

Attention to Ascente's Proposal from the Current Residents

1. It is important to note that Ascente' had open meetings with the current residents (June 25 and Aug. 25) to field their objections and concerns. Highlighted here are the things we asked about and to date their responses.
 - a. Ascente' did respond to some concerns about placing a building height restriction on the homes that border existing property owners, as well as the landscaping buffering proposed in the Tentative Map", which does not meet the standards of the Forest Plan.
 - b. Water was central to many and the answers all came from TMWA telling us that they (TWMA had a plan) but remember that these same residents were told that the Montreux Golf course and development would not adversely affect our wells. **We all know how that ended up. Tax values for all of us were impacted by the abandoned homes. Todd's presentation on water and the handling of waste water really points out the risks our neighbors face and what happens to the runoff into Galena Creek is very troubling to us all.**
 - c. Density was mentioned by the residents and they asked why the rule of one acre to each residence was not going to be followed? Ascente's response has been "we got the zoning and we will use it". **Current residents view the proposed "Villages" as nothing more than subdivisions, which do impact our home values and way of life.**
 - d. Parks and open spaces were expressed as a concern. Ascente's proposal is that there are no parks planned. The Forest Plan (F.10.7) States there is to be 7acres of Neighborhood/Community Park per 1,000 Residents. The open spaces they talk of are the places they cannot build on, due to the steepness of the slopes. (a quote from the proposal "Development is based on the sites topographic constraints and preserves areas with steep slopes as open spaces") **Why are there no parks planned? Where will the new residents recreate, walk, jog, and bike?**
 - e. Trails were mentioned. Ascente's response was to keep some of the exiting trails, but closing others. Their plan for the three proposed trails is: once you are entering their property those trails immediately ascend the 30 degree plus slopes, and once on the ridge lines (600 plus feet in elevation change) you can walk or ride around the property from those same ridges. All three of the planned trails are like this, and none of the trails are connected to any trail leaving the property. There is no connection or access allowed to the current

trail system along Galena Creek. Access to properties to the north, east and south is not connected by the current proposed trails. **So the answer to the trails issue is that unless you want a strenuous hike, go somewhere else and none of the trails lead off the property. Additionally there is no parking spelled out for the proposed use of these same trails. Forest Plan F.10.4 says there will be parking at trail heads! Refer to Ascente Village Plan and Trails maps.**

- f. Fire Safety was high on many people's list. Ascente has shown no plans to mitigate lands around their development (they do have plans for the home sites to mitigate fire potential in the developed areas) and has not acquired any additional fire exits. The "wild Lands" portion of the proposal, still remains as typical fire avenues. When the next fire does threaten the neighborhoods (including current residents, the 281 homes now proposed and the other 340 homes in phase 2) and they all try to get out the 2 avenues of escape (PLUS THE LOCKED GATE AT Brushwood), as proposed, **the traffic jams and resulting loss of property and life, could be catastrophic for all of us. There must be additional exits to allow for orderly evacuation.**
- g. Traffic through existing neighborhoods was high on the list of most residents. Ascente' did change some flow charts to move more traffic out through Fawn Lane rather than having a majority exit through Shawna Lane, this is no response for the residents of Fawn, it was simply shuffling traffic from one area to another this way they could avoid taking Shawna Lane from a neighborhood street to a "Collector Road" which would mean paying for improvements. **The residents had asked that Ascente' acquire additional access to the development from the Mt. Rose Highway and Thomas Creek intersection. Thus supplying a major way into and out of, both phases of their project. This would allow the proposed project to make both Shawna Lane and Fawn Lane emergency only exits. To date the project only shows this action as a dotted line for the future.**
- h. Schools are an issue to us all. **Ascente' has no answers, just new students; this is not really a fault of the planners, but a result of the development.**
- i. Equestrian traffic and trails were raised as an issue. Ascente's answer is that they can use the same trails as they have designated for the people but, again, these trails are very steep and only the best riders and experienced mountain horses could use them. No trail, as proposed, connects to a trail off the property. **Our equestrian way of life in Callahan/Fawn Ln. will change! They will find only our roads to ride on. This will raise the potential for accidents with horses, riders, and the 65% increase in car traffic.**

- j. The Wildlife currently using the property is on the minds of many. The development, as planned, will make it very difficult for the deer, and coyotes to remain in the area due to the density of the human traffic. **The planned homes will cut off current access routes to the springs and river bottoms of Galena Creek and will force all current wildlife to move across the creek to the south of this project. Forest Area Plan (F.14.1) requires contact with the Nevada Dept. of Wildlife for their input.**

These were our concerns and you can see what if anything the developers did to address them. The response of the developers sets the residents on edge when they are asked to believe what will happen in the future.

2. If the current residents of Callahan/Fawn Lane area take a walk, go for a run, walk the dog, our children ride their bikes, or we even go to the mail box we are in the road because of the lack of sidewalks. So we are very concerned about the increased travel trips that Ascente' will bring to our area, and how our current use of these roads will change. **NDOT's plan for the area states "Limiting the average daily trips or peak traffic movements may be necessary to maintain or improve the highway safety in areas of multiple adjoining small parcels. If traffic is not addressed it will definitely change the nature of our neighborhoods, and not for the good".**
3. Callahan children wait for their school buses in these same streets (again no sidewalks and deep ditches on both sides of the roads). With the doubling, if not tripling, of the traffic our parents' concerns similarly double and triple. In addition, due to some schools going to double sessions our kids will be waiting for, and getting off, their busses in the dark and walking home on roads with no street lights. **The everyday lives of the Residents, and that of their children, will change due to this developments installation, and not for the better.**
4. Proposed roads are being cut into existing hill sides, thus leaving the maximum space for homes, and these hill sides cuts will be fully "in view" from anywhere in the Callahan, Galena, Mt. Rose area. In fact if you look at the Ascente proposal you will notice that they are proud of their home site views (if they can see out we can see in). **This means that a large portion of the homes and their roads will change the look of the Steam Boat Hills. The Forest Plan (F.7.4) requires landscaping to be in place to mitigate the visual impact and a maintenance plan in place to sustain that mitigation. Tioga Village, as proposed, will drape over the hill side, in full view of all current residents and Mt. Rose Highway. No amount of landscaping will hide the subdivision from view. Current residents believe this to be at odds with the Forest Plan and Mt. Rose Scenic Highway Plan. We wonder why have the residents of Washoe Co. spent the money and time to create these plans if no one will enforce them.**

5. The shape of the hills that surround Kaweah and Sierra Villages create an amphitheater effect that sends sound back into the nearby residential area. You can hear the traffic headed to the water tower as clearly as if you were standing right there. **How will the sound of extensive application of very large equipment, (which is called for by their own geo engineer), over a very long time, be mitigated for the current residents? The plans own Engineer stated that blasting will be needed. We wonder just how this kind of noise impact can be mitigated for the residents and their livestock.**
6. If Ascente' Project finds the geology to difficult to deal with, that they may simply walk away leaving a permanent scare on the land. The entirety of the proposal (roads, landscaping, home sites, utilities, and upgrades to current area roads) could be left unfinished. Will post build out find the area roads insufficient? Will there be flooding to current residents. Will the developer not provide access through to Mt. Rose and Thomas Creek? Will residents suffer damage from all the blasting? **Will the county demand a "Bond" to be posted to avoid such potential damage? And will that bond be sufficient to cover the cost of repair? And now the developers have divided the project into 5 separate entities (5 separate LLC's) will the county require a separate BOND for each project? We the residents are asking the county to demand a \$10,000,000 bond, which life is 3years beyond build out, to both protect the county and ensure the developers are there to fix any of the issues raised. (That amount of money could not pay for the loss of 131 private wells in the area alone). The dangers raised during this project are just too large to allow the developer to WALK!!**
7. The need to blast in some areas of this project opens a whole new avenue of concerns. The plans own Engineer stated that "Substantial Blasting" will be needed to deal with the geology found at the site. **The Rule of Thumb is to have a ½ mile of vibration monitoring for each and every blast. There should be a survey of the homes prior to and after the project, to assess the damage, this must be required. Blasting can change the geology of the underground water tables. Is the developer willing to follow all of the rules to protect the neighborhood? Blasting in solid rock formations transmit the shock ways for great distances, ½ mile or more. There is also the issue of" Fly Rock" that could travel as much as 600 yards from the blast site. There are more than 60 homes within that area. Should their work cause changes to the underground geology? And how will they mitigate the noise. We all know the consequences that the sound of fireworks has on Dogs and Horses?**
8. In the proposal of Ascente they state that they will need to move more than 1,600,000 cubic yards of material to complete the projects goals. Of that number there will be more than 1,000,000 cubic yards of rock that must be crushed to create the smaller material size to allow compaction of the home sites and to back fill their utility


