Commission further notes that it is significantly less than the limits in width established by most State collocation statutes adopted since the Spectrum Act. The Commission finds that six feet is the appropriate objective standard for substantial changes in width for non-tower structures, rather than the alternative proposals in the record.

94. The Commission declines to apply the same substantial change criteria to utility structures as apply to towers. While Verizon argues in an *ex parte* that this approach is justified because of the "significant similarities" between towers and utility structures, its own comments note that in contrast to "macrocell towers," utility structures are "smaller sites[.]" Because utility structures are typically much smaller than traditional towers, and because utility structures are often located in easements adjacent to vehicular and pedestrian rights-of-way where extensions are more likely to raise aesthetic, safety, and other issues, the Commission does not find it appropriate to apply to such structures the same substantial change criteria applicable to towers. The Commission further finds that towers in the public rights-of-way should be subject to the more restrictive height and width criteria applicable to non-tower structures rather than the criteria applicable to other towers. The Commission notes that, to deploy DAS and small-cell wireless facilities, carriers and infrastructure providers must often deploy new poles in the rights-of-way. Because these structures are constructed for the sole or primary purpose of supporting Commission-licensed or authorized antennas, they fall under the definition of "tower." They are often identical in size and appearance to utility poles in the area, which do not constitute towers. As a consequence, applying the tower height and width standards to these poles constructed for DAS and small-cell support would mean that two adjacent and nearly identical poles could be subject to very different standards. To ensure consistent treatment of structures in the public rights-of-way, and because of the heightened potential for impact from extensions in such locations, the Commission provides that structures qualifying as towers that are deployed in public rights-of-way will be subject to the same height and width criteria as non-tower structures.

95. The Commission agrees with commenters that its substantial change criteria for changes in height should be applied as limits on cumulative changes; otherwise, a series of permissible small changes could result in an overall change that significantly exceeds the adopted standards. Specifically, the Commission finds that whether a modification constitutes a substantial change must be determined by measuring the change in height from the dimensions of the "tower or base station" as originally approved or as of the most recent modification that received local zoning or similar regulatory approval prior to the passage of the Spectrum Act, whichever is greater.

96. The Commission declines to provide that changes in height should always be measured from the original tower or base station dimensions, as suggested by some municipalities. As with the original tower or base station, discretionary approval of subsequent modifications reflects a regulatory determination of the extent to which wireless facilities are appropriate, and under what conditions. At the same time, the Commission declines to adopt industry commenters' proposal always to measure changes from the last approved change or the effective date of the rules. Measuring from the last approved change in all cases would provide no cumulative limit at all. In particular, since the Spectrum Act became law, approval of covered requests has been mandatory and approved changes after that time may not establish an appropriate baseline because they may not reflect a siting authority's judgment that the modified structure is consistent with local land use values. Because it is impractical to require parties, in measuring cumulative impact, to determine whether each pre-existing modification was or was not required by the Spectrum Act, the Commission provides that modifications of an existing tower or base station that occur after the passage of the Spectrum Act will not change the baseline for purposes of measuring substantial change. Consistent with the determination that a tower or base station is not covered by section 6409(a) unless it received such approval, this approach will in all cases limit modifications that are subject to mandatory approval to the same modest increments over what the relevant governing authority has previously deemed compatible with local land use values. The Commission further finds that, for structures where collocations are separated horizontally rather than vertically (such as building rooftops), substantial change is more appropriately measured from the height of the original structure, rather than the height of a previously approved antenna. Thus, for example, the deployment of a 10-foot antenna on a rooftop would not mean that a nearby deployment of a 20-foot antenna would be considered insubstantial.

97. Again drawing on the Collocation Agreement's test, the Commission further provides that a modification is a substantial change if it entails any excavation or deployment outside the current site of the tower or base station. As in the Collocation Agreement, the Commission defines the "site" for

towers outside of the public rights-of-way as the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site. For other towers and all base stations, the Commission further restricts the site to that area in proximity to the structure and to other transmission equipment already deployed on the ground.

98. The Commission also rejects the PCIA and Sprint proposal to expand the Collocation Agreement's fourth prong, as modified by the 2004 NPA, to allow applicants to excavate outside the leased or licensed premises. Under the NPA, certain undertakings are excluded from the section 106 review, including "construction of a replacement for an existing communications tower and any associated excavation that . . . does not expand the boundaries of the leased or owned property surrounding the tower by more than 30 feet in any direction or involve excavation outside these expanded boundaries or outside any existing access or utility easement related to the site." The NPA exclusion from section 106 review applies to replacement of "an existing communications tower." In contrast, "replacement," as used in section 6409(a)(2)(C), relates only to the replacement of "transmission equipment," not the replacement of the supporting structures. Thus, the activities covered under section 6409(a) are more nearly analogous to those covered under the Collocation Agreement than under the replacement towers exclusion in the NPA. The Commission agrees with localities comments that any eligible facilities requests that involve excavation outside the premises should be considered a substantial change, as under the fourth prong of the Collocation Agreement's test.

99. Based on its review of the record and various state statutes, the Commission further finds that a modification constitutes a substantial change in physical dimensions under section 6409(a) if the change (1) would defeat the existing concealment elements of the tower or base station, or (2) does not comply with pre-existing conditions associated with the prior approval of construction or modification of the tower or base station. The first of these criteria is widely supported by both wireless industry and municipal commenters, who generally agree that a modification that undermines the concealment elements of a stealth wireless facility, such as painting to match the supporting façade or artificial tree branches, should be considered substantial under section 6409(a). The Commission agrees with commenters that in the context of a modification request related to concealed or "stealth"-designed facilities—*i.e.*, facilities designed to look like some feature other than a wireless tower or base station—any change that defeats the concealment elements of such facilities would be considered a "substantial change" under section 6409(a). Commenters differ on whether any other conditions previously placed on a wireless tower or base station should be considered in determining substantial change under section 6409(a). After consideration, the Commission agrees with municipal commenters that a change is substantial if it violates any condition of approval of construction or modification imposed on the applicable wireless tower or base station, unless the non-compliance is due to an increase in height, increase in width, addition of cabinets, or new excavation that does not exceed the corresponding "substantial change" thresholds. In other words, modifications qualify for section 6409(a) only if they comply, for example, with conditions regarding fencing, access to the site, drainage, height or width increases that exceed the thresholds the Commission adopted and other conditions of approval placed on the underlying structure. This approach, the Commission finds, properly preserves municipal authority to determine which structures are appropriate for wireless use and under what conditions, and reflects one of the three key priorities identified by the IAC in assessing substantial change.

100. The Commission agrees with PCIA that legal, non-conforming structures should be available for modification under section 6409(a), as long as the modification itself does not "substantially change" the physical dimensions of the supporting structure as defined here. The Commission rejects municipal arguments that any modification of an existing wireless tower or base station that has "legal, non-conforming" status should be considered a "substantial change" to its "physical dimensions." As PCIA argues, the approach urged by municipalities could thwart the purpose of section 6409(a) altogether, as simple changes to local zoning codes could immediately turn existing structures into legal, non-conforming uses unavailable for collocation under the statute. Considering Congress's intent to promote wireless facilities deployment by encouraging collocation on existing structures, and considering the requirement in section 6409(a) that States and municipalities approve covered requests "[n]otwithstanding . . . any other provision of law," the Commission finds the municipal commenters' proposal to be unsupportably restrictive.

101. The record also reflects general consensus that wireless facilities modification under section 6409(a) should remain subject to building codes and other non-discretionary structural and safety codes. As municipal commenters indicate, many local jurisdictions have promulgated code provisions that encourage and promote collocations and replacements through a streamlined approval process, while ensuring that any new facilities comply with building and safety codes and applicable Federal and State regulations. Consistent with that approach on the local level, the Commission finds that Congress did not intend to exempt covered modifications from compliance with generally applicable laws related to public health and safety. The Commission concludes that States and localities may require a covered request to comply with generally applicable building, structural, electrical, and safety codes or with other laws codifying objective standards reasonably related to health and safety, and that they may condition approval on such compliance. In particular, the Commission clarifies that section 6409(a) does not preclude States and localities from continuing to require compliance with generally applicable health and safety requirements on the placement and operation of backup power sources, including noise control ordinances if any. The Commission further clarifies that eligible facility requests covered by section 6409(a) must still comply with any relevant Federal requirement, including any applicable Commission, FAA, NEPA, or section 106 requirements. The Commission finds that this interpretation is supported in the record, addresses a concern raised by several municipal commenters and the IAC, and is consistent with the express direction in section 6409(a) that the provision is not intended to relieve the Commission from the requirements of NEPA and NHPA.

102. In sum, the Commission finds that the definitions, criteria, and related clarifications it adopts for purposes of section 6409(a) will provide clarity and certainty, reducing delays and litigation, and thereby facilitate the rapid deployment of wireless infrastructure and promote advanced wireless broadband services. At the same time, the Commission concludes that its approach also addresses concerns

voiced by municipal commenters and reflects the priorities identified by the IAC. The Commission concludes that this approach reflects a reasonable interpretation of the language and purposes of section 6409(a) and will serve the public interest.

2. Application Review Process, Including Timeframe for Review

103. As an initial matter, the Commission finds that State or local governments may require parties asserting that proposed facilities modifications are covered under section 6409(a) to file applications, and that these governments may review the applications to determine whether they constitute covered requests. As the Bureau observed in the *Section 6409(a) PN*, the statutory provision requiring a State or local government to approve an "eligible facilities request" implies that the relevant government entity may require an applicant to file a request for approval. Further, nothing in the provision indicates that States or local governments must approve requests merely because applicants claim they are covered. Rather, under section 6409(a), only requests that do in fact meet the provision's requirements are entitled to mandatory approval. Therefore, States and local governments must have an opportunity to review applications to determine whether they are covered by section 6409(a), and if not, whether they should in any case be granted.

104. The Commission further concludes that section 6409(a) warrants the imposition of certain requirements with regard to application processing, including a specific timeframe for State or local government review and a limitation on the documentation States and localities may require. While section 6409(a), unlike section 332(c)(7), does not expressly provide for a time limit or other procedural restrictions, the Commission concludes that certain limitations are implicit in the statutory requirement that a State or local government "may not deny, and shall approve" covered requests for wireless facility siting. In particular, the Commission concludes that the provision requires not merely approval of covered applications, but approval within a reasonable period of time commensurate with the limited nature of the review, whether or not a particular application is for "personal wireless service" facilities covered by section 332(c)(7). With no such limitation, a State or local government could evade its statutory obligation to approve covered applications by simply failing to act on them, or it could impose lengthy and onerous processes not justified by the limited scope of review contemplated by the provision. Such unreasonable delays not only would be inconsistent with the mandate to approve but also would undermine the important benefits that the provision is intended to provide to the economy, competitive wireless broadband deployment, and public safety. The Commission requires that States and localities grant covered requests within a specific time limit and pursuant to other procedures outlined below.

105. The Commission finds substantial support in the record for adopting such requirements. It is clear from the record that there is significant dispute as to whether any time limit applies at all under section 6409(a) and, if so, what that limit is. The Commission also notes that there is already some evidence in the record, albeit anecdotal, of significant delays in the processing of covered requests under this new provision, which may be partly a consequence of the current uncertainty regarding the applicability of any time limit. Because the statutory language does not provide guidance on these requirements, the Commission is concerned that, without clarification, future disputes over the process could significantly delay the benefits associated with the statute's implementation. Moreover, the Commission finds it important that all stakeholders have a clear understanding of when an applicant may seek relief from a State or municipal failure to act under section 6409(a). The Commission finds further support for establishing these process requirements in analogous State statutes, nearly all of which include a timeframe for review.

106. Contrary to the suggestion of municipalities, the Commission disagrees that the Tenth Amendment prevents the Commission from exercising its authority under the Spectrum Act to implement and enforce the limitations imposed thereunder on State and local land use authority. These limitations do not require State or local authorities to review wireless facilities siting applications, but rather preempt them from choosing to exercise such authority under their laws other than in accordance with Federal law—*i.e.*, to deny any covered requests. The Commission therefore adopts the following procedural requirements for processing applications under section 6409(a).

107. First, the Commission provides that in connection with requests asserted to be covered by section 6409(a), State and local governments may only require applicants to provide documentation that is reasonably related to determining whether the request meets the requirements of the provision. The Commission finds that this restriction is appropriate in light of the limited scope of review applicable to such requests and that it will facilitate timely approval of covered requests. At the same time, under this standard, State or local governments have considerable flexibility in determining precisely what information or documentation to require. The Commission agrees with PCIA that States and localities may not require documentation proving the need for the proposed modification or presenting the business case for it. The Commission anticipates that over time, experience and the development of best practices will lead to broad standardization in the kinds of information required. As discussed above, even as to applications covered by section 6409(a), State and local governments may continue to enforce and condition approval on compliance with non-discretionary codes reasonably related to health and safety, including building and structural codes. The Commission finds that municipalities should have flexibility to decide when to require applicants to provide documentation of such compliance, as a single documentation submission may be more efficient than a series of submissions, and municipalities may also choose to integrate such compliance review into the zoning process. Accordingly, the Commission clarifies that this documentation restriction does not prohibit States and local governments from requiring documentation needed to demonstrate compliance with any such applicable codes.

108. In addition to defining acceptable documentation requirements, the Commission establishes a specific and absolute timeframe for State and local processing of eligible facilities requests under section 6409(a). The Commission finds that a 60-day period for review, including review to determine whether an application is complete, is appropriate. In addressing this issue, it is appropriate to consider not only the record support for a time limit on review but also State statutes that facilitate collocation applications. Many of these statutes impose review time limits, thus providing valuable insight into States' views on the appropriate amount of time. Missouri, New Hampshire, and Wisconsin, for example, have determined that 45 days is the maximum amount of time available to a municipality to review applications, while Georgia, North

Carolina, and Pennsylvania have adopted a 90-day review period, including review both for completeness and for approval. Michigan's statute provides that after the application is filed, the locality has 14 days to deem the application complete and an additional 60 days to review. The Commission finds it appropriate to adopt a 60-day time period as the time limit for review of an application under section 6409(a).

109. The Commission finds that a period shorter than the 90-day period applicable to review of collocations under section 332(c)(7) of the Communications Act is warranted to reflect the more restricted scope of review applicable to applications under section 6409(a). The Commission further finds that a 60-day period of review, rather than the 45-day period proposed by many industry commenters, is appropriate to provide municipalities with sufficient time to review applications for compliance with section 6409(a), because the timeframe sets an absolute limit that—in the event of a failure to act—results in a deemed grant. Thus, whereas a municipality may rebut a claim of failure to act under section 332(c)(7) if it can demonstrate that a longer review period was reasonable, that is not the case under section 6409(a). Rather, if an application covered by section 6409(a) has not been approved by a State or local government within 60 days from the date of filing, accounting for any tolling, as described below, the reviewing authority will have violated section 6409(a)'s mandate to approve and not deny the request, and the request will be deemed granted.

110. The Commission further provides that the foregoing section 6409(a) timeframe may be tolled by mutual agreement or in cases where the reviewing State or municipality informs the applicant in a timely manner that the application is incomplete. As with tolling for completeness under section 332(c)(7) (as discussed in the R&O), an initial determination of incompleteness tolls the running of the period only if the State or local government provides notice to the applicant in writing within 30 days of the application's submission. The Commission also requires that any determination of incompleteness must clearly and specifically delineate the missing information in writing, similar to determinations of incompleteness under section 332(c)(7). Further, consistent with the documentation restriction established above, the State or municipality may only specify as missing information and supporting documents that are reasonably related to determining whether the request meets the requirements of section 6409(a).

111. The timeframe for review will begin running again when the applicant makes a supplemental submission, but may be tolled again if the State or local government provides written notice to the applicant within 10 days that the application remains incomplete and specifically delineates which of the deficiencies specified in the original notice of incompleteness have not been addressed. The timeframe for review will be tolled in this circumstance until the applicant supplies the relevant authority with the information delineated. Consistent with determinations of incompleteness under section 332(c)(7) as described below, any second or subsequent determination that an application is incomplete may be based only on the applicant's failure to provide the documentation or information the State or municipality required in its initial request for additional information. Further, if the 10-day period passes without any further notices of incompleteness from the State or locality, the period for review of the application may not thereafter be tolled for incompleteness.

112. The Commission further finds that the timeframe for review under section 6409(a) continues to run regardless of any local moratorium. This is once again consistent with its approach under section 332(c)(7), and is further warranted in light of section 6409(a)'s direction that covered requests shall be approved "[n]otwithstanding . . . any other provision of law."

113. Some additional clarification of time periods and deadlines will assist in cases where both section 6409(a) and section 332(c)(7) apply. In particular, the Commission notes that States and municipalities reviewing an application under section 6409(a) will be limited to a restricted application record tailored to the requirements of that provision. As a result, the application may be complete for purposes of section 6409(a) review but may not include all of the information the State or municipality requires to assess applications not subject to section 6409(a). In such cases, if the reviewing State or municipality finds that section 6409(a) does not apply (because, for example, it proposes a substantial change), the Commission provides that the presumptively reasonable timeframe under section 332(c)(7) will start to run from the issuance of the State's or municipality's decision that section 6409(a) does not apply. To the extent the State or municipality needs additional information at that point to assess the application under section 332(c)(7), it may seek additional information subject to the same limitations applicable to other section 332(c)(7) reviews. The Commission recognizes that, in such cases, there might be greater delay in the process than if the State or municipality had been permitted to request the broader documentation in the first place. The Commission finds that applicants are in a position to judge whether to seek approval under section 6409(a), and the Commission expects they will have strong incentives to do so in a reasonable manner to avoid unnecessary delays. Finally, as the Commission proposed in the *Infrastructure NPRM,* the Commission finds that where both section 6409(a) and section 332(c)(7) apply, section 6409(a) governs, consistent with the express language of section 6409(a) providing for approval "[n]otwithstanding" section 332(c)(7) and with canons of statutory construction that a more recent statute takes precedence over an earlier one and that "normally the specific governs the general."

114. Beyond the guidance provided in the R&O, the Commission declines to adopt the other proposals put forth by commenters regarding procedures for the review of applications under section 6409(a) or the collection of fees. The Commission concludes that its clarification and implementation of this statutory provision strikes the appropriate balance of ensuring the timely processing of these applications and preserving flexibility for State and local governments to exercise their rights and responsibilities. Given the limited record of problems implementing the provision, further action to specify procedures would be premature.

3. Remedies

115. After a careful assessment of the statutory provision and a review of the record, the Commission establishes a deemed granted remedy for cases in which the applicable State or municipal reviewing authority fails to issue a decision within 60 days (subject to any tolling, as described above) on an application submitted pursuant to section 6409(a). The Commission further concludes that a deemed grant does not become effective until the applicant notifies the reviewing jurisdiction in writing, after the time period for review by the State or municipal reviewing authority as prescribed in the Commission's rules has expired, that the application has been deemed granted.

116. The Commission's reading of section 6409(a) supports this approach.

The provision states without equivocation that the reviewing authority "may not deny, and shall approve" any qualifying application. This directive leaves no room for a lengthy and discretionary approach to reviewing an application that meets the statutory criteria; once the application meets these criteria, the law forbids the State or local government from denying it. Moreover, while State and local governments retain full authority to approve or deny an application depending on whether it meets the provision's requirements, the statute does not permit them to delay this obligatory and non-discretionary step indefinitely. In the R&O, the Commission defines objectively the statutory criteria for determining whether an application is entitled to a grant under this provision. Given the objective nature of this assessment, then, the Commission concludes that withholding a decision on an application indefinitely, even if an applicant can seek relief in court or in another tribunal, would be tantamount to denying it, in contravention of the statute's pronouncement that reviewing authorities "may not deny" qualifying applications. The Commission finds that the text of section 6409(a) supports adoption of a deemed granted remedy, which will directly serve the broader goal of promoting the rapid deployment of wireless infrastructure. The Commission notes as well that its approach is consistent with other Federal agencies' processes to address inaction by State and local authorities.

117. Many municipalities oppose the adoption of a deemed granted remedy primarily on the ground that it arguably represents an intrusion into local decision-making authority. The Commission fully acknowledges and values the important role that local reviewing authorities play in the siting process, and, as the Commission stated in the *Infrastructure NPRM*, "[the Commission's] goal is not to 'operate as a national zoning board.'" At the same time, its authority and responsibility to implement and enforce section 6409(a) as if it were a provision of the Communications Act obligate the Commission to ensure effective enforcement of the congressional mandate reflected therein. To do so, given its "broad grant of rulemaking authority," the importance of ensuring rapid deployment of commercial and public safety wireless broadband services as reflected in the adoption of the Spectrum Act, and in light of the record of disputes in this proceeding, as well as the prior experience of the Commission with delays in municipal action on wireless facility siting applications that led to the *2009 Declaratory Ruling*, the Commission concludes it is necessary to balance these federalism concerns against the need for ensuring prompt action on section 6409(a) applications. The Commission adopts this approach in tandem with several measures that safeguard the primacy of State and local government participation in local land use policy, to the extent consistent with the requirements of section 6409(a). First, the Commission has adopted a 60-day time period for States and localities to review applications submitted under section 6409(a). While many industry commenters proposed a 45-day review period based on the non-discretionary analysis that the provision requires, the Commission has provided more time in part to ensure that reviewing authorities have sufficient time to assess the applications.

118. Second, the Commission is establishing a clear process for tolling the 60-day period when an applicant fails to submit a complete application, thus ensuring that the absence of necessary information does not prevent a State or local authority from completing its review before the time period expires.

119. Third, even in the event of a deemed grant, the section 106 historic preservation review process—including coordination with State and Tribal historic preservation officers—will remain in place with respect to any proposed deployments in historic districts or on historic buildings (or districts and buildings eligible for such status).

120. Fourth, a State or local authority may challenge an applicant's written assertion of a deemed grant in any court of competent jurisdiction when it believes the underlying application did not meet the criteria in section 6409(a) for mandatory approval, would not comply with applicable building codes or other non-discretionary structural and safety codes, or for other reasons is not appropriately "deemed granted."

121. Finally, and perhaps most importantly, the deemed granted approach does not deprive States and localities of the opportunity to determine whether an application is covered; rather, it provides a remedy for a failure to act within the fixed but substantial time period within which they must determine, on a non-discretionary and objective basis, whether an application fits within the parameters of section 6409(a).

122. The Commission emphasizes as well that it expects deemed grants to be the exception rather than the rule. To the extent there have been any problems or delays due to ambiguity in the provision, the Commission anticipates that the framework it has established, including the specification of substantive and procedural rights and applicable remedies, will address many of these problems. The Commission anticipates as well that the prospect of a deemed grant will create significant incentives for States and municipalities to act in a timely fashion.

123. With respect to the appropriate forum for redress or for resolving disputes, including disputes over the application of the deemed grant rule, the Commission finds that the most appropriate course for a party aggrieved by operation of section 6409(a) is to seek relief from a court of competent jurisdiction. Although the Commission finds that it has authority to resolve such disputes under its authority to implement and enforce that provision, the Commission also finds that requiring that these disputes be resolved in court, and not by the Commission, will better accommodate the role of the States and local authorities and serve the public interest for the reasons the municipal commenters identify and as discussed in the R&O.

124. A number of factors persuade the Commission to require parties to adjudicate claims under section 6409(a) in court rather than before the Commission. First, Commission adjudication would impose significant burdens on localities, many of which are small entities with no representation in Washington, DC and no experience before the Commission. The possible need for testimony to resolve disputed factual issues, which may occur in these cases, would magnify the burden. The Commission is also concerned that it may simply lack the resources to adjudicate these matters in a timely fashion if the Commission enables parties to seek its review of local zoning disputes arising in as many as 38,000 jurisdictions, thus thwarting Congress's goal of speeding up the process. The Commission also agrees with municipalities that it does not have any particular expertise in resolving local zoning disputes, whereas courts have been adjudicating claims of failure to act on wireless facility siting applications since the adoption of section 332(c)(7).

125. The Commission requires parties to bring claims related to section 6409(a) in a court of competent jurisdiction. Such claims would appear likely to fall into one of three categories. First, if the State or local authority has denied the application, an applicant might seek to challenge that denial. Second, if an

applicant invokes its deemed grant right after the requisite period of State or local authority inaction, that reviewing authority might seek to challenge the deemed grant. Third, an applicant whose application has been deemed granted might seek some form of judicial imprimatur for the grant by filing a request for declaratory judgment or other relief that a court may find appropriate. In light of the policy underlying section 6409(a) to ensure that covered requests are granted promptly, and in the self-interest of the affected parties, the Commission would expect that these parties would seek judicial review of any such claims relating to section 6409(a) expeditiously. The enforcement of such claims is a matter appropriately left to such courts of competent jurisdiction. Given the foregoing Federal interest reflected in section 6409(a), it would appear that the basis for equitable judicial remedies would diminish significantly absent prompt action by the aggrieved party. In its judgment, based on the record established in this proceeding, the Commission finds no reason why (absent a tolling agreement by parties seeking to resolve their differences) such claims cannot and should not be brought within 30 days of the date of the relevant event (*i.e.*, the date of the denial of the application or the date of the notification by the applicant to the State or local authority of a deemed grant in accordance with the Commission's rules).

4. Non-application to States or Municipalities in Their Proprietary Capacities

126. As proposed in the *Infrastructure NPRM* and supported by the record, the Commission concludes that section 6409(a) applies only to State and local governments acting in their role as land use regulators and does not apply to such entities acting in their proprietary capacities. As discussed in the record, courts have consistently recognized that in "determining whether government contracts are subject to preemption, the case law distinguishes between actions a State entity takes in a proprietary capacity—actions similar to those a private entity might take—and its attempts to regulate." As the Supreme Court has explained, "[i]n the absence of any express or implied implication by Congress that a State may not manage its own property when it pursues its purely proprietary interests, and when analogous private conduct would be permitted, this Court will not infer such a restriction." Like private property owners, local governments enter into lease and license agreements to allow parties to place antennas and other wireless service facilities on local-government property, and the Commission finds no basis for applying section 6409(a) in those circumstances. The Commission finds that this conclusion is consistent with judicial decisions holding that sections 253 and 332(c)(7) of the Communications Act do not preempt "non regulatory decisions of a state or locality acting in its proprietary capacity."

127. The Commission declines at this time to further elaborate as to how this principle should apply to any particular circumstance in connection with section 6409(a). The Commission agrees with Alexandria et al. that the record does not demonstrate a present need to define what actions are and are not proprietary, and the Commission concludes in any case that such a task is best undertaken, to the extent necessary, in the context of a specific municipal action and associated record.

5. Effective Date

128. Based on its review of the record, the Commission is persuaded that a transition period is necessary and appropriate. The Commission agrees with certain municipal commenters that affected State and local governments may need time to make modifications to their laws and procedures to conform to and comply with the rules the Commission adopts in the R&O implementing and enforcing section 6409(a), and that a transition period is warranted to give them time to do so. The Commission concludes as proposed by the IAC and other parties that the rules adopted to implement section 6409(a) will take effect 90 days after **Federal Register** publication.

IV. Section 332(c)(7) and the 2009 Declaratory Ruling

A. Background

129. In 2009, the Commission adopted a Declaratory Ruling in response to a petition requesting clarification on two points: what constitutes a "reasonable period of time" after which an aggrieved applicant may file suit asserting a failure to act under section 332(c)(7), and whether a zoning authority may restrict competitive entry by multiple providers in a given area under section 332(c)(7)(B)(i)(II). In the *2009 Declaratory Ruling,* the Commission interpreted a "reasonable period of time" under section 332(c)(7)(B)(ii) to be 90 days for processing collocation applications, and 150 days for processing applications other than collocations. The Commission further determined that failure to meet the applicable timeframe presumptively constitutes a failure to act under section 332(c)(7)(B)(v), enabling an applicant to pursue judicial relief within the next 30 days.

130. In the *Infrastructure NPRM,* while stating that it would not generally revisit the *2009 Declaratory Ruling,* the Commission sought comment on six discrete issues arising under section 332(c)(7) and the *2009 Declaratory Ruling:* (1) Whether and how to clarify when a siting application is considered complete for the purpose of triggering the *2009 Declaratory Ruling*'s shot clock; (2) whether to clarify that the presumptively reasonable period for State or local government action on an application runs regardless of any local moratorium; (3) whether the *2009 Declaratory Ruling* applies to DAS and small-cell facilities; (4) whether to clarify the types of actions that constitute "collocations" for purposes of triggering the shorter shot clock; (5) whether local ordinances establishing preferences for deployment on municipal property violate section 332(c)(7)(B)(i)(I); and (6) whether to adopt an additional remedy for failures to act in violation of section 332(c)(7).

B. Discussion

1. Completeness of Applications

131. The Commission finds that it should clarify under what conditions the presumptively reasonable timeframes may be tolled on grounds that an application is incomplete. As an initial matter, the Commission notes that under the *2009 Declaratory Ruling,* the presumptively reasonable timeframe begins to run when an application is first submitted, not when it is deemed complete. Accordingly, to the extent municipalities have interpreted the clock to begin running only after a determination of completeness, that interpretation is incorrect.

