URBAN AREA PLANNING COMMISSION

MEETING MINUTES

December 14, 2016 – 6:00 P.M.

Council Chambers

1. **ROLL CALL:**

The Urban Area Planning Commission met in regular session on the above date with Chair Gerard Fitzgerald presiding. Commissioners Loree Arthur, David Kellenbeck, Lois MacMillan, Blair McIntire, and Vice Chair Jim Coulter were present. Commissioner Robert Wiegand and Dan McVay were absent. Also present and representing the City was Parks & Community Development Director Lora Glover and City Council Liaison Rick Riker.

2. **ITEMS FROM THE PUBLIC:** None.

3. **CONSENT AGENDA:**
   a. **MINUTES: November 30, 2016** **Pg. 1-05**
   b. **FINDINGS OF FACT:** None

MOTION/VOTE

Commissioner Kellenbeck moved and Commissioner MacMillan seconded the motion to approve the consent agenda from November 30, 2016. The vote resulted as follows: "AYES": Commissioners Arthur, Coulter, Fitzgerald, Kellenbeck, and McIntire. "NAYS": None. Abstain: None. Absent: Wiegand and McVay

The motion passed.

4. **PUBLIC HEARINGS:** None

5. **OTHER ITEMS/STAFF DISCUSSION:**
   a. **Staff Updates – Discussion**
      - PCD Director Glover stated they received a request from Panda Express to modify their drive-thru window and will be moving the menu board about 7 spaces back along Terry Lane. She and Commissioner Fitzgerald will meet with a Winco representative on

December 15 to discuss some ideas with them on the parking lot. She thanked the Commissioner for making that happen.

- On a policy level, Schedule 12 talks about their procedures and what applications fall into Type I, II, or III and Planning Commission are Type III. With the concerns this Commission has expressed with the Panda Express drive-thru situation, she offered to automatically send those up for the Commission to review at a site plan review level or a Type 3 Planning Commission hearing. She doesn't want to make it more inconvenient for the applicant but also wants to keep it streamlined but have more eyes on some of these issues. The Commissioners would like to see those.
- Parks & Community Development is next to go through an audit to review their organizations processes and best practices. There will be some extra burden on the review process but bringing those Drive-Thru windows up for review during the pre-app and Commissioners could express their concerns.
- Commissioner MacMillian feels they should just ask questions and not try to design the project.
- Lora agreed and mentioned she works with staff to watch for issues and potential problems but it would help to have the Commission review applications. All the Commissioners get the pre-apps via email.
- Commissioner MacMillian suggested adding a spot on the agenda for these reviews.
- Lora stated they can review during staff updates.
- There are several Type II applications coming including the Taprock Convention/Hotel addition. There is a fourplex for M and 12th streets and they will be removing an existing home. There is a partition off Grandview and they will need to put in a private street. St. Anne's Catholic Church wants to replace their current church, plus the Phase II upgrade of the Water Restoration Plant. Normally this type of upgrade would be a Type III hearing but since they are only adding in a few components it will be a Type II.

- Commissioner Fitzgerald asked if this project is a bad optic for the City to be doing but also sit in judgement of it and not have it publically aired.
- Lora mentioned it will be a Type II hearing and would be noticed for the hearings officer. She also has not received a lot of complaints on this upgrade. Since most of the components are down by the river there shouldn't be any issues with the neighbors.
- There will not be a meeting on December 28.
- The Valley Lights PUD probably won't be back in until January 25.
- Chair Fitzgerald asked Lora to look into how it takes to get verbatim minutes if someone were to request them.
- Lora stated it would probably have to be hired out and about two weeks to get them. The requestor would have to pay for that transcription. She mentioned the audio is available.
- Chair Fitzgerald asked if Lora could put together information about how long it takes and how to get verbatim minutes in case the question ever comes up.
- Lora will talk to administration.
- Commissioner Arthur asked if there would be any issues with having discussions about the pre-apps if they review them.
- Chair Fitzgerald stated there would be no ex-parte information since the Commissioners would be present during those discussions.
- Lora added that as long as Commissioners aren't forming a decision it would be fine. Plus, the pre-app meetings and site plan review meetings are open to the public.

6. ITEMS FROM COMMISSIONERS:

- There was discussion of the Findings of Facts that are published in the Daily Courier after a meeting that is misleading to the reader, suggesting there could be more discussion at an upcoming meeting. What would the process be and does the Commission need to be concerned or readdress these matters?
- Lora will confirm what the processes are but mentioned there are many steps and it could be a quagmire.

7. ADJOURNMENT:

Chair Fitzgerald adjourned the meeting at 6:23 pm

Next Meeting: January 11, 2017

_____ _____

Gerard Fitzgerald, Chair — Date

Urban Area Planning Commission

These minutes were prepared by Donna Anderson, City Administration Department

CITY OF GRANTS PASS COMMUNITY DEVELOPMENT DEPARTMENT

VALLEY LIGHTS SUBDIVISION TENTATIVE PLAN,
PLANNED UNIT DEVELOPMENT (PUD), AND
MAJOR SITE PLAN REVIEW
STAFF REPORT

Procedure Type:	Type III: Urban Area Planning Commission
Project Number:	104-00106-16; 201-00137-16
Project Type:	Subdivision Tentative Plan, Planned Unit Development (PUD) & Major Site Plan Review
Owner(s):	TL 400 ~ Pavise LLC; & TL 719 ~ Kendell Ferguson
Applicant:	Kendell Ferguson and Pavise, LLC
Representative:	T.J. Bossard Engineering LLC
Property Address:	543 & 551 NW Valley View Drive
Map and Tax Lot:	36-05-07-24- 400 & 719 ***See Exhibits 1 and 2***.
Zoning:	R-1-12 (City)
Size:	TL 400 ~ 1.63 acres, & TL 719 ~ 7.90 acres
Planner Assigned:	Lora Glover
Application Date:	December 13, 2016
Application Complete:	December 16, 2016
Date of Staff Report:	January 18, 2017 Due: 1/18/17
Hearing Date:	January 25, 2017
120 Day Deadline:	April 17, 2017

I. PROPOSAL:

The proposal is for a 15-lot tentative subdivision plan served by the extension of Pleasant View Drive (a public street) and the creation of a private street (Randy Lane). The application includes a Planned Unit Development (PUD) for Lots 1 & 16 (The applicant proposes deletion of Lot 13 from the subdivision. The preliminary plan proposes a total of thirty-four (34) residential units, twenty-one (21) of which would be located on the two PUD lots. The remaining lots would be developed with single-family residences. The properties are located between Pleasant View Drive & Valley View Drive in the R-1-12 zone district (see ***Exhibits 3 & 4***).

II. AUTHORITY:

Section 2.050, Schedule 2-1, and Sections 17.031 & 18.033, of the City of Grants Pass Development Code, authorize the Planning Commission to consider the request and make a decision to approve, approve with conditions, or deny.

III. CRITERIA:

The decision on the Tentative Plan, PUD and Major Site Plan must be based on the criteria contained in Sections 17.413, 18.043 & 19.052 of the Development Code.

IV. APPEAL PROCEDURE:

Section 10.050, City of Grants Pass Development Code, provides for an appeal of the Urban Area Planning Commission's decision to the City Council. An appeal must be filed with the Director within 12 calendar days from the date the written notice of decision was mailed, on a form provided by the Director.

V. BACKGROUND AND DISCUSSION:

A. Characteristics of the Property:

1. Land Use Designation:

   a. Comprehensive Plan: Low-Density Residential
   b. Zone District: R-1-12
   c. Special Purpose District: Steep Slope District

2. Size: Approximately 9.53 Acres

3. Frontage: Valley View Drive & Pleasant View Drive

4. Access: Proposed public street extension from Pleasant View Drive to connect Valley View Drive; Private streets for Lots 9, 10, 11 & 12. The tentative plan shows that Lot 13 is not included in the proposal, but that the flagpole portion of the lot will be included in the NW Pleasant View Drive right-of-way.

5. Public Utilities:

   a. Existing Utilities:

      i. Water: 8-inch main in Valley View Drive; 12-inch main in Pleasant View Drive
      ii. Sewer: 8-inch main in Valley View Drive; partial main (unidentified size- in NW Pleasant View Drive)
      iii. Storm Drain: 12-inch main in Valley View Drive

   b. Proposed Utilities:

      i. Water: Install 12-inch water main along the proposed Pleasant View Drive. Individual water meters on Pleasant View Drive right-of-way.
      ii. Sewer: Extend 8-inch sewer main along the proposed Pleasant View Drive and within the Private Street.

iii. Storm: Install 12-inch storm drain along Pleasant View Drive.

6. Topography: Hillside development. Slopes are over 25 percent.

7. Natural Hazards: Steep Slope Hazard District.

8. Natural Resources: The tentative plan has not identified the significant sized trees on the property. The applicant has not indicated which ones are to remain and those to be removed.

9. Existing Land Use:

   a. Vacant

   b. Surrounding:

      North: R-1-12 (Low Density Residential Zone)
      South: R-1-12 (Low Density Residential Zone)
      East: R-1-8 (Low Density Residential Zone)
      West: R-1-12 (Low Density Residential Zone)

B. Background:

The current proposal is an application for a 15-lot subdivision which will extend Pleasant View Drive to connect with Valley View Drive. The application also includes a request for a Planned Unit Development (PUD) for Lots 1 & 16 with twenty-one (21) residential units. The remaining fourteen (13) lots will be developed with single family residences.

The property was previously granted Tentative Plan approval for a 24-lot subdivision (to include variances for the block length and perimeter block length) on December 14, 2005, (File No. 05-10400019 and 05-30100033). A separate variance to the grading standards was granted on February 13, 2008 (File No. 07-30100018). After the previous approvals had expired, the City Council approved Ordinance 5574 on April 3, 2013. The ordinance provides a two year extension for any land use decision (e.g. subdivision, partition, site plan review etc.) approved between July 1, 2005 and October 28, 2010. Such projects between these time frames were valid until April 1, 2015. Prior to the land use extension ordinance, the applicant submitted a revised application which modified the previous 24-lot subdivision to a 16-lot subdivision, to include the two lot Planned Unit Development (PUD) (File No. 12-10500001, 12-20100027 & 12-30100006). The current tentative plan further eliminates Lot 13, reducing the proposal to a 15-lot subdivision. The overall number of units proposed is thirty-four (34). Lots 1 and 16 do not meet the allowable density for the R-1-12 zone.

The application proposes only that Lots 1 and 16 are part of the PUD, comprising of 4.19 acres (Sheet 1 of 4). The narrative says 20 units are proposed as part of the PUD, though the site plan reflects 21 units. The R-1-12 zoning allows 3.96 dwellings per acre (which would be 16 units). The proposal exceeds the allowable density without requesting or showing how possible density bonuses would be achieved under Section 18.091(2). In addition, the plan only shows 0.52 acres of proposed open space for the

PUD. Section 18.091(2) allows a density bonus of one dwelling unit per acre for each acre of open space that is provided in excess of the minimum required. The minimum open space requirement for multi-dwelling development in the R-1-12 zone is 40%. Sheet 1 of 4 reflects approximately 0.124% of open space area for the PUD.

Approximately 200 feet of the Pleasant View Drive from the subject development is not paved. Article 27.110 (3) (c) of the Development Code states that when a street is not paved, the connecting street segment between the development and an intersecting arterial or collector street shall be constructed in accordance with standards in Article 27. The applicant must install the full street improvements along the undeveloped portion of Pleasant View Drive. The applicant may petition to create a Reimbursement District for installation of the above improvements. Ordinance 4851 requires that the development provide pedestrian connection to a "destination street". Completion of the Pleasant View connection to Valley View will meet this requirement. The applicant must install full street improvements along the frontage of the subject properties on Valley View Drive & Pleasant View Drive. The proposal includes one (1) private street, and a pedestrian path connecting Pleasant View and Valley View along the east side of the tract.

The existing utilities on Valley View Drive include an eight-inch water and sewer main and a twelve inch storm drain main. The existing utilities on Pleasant View Drive include an eight-inch sewer main. The applicant is required to extend water and sewer for the full frontage of Pleasant View Drive and public sewer main along the frontage of the proposed private street. In addition, the applicant will be required to install a 12-inch water main within the public water line easement reflected on Lot 1.

The subject properties are located within Class B (> 25%) category of Slope Hazard District. A Steep Slope Report illustrating the soil analysis, geology analysis, hydrology analysis for earth moving activities associated with road construction and the creation of building pads is required prior to the issuance of the development permit. An earlier report has now expired and must be replaced by a new report. Existing vegetation must be maintained as much as possible.

While a slope variance was necessary in earlier applications, the City modified its Code to permit retaining walls up to 15 feet and slopes up to 100 percent. If cut slopes exceed 100 percent, a variance will be required.

VI. CONFORMANCE WITH APPLICABLE CRITERIA:

A. Construction in the Steep Slope Hazard Area 13.140

CRITERION (1) Tree Removal. The removal of trees in areas proposed to be impacted by new roadways or other infrastructure shall occur first. Trees located within proposed lots shall be protected during construction and remain until the construction of the home to the extent possible.

Staff Response: Satisfied with conditions. The applicant will need to demonstrate compliance with Article 11 regarding tree removal, retention, and re-vegetation. A Tree Professional will need to prepare a plan for the entire parcel before final plat approval.

CRITERION (2) Front Yard Setback. The front yard setback for new homes can be reduced to ten (10) feet. Typically, the entrance for the garage/carport shall remain at the required twenty (20) foot setback. However, the minimum setback for a side-loaded garage may be reduced to ten (10) feet.

Staff Response: Satisfied with conditions. As conditioned below, development of each lot will require compliance with modified setbacks Schedule 12-5 and Section 13.140(2).

CRITERION (3) Timeframe for Construction. All construction work disturbing the soil or affecting the natural drainage and runoff shall be scheduled to begin not earlier than April 15 and shall terminate not later than October 15. The Director may extend starting and completion dates by no more than thirty (30) days based on the weather conditions prevailing at the time of the extension.

Staff Response: Satisfied with conditions. Compliance with this criterion will be a condition of approval pursuant to Section 13.140(3).

CRITERION (4) Retaining Walls. No cuts or fills may include retaining walls greater than 15 feet in height in a single wall from the finish grade or create any unretained slopes which are greater than 100%. No filling may result in a retaining wall within the required setback from a property not included in the development plan greater than 6 feet in height from the finish grade or create any slopes which are greater than 100%. Retaining walls shall also comply with the applicable standards of Article 23 of this Code.

Staff Response: Satisfied with conditions. The City modified this standard after the first review of the project. Instead of a 50% slope limitation, development may now occur on 100% slopes. As conditioned below, the applicant will be required to submit a detailed plan for all proposed retaining walls adjacent with a required setback, specifically the retaining wall noted adjacent to TL 720. The applicant will be required to provide alternative access on Lot 12 for TL 720 if needed.

CRITERION (5) Erosion Control Measures.

(a) All construction work shall be planned to minimize the amount of time the soil is exposed and unprotected. All access points shall be protected with gravel or crushed rock.

(b) Erosion control measures, determined by the approved Grading and Erosion Control Plan, shall remain in place throughout the entire length of the construction.

(c) Since construction must be stopped during the winter months, revegetation and temporary erosion control measures shall be put in place to protect the site, surrounding properties, streams and storm drain system from erosion through the winter months. Re-vegetation and all other temporary erosion control measures shall be fully in place and established by October 15 and shall be maintained after storms and at other regular intervals according to the approved plan. The City Engineer may mandate, based on

adverse weather conditions, any reseeding installed after September 15 be installed in the form of a mat.

Staff Response: Satisfied with conditions. The steepness of the slopes throughout the development underscores the importance of complying with this criterion. Coordination with the City Engineer is critical to prevent adverse effects on adjoining properties.

B. Subdivision Criteria Section 17.413:

Section 17.413 of the City of Grants Pass Development Code states that the review body shall approve, approve with conditions or deny the request based upon the following criteria:

CRITERION (1): The plan conforms to the lot dimension standards of Article 12, the base lot standards of Section 17.510, and the requirements of any applicable overlay district.

Staff Response: Satisfied with conditions. The property is located in the R-1-12 zone district. Each of the proposed lots is a minimum of 12,000 square feet as required by the Development Code. All of the lots have a lot width of eighty (80) feet or greater.

The property is located within the Steep Slope Hazard and is subject to the requirements of Section 13.100. According to the *Soil Survey of Josephine County,* the property consists primarily of 70F ~ Siskiyou gravelly sandy loam with north slopes ranging between 35 to 70 percent. Due to the steepness of the slopes and the necessary grading for the future street system, the applicant will be required to submit driveway plans and profiles for each lot along with the revised tentative plan. As conditioned below, all requirements of the steep slope hazard area including a steep slope report for each lot shall be required.

CRITERION (2): When required, the proposed future development plan allows the properties to be further developed, partitioned, or subdivided as efficiently as possible under existing circumstances, in accordance with requirements for typical permitted uses in the applicable zone and comprehensive plan district, and in conjunction with other development in the neighborhood.

Staff Response: Satisfied with conditions. Lots 1 & 16 of the subdivision have potential to be further developed. The applicant proposes to develop these two lots with multi-family units as a Planned Unit Development (PUD) discussed below in Section C. If the PUD is not approved, the applicant shall submit a future development plan or apply deed restrictions on future division of these three lots.

CRITERION (3): When one is required or proposed, the street layout conforms to the applicable requirements of the adopted street plans, meets the requirements of Article 27 and other applicable laws, and best balances needs for economy, safety, efficiency and environmental compatibility.

Staff Response: Satisfied with Conditions. The proposed development connecting Valley View Drive & Pleasant View Drive will improve the neighborhood street connectivity in a steep slope area. The subject properties are surrounded by existing development on the east, west & south and accessed from Valley View Drive on the north and Pleasant View Drive on the east. Pleasant View Drive & Valley View Drive are classified as local streets. The existing right of way along Valley View Drive is 50 feet and along Pleasant View Drive is 40 feet. Pleasant View Drive will be developed to Hillside Standards for a local access street (i.e., 40-ft. wide right-of-way; two-way system with one parking lane; and a 5-ft. sidewalk along one side. Planter strips may be eliminated). Prior reviews included Tax Lot 718 in order for the applicants to obtain adequate right-of-way for the connection to NW Valley View Drive. The existing flagpole access to Tax Lot 400 is only 25 feet wide and cannot accommodate a street unless the developer acquires additional right-of-way. This will be made a condition of approval.

The length of the private street (Randy Lane) is approximately 160 ft. When the length of a dead-end street is more than 150 feet a cul-de-sac or a hammer head turn around is required by the Development Code. The applicant proposes a hammer head turn around at the end of Randy Lane and the private drive on Lot 1, with a cul-de-sac at the end of Vista Way. Randy Lane will be 20 ft. wide, with no curbs, and will serve Lots 9, 10, 11 & 12.

A traffic impact study was required with the initial application as the development will trigger twenty-five (25) or more peak hour trips on an arterial or collector segment or intersection. The previous City Engineer reviewed the traffic impact analysis submitted by the applicant and determined that the impact created by the proposed development would not degrade the level of service on the adjoining streets (***Exhibit 5***). An updated TIA was not required as traffic conditions are relatively the same as during the previous application (***Exhibit 6***).

The completion of Pleasant View Drive to Valley View Drive (which connects to Highland Avenue) will meet the "destination street" requirements of Ordinance 4851.

CRITERION (4): The proposed utility plan conforms to the applicable requirements of adopted utility plans, the requirements of Article 28 and other applicable laws, and best balances needs for economy, safety, efficiency and environmental compatibility.

