



THE HILLVIEW SUBDIVISION  
1<sup>ST</sup> SUFFICIENCY AGENCY REVIEW

Date: September 14, 2023  
From: Nicole Olmstead, Cushing Terrell  
RE: Hillview Subdivision – 1<sup>st</sup> Sufficiency Agency Review

Dear Agent,

Missoula's Development Services identified you as being an agency that may have important comments regarding the proposed major subdivision, The Hillview Subdivision. On September 14, 2023, Development Services posted the link to project documents for the 1st Sufficiency of The Hillview Subdivision submittal. We are requesting that you please review the link and provide comments.

The purpose of this agency review is twofold:

1. For agencies to determine if the subdivision submittal packet has enough information or is sufficient for review
2. For agencies to provide comments regarding the proposal on anything that should be addressed before the project is submitted for governing body review. Thus, it is important that you send us your comments or let us know if you have no comments.

You will have 12 working days from today, September 14, 2023, to review. You will have until the end of the day on October 2, 2023, to send comments directly to [nicoleolmstead@cushingterrell.com](mailto:nicoleolmstead@cushingterrell.com) and copy [porcarit@ci.missoula.mt.us](mailto:porcarit@ci.missoula.mt.us). This ensures that Development Services can meet their Sufficiency Review deadline of October 5, 2023.

The link to the subdivision application for review is: <http://www.ci.missoula.mt.us/3237/Hillview-Annexation-Subdivision>

If there is anything we can do to facilitate and/or clarify your review, please contact me. Thank you in advance for your comments.

Best,

Nicole Olmstead  
Project Manager | Urban Planner  
406.922.7128 | [nicoleolmstead@cushingterrell.com](mailto:nicoleolmstead@cushingterrell.com)

## Tara Porcari

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**From:** Nate Gordon  
**Sent:** Tuesday, September 19, 2023 2:38 PM  
**To:** 'Nicole Olmstead'; Tara Porcari  
**Subject:** RE: THE HILLVIEW SUBDIVISION 1st SUFFICIENCY AGENCY REVIEW

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

Wastewater has no comments.

Thank you.

Nate Gordon | Lab & Pretreatment Manager  
Department of Public Works & Mobility  
Utility Operations & Maintenance Division | Resource Recovery Facility  
406-552-6606 | GordonN@ci.missoula.mt.us



Promoting a safe, healthy Missoula through the development of transportation and mobility

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**From:** Nicole Olmstead <NicoleOlmstead@cushingterrell.com>  
**Sent:** Thursday, September 14, 2023 3:13 PM  
**To:** Tara Porcari <PorcariT@ci.missoula.mt.us>  
**Subject:** THE HILLVIEW SUBDIVISION 1st SUFFICIENCY AGENCY REVIEW

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## Tara Porcari

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**From:** Jordan Johnson <jjohnson@blackfoot.com>  
**Sent:** Thursday, September 14, 2023 3:45 PM  
**To:** Nicole Olmstead  
**Cc:** Tara Porcari  
**Subject:** RE: THE HILLVIEW SUBDIVISION 1st SUFFICIENCY AGENCY REVIEW

Blackfoot has no comments at this time.

Thank you,

### **Jordan Johnson**

*OSP Project Engineer*  
Blackfoot Communications  
M: 406-499-1024

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**From:** Nicole Olmstead <NicoleOlmstead@cushingterrell.com>  
**Sent:** Thursday, September 14, 2023 3:13 PM  
**To:** Tara Porcari <PorcariT@ci.missoula.mt.us>  
**Subject:** THE HILLVIEW SUBDIVISION 1st SUFFICIENCY AGENCY REVIEW

**CAUTION:** This email originated from outside of the organization, please submit suspicious e-mails for analysis.

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## Hillview Subdivision sufficiency comments

### Missoula Parks and Recreation

#### Street trees

There are unacceptable gaps in boulevard tree coverage throughout the subdivision. Clarifications on boulevard tree parameters are below in green:

1. Sanitary sewer laterals: 10 ft **correct. We recommend putting these under driveways to reduce conflicts with trees, when necessary.**
2. Sanitary sewer main: 10 ft **correct**
3. Storm sewer laterals: 10 ft **correct**
4. Storm sewer main: 10 ft **correct**
5. Storm sewer inlet (manhole): 5-10 ft? **5**
6. Water line laterals: 10 ft **Can go closer if certain species are used**
7. Water line main: 10 ft **Can go closer if certain species are used**
8. Corner Site Triangle (Point of Tangency at Corner?): 40 ft **30'**
  - i. Can you point me to a diagram of how you would like to see this measured? That might be helpful, as radii can be different from corner to corner. **Generally it is measured where the two streets converge, if this is not a 90 degree angle, then it is measured 30' back from the stop sign or yield. The measurement from the stop sign is more critical than the sight triangle, as we are allowed to plant trees inside it, per engineering code.**
9. Edge of Residential Driveway: 10 ft **yes**
  - ii. What we're facing is that driveways have to be offset from the property line by 10 ft, which I believe is driven by the Engineering Dept. So if you have two driveways adjacent to one property line, you can't place a tree between driveways. Is there any leeway in driveway placement from the property line? **It would be ideal, but if we can place a tree right on the property line that would be far enough from the driveway edges, and allowing for a large enough soil volume.**
10. Edge of Curb Ramp or Sidewalk: 3 ft (Class II Tree) **yes**
11. Traffic Sign: 25 ft (Class II Tree) **30' and this distance increases with speed.**

#### Parks and Trails

1. Park lot 2 needs to be labeled as a common area lot. Even though it satisfies parkland dedication requirements, it is still common area.
2. The following pertain to the design of the future city park area, and have already been expressed during meetings or emails with the CTA design team. Our intent of re-writing them here is to formalize these discussions. Since not all of these components are required elements for the developer to implement, we recommend that the developer works with Parks and Recreation to formalize through a development agreement which components (if any) above

the minimum requirements for final plat approval that the developer will implement as part of the subdivision.

a. Main trail

- i. The booster station must not be accessed using the trail. Public Works & Mobility told us it would need to be accessed twice a week, plus any additional trips required for any issues that come up. Based on that, an approach from Hillview that is separate from the trail is necessary. Our main concern is in winter when regular vehicle use would mean the trail is very often packed down to an ice sheet.
- ii. The 8' trail should be 10' so that maintenance vehicles can safely access it (likely only a few times per year). In areas where this is difficult to achieve, straight runs of the trail can be 8'. Turns MUST be 10' wide. Another component that might help to achieve this width is that the public non-motorized easement along the south property edge can be used.
- iii. Dog waste stations should be located at primary entrances to the park/main trail, for example where it meets Hillview. They must be located in a manner that maintenance vehicles can easily access to empty trash.
- iv. A simple wood fence (jack leg, smooth rail) should be constructed between the main trail and Moose Can Gully. It wouldn't keep someone out who is really intent on going in the gully, but it would protect the gully by indicating it is off limits to recreation.
- v. For running slopes and cross slopes, reference the hiking trail standards on page 74 of the 2010 Conservation Lands Plan:  
<https://www.ci.missoula.mt.us/DocumentCenter/View/4499/Conservation-Lands-Management-Plan?bidId=>
- vi. Trails are not required to be lit.
- vii. It was asked whether a 4" compacted depth of  $\frac{3}{4}$ " minus compacted to 95% proctor density would still be appropriate for the 10' trail width. Yes, that is correct.
- viii. It was asked whether we have a standard detail for signage indicating a public trail transitions to a private trail – we do not.

b. Shelter and playground/climbing area

- i. The shelter and playground must be ADA accessible.
- ii. The shelter must be located so that a maintenance vehicle can drive up to it for maintenance.
- iii. We typically locate shelters and playgrounds near each other but not immediately adjacent to accommodate different uses.
- iv. We think it would be a great idea to incorporate the hill between two terraces into a play feature (ie a slide that comes down the hillside, a climbing feature built into the hillside)
- v. All playground/climbing areas must follow CPSI safety standards in terms of fall zones and containment curbs, be ADA accessible, be accessible by vehicles for maintenance, and meet city of Missoula parks standards.