132. Further, consistent with proposals submitted by Crown Castle and PCIA, the Commission clarifies that, following a submission in response to a determination of incompleteness, any subsequent determination that an application remains incomplete must be based solely on the applicant's failure to supply information that was requested within the first 30 days. The shot clock will begin running again after the applicant makes a supplemental submission. The State or local government will have 10 days to notify the applicant that the supplemental submission did not provide the information identified in the original notice delineating missing information. In other words, a subsequent

determination of incompleteness can result in further tolling of the shot clock only if the local authority provides it to the applicant in writing within 10 days of the supplemental submission, specifically identifying the information the applicant failed to supply in response to the initial request. Once the 10-day period passes, the period for review of the application may not thereafter be tolled for incompleteness.

133. The Commission further provides that, in order to toll the timeframe for review on grounds of incompleteness, a municipality's request for additional information must specify the code provision, ordinance, application instruction, or otherwise publically-stated procedures that require the information to be submitted. This requirement will avoid delays due to uncertainty or disputes over what documents or information are required for a complete application. Further, while some municipal commenters argue that "[n]ot all jurisdictions codify detailed application submittal requirements because doing so would require a code amendment for even the slightest change," the Commission's approach does not restrict them to reliance on codified documentation requirements.

134. Beyond these procedural requirements, the Commission declines to enumerate what constitutes a "complete" application. The Commission finds that State and local governments are best suited to decide what information they need to process an application. Differences between jurisdictions make it impractical for the Commission to specify what information should be included in an application.

135. The Commission finds that these clarifications will provide greater certainty regarding the period during which the clock is tolled for incompleteness. This in turn provides clarity regarding the time at which the clock expires, at which point an applicant may bring suit based on a "failure to act." Further, the Commission expects that these clarifications will result in shared expectations among parties, thus limiting potential miscommunication and reducing the potential or need for serial requests for more information. These clarifications will facilitate faster application processing, reduce unreasonable delay, and accelerate wireless infrastructure deployment.

2. Moratoria

136. The Commission clarifies that the shot clock runs regardless of any moratorium. This is consistent with a plain reading of the *2009 Declaratory Ruling,* which specifies the conditions for tolling and makes no provision for moratoria. Moreover, its conclusion that the clock runs regardless of any moratorium means that applicants can challenge moratoria in court when the shot clock expires without State or local government action, which is consistent with the case-by-case approach that courts have generally applied to moratoria under section 332(c)(7). This approach, which establishes clearly that an applicant can seek redress in court even when a jurisdiction has imposed a moratorium, will prevent indefinite and unreasonable delay of an applicant's ability to bring suit.

137. Some commenters contend that this approach would, in effect, improperly require municipal staff to simultaneously review and update their regulations to adapt to new technologies while also reviewing applications. The Commission recognizes that new technologies may in some cases warrant changes in procedures and codes, but finds no reason to conclude that the need for any such change should freeze all applications. The Commission is confident that industry and local governments can work together to resolve applications that may require more staff resources due to complexity, pending changes to the relevant siting regulations, or other special circumstances. Moreover, in those instances in which a moratorium may reasonably prevent a State or municipality from processing an application within the applicable timeframe, the State or municipality will, if the applicant seeks review, have an opportunity to justify the delay in court. The Commission clarifies that the shot clock continues to run regardless of any moratorium.

138. The Commission declines at this time to determine that a moratorium that lasts longer than six months constitutes a *per se* violation of the obligation to take action in a reasonable period of time. Although some have argued that a six-month limit would "discourage localities from circumventing the intent of the Commission's shot clock rules," others disagree, and the record provides insufficient evidence to support a *per se* determination at this juncture. Given its clarification that the presumptively reasonable timeframes apply regardless of moratoria, any moratorium that results in a delay of more than 90 days for a collocation application or 150 days for any other application will be presumptively unreasonable.

3. Application to DAS and Small Cells

139. The Commission clarifies that to the extent DAS or small-cell facilities, including third-party facilities such as neutral host DAS deployments, are or will be used for the provision of personal wireless services, their siting applications are subject to the same presumptively reasonable timeframes that apply to applications related to other personal wireless service facilities. The Commission notes that courts have addressed the issue and, consistent with its conclusion, have found that the timeframes apply to DAS and small-cell deployments.

140. Some commenters argue that the shot clocks should not apply because some providers describe DAS and small-cell deployments as wireline, not wireless, facilities. Determining whether facilities are "personal wireless service facilities" subject to section 332(c)(7) does not rest on a provider's characterization in another context; rather, the analysis turns simply on whether they are facilities used to provide personal wireless services. Based on its review of the record, the Commission finds no evidence sufficient to compel the conclusion that the characteristics of DAS and small-cell deployments somehow exclude them from section 332(c)(7) and the *2009 Declaratory Ruling.* For similar reasons, the Commission rejects Coconut Creek's argument that the shot clocks should apply only to neutral host deployments.

141. Some commenters suggest revising the Commission's proposal on the grounds that the unique qualities of DAS and small-cell systems require longer timeframes for municipal review. The Commission declines to adjust the timelines as these commenters suggest. The Commission notes that the timeframes are presumptive, and the Commission expects applicants and State or local governments to agree to extensions in appropriate cases. Moreover, courts will be positioned to assess the facts of individual cases—including whether the applicable time period "t[ook] into account the nature and scope of [the] request"—in instances where the shot clock expires and the applicant seeks review. The Commission also notes that DAS and small-cell deployments that involve installation of new poles will trigger the 150-day time period for new construction that many municipal commenters view as reasonable for DAS and small-cell applications. The Commission finds it unnecessary to modify the presumptive timeframes as they apply to DAS applications.

4. Definition of Collocation

142. After reviewing the record, the Commission declines to make any changes or clarifications to the existing standard established in the *2009 Declaratory Ruling* for applying the 90-day shot clock for collocations. In particular, the Commission declines to apply the "substantial change" test that the Commission establishes in the R&O for purposes of section 6409(a). The Commission observes that sections 6409(a) and 332(c)(7) serve different purposes, and the Commission finds that the tests for "substantial change" and "substantial increase in size" are appropriately distinct. More specifically, the test for a "substantial increase in size" under section 332(c)(7) affects only the length of time for State or local review, while the test the Commission adopts under section 6409(a) identifies when a State or municipality must grant an application. This is a meaningful distinction that merits a more demanding standard under section 6409(a).

143. Considering that these provisions cover different (though overlapping) pools of applications, it is appropriate to apply them differently. Further, the Commission finds no compelling evidence in the record that using the same test for both provisions would provide significant administrative efficiencies or limit confusion, as some have argued. The Commission preserves distinct standards under the two provisions.

5. Preferences for Deployments on Municipal Property

144. The Commission finds insufficient evidence in the record to make a determination that municipal property preferences are *per se* unreasonably discriminatory or otherwise unlawful under section 332(c)(7). To the contrary, most industry and municipal commenters support the conclusion that many such preferences are valid. Consistent with the majority of comments on this issue, the Commission declines at this time to find municipal property preferences per se unlawful under section 332(c)(7).

6. Remedies

145. After reviewing the record, the Commission declines to adopt an additional remedy for State or local government failures to act within the presumptively reasonable time limits. The Commission also notes that a party pursuing a "failure to act" claim may ask the reviewing court for an injunction granting the application. Moreover, in the case of a failure to act within the reasonable timeframes set forth in the Commission's rules, and absent some compelling need for additional time to review the application, the Commission believes that it would also be appropriate for the courts to treat such circumstances as significant factors weighing in favor of such relief.

V. Procedural Matters

A. Final Regulatory Flexibility Analysis

146. As required by section 603 of the Regulatory Flexibility Act (RFA), the Commission has prepared a Final Regulatory Flexibility Analysis (FRFA) of the expected impact on small entities of the requirements adopted in the R&O. To the extent that any statement contained in the FRFA is perceived as creating ambiguity with respect to the Commission's rules, or statements made in the R&O, the rules and R&O statements shall be controlling.

1. Need for, and Objectives of, the Report and Order

147. In the R&O, the Commission takes important steps to promote the deployment of wireless infrastructure, recognizing that it is the physical foundation that supports all wireless communications. The R&O adopts and clarifies rules in four specific areas in an effort to reduce regulatory obstacles and bring efficiency to wireless facility siting and construction. The Commission does this by eliminating unnecessary reviews, thus reducing the burden on State and local jurisdictions and also on industry, including small businesses. In particular, the Commission updates and tailors the manner in which the Commission evaluates the impact of proposed deployments on the environment and historic properties. The Commission also adopts rules to clarify and implement statutory requirements related to State and local government review of infrastructure siting applications, and the Commission adopts an exemption from its environmental public notification process for towers that are in place for only short periods of time. Taken together, these steps will further facilitate the delivery of more wireless capacity in more locations to consumers throughout the United States. Its actions will expedite the deployment of equipment that does not harm the environment or historic properties, as well as recognize the limits on Federal, State, Tribal, and municipal resources available to review those cases that may adversely affect the environment or historic properties.

148. First, the Commission adopts measures to refine its environmental and historic preservation review processes under NEPA and NHPA to account for new wireless technologies, including physically small facilities like those used in DAS networks and small-cell systems that are a fraction of the size of macrocell installations. Among these, the Commission expands an existing categorical exclusion from NEPA review so that it applies not only to collocations on buildings and towers, but also to collocations on other structures like utility poles. The Commission also adopts a new categorical exclusion from NEPA review for some kinds of deployments in utilities or communications rights-of-way. With respect to NHPA, the Commission creates new exclusions from section 106 review to address certain collocations that are currently subject to review only because of the age of the supporting structure. The Commission takes these steps to assure that, as the Commission continues to meet its responsibilities under NEPA and NHPA, the Commission also fulfills its obligation under the Communications Act to ensure that rapid, efficient, and affordable radio communications services are available to all Americans.

149. Second, regarding temporary towers, the Commission adopts a narrow exemption from the Commission's requirement that owners of proposed towers requiring ASR provide 30 days of national and local notice to give members of the public an opportunity to comment on the proposed tower's potential environmental effects. The exemption from notification requirements applies only to proposed temporary towers meeting defined criteria, including limits on the size and duration of the installation, that greatly reduce the likelihood of any significant environmental effects. Allowing licensees to deploy temporary towers meeting these criteria without first having to complete the Commission's environmental notification process will enable them to more effectively respond to emergencies, natural disasters, and other planned and unplanned short-term spikes in demand without undermining the purposes of the notification process. This exemption will "remove an administrative obstacle to the availability of broadband and other wireless services during major events and unanticipated periods of localized high demand" where expanded or substitute service is needed quickly.

150. Third, the Commission adopts rules to implement and enforce section 6409(a) of the Spectrum Act. Section 6409(a) provides, in part, that "a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station." By requiring timely approval of eligible requests, Congress intended to advance wireless broadband service for both public safety and commercial users. Section 6409(a) includes a number of undefined terms that bear directly on how the provision applies to infrastructure deployments, and the record confirms that there are substantial disputes on a wide range of interpretive issues under the provision. The Commission adopts rules that clarify many of these terms and enforce their requirements, thus advancing Congress's goal of facilitating rapid deployment. These rules will serve the public interest by providing guidance to all stakeholders on their rights and responsibilities under the provision, reducing delays in the review process for wireless infrastructure modifications, and facilitating the rapid deployment of wireless infrastructure and promoting advanced wireless broadband services.

151. Finally, the Commission clarifies issues related to section 332(c)(7) of the Communications Act and the Commission's *2009 Declaratory Ruling*. Among other things, the Commission explains when a siting application is complete so as to trigger the presumptively reasonable timeframes for local and State review of siting applications under the *2009 Declaratory Ruling*, and how the shot clock timeframes apply to local moratoria and DAS or small-cell facilities. These clarifications will eliminate many disputes under section 332(c)(7), provide certainty about timing related to siting applications (including the time at which applicants may seek judicial relief), and preserve State and municipal governments' critical role in the siting application process.

152. Taken together, the actions the Commission takes in the R&O will enable more rapid deployment of vital wireless facilities, delivering broadband and wireless innovations to consumers across the country. At the same time, they will safeguard the environment, preserve historic properties, protect the interest of Tribal Nations in their ancestral lands and cultural legacies, and address municipalities' concerns over impacts to aesthetics and other local values.

2. Summary of Significant Issues Raised by Public Comments in Response to the IRFA

153. No commenters directly responded to the IRFA. Some commenters raised issues of particular relevance to small entities, and the Commission addresses those issues in the FRFA.

3. Response to Comments by the Chief Counsel for Advocacy of the Small Business Administration

154. Pursuant to the Small Business Jobs Act of 2010, the Commission is required to respond to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration (SBA), and to provide a detailed statement of any change made to the proposed rules as a result of those comments. The Chief Counsel did not file any comments in response to the proposed rules in this proceeding.

4. Description and Estimate of the Number of Small Entities To Which Rules Will Apply

155. The RFA directs the Commission to provide a description of and, where feasible, an estimate of the number of small entities that will be affected by the rules, if adopted. The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small government jurisdiction." In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act. A small business concern is one which: (1) Is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.

156. The R&O adopts rule changes regarding local and Federal regulation of the siting and deployment of communications towers and other wireless facilities. Due to the number and diversity of owners of such infrastructure and other responsible parties, including small entities that are Commission licensees as well as non-licensees, the Commission classifies and quantify them in the remainder of this section.

157. Small Businesses, Small Organizations, and Small Governmental Jurisdictions. The Commission's action may, over time, affect a variety of small entities. To assist in assessing the R&O's effect on these entities, the Commission describes three comprehensive categories—small businesses, small organizations, and small governmental jurisdictions—that encompass entities that could be directly affected by the rules the Commission adopts. As of 2010, there were 27.9 million small businesses in the United States, according to the SBA. A "small organization" is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field." Nationwide, as of 2007, there were approximately 1,621,315 small organizations. Finally, the term "small governmental jurisdiction" is defined generally as "governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand." Census Bureau data for 2007 indicate that there were 89,527 governmental jurisdictions in the United States. The Commission estimates that, of this total, as many as 88,761 entities may qualify as "small governmental jurisdictions." Thus, the Commission estimates that most governmental jurisdictions are small.

158. Wireless Telecommunications Carriers (except satellite). The Census Bureau defines this category as follows: "This industry comprises establishments engaged in operating and maintaining switching and transmission facilities to provide communications via the airwaves. Establishments in this industry have spectrum licenses and provide services using that spectrum, such as cellular phone services, paging services, wireless Internet access, and wireless video services." The appropriate size standard under SBA rules is for the category Wireless Telecommunications Carriers (except Satellite). In this category, a business is small if it has 1,500 or fewer employees. For this category, census data for 2007 show that there were 1,383 firms that operated for the entire year. Of this total, 1,368 firms had employment of 999 or fewer employees and 15 had employment of 1000 employees or more. According to Commission data, 413 carriers reported that they were engaged in the provision of wireless telephony, including cellular service, PCS, and Specialized Mobile Radio (SMR) telephony services. Of these, an estimated 261 have 1,500 or fewer employees and 152 have more than 1,500 employees. Consequently, the Commission estimates that approximately half or more of these firms can be considered small. Thus, using available data, the Commission estimates that the majority of wireless firms can be considered small.

159. Personal Radio Services. Personal radio services provide short-range, low-power radio for personal communications, radio signaling, and business communications not provided

for in other services. Personal radio services include services operating in spectrum licensed under part 95 of the Commission's rules. These services include Citizen Band Radio Service, General Mobile Radio Service, Radio Control Radio Service, Family Radio Service, Wireless Medical Telemetry Service, Medical Implant Communications Service, Low Power Radio Service, and Multi-Use Radio Service. There are a variety of methods used to license the spectrum in these rule parts, from licensing by rule, to conditioning operation on successful completion of a required test, to site-based licensing, to geographic area licensing. Under the RFA, the Commission is required to make a determination of which small entities are directly affected by the rules the Commission adopts. Since all such entities are wireless, the Commission applies the definition of Wireless Telecommunications Carriers (except Satellite), pursuant to which a small entity is defined as employing 1,500 or fewer persons. Many of the licensees in these services are individuals, and thus are not small entities. In addition, due to the mostly unlicensed and shared nature of the spectrum utilized in many of these services, the Commission lacks direct information upon which to base an estimation of the number of small entities under an SBA definition that might be directly affected by the R&O.

160. Public Safety Radio Services. Public safety radio services include police, fire, local government, forestry conservation, highway maintenance, and emergency medical services. There are a total of approximately 127,540 licensees within these services. Governmental entities as well as private businesses comprise the licensees for these services. All governmental entities in jurisdictions with populations of less than 50,000 fall within the definition of a small entity.

161. Private Land Mobile Radio. Private Land Mobile Radio (PLMR) systems serve an essential role in a range of industrial, business, land transportation, and public safety activities. These radios are used by companies of all sizes operating in all U.S. business categories that operate and maintain switching and transmission facilities to provide communications via the airwaves. Establishments in this industry have spectrum licenses and provide services using that spectrum, such as cellular phone services, paging services, wireless Internet access, and wireless video services. The SBA has not developed a definition of small entity specifically applicable to PLMR licensees due to the vast array of PLMR users. The Commission believes that the most appropriate classification for PLMR is Wireless Communications Carriers (except satellite). The size standard for that category is that a business is small if it has 1,500 or fewer employees. For this category, census data for 2007 show that there were 11,163 establishments that operated for the entire year. Of this total, 10,791 establishments had employment of 999 or fewer employees and 372 had employment of 1000 employees or more. Thus under this category and the associated small business size standard, the Commission estimates that the majority of PLMR licensees are small entities that may be affected by its action.

162. Similarly, according to Commission data, 413 carriers reported that they were engaged in the provision of wireless telephony, including cellular service, PCS, and SMR telephony services. Of these, an estimated 261 have 1,500 or fewer employees and 152 have more than 1,500 employees. Consequently, the Commission estimates that approximately half or more of these firms can be considered small. Thus, using available data, the Commission estimates that the majority of wireless firms can be considered small.

163. The Commission's 1994 Annual Report on PLMRs indicates that at the end of fiscal year 1994 there were 1,087,267 licensees operating 12,481,989 transmitters in the PLMR bands below 512 MHz. Because any entity engaged in a commercial activity is eligible to hold a PLMR license, the rules the Commission adopts could potentially impact every small business in the United States.

164. Multiple Address Systems. Entities using Multiple Address Systems (MAS) spectrum, in general, fall into two categories: (1) Those using the spectrum for profit-based uses, and (2) those using the spectrum for private internal uses. With respect to the first category, the Commission defines "small entity" for MAS licensees as an entity that has average annual gross revenues of less than $15 million over the three previous calendar years. "Very small business" is defined as an entity that, together with its affiliates, has average annual gross revenues of not more than $3 million over the preceding three calendar years. The SBA has approved these definitions. The majority of MAS operators are licensed in bands where the Commission has implemented a geographic area licensing approach that requires the use of competitive bidding procedures to resolve mutually exclusive applications. The Commission's licensing database indicates that, as of April 16, 2010, there were a total of 11,653 site-based MAS station authorizations. Of these, 58 authorizations were associated with common carrier service. In addition, the Commission's licensing database indicates that, as of April 16, 2010, there were a total of 3,330 Economic Area market area MAS authorizations. The Commission's licensing database indicates that, as of April 16, 2010, of the 11,653 total MAS station authorizations, 10,773 authorizations were for private radio service. In addition, an auction for 5,104 MAS licenses in 176 EAs was conducted in 2001. Seven winning bidders claimed status as small or very small businesses and won 611 licenses. In 2005, the Commission completed an auction (Auction 59) of 4,226 MAS licenses in the Fixed Microwave Services from the 928/959 and 932/941 MHz bands. Twenty-six winning bidders won a total of 2,323 licenses. Of the 26 winning bidders in this auction, five claimed small business status and won 1,891 licenses.

165. With respect to the second category, which consists of entities that use, or seek to use, MAS spectrum to accommodate their own internal communications needs, MAS serves an essential role in a range of industrial, safety, business, and land transportation activities. MAS radios are used by companies of all sizes, operating in virtually all U.S. business categories, and by all types of public safety entities. For the majority of private internal users, the definition developed by the SBA would be more appropriate than the Commission's definition. The applicable definition of small entity in this instance appears to be the "Wireless Telecommunications Carriers (except satellite)" definition under the SBA rules. Under that SBA category, a business is small if it has 1,500 or fewer employees. For this category, census data for 2007 show that there were 11,163 establishments that operated for the entire year. Of this total, 10,791 establishments had employment of 99 or fewer employees and 372 had employment of 100 employees or more. Thus under this category and the associated small business size standard, the Commission estimates that the majority of wireless telecommunications carriers (except satellite) are small entities that may be affected by its action.

166. Broadband Radio Service and Educational Broadband Service. Broadband Radio Service systems—previously referred to as Multipoint

Distribution Service (MDS) and Multichannel Multipoint Distribution Service systems, and "wireless cable"—transmit video programming to subscribers and provide two-way high speed data operations using the microwave frequencies of the Broadband Radio Service (BRS) and Educational Broadband Service (EBS) (previously referred to as the Instructional Television Fixed Service). In connection with the 1996 BRS auction, the Commission established a small business size standard as an entity that had annual average annual gross revenues of no more than $40 million over the previous three calendar years. The BRS auctions resulted in 67 successful bidders obtaining licensing opportunities for 493 Basic Trading Areas (BTAs). Of the 67 auction winners, 61 met the definition of a small business. BRS also includes licensees of stations authorized prior to the auction. The Commission previously estimated that of the 61 small business BRS auction winners, based on its review of licensing records, 48 remain small business licensees. In addition to the 48 small businesses that hold BTA authorizations, there are approximately 86 incumbent BRS licensees that are considered small entities; 18 incumbent BRS licensees do not meet the small business size standard. After adding the number of small business auction licensees to the number of incumbent licensees not already counted, there are currently approximately 133 BRS licensees that are defined as small businesses under either the SBA's rules or the Commission's rules. In 2009, the Commission conducted Auction 86, which involved the sale of 78 licenses in the BRS areas. The Commission established three small business size standards that were used in Auction 86: (i) An entity with attributed average annual gross revenues that exceeded $15 million and did not exceed $40 million for the preceding three years was considered a small business; (ii) an entity with attributed average annual gross revenues that exceeded $3 million and did not exceed $15 million for the preceding three years was considered a very small business; and (iii) an entity with attributed average annual gross revenues that did not exceed $3 million for the preceding three years was considered an entrepreneur. Auction 86 concluded in 2009 with the sale of 61 licenses. Of the 10 winning bidders, two bidders that claimed small business status won four licenses; one bidder that claimed very small business status won three licenses; and two bidders that claimed entrepreneur status won six licenses. The Commission notes that, as a general matter, the number of winning bidders that qualify as small businesses at the close of an auction does not necessarily represent the number of small businesses currently in service.

167. In addition, the SBA's placement of Cable Television Distribution Services in the category of Wired Telecommunications Carriers is applicable to cable-based educational broadcasting services. Since 2007, Wired Telecommunications Carriers have been defined as follows: "This industry comprises establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired telecommunications networks. Transmission facilities may be based on a single technology or a combination of technologies." Establishments in this industry use the wired telecommunications network facilities that they operate to provide a variety of services, such as wired telephony services, including VoIP services; wired (cable) audio and video programming distribution; and wired broadband Internet services. Establishments providing satellite television distribution services using facilities and infrastructure that they operate are included in this industry. The SBA has determined that a business in this category is a small business if it has 1,500 or fewer employees. Census data for 2007 shows that there were 3,188 firms in this category that operated for the duration of that year. Of those, 3,144 had fewer than 1000 employees, and 44 firms had more than 1000 employees. Thus under this category and the associated small business size standard, the majority of such firms can be considered small. In addition to Census data, the Commission's Universal Licensing System indicates that as of July 2013, there are 2,236 active EBS licenses. The Commission estimates that of these 2,236 licenses, the majority are held by non-profit educational institutions and school districts, which are by statute defined as small businesses.

168. Location and Monitoring Service (LMS). LMS systems use non-voice radio techniques to determine the location and status of mobile radio units. For purposes of auctioning LMS licenses, the Commission has defined a "small business" as an entity that, together with controlling interests and affiliates, has average annual gross revenues for the preceding three years not to exceed $15 million. A "very small business" is defined as an entity that, together with controlling interests and affiliates, has average annual gross revenues for the preceding three years not to exceed $3 million. These definitions have been approved by the SBA. An auction for LMS licenses commenced on February 23, 1999 and closed on March 5, 1999. Of the 528 licenses auctioned, 289 licenses were sold to four small businesses.

169. Television Broadcasting. This Economic Census category "comprises establishments primarily engaged in broadcasting images together with sound. These establishments operate television broadcasting studios and facilities for the programming and transmission of programs to the public." The SBA has created the following small business size standard for such businesses: Those having $38.5 million or less in annual receipts. The 2007 U.S. Census indicates that 2,076 television stations operated in that year. Of that number, 1,515 had annual receipts of $10,000,000 dollars or less, and 561 had annual receipts of more than $10,000,000. Since the Census has no additional classifications on the basis of which to identify the number of stations whose receipts exceeded $38.5 million in that year, the Commission concludes that the majority of television stations were small under the applicable SBA size standard.

170. Apart from the U.S. Census, the Commission has estimated the number of licensed commercial television stations to be 1,387. In addition, according to Commission staff review of the BIA Advisory Services, LLC's *Media Access Pro Television Database* on March 28, 2012, about 950 of an estimated 1,300 commercial television stations (or approximately 73 percent) had revenues of $14 million or less. The Commission estimates that the majority of commercial television broadcasters are small entities.

171. The Commission notes, that in assessing whether a business concern qualifies as small under the above definition, business (control) affiliations must be included. Its estimate likely overstates the number of small entities that might be affected by its action because the revenue figure on which it is based does not include or aggregate revenues from affiliated companies. In addition, an element of the definition of "small business" is that the entity not be dominant in its field of operation. The Commission is unable at this time to define or quantify the criteria that would establish whether a specific television station is dominant in its field of operation. The estimate of small businesses to which rules may apply does not exclude any television station

from the definition of a small business on this basis and is possibly over-inclusive to that extent.

172. In addition, the Commission has estimated the number of licensed noncommercial educational (NCE) television stations to be 395. These stations are non-profit, and considered to be small entities.

173. There are also 2,414 LPTV stations, including Class A stations, and 4,046 TV translator stations. Given the nature of these services, the Commission will presume that all of these entities qualify as small entities under the above SBA small business size standard.

174. Radio Broadcasting. The SBA defines a radio broadcast station as a small business if it has no more than $35.5 million in annual receipts. Business concerns included in this category are those "primarily engaged in broadcasting aural programs by radio to the public." According to review of the BIA Publications, Inc. Master Access Radio Analyzer Database as of November 26, 2013, about 11,331 (or about 99.9 percent) of 11,341 commercial radio stations have revenues of $38.5 million or less and thus qualify as small entities under the SBA definition. The Commission notes that in assessing whether a business concern qualifies as small under the above definition, revenues from business (control) affiliations must be included. This estimate likely overstates the number of small entities that might be affected, because the revenue figure on which it is based does not include or aggregate revenues from affiliated companies.

175. In addition, an element of the definition of "small business" is that the entity not be dominant in its field of operation. The Commission is unable at this time to define or quantify the criteria that would establish whether a specific radio station is dominant in its field of operation. The estimate of small businesses to which rules may apply does not exclude any radio station from the definition of a small business on this basis and may be over-inclusive to that extent. Also, as noted, an additional element of the definition of "small business" is that the entity must be independently owned and operated. The Commission notes that it can be difficult to assess this criterion in the context of media entities and the estimates of small businesses to which they apply may be over-inclusive to this extent.

176. FM translator stations and low power FM stations. The rules and clarifications the Commission adopts could affect licensees of FM translator and booster stations and low power FM (LPFM) stations, as well as potential licensees in these radio services. The same SBA definition that applies to radio broadcast licensees would apply to these stations. The SBA defines a radio broadcast station as a small business if such station has no more than $38.5 million in annual receipts. Currently, there are approximately 6,155 licensed FM translator and booster stations and 864 licensed LPFM stations. Given the nature of these services, the Commission will presume that all of these licensees qualify as small entities under the SBA definition.

177. Multichannel Video Distribution and Data Service (MVDDS). MVDDS is a terrestrial fixed microwave service operating in the 12.2–12.7 GHz band. The Commission adopted criteria for defining three groups of small businesses for purposes of determining their eligibility for special provisions such as bidding credits. It defined a very small business as an entity with average annual gross revenues not exceeding $3 million for the preceding three years; a small business as an entity with average annual gross revenues not exceeding $15 million for the preceding three years; and an entrepreneur as an entity with average annual gross revenues not exceeding $40 million for the preceding three years. These definitions were approved by the SBA. On January 27, 2004, the Commission completed an auction of 214 MVDDS licenses (Auction No. 53). In this auction, ten winning bidders won a total of 192 MVDDS licenses. Eight of the ten winning bidders claimed small business status and won 144 of the licenses. The Commission also held an auction of MVDDS licenses on December 7, 2005 (Auction 63). Of the three winning bidders who won 22 licenses, two winning bidders, winning 21 of the licenses, claimed small business status.

178. Satellite Telecommunications. Two economic census categories address the satellite industry. Both establish a small business size standard of $32.54 million or less in annual receipts.

179. The first category, "Satellite Telecommunications," "comprises establishments primarily engaged in providing telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications." Census Bureau data for 2007 show that 607 Satellite Telecommunications establishments operated for that entire year. Of this total, 533 had annual receipts of under $10 million, and 74 establishments had receipts of $10 million or more. Consequently, the Commission estimates that the majority of Satellite Telecommunications firms are small entities that might be affected by its action.

