

Tim Woolett

From: John Butler <former173rd@me.com>
Sent: Monday, June 17, 2019 12:45 PM
To: Tim Woolett
Subject: Legacy Ridge Notes

Happy Monday Tim..

Here is the info I spoke with you about on Friday..I see it went to Ms Deschenes in 2016.

Best Regards,
John

To:???????????????????? Charisse Deschenes, Senior Planner, City of Sequim

From:?????? Gordon Bilyard, 660 Happy View Lane, Sequim

Re:???????????????????? Comments on Proposed Legacy Ridge Development (LRD)

Date:????????? June 17, 2016

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Ms. Deschenes:

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By way of introduction, my name is Gordon Bilyard, and I am a retiree living at 660 Happy View Lane in Sequim.?? I am the President of the Sea, Sun and Sierra Vistas Property Owners Association, which includes 4 homes and two undeveloped lots on and adjacent to Happy View Lane, and which is directly across south 7th??Street from the proposed Legacy Ridge Development.?? Most of my career was in environmental assessment and management.?? I hold a Ph.D. from Oregon State University in Biological Oceanography, and for over a decade worked for a private company preparing environmental assessments for the U.S. Environmental Protection Agency.?? Subsequently, I worked for Pacific Northwest National Laboratory (the mother ship for Sequim???'s Battelle Marine Science Laboratory).?? Much of that work was in the areas of environmental compliance, strategic planning, land use planning, and management for the cleanup of the Hanford Nuclear Reservation.????

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I mention my credentials for several reasons.?? First, please know that my comments and concerns are grounded in over 40 years of experience in environmental management.?? Second, I would like you to know that I am not an environmental activist, and that I am not anti-growth.?? My approach to environmental management has always been to seek the solution that is technically achievable, environmentally sustainable and/or protective, safe, and economically feasible.?? I offer comments in the spirit that I want Sequim to evolve and grow in ways that are best for the community and the environment in the short and long term.?? The comments below are exclusively my

comments, and do not represent the views of the Sea, Sun and Sierra Vistas POA.?? In fact, I have not talked with the other owners about Legacy Ridge.????

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Stormwater Management Concerns:

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My primary environmental concern is stormwater runoff, principally from hardscapes.?? The soils on the LRD hillside and adjacent properties (including mine) consist of relatively impervious hard-packed clay overlain by a thin veneer of topsoil.?? During the wet season the topsoil becomes saturated quickly, after which water runs downhill on top of the hard-packed clay.?? This is substantiated on page 7 of the Revised Preliminary Stormwater Drainage Report:?? ???The area of the site proposed for residential building

construction has been analyzed geotechnically, and has a poor hydrologically conductive soil.????? Because of the poor hydrology, the report proposes that:?? ???For this project, perforated stub-outs apply to sites that have three or more feet of permeable soil below the proposed final grade. ??? Roof stubs, therefore, will be solid PVC connected to the rigid stormwater conveyance system.????? There is no indication of how many, if any, of the properties will have three or more feet of permeable soil.?? This is a critical area of uncertainty.?? It is worth noting that my property and those adjacent to mine don't meet the three-foot requirement.

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Experience on my property indicates that early in the rainy season, the surface topsoils become saturated quickly and early in the rainy season.?? Subsequent rainfall runs off on the surface and through the topsoil over the clay layer for most of the duration of the winter months.?? LRD will experience much of the same runoff dynamics.?? Although much of Sequim's precipitation is light and intermittent, Sequim is prone to significant daily rainfall.?? The record rainfall was 4.20 inches on Jan. 28, 1999.?? And amounts in excess of 1 inch are common:

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1.32 inches on 11/22 2011

1.21 inches on 12/08/2015

1/96 inches on 03/15/2015

1.03 inches on 01/04/2015

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The LRD will have 63,130 sq ft of impervious surface in sub-basin #1, and 512,760 sq ft of impervious surface in sub-basin #2 (Tables 2 and 4 of Revised Preliminary Stormwater Drainage Report).?? These represent high percentages of the developed area, as the LRD will be a high-density, small single home development. In the absence of further data, it is reasonable to assume that most if not all roof stubs will be solid pipe, and that little or none of the rainfall on those hardscapes will be absorbed into the soils.?? ??Using volumes of the 23,928 cu ft for the sub-basin #1 pond (p. 39 of Revised Preliminary Stormwater Drainage Report) and 37,830 cu ft?? for the sub-basin # 2 pond, and assuming a one-day rainfall of 2.0 inches, the following data can be derived:

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Sub-basin	Impervious area?? (sq ft)	Stormwater flow (cu ft/day)	Stormwater flow (cu ft/sec) ??	Volume of pond (cu ft)	Ratio stormwater volume (2 inches in 24 hours) to pond capacity
??	??	??	??	??	??
1	63,130	10,522	0.12 (0.9 gal/sec)	23,928	0.44
2	512,760	85,460	0.99 (7.4 gal/sec)	37,830	2.26

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Two concerns are raised by the above data.?? The first concern is that with a ratio of stormwater volume to pond capacity of 2.26, the capacity of the sub-basin #2 pond may not be sufficient to handle the hardscape runoff.?? Further analyses of the dynamics of the proposed solutions may be warranted (e.g., kinetic analyses of inflows and outflows at all critical points in the system, using runoff data that account for the relatively impervious nature of the soils).?? Note that the above analysis does not consider runoff from non-hardscape areas.?? But given the likelihood of saturated soils at the time of the 2 inches of rainfall, much of that rainfall will end up in the ponds as well.?? Further, it assumes an even rate of rainfall for a 24 hour period, which is not a realistic assumption.?? Rainfall will certainly be heavier during some portion of the day.?? Hence, the above analysis may be considered conservative.????

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The second concerns is that given the size and conditions of the various drainage pipes and ditches downstream of the LRD, they will not be able to handle the volumes and flow rates in the above table.?? Flooding problems downslope of the LDR have been noted, and it is not clear the degree to which the LDR will or will not exacerbate that existing problem.

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Although state-approved models were used in the stormwater analysis and the development of engineered solutions, the above back-of-the-envelope analysis suggests that the model and/or the assumptions inherent in the model and model inputs may not be appropriate or realistic for the LDR, given soil conditions and episodic rainfall that happens in Sequim on a regular basis.?? I recommend that the City require further site-specific analyses of stormwater runoff that more realistically account for soil conditions.

Another concern that will need to be addressed regarding surface runoff is at the individual house level.?? Experience with the homes on Happy View Lane confirms that each home in LDR should have a curtain drain installed around the perimeter of the foundation.?? If curtain drains are not installed, homes will experience considerable water seepage into the crawlspace during rainstorms, which will have to be pumped out.?? This is not a trivial problem, given the cost of pump purchase, installation, maintenance, and eventual replacement at the end of the pump??'s lifespan.?? And pump failures can be cause considerable damage and cost to the homeowner.

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Potable Water Concerns:

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Homes on Happy View Lane receive water from the CC PUD, not the City of Sequim, because the water tank on Reservoir road is below Happy View Lane.?? Further, the fire hydrant at the corner of Happy View Lane and S.

7th Ave. is not functional for the same reason. (Lack of City water in S,S&SV is due to an oversight by the City Engineer when the POA plans were reviewed and the POA was subsequently approved.) Happy View Lane residents must depend on the fire department using pumper trucks and/or pulling water uphill from Reservoir Road in case of fire. If the City is to supply water for domestic use and firefighting to the homes in LRD that are higher than the water tank on Reservoir Road, a new water tank and/or a significant investment in a water pumping facility will be required. Should either of these come to pass, I request that the City connect the fire hydrant at the corner of Happy View Lane and S. 7th Ave. to the new system and make it functional, as that would significantly improve firefighting capabilities in our POA.

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Viewscape Concerns:

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As proposed, LRD is a high-density development. A drive through Emerald Heights reveals that lot sizes in LRD are smaller than in Emerald Heights. They also appear to be smaller than in Craftsman, below Emerald Heights. Both of these developments are well-kept by the residents, but are closely packed. The viewscape inside each development feels cramped, even from the street. And from a distance, the viewscape is dominated by ugly, intersecting rooflines with little vegetation. This type of viewscape is in striking contrast to the rest of the City, where the proportions of greenscape to structures and hardscape is considerably higher. Dense packing of homes provides maximum revenues for the developer and for the City long term. But it comes with long-term consequences: the aesthetic quality of the City's viewshed in those regions is reduced significantly, and the quality of life within those developments is reduced for want of personal greenspace.