trenches. In the proposal of Ascente they state " THAT NO MATERIAL WILL BE IMPORTED OR EXPORTED" which means that all rock crushing is scheduled for "ONSITE" **THAT MEANS THAT CURRENT RESIDENTS WILL BE SUJECTED TO 2 ½ YEARS OF BLASTING, ROCK CRUSHING, GRADING WITH LARGE CATIPILERS, AND POTENTIAL FLY ROCK ALL WITHIN LESS THAN 200 YARDS OF CURRENT HOMES!!**

9. This project is located within the "Forest Area Plan" and as stated there the "County's desire to balance its commitment to existing community character" is very important to all the residents of Callahan and Fawn Lane and we expect the County to uphold this commitment. The Forest Area plan F2.18.E states "Primary structures shall be buffered from the adjacent resident areas outside MRMUOD in a manner that preserves the suburban/rural character of the existing development. Buffering can include but is not limited to: areas of open space, clustering or otherwise locating behind ridges or outcroppings and significant landscaping" **Why are the proposed plans for Sierra and Kaweah Villages not held to these standards? THESE STANDARDS ARE THERE TO MAINTAIN THE WAY OF LIFE IN THE FAWN LN AND CALLAHAN AREAS. Why is there a Forest Plan if we are not going to enforce it?**
10. There are several proposed lot sizes that do not meet the current development code, which states, that the minimum lot size for MDS is 12,000 sq ft. There are several lots that are smaller than this. **Proposed plans must reflect the needed adjustments, otherwise these subdivisions will violate both the spirit and letter if the Zonings Laws**
11. In the Forest Area Plan it states "Throughout much of the Forest planning area the transition of large ranches and open space in the Forest planning area to residential development has resulted in a suburban development pattern with a rural texture. In the suburban character areas the remaining undeveloped land in the planning area could make be a significant contribution to the implementation of the county's Master Plan, particularly the Land Use and Transportation Element. Unfortunately, some past development practices have not been entirely supportive of the character described here. **Therefore, this plan will make extra efforts to ensure that future development plans be conducted and implemented in a manner that supports and enhances the community's character".**
12. **The Scenic BY Way** in chapter 1, page 5 speaks to the challenges facing the corridor "Mass grading, rock cuts and the stabilization of rock cuts from development and road construction can impact views". And "Water tanks from neighboring developments can impact views". Continuing on chapter 2 page 26 "As visitors reach the end of the scenic corridor, the Steamboat Hills to the south offer beautiful rolling hills that are rich in geothermal activity and host unique plant life like the Steamboat Buckwheat".

13. Forest Area Plan (F.2.17.f.) DEVELOPEMNT WILL BE COMPATABLE WITH AND ENHANCE THE SCENIC QUALITY OF THE MT. ROSE CORIDOR.

In closing who will hold the developer accountable for what the current resident see as major issues to this development's plans. We, the residents, expect answers to each of the points raised about Schools, Traffic, Zoning, Geology, Water, Blasting, Rock Crushing, Bonding, Water Runoff, Noise, Fire/Emergency Exits, Home Values, View of the Steamboat Hills, Trails/Parks, Wildlife, and the health and safety of our Communities and their Children.!! This plan will change the neighborhood, and its residents, in ways that are opposed to the reasons we moved to the Callahan and Fawn Lane areas to begin with!

We expect t Washoe County to impose the intent of the Washoe Development Plan, the Authority of the Forest Plan, and the View of Mt Rose Scenic Highway Plan, before we allow this Development to proceed to next step of approval.


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Attached are two Google Earth Views of the Ascente Proposed Subdivisions and their placement on the Steam Boat Hills

The first view is from Highway 431 and the current Forest Service Fire Station. This would be the view all travelers would see from the Mt. Rose Highway.

The second view is from Goldenrod and Callahan Ranch Road. This view shows how much of the Steam Boat Hills will be covered by the Proposed Ascente Project.

60 foot road cuts that are proposed to link the 4 separated subdivisions are not shown on either view.