180. The second category, "All Other Telecommunications," comprises "establishments primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications telemetry, and radar station operation. This industry also includes establishments primarily engaged in providing satellite terminal stations and associated facilities connected with one or more terrestrial systems and capable of transmitting telecommunications to, and receiving telecommunications from, satellite systems. Establishments providing Internet services or voice over Internet protocol (VoIP) services via client-supplied telecommunications connections are also included in this industry." For this category, Census data for 2007 shows that there were a total of 2,639 establishments that operated for the entire year. Of those, 2,333 operated with annual receipts of less than $10 million and 306 with annual receipts of $10 million or more. Consequently, the Commission estimates that a majority of All Other Telecommunications establishments are small entities that might be affected by its action.

181. Non-Licensee Tower Owners. Although at one time most communications towers were owned by the licensee using the tower to provide communications service, many towers are now owned by third-party businesses that do not provide communications services themselves but lease space on their towers to other companies that provide communications services. The Commission's rules require that any entity, including a non-licensee, proposing to construct a tower over 200 feet in height or within the glide slope of an airport must register the tower with the Commission on FCC Form 854. Thus, non-licensee tower owners may be subject to the environmental notification requirements associated with ASR registration, and may benefit from the exemption for certain temporary antenna structures that the Commission adopts in the R&O. In addition, non-licensee tower owners may be affected by its interpretations of section 6409(a) of the Spectrum Act or by its revisions to its interpretation of section 332(c)(7) of the Communications Act.

182. As of September 5, 2014, the ASR database includes approximately 116,643 registration records reflecting a "Constructed" status and 13,972 registration records reflecting a "Granted, Not Constructed" status. These figures include both towers registered to licensees and towers registered to non-licensee tower owners. The Commission does not keep information from which it can easily determine how many of these towers are registered to non-licensees or how many non-licensees have registered towers. Regarding towers that do not require ASR registration, the Commission does not collect information as to the number of such towers in use and cannot estimate the number of tower owners that would be subject to the rules the Commission adopts. Moreover, the SBA has not developed a size standard for small businesses in the category "Tower Owners." The Commission is unable to determine the number of non-licensee tower owners that are small entities. The Commission believes that when all entities owning 10 or fewer towers and leasing space for collocation are included, non-licensee tower owners number in the thousands, and that nearly all of these qualify as small businesses under the SBA's definition for "All Other Telecommunications." In addition, there may be other non-licensee owners of other wireless infrastructure, including DAS and small cells that might be affected by the regulatory measures the Commission adopts. The Commission does not have any basis for estimating the number of such non-licensee owners that are small entities.

5. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

183. The R&O adopts a narrow exemption from the Commission's requirement that owners of proposed towers requiring ASR registration provide 30 days of national and local notice to give members of the public an opportunity to comment on the proposed tower's potential environmental effects. The exemption from the notice requirements applies only to applicants seeking to register temporary antenna structures meeting certain criteria that greatly reduce the likelihood of any significant environmental effects. Specifically, proposed towers exempted from the Commission's local and national environmental notification requirement are those that (i) will be in use for 60 days or less, (ii) require notice of construction to the Federal Aviation Administration (FAA), (iii) do not require marking or lighting pursuant to FAA regulations, (iv) will be less than 200 feet in height, and (v) will involve minimal or no excavation.

184. The Commission's rules require that any entity, including a non-licensee, proposing to construct a tower over 200 feet in height or within the glide slope of an airport must register the tower with the Commission on FCC Form 854. An applicant seeking to claim the temporary towers exemption from the environmental notification process must indicate on its FCC Form 854 that it is claiming the exemption for a new, proposed temporary tower and demonstrate that the proposed tower satisfies the applicable criteria. While small entities must comply with these requirements in order to take advantage of the exemption, on balance, the relief from compliance with local and national environmental notification requirements provided by the exemption greatly reduces burdens and economic impacts on small entities.

185. The applicant may seek an extension of the exemption from the Commission's local and national environmental notification requirement of up to sixty days through another filing of Form 854, if the applicant can demonstrate that the extension of the exemption period is warranted due to changed circumstances or information that emerged after the exempted tower was deployed. The exemption adopted in the R&O is intended specifically for proposed towers that are intended and expected to be deployed for no more than 60 days, and the option to apply for an extension is intended only for cases of unforeseen or changed circumstances or information. Small entities, like all applicants, are expected to seek extensions of the exemption period only rarely and any burdens or economic impacts incurred by applying for such extensions should be minimal.

6. Steps Taken To Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered

186. The RFA requires an agency to describe any significant alternatives that it has considered in developing its approach, which may include the following four alternatives (among others): "(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities." The FRFA incorporates by reference all discussion in the R&O that considers the impact on small entities of the rules adopted by the Commission. In addition, the Commission's consideration of those issues as to which the impact on small entities was specifically discussed in the record is summarized below.

187. The actions taken in the R&O encourage and promote the deployment of advanced wireless broadband and other services by tailoring the regulatory review of new wireless network infrastructure consistent with the law and the public interest. The Commission anticipates that the steps taken in the R&O will not impose any significant economic impacts on small entities, and will in fact help reduce burdens on small entities by reducing the cost and delay associated with the deployment of such infrastructure.

188. In the R&O, the Commission takes action in four major areas relating to the regulation of wireless facility siting and construction. In each area, the rules the Commission adopts and clarifications the Commission makes will not increase burdens or costs on small entities. To the contrary, its actions will reduce costs and burdens associated with deploying wireless infrastructure.

189. First, the Commission adopts measures with regard to its NEPA process for review of environmental effects regarding wireless broadband deployment that should reduce existing regulatory costs for small entities that construct or deploy wireless infrastructure, and will not impose any additional costs on such entities. Specifically, the Commission clarifies that the existing NEPA categorical exclusion for antenna collocations on buildings and towers includes equipment associated with the antennas (such as wiring, cabling, cabinets, or backup-power), and that it also covers collocations in a building's interior. The Commission also expands the NEPA collocation categorical exclusion to cover collocations on structures other than buildings and towers, and adopts a new NEPA categorical exclusion for deployments, including deployments of new poles, in utility or communications rights-of-way that are in active use for such purposes, where the deployment does not constitute a substantial increase in size over the existing utility or communications uses. The Commission also adopts measures concerning its section 106 process for review of impact on historic properties. First, the Commission adopts certain

exclusions from section 106 review, and the Commission clarifies that the existing exclusions for certain collocations on buildings under the Commission's programmatic agreements extend to collocations inside buildings. These new exclusions and clarifications will reduce environmental compliance costs of small entities by providing that eligible proposed deployments of small wireless facilities do not require the preparation of an Environmental Assessment.

190. Second, the Commission adopts an exemption from the Commission's requirement that ASR applicants must provide local and national environmental notification prior to submitting a completed ASR application for certain temporary antenna structures meeting criteria that makes them unlikely to have significant environmental effects. Specifically, the Commission exempts antenna structures that (1) will be in place for 60 days or less; (2) require notice of construction to the FAA; (3) do not require marking or lighting under FAA regulations; (4) will be less than 200 feet above ground level; and (5) will involve minimal or no ground excavation. This exemption will reduce the burden on wireless broadband providers and other wireless service providers, including small entities.

191. Third, the Commission adopts several rules to clarify and implement the requirements of section 6409(a) of the Spectrum Act. In interpreting the statutory terms of this provision, such as "wireless tower or base station," "transmission equipment," and "substantially change the physical dimensions," the Commission generally does not distinguish between large and small entities, as the statute provides no indication that such distinctions were intended, and such distinctions have been proposed. Further, these clarifications will help limit potential ambiguities within the rule and thus reduce the burden associated with complying with this statutory provision, including the burden on small entities. Generally, the Commission clarifies that section 6409(a) applies only to State and local governments acting in their regulatory role and does not apply to such entities acting in their proprietary capacities.

192. With regard to the process for reviewing an application under section 6409(a), the Commission provides that a State or local government may only require applicants to provide documentation that is reasonably related to determining whether the eligible facility request meets the requirements of section 6409(a) and that, within 60 days from the date of filing (accounting for tolling), a State or local government shall approve an application covered by section 6409(a). Where a State or local government fails to act on an application covered under section 6409(a) within the requisite time period, the application is deemed granted. Parties may bring claims under section 6409(a) to a court of competent jurisdiction. The Commission declines to entertain such disputes in a Commission adjudication, which would impose significant burdens on localities, many of which are small entities with no representation in Washington, DC or experience before the Commission. Limiting relief to court adjudication lessens the burden on applicants in general, and small entities specifically.

193. Lastly, the Commission adopts clarifications of its 2009 Declaratory Ruling, which established the time periods after which a State or local government has presumptively failed to act on a facilities siting application "within a reasonable period of time" under section 332(c)(7) of the Act. Specifically, the Commission clarifies that the timeframe begins to run when an application is first submitted, not when it is deemed complete by the reviewing government. Further, a determination of incompleteness tolls the shot clock only if the State or local government provides notice to the applicant in writing within 30 days of the application's submission, specifically delineating all missing information. Following a submission in response to a determination of incompleteness, any subsequent determination that an application remains incomplete must be based solely on the applicant's failure to supply missing information that was identified within the first 30 days. These clarifications will provide greater certainty in the application process and reduce the potential or need for serial requests for more information. These clarifications will facilitate faster application processing, reduce unreasonable delay, and reduce the burden on regulated entities, including small businesses.

194. The Commission also clarifies that to the extent DAS or small-cell facilities, including third-party facilities such as neutral host DAS deployments, are or will be used for the provision of personal wireless services, their siting applications are subject to the same presumptively reasonable timeframes that apply to applications related to other personal wireless service facilities under section 332(c)(7). The Commission clarifies further that the presumptively reasonable timeframes run regardless of any applicable moratoria, and that municipal property preferences are not per se unreasonably discriminatory or otherwise unlawful under section 332(c)(7). Finally, the Commission concludes that the explicit remedies under section 332(c)(7) preclude adoption of a deemed granted remedy for failures to act. These clarifications reduce confusion and delay within the siting process which in turn reduces the burden on industry and State and local jurisdictions alike, which may include small entities.

7. Federal Rules That Might Duplicate, Overlap, or Conflict With the Rules

195. None.

8. Report to Congress

196. The Commission will send a copy of the R&O, including the FRFA, in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act.

9. Report to Small Business Administration

197. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, will send a copy of the R&O, including the FRFA, to the Chief Counsel for Advocacy of the SBA.

B. Paperwork Reduction Act

198. The R&O contains revised information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104–13. It will be submitted to the Office of Management and Budget (OMB) for review under section 3507(d) of the PRA. OMB, the general public, and other Federal agencies will be invited to comment on the modified information collection requirements contained in this proceeding in a separate **Federal Register** Notice. In addition, the Commission notes that pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107–198, see 44 U.S.C. 3506(c)(4), the Commission previously sought specific comment on how the Commission might further reduce the information collection burden for small business concerns with fewer than 25 employees. In addition, the Commission has described impacts that might affect small businesses, which includes most businesses with fewer than 25 employees, in the FRFA.

C. Congressional Review Act

199. The Commission will send a copy of the R&O in a report to be sent to Congress and the Government Accountability Office pursuant to the

Congressional Review Act (CRA), see 5 U.S.C. 801(a)(1)(A).

VI. Ordering Clauses

200. *It is ordered,* pursuant to sections 1, 2, 4(i), 7, 201, 301, 303, 309, and 332 of the Communications Act of 1934, as amended, sections 6003, 6213, and 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012, Public Law 112–96, 126 Stat. 156, 47 U.S.C. 151, 152, 154(i), 157, 201, 301, 303, 309, 332, 1403, 1433, and 1455(a), section 102(C) of the National Environmental Policy Act of 1969, as amended, 42 U.S.C. 4332(C), and section 106 of the National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470f, that the R&O IS *hereby adopted.* If any section, subsection, paragraph, sentence, clause or phrase of the R&O or the rules adopted therein is declared invalid for any reason, the remaining portions of the R&O and the rules adopted therein *shall be* severable from the invalid part and *shall remain* in full force and effect.

201. *It is further ordered* that parts 1 and 17 of the Commission's Rules ARE *amended* as set forth in Appendix B of the R&O (see the Final Rules contained in this summary), and that these changes *shall be effective* 30 days after publication in the **Federal Register**, except for section 1.40001, which *shall be effective* 90 days after publication in the **Federal Register**; provided that those rules and requirements that require approval by the Office of Management and Budget (OMB) under the Paperwork Reduction Act *shall become effective* after the Commission publishes a notice in the **Federal Register** announcing such approval and the relevant effective date.

202. *It is further ordered* that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, *shall send* a copy of this Report and Order, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

List of Subjects

47 CFR Part 1

Administrative practice and procedure, Communications common carriers, Environmental impact statements, Federal buildings and facilities, Radio, Reporting and recordkeeping requirements, Satellites, Telecommunications.

47 CFR Part 17

Aviation safety, Communications equipment, Reporting and recordkeeping requirements.

Federal Communications Commission.

Marlene H. Dortch,

Secretary.

Final Rules

For the reasons discussed in the preamble, the Federal Communications Commission amends 47 CFR part 1 and part 17 as follows:

PART 1—PRACTICE AND PROCEDURE

■ 1. The authority citation for part 1 is amended to read as follows:

Authority: 15 U.S.C. 79, *et seq.;* 47 U.S.C. 151, 154(i), 154(j), 155, 157, 160, 201, 225, 227, 303, 309, 332, 1403, 1404, 1451, 1452, and 1455.

■ 2. Section 1.1306 is amended by adding paragraph (c) and revising the first sentence of Note 1 read as follows:

§ 1.1306 Actions which are categorically excluded from environmental processing.

* * * * *

(c)(1) Unless § 1.1307(a)(4) is applicable, the provisions of § 1.1307(a) requiring the preparation of EAs do not encompass the construction of wireless facilities, including deployments on new or replacement poles, if:

(i) The facilities will be located in a right-of-way that is designated by a Federal, State, local, or Tribal government for communications towers, above-ground utility transmission or distribution lines, or any associated structures and equipment;

(ii) The right-of-way is in active use for such designated purposes; and

(iii) The facilities would not

(A) Increase the height of the tower or non-tower structure by more than 10% or twenty feet, whichever is greater, over existing support structures that are located in the right-of-way within the vicinity of the proposed construction;

(B) Involve the installation of more than four new equipment cabinets or more than one new equipment shelter;

(C) Add an appurtenance to the body of the structure that would protrude from the edge of the structure more than twenty feet, or more than the width of the structure at the level of the appurtenance, whichever is greater (except that the deployment may exceed this size limit if necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable); or

(D) Involve excavation outside the current site, defined as the area that is within the boundaries of the leased or owned property surrounding the deployment or that is in proximity to the structure and within the boundaries of the utility easement on which the facility is to be deployed, whichever is more restrictive.

(2) Such wireless facilities are subject to § 1.1307(b) and require EAs if their construction would result in human exposure to radiofrequency radiation in excess of the applicable health and safety guidelines cited in § 1.1307(b).

Note 1: The provisions of § 1.1307(a) requiring the preparation of EAs do not encompass the mounting of antenna(s) and associated equipment (such as wiring, cabling, cabinets, or backup-power), on or in an existing building, or on an antenna tower or other man-made structure, unless § 1.1307(a)(4) is applicable. * * *

* * * * *

■ 3. Section 1.1307 is amended by redesignating paragraph (a)(4) as (a)(4)(i), and by adding new paragraph (a)(4)(ii) and a Note to paragraph (a)(4)(ii) to read as follows:

§ 1.1307 Actions that may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.

(a) * * *

(4) * * *

(ii) The requirements in paragraph (a)(4)(i) of this section do not apply to:

(A) The mounting of antennas (including associated equipment such as wiring, cabling, cabinets, or backup-power) on existing utility structures (including utility poles and electric transmission towers in active use by a "utility" as defined in Section 224 of the Communications Act, 47 U.S.C. 224, but not including light poles, lamp posts, and other structures whose primary purpose is to provide public lighting) where the deployment meets the following conditions:

(*1*) All antennas that are part of the deployment fit within enclosures (or if the antennas are exposed, within imaginary enclosures) that are individually no more than three cubic feet in volume, and all antennas on the structure, including any pre-existing antennas on the structure, fit within enclosures (or if the antennas are exposed, within imaginary enclosures) that total no more than six cubic feet in volume;

(*2*) All other wireless equipment associated with the structure, including pre-existing enclosures and including equipment on the ground associated with antennas on the structure, are cumulatively no more than seventeen cubic feet in volume, exclusive of

(i) Vertical cable runs for the connection of power and other services;

(*ii*) Ancillary equipment installed by other entities that is outside of the applicant's ownership or control, and

(*iii*) Comparable equipment from pre-existing wireless deployments on the structure;

(*3*) The deployment will involve no new ground disturbance; and

(*4*) The deployment would otherwise require the preparation of an EA under paragraph (a)(4)(i) of this section solely because of the age of the structure; or

(B) The mounting of antennas (including associated equipment such as wiring, cabling, cabinets, or backup-power) on buildings or other non-tower structures where the deployment meets the following conditions:

(*1*) There is an existing antenna on the building or structure;

(*2*) One of the following criteria is met:

(*i*) *Non-Visible Antennas.* The new antenna is not visible from any adjacent streets or surrounding public spaces and is added in the same vicinity as a pre-existing antenna;

(*ii*) *Visible Replacement Antennas.* The new antenna is visible from adjacent streets or surrounding public spaces, provided that

(*A*) It is a replacement for a pre-existing antenna,

(*B*) The new antenna will be located in the same vicinity as the pre-existing antenna,

(*C*) The new antenna will be visible only from adjacent streets and surrounding public spaces that also afford views of the pre-existing antenna,

(*D*) The new antenna is not more than 3 feet larger in height or width (including all protuberances) than the pre-existing antenna, and

(*E*) No new equipment cabinets are visible from the adjacent streets or surrounding public spaces; or

(*iii*) *Other Visible Antennas.* The new antenna is visible from adjacent streets or surrounding public spaces, provided that

(*A*) It is located in the same vicinity as a pre-existing antenna,

(*B*) The new antenna will be visible only from adjacent streets and surrounding public spaces that also afford views of the pre-existing antenna,

(*C*) The pre-existing antenna was not deployed pursuant to the exclusion in this subsection (§ 1.1307(a)(4)(ii)(B)(*2*)(*iii*)),

(*D*) The new antenna is not more than three feet larger in height or width (including all protuberances) than the pre-existing antenna, and

(*E*) No new equipment cabinets are visible from the adjacent streets or surrounding public spaces;

(*3*) The new antenna complies with all zoning conditions and historic preservation conditions applicable to existing antennas in the same vicinity that directly mitigate or prevent effects, such as camouflage or concealment requirements;

(*4*) The deployment of the new antenna involves no new ground disturbance; and

(*5*) The deployment would otherwise require the preparation of an EA under paragraph (a)(4) of this section solely because of the age of the structure.

Note to paragraph (a)(4)(ii): A non-visible new antenna is in the "same vicinity" as a pre-existing antenna if it will be collocated on the same rooftop, façade or other surface. A visible new antenna is in the "same vicinity" as a pre-existing antenna if it is on the same rooftop, façade, or other surface and the centerpoint of the new antenna is within ten feet of the centerpoint of the pre-existing antenna. A deployment causes no new ground disturbance when the depth and width of previous disturbance exceeds the proposed construction depth and width by at least two feet.

* * * * *

■ 4. Add Subpart CC to part 1 to read as follows:

Subpart CC—State and Local Review of Applications for Wireless Service Facility Modification

§ 1.40001 Wireless Facility Modifications.

(a) *Purpose.* These rules implement section 6409 of the Spectrum Act (codified at 47 U.S.C. 1455), which requires a State or local government to approve any eligible facilities request for a modification of an existing tower or base station that does not substantially change the physical dimensions of such tower or base station.

(b) *Definitions.* Terms used in this section have the following meanings.

(1) *Base station.* A structure or equipment at a fixed location that enables Commission-licensed or authorized wireless communications between user equipment and a communications network. The term does not encompass a tower as defined in this subpart or any equipment associated with a tower.

(i) The term includes, but is not limited to, equipment associated with wireless communications services such as private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul.

(ii) The term includes, but is not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, regular and backup power supplies, and comparable equipment, regardless of technological configuration (including Distributed Antenna Systems and small-cell networks).

(iii) The term includes any structure other than a tower that, at the time the relevant application is filed with the State or local government under this section, supports or houses equipment described in paragraphs (b)(1)(i) through (ii) of this section that has been reviewed and approved under the applicable zoning or siting process, or under another State or local regulatory review process, even if the structure was not built for the sole or primary purpose of providing such support.

(iv) The term does not include any structure that, at the time the relevant application is filed with the State or local government under this section, does not support or house equipment described in paragraphs (b)(1)(i)–(ii) of this section.

(2) *Collocation.* The mounting or installation of transmission equipment on an eligible support structure for the purpose of transmitting and/or receiving radio frequency signals for communications purposes.

(3) *Eligible facilities request.* Any request for modification of an existing tower or base station that does not substantially change the physical dimensions of such tower or base station, involving:

(i) Collocation of new transmission equipment;

(ii) Removal of transmission equipment; or

(iii) Replacement of transmission equipment.

(4) *Eligible support structure.* Any tower or base station as defined in this section, provided that it is existing at the time the relevant application is filed with the State or local government under this section.

(5) *Existing.* A constructed tower or base station is existing for purposes of this section if it has been reviewed and approved under the applicable zoning or siting process, or under another State or local regulatory review process, provided that a tower that has not been reviewed and approved because it was not in a zoned area when it was built, but was lawfully constructed, is existing for purposes of this definition.

(6) *Site.* For towers other than towers in the public rights-of-way, the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site, and, for other eligible support structures, further restricted to that area in proximity to the structure and to other transmission equipment already deployed on the ground.

(7) *Substantial change.* A modification substantially changes the physical dimensions of an eligible

support structure if it meets any of the following criteria:

(i) For towers other than towers in the public rights-of-way, it increases the height of the tower by more than 10% or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater; for other eligible support structures, it increases the height of the structure by more than 10% or more than ten feet, whichever is greater;

(A) Changes in height should be measured from the original support structure in cases where deployments are or will be separated horizontally, such as on buildings' rooftops; in other circumstances, changes in height should be measured from the dimensions of the tower or base station, inclusive of originally approved appurtenances and any modifications that were approved prior to the passage of the Spectrum Act.

(ii) For towers other than towers in the public rights-of-way, it involves adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater; for other eligible support structures, it involves adding an appurtenance to the body of the structure that would protrude from the edge of the structure by more than six feet;

(iii) For any eligible support structure, it involves installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets; or, for towers in the public rights-of-way and base stations, it involves installation of any new equipment cabinets on the ground if there are no pre-existing ground cabinets associated with the structure, or else involves installation of ground cabinets that are more than 10% larger in height or overall volume than any other ground cabinets associated with the structure;

(iv) It entails any excavation or deployment outside the current site;

(v) It would defeat the concealment elements of the eligible support structure; or

(vi) It does not comply with conditions associated with the siting approval of the construction or modification of the eligible support structure or base station equipment, provided however that this limitation does not apply to any modification that is non-compliant only in a manner that would not exceed the thresholds identified in § 1.40001(b)(7)(i) through (iv).

(8) *Transmission equipment.* Equipment that facilitates transmission for any Commission-licensed or authorized wireless communication service, including, but not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, and regular and backup power supply. The term includes equipment associated with wireless communications services including, but not limited to, private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul.

(9) *Tower.* Any structure built for the sole or primary purpose of supporting any Commission-licensed or authorized antennas and their associated facilities, including structures that are constructed for wireless communications services including, but not limited to, private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul, and the associated site.

(c) *Review of applications.* A State or local government may not deny and shall approve any eligible facilities request for modification of an eligible support structure that does not substantially change the physical dimensions of such structure.

(1) *Documentation requirement for review.* When an applicant asserts in writing that a request for modification is covered by this section, a State or local government may require the applicant to provide documentation or information only to the extent reasonably related to determining whether the request meets the requirements of this section. A State or local government may not require an applicant to submit any other documentation, including but not limited to documentation intended to illustrate the need for such wireless facilities or to justify the business decision to modify such wireless facilities.

(2) *Timeframe for review.* Within 60 days of the date on which an applicant submits a request seeking approval under this section, the State or local government shall approve the application unless it determines that the application is not covered by this section.

(3) *Tolling of the timeframe for review.* The 60-day period begins to run when the application is filed, and may be tolled only by mutual agreement or in cases where the reviewing State or local government determines that the application is incomplete. The timeframe for review is not tolled by a moratorium on the review of applications.

(i) To toll the timeframe for incompleteness, the reviewing State or local government must provide written notice to the applicant within 30 days of receipt of the application, clearly and specifically delineating all missing documents or information. Such delineated information is limited to documents or information meeting the standard under paragraph (c)(1) of this section.

(ii) The timeframe for review begins running again when the applicant makes a supplemental submission in response to the State or local government's notice of incompleteness.

(iii) Following a supplemental submission, the State or local government will have 10 days to notify the applicant that the supplemental submission did not provide the information identified in the original notice delineating missing information. The timeframe is tolled in the case of second or subsequent notices pursuant to the procedures identified in this paragraph (c)(3). Second or subsequent notices of incompleteness may not specify missing documents or information that were not delineated in the original notice of incompleteness.

(4) *Failure to act.* In the event the reviewing State or local government fails to approve or deny a request seeking approval under this section within the timeframe for review (accounting for any tolling), the request shall be deemed granted. The deemed grant does not become effective until the applicant notifies the applicable reviewing authority in writing after the review period has expired (accounting for any tolling) that the application has been deemed granted.

(5) *Remedies.* Applicants and reviewing authorities may bring claims related to Section 6409(a) to any court of competent jurisdiction.

PART 17—CONSTRUCTION, MARKING, AND LIGHTING OF ANTENNA STRUCTURES

■ 5. The authority citation for part 17 continues to read as follows:

Authority: Sections 4, 303, 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303. Interpret or apply sections 301, 309, 48 Stat. 1081, 1085 as amended; 47 U.S.C. 301, 309.

■ 6. Amend § 17.4 by revising paragraphs (c)(1)(v) and (c)(1)(vi), and adding paragraph (c)(1)(vii) to read as follows:

§ 17.4 Antenna structure registration.

* * * * *

(c) * * *

(1) * * *

(v) For any other change that does not alter the physical structure, lighting, or geographic location of an existing structure;

(vi) For construction, modification, or replacement of an antenna structure on Federal land where another Federal agency has assumed responsibility for evaluating the potentially significant environmental effect of the proposed antenna structure on the quality of the human environment and for invoking any required environmental impact statement process, or for any other structure where another Federal agency has assumed such responsibilities pursuant to a written agreement with the Commission (*see* § 1.1311(e) of this chapter); or

(vii) For the construction or deployment of an antenna structure that will:

(A) Be in place for no more than 60 days,

(B) Requires notice of construction to the FAA,

(C) Does not require marking or lighting under FAA regulations,

(D) Will be less than 200 feet in height above ground level, and

(E) Will either involve no excavation or involve excavation only where the depth of previous disturbance exceeds the proposed construction depth (excluding footings and other anchoring mechanisms) by at least two feet. An applicant that relies on this exception must wait 30 days after removal of the antenna structure before relying on this exception to deploy another antenna structure covering substantially the same service area.

* * * * *

[FR Doc. 2014–28897 Filed 1–7–15; 8:45 am]

BILLING CODE 6712–01–P

ALPINE CITY COUNCIL AGENDA

SUBJECT: Site Plan – Proposed Wireless Tower at Burgess Park

FOR CONSIDERATION ON: 13 August 2019

PETITIONER: Verizon Wireless

ACTION REQUESTED BY PETITIONER: Review and approve the proposed site plan.

BACKGROUND INFORMATION:

Verizon is seeking to improve cellular service and coverage to the community around Burgess Park and feels that in order to accomplish this it would be best to locate the proposed facility near the users. The proposed site was selected based on this network's maturity, unique coverage and capacity needs. The petitioner has stated that moving the site even a few hundred feet, outside of the target area, could affect coverage, creating the need for one or more additional sites.

The proposed wireless telecommunications tower is an 80-foot tall monopole tower designed to look like a pine tree ("Monopine" design). It is proposed that the tower be located at the south end of Burgess Park, just north of the southern baseball diamond.

Staff are recommending that the City work with the provider on selecting a site for the new tower. The City ordinance states that the preferred location for a new wireless telecommunications facility is on City property since it provides the City the opportunity to lease the tower and facility, thus creating a revenue for the City to help offset the impact of the facility on the community.