- vi. Wherever we provide a picnic shelter, we also provide a close-by portalet within a portalet enclosure. The portalet must be immediately adjacent to a vehicle roadway (within 20') for maintenance.
- c. Possible dog off leash area
  - i. If the multi-family development allows residents to have dogs, then we would be supportive of incorporating a dog-off leash area to serve the residents and ideally reduce the number of off-leash dogs on the trail system.
  - ii. A fenced off-leash area should be about an acre. Narrow areas, especially near the entrance, need to be avoided. Waste stations should be included at the entrance, ADA and vehicle access would be needed. We would not require a separate large and small dog facility.
  - iii. Entrance(s): must include a transition zone with two gates: a gate for entering and exiting the fenced zone, and a gate entering the off-leash area. Paved transition areas are ideal.
  - iv. Surface: Wood chip
  - v. Perimeter fence should not have any 90 degree corners
  - vi. Water: A water fountain should be included for dogs and people, since containers of standing water can spread disease and breed mosquitoes.
  - vii. The dog-off leash area, if included, should not be located on the lowest terrace due to proximity to the stormwater basin and the shape of the terrace which would result in constrained spaces.
- d. Grass areas
  - i. Not all of the terraces will include irrigated, mowed grass. At least one should be unmowed dryland grass for water conservation.
  - ii. All terraces need to be accessible to mowers. Our mowers can safely drive on slopes at or less than 30%, but ideally at or less than 20%.
  - iii. The “single track” trails leading from Rimel Rd through the park to the main trail should be wider – we are fine with this reducing the area of the terraces. At least 6' is preferable.
- e. Utility service
  - i. Water service is needed to the park for the dog park fountains and irrigation, although irrigation should be supplied using well water if possible.



## PUBLIC WORKS & MOBILITY DEPARTMENT

1345 W. Broadway • Missoula, Montana 59802 • (406) 552-6769

September 22, 2023

Mark Bancalé, PE, PTOE  
WGM Group  
1111 E Broadway St  
Missoula, MT 59802

### **Subject: Hillview Subdivision TIS**

City of Missoula Public Works and Mobility (PW&M) staff have reviewed the latest update to the traffic impact study (TIS) prepared for the Hillview Subdivision development, submitted in February 2023, and we have concluded that recommendations in the TIS do not adequately address or mitigate the development's direct impacts to the transportation system. These impacts include:

- 1) The Hillview Subdivision is constructing an extension of Rimel Rd that intersects Hillview Way at its existing intersection with Village View Way. The Rimel Rd extension is proposed to meet the City's standards for Collector classification as the roadway is anticipated to serve a substantial volume of traffic generated by both the Hillview Subdivision and future development to the east.
  - a. According to the TIS, 100% of Hillview Subdivision Phase 1 generated traffic and 35% of Phases 2-7 generated traffic will use Rimel Rd to access Hillview Way, with a corresponding total projected volume contributed by the Hillview Subdivision of 2,212 vehicles per day (vpd). This Hillview Subdivision generated volume, without considering potential future development to the east, is large enough to classify Rimel Rd as a Collector<sup>1</sup>, and it is slightly larger than the intersecting volume of Hillview Way, a Collector, currently carrying approximately 2,200 vpd.
  - b. The TIS estimates that future development to the east would contribute an additional 3,132 vpd to Rimel Rd and the Hillview Way / Rimel Rd intersection. Future development traffic is not included in the TIS intersection capacity analyses, but given the total traffic volume that the TIS projects will eventually use the intersection (7,544 vpd), two-way stop-control may not be sufficient to manage future traffic safety and operations, especially as the future Rimel Rd traffic volume is expected to be higher than that of the lower volume leg of intersecting Hillview Way. Typically, stop control should only be installed on the lower volume leg(s) of an intersection<sup>2</sup>.
  - c. Per City PW&M standards, the intersection of two collectors should be considered for roundabout control<sup>3</sup>.
- 2) The TIS estimates that 20% of Hillview Subdivision traffic will use Clearview Way / Garland Dr daily, corresponding to an additional 750 vpd at full-buildout using this existing local residential street connection as a cut-through route to/from 23<sup>rd</sup> Ave. The TIS did not measure existing traffic volumes on Clearview Way / Garland Dr, but based on a rule of thumb for peak hour traffic

<sup>1</sup> City of Missoula Administrative Rule 423: Local Functional Street Classification System

<sup>2</sup> Manual on Uniform Traffic Control Devices (MUTCD) Section 2B.04

<sup>3</sup> Missoula City Public Works Standards and Specifications Manual (MCPWSS) Section 7.3.9

volume percentage of ADT<sup>4</sup>, PW&M can infer that the existing volume is likely less than 500 vpd. With this, the Hillview Subdivision is expected to increase the vehicular volume on Clearview Way and Garland Dr by at least 150% which is problematic considering the following:

- a. Clearview Way and Garland Dr are local residential streets with dense driveway and intersection approach spacing translating to a substantial number of potential conflict points.
- b. The existing traffic on Clearview Way and Garland Dr is virtually all local access traffic (i.e., contributed entirely by the residents who live on or immediately adjacent to those streets). The Hillview Subdivision will contribute non-local, cut-through traffic traveling between two Collectors, Hillview Way and 23<sup>rd</sup> Ave. Residential cut-through traffic tends to operate at higher speeds than local access traffic<sup>5</sup>, increasing the likelihood of high-severity crashes involving vulnerable road users who live near and regularly use these local streets.
- c. The City maintains a goal for all local streets to be safe and comfortable for all users, including pedestrians and bicyclists, and has set a target speed for these streets of 20 mph<sup>6</sup>. Maintaining safe speeds on local streets is particularly important when traffic volumes exceed 1,000 vpd. The resultant volume on Clearview Way / Garland Dr will exceed 1,000 vpd with the anticipated Hillview Subdivision traffic added.

### **Required Mitigation Measures**

In addition to the transportation facilities/amenities recommended in the TIS, PW&M will require the following mitigation measures. Alternative measures may be considered if they adequately address the direct impacts of the development described in this letter.

- 1) Preliminarily design, to a 90% level (through Stage 3) of an urban mini roundabout in accordance with guidelines provided in NCHRP Report 1043, at the intersection of Hillview Way and Rimel Rd. This includes:
  - a. Designing pedestrian and bicycle crossing facilities across each leg of the intersection;
  - b. Designing adequate intersection lighting;
  - c. Providing the right-of-way necessary to construct the roundabout in the future; and
  - d. Including in the final plats of each subdivision phase a waiver of the right to protest future street improvements associated with the cost of final design and construction of the roundabout.
- 2) Traffic calming along Clearview Way and Garland Dr between Hillview Way and 23<sup>rd</sup> Ave:
  - a. Including design and installation of traffic calming elements to safely limit the maximum running speed between Hillview Way and 23<sup>rd</sup> Ave to 25 mph;
  - b. Including neighborhood outreach to ensure the plan generally meets neighborhood needs; and
  - c. Not including installing an intersection traffic calming solution at the Clearview Way / Garland Dr intersection, since those improvements are being contemplated by the City with the developer of the proposed Meadow View Homes Subdivision.
- 3) Additional mitigation measures identified in the TIS:

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<sup>4</sup> Precision Traffic Safety Traffic Studies guidelines: [https://www.precisiontrafficsafety.com/solutions/traffic-studies/#:~:text=The%20peak%20hour%20volume%20\(highest, on%20roadways%20with%20low%20volumes.](https://www.precisiontrafficsafety.com/solutions/traffic-studies/#:~:text=The%20peak%20hour%20volume%20(highest, on%20roadways%20with%20low%20volumes.)

<sup>5</sup> Community & Environmental Defense Services – Making Neighborhood Streets Safer

<sup>6</sup> City of Missoula Safe Speeds on City Streets – Creating a Neighborhood Traffic Management Program (2021)

- a. Installing marked crosswalks on Rimel Rd adjacent to the multifamily (Phase 1) development;
- b. Installing a southbound left turn lane at the intersection of Hillview Way and Rimel Road.
- c. Installing a southbound left turn lane at the intersection of Hillview Way and Clearview Way.

#### **Timing of Mitigation Measures**

The City will require the traffic calming mitigation measures to be completed following Phase 1 and prior to approving any of the subsequent Phases 2-7 infrastructure plans, with the exception being for the TIS recommended Hillview Way and Rimel Rd / Clearview Way southbound left turn lanes, which have been shown warranted at Phases 3 and 5, respectively. The City will require the mitigation measure for preliminary (Stage 3) design of an urban mini roundabout at the Hillview Way / Rimel Road intersection by the time Phase 2 is platted.

#### **Mitigation Measures Cost Responsibility**

The City of Missoula Municipal Code (MMC), Chapter 12.10, requires new development to construct public right-of-way improvements necessary to promote public safety; create facilities and systems for public use; allow efficient and effective movement of people and goods; and improve quality of life, mobility and access. New development is responsible for constructing all on-site infrastructure, including immediately adjacent street frontages and intersections. In addition, new development is responsible for constructing off-site infrastructure required to serve or mitigate the impacts that are directly attributable to the new development. This direct mitigation is required in addition to impact fees which support overall system capacity.

The responsibility for funding the additional required mitigation measures (items 1 and 2 under the "Required Mitigation Measures" section) are as follows:

- Item 1: Preliminary design of an urban mini roundabout at Hillview Way / Rimel Rd – The developer is required to fund 100% of the Stage 3 design and provide the necessary respective right-of-way for City implementation when the future CIP project is funded. Hillview Subdivision is not required to provide an upfront cost contribution to construction but will be subject to a waiver of protest for a future special improvement district.
- Item 2: Clearview Way / Garland Dr traffic calming – These existing streets are not deficient under existing conditions and mitigation is solely necessary due to projected Hillview Subdivision cut-through traffic. The developer is responsible for 100% of the cost of related engineering and construction, as reviewed and approved by City Engineering.

The City will require the developer to enter into an agreement with the City spelling out the responsibilities of each party and the timing of the mitigation measures, as described herein. Please feel free to reach out to us if you have any questions or would like to meet to discuss the required mitigation measures.

Sincerely,



**Ryan Guelff, PE**  
Transportation Engineer  
Public Works & Mobility

Cc:     Jeremy Keene, Public Works & Mobility Director  
          Kevin Slovarp, City Engineer for Surface Transportation  
          Troy Monroe, City Engineer for Development Review  
          Ryan Sudbury, City Attorney  
          David Aube, Cushing Terrell

## **Engineering 1<sup>st</sup> Sufficiency Review – Hillview Subdivision (10/3/23)**

### **• Road Plans**

- As mentioned in Element review
  - All sheets – streets perpendicular at intersection, or bulb-out intersection (parking lanes) to move crosswalks to intersection.
  - All sheets – No SFR driveways onto Rimel
- Sidewalk grade must meet PROWAG, including grade between curb ramps (must be near (+/- 2%) of adjacent road)
  - This may require bulb-out and shifting to curbside between ramps
- Ped crossing at Lot 96, Lot 186
- Move Lot 79 & 80 to Phase 4, or provide public road maintenance agreement for Local C
- Move Lot 84 to Phase 6, or provide public road maintenance agreement for Local C
- Move driveway for Lot 127 to Local B, or move Lot 127 to Phase 6, or provide public road maintenance agreement for Local F
- Move Lots 132 and 150 to Phase 5, or provide public road maintenance agreement for Local B
- Move driveway for Lot 63 to Local A, or move Lot 63 to Phase 4, or provide public road maintenance agreement for Local F
- Provide no-access strip along Rimel Road (Ph 3 – 5)
- Provide no-access strips 20-ft either side of crosswalks
- Pedestrian accesses (mid-block) should have curb ramps and crossings
- Provide mailbox CBU locations, based on phasing
- Rimel Collector sections 2 & 3, provide 6-ft bike lanes per MCPWSS Table 7.5

### **• Water**

#### **Report**

- Need to include:
  - Discussion of additional water demands the system is being sized for
  - Need to re-examine demands for constant running booster pump system. Demands in the report are adequate for general gravity water system but where demand needs to be met with instantaneous pumping they need to be examined more carefully. It should include an expect domestic demand as well as irrigation demand. Missoula Water can provide water demand data for similar systems if it is desired.
  - Tank sizing per DEQ Circular-1
  - Booster pump sizing, per DEQ Circular-1
  - Constant running booster pump sizing per DEQ Circular-1
    - How constant running booster pump system can be upsized and pressure increased to accommodate future demands
  - Hydropneumatic tank sizing
  - Discussion of the phasing of the water system in relation to the phasing of the subdivision build-out. When is the installation of the PRV being proposed?
  - Discussion of SCADA including where panels will be located and how it will be arranged.
  - Provide HydroCAD model results and discuss water main sizing for subdivision and for additional demands from adjacent parcels.



### **Boosters and Tank**

- Need to ensure 15 ft minimum clearance around booster buildings and tanks in all locations.  
Ensure easements can accommodate this even if buildings need to grow when detailed review of system components is completed at Stage 3
- Will need landscaping at both booster sites. Should be shrubs not trees (no obstructed views of tank and booster buildings)
- Coordinate with Missoula Water on security system requirements
- Ensure buildings are large enough to accommodate other SCADA controls, transformers, and other appurtenances as required, and their required clearances.
- Include rail and hoist system for pump buildings
- Show upsized tank and booster pump station(s) to meet additional demand from adjacent properties
- Tank needs to have safe access (handrail extended) to both hatches
- Lower Booster
  - Needs to include a surge anticipator in the booster pump building
  - We have heard from Parks that they don't want the booster station accessed via the trail. If that is the case, provide different access, ensure that vehicles can fully pull off of Hillview Way to unlock gate.
- Upper booster
  - Change orientation so that garage door doesn't face the tank so pump skid can be removed and replaced
  - Is additional piping for a future pump necessary to meet future demands?

### **Plans**

- **Provide** a single sheet, per phase, which shows the water main for that phase, hydrants with 250-ft radius, and water main of a previous & connecting phase.
  - Hydrants are to be located at intersection corners,
    - then mid-block when required.
    - No hydrants are to be placed beyond the last intersection.
- Move connection to the transmission main which will serve the lower development to Rimel Road.
- Install water main to the end of Rimel Road
- Show location of the PRV, size, and easement. It should be a concrete vault and should be located behind back of sidewalk.
- Water mains to townhomes is a dead end main exceeding our 500 ft length. Provide additional connection to multi-family property or to Hillview
- Show pressure zone in the water main plan and profile plans.
- We would like to see the water main construction phases delineated in the plans.
- On Sheet C422, all roads are labeled as "Local B".
- Missing plan sheets for transmission main between booster station and water tank
- Water Exhibit –
  - Please include expected pressures with the elevations.
  - Extend the contours and pressure zones onto the adjacent properties that the system is being upsized for.
  - Provide unit count in each pressure zone.
- Submit ArcGIS shapefile of water system for use of our water model
- We need an additional easement from the lower pressure zone to Parcel B of COS 4371 so service to that property can be looped.
- Include condition that homes that will experience pressure greater than 80 psi shall have a pressure regulating valve installed.

- **Sanitary Sewer**

### Report

- Section 1.3 – Missoula's requirement is insulation when there is less than 5 feet of cover
- Section 2.2 and 2.3 are confusing. Section 2.2 states that there Clearview Way sewer connection was addressed in a previous report and that this report doesn't impact Clearview Way but then Section 2.3 states that the townhomes that are part of the subdivision are impacting Clearview Way. Please make this more clear.
- Section 2.4 – It is confusing why Table 2.1 is using 451 units to calculate a peaking factor
- There is no discussion of pipe capacity. This report needs to identify limiting segments and show that there is adequate capacity. This should occur at the connection point to the existing sewer, at the dry laid sewer main across Hillview, any other constriction downgradient, any constriction within the subdivision (whether this is due to flow, or a pipe laid at a lower gradient) and any other constrained areas of piping that the engineer identifies.
- The report should consider off-site properties which could develop and connect to this system and whether there is capacity for them.
- Discuss the sewer collection system phasing in relation to the subdivision phasing and the street paving.

### Plans

- **Provide** a single sheet, per phase, which shows the sewer main for that phase, the direction of gravity flow, and sewer main of a previous & connecting phase.
- Show other utilities on the sewer plans
- For this large of a site please include additional plan sheets that include a larger scale and more detail. Don't need profiles but more detailed plan view would be very helpful.
- Is there available easement on Parcel B of COS 4371 to accommodate the alignment of sewer main?
- No easement shown on Lot 4 to accommodate sewer main routing
- Sewer main on Lot 4 appears to go right through proposed stormwater detention basin. Needs to be addressed.
- Sewer Mains in Local C and Local D should be extended to the property boundary
- Sewer main should be installed through the lots that they are serving or at a minimum be installed to the half-way point of the lot (as approved by City Engineering) so that service lines can be run perpendicular to the main (Public Works Manual, Chapter 4.2.5.C

- **Stormwater**

### General:

- This report needs much more detail. Information provided during sufficiency is presented to City Council for approval and is subject to public comment. We understand that results are preliminary but we need a level of detail adequate to demonstrate that sufficient space is reserved for stormwater detention and conveyance.
- Discuss existing MF facilities in greater detail.
- Discuss Floodplains
- Provide a more detailed existing conditions figure meeting requirements of 6.2.3.A.5
- Discuss soil class and cover type/condition for both existing and proposed conditions.
- List design storm depths
- What methodology was used to calculate runoff in existing and proposed conditions?
- Show basins on existing and proposed condition figures.
- Show other water and sewer utilities on Storm Sewer Plan Sheet.

- Add contours to Storm Sewer Plan Sheet.

**Detention:**

- Discuss how proposed detention volume compares to runoff volume.
- Provide discharge rates from all ponds, including updated rates from MF pond to demonstrate that proposed pond volumes can meet discharge and draw down requirements.
- How will emergency overflow be provided?
- Discuss forebay volume required to meet TSS requirements.
- Discuss the reasoning for underground detention rather than a pond. The open space to the North may have adequate space to fit a pond.
- A sewer main goes straight under the subsurface detention facility. One of these needs to be relocated.
- Incorporate pond(s) into proposed condition grading surface to show required footprint.
- Detention facilities will be privately maintained.
- The South pond conflicts with the Rimel ROW. Relocate so the pond and any associated easements are outside of ROW.
- Discuss how the North and South detention facilities will be accessed for maintenance.

**Conveyance:**

- Stormwater mains and should be designed to convey the 10-yr event without pressurizing (6.3.5.D) and without over topping curbs (6.3.3.C).
- Conveyance infrastructure outside of the ROW will be privately maintained.
- Each single-family lot should have a way to convey stormwater to the ROW without discharging across multiple properties unless a drainage easement is provided across downhill lots.
- Note stormwater pipe material and class.

**• Geotechnical**

- The road section in the report is for residential streets. Provide additional section for collector street, or use standard found in MCPWSS.
- Report recommends foundations on subgrade. Provide recommendations for those areas that will be fill.
- Provide a final grade section across Lots 66 and 36 and across Rimel Road. Show building area given the slope set-backs of building code.

## Tara Porcari

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**From:** Knudsen Gerhard <gmk@bresnan.net>  
**Sent:** Thursday, September 21, 2023 11:10 AM  
**To:** Nicole Olmstead  
**Cc:** Tara Porcari; Brown Jim  
**Subject:** Hillview Subdivision Sufficiency Review - Five Valleys Audubon Comment

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

The property on which the development would occur was, at one time, a valued grassland. There, such bird species as meadow larks, grasshopper sparrows and vesper sparrows could be found. For the most part, however, the value of that habitat has diminished and, so too, has its bird use. That being the case, we do not see where the proposed development would significantly affect important grassland habitat. Thank you for the opportunity to offer comment during the first sufficiency review of the proposed Hillview Subdivision.