Image Landsat

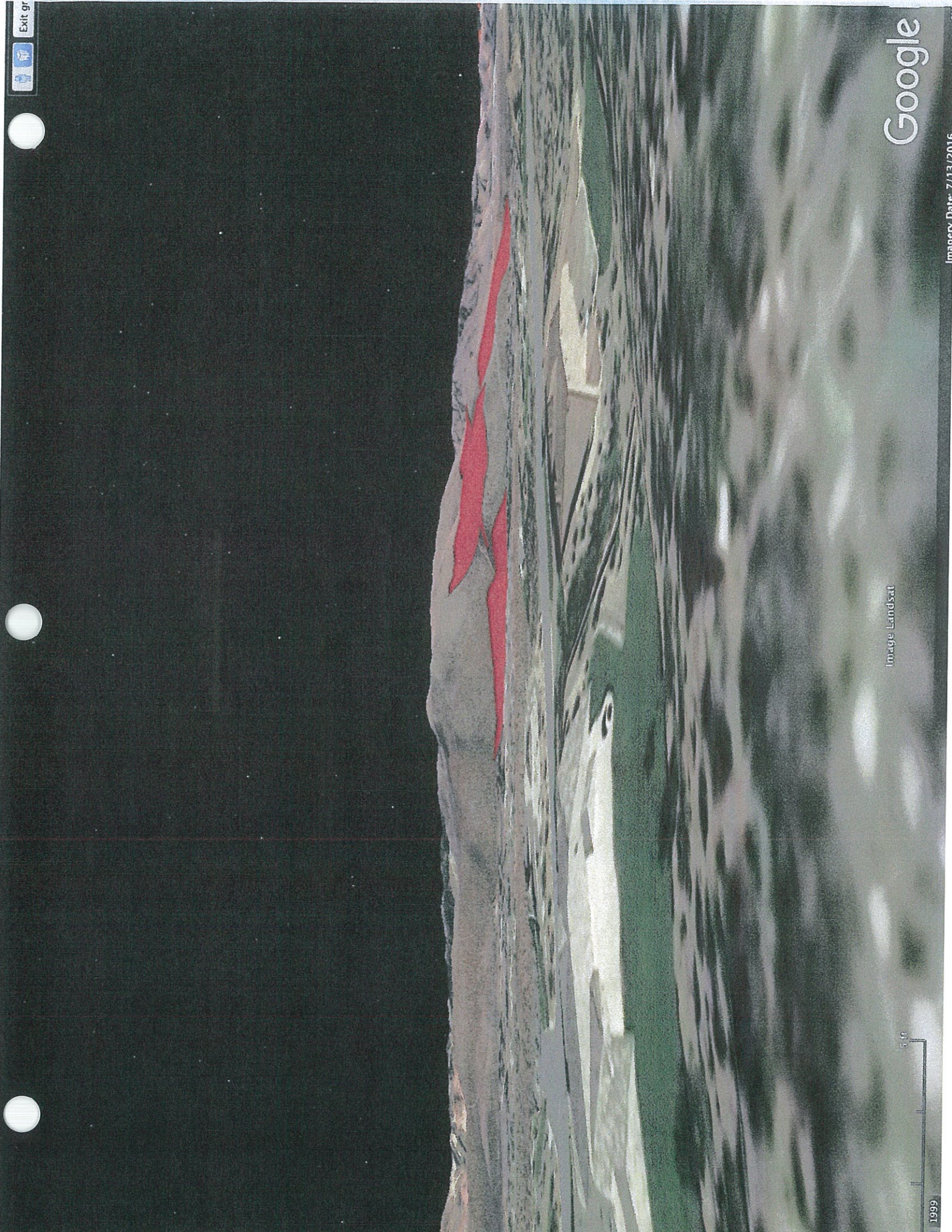


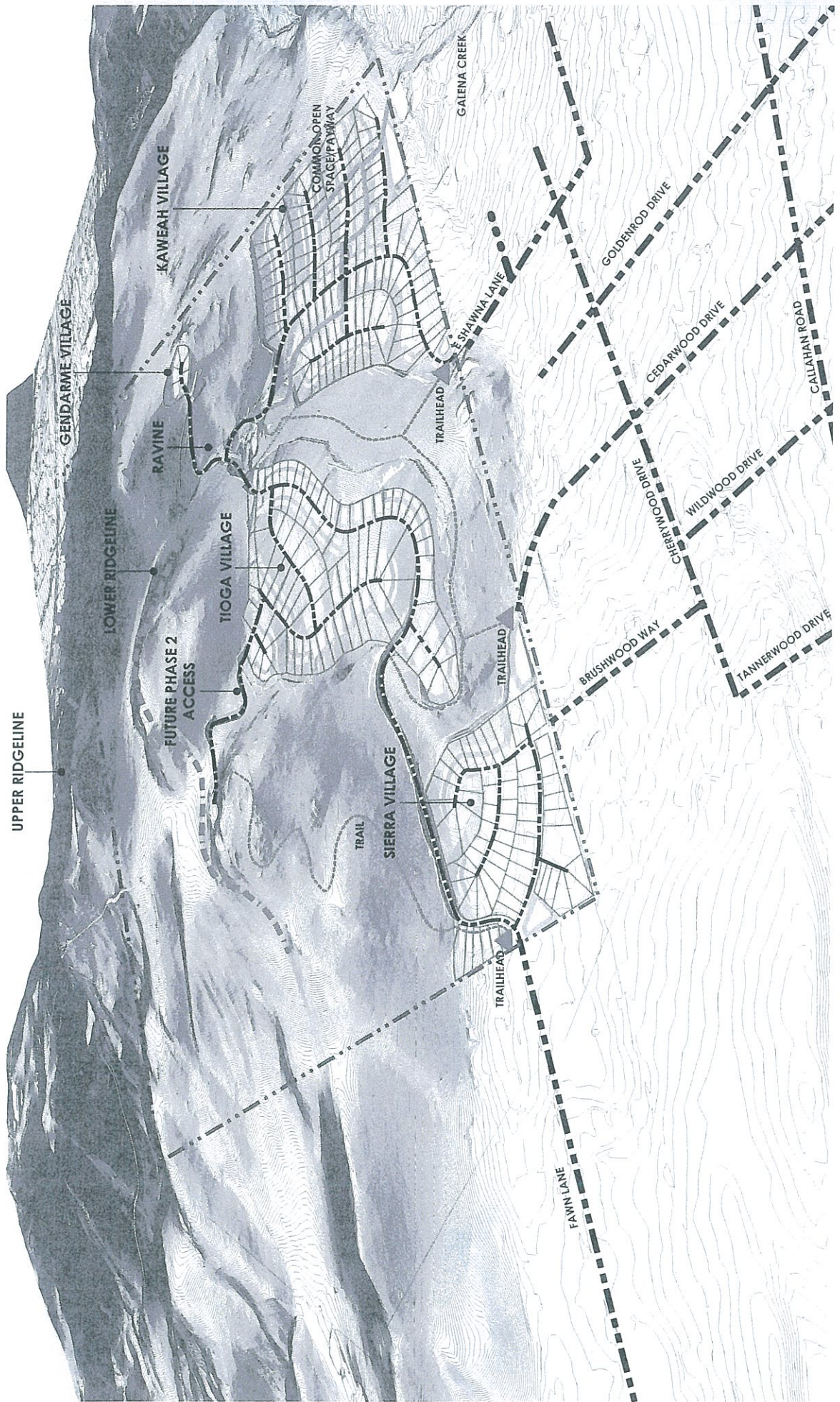


Image Landsat

3 ft



ASCENTÉ VILLAGE PLAN



Attached is a Google Earth Photo of a portion of the Current Callahan/Fawn Lane road system. You can note the width of each road and where there are current bus stops.

Please note that bus stops and children boarding those buses are in the roadway and some times, during the year, do this in the dark.

Doubling of traffic on Callahan Rd. (300 plus homes already approved to the South) and the Tripling of traffic on Cherrywood will create traffic backups and safety issues.



X Bus Stops

Bus Stop

Bus Stop

Concrete 120 Pavers

Good

Bryan Raydon – Owner, Tannerwood Road, Callahan Ranch

There are few places in this country where you can enjoy beautiful views, starry nights, wildlife and solitude and still have easy access to City amenities. Callahan is such a place yet is now faced with a threat though to that quality of life in the form of a massive development that:

- Is not consistent with the governing document of development in this area, the Washoe County Forest Area Plan.
- Adds at least 2,675 additional vehicle trips to our rural roads **yet claims that “there are no significant impacts” and offers no improvements to these roads.**
- Will damage existing roads during construction and has stated that they have no obligation to repair them.
- Has another 300+ homes planned for Phase II but no concrete plans for access nor a prohibition onto Callahan Ranch and Fawn Lane roads.

Washoe County – Forest Area Plan

- The primary vision of the Forest Plan:
 - **maintain, preserve, and facilitate the planning area’s desired character**
- Critical to this mission is to
 - 1) maintain the “prevalent feeling of openness”
 - 2) blend with existing development and to support and enhance the community character.
 - **Ascente as planned fails on both of these ideals.**
- **Openness** – the opposite of Openness is Dense. Clustering a development and **buffering** more-intensive uses from less-intensive uses is how the Forest Plan seeks balance between these two concepts. **However, Ascente has ignored the required buffering as well as the County’s Development standards on both width and minimum size of its lots.**

Buffering - As mentioned, a key tenet of the Forest Plan is **Buffering**.

- **The Plan says: “Primary structures shall be buffered from the adjacent resident areas in a manner that preserves the suburban/rural character of the existing development.”**
- The Washoe County Development Plan establishes “Lot Adjacency Standards” that state that “Parcel Size Matching” is required of new developments. **Accordingly, the adjoining lot size in the new development must match the lots size they adjoin to. If that is not possible then there must be a setback of 200ft.**

- **Contrary to the Plan, Ascente has totally disregarded buffering at its Sierra and Kaweah Villages. At Sierra Village, over 20 lots, all MDS or denser, are within 20' of existing LDS lots at Fawn Lane and Callahan Ranch. Similarly, at Kaweah, 11 lots abut LDS and larger lots in Callahan. These lots should be combined to match the density of the adjacent development or be deleted or moved.**

Width and Minimum Lot Size

- Washoe County Development Standards set **minimum sizes and widths** for lots.
 - **MDS, the minimum size is 12,000 sf and the minimum width is 80'.**
 - Contrary to the Plan, Ascente has disregarded these minimum size requirements at nearly half of Sierra Village.
 - At Sierra Village, **nearly half of the lots** are below the 12,000 minimum size.
 - Similarly, at least **10** lots do not meet the minimum width.
- **The bottom line is that while Ascente has zoning entitlements for 281 homes, they don't have the room. Consequently, they have ignored zoning regulations and crammed as many homes as possible into the two villages that impact their neighbors the most.**
- **If the Developer is held to the County's development standards, approximately 50 of the lots planned in Sierra and Kiaweh Villages would be pulled from the proposal.**

Traffic

- Based on their traffic study, Ascente Phase I will increase traffic on adjacent roads by 2,675 trips per day, or at least 65% more than there is today. **However, their report claims that no mitigation is required since "acceptable traffic operations are maintained with the project traffic."**
- While the Institute of Traffic Engineers, ("ITE"), uses 9.52/trips/detached single family home, studies reveal wide variations in the actual number of trips.
- Homes in senior citizen housing developments can average as low as 3 trips per day, while residences in active family neighborhoods can generate as many as 20 trips per day. **Ascente falls into the latter category, meaning that the traffic estimates in their report could be half of what is actually created.**
- The project will contribute approximately \$1,205,765 in Regional Road Impact Fees for the offset of minor traffic impacts throughout the regional roadway network. **However, there is no guarantee that this money will be spent on the roads most affected by this**

development.

- Fawn Lane and Callahan Road are noted in the report as being designed to “Collector” road specifications **and that no additional improvements would be required.** This statement is preposterous.
- Fawn Lane may be as wide as a Collector, but it has no striping nor appropriate drainage. Compare this to the northern portion of Callahan Ranch road as it travels through The Estates... bridal path on one side, paved bike path on the other. Like Fawn Lane, Callahan Ranch Road will receive massive amounts of new traffic and is similarly ill-equipped on the stretch south of The Estates. **Despite the obvious impacts to these road, the Developer offers nothing in terms of pedestrian safety or traffic calming.**
- Ascente attempts to point out that traffic levels will be at “acceptable” on the currently quiet local roads – Tannerwood, Goldenrod, Shawna and Cedarwood. However, the new traffic counts will be double or triple current rates that will significantly alter the quality of life for existing residents. **Where are residents going to walk their dogs, ride their horses or have a safe place to play with no shoulders, no pedestrian paths but double or triple the cars on their streets?**
- **The traffic report is deliberately incomplete.** There is no mention of current traffic counts on Cherrywood, a street that connects Shawna to Tannerwood. According to the traffic engineers, the Ascente development will dump an additional 816 trips onto Callahan streets. The current trips on Cherrywood are already in excess of this number. **This pushes Cherrywood from a “local” road to a “collector” road with the requisite improvements which is likely why Cherrywood was not mentioned in the traffic study.**
- **The traffic report is deceptive.** Using the Traffic Engineer’s data, Tannerwood Road currently has 514 trips per day. Kaweah and Gendarme Villages have 125 new lots. According to the traffic engineer’s methodology, this would equate to $125 \times 9.52 = 1,200$ trips. However, despite the obviously shortcut through Callahan Ranch for these homes, the Engineer is claiming that only 70% of these would use Callahan Ranch to exit. Why would the traffic engineer deliberately undercount the impact on Tannerwood? **To avoid changing the classification of the street necessitating the improvement of same.** If only 16 of the lots use Callahan Ranch, it pushes Tannerwood into Collector status.
- **Finally, the Forest Plan state that the “Issuance of an approval should not detrimental”** to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area; **With zero improvements proposed to the offsite roads, this standard is not met.**

Trojan Horse

- Finally, as shown on their maps but not included in this Tentative Map application, Ascente has another 300+ homes planned for Phase II. A dashed yellow line supposedly shows access for this development from Thomas Creek Road. This line crosses Forest Service and private line but as far as we know, there is no certainty that this road will ever be built. **Based on the flawed analysis that the Phase I traffic will be of little**

consequence, we would expect that the Phase II proposal is hidden in plain site, like a Trojan Horse, awaiting Phase I's approval before springing its traffic onto Callahan Ranch and Fawn Lane roads. Any Tentative Map approvals should include a clear prohibition on using Callahan and Fawn as anything more than emergency access.

- There already is an access, with presumably the needed easements, to access the forest land from Highway 431. Mr. Hugh Hempel, in his presentations to the County for approval of Matera Ridge, stressed his preference to accessing the property via Forest Service land, yet the Ascente group has discarded this approach, which presumably, was a key consideration in the approval of the project. Using this access point, rather than intruding on the Fawn Lane and Callahan Ranch neighborhoods would be a logical choice. **Why is this option not being explored?**
- **The bottom line is that Ascente as currently planned brings between 2,675 to 5,350 new trips to existing roads but has no funds directed to improve them. The property is 10-25% too dense if the letter of the law is followed on minimum lot sizes and buffering. This density translates to a 10-25% reduction in the quality of life of current residents in terms of traffic.**

Review and Evaluation of Ascente Application Appendix L -Geotechnical Research Report for Ascente Tentative Map, Lumos and Assoc. June 2106

Conducted and prepared by Kris Hemlein – October 1, 2016

Geotechnical and Seismic Evaluation Data Gaps:

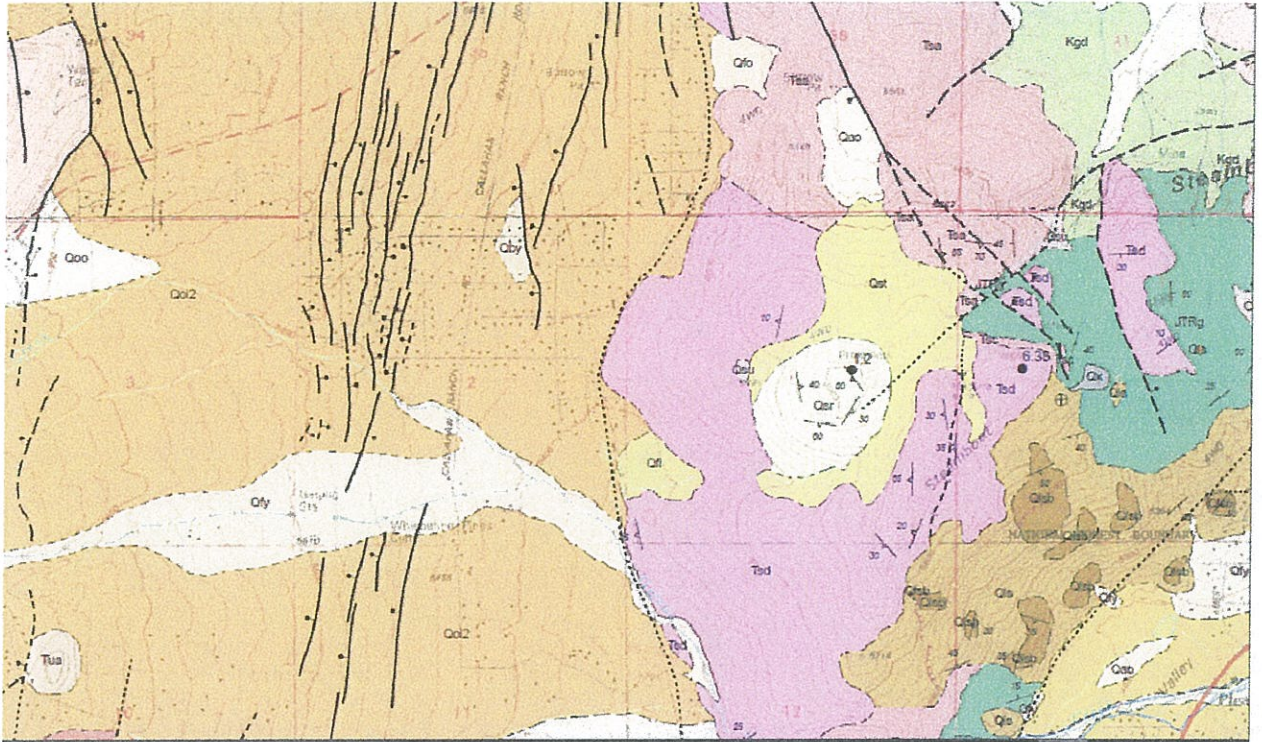
- 1) Ascente's geotechnical engineer summarizes several facts of geotechnical and seismic concern including: blasting, grading and heavy equipment will be needed to prepare the site due to very shallow depth to bedrock (volcanic andesite) and an average grade of 15-50%. It would appear that there is a reason that this "Geotechnical Research Report" is placed at the back of this 492 page "application". It is incomplete – as the author admits several times. On the cover page, the author, Mitch Burns, states "A field exploration sampling and testing program should be completed to verify these mapped conditions"
- 2) On Page L-4 the author states "The current scope of work did not include soil sampling, a fault study, or any soil and/or groundwater contamination at the site. A Phase 1 Environmental Assessment has been provided in a separate report". THIS PHASE 1 Report is NOT included in the submittal. We would like to see this document. This Phase 1 EA is also NOT included in this report's references.
- 3) On Page L-7, the author states that "We reviewed the Preliminary Revised Geological Maps of the Reno Urban Areas (2011) which shows a north/south trending possible concealed fault between the TSD and QoI2 lithologies. The glacial till (fill) masks the actual fault location and it is likely located some distance westerly of the TSD and QoI2 surface interface. WE RECOMMEND A SITE INVESTIGATION BY TRENCHING BE CONDUCTED TO PROVE OR DISPROVE THE POSSIBLE CONCEALED FAULT LOCATION IN THE PROJECT AREA. THE INVESTIGATION SHOULD OCCUR PRIOR TO THE FINAL MAP."
- 4) Also on page L-7: "At this time, the soil conditions are not known in sufficient detail to a depth of 100 feet, thus, a Site Class D may be assumed per the IBC.... And on Page L-8: in conclusion, seismic concerns for this site are not unlike other sites in the Reno area. HOWEVER, DUE TO THE PROXIMITY OF THE SITE TO A NUMBER OF FAULTS THAT ARE CONSIDERED ACTIVE, AS NOTED ABOVE, STRONG SEISMIC SHAKING SHOULD BE ANTICIPATED DURING THE LIFE OF ANY STRUCTURES. This is interesting considering that in the first section of the Application, Ascente states that there are no faults within a mile of the proposed development, HOWEVER two faults are shown on their Plate 7, both within one mile of the property. The concealed fault trace runs right through the north center of the proposed "Sierra Village" site! Both proposed access roads are located across this fault. Identifying and characterizing faults on and adjacent to the Ascente site are is IMPERATIVE in order to correctly identify IBC design ratings for the site structures and Infrastructure, including access roads, sewer and water supply lines.
- 5) On Page L-9, the Section SLOPE STABILITY and EROSION CONTROL states that "areas in which slopes were excavated by mechanical means, may need to be stabilized against

erosion. **Further testing and/or observation would be needed to make a determination of slope stability on an individual basis.** Approximately 80% of this site has slope inclinations between 15-50%!

- 6) Ascente's engineer states that the potential geologic hazards/conditions encountered on site can be mitigated, but there is NO elaboration of this in the Application itself. **We need to see documentation of HOW Ascente plans to mitigate these geologic hazards.**
- 7) The Geotechnical Report references a Phase 1 Site Assessment. This is NOT included in the Application. We want to see evidence that Ascente has conducted an environmental site assessment that includes a real evaluation of site soils, surface water, meteorological conditions, wildlife, vegetation, detailed map of site geology (including faults) and impacts on EXISTING community.
- 8) Ascente's geotechnical report scope of work did NOT include soil sampling, fault study, groundwater or other subsurface field investigations. The Engineer states that "it is possible that subsurface discontinuities are concealed" (this is the nature of geology!) and does NOT guarantee the consistency of the site geologic interpretations in his document. The Siesmic Considerations section states that the nearest fault is over one mile away from the west border. The **NV Bureau of Mines and Geology – Preliminary Revised Maps of the Reno Urban Area – Washoe City Quadrangle, 2011 Open File Report 11-7** shows inferred and approximate faulting along the west side of the Steamboat Hills and an inferred fault in the north central part of the project area. The Ascente geotechnical report Plate 5, Fault Map, does NOT show the entirety of the concealed fault line along the west side of Steamboat Hills, only the northernmost portion between Fawn Lane and the rise of the west slope of Steamboat Hills. Why has Ascente not shown the whole length of this concealed fault on this Plate? Plate 5 also needs a legend. Plate 7 DOES show this fault, but this Plate is labeled "Preliminary Revised Geologic Map". I have included a section of the NV Preliminary Revised Map referenced above, that shows the faults in question, without interference. The legend from this map includes this description of the Faults shown: *"Fault – Solid where certain and location accurate, long-dashed where approximate, short-dashed where inferred, dotted where concealed; queried if identity or existence uncertain. Ball on downthrown side."*

From the **EARTHQUAKE AND FAULT PROTECTION MEASURES - Washoe County Development Code:**

Section 110.434.35 Earthquake Fault Areas. Development in earthquake fault areas is to be discouraged. No habitable structure, or a structure whose integrity is critical to maintaining the public health and safety, shall be located on a fault that has been active during the Holocene Epoch of geologic time or as determined by a site specific geotechnical study.



Again, a robust fault characterization needs to be conducted prior to approving this project. The Engineer has NOT enquired of UNR and USGS geologists as to recent work conducted in this area. **Ascente needs to conduct a field investigation to characterize actual site geotechnical conditions. Actual site geology and geotechnical conditions are likely to impact Ascente's current development plan.**

- 9) Most of the Steamboat Hills surface lithology consists of andesite, which is a very strong volcanic rock. The author indicates rightly that this rock will require much blasting and heavy earthmoving equipment to create building surfaces. **We need to require Ascente to provide an accurate assessment of the amount of blasting/earthmoving needed as this will be a significant negative impact on quality of life and a potential safety hazard to the local residents.**
- 10) The site has LOW to moderate permeability – meaning that there is little infiltration of surface water/stormwater into the subsurface. Most stormwater will leave the site as runoff. **Ascente proposal includes a minimal stormwater management scenario that doesn't address the likely potential to impact current residents downgradient of the site.**
- 11) The Geologic setting needs to include a section on the formation of Steamboat Hills. The Steamboat Hills were most likely created as part of the "Basin and Range" system comprising most of Nevada. These are created by uplifted and down-dropped blocks along a series of North-South trending faults. The USGS Report on the Little Valley Fault System (not included in this report) suggests that the Callahan Ranch area rests on the downdropped portion of a block and that a fault may exist along the western edge of the Steamboat Hills. **The County needs to require additional field work to determine**

WHERE faults exist in the project area and to characterize them with respect to seismic hazard and the current project proposal.

- 12) The surface geology of the site is discussed using the Tabor and Ellen report (1975), however the Engineer references the lithologies as "soils" and they are NOT soils. The Tabor report discusses site lithologies, there is very little SOIL cover on the site. Currently there is nowhere near enough soil on the property to support the vegetative amenities that Ascente proposes. This report should include a map to show the lithologies (soils) discussed on page L-5. **The Fault Map (Plate 5) shows regional lithologies but does NOT have a legend. The county needs to request that Ascente do a SOIL study on the site and provide detailed information on how much soil will need to be imported to support residential landscaping in the three villages proposed.**
- 13) The Engineer states that the "soils" (actually unconsolidated weathered rock) have moderate to high risk of corrosion to uncoated steel and low to moderate risk of corrosion toward concrete. **Ascente needs to provide information on how they will mitigate these corrosive properties.**
- 14) The Engineer includes a discussion of IBC design and earthquake accelerations spectral response but the discussion is confusing and does not include potential hazards to be considered in evaluation the safety of this proposed development. **How would this assessment change if one or more Holocene Faults are mapped across the site?**
- 15) The engineer suggests that the site WILL be subject to strong seismic shaking in the event of an earthquake. **Does Ascente's development plan for access roads include adequate construction protection for these roads, particularly if they cross fault structures?**
- 16) The Engineer states that approximately 80% of the site has slope inclinations of between 15-50%. This is apparently why they have designed the original 300+ homes to be placed on small lots (medium to high density housing). **How much blasting and earthworks needs to be accomplished to build the access roads and building sites? Will these excavations create slopes that will need additional stabilization using retaining walls? The Engineer recommends further testing on "an individual basis".**
- 17) The list of references does NOT include more recent work conducted in the Mt. Rose/Callahan Ranch area. **A regional geologic expert should be retained to provide geological/geotechnical understanding in the Callahan Ranch/Steamboat Hills area.**

Comments on Conceptual Drainage Report

The Conceptual Drainage Report for the Ascente development was produced by Lumos & Associates for NNV1 Partners, LLC and is part of the application for the tentative subdivision. While there are many requirements of a Conceptual Drainage Report (CDR) One purpose of the CDR is to show a tentative storm water drainage system with detention basins that are utilized to maintain storm water out flow to pre-development levels. The following is a quote from the Truckee Meadows Regional Drainage Manual (TMRDM) Section 303.7 Storm Runoff Detention.

THE POLICY OF THE JURISDICTIONAL ENTITIES SHALL BE TO REQUIRE LOCAL DETENTION STORAGE FOR NEW DEVELOPMENTS TO LIMIT PEAK FLOWS FROM BOTH A 5-YEAR STORM (Q_5) AND A 100-YEAR STORM (Q_{100}) TO THEIR PRE-DEVELOPMENT CONDITIONS. THE CAPACITY OF DOWNSTREAM CONVEYANCE SYSTEMS SHALL BE ANALYZED IN ACCORDANCE WITH THIS MANUAL AND SHALL BE BASED ON RUNOFF FROM THE DEVELOPMENT AS FULLY IMPROVED. LOCAL DETENTION IS ALSO REQUIRED WHEN DESIGNATED IN MASTER PLANS TO REDUCE THE PEAK RUNOFF RATE IN REGIONAL FACILITIES.

The consultant (Lumos & Associates) used HEC-HMS to determine pre and post construction storm water runoff for the project area. HEC-HMS is a computer model which is a mathematical representation of the physical world. The ability of that model to accurately represent the real world depends on the way the model is set up and the parameters used in the model. While it is beyond my scope and ability to point out obvious problems with this model, such as composite curve numbers used, declaration of impervious area, and modeled detention basins, what I would like to show is the pre-construction model greatly underestimates the discharge to the existing community. Furthermore in a following white paper I will describe that the discharge from North Detention Basin 3 onto Cedarwood Drive is not conveyed to an existing drainage system and the increased discharge from this development will cause flooding and extensive property damage.

In the early 1990's there was little storm water runoff generated in the flat area to the south of Fawn Lane. In addition storm water runoff from Callahan ranch subdivision headed to the base of the Steamboat hills was intercepted by drainage ditches on Cherrywood Drive directing it to the south to Galena Creek. There was very little channelization of storm water at the base of the Steamboat hills. The following Goggle Earth image shows the proposed area of Sierra Village at the south end of Fawn Lane. Note the small area of cleared vegetation. The red line denotes the current path for storm water runoff.



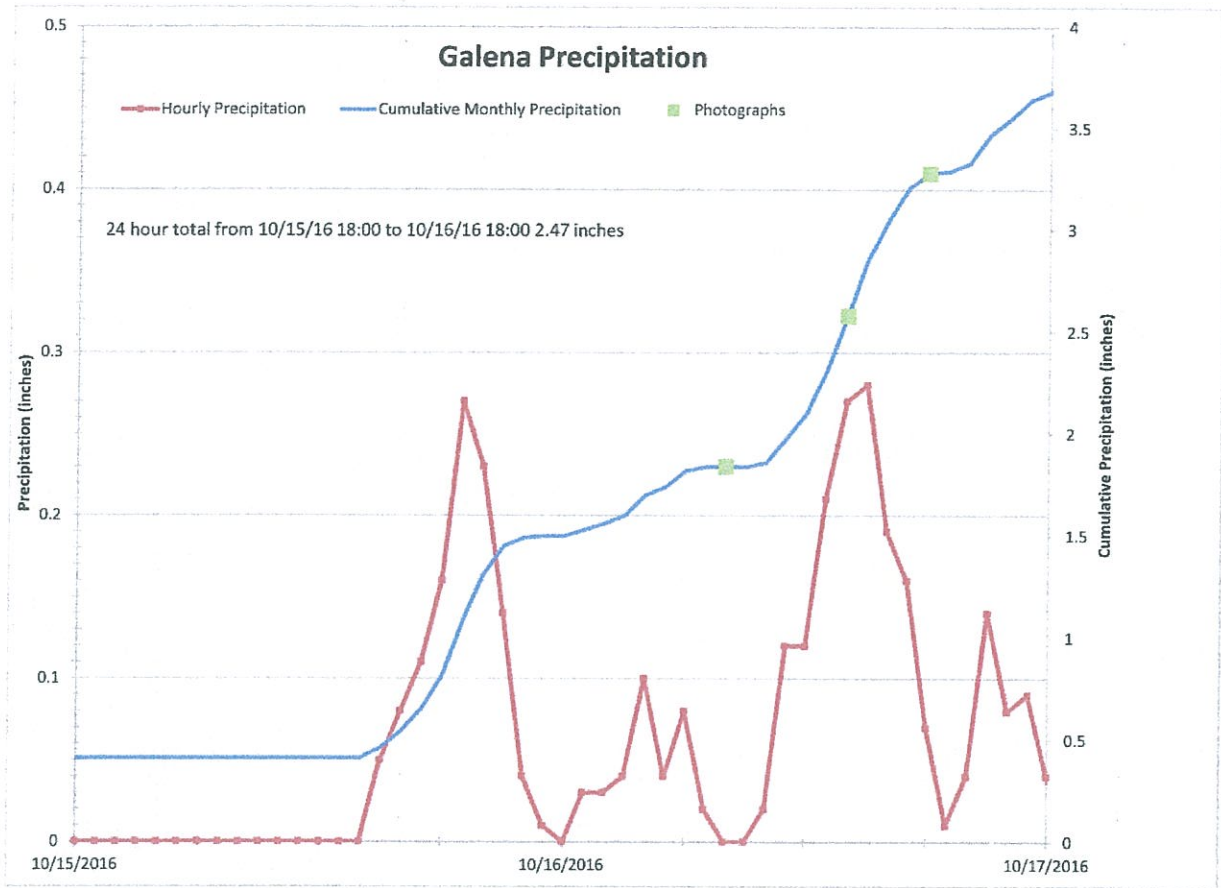
Goggle Earth Image 1990. Drainage ditches on Cherrywood Dr. direct storm water from the west to Galena Creek. At this time very little storm water runoff was generated from the flat area south of Fawn Lane. The Red line indicates the current path of storm water runoff.

By 2006 several events occurred that increased drainage along the Steamboat Hills. Heavy equipment was brought into the area of the proposed Sierra Village to remove vegetation which subsequently resulted in soil compaction and increased storm water runoff. There was increased usage of the 4x4 roads to the upper Steamboat Hills that channelized water from the upper Steamboat Hills to the flat area south of Fawn Land then to Cedarwood Drive. That year the newly constructed detention basins in the Estates of Mount Rose filled and overflowed due to insufficient percolation. Considerable property damage occurred that year due to the failure of two of these detention basins. Washoe county had to install a drainage network along Callahan Road to move storm water from the western detention basin to the Jones Creek Drainage. They also made some improvements to storm water drainage near the base of the Steam Boat Hills, however much of that area is private property where homeowners had to make their own improvements. The following Goggle Earth Image shows the Sierra Village area in November of 2006. Note that the detention basin in the Estates at Mount Rose with standing water. Detention basins are required to percolate its contained water in 3 days. However because of poor design the home owners association had to retrofit the detention basins with infiltration galleries. By this point the developer was no longer around.



Goggle Earth image November 2006. Note the cleared vegetation and compaction in the flats south of Fawn Lane. Also the Detention basin in the Estates is nearly full of storm water.

One important goal of the Conceptual Drainage report is to properly size the detention basins so that storm water runoff from the developed property is no more than it is in the natural state. According to the Lumos model the pre-developed storm water runoff for a storm with a 5 year recurrence interval for the area south of Fawn Lane is 21.3 cubic feet per second(CFS). From the Lumos report a storm with a 5 year recurrence interval for this area is 2.26 inches over a 24 hour period. In mid October 2016 we had such an event. The following chart shows precipitation from the Western regional Climate Centers monitoring station in Galena for October of 2016. As shown on the chart the area received 2.47 inches of precipitation in a 24 hour period. Although no measurements of runoff were made I was able to take photographs of runoff from this event. The green squares on the cumulative precipitation line denote times for the photographs taken of runoff. The first 3 photographs are taken on Cedarwood drive where storm water runoff leaves the property where Sierra Village is proposed to be built. This area is where all the runoff from this property occurs.



Plot of precipitation at the Galena station from October 15 to October 17, 2016. The green squares on the cumulative precipitation trace indicate times when photographs were taken. These photographs are presented on the following pages.



Storm water runoff from area of Sierra Village onto Cedarwood Drive October 16, 2016 8:27 AM.



Storm water runoff from area of Sierra Village onto Cedarwood Drive October 16, 2016 2:07 PM.



Storm water runoff from area of Sierra Village onto Cedarwood Drive October 16, 2016 5:39 PM.

To further illustrate discharge during this event I present a couple more photographs of runoff from the area of Sierra Village. The next photographs were taken on Shawna Lane where storm water is channelized through a 12" culvert. Discharge in the second photograph was the maximum observed during this event. Minor flooding occurred just upstream from where this photograph was taken where storm water overflowed a drainage ditch in the property owner's side yard. Although discharge measurements were not made during this event these photographs illustrate that maximum discharge during this event is closer to 2 cfs as opposed to the pre-development model prediction of 21.3 cfs, an order of magnitude less!

I recommend that Washoe County Planning considers the following;

- 1) Use the information presented to calibrate the pre-development model. to more accurately represent the pre-construction storm water runoff.
- 2) Considering there are close to 15 acres of interconnected impervious surfaces in just the roads and sidewalks in the developments that will drain into the detention basins in Sierra Village, these detention basins should be enlarged.
- 3) Because the detention basin in the south east corner of the Estates at Mount Rose failed due to lack of percolation, the new detention basins (less than 300 yards due south of the failed basins) should have infiltration galleries in the design plans.

- 4) The developer plans on dumping their storm water discharge onto Cedarwood Drive into the existing drainage system. There is no drainage system capable of taking storm water from this development. The developer should be required to upgrade the drainage system to handle storm water discharge from this development as the Truckee Meadows Drainage Manual states. They need to consider the so called Powers Law about flooding downstream property owners. At a minimum they should be required to post a bond large enough make these necessary upgrades. That way when the infrastructure is installed and the first large storm causes property damage, there will be funds available to install this need drainage system upgrade.



Storm water discharge through a 12" culvert on Shawna Lane. Photograph taken October 16th 2016 at 2:02 PM.



Photograph taken on October 16th, 2016 at 5:26 PM of 12" culvert on Shawana Lane. Note that discharge is at capacity for this storm water system.



Minor flooding on private property on Shawana Lane just upstream of previous photograph. Photograph taken on October 16th 2016 at 5:28 PM.

Surface water Drainage Ascenté

In the early 1990's there was little storm water runoff generated in the flat area to the south of Fawn Lane. In addition storm water runoff from the Callahan ranch subdivision headed to the base of the Steamboat hills was intercepted by drainage ditches on Cherrywood Drive, directing it to the south to Galena Creek. There was very little channelization of storm water at the base of the Steamboat hills. The following Goggle Earth image shows the proposed area of Sierra Village at the south end of Fawn Lane. Note the small area of cleared vegetation. The red line denotes the current path for storm water runoff.



Image 1. Goggle Earth Image 1990. Drainage ditches on Cherrywood Dr. direct storm water from the west to Galena Creek. At this time very little storm water runoff was generated from the flat area south of Fawn Lane. The Red line indicates the current path of storm water runoff.

By 2006 several events occurred that increased drainage along the Steamboat Hills. Heavy equipment was brought into the area of the proposed Sierra Village to remove vegetation which subsequently resulted in soil compaction and increased storm water runoff. There was increased usage of the 4x4 roads to the upper Steamboat Hills that channelized water from the upper Steamboat Hills to the flat area south of Fawn Land then to Cedarwood Drive. That year the newly constructed detention basins in the Estates of Mount Rose filled and overflowed due to insufficient percolation. Considerable property damage occurred that year due to the failure of two of these detention basins. Washoe County had to

install a drainage network along Callahan Road to move storm water from the western detention basin of the Estates at Mt. Rose to the Jones Creek Drainage. They also made some improvements to storm water drainage near the base of the Steamboat Hills; however much of that area is private property where homeowners had to make their own improvements. The following Goggle Earth Image shows the Sierra Village area in November of 2006. Note that the detention basin in the Estates at Mt. Rose with standing water. Detention basins are required to percolate its contained water in 3 days. However because of poor design the home owners association had to retrofit the detention basins with infiltration galleries. By this point the developer was no longer around.



Image 2. Goggle Earth image November 2006. Note the cleared vegetation and compaction in the flats south of Fawn Lane. Also the Detention basin in the Estates is nearly full of storm water.

Ascenté claims that they will dump storm water from Sierra and Tioga village into the existing storm water drainage system on Cedarwood Drive. That "drainage system" consists of a poorly constructed drainage path that has the capacity to handle no more than 2 cubic feet per second (cfs) discharge. Ascenté claims that during a storm with a 5 year recurrence interval they will discharge over 16.4 cfs onto Cedarwood dr. The following Goggle Earth image shows the path that storm water takes from Cedarwood Dr. to Galena Creek.



Image3. Goggle Earth image of the flow route that storm water takes from Cedarwood Dr. to Galena Creek. Numbers indicate where photographs are taken.

To demonstrate the lack of the infrastructure to move the additional storm water created by Ascenté to Galena Creek I present the following images.



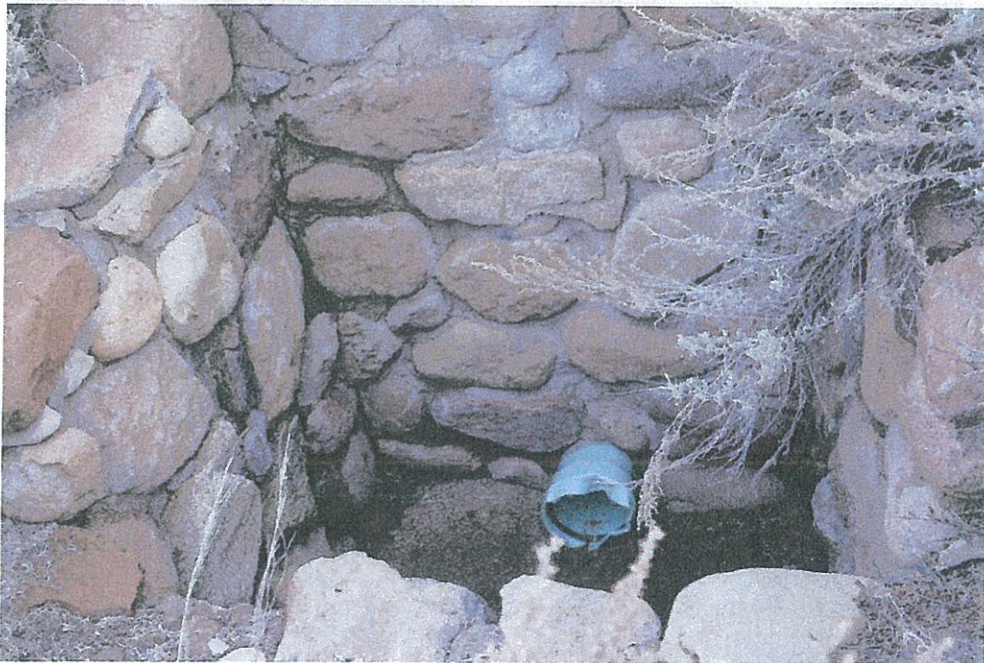
P1. Storm water in the area of proposed Sierra Village.



P2. Storm water draining onto Cedarwood Dr.



P3. Storm water from the proposed Sierra Village moving through private property.



P4. Storm water path under private property, pipe size 9".



P5. Overflow path 1 in poorly defined ditch on private property.



P6 Additional plumbing for storm water on private property.



P7. Storm water drainage from the proposed Sierra Village onto Shawna Lane.



P8. Storm water Flow from the proposed Sierra Village on Shawna Lane. Note that this system is already at capacity. Discharge less than 2 cfs.



P9. Storm water flow through private property in Cross creek subdivision.



P10. Storm water path through a private Fish pond in Cross Creek subdivision.

The path for storm water from the South detention basin is a short path to Galena Creek. There are a few problems with this path and the detention basin. The detention basin and outflow path are both proposed on the AT&T right-a-way. This right-a-way is the path of the very important fiber optic cable. They need to address this problem. Also the path of the discharge is directed over a spring which is utilized by mule deer that live in this area during winter months. If Ascenté is built as proposed in the tentative subdivision map they will create extensive flooding damage on county and private properties. This will be a very big problem that needs to be addressed.

Groundwater

Pleasant Valley Ground water Basin, Basin 88, was designated in 1978. This occurred prior to the establishment of Montroux, Cross Creek, St. James Village and The Estates. The only development that existed South of the Mt Rose highway was Callahan Ranch, Fawn Lane, and a few homes in Galena Forest Estates. Currently in the Galena Fan area, a subset of Basin 88, there are 10 production wells and over 500 domestic wells. Most of these domestic wells are located in the Callahan Ranch and Fawn Lane Subdivisions. Due to declining water levels many of the domestic wells were deepened or abandoned where the homeowner could connect to the municipal water system. In the Fawn lane area no water lines are available to connect to.

Currently there are over 1300 approved housing units that will receive water from this aquifer. These developments are;

- 1) Sierra Reflections 938 units
- 2) Terrasante (Callamont) 210 units
- 3) Mt Rose Estates 23 Units
- 4) Build out at Saint James Village 239 units

In 2015 TMWA took over the county water system on the Galena Fan area. They immediately recognized the problems in our area and made steps to mitigate them. They realized that there are more water rights associated with the Galena Fan than there is physical water! The Conjunctive use plan was initiated which brings surface water into the water system to augment ground water for domestic consumption. Since May of this year (2016) TMWA has been supplementing groundwater with Truckee River water, however there is a limited capacity to bring Truckee River water this far not to mention the cost to pump that water over 20 miles and up over 1000 feet.

TMWA Statement;

TMWA is a water purveyor required to respond to development approved by local governments, we do not set growth policy!

ASCENTÉ will provide only 181.18 af. of ground water rights for 281 dwelling units because of rule 7! A single family resident in our area normally would need to dedicate 1.12 Af of water right to connect to the water system, however Rule 7 allows this developer to dedicate less than the 1.12 af water right because of the smaller lot size. This water right dedication is equivalent to 0.65 AF/dwelling unit. However long after the subdivision is built, TMWA will have to prove to the state engineer that the amount of water right supplied by the developer is the amount used by the current residents. If they are using more then the amount dedicated by the developer, TMWA or the residents will be responsible to provide the difference. This issue is occurring at the present time in Arrowcreek where residents are be asked to make up the difference in water rights.

These water rights dedicated by Ascente are long existing water rights and are part of the over allocation that occurred in the 1970's. These water rights do not represent new water being brought into the basin. They are legal rights but their use is going to compound water level decline on the Mt. Rose Fan.

Because of the over allocation of water rights and declining water levels on the Mt. Rose fan, TMWA now requires developers to purchase surface water rights on Whites and Thomas Creeks. This treated surface water will be used in the aquifer storage and recovery program

Groundwater

(ASR) where surface water will augment groundwater during the summer months and will be injected into the aquifer during the winter months.

By supplementing groundwater resources with surface waters from both the Truckee River and Thomas and Whites creeks, TMWA's goal is to pump less groundwater from the Mt. Rose fan aquifer than we do today, even with additional development. This is a good plan, however the question remains is it going to be enough to reverse the trends of declining water levels that have been occurring over the years? What will happen when app of the approved development goes on line? Is there enough water rights on Thomas and Whites creeks to compensate for the already approved development?

The trend for new developments, especially smaller lot size is to landscape the entire yard. In Callahan and Fawn Lane most of the residents use a combination of natural landscape with a small amount of manicured landscape adjacent to their house. In contrast yards in any of the newer developments have considerably more landscaping.

For the Ascente project Washoe County should put landscape restrictions on the development to keep the usage to 0.65 AF/unit. Make sure the developer keeps much of the natural vegetation in place, sagebrush and bitter brush. Currently their plan calls for grading the majority of the land within the villages in order to get the maximum number of homes. This will also necessitate landscaping entire lots. The forest area plan, section F.2.1 A to e. states

- a. Minimize disruption to natural topography.
- b. Utilize natural contours and slopes as specified in Article 424 of the Washoe County Development Code.
- c. Complement the natural characteristics of the landscape.
- d. Preserve existing vegetation and ground coverage to minimize erosion.
- e. Minimize cuts and fills. Cut and fill slopes greater than eight (8) feet in height are prohibited. Grade changes greater than eight (8) feet in height shall be stabilized using one or more engineered retaining wall(s). Wall colors shall blend with the adjacent undisturbed hillside.

This will help this development blend in with the natural landscape and the existing neighborhood. Alternatively Washoe County could hold the balance of 0.47 AF/unit in bond (1.12AF-0.65AF) until the real water use is determined. Don't make the future residents suffer the fate that the residents of Arrowcreek are now going through.

Submitted By Todd Mihevc
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