Staff have reviewed the proposed site plan and found that it meets the requirements set forth in the Development Code for a new tower. New wireless communications towers shall meet the following requirements found in Article 3.27 of the Aline City Development Code:

a) Location
    i. The proposed site is on City owned property, which is an approved location. Tower is also to be located away from other towers (1/4 mile) and can be no closer than two times the height of the tower to a residence, and the proposed tower meets these requirements.
b) Type of Tower
    i. The proposed tower is a monopole type tower, which is a permitted type of tower, and does not exceed the 80-foot height limit.
c) Co-Location
    i. Towers shall be large enough to "accommodate at least two (2) additional wireless telecommunications providers". The tower is a 3-carrier tower.
d) Safety

i. Towers must comply with FCC and FAA regulations. The petitioner has submitted documentation to support this.
ii. Tower must be protected against unauthorized climbing. Plans show no climbing pegs on the lower portion of the tower.
iii. Fencing. Tower must be enclosed by a minimum 6-foot high fence. Plans show 6-foot chain-link with barb wire.
iv. Lighting. Must meet FAA regulations. Petitioner has submitted site plan data to FAA for review.
v. Emergency. City holds the right to move or alter the facility in case of an emergency.

e) Additional Requirements
i. Accessory Structures. Any structure on site cannot exceed 450 square feet. Plans show no structures that exceed the requirement.
ii. Parking. If no parking is present it must be provided. Burgess Park has plenty of parking.
iii. Maintenance. Site will be visited once per month by certified tech.
iv. Landscaping. A landscaping plan is required, which has been provided as part of the site plan. To be reviewed and recommended by Planning Commission and approved by City Council.
v. Fencing. City can determine the type of fencing if needed.
vi. Color and materials. City typically makes an administrative decision as to the look of the tower; however, the City Council reviewed the proposal for color and materials and selected the Monopine design.
vii. Facility Signs. Facility shall only have signs for emergency contact info, public safety, warnings, certification, and other required seals.
viii. Utility Lines. Line shall be buried. The proposed plans show the utilities located underground.
ix. Business License. Annual business license shall be required for each facility.

Petitioner is asking that the City Council review and approve the proposed site plan. Staff have reviewed the proposed site plan and application and it appears to meet the requirements set forth in the Development Code.

Planning Commission made a recommendation to deny the site plan as proposed:

> ***MOTION**: Alan Macdonald moved to recommend denying approval of the proposed Verizon Wireless Tower at Burgess Park because the proposed usage is inconsistent with the character of a public park, and the health, safety, welfare, and esthetics of Burgess Park in particular. Sylvia Christiansen seconded the motion.*
>
> *Sylvia Christiansen asked whether the pole could be moved to the upper North West corner, behind the pavilion. John MacKay asked whether a better-looking fencing could be installed. He explained the current option was very unsightly in a park.*
>
> *It was noted that the plans showed shrubs*
>
> *Bradley Reneer, 270 Orchid Drive, stated that the last proposed site was near is residence. Alan Macdonald stated that he believed the park was a good option, but with a different location. Mr. Reneer explained that the suggested location was near the most used pavilion*

in the park. In terms of aesthetics, he explained that there were lots of telephone poles and power lines in the area, and that citizens grew used to them. He suggested avoiding putting a costume on the pole: the pole did not need to be dressed like a pine tree. He would rather see just a pole since it would be in his back yard. He added that his main concern, however, was the health risks of the tower. He added that some studies had showed health issues associated with the towers.

There were 4 Ayes and 1 Nay (recorded below). The motion passed.

Ayes:	***Nays:***
Alan MacDonald	*Bryce Higbee*
John MacKay	
Jessica Smuin	
Sylvia Christiansen	

Alan MacDonald stated that he would like to see the pole in Burgess Park, but more in the middle of the park. He added that the tower should be treated like a telephone pole. He further mentioned that the Council could decide to approve against the Commission's recommendation or send the item back to the Commission.

STAFF RECOMMENDATION:

Review and consider approving the proposed site plan and conditional use.

Sample Motion to Approve:
I motion to approve the site plan as proposed.

Sample Motion to Deny:
I motion that the site plan be denied based on the following:

- ***Insert Finding***

PRO Digious- CUP Application
Verizon Wireless at Burgess Park
Plan Review Narrative

1. There will be a tech visiting the site once a month to test the system performance of the site. They will park a standard work truck near the site and access the compound to run diagnostics on the equipment. This will be the only required maintenance at the site barring an emergency or malfunctioning antennas, which are rare occurrences.

2. This site is to alleviate capacity issues in the Alpine City area. With the number of residences and schools in the area, this site is necessary to help improve capacity and to improve the overall quality of the Verizon Wireless network in Alpine City. As the number of wireless users increase in the area, this site will be necessary to insure that capacity needs will be met for Verizon customers in the community.

3. Since the communications facility is proposed to be located on Alpine City owned property, we have been and will continue to work with the City on the site approval and its construction.

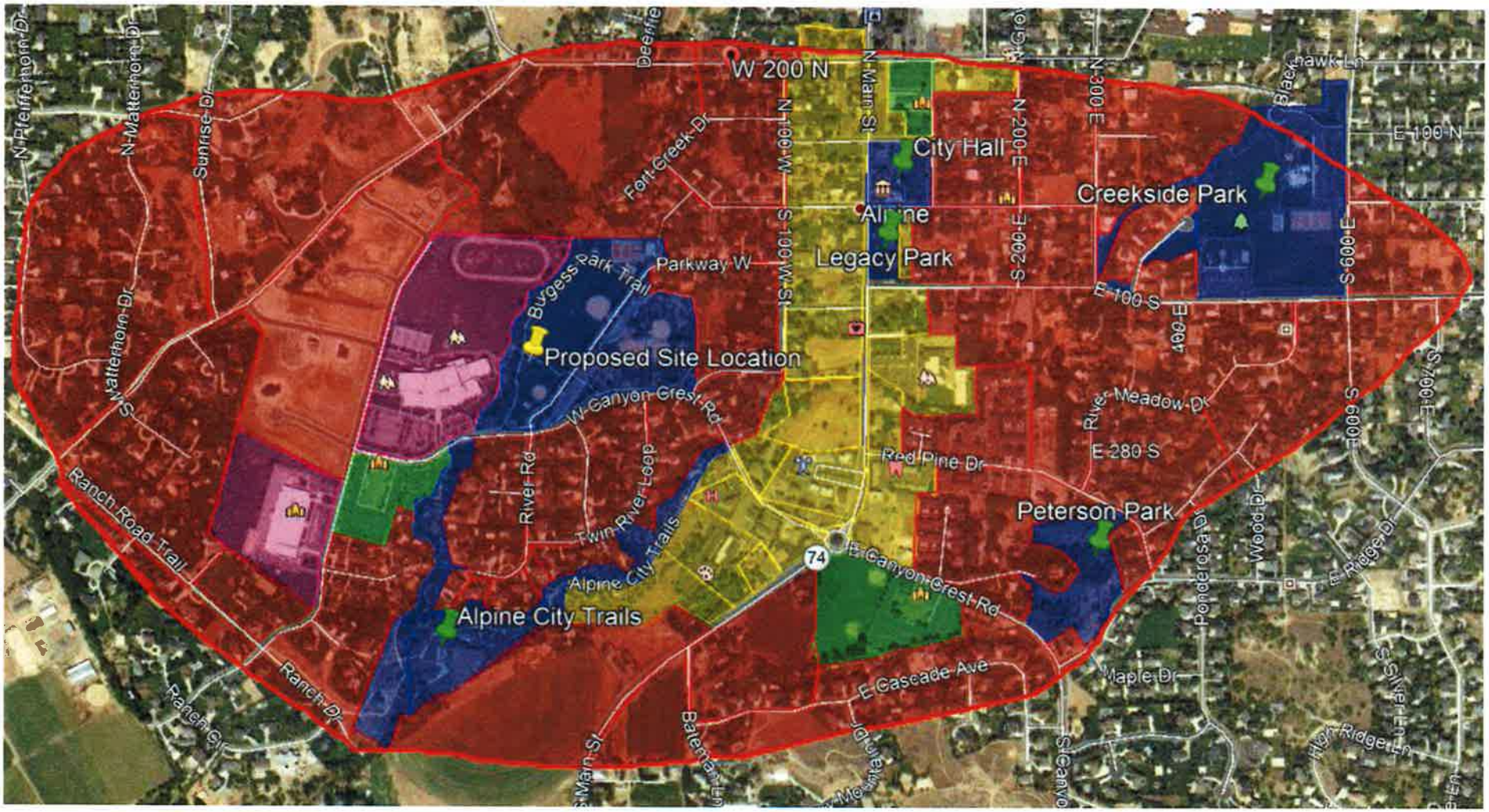
4. Verizon commits to complying with all applicable Federal Communications Commission (FCC) regulations pertaining to radio frequency emissions.

5. The liaison for this project is Troy Benson of Technology associates. He can be reached at (801) 608-7042 and troy.benson@taec.net . His office is located at 7896 South Highland Drive, Suite 200, Cottonwood Heights, UT 84121. Please feel free to reach out to him with any questions or comments on this project.

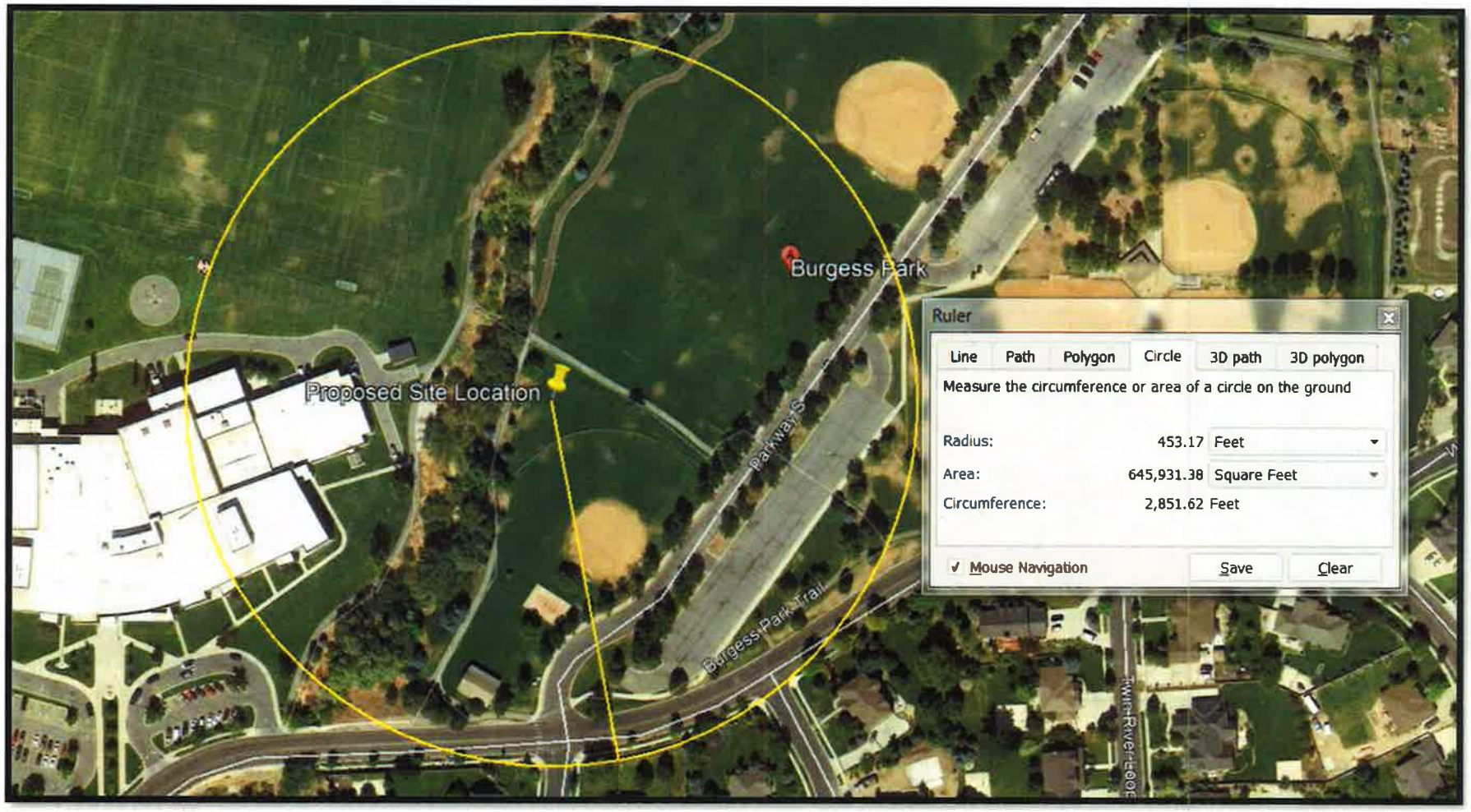
Sincerely,

Troy Benson
Technology Associates EC INC.
Real Estate Specialist | troy.benson@taec.net | (801) 608-7042
7896 South Highland Drive, Suite 200 | Cottonwood Heights | Utah 84121

PRO Digious – Search Area



Residential Setback



Wireless facilities and property values.

Cell service in and around the home has emerged as a critical factor in home-buying decisions.

National studies demonstrate that most home buyers value good cell service over many other factors including the proximity of schools when purchasing a home.

75%

More than 75% of prospective home buyers said a good cellular connection was important to them.[1]

83%

The same study showed that 83% of Millennials (those born between 1982 and 2004) said cell service was the most important fact in purchasing a home.

90%

90% of U.S. households use wireless service. Citizens need access to 911 and reverse 911 and wireless may be their only connection.[2]

1. RootMetrics/Money, The Surprising Thing Home Buyers Care About More than Schools, June 2, 2015
2. CTIA, June 2015

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Health and safety background.

Health and safety organizations world-wide have studied potential health effects of RF emissions for decades, and studies continue.

1,000 times less

According to the FCC, measurements made near a typical 40 foot cell site have shown that ground-level power densities are 1,000 times less than the FCC's limits for safe exposure.

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The Federal Communications Commission (FCC) guidelines for operating wireless networks are based on the recommendations of federal health and safety agencies including:

- The Environmental Protection Agency (EPA)
- The Food and Drug Administration (FDA)
- The National Institute for Occupational Safety and Health (NIOSH)
- The Occupational Safety and Health Administration (OSHA)
- The Institute of Electrical and Electronics Engineers (IEEE)
- The National Council on Radiation Protection and Measurements (NCRP)

Wireless technology, equipment and network operations are highly regulated.

More information can be found through these organizations:

Federal Communications Commission Radio Frequency Safety Program:

http://wireless.fcc.gov/siting/FCC_LSGAC_RF_Guide.pdf

http://www.fcc.gov/oet/rfsafety/

Food & Drug Administration "Cell phone facts":

http://www.fda.gov/Radiation-EmittingProducts/RadiationEmittingProductsandProcedures/HomeBusinessandEntertainment/CellPhones/ucm116282.htm

World Health Organization:

http://www.who.int/peh-emf/publications/facts/fs304/en/

American Cancer Society

http://www.cancer.org/cancer/cancercauses/othercarcinogens/athome/cellular-phone-towers

Why are we expanding the wireless network?

More people than ever before rely on wireless connections to manage their lives and businesses.

Verizon is expanding its wireless network to meet the growing demands of today and tomorrow.

But it takes time.

The average North American smartphone user will consume 48 GB of data per month in 2023, up from just 5.2 GB per month in 2016 and 7.1 GB per month in 2017 .[1]

Of American homes are wireless only.[2]

In North America, the average household has 13 connected devices with smartphones outnumbering tablets 6 to 1.[3]

1. Ericsson Mobility Report, November 2017
2. CDC's 2018 Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, January-July, 2018
3. IHS Market Connected Device Market Monitor: Q1 2016 , June 7, 2016

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Staying ahead of demand.

A wireless network is like a highway system...

More wireless traffic needs more wireless facilities just like more vehicle traffic needs more lanes.

- Many wireless users share each cell site and congestion may result when too many try to use it at the same time.
- Wireless coverage may already exist in an area, but with data usage growth increasing exponentially each year, more capacity is needed.
- To meet capacity demands, we need to add more wireless antennas closer to users and closer to other cell sites to provide the reliable service customers have come to expect from Verizon.

In the US, mobile data traffic was 1.3 Exabytes per month in 2016, the equivalent of 334 million DVDs each month or 3,687 million text messages each second.*

*Cisco VNI Mobile Forecast Highlights, 2016-2021, February 2017

verizon

Verizon Wireless Communications Facility

Engineering Necessity Case – Pro Digious

Prepared by: Jeff Jockumsen

June 28 2019

Rv. 1/18

verizon

“Existing” Coverage

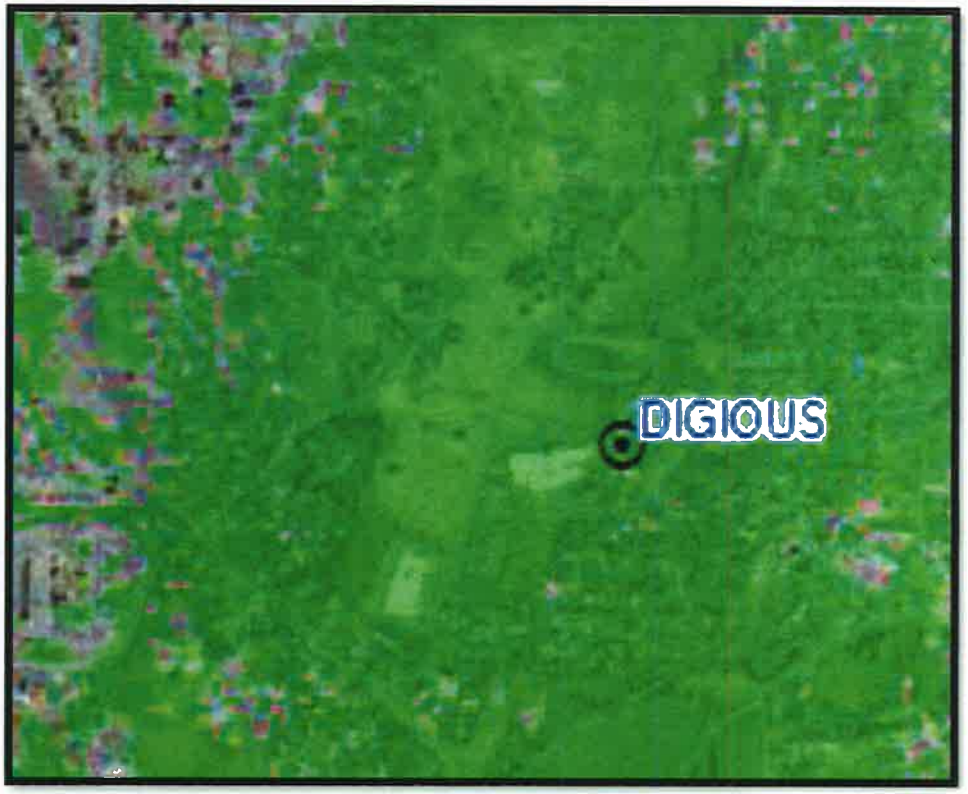
verizon

“Improved” Coverage

verizon

"As Is" Footprint

"As Improved" Footprint



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Verizon is part of your community.

Because we live and work there too.

We believe technology can help solve our biggest social problems.

We're working with innovators, community leaders, non-profits, universities and our peers to address some of the unmet challenges in education, healthcare and energy management.

Learn more about our corporate social responsibility at www.verizon.com.

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Proposed
Site Location

verizon

PRO - DIGIOUS

SITE INFORMATION

APPLICANT:
VERIZON WIRELESS
9656 SOUTH PROSPERITY ROAD
WEST JORDAN, UTAH 84088

SITE ADDRESS:
CANYON CREST ROAD AND PARKWAY DRIVE
ALPINE, UTAH 84004

LATITUDE AND LONGITUDE:
N 40°27'02.58", W 111°47'06.88"

ZONING JURISDICTION:
ALPINE CITY

PROJECT DESCRIPTION:
VZW IS PROPOSING TO CONSTRUCT AN UNMANNED COMMUNICATIONS FACILITY CONSISTING OF ANTENNAS MOUNTED TO A NEW MONOPINE WITH OUTDOOR EQUIPMENT AND GENERATOR

TYPE OF CONSTRUCTION:
OUTDOOR EQUIPMENT AND GENERATOR, MONOPINE, AND ANTENNAS

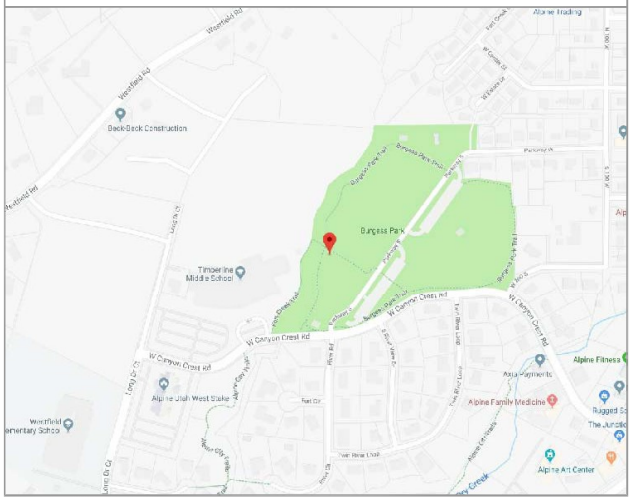
HANDICAP REQUIREMENTS:
FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION, HANDICAP ACCESS REQUIREMENTS DO NOT APPLY

POWER COMPANY:
ROCKY MOUNTAIN POWER, 1-888-221-7070

CONTACT INFORMATION

SITE ACQUISITION:
TECHNOLOGY ASSOCIATES EC, INC
7896 SOUTH HIGHLAND DRIVE, SUITE 200
COTTONWOOD HEIGHTS, UTAH 84121
CONTACT: TROY BENSON
PHONE: 801-608-7042

LOCATION MAP



DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS, AND EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE, AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME

DRIVING DIRECTIONS

FROM THE VZW WEST JORDAN OFFICES, TAKE I-15 SOUTH FOR 6 MILES TO HIGHLAND/ALPINE EXIT #284 FOR S.R. 92. TURN LEFT (HEADING EAST) AND TAKE A SLIGHT RIGHT ON THE TIMPANOGOS HIGHWAY COMMUTER LANE AND CONTINUE EAST FOR 5.3 MILES TO 5300 WEST. TURN LEFT AND HEAD NORTH FOR 1.2 MILES TO THE TRAFFIC CIRCLE. TAKE THE THIRD EXIT OF THE TRAFFIC SIGNAL FOR CANYON CREST ROAD AND HEAD NORTHWESTERLY FOR 0.5 MILES TO PARKWAY DRIVE. TURN RIGHT AND GO NORTH TO THE PARKING LOT ON THE RIGHT (EAST) SIDE OF THE STREET. THE VZW FACILITY WILL BE LOCATED NORTH OF THE BASEBALL FIELD ON THE LEFT (WEST) SIDE OF THE STREET.

APPROVALS

VERIZON WIRELESS REPRESENTATIVE:	
VERIZON WIRELESS RF ENGINEER:	
TAEC SITE ACQUISITION:	
TAEC CONSTRUCTION MANAGER:	
SITE OWNER:	

DRAWING INDEX

SHEET NO.	SHEET TITLE	REV	REV DATE
T100	TITLE SHEET, VICINITY MAP, GENERAL SITE INFORMATION	0	
SURV	SITE SURVEY	0	
C100	OVERALL SITE PLAN	0	
C101	ENLARGED SITE PLAN	0	
C200	SITE ELEVATIONS	0	

UNDERGROUND SERVICE ALERT, CALL 'BLUE STAKES OF UTAH' @ 811 OR 1-800-662-4111
THREE WORKING DAYS BEFORE YOU DIG

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9656 SOUTH PROSPERITY ROAD
WEST JORDAN, UTAH 84088

Technology Associates
UTAH MARKET OFFICE
7896 SOUTH HIGHLAND DRIVE, SUITE 200
COTTONWOOD HEIGHTS, UTAH 84121
CORPORATE OFFICE
3115 SOUTH MELROSE DRIVE, SUITE #110
CARLSBAD, CALIFORNIA 92010

DRAWN BY:	JAY C
CHECKED BY:	TROY B

REV	DATE	DESCRIPTION
0	04.23.2019	ZONING DRAWINGS

PRO - DIGIOUS
SW SEC 24 & SE SEC 25, T4S, R1E
CANYON CREST ROAD AND PARKWAY DRIVE
ALPINE, UTAH 84004

SHEET TITLE
TITLE SHEET
VICINITY MAP
GENERAL INFORMATION

SHEET NUMBER
T100

ASAC INFORMATION SHEET 91:003

INFORMATION REGARDING SURVEY DATA SUBMITTED TO THE FAA

FAA Order 8260.19c requires proponents of certain proposed construction (located beneath instrument procedures) provide the FAA with a site survey and/or letter, from a licensed land surveyor, which certifies the site coordinates and the surface elevation at the site. On October 15, 1992, the FAA started using the North American Datum of 1983 (NAD-83), and therefore all site coordinates should be based on NAD-83. The FAA requires that the survey letter contain an accuracy statement that meets accuracy tolerances required by the FAA. The most requested tolerances are +/- 50 feet in the horizontal and +/- 20 feet in the vertical (2-C). When the site coordinates and/or site elevation can be certified to a greater accuracy than requested by the FAA, please do so.

In order to avoid FAA processing delays, the original site survey or certifying letter should be attached to the 7460 when it is filed at the FAA's regional office. It must be signed and sealed by the licensed land surveyor having performed or supervised the survey.

The FAA accuracy codes and a sample accuracy statement are listed below.

ACCURACY CODES:

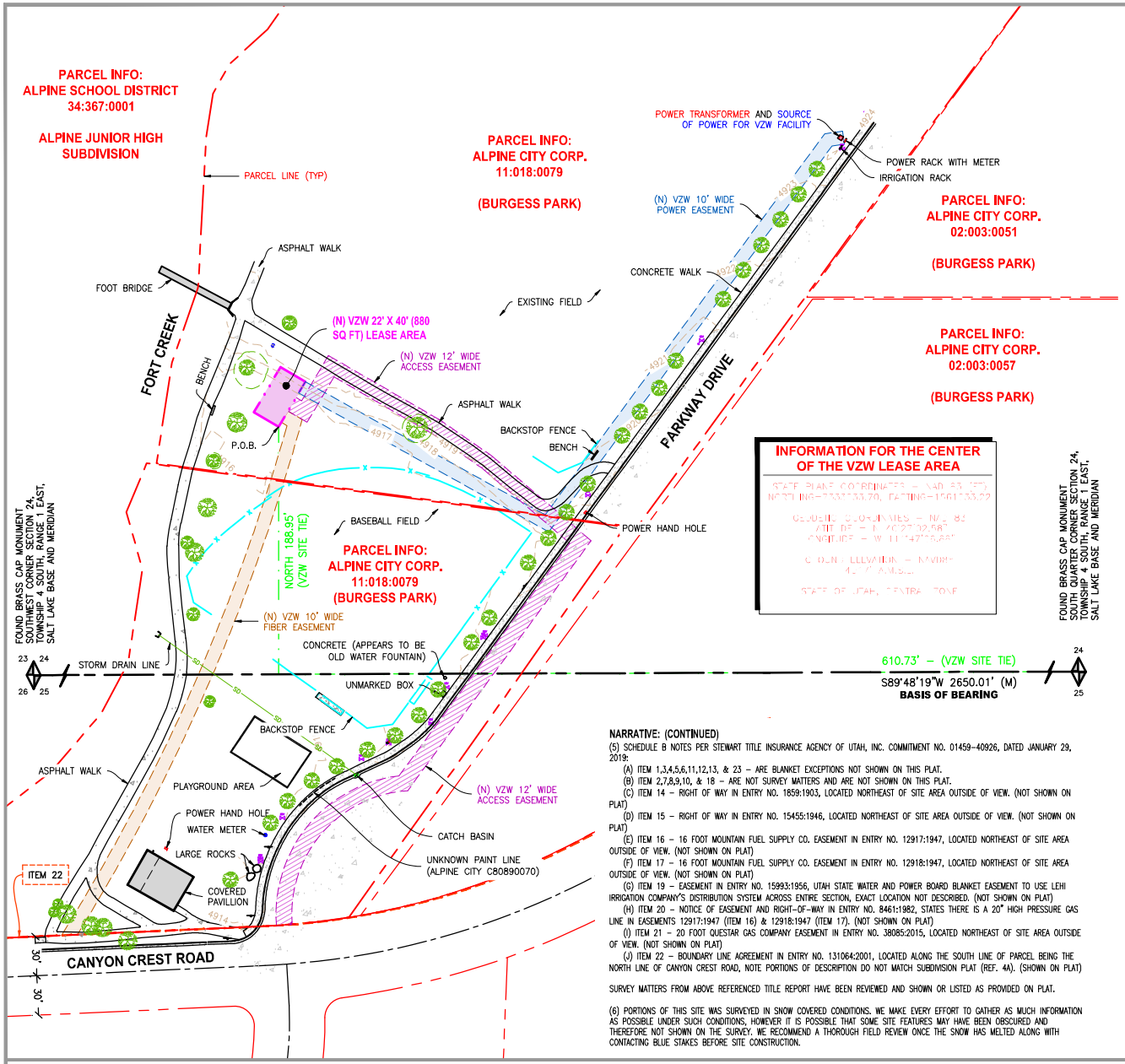
HORIZONTAL		VERTICAL	
Code	Tolerance	Code	Tolerance
1	+/- 15 ft	A	+/- 3 ft
2	+/- 50 ft	B	+/- 10 ft
3	+/- 100 ft	C	+/- 20 ft
4	+/- 250 ft	D	+/- 50 ft
5	+/- 500 ft	E	+/- 125 ft
6	+/- 1000 ft	F	+/- 250 ft
7	+/- 1/2 NM	G	+/- 500 ft
8	+/- 1 NM	H	+/- 1000 ft
9	Unknown	I	Unknown

Date: APRIL 22, 2019

Re: PRO - DIGIOUS
SW 1/4 OF SECTION 24, TOWNSHIP 4 SOUTH, RANGE 1 EAST, SALT LAKE MERIDIAN

I certify that the latitude of N 40°27'02.58", and the longitude of W 111°47'06.88", are accurate to within 15 feet horizontally and the site elevation of 4917 feet, AMSL (American Mean Sea Level), is accurate to within +/- 3 feet vertically. The horizontal datum (coordinates) are in terms of the North American Datum of 1983 (NAD-83) and are expressed as degrees, minutes and seconds, to the nearest (tenth/hundredth) of a second. The vertical datum (heights) are in terms of the (NAVD88) and are determined to the nearest foot.

Professional Licensed Land Surveyor: _____
1-A FAA Letter Jerry Fletcher, Utah LS no. 6436064



CERTIFICATE OF SURVEY:
I, JERRY FLETCHER, PROFESSIONAL LAND SURVEYOR, STATE OF UTAH, LICENSE NUMBER 6436064, CERTIFY THAT I HAVE SUPERVISED A SURVEY ON THE GROUND AS SHOWN HEREON:

VERIZON WIRELESS LEASE SITE DESCRIPTION:
LOCATED IN THE SOUTHWEST QUARTER OF SECTION 24 AND THE SOUTHEAST QUARTER OF SECTION 25, TOWNSHIP 4 SOUTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN, UTAH COUNTY, STATE OF UTAH, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT LOCATED SOUTH 89°48'19" WEST 610.73 FEET ALONG SECTION LINE AND NORTH 188.95 FEET FROM THE SOUTH QUARTER CORNER OF SECTION 24, TOWNSHIP 4 SOUTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN AND RUNNING THENCE NORTH 59°27'43" WEST 22.00 FEET; THENCE NORTH 30°32'17" EAST 40.00 FEET; THENCE SOUTH 59°27'43" EAST 22.00 FEET; THENCE SOUTH 30°32'17" WEST 40.00 FEET TO THE POINT OF BEGINNING.

CONTAINS: 880 SQ. FT. OR 0.020 ACRES, MORE OR LESS, (AS DESCRIBED).

VERIZON WIRELESS ACCESS EASEMENT DESCRIPTION:
A 12 FOOT WIDE ACCESS AND UTILITY EASEMENT FOR THE PURPOSE OF INGRESS AND EGRESS, BEING 6 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

BEGINNING AT A POINT ON THE SOUTHEASTERLY LINE OF THE VERIZON WIRELESS LEASE AREA, SAID POINT BEING SOUTH 89°48'19" WEST 600.56 FEET ALONG SECTION LINE AND NORTH 206.14 FEET FROM THE SOUTH QUARTER CORNER OF SECTION 24, TOWNSHIP 4 SOUTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN AND RUNNING THENCE SOUTH 59°27'43" EAST 11.00 FEET; THENCE NORTH 30°32'17" 40.24 FEET; THENCE SOUTH 59°56'17" EAST 92.25 FEET; THENCE SOUTH 55°23'02" EAST 46.93 FEET; THENCE SOUTH 49°31'21" EAST 94.45 FEET; THENCE SOUTH 36°15'48" WEST 228.45 FEET; THENCE ALONG A 100.60 FOOT NON-TANGENT ARC TO THE LEFT 156.93 FEET (CHORD BEARS SOUTH 40°02'29" WEST 141.50 FEET), MORE OR LESS, TO NORTH RIGHT-OF-WAY LINE OF CANYON CREST ROAD AND TERMINATING.

CONTAINS: 0.185 ACRES, MORE OR LESS, (AS DESCRIBED).

VERIZON WIRELESS UTILITY EASEMENT DESCRIPTION:
A 10 FOOT WIDE UTILITY EASEMENT FOR THE PURPOSE OF INSTALLING UNDERGROUND UTILITIES, BEING 5 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

BEGINNING AT A POINT ON THE SOUTHEASTERLY LINE OF THE VERIZON WIRELESS LEASE AREA, SAID POINT BEING SOUTH 89°48'19" WEST 592.94 FEET ALONG SECTION LINE AND NORTH 219.03 FEET FROM THE SOUTH QUARTER CORNER OF SECTION 24, TOWNSHIP 4 SOUTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN AND RUNNING THENCE SOUTH 60°57'43" EAST 213.92 FEET; THENCE NORTH 36°15'36" EAST 363.08 FEET; THENCE NORTH 81°15'36" EAST 9.82 FEET, MORE OR LESS, TO AN EXISTING POWER TRANSFORMER AND TERMINATING.

CONTAINS: 0.135 ACRES, MORE OR LESS, (AS DESCRIBED).

VERIZON WIRELESS FIBER EASEMENT DESCRIPTION:
A 10 FOOT WIDE FIBER EASEMENT FOR THE PURPOSE OF INSTALLING UNDERGROUND UTILITIES, BEING 5 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE:

BEGINNING AT A POINT ON THE SOUTHEASTERLY LINE OF THE VERIZON WIRELESS LEASE AREA, SAID POINT BEING SOUTH 89°48'19" WEST 606.15 FEET ALONG SECTION LINE AND NORTH 196.69 FEET FROM THE SOUTH QUARTER CORNER OF SECTION 24, TOWNSHIP 4 SOUTH, RANGE 1 EAST, SALT LAKE BASE AND MERIDIAN AND RUNNING THENCE SOUTH 59°27'43" EAST 8.85 FEET; THENCE ALONG A 1511.02 FOOT RADIUS NON-TANGENT CURVE TO THE RIGHT 428.83 FEET, (CHORD BEARS SOUTH 23°43'37" WEST 427.39 FEET), MORE OR LESS, TO NORTH RIGHT-OF-WAY LINE OF CANYON CREST ROAD AND TERMINATING.

CONTAINS: 0.100 ACRES, MORE OR LESS, (AS DESCRIBED).

NARRATIVE:
(1) THE PURPOSE OF THIS SURVEY IS TO LOCATE AND SURVEY A PROPOSED COMMUNICATIONS TOWER SITE.

(2) THE BASIS OF BEARING USED FOR THIS SURVEY IS AS SHOWN ON THIS PLAT, FROM FOUND MONUMENTS AS LOCATED IN THE FIELD.
(M) = MEASURED BEARING OR DISTANCE.
(R)= RECORDED BEARING OR DISTANCE.
(CALC)= CALCULATED BEARING OR DISTANCE.

(3) PARCEL LINES ARE SHOWN AS REFERENCE PER RECORD INFORMATION AND DOES NOT CONSTITUTE OR PURPORT TO BE A BOUNDARY SURVEY.

(4) REFERENCE PLATS:
(A) PLAT "A" AMENDED TWIN RIVERS ESTATES PRD SUBDIVISION, IN ENTRY NO. 15134:2003, ON JANUARY 31, 2003.
(B) ALPINE JUNIOR HIGH SUBDIVISION PLAT, IN ENTRY NO. 57356:2003, ON APRIL 15, 2003.

NARRATIVE: (CONTINUED)
(5) SCHEDULE B NOTES PER STEWART TITLE INSURANCE AGENCY OF UTAH, INC. COMMITMENT NO. 01459-40926, DATED JANUARY 29, 2019:
(A) ITEM 1,3,4,5,6,11,12,13, & 23 – ARE BLANKET EXCEPTIONS NOT SHOWN ON THIS PLAT.
(B) ITEM 2,7,8,9,10, & 18 – ARE NOT SURVEY MATTERS AND ARE NOT SHOWN ON THIS PLAT.
(C) ITEM 14 – RIGHT OF WAY IN ENTRY NO. 1859:1903, LOCATED NORTHEAST OF SITE AREA OUTSIDE OF VIEW. (NOT SHOWN ON PLAT)
(D) ITEM 15 – RIGHT OF WAY IN ENTRY NO. 15455:1946, LOCATED NORTHEAST OF SITE AREA OUTSIDE OF VIEW. (NOT SHOWN ON PLAT)
(E) ITEM 16 – 16 FOOT MOUNTAIN FUEL SUPPLY CO. EASEMENT IN ENTRY NO. 12917:1947, LOCATED NORTHEAST OF SITE AREA OUTSIDE OF VIEW. (NOT SHOWN ON PLAT)
(F) ITEM 17 – 16 FOOT MOUNTAIN FUEL SUPPLY CO. EASEMENT IN ENTRY NO. 12918:1947, LOCATED NORTHEAST OF SITE AREA OUTSIDE OF VIEW. (NOT SHOWN ON PLAT)
(G) ITEM 19 – EASEMENT IN ENTRY NO. 15993:1956, UTAH STATE WATER AND POWER BOARD BLANKET EASEMENT TO USE LEHI IRRIGATION COMPANY'S DISTRIBUTION SYSTEM ACROSS ENTIRE SECTION, EXACT LOCATION NOT DESCRIBED. (NOT SHOWN ON PLAT)
(H) ITEM 20 – NOTICE OF EASEMENT AND RIGHT-OF-WAY IN ENTRY NO. 8461:1982, STATES THERE IS A 20" HIGH PRESSURE GAS LINE IN EASEMENTS 12917:1947 (ITEM 16) & 12918:1947 (ITEM 17). (NOT SHOWN ON PLAT)
(I) ITEM 21 – 20 FOOT QUESTAR GAS COMPANY EASEMENT IN ENTRY NO. 38085:2015, LOCATED NORTHEAST OF SITE AREA OUTSIDE OF VIEW. (NOT SHOWN ON PLAT)
(J) ITEM 22 – BOUNDARY LINE AGREEMENT IN ENTRY NO. 131064:2001, LOCATED ALONG THE SOUTH LINE OF PARCEL BEING THE NORTH LINE OF CANYON CREST ROAD, NOTE PORTIONS OF DESCRIPTION DO NOT MATCH SUBDIVISION PLAT (REF. 4A). (SHOWN ON PLAT)

SURVEY MATTERS FROM ABOVE REFERENCED TITLE REPORT HAVE BEEN REVIEWED AND SHOWN OR LISTED AS PROVIDED ON PLAT.

(6) PORTIONS OF THIS SITE WAS SURVEYED IN SNOW COVERED CONDITIONS. WE MAKE EVERY EFFORT TO GATHER AS MUCH INFORMATION AS POSSIBLE UNDER SUCH CONDITIONS, HOWEVER IT IS POSSIBLE THAT SOME SITE FEATURES MAY HAVE BEEN OBSCURED AND THEREFORE NOT SHOWN ON THE SURVEY. WE RECOMMEND A THOROUGH FIELD REVIEW ONCE THE SNOW HAS MELTED ALONG WITH CONTACTING BLUE STAKES BEFORE SITE CONSTRUCTION.

NORTH

verizon
9656 SOUTH PROSPERITY ROAD
WEST JORDAN, UTAH 84088

Technology Associates
UTAH MARKET OFFICE
7896 SOUTH HIGHLAND DRIVE, SUITE 200
COTTONWOOD HEIGHTS, UTAH 84121
CORPORATE OFFICE
3115 SOUTH MELROSE DRIVE, SUITE #110
CARLSBAD, CALIFORNIA 92010

SURVEY PREPARED BY:
SUPERIOR SURVEYING, LLC
PHONE: 801-230-8968
EMAIL: JERRY@SUPERIOR-SURVEYING.COM

DRAWN BY:	JERRY F
CHECKED BY:	JERRY F

REV	DATE	DESCRIPTION
0	03.04.2019	SITE SURVEY

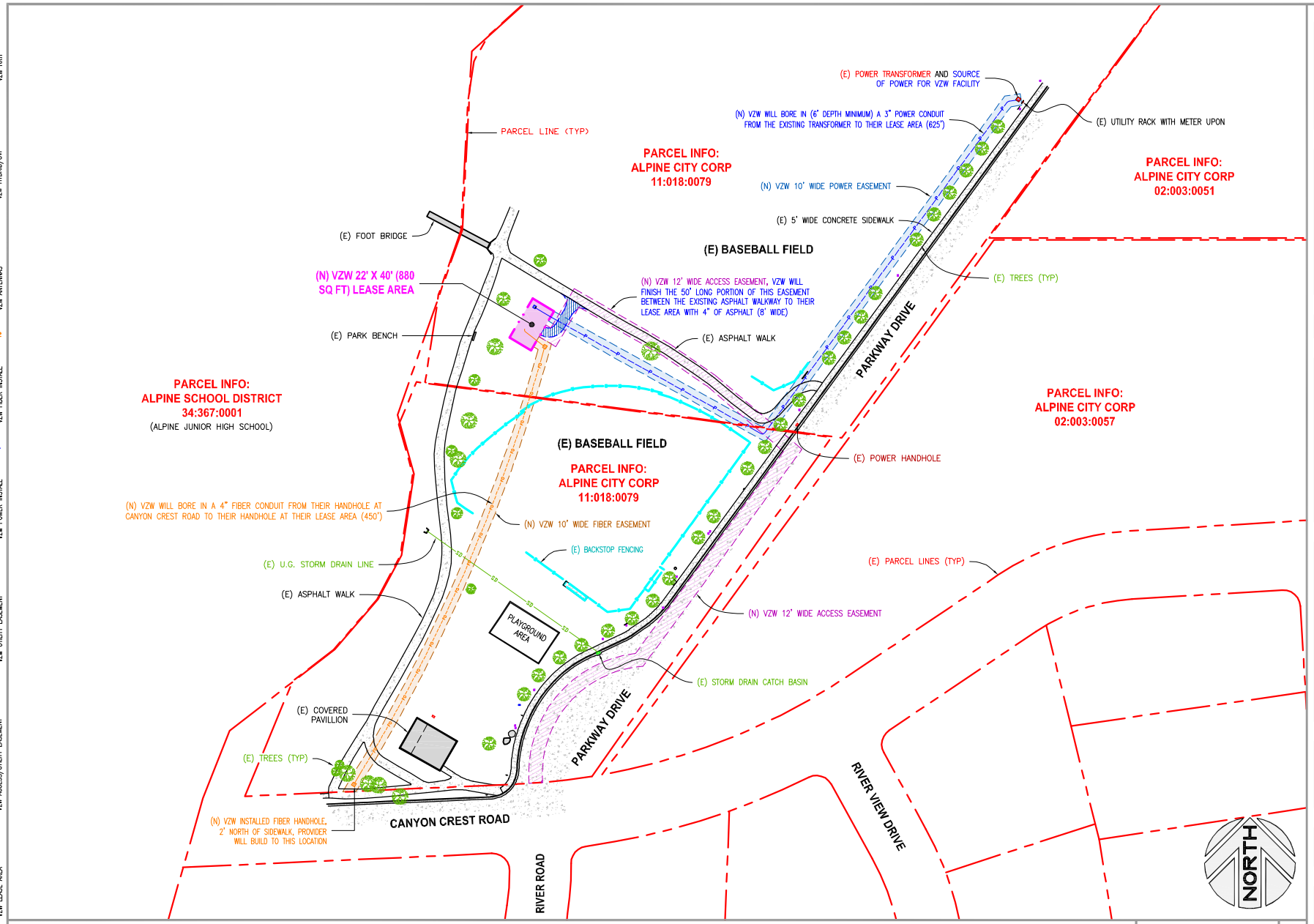
PROFESSIONAL LAND SURVEYOR
03-04-19
No. 6436064
JERRY FLETCHER
STATE OF UTAH

PRO - DIGIOUS
SW SEC 24 & SE SEC 25, T4S, R1E
CANYON CREST ROAD AND PARKWAY DRIVE
ALPINE, UTAH 84004

SHEET TITLE
SITE SURVEY

SHEET NUMBER
SURV

SITE SURVEY | SCALE: 1" = 80'-0" | 1



OVERALL SITE PLAN | SCALE: 1/4" = 20'-0" | 1

verizon

9656 SOUTH PROSPERITY ROAD
WEST JORDAN, UTAH 84088

Technology Associates

UTAH MARKET OFFICE
7896 SOUTH HIGHLAND DRIVE, SUITE 200
COTTONWOOD HEIGHTS, UTAH 84121

CORPORATE OFFICE
3115 SOUTH MELROSE DRIVE, SUITE #110
CARLSBAD, CALIFORNIA 92010

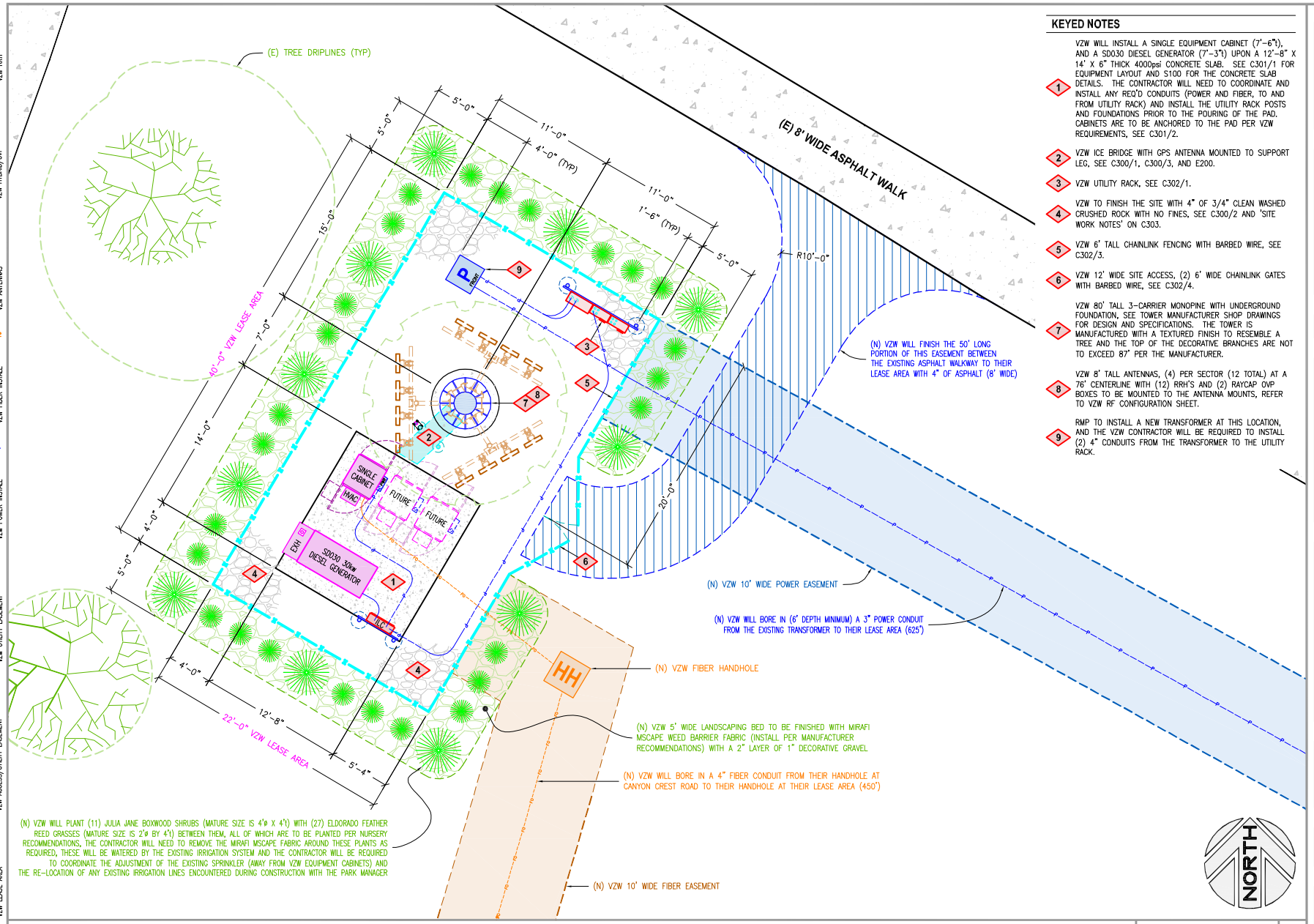
DRAWN BY:	JAY C
CHECKED BY:	TROY B

REV	DATE	DESCRIPTION
0	04.23.2019	ZONING DRAWINGS

PRO - DIGIOUS
SW SEC 24 & SE SEC 25, T4S, R1E
CANYON CREST ROAD AND PARKWAY DRIVE
ALPINE, UTAH 84004

SHEET TITLE
OVERALL SITE PLAN

SHEET NUMBER
C100



EXISTING WATER / VZW RRH
EXISTING STORM DRAIN / VZW HYBRID/DVP
EXISTING SEWER / VZW ANTENNAS
EXISTING TELCO/FIBER / VZW FIBER INSTALL
EXISTING POWER / VZW POWER INSTALL
EXISTING FENCING / VZW UTILITY EASEMENT
EXISTING RIGHT-OF-WAY LINE / VZW ACCESS/UTILITY EASEMENT
EXISTING PARCEL LINE / VZW LEASE AREA

KEYED NOTES

1. VZW WILL INSTALL A SINGLE EQUIPMENT CABINET (7'-6"t), AND A SD030 DIESEL GENERATOR (7'-3"t) UPON A 12'-8" X 14' X 6" THICK 4000psi CONCRETE SLAB. SEE C301/1 FOR EQUIPMENT LAYOUT AND S100 FOR THE CONCRETE SLAB DETAILS. THE CONTRACTOR WILL NEED TO COORDINATE AND INSTALL ANY REQ'D CONDUITS (POWER AND FIBER, TO AND FROM UTILITY RACK) AND INSTALL THE UTILITY RACK POSTS AND FOUNDATIONS PRIOR TO THE POURING OF THE PAD. CABINETS ARE TO BE ANCHORED TO THE PAD PER VZW REQUIREMENTS, SEE C301/2.
2. VZW ICE BRIDGE WITH GPS ANTENNA MOUNTED TO SUPPORT LEG, SEE C300/1, C300/3, AND E200.
3. VZW UTILITY RACK, SEE C302/1.
4. VZW TO FINISH THE SITE WITH 4" OF 3/4" CLEAN WASHED CRUSHED ROCK WITH NO FINES, SEE C300/2 AND 'SITE WORK NOTES' ON C303.
5. VZW 6' TALL CHAINLINK FENCING WITH BARBED WIRE, SEE C302/3.
6. VZW 12' WIDE SITE ACCESS, (2) 6' WIDE CHAINLINK GATES WITH BARBED WIRE, SEE C302/4.
7. VZW 80' TALL 3-CARRIER MONOPINE WITH UNDERGROUND FOUNDATION, SEE TOWER MANUFACTURER SHOP DRAWINGS FOR DESIGN AND SPECIFICATIONS. THE TOWER IS MANUFACTURED WITH A TEXTURED FINISH TO RESEMBLE A TREE AND THE TOP OF THE DECORATIVE BRANCHES ARE NOT TO EXCEED 87' PER THE MANUFACTURER.
8. VZW 8' TALL ANTENNAS, (4) PER SECTOR (12 TOTAL) AT A 76' CENTERLINE WITH (12) RRH'S AND (2) RAYCAP OVP BOXES TO BE MOUNTED TO THE ANTENNA MOUNTS, REFER TO VZW RF CONFIGURATION SHEET.
9. RMP TO INSTALL A NEW TRANSFORMER AT THIS LOCATION, AND THE VZW CONTRACTOR WILL BE REQUIRED TO INSTALL (2) 4" CONDUITS FROM THE TRANSFORMER TO THE UTILITY RACK.

verizon
9656 SOUTH PROSPERITY ROAD
WEST JORDAN, UTAH 84088

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CORPORATE OFFICE
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CARLSBAD, CALIFORNIA 92010

DRAWN BY:	JAY C
CHECKED BY:	TROY B

REV	DATE	DESCRIPTION
0	04.23.2019	ZONING DRAWINGS

PRO - DIGIOUS
SW SEC 24 & SE SEC 25, T4S, R1E
CANYON CREST ROAD AND PARKWAY DRIVE
ALPINE, UTAH 84004

SHEET TITLE
ENLARGED SITE PLAN

SHEET NUMBER
C101

ENLARGED SITE PLAN | **SCALE: 1/8" = 1'-0"** | 1

EXISTING WATER — VZW RRH

EXISTING STORM DRAIN — VZW HYBRID/DVP

EXISTING SEWER — VZW ANTENNAS

EXISTING TELCO/FIBER — VZW FIBER INSTALL

EXISTING POWER — VZW POWER INSTALL

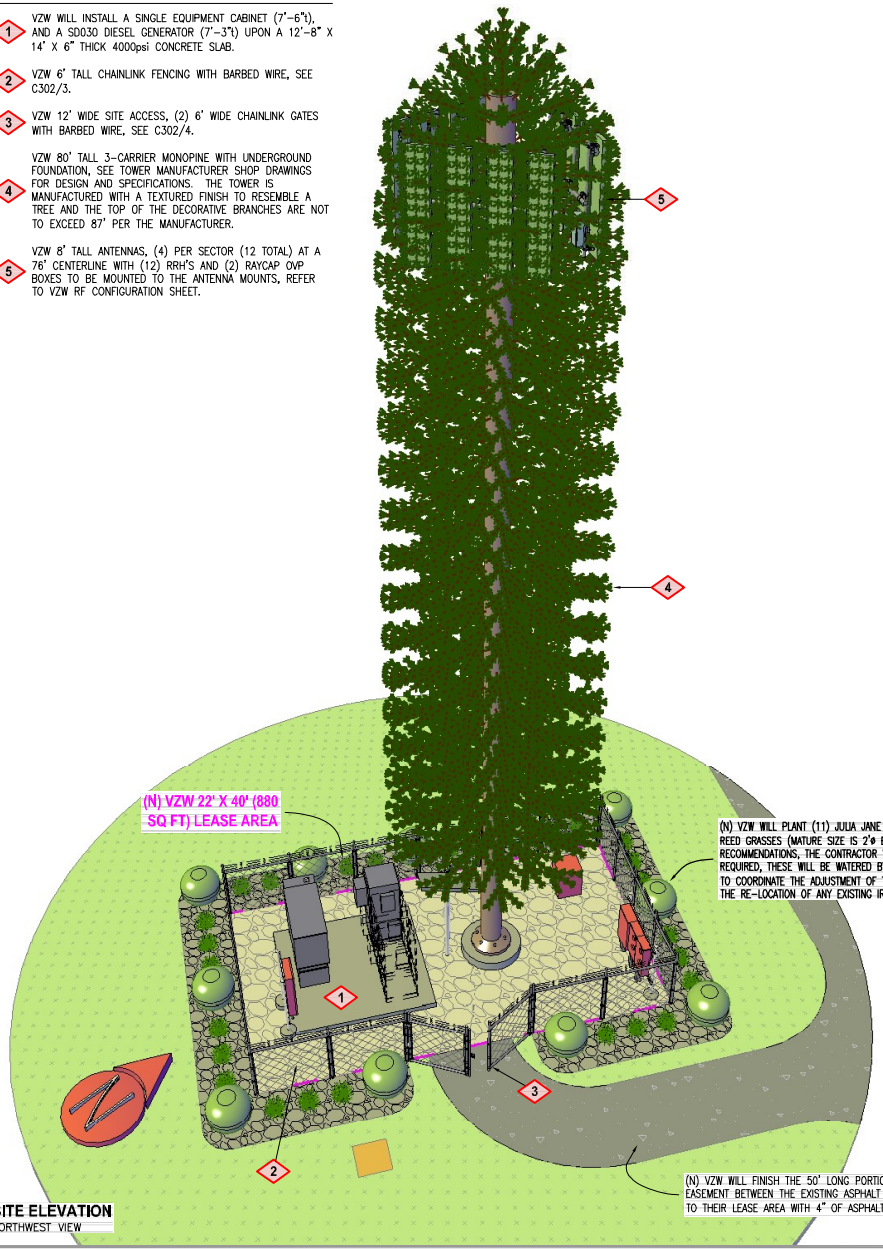
EXISTING FENCING — VZW UTILITY EASEMENT

EXISTING RIGHT-OF-WAY LINE — VZW ACCESS/UTILITY EASEMENT

EXISTING PARCEL LINE — VZW LEASE AREA

KEYED NOTES – SEE C101 FOR EXPANDED VERSION

1. VZW WILL INSTALL A SINGLE EQUIPMENT CABINET (7'–6"t), AND A SD030 DIESEL GENERATOR (7'–3"t) UPON A 12'–8" X 14' X 6" THICK 4000psi CONCRETE SLAB.
2. VZW 6' TALL CHAINLINK FENCING WITH BARBED WIRE, SEE C302/3.
3. VZW 12' WIDE SITE ACCESS, (2) 6' WIDE CHAINLINK GATES WITH BARBED WIRE, SEE C302/4.
4. VZW 80' TALL 3–CARRIER MONOPINE WITH UNDERGROUND FOUNDATION, SEE TOWER MANUFACTURER SHOP DRAWINGS FOR DESIGN AND SPECIFICATIONS. THE TOWER IS MANUFACTURED WITH A TEXTURED FINISH TO RESEMBLE A TREE AND THE TOP OF THE DECORATIVE BRANCHES ARE NOT TO EXCEED 87' PER THE MANUFACTURER.
5. VZW 8' TALL ANTENNAS, (4) PER SECTOR (12 TOTAL) AT A 76' CENTERLINE WITH (12) RRH'S AND (2) RAYCAP OVP BOXES TO BE MOUNTED TO THE ANTENNA MOUNTS, REFER TO VZW RF CONFIGURATION SHEET.

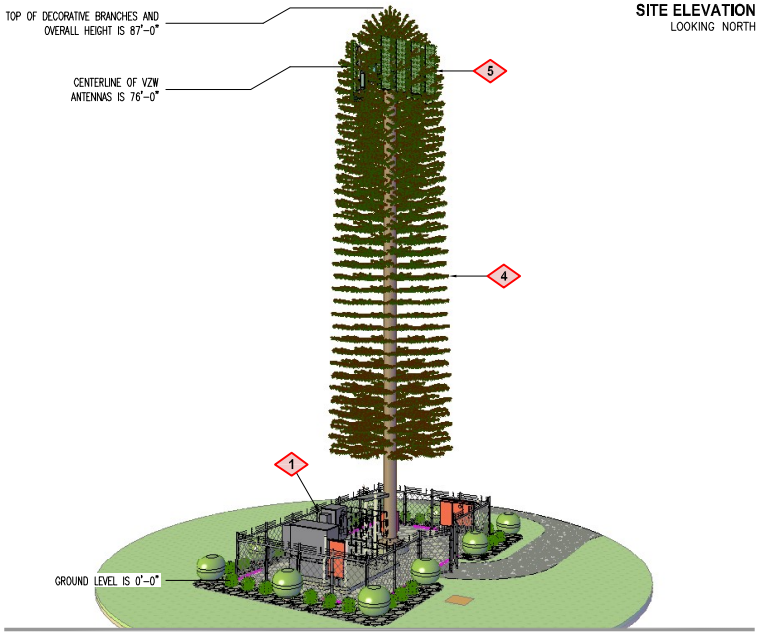


(N) VZW WILL PLANT (11) JUJA JANE BOXWOOD SHRUBS (MATURE SIZE IS 4'ø X 4't) WITH (27) ELDORADO FEATHER REED GRASSES (MATURE SIZE IS 2'ø BY 4't) BETWEEN THEM, ALL OF WHICH ARE TO BE PLANTED PER NURSERY RECOMMENDATIONS, THE CONTRACTOR WILL NEED TO REMOVE THE MIRAFI MSCAPE FABRIC AROUND THESE PLANTS AS REQUIRED, THESE WILL BE WATERED BY THE EXISTING IRRIGATION SYSTEM AND THE CONTRACTOR WILL BE REQUIRED TO COORDINATE THE ADJUSTMENT OF THE EXISTING SPRINKLER (AWAY FROM VZW EQUIPMENT CABINETS) AND THE RE–LOCATION OF ANY EXISTING IRRIGATION LINES ENCOUNTERED DURING CONSTRUCTION WITH THE PARK MANAGER

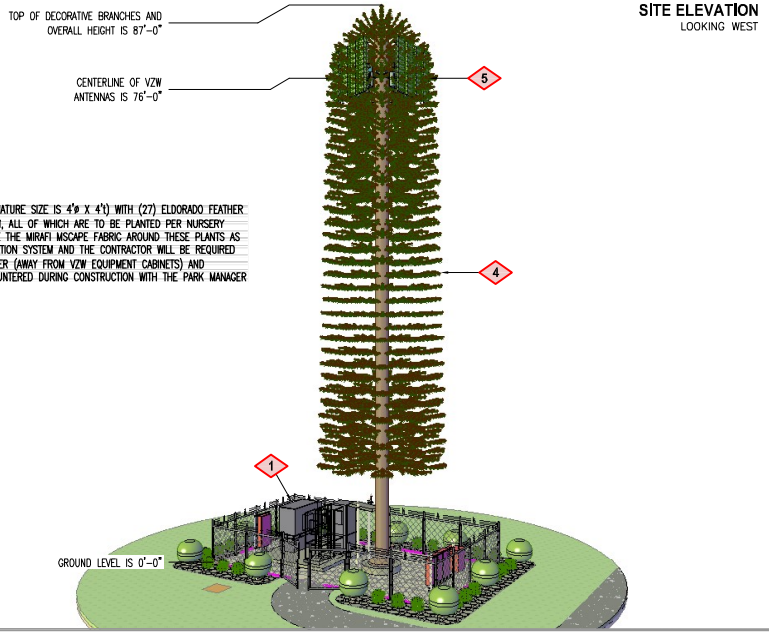
(N) VZW WILL FINISH THE 50' LONG PORTION OF THIS EASEMENT BETWEEN THE EXISTING ASPHALT WALKWAY TO THEIR LEASE AREA WITH 4" OF ASPHALT (8' WIDE)

SITE ELEVATION
NORTHWEST VIEW

SITE ELEVATION
LOOKING NORTH



SITE ELEVATION
LOOKING WEST



verizon
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WEST JORDAN, UTAH 84088

Technology Associates

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DRAWN BY:	JAY C
CHECKED BY:	TROY B

REV	DATE	DESCRIPTION
0	04.23.2019	ZONING DRAWINGS

PRO - DIGIOUS
SW SEC 24 & SE SEC 25, T4S, R1E
CANYON CREST ROAD AND PARKWAY DRIVE
ALPINE, UTAH 84004

SHEET TITLE
SITE ELEVATIONS

SHEET NUMBER
C200

Verizon

New Tower

3.27.010 General Provisions

1. **Title**. This Ordinance shall be known as the Wireless Telecommunications Ordinance.
2. **Purpose & Intent**. The unique character, landscapes and scenic vistas of Alpine are among its most valuable assets. Preserving and promoting those assets are essential to the long- range social and economic wellbeing of the City and its inhabitants. Protecting these assets requires sensitive placement and design of wireless communication facilities so that these facilities remain in scale and harmony with the existing character of the community.
    a. To amend Ordinance No. 2006-06 to accommodate new technology and develop regulations on the use and development of City property for new cell tower facilities.
    b. To regulate personal wireless services antennas, with or without support structures, and related electronic equipment and equipment structures.
    c. To provide for the orderly establishment of personal wireless services facilities in the City.
    d. To minimize the number of antenna support structures by encouraging the co-location of multiple antennas on a single new or existing structure.
    e. To establish siting, appearance and safety standards that will help mitigate the potential impacts related to the construction, use and maintenance of personal wireless communication facilities.
    f. To comply with the Telecommunication Act of 1996 by establishing regulations that (1) do not prohibit or have the effect of prohibiting the provision of personal wireless services, (2) do not unreasonably discriminate among providers of functionally equivalent services, and (3) are not based on the environmental effects of radio frequency emissions to the extent that such facilities comply with the Federal Communications Commission's regulations concerning such emissions.
3. **Findings**
    a. Personal wireless services facilities (PWSF) are an integral part of the rapidly growing and evolving telecommunications industry, and present unique zoning challenges and concerns by the City.
    b. The City needs to balance the interests and desires of the telecommunications industry and its customers to provide competitive and effective telecommunications systems in the City, against the sometimes differing interests and desires of others concerning health, safety, welfare, and aesthetics, and orderly planning of the community.
    c. The City has experienced an increased demand for personal wireless services facilities to be located in the City, and expects the increased demand to continue in the future.
    d. It is in the best interests of the City to have quality personal wireless services facilities available, which necessarily entails the erection of personal wireless services facilities in the City.
    e. The unnecessary proliferation of personal wireless services facilities through the City creates a negative visual impact on the community.
    f. The visual effects of personal wireless services facilities can be mitigated by fair standards regulating their siting, construction, maintenance and use.
    g. A private property owner who leases space for a personal wireless services facility is the only one who receives compensation for the facility, even though numerous other property owners in the area are adversely affected by the location of the facility.
    h. Chapter 69-3, Utah Code Annotated, grants cities the authority to create or acquire sites to accommodate the erection of telecommunications tower in order to promote the location of telecommunication towers in a manageable area and to protect the aesthetics and environment of the area. The law also allows the City to require the owner of any tower to accommodate the multiple use of the tower by other companies where feasible and to pay the City the fair market rental value for the use of any City-owned site.
    i. Telecommunications towers located on government property with the lease payments being paid to Alpine City instead of individual property owners evenly distributes the income from the lease payments to all citizens of Alpine through increased government services thus indirectly compensating all of the citizens of Alpine for the impact all citizens experience. The public policy objectives to reduce the proliferation of telecommunications towers and to mitigate their impact can be best facilitated by locating telecommunications and antenna support structures on property owned, leased or used by Alpine City as a highest priority whenever feasible.

4. **Definitions**. The following words shall have the described meaning when used in this ordinance, unless a contrary meaning is apparent from the context of the word.
    a. Antenna. A transmitting or receiving device used in telecommunications that radiates or captures radio signals.
    b. Antenna Support Structure. Any structure that can be used for the purpose of supporting an antenna(s).
    c. City. The City of Alpine, Utah.
    d. City-owned property. Real property that is owned by the City.
    e. Close to Tower Mount. Also known as slim mount, antennas on cell towers mounted very close to tower in order to appeal less noticeable.
    f. Co-location. The location of an antenna on an existing structure, tower or building that is already being used for personal wireless services facilities.
    g. Monopole. A single, self-supporting, cylindrical pole that acts as the support structure for one (1) or more antennas for a personal wireless services facility.
    h. Personal Wireless Services. Commercial mobile telecommunications services, unlicensed wireless communications services, and common carrier wireless telecommunications exchange access services.
    i. Personal Wireless Services Antenna. An antenna used in connection with the provision of personal wireless services.
    j. Personal Wireless Services Facilities (PWSF). Facilities for the provision of personal wireless services. Personal wireless services facilities include transmitters, antennas, structures supporting antennas, and electronic equipment that is typically installed in close proximity to a transmitter.
    k. Private Property. Any real property not owned by the City, even if the property is owned by another public or government entity.
    l. Quasi public use. Uses such as a school or church or other uses defined as quasi public uses in DCA 3.01.110.
    m. Tower. A freestanding structure that is used as a support structure for antenna.
    n. Whip antenna. An antenna that is cylindrical in shape. Whip antennas can be directional or omnidirectional and vary in size depending on the frequency and gain for which they are designed.

5. **Applicability**. This ordinance (the Wireless Telecommunications Ordinance) applies to both commercial and private low power radio services and facilities, such as "cellular" or PCS (personal communications system) communications and paging systems. This ordinance shall not apply to the following types of communications devices, although they may be regulated by other City ordinances and policies.
    a. Amateur Radio. Any tower or antenna owned and operated by an amateur radio operator licensed by the Federal Communication Commission.
    b. Amateur T.V. Any tower or antenna owned and operated by an amateur T.V. operator licensed by the Federal Communication Commission.
    c. Satellite. Any device designed for over-the-air reception of television broadcast signals, multichannel multipoint distribution service or direct satellite service.
    d. Cable. Any cable television head-end or hub towers and antennas used solely for cable television services.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

3.27.020 Location And Types Of Towers/Antennas

1. **Personal Wireless Services Facilities Site Locations**. The following are currently approved locations:
    a. Co-location on an existing tower.
    b. City owned property.
    c. Property in conjunction with a quasi-public or public use.

d. Commercial property in the business commercial zone.

No new towers shall be located in Lambert Park.

New towers shall be located no closer than a one-quarter (1/4) mile radius from another tower and shall be no closer to a residence than two (2) times the height of the tower.

If the applicant desires to locate on a site other than the approved sites listed above, the applicant shall have the burden of demonstrating to the City why it cannot locate on an approved site. To do so, the applicant shall provide the following information to the City:

i. The identity and location of any approved sites located within the desired service area.

ii. The reason(s) why the approved sites are not technologically, legally, or economically feasible. The applicant must make a good faith effort to locate towers and antennas on an approved site. The City may request information from outside sources to justify or rebut the applicant's reason(s) for rejecting an approved site.

iii. Why the proposed site is essential to meet the service demands of the geographic service area and the citywide network. If the applicant desires to construct a monopole, the applicant shall also submit a detailed written description of why the applicant cannot obtain coverage using existing towers.

2. **Permitted and Non-Permitted Towers and Antennas**

a. Permitted. The following are permitted:

i. Co-location on existing towers.

ii. Existing towers may be maintained, used, and upgraded or replaced. A replacement tower shall not exceed the height of the tower being replaced.

iii. Monopoles are permitted subject to the following:

(1) A monopole shall not exceed eighty feet (80').

iv. Roof-mounted Antennas are permitted subject to the following:

(1) A roof-mounted antenna shall be screened, constructed, and/or colored to match the structure to which it is attached.

(2) A roof-mounted antenna shall be set back from the building edge one (1) foot for every one (1) foot of antenna height and shall not exceed fifteen (15) feet in height.

v. All new antennas shall be slim-mounted or mounted to an existing array.

b. Not Permitted. The following are not permitted:

i. Lattice Towers. Lattice appearance is not permitted.

ii. Guyed Towers.

3. **Co-location Requirement**. Unless otherwise authorized by the approving authority for good cause shown, every new tower shall be designed and constructed to be of sufficient size and capacity to accommodate at least two (2) additional wireless telecommunications providers on the structure in the future.

4. **Lease Agreement**. The City has no implied obligation to lease any particular parcel of City-owned property to an applicant. The City shall enter into a standard lease agreement with the applicant for any facility built on City property. The Mayor or designee is hereby authorized to execute the standard lease agreement on behalf of the City. The lease shall contain the condition that the approving authority must first approve the site plan before the lease can take effect, and that failure to obtain such approval renders the lease null and void.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

3.27.030 Procedure

State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station. For purposes of this Part, the term "eligible facilities request" means any request for modification of an existing wireless tower or base station that involves:

- collocation of new transmission equipment;

- removal of transmission equipment; or
- replacement of transmission equipment.

1. **Application Requirements**. Any person desiring to develop, construct or establish a personal wireless services facility in the City shall submit an application for site plan approval to the City. A site plan shall be required for all new towers and antennas and any modification or replacement of a tower or antenna. The City shall not consider the application until all required information has been included. The application shall be submitted to the City Planner at least fourteen (14) days prior to the public meeting at which it will be presented to the Planning Commission. The applicant shall include the following:

    a. Fee. The applicable fee shall be paid to the City Recorder, payable to Alpine City, as set forth in the Alpine City Consolidated Fee Schedule.

    b. Site Plan. A site plan meeting the City's standard requirements for site plans.

    c. Notification Letter. The applicant shall submit a list of all property owners within five hundred (500) feet of the boundaries of the property where the proposed tower or antenna is to be located. The applicant shall also submit envelopes that have been stamped and addressed to all property owners on the list. The City may require a greater distance if deemed necessary or appropriate. The City shall prepare a notification letter to be sent to the property owners on the list submitted by the applicant to be mailed out at least seven (7) days prior to the public meeting at which the application will be presented to Planning Commission. The letter shall contain the following information:

        i. Address or location of the proposed tower, co-location, tower modification, etc.

        ii. Name of the applicant.

        iii. Type of tower/antenna (e.g. monopole, roof antenna, etc.)

        iv. Date, time, and place of the public meeting at which the application will be presented to the Planning Commission.

    d. Sign. The applicant shall erect a sign of sufficient durability, and print and size quality that is reasonably calculated to give notice to passers-by. The sign shall be posted at least fourteen (14) days prior to the public meeting at which the application will be presented to the Planning Commission. The sign:

        i. Shall be 4 ft. (H) x 8 ft. (W)

        ii. Shall not be more than six (6) feet in height from the ground to the highest point of the sign; and

        iii. Shall be posted five (5) feet inside the property line in a visible location on the property where the tower/antenna is to be located. If the property is located in such a spot that the sign would not be visible from the street, the sign shall be erected in another location close by that will give notice to passers-by, or at Alpine City Hall. The applicant shall be responsible to obtain permission of the property owner to erect the sign. The sign shall include the following information:

            (1) Address of location of the proposed tower, co-location, tower modification, etc.

            (2) Type of tower/antenna (e.g. monopole, roof antenna, etc.)

            (3) Date, time, and place of the public meeting at which the application will be presented to the Planning Commission.

    e. Written Information. The following written information shall be submitted:

        i. Maintenance. A description of the anticipated maintenance needs for the facility, including frequency of service, personnel needs, equipment needs, and traffic noise or safety impacts of such maintenance.

        ii. Service Area. A description of the service area for the antenna or tower and a statement as to whether the antenna or tower is needed for coverage or capacity.

        iii. Licenses and Permits. Copies of all licenses and permits required by other agencies and governments with jurisdiction over the design, construction, location and operation of the antenna.

        iv. Radio Frequency Emissions. A written commitment to comply with applicable Federal Communications Commission radio frequency emission regulations.

        v. Liaison. The name of a contact person who can respond to questions concerning the application and the proposed facility. Include name, address, telephone number, facsimile number and electronic mail address, if applicable.

2. **Approval Process**. The application and site plan shall be reviewed by the City pursuant to its standard site plan approval process. The City shall process all applications within a reasonable time and shall not unreasonably discriminate among providers of functionally equivalent services. Any decision to deny a request to place, construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record. The application and site plan will be reviewed by Planning Commission for a recommendation to City Council. The City Council shall review the application and site plan and shall act as the land use authority in approving or denying the application and site plan.

   The Planning Commission may, if it deems necessary, require each application to be reviewed independently by a certified radio frequency engineer, licensed to do such work in the State of Utah. The purpose of the review is to determine if other locations are available to achieve an equivalent signal distribution and not significantly affect the operation of the telecommunications facility. Such a review may be required when an applicant indicates that no other acceptable location exists. The costs of an independent review shall be borne by the applicant.

3. **Building Permits**

   a. General Requirements. No tower or antenna support structure shall be constructed until the applicant obtains a building permit from the City. No building permit shall be issued for any project for which a site plan or amended site plan is required, until the site plan or amended site plan has been approved by the appropriate authority. If the design or engineering of the antenna support structure is beyond the expertise of the Building Official, the City may require third party review by an engineer selected by the City prior to the issuance of a building permit. The applicant shall pay an additional fee to cover the cost of the third party review.

   b. Additional Requirements for New Towers. If the applicant is constructing a new tower, the applicant shall, if requested by the City, submit a written report from a qualified structural engineer licensed in the State of Utah, documenting the following:

      i. Height and design of the new tower, including technical, engineering, economic, and other pertinent factors governing selection of the proposed design.

      ii. Seismic load design and wind load design for the new tower.

      iii. Total anticipated capacity of the new tower, including number and types of antennas which can be accommodated.

      iv. Structural failure characteristics of the new tower and a demonstration that the site and setbacks are adequate size to contain debris.

      v. Soil investigation report, including structural calculations.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

3.27.040 Safety

1. **Regulation Compliance**

   a. Compliance with FCC and FAA Regulations. All operators of personal wireless services facilities shall demonstrate compliance with applicable Federal Communication Commission (FCC) and Federal Aviation Administration (FAA) regulations, including FCC radio frequency regulations, at the time of application and periodically thereafter as requested by the City. Failure to comply with the applicable regulations shall be grounds for revoking a site plan.

   b. Other Licenses and Permits. The operator of every personal wireless services facility shall submit copies of all licenses and permits required by other agencies and governments with the jurisdiction over the design, construction, location and operation of the facility to the City, shall maintain such licenses and permits in good standing, and shall provide evidence of renewal or extension thereof upon request by the City.

2. **Protection Against Climbing**. Towers shall be protected against unauthorized climbing by removing the climbing pegs from the lower 20 feet of the towers.

3. **Fencing**. Towers shall be fully enclosed by a minimum 6-foot tall fence or wall, as directed by the City, unless the City determines that a wall or fence is not needed or appropriate for a particular site due to conditions specific to the site.

4. **Security Lighting Requirement**. Towers shall comply with the FAA requirements for lighting. The City may also require security lighting for the site. If security lighting is used, the lighting impact on surrounding residential areas shall be minimized by using indirect lighting, where appropriate.

5. **Emergency**. The City shall have the authority to move or alter a personal wireless services facility in case of emergency. Before taking any such action, the City shall first notify the owner of the facility, if feasible.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

3.27.050 Additional Requirements

1. **Regulations for Accessory Structures**
    a. Storage Areas and Solid Waste Receptacles. No outside storage or solid waste receptacles shall be permitted on site.
    b. Equipment Enclosures. All electronic and other related equipment and appurtenances necessary for the operation of any personal wireless services facility shall, whenever possible, be located within a lawfully pre-existing structure or completely below grade. When a new structure is required to house such equipment, the structure shall be harmonious with, and blend with, the natural features, buildings and structures surrounding such structure.
    c. Accessory Buildings. Freestanding accessory buildings used with a personal wireless services facility shall not exceed 450 square feet and shall comply with the setback requirements for structures in the zone in which the facility is located.
2. **Parking**. The City may require a minimum of one (1) parking stall for sites containing a personal wireless services facility and/or accessory buildings, if there is insufficient parking available on the site.
3. **Maintenance Requirements**. All personal wireless services facilities shall be maintained in a safe, neat, and attractive manner.
4. **Landscaping**. A landscaping plan shall be submitted to the Planning Commission who will make a recommendation to the City Council who will approve the landscape plan.
5. **Site Restoration Upon Abandonment**. All sites shall be restored to the original configuration upon abandonment.
6. **Fencing**. The City will determine the type of fencing used on wireless telecommunications sites on a case by case basis. In the case of the Rodeo Grounds, the fencing shall match the existing fencing. Fencing will recommend by the Planning Commission and approved by the City Council.
7. **Color and material standards**. The City shall make an administrative decision as to the color. To the extent the personal wireless services facilities extend above the height of the vegetation immediately surround it, they shall be painted in a nonreflective light gray, light blue or other hue, which blends with the skyline and horizon or a brown to blend in with the surrounding hillside.
8. **Facility Lighting and Signage Standards**. Facility lighting shall be designed so as to meet but not exceed minimum requirements for security, safety and/or FAA regulations. Lighting of antennas or support structures shall be prohibited unless required by the FAA and no other alternatives are available. In all instances, the lighting shall be designed so as to avoid glare and minimize illumination on adjacent properties. Lighting shall also comply with any applicable City lighting standards.
9. **Facility Signs**. Signs shall be limited to those needed to identify the numbers to contact in an emergency, public safety warnings, certifications or other required seals. These signs shall also comply with the requirements of the City's sign regulations.
10. **Utility Lines**. All utility lines serving new cell towers shall be located underground.
11. **Business License**. Each facility shall be considered as a separate use; and an annual business license shall be required for each facility.

(Ord. No. 2006-06, 4/25/06; Amended by Ord. No. 2012-05, 7/10/12; Ord. No. 2014-15, 09/23/14)

Petition

Alpine Citizens for a Safe Community
STOP THE BURGESS PARK CELL TOWER

Alpine City is considering approving a cell tower in Burgess Park or on the school property adjoining the park. This development will cause hardship on local residents and the environment as outlined below.

Local residents oppose the plan due to severe detriment to quality of life, real estate values and the impact on the environment. The most extreme consequence is the impact on the health of the residents living closest to the tower, the high danger zone, which is **at least** a radius of one third of a mile. Two peer reviewed scientific journal studies indicate long term constant exposure to RF radiation increasing cancer risk by four-fold. Other quality of life impacts include sleep disruption, suppression of the production of melatonin resulting in fatigue, depressed immunity, hormonal imbalances, and an increased risk of mood disorder. All of these concerns are documented in multiple peer reviewed science journals from around the world. (References listed below.)

Because many of today's consumers are armed with the knowledge of the negative effects of living close to a cell tower, real estate property values can decrease by as much as 20% if this tower is approved. This will create hardship for those homeowners situated near the tower who have done nothing to deserve lower property values. Those who choose to move away after the tower construction will suffer the additional expense of paying relocation costs.

Burgess Park is a beautiful example of our natural environment. It is home to our local wildlife species whose patterns of life will be disrupted by the use of the land for high power RF transmissions. In addition, our children, joggers, and school sports teams use the park nearly year around. There is a real concern for the safety of young children in an environment where they do not understand the hazards of playing near, trying to climb or throw things at a monopine tower.

There is no demonstrated gap in infrastructure coverage that would benefit the greater public. Just one more tower added to the network.

Though the Telecommunications Act of 1996 does not allow us to prevent this tower on health concerns alone, the many above-mentioned hardships are reason enough for the City to stop the construction of this tower. We call on the City of Alpine to deny the permit for this tower.

References:
Wolf R and Wolf D, Increased Incidence of Cancer Near a Cell-phone Transmitter Station, International Journal of Cancer Prevention, (Israel) VOLUME 1, NUMBER 2, APRIL 2004
The Influence of Being Physically Near to a Cell Phone Transmission Mast on the Incidence of Cancer (Umwelt-Medizin-Gesellschaft 17,4 2004)
Navarro EA, Segura J. Portoles M, Gomez-Perretta C, The Microwave Syndrome: A Preliminary Study. 2004 (Spain) Electromagnetic Biology and Medicine, Volume 22, Issue 2, (2003): 161-169
For Additional Reference to peer-reviewed scientific journals on health and current events regarding the cell tower placement debate nationwide please visit the following websites:
www.ehtrust.org
www.mdsafetech.org/cell-tower-and-city-ordinances

Sign & Print Name & Address:

1. LeeAnn Lorenzon
   Lee Ann Lorenzon – 177 W. Parkway – Alpine, UT. 84004
2. Richard Lorenzon
   Richard LORENZON 177 W Parkway, Alpine UT 84004
3. Andrea Passey
   Andrea Passey 155 Parkway W Alpine UT 84004
4. Laura Haacke
   Laura Haacke 133 W. Parkway, Alpine, UT 84004
5. Allan Bailey
   130 Parkway, Alpine, UT
6. Paul Ponnie
   PAUL PONNIE 178 WEST PARKWAY Alpine, UTAH
7. Shelley Ruiz
   Shelley Ruiz 210 Parkway W. Alpine,
8. Alberto Ruiz 210 Parkway W. Alpine
9. Jeri Devitt
   Jeri Devitt 185 W. Parkway Alpine
10. Russell Devitt
    Russell Devitt 185 W. Parkway, Alpine
11. Amie Lepore
    Amie Lepore 209 Parkway W. Alpine
12. Roland Lépore
    ROLAND LÉPORÉ " " " "
13. Sue Lytle
    SUE LYTLE 209 Parkway W Alpine " " " "
14. Richard Lytle
    Richard Lytle 209 PARKWAY W., ALPINE " " "
15. Karen Hampton
    Karen Hampton 207 Parkway W. Alpine
16. Lega Pennie
    Lega Pennie 178 W. Parkway Alpine

Sign & Print Name & Address:

17. Kathy Bailey Kathy Bailey 130 Parkway W.
18. Laura Jarman
LAURA JARMAN 146 W. Parkway Alpine
19 Stephen Wright STEPHEN WRIGHT 239 PARKWAY W ALPINE
20 Sherri Wright Sherri Wright 239 Parkway W. Alpine, UT
21 Elijah Renner Elijah Renner 270 west Fort creek dr Alpine
22 Bradley Renner Bradley Renner "
23. Khadley Khirstin Hadley 136 W. 150 N. Alpine
24. Gene Hadley GENO HADLEY 136 W. 150 N. Alpine
25. Kiersten Belnap Kiersten Belnap 191 W. Center St. Alpine
26. Tyler Belnap Tyler Belnap 191 W. Center St. Alpine
27. Cierra Hadley Cierra Hadley 136 W. 150 N. Alpine.
28 Melanie Hulme Melanie Hulme 108 S. 100 W. Alpine
29. Laura Haacke Laura Haacke 133 W. Parkway Alpine
30. Cindy Hutchinson Cindy Hutchinson 239 Fort Creek Dr

Sign & Print Name & Address:

S Wardle	Sharon Wardle	153 N 100 W Alpine
	Mark Wardle	153 N 100 W Alpine
Perry L. Nuffer	PERRY Q. NUFFER	265 W FORT CREEK DR.
Sheri L. Nuffer	SHERI L. NUFFER	265 W FORT CREEK DR
	Andy Winmer	226 FORT CREEK DR
Marné G Reneer	Marné G. Reneer	270 FORT CREEK DR.
Camille Beck	Camille Beck	110 W Parkway Alpine
Kiersten Belnap		191 W center St.
Corbi Wright	Corbi Wright	239 PARKWAY W
Sarah D Larsen	Sarah D Larsen	380 Fort Cir Alpine 84004
~~Gina Stark~~	Gina Stark	196 W Center St
Janice Hanson	Janice Hanson	173 Fort Creek Dr. Alpine
Jeffrey B Hanson	Jeffrey B. Hanson	173 Fort Creek Dr - Alpine
Julie Hvam		190 N 100 W ALPINE
Lori Volmar	Lori Volmar	235 Estate Dr Alpine
Lyn Carlisle	LYN CARLISLE	138 EAST Center Alpine
Julie Hebbert	Julie Hebbert	248 E. 200 N Alpine
Daryl Hughes	Daryl Hughes	431 River Circle, Alpine
	HAROLD F. HUGHES	431 RIVER CIRCLE, ALPINE
	THOMSEN	151 N 100 W ALPINE
	Carlisle	60 W 120 S ALPINE
Jean Francis	JEAN FRANCIS	283 River Road, Alpine
Greg Hughes	GREG HUGHES	431 River Cir, Alpine
	Kimberly Loveland	444 Fort Cir Alpine
Heather Christensen	Heather Christensen	174 W center Alpine
	Dallan Christensen	174 W center Alpine
Sandra Cottle	Sandra Cottle	351 River Road Alpine
Kevin Cottle	Kevin Cottle	351 River Rd Alpine

Sign & Print Name & Address:

Sharon Ward Sharon Ward 135 West 150 North

[illegible] DAVE JOHNSTON 123 W. 150 N.

Stephanie-Wilkinson 113 W. 150 N.

[illegible] 113 W 150 N

Lanette Wilkinson 113 W. 150 N.

[illegible] 140 W 150 N

ALPINE CITY COUNCIL AGENDA

SUBJECT: Parking Plan – Healey Heights

FOR CONSIDERATION ON: 13 August 2019

PETITIONER: Staff

ACTION REQUESTED BY PETITIONER: Approve the proposed parking plan for Healey Heights Park.

BACKGROUND INFORMATION:

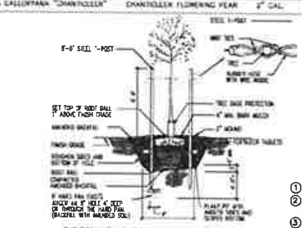
Expanded parking and a public restroom has been proposed for Healey Heights Park.

STAFF RECOMMENDATION:

Approve the proposed parking improvement plan.

PLANT LEGEND

QTY	KEY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
2	PC	PYRUS CALLERYANA "CHANTICLEER"	CHANTICLEER FLOWERING PEAR	2" CAL.	B&B



DECIDUOUS TREE PLANTING DETAIL
SCALE: NONE

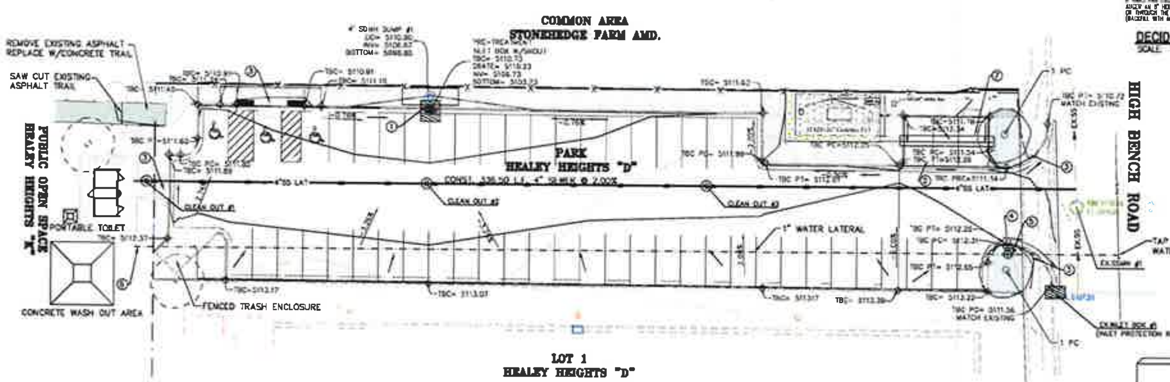
N / W / E / S

(24"x36")
SCALE 1" = 20'
(11"x17")
SCALE 1" = 40'

① CONST. 5.28 L.F. 15" RCP SD PIPE @ 1.00%
② CONST. 5" THICK CONCRETE SURFACE DRAINING TOWARDS DRIVE AISLE AS REQ'D
③ CONST. HANDICAP RAMP AS PER CITY STANDARDS
④ CONST. WATER METER W/ STOP & WAIST FOR LANDSCAPE AS REQ'D
⑤ CONST. SIGN AS REQ'D
⑥ CONST. STOP & WASTE ON WATER SERVICE LATERAL AS REQ'D BY ALPINE CITY
⑦ CONST. 2" CONDUIT UNDER PARKING AREA AS SHOWN AS REQ'D BY ALPINE CITY

LEGEND

PROPOSED APWA TYPE "E" CURB & GUTTER
PROPOSED REVERSE LIP CURB & GUTTER
PROPOSED APWA TYPE "G" CURB & GUTTER
PROPOSED SILT FENCE (SEE SHEET ECP-02)
PROPOSED CURB INLET PROTECTION
CONCRETE WASH OUT AREA – DO NOT WASH OUT CONCRETE TRUCKS INTO STORM DRAIN, OPEN DITCHES, OR STREET. WHEN WASHING CONCRETE TO REMOVE FINE PARTICLES AND EXPOSE THE AGGREGATE, AVOID CREATING RUNOFF BY DRAINING THE WATER WITH IN THE BERM OR LEVEL AREA. DISPOSE HARDENED CONCRETE ON A REGULAR BASIS OR AS NEEDED
PORTABLE TOILET



Sump with Trench Drain Capacity Calculations

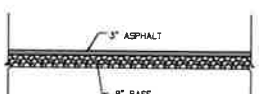
SUMP SPECIFICATIONS

Percolation Rate (min/in)	[illegible]	
Void ratio in drain rock	[illegible]	
Height of top cone section (ft)	[illegible]	
Height of manhole section (ft)	[illegible]	
Diameter of manhole section (ft)	[illegible]	
Thickness of section (in)	[illegible]	
Number of manhole sections	[illegible]	
Width of Trench Drain	[illegible]	
Length of Trench Drain	[illegible]	
[illegible]	[illegible]	
Depth to top of drain rock (ft)	[illegible]	
Depth to bottom of sections (ft)	[illegible]	
Depth to bottom of drain rock (ft)	17.00 (ft)	
Height of drain rock (ft)	14.00 (ft)	
Area available for percolation (ft^2)	848.00	
Calculated Percolation Capacity (ft^3/sec)	1.1778	
Additional Outflow (ft^3/sec)	0.000	
Storage in Manhole Sections (ft^3)	150.80	
Storage in drain rock voids (ft^3)	595.66	
Total storage in Trench Drain with Sump (ft^3)	746.46	

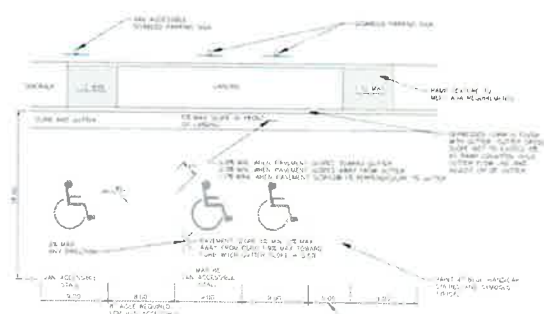
BASIN

[illegible]	0.50
Average Runoff Coefficient	0.90
Number of sumps in area	1
Max required storage (from below) (ft^3)	723.162
Storage available in sump and trench drain (ft^3)	746.456746
Additional storage to be provided (ft^3)	[illegible]

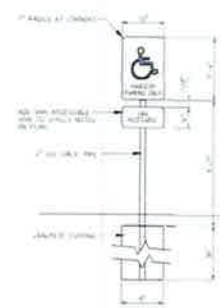
[illegible]	[illegible]	C	[illegible]	Q	[illegible]	[illegible]	[illegible]
5	0.96	[illegible]	0.50	[illegible]	[illegible]	[illegible]	[illegible]
10	5.28	[illegible]	0.50	2.383	1429.848	706.667	723.182
15	4.38	[illegible]	0.50	1.980	1771.062	1060.000	711.062
30	7.94	[illegible]	0.50	1.327	2388.497	2120.000	268.497
60	1.82	[illegible]	0.50	0.821	2957.186	4240.000	-1282.814
120	1.03	[illegible]	0.50	0.465	3347.145	8480.000	-5132.855
180	0.71	[illegible]	0.50	0.320	3460.883	12720.000	-9259.117
360	0.41	[illegible]	0.50	0.185	3997.076	25440.000	-21442.924
720	0.26	[illegible]	0.50	0.117	5069.462	50880.000	-45810.538
[illegible]	0.14	[illegible]	0.50	0.063	[illegible]	[illegible]	[illegible]



TYPICAL ASPHALT PAVEMENT SECTION
-NTS-



-HANDICAP RAMP-
-NTS-



-DISABLED PARKING SIGN-
-NTS-

NO.	REVISIONS	BY	DATE
5			
4			
3			
2			
1			

DESIGNED BY: DATE:
DRAWN BY: DATE:
CHECKED BY: DATE:
APPROVED: DATE:
CODD FILE: DATE:
REV. CODD FILE: DATE:

Northern ENGINEERING INC
ENGINEERING–LAND PLANNING
CONSTRUCTION MANAGEMENT
1040 E. 800 N.
OREM, UTAH 84097
(801) 802-8992

ALPINE HEALEY PARKING LOT

SITE PLAN

ALPINE CITY, UTAH

JOB NO. 3-19-032

SHEET NO. 1

ARTICLE 3.16 OPEN SPACE ORDINANCE (Ord. 1998-20, 11/24/98; amended Ord. 2007-12, 08/14/07; Ord. 2016-07, 07/26/16; Ord. 2016-24, 11/09/16)

3.16.1 PURPOSE

To enhance and preserve the quality of life in Alpine by providing for the preservation of selected areas within the City to be dedicated for the express purpose of preserving open space for the recreational use of the citizens of Alpine. To provide for the use of competitive sports, picnics, family gatherings, community social functions and other like activities. To maintain the rural nature of Alpine with appropriate landscaping and natural open space. (Open space consists of public and private open space.) Open space is set aside to accomplish one or more of the following functions:

1. To preserve viewscapes, natural ridgelines, etc.
2. To create or preserve a buffer between developed areas for privacy, aesthetic, and other purposes.
3. To provide areas for recreation, such as ballparks, swimming pools, picnic and playground facilities.
4. To preserve wildlife habitat.
5. To provide off-street venues for activities such as walking, jogging, cross-country skiing, snow-shoeing, cycling and horseback riding, etc.
6. To preserve native vegetation and topography.

3.16.2 PERMITTED USES

Permitted uses of the land in the Open Space Zone include:

1. Walkways
2. Paths
3. Trails
4. Picnic Shelters
5. Sanitary Facilities
6. Lawns
7. Landscaping

These permitted uses shall be part of the Alpine Park plan and shall be recommended by the Planning Commission and approved by the City Council.

3.16.3 CONDITIONAL USES

The following uses shall be permitted upon compliance with the requirements of this ordinance and a recommendation from the Planning Commission and approval of a site plan by the City Council and in compliance with the attached guidelines.

1. Permanent recreation facilities such as baseball diamonds with accompanying auxiliary structures, tennis courts and basketball courts.
2. Temporary recreational facilities such as soccer goals.
3. Structures for sale of food, drinks, game booths etc. which are of strictly a temporary nature for specific events.
4. Structures for use in organized group areas to be approved by the Planning Commission.
5. Wells with accompanying auxiliary structures, water, sewer and utility transmission lines and facilities.
6. Structures for the maintenance and operation of city business.
7. Other uses which are determined by the Planning Commission to be similar and compatible with the foregoing uses and in harmony with the intent of the zone.

3.16.4 SPECIAL PROVISIONS

3.16.4.1 All public parks in the City of Alpine as noted on the attached map, hereby made a portion of this Ordinance, are included in this Zone and are subject to all of the provisions of this Zone.

3.16.4.2 **Land included in these parks shall not be materially changed, improved, altered, disposed of in any manner or used for any other purpose except after a recommendation of the Planning Commission following a public hearing and by a super majority vote of the City Council (4 positive votes out of 5 City Council members are required). A material change shall include, but is not limited to, a change to the park's present and essential defining characteristics, creation of or improvement of roadways *or parking lots within the park*.**

ALPINE CITY COUNCIL AGENDA

SUBJECT: Parking Plan – Smooth Canyon Park

FOR CONSIDERATION ON: 13 August 2019

PETITIONER: Staff

ACTION REQUESTED BY PETITIONER: Approve the proposed parking plan for Smooth Canyon Park.

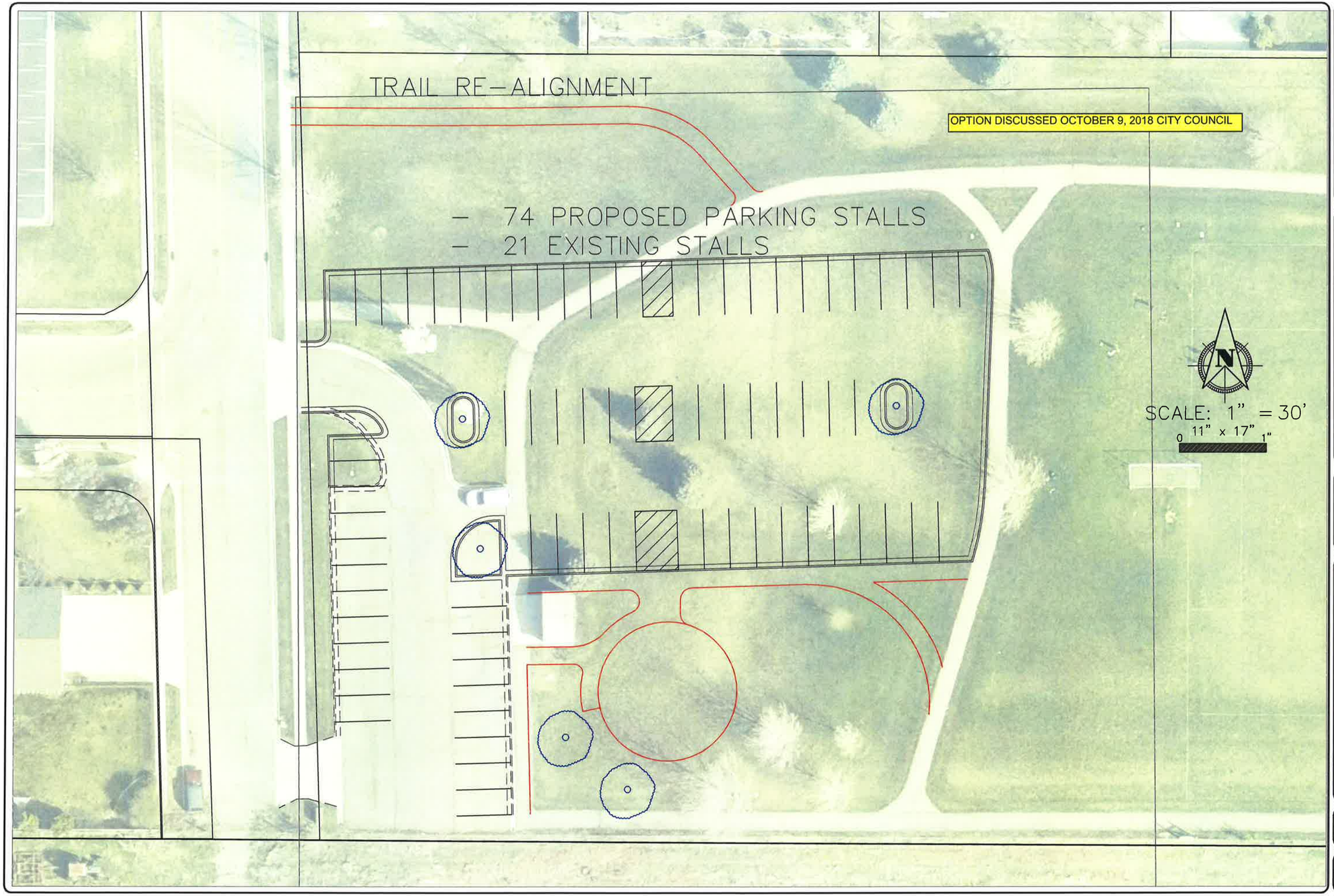
BACKGROUND INFORMATION:

Expanded parking and an upgraded public restroom has been proposed for Smooth Canyon Park. This item is returning after the City Council asked that a previous proposal be revised.

> ***MOTION**: Kimberly Bryant moved to table the issue of parking in Smooth Canyon Park for the next meeting and use the goal of 50 parking spaces as a guideline for a new design. Ramon Beck seconded.*
> *Ayes: 4 Nays: 0. Ramon Beck, Carla Merrill, Kimberly Bryant, Lon Lott voted aye. Motion passed.*

STAFF RECOMMENDATION:

Approve the proposed parking improvement plan.



REMARKS

1. Revised (7-7-10) Profile Labels for SDMH-A2 & SDMH-B4

SMOOTH CANYON PARKING
May, 2018
Parking & Playground CONCEPT

Engineering File Number:
–

Drawing: –

Sheet: 1 of 1

OPTION PREFERRED AT CITY COUNCIL OCTOBER 9, 2018
WITH REVISIONS

– 52 PROPOSED TOTAL PARKING STALLS
– 21 EXISTING STALLS

FUTURE PICNIC AREA

PROPOSED TREE (TYP)

108'

FUTURE PICNIC AREA

EX TREE

N

SCALE: 1" = 30'

0 11" x 17" 1"

FUTURE PLAYGROUND

FUTURE PICNIC AREA

REMARKS

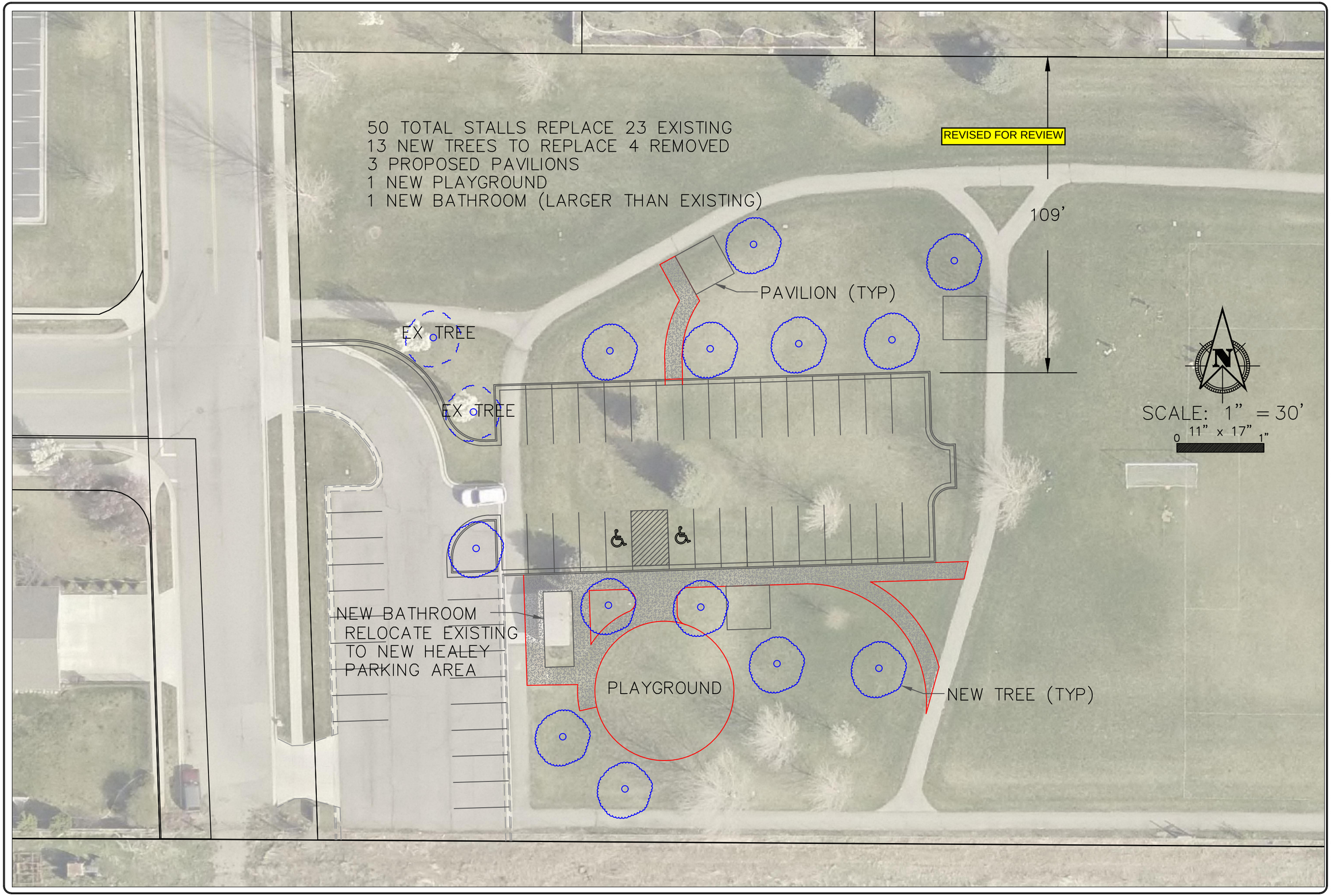
1. Revised (7-7-10) Profile Labels for SDMH-A2 & SDMH-B4

SMOOTH CANYON PARKING
OCT, 2018
Parking & Playground CONCEPT

Engineering File Number:
–

Drawing: –

Sheet: 1 of 1



REMARKS

1. Concept Revised 8-2-19 per City Council Direction, 50 Stalls

SMOOTH CANYON PARKING

AUG. 2, 2019

Parking & Playground CONCEPT

Engineering File Number:

–

Drawing: –

Sheet: 1 of 1

RELOCATED SMOOTH CANYON BATHROOM

NEW HEALEY PARKING
54 STALLS

845 S
830 S
840 S
835 S
844 S
871 S
1019 E
1041 E
1063 E
1085 E
1107 E
1131 E
ROUND MOUNTAIN DR
949 E
911 S
1016 E
1038 E
1058 E
1078 E
1098 E
1118 E
HIGH BENCH RD
HEALEY BLVD
878 E
902 E
918 E
942 E
966 E

SMOOTH CANYON PARKING CONCEPT
50 STALLS TOTAL (23 EXISTING)

NEW LARGER BATHROOM

RELOCATE EXISTING BATHROOM
TO HEALEY PARKING AREA

NEW PLAYGROUND AREA

SMOOTH CANYON & HEALEY PARKING
OVERALL CONCEPT

ALPINE CITY
ESTABLISHED 1850

1 inch = 80 feet

0 20 40 80 120 160
Feet

N

ALPINE CITY COUNCIL AGENDA

SUBJECT: Amendment to Development Code – International Fire Code

FOR CONSIDERATION ON: 13 August 2019

PETITIONER: Staff

ACTION REQUESTED BY PETITIONER: Approve amendment to ordinance.

BACKGROUND INFORMATION:

Staff is proposing to update the Development Code and replace references to the Uniform Fire Code in Article 3.12 with the Utah State Fire Code , which is the currently adopted fire code. Also, all uses of the term "Urban/Wildand Interface" have been changed to "Wildland Urban Interface" to be consistent with the terminology used in the fire code.

STAFF RECOMMENDATION:

Review and approve amendment to the Development Code.

ALPINE CITY
ORDINANCE 2019-18

AN ORDINANCE ADOPTING AMENDMENTS TO ARTICLE 3.12.040; 3.12.070; AND 3.12.090 OF THE ALPINE CITY DEVELOPMENT CODE PERTAINING TO CLASSIFICATION OF STREETS.

WHEREAS, The Alpine City Council has deemed it in the best interest of Alpine City to amend the Wildland Urban Interface Ordinance to update references to the Uniform Fire Code and replace them with the International Fire Code; and

WHEREAS, the Alpine City Planning Commission has reviewed the proposed Amendments to the Development Code, held a public hearing, and has forwarded a recommendation to the City Council; and

WHEREAS, the Alpine City Council has reviewed the proposed Amendments to the Development Code:

NOW THEREFORE, be it ordained by the Alpine City Council, in the State of Utah, as follows: The amendments to Article 3.12.040; 3.12.070; and 3.12.090 contained in the attached document will supersede Article 3.12.040; 3.12.070; and 3.12.090 as previously adopted. This ordinance shall take effect upon posting.

SECTION 1: **AMENDMENT** "3.12.070 Urban/Wildland Interface Overlay" of the Alpine City Municipal Code is hereby *amended* as follows:

BEFORE AMENDMENT

3.12.070 Urban/Wildland Interface Overlay

1. **PUPROSE**. To establish standards for development and fire prevention in areas bordering on wildlands. In addition to this section of the Development Code, areas bordering on wildlands shall be subject to the Wildland-Urban Interface Site Plan/Development Review Guide (supplemental document).
2. **ADDRESSES**
    a. Specifications. Notwithstanding Section 9.01-4-4 of the Uniform Fire Code, each premise must have approved numbers or addresses, a minimum of 5 inches in size, placed in such a position as to be plainly visible and legible from the road fronting the property. Numbers shall contrast with their background and their positions shall be suited for visibility in all seasons.
3. **STRUCTURAL DESIGN AND CONSTRUCTION**
   Protection. For structures receiving a HIGH HAZARD or EXTREME

HAZARD rating on the Fire Hazard Severity Form, found in the WIldland-Urban Interface Site Plan/Development Review Guide, shall be provided with automatic sprinkler protection in accordance with the National Fire Protection Association (NFPA) Standard 13 R, modified as follows:

i. Decks and Walks. Decks and walkways greater than 4 feet wide shall have quick response sprinkler heads placed ten feet on center if an exposure hazard is present. Eaves of the structure will also be provided with sprinkler heads 10 feet on center and attic vents shall be similarly protected if an exposure hazard is present. For the purposes of this Part, an exposure hazard is defined as the presence of any of the following at the time of construction or evidence of such in the construction plans provided:

(1) Flows. The system calculations shall be based on a minimum of four flowing quick-response sprinklers hydraulically calculated to provide flows in accordance with manufacturer's specifications for sprinklers. Calculations shall be based on 90% of the available flow at the base of the riser.

(2) Loop Systems. The use of anti-freeze loop systems is allowed when an acceptable back-flow prevention assembly is provided. Anti-freeze loops shall be relieved by using either an approved expansion tank or relief valve. Drilled clapper valves are not permitted.

(3) Inspection. An inspector's test valve is required upstream of the anti-freeze loop check valve.

(4) Control Valves. Automatic sprinkler systems shall be provided with an indicating control valve accessible to the fire department.

(5) Certification. Approval of any system shall be based on final inspection and receipt of hydrostatic and flushing certificates provided by the installer.

(6) Notwithstanding Article 10 Section 1.001.5.2 of the Uniform Fire Code, automatic sprinkler protection, where installed, shall be inspected annually at the owner's expense by a licensed sprinkler contractor. A copy of the inspection shall be submitted to the Fire Chief by December 31st of each year.

4. **ENFORCEMENT**

a. Responsibility. The conditions outlined in the urban/wildland overlay shall be maintained by the property owner and/or the applicable homeowners' association as a condition of maintaining "adequate fire protection" in accordance with Section 11-7-1 of the Utah Code Annotated and protective agreements, if any, made with Alpine City at the time of annexation.

b. Non-Exclusive Nature. The provisions of the urban/wildland overlay represent minimum standards. each owner of property in the Urban/Wildland Interface area is expected to use reasonable care in mitigating potential fire hazards, whether or not the potential hazard is enumerated in this section.
c. Pre-Existing Conditions. Property not in compliance with the vegetative clearance section of the urban/wildland overlay at the time of passage shall have one year in which to conform to its provisions, except that retrofitting of sprinklers will not be required.
d. Enforcement Official. Provisions of the urban/wildland overlay shall be enforced by the Alpine City Fire Chief or his appointed designees. The Fire Chief is authorized to recommend alternatives to any of the provisions of this code upon application in writing by the owner, lessee or a duly authorized representative where there are practical difficulties that prevent carrying out the such provisions, provided that the spirit and intent of the code shall be maintained, public safety furthered and substantial justice done. The particulars of such modifications and decision of the Fire chief shall be submitted to the City Council.
    i. Inspections. The Fire Chief or his designee shall conduct inspections to determine compliance with the urban/wildland requirements at the time of building permit inspections and at least once a year or at any other reasonable time. The Fire Chief or designee shall also conduct inspections based on the request of any other property owner, lessee, City official or employee who has reasonable cause to believe that a potential fire hazard exists in violation of the provisions of this ordinance.
    ii. Notice. The Fire Chief or his designee will annually publish and as needed periodic notices to remind residents of the provisions of the urban/wildland and will make available information on the provisions of the ordinance, as well as guidance on fire-resistant vegetation and suitable landscaping.
e. Recourse. Any person adversely affected by any decision made in the exercise of the provision of this section may pursue administrative and legal remedies in accordance with the following provisions:
    i. Procedure. No person may challenge Alpine City's land use decisions under this section in district court until all administrative remedies have been exhausted.
    ii. Judicial Review. Any person having exhausted all possible administrative remedies may file a petition for review of the decision with the district court within 30 days after the local decision is rendered.
    iii. Validity of Ordinance. The courts shall presume that land use decisions and regulations are valid and determine only whether or not the decision is arbitrary, capricious or illegal.

f. Remedies. Alpine City, its officers and employees, the city attorney or any owner of real estate within Alpine City may, in addition to other remedies provided by law, institute proceedings to secure injunction, mandamus, abatement or any other remedies provided by law, including prevention, enjoinment or removal.

g. Injunction. Alpine City need only establish the violation in order to secure injunction.

h. Building Permits. Alpine City, its officers and employees, may enforce this ordinance by withholding building permits and it shall be unlawful to erect, construct, alter or change the use of any building or other structure within Alpine City without approval of such building permit.

    i. Failure to Obtain Permit. Any architect, lending agency, builder, contractor or other person doing or performing such work as described in DCA 3.13.100 Part 6,b shall be deemed guilty of violating this ordinance at least to the same extent or manner as the owner of the premises, or the person for whom the use is established or for whom such buildings are erected or altered, and shall be subject to the penalties herein prescribed for a violation.

    ii. Compliance. The City may not issue a building permit unless the plans of and for the proposed erection, construction, reconstruction, alteration or use fully conform to all ordinances then in effect.

i. Violation. Any violation of the provisions of the urban/wildland overlay is punishable as a Class C misdemeanor upon conviction. Each person, firm or corporation found guilty of such violation shall be deemed guilty of a separate offense for every day during which any violation is committed, continued or permitted by such person, persons, firm or corporation, and shall be punished as provided in this ordinance.

j. Nothing in this ordinance may be construed to prevent enforcement under the provisions of the current edition of the Uniform Fire Code as adopted by the State of Utah and the City of Alpine.

5. **Warning and Disclaimer**. The degree of wildfire protection required by urban/wildland interface overlay is considered reasonable regulatory purposes and is based on fire safety considerations. This section does not imply that land outside the areas of urban/wildland overlay zone or uses permitted within such areas will be free from damages from wildfires. This ordinance shall not create liability on the part of Alpine City, Utah, any officer or employee thereof, or the city's fire agency for any wildfire damages that result from reliance an this ordinance or any administrative decision lawfully made thereunder.

(Original Ordinance No. 94-11. Amended by Ord. 2001-05.

Incorporated
into Sensitive
Lands Ordinance
by Ord. No.
2005-03,
1/25/05)

AFTER AMENDMENT

3.12.070 ~~Urban/Wildland~~Wildland Urban Interface Overlay

1. **PUPROSE**. To establish standards for development and fire prevention in areas bordering on wildlands. In addition to this section of the Development Code, areas bordering on wildlands shall be subject to the Wildland-Urban Interface Site Plan/Development Review Guide (supplemental document).
2. **ADDRESSES**
    a. Specifications. ~~Notwithstanding Section 9.01-4-4 of the Uniform Fire Code, e~~Each premise must have approved numbers or addresses, a minimum of 5 inches in size, placed in such a position as to be plainly visible and legible from the road fronting the property. Numbers shall contrast with their background and their positions shall be suited for visibility in all seasons.
3. **STRUCTURAL DESIGN AND CONSTRUCTION**

    Protection. For structures receiving a HIGH HAZARD or EXTREME HAZARD rating on the Fire Hazard Severity Form, found in the Wi~~l~~ldland-Urban Interface Site Plan/Development Review Guide, shall be provided with automatic sprinkler protection in accordance with the National Fire Protection Association (NFPA) Standard 13 R, modified as follows:

    i. Decks and Walks. Decks and walkways greater than 4 feet wide shall have quick response sprinkler heads placed ten feet on center if an exposure hazard is present. Eaves of the structure will also be provided with sprinkler heads 10 feet on center and attic vents shall be similarly protected if an exposure hazard is present. For the purposes of this Part, an exposure hazard is defined as the presence of any of the following at the time of construction or evidence of such in the construction plans provided:

    (1) Flows. The system calculations shall be based on a minimum of four flowing quick-response sprinklers hydraulically calculated to provide flows in accordance with manufacturer's specifications for sprinklers. Calculations shall be based on 90% of the available flow at the base of the riser.

(2) Loop Systems. The use of anti-freeze loop systems is allowed when an acceptable back-flow prevention assembly is provided. Anti-freeze loops shall be relieved by using either an approved expansion tank or relief valve. Drilled clapper valves are not permitted.
(3) Inspection. An inspector's test valve is required upstream of the anti-freeze loop check valve.
(4) Control Valves. Automatic sprinkler systems shall be provided with an indicating control valve accessible to the fire department.
(5) Certification. Approval of any system shall be based on final inspection and receipt of hydrostatic and flushing certificates provided by the installer.
(6) ~~Notwithstanding Article 10 Section 1.001.5.2 of the Uniform Fire Code, a~~Automatic sprinkler protection, where installed, shall be inspected annually at the owner's expense by a licensed sprinkler contractor. A copy of the inspection shall be submitted to the Fire Chief by December 31st of each year.

4. **ENFORCEMENT**

a. Responsibility. The conditions outlined in the ~~urban/wildland~~Wildland Urban Interface ~~o~~Overlay shall be maintained by the property owner and/or the applicable homeowners' association as a condition of maintaining "adequate fire protection" in accordance with Section 11-7-1 of the Utah Code Annotated and protective agreements, if any, made with Alpine City at the time of annexation.
b. Non-Exclusive Nature. The provisions of the ~~urban/wildland~~Wildland Urban Interface~~o~~Overlay represent minimum standards. each owner of property in the ~~Urban/Wildland~~Wildland Urban Interface area is expected to use reasonable care in mitigating potential fire hazards, whether or not the potential hazard is enumerated in this section.
c. Pre-Existing Conditions. Property not in compliance with the vegetative clearance section of the ~~urban/wildland~~Wildland Urban Interface~~o~~Overlay at the time of passage shall have one year in which to conform to its provisions, except that retrofitting of sprinklers will not be required.
d. Enforcement Official. Provisions of the ~~urban/wildland~~Wildland Urban Interface~~o~~Overlay shall be enforced by the Alpine City Fire Chief or his appointed designees. The Fire Chief is authorized to recommend alternatives to any of the provisions of this code upon application in writing by the owner, lessee or a duly authorized representative where there are practical difficulties that prevent carrying out the such provisions, provided that the spirit and intent of the code shall be maintained, public safety furthered and substantial justice done. The particulars of such modifications and decision of the Fire chief shall be submitted to the City Council.

i. Inspections. The Fire Chief or his designee shall conduct inspections to determine compliance with the ~~urban/wildland~~Wildland Urban Interface requirements at the time of building permit inspections and at least once a year or at any other reasonable time. The Fire Chief or designee shall also conduct inspections based on the request of any other property owner, lessee, City official or employee who has reasonable cause to believe that a potential fire hazard exists in violation of the provisions of this ordinance.

ii. Notice. The Fire Chief or his designee will annually publish and as needed periodic notices to remind residents of the provisions of the ~~urban/wildland~~Wildland Urban Interface and will make available information on the provisions of the ordinance, as well as guidance on fire-resistant vegetation and suitable landscaping.

e. Recourse. Any person adversely affected by any decision made in the exercise of the provision of this section may pursue administrative and legal remedies in accordance with the following provisions:

i. Procedure. No person may challenge Alpine City's land use decisions under this section in district court until all administrative remedies have been exhausted.

ii. Judicial Review. Any person having exhausted all possible administrative remedies may file a petition for review of the decision with the district court within 30 days after the local decision is rendered.

iii. Validity of Ordinance. The courts shall presume that land use decisions and regulations are valid and determine only whether or not the decision is arbitrary, capricious or illegal.

f. Remedies. Alpine City, its officers and employees, the city attorney or any owner of real estate within Alpine City may, in addition to other remedies provided by law, institute proceedings to secure injunction, mandamus, abatement or any other remedies provided by law, including prevention, enjoinment or removal.

g. Injunction. Alpine City need only establish the violation in order to secure injunction.

h. Building Permits. Alpine City, its officers and employees, may enforce this ordinance by withholding building permits and it shall be unlawful to erect, construct, alter or change the use of any building or other structure within Alpine City without approval of such building permit.

i. Failure to Obtain Permit. Any architect, lending agency, builder, contractor or other person doing or performing such work as described in DCA 3.13.100 Part 6,b shall be deemed guilty of violating this ordinance at least to the same extent or manner as the owner of the premises, or the person for whom the use is established or for whom such buildings are erected or altered, and shall be subject to the penalties herein prescribed for a violation.

ii. Compliance. The City may not issue a building permit unless the plans of and for the proposed erection, construction, reconstruction, alteration or use fully conform to all ordinances then in effect.

i. Violation. Any violation of the provisions of the ~~urban/wildland~~Wildland Urban Interface~~o~~Overlay is punishable as a Class C misdemeanor upon conviction. Each person, firm or corporation found guilty of such violation shall be deemed guilty of a separate offense for every day during which any violation is committed, continued or permitted by such person, persons, firm or corporation, and shall be punished as provided in this ordinance.

j. Nothing in this ordinance may be construed to prevent enforcement under the provisions of the current ~~edition of the Uniform International F~~fire ~~C~~code as adopted by the State of Utah and the City of Alpine.

5. **Warning and Disclaimer**. The degree of wildfire protection required by ~~urban/wildland~~Wildland Urban Interface~~interface o~~Overlay is considered reasonable regulatory purposes and is based on fire safety considerations. This section does not imply that land outside the areas of ~~urban/wildland~~Wildland Urban Interface~~o~~Overlay zone or uses permitted within such areas will be free from damages from wildfires. This ordinance shall not create liability on the part of Alpine City, Utah, any officer or employee thereof, or the city's fire agency for any wildfire damages that result from reliance an this ordinance or any administrative decision lawfully made thereunder.

(Original Ordinance No. 94-11. Amended by Ord. 2001-05. Incorporated into Sensitive Lands Ordinance by Ord. No. 2005-03, 1/25/05)

SECTION 2: **AMENDMENT** "3.12.040 Sensitive Land Classifications" of the Alpine City Municipal Code is hereby *amended* as follows:

BEFORE AMENDMENT

3.12.040 Sensitive Land Classifications

The following factors shall be used to determine the classification of various lands and their constraints to building and development on them:

1. **Geologic Hazard Lands**. Lands identified on the Official Alpine City Hazards map as having landslide, debris flow, rock fall, soil liquefaction or surface-fault-rupture hazards.
2. **Hillside Lands**. Lands identified on the Official Alpine City Hazard map as having an elevation above 5350 feet Mean Sea level.
3. **Urban/Wildland Lands**. Lands identified on the Official Alpine City Hazard map as having potential wild fire hazard.
4. **Flood Plain Lands**. Lands with potential stream flow and flood hazard. Flood plain lands consist of all lands contained within the 100-year flood plain as defined by Federal Emergency Management Agency, in Flood Insurance Rate Map (FIRM) #490228005A, dated April 4, 1983. The April 4, 1983 FIRM map is also adopted as the Official Alpine City Hazard map for flood damage prevention overlay zone.

(Original Ordinance No. 2002-01. Amended by Ordinance 2005-03, 1/25/05)

AFTER AMENDMENT

3.12.040 Sensitive Land Classifications

The following factors shall be used to determine the classification of various lands and their constraints to building and development on them:

1. **Geologic Hazard Lands**. Lands identified on the Official Alpine City Hazards map as having landslide, debris flow, rock fall, soil liquefaction or surface-fault-rupture hazards.
2. **Hillside Lands**. Lands identified on the Official Alpine City Hazard map as having an elevation above 5350 feet Mean Sea level.
3. ~~**Urban/Wildland**~~**Wildland Urban Interface Lands**. Lands identified on the Official Alpine City Hazard map as having potential wild fire hazard.
4. **Flood Plain Lands**. Lands with potential stream flow and flood hazard. Flood plain lands consist of all lands contained within the 100-year flood plain as defined by Federal Emergency Management Agency, in Flood Insurance Rate Map (FIRM) #490228005A, dated April 4, 1983. The April 4, 1983 FIRM map is also adopted as the Official Alpine City Hazard map for flood damage prevention overlay zone.

(Original Ordinance No. 2002-01. Amended by Ordinance 2005-03, 1/25/05)

SECTION 3: **AMENDMENT** "3.12.090 Hillside Protection Overlay" of the Alpine City Municipal Code is hereby *amended* as follows:

BEFORE AMENDMENT

3.12.090 Hillside Protection Overlay

1. **INTENT AND PURPOSE**. The purpose of the Hillside Protection Overlay Zone is to promote health, safety and the general public welfare of the residents of the City, by establishing standards for development of certain hillsides located in the City to minimize soil and slope instability, erosion, and to preserve the character of the hillsides.

   The Hillside Protection Overlay shall comply with DCA 4.05.040 Parts 4-9, limits to development of the Land Use Element of the Alpine City General Plan as adopted by the Alpine City Council on July 28, 1997 as follows:

   Development will not be permitted where any part of the zoning lot is above an elevation of 5350 feet Mean Sea Level except it is demonstrated that such development or structure complies with the following conditions in addition to all other conditions defined in the underlying zone, and additions or conditions as recommended by the Planning Commission and approved by the City Council.

2. **PROVISIONS**. The provisions herein are designed to accomplish the following:
   a. Encourage the location, design and development of building sites to provide maximum safety, and human enjoyment while adapting the development to the natural terrain;
   b. Provide for safe circulation of vehicular and pedestrian traffic to public and private areas minimizing the scarring and erosion effects of cutting, filling and grading related to hillside construction;
   c. Prohibit activities and uses, which would result in degradation of fragile soils and steep slopes.
   d. Encourage preservation of open space to preserve the natural terrain.
   e. Minimize flooding by protecting streams, drainage channels, absorption areas and flood plains from substantial alteration of the natural functions.

3. **OVERLAY ZONE - SCOPE - CONFLICT RESOLUTION.** The Hillside Protection Zone shall be an overlay zone of the zone classifications set out in the Alpine Zoning Ordinance. Any permitted use in a district overlaid by the Hillside Protection Zone is a conditional use. Conditional uses authorized in districts overlaid by the Hillside Protection Zone remain conditional uses. In case of conflict between the provisions of the existing zoning classification, building code, subdivision ordinance and/or other City ordinance and the Hillside Protection Overlay Zone, the most restrictive provision shall apply. Nothing contained herein shall be construed to expand a use, make less restrictive a use, or allow a use which is not otherwise permitted in the zoning district overlaid by the Hillside Protection Zone.
4. **SPECIFIC REQUIREMENTS**
    a. Viewscape Protection. Structure will not exceed 25' in height from lowest elevation of finished or natural grade, whichever is most restrictive, to the top of the structure nor will it be placed on any ridge line or protrude against the skyline when viewed from any major roadway in Alpine classified as collector or greater in intensity. Hillside developments will be designed to minimize visual impact and will make maximum use of hollows and draws. (See attachment A to this section for acceptable examples.) A landscaping plan designed to minimize the visual impact of any hillside structure or development shall be provided. All buildings constructed will make maximum use of neutral colors and non-reflective glass for structures. An exterior materials plan will be provided designating types of exterior materials and colors. (See attachment A for examples.)
    b. Outdoor Lighting Regulations. Outdoor lighting must be so organized and constructed so as to minimize the view of such lights more than 300' away.

        All street and all outdoor lighting plans must be reviewed and a recommendation given by the Planning Commission and approved by the City Council.

    c. City Services
        i. Culinary water - Development above 5350 ft. will provide all additional infrastructure required to provide adequate water and pressure. This includes piping, valves, pumps and storage tanks of appropriate size as determined by the City Engineer. The development shall provide both on-site and off-site improvements. The development shall also pay the cost of pumping water to the development.
        ii. Waste disposal - Development will provide infrastructure to connect to the Alpine City sewer regardless of the distance of the structure from the existing line. (The 300 ft. limitation for use of septic tanks will not apply.) Such lines will be sized in accordance with the requirements of the City Engineer.
        iii. Storm drainage - Development will provide infrastructure to connect to the Alpine City drainage complex or provide other drainage satisfactory to the City Engineer and the Planning Commission.

d. Safety. All habitable structures above 5350 feet shall meet the requirements of the Urban/Wildland, Flooding, and Geologic Hazard overlays contained in this, Hazard Ordinance chapter. In addition the following requirements for Recharge and Groundwater Areas and Erosion shall be met.
    i. Recharge Areas and Groundwater: The developer shall demonstrate that the proposed development will not have an adverse effect on groundwater recharge areas and local groundwater conditions.
    ii. Erosion: No structure shall be located so as to cause an increase in erosion.
e. Design Standards
    i. Development shall not be allowed within fifty (50) feet of slopes in excess of forty (40) percent, areas subject to landsliding, or other high-hazard geologic areas as determined by a soils report and/or geology report produced pursuant to the requirements of item H-5 documentation.
    ii. Grading of the lot or parcel which is related to creation of the primary building site or construction of the structure shall not extend closer than twenty (20) feet from the lot or parcel boundary lines, nor more than (30) feet horizontally, in front, to the rear or to the side of the proposed structure unless a lesser distance is approved by the City Council upon recommendation of Planning Commission upon a showing by the developer that a lesser distance will not be contrary to the purposes of this section.
    iii. Building sites for accessory buildings or structures such as tennis courts, swimming pools, outbuildings etc. shall be approved by the City Council upon recommendation of the Planning Commission and follow the requirement of this Section H.
f. Documentation
    i. Plans and reports required. The following reports and plans are to be provided by the applicant. The Planning Commission may waive any reports and plans it determines are not necessary to determine whether the development meets the requirements of this section.
    ii. Soils report. The soils report shall be prepared by a qualified soils engineer, and must contain at least the following information:
        (1) Slope analysis;
        (2) An estimate of the normal highest elevation to the seasonal high-water table;
        (3) The location and size of swamps, springs and seeps, which shall be shown on the site plan, and the reasons for the occurrences of these underground water sources. An analysis of the vegetative cover or other surface information may be used by show the presence of underground water;
        (4) A unified soil classification for the major horizons or layers of soil profile, or of the zone of the footing foundation;

(5) Appropriate accepted soils engineering tests to determine bearing capacity, settlement potential, and shrink/swell potential of the site soils;
(6) Potential frost action, based on the depth to the water and the Unified Soil Classification;
(7) An analysis of the soil suitabilities, constraints and proposed methods of mitigating such constraints in implementing the proposed development;
(8) An analysis of the propensity of the area to have hazards that may or may not be included in the geologic hazard maps such as landslides, rock fall, surface fault rupture, or debris flow;
(9) A written statement by the person or firm preparing the soils report, identifying the means proposed to minimize hazard to life, property, adverse effects on the safety, use or stability of a public right-of-way or drainage channel, and adverse impact on the natural environment. This statement shall be reviewed by the Planning Commission and approved by the City Engineer.

g. Geologic Report. A geologic report shall be prepared by a licensed and qualified engineering geologist and contain:
    i. Conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and recommendations covering the adequacy of sites to be developed;
    ii. A written statement by the person or firm preparing the geologic report identifying the means proposed to minimize hazard to life or property, adverse effects on safety, use or stability of a public right-of-way or drainage channel, and adverse impact on the natural environment.

    This statement shall be reviewed by the Planning Commission and approved by the City Engineer.
h. Grading and Drainage Plan. A grading and drainage plan shall be prepared by a professional engineer registered in the state. The plan must be sufficient to determine erosion control measures necessary to prevent soil loss during construction and after project completion. The plan shall contain at least the following information:
    i. A map of the entire site, showing existing details and contours of the property and proposed contour modifications, using a minimum of ten-foot contour intervals at a scale of one inch equals one hundred (1" = 100>) feet.
    ii. Map(s) of area(s) to be graded, showing existing details and contours at five-foot intervals where terrain will not be modified, and proposed details and contours of two-foot intervals where terrain modification is proposed, using a scale of one inch equals twenty (1" = 20') feet.

iii. An investigation of the effects of the 100 year storm evaluating how the proposed drainage system will handle the predicted flows, including effects of drainage areas outside the development which drain through the subject area and the anticipated flow of the drainage leaving the development.
iv. The history, including frequency and duration of prior flooding.
v. The location of any existing buildings or structures on the development, and any existing buildings or structures on land of adjacent owners which are within one hundred (100) feet of the property, or which are on the land of adjacent owners and may be affected by the proposed development.
vi. The direction of proposed drainage flow and the approximate grade of all streets (not to be construed as a requirement for the final street design).
vii. Proposed plans and locations of all surface and subsurface drainage devices, walls, dams, sediment basins, storage reservoirs, and other protective devices to be constructed with or as a part of the proposed work, together with a map showing drainage areas and the proposed drainage network, including outfall lines and natural drainage ways which may be affected by the proposed project. Include the estimated runoff of the areas served by the drainage plan.
viii. A written statement by the person or firm preparing the grading and drainage plan identifying any grading and drainage problems in the development and further stating an opinion as to the ability of the proposed plan to mitigate or eliminate such problems so as to prevent hazard to life or property; adverse effects on the safety, use or stability of a public way or drainage channel; and adverse impact on the natural environment.

    This statement must be accepted and approved by the Planning Commission and the City Engineer.

ix. A plan for the prevention and control of erosion during the course of construction approved by the City Engineer.

i. Fire Protection Report. A fire protection report including but not limited to identification of potential fire hazards, mitigation measures approved by the Alpine/Highland Public Safety District Fire Chief, access for fire protection equipment, and existing and proposed fire flow capacity. The fire protection report shall address, as appropriate, the State Forester's Wildlife Hazards and Residential Development Identification Classification and Regulation Report. This report must be accepted and approved by the Alpine/Highland Public Safety District Fire Chief and the City Engineer.
j. Vegetation Plan. The vegetation plan and report shall be prepared by a person or firm qualified by training and experience to have expert knowledge of the subject and shall include at least the following:

i. A survey of existing trees, large shrubs, and ground covers
ii. A plan of the proposed revegetation of the site, detailing existing vegetation to be preserved, new vegetation to be planted, and any modifications to existing vegetation
iii. A plan for the preservation of existing vegetation during construction activity
iv. A vegetation maintenance program, including initial and continuing maintenance necessary
v. A written statement by the person or firm preparing the vegetation plan and report, identifying any vegetation problems, and further stating an opinion as to the ability of the proposed plan to mitigate or eliminate such problems as to prevent hazard to life or property; adverse effects on the safety, use and stability of a public way or drainage channel; and adverse impact on the natural environment.

This statement must be accepted and approved by the City engineer.

k. Other Report and Plans. Other reports and plans as deemed necessary by the Planning Commission. The Planning Commission may require second source verification.

(Original Ordinance No. 98-10. Incorporated into the Sensitive Land Ordinance by Ordinance No. 2005-03, 1/25/05)

AFTER AMENDMENT

3.12.090 Hillside Protection Overlay

1. **INTENT AND PURPOSE**. The purpose of the Hillside Protection Overlay Zone is to promote health, safety and the general public welfare of the residents of the City, by establishing standards for development of certain hillsides located in the City to minimize soil and slope instability, erosion, and to preserve the character of the hillsides.

   The Hillside Protection Overlay shall comply with DCA 4.05.040 Parts 4-9, limits to development of the Land Use Element of the Alpine City General Plan as adopted by the Alpine City Council on July 28, 1997 as follows:

   Development will not be permitted where any part of the zoning lot is above an elevation of 5350 feet Mean Sea Level except it is demonstrated that such development or structure complies with the following conditions in addition to all other conditions defined in the underlying zone, and additions or conditions as recommended by the Planning Commission and approved by the City Council.

2. **PROVISIONS**. The provisions herein are designed to accomplish the following:

a. Encourage the location, design and development of building sites to provide maximum safety, and human enjoyment while adapting the development to the natural terrain;
b. Provide for safe circulation of vehicular and pedestrian traffic to public and private areas minimizing the scarring and erosion effects of cutting, filling and grading related to hillside construction;
c. Prohibit activities and uses, which would result in degradation of fragile soils and steep slopes.
d. Encourage preservation of open space to preserve the natural terrain.
e. Minimize flooding by protecting streams, drainage channels, absorption areas and flood plains from substantial alteration of the natural functions.

3. **OVERLAY ZONE - SCOPE - CONFLICT RESOLUTION.** The Hillside Protection Zone shall be an overlay zone of the zone classifications set out in the Alpine Zoning Ordinance. Any permitted use in a district overlaid by the Hillside Protection Zone is a conditional use. Conditional uses authorized in districts overlaid by the Hillside Protection Zone remain conditional uses. In case of conflict between the provisions of the existing zoning classification, building code, subdivision ordinance and/or other City ordinance and the Hillside Protection Overlay Zone, the most restrictive provision shall apply. Nothing contained herein shall be construed to expand a use, make less restrictive a use, or allow a use which is not otherwise permitted in the zoning district overlaid by the Hillside Protection Zone.
4. **SPECIFIC REQUIREMENTS**
    a. Viewscape Protection. Structure will not exceed 25' in height from lowest elevation of finished or natural grade, whichever is most restrictive, to the top of the structure nor will it be placed on any ridge line or protrude against the skyline when viewed from any major roadway in Alpine classified as collector or greater in intensity. Hillside developments will be designed to minimize visual impact and will make maximum use of hollows and draws. (See attachment A to this section for acceptable examples.) A landscaping plan designed to minimize the visual impact of any hillside structure or development shall be provided. All buildings constructed will make maximum use of neutral colors and non-reflective glass for structures. An exterior materials plan will be provided designating types of exterior materials and colors. (See attachment A for examples.)
    b. Outdoor Lighting Regulations. Outdoor lighting must be so organized and constructed so as to minimize the view of such lights more than 300' away.

        All street and all outdoor lighting plans must be reviewed and a recommendation given by the Planning Commission and approved by the City Council.

    c. City Services

i. Culinary water - Development above 5350 ft. will provide all additional infrastructure required to provide adequate water and pressure. This includes piping, valves, pumps and storage tanks of appropriate size as determined by the City Engineer. The development shall provide both on-site and off-site improvements. The development shall also pay the cost of pumping water to the development.
ii. Waste disposal - Development will provide infrastructure to connect to the Alpine City sewer regardless of the distance of the structure from the existing line. (The 300 ft. limitation for use of septic tanks will not apply.) Such lines will be sized in accordance with the requirements of the City Engineer.
iii. Storm drainage - Development will provide infrastructure to connect to the Alpine City drainage complex or provide other drainage satisfactory to the City Engineer and the Planning Commission.

d. Safety. All habitable structures above 5350 feet shall meet the requirements of the ~~Urban/~~Wildland Urban Interface, Flooding, and Geologic Hazard overlays contained in this, Hazard Ordinance chapter. In addition the following requirements for Recharge and Groundwater Areas and Erosion shall be met.
    i. Recharge Areas and Groundwater: The developer shall demonstrate that the proposed development will not have an adverse effect on groundwater recharge areas and local groundwater conditions.
    ii. Erosion: No structure shall be located so as to cause an increase in erosion.
e. Design Standards
    i. Development shall not be allowed within fifty (50) feet of slopes in excess of forty (40) percent, areas subject to landsliding, or other high-hazard geologic areas as determined by a soils report and/or geology report produced pursuant to the requirements of item H-5 documentation.
    ii. Grading of the lot or parcel which is related to creation of the primary building site or construction of the structure shall not extend closer than twenty (20) feet from the lot or parcel boundary lines, nor more than (30) feet horizontally, in front, to the rear or to the side of the proposed structure unless a lesser distance is approved by the City Council upon recommendation of Planning Commission upon a showing by the developer that a lesser distance will not be contrary to the purposes of this section.
    iii. Building sites for accessory buildings or structures such as tennis courts, swimming pools, outbuildings etc. shall be approved by the City Council upon recommendation of the Planning Commission and follow the requirement of this Section H.
f. Documentation

i. Plans and reports required. The following reports and plans are to be provided by the applicant. The Planning Commission may waive any reports and plans it determines are not necessary to determine whether the development meets the requirements of this section.

ii. Soils report. The soils report shall be prepared by a qualified soils engineer, and must contain at least the following information:

(1) Slope analysis;

(2) An estimate of the normal highest elevation to the seasonal high-water table;

(3) The location and size of swamps, springs and seeps, which shall be shown on the site plan, and the reasons for the occurrences of these underground water sources. An analysis of the vegetative cover or other surface information may be used by show the presence of underground water;

(4) A unified soil classification for the major horizons or layers of soil profile, or of the zone of the footing foundation;

(5) Appropriate accepted soils engineering tests to determine bearing capacity, settlement potential, and shrink/swell potential of the site soils;

(6) Potential frost action, based on the depth to the water and the Unified Soil Classification;

(7) An analysis of the soil suitabilities, constraints and proposed methods of mitigating such constraints in implementing the proposed development;

(8) An analysis of the propensity of the area to have hazards that may or may not be included in the geologic hazard maps such as landslides, rock fall, surface fault rupture, or debris flow;

(9) A written statement by the person or firm preparing the soils report, identifying the means proposed to minimize hazard to life, property, adverse effects on the safety, use or stability of a public right-of-way or drainage channel, and adverse impact on the natural environment. This statement shall be reviewed by the Planning Commission and approved by the City Engineer.

g. Geologic Report. A geologic report shall be prepared by a licensed and qualified engineering geologist and contain:

i. Conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and recommendations covering the adequacy of sites to be developed;

ii. A written statement by the person or firm preparing the geologic report identifying the means proposed to minimize hazard to life or property, adverse effects on safety, use or stability of a public right-of-way or drainage channel, and adverse impact on the natural environment.

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PASSED AND ADOPTED BY THE ALPINE CITY COUNCIL
_____.

	AYE	NAY	ABSENT	ABSTAIN
Lon Lott	_____	_____	_____	_____
Kimberly Bryant	_____	_____	_____	_____
Carla Merrill	_____	_____	_____	_____
Ramon Beck	_____	_____	_____	_____
Jason Thelin	_____	_____	_____	_____

Presiding Officer

Attest

_____
Troy Stout, Mayor, Alpine City

_____
Charmayne G. Warnock, City Recorder Alpine City