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The City of Sequim depends to a large degree on an influx of retirees for its growth. (This trend is not likely to change in the near future, as Sequim and Clallam County in general have little industry and little potential to develop new industry. Hence, a large influx of working families is not likely in the near future.) Retirees come here for many reasons, but one of the most important reasons is for the spectacular views afforded every day within the City and around the greater Sequim area. If the City continues to approve high-density housing without regard to impacts on the viewshed and overall quality of life, it will eventually see a decline in retiree influx as retirees will select other locations for their final years.

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Significantly increasing the size of the lots and the size of the homes in LRD would result in a higher-quality viewscape and higher cost homes particularly in areas where there is a view of the water as there would be in some areas of LRD. The developers and the city may find that revenues are not significantly decreased with this option. Further, stormwater management would be less of a problem given the associated reduction in hardscape. I strongly urge the City to consider larger lots and homes in LRD as a way of retaining the quality of the viewshed, and of reducing stormwater impacts.

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Road and Traffic Concerns:

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Reservoir Road and S. 7th Ave. would both be impacted significantly by the proposed LRD. Both of these roads are narrow and have no shoulders. S. 7th is also crumbling daily due to an inadequate roadbed. Most of the traffic on these roads is private automobiles, but a significant proportion of the traffic is trucks especially

pickup trucking towing trailers with landscaping equipment, etc.?? Both of these roads are also heavily used as walking routes for local residents ??? from mothers with strollers and toddlers to retirees.?? Some of these young families live on Reservoir Road.????

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Currently, when vehicles meet pedestrians on these roads, the vehicles pull over completely into the opposite traffic lane, especially when children are present.?? The risks of vehicle-pedestrian accidents on these roads will increase proportionally with the increase in traffic associated with LRD.?? If LRD is to move forward as planned, it would be prudent for the City to remove the S. 7th??roadbed and rebuild it wider, with shoulders and a sidewalk along one side of each road.?? Reservoir Road may or may not need to be rebuilt, but should also be widened as per S. 7th.????

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An important travel route in and out of LRD appears to be S 7th, which appears to be connected from Washington St. to Happy Valley Dr.?? This will provide good access to downtown for the residents of LRD and their neighbors.?? However, it will also carry an additional load of vehicles that presently use S 3rd??to access downtown.?? Most residents living south of Happy Valley and west of s 7th??will begin using S 7th??as their primary route to downtown.?? This increased traffic load would further argue for replacing and upgrading S 7th??over much of its length.

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Given the high density of small homes that are proposed for LDR it can be assumed that most residents will be working families who commute to work.?? For those who need commute to work eastbound on SR101, the quickest, most direct route from LDR to SR101 will be via Reservoir Road, 3rd, Ave and W. Brownfield.?? West Brownfield is a poorly-designed, hazardous road with a curve at the top of a hill.?? Numerous head-on collisions have occurred there, and it is truly amazing that more have not as vehicles regularly drift across the center line at the top of the hill.?? LRD can be expected increase the risk of head-on collisions on W. Brownfield proportionally to the increase in traffic that will occur on that road.

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It is not clear from the information provided whether the existing S. 7th??roadbed S. 7th??between Happy View Lane and Reservoir Road will continue to be used, or will be supplanted by a diversion through the edge of LRD.?? If it will continue to be used, the new roads into LRD will be at sharp angles to S 7th, and will be dangerous intersections.???? It will be difficult to see backward at such sharp angles when entering S. 7th??from LRD.????

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Conclusion:

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In conclusion, I would like to thank the City for providing information on LRD, and for the opportunity to comment on the proposed LRD.?? Sequim is a special place, with considerable room for growth and development.?? But growth and development should be undertaken carefully and thoughtfully, so as not to compromise the high quality of life that Sequim enjoys.?? Each development project undertaken within the City contributes positively and negatively to the quality of life, and the effects are cumulative over time.?? As proposed, the LRD would continue the densely-packed development trend begun at Craftsman.?? In my opinion, densely packed developments are not consistent with the existing viewshed and quality of life that Sequim enjoys.?? If continued, they will reduce the quality of life in Sequim considerably, and will eventually result in slower growth and reduced

revenues.?? Hence, I ask the City to seriously consider the concerns I have identified above, particularly those associated with stormwater management and watershed retention, and consider requiring larger lots and fewer homes in LRD. ??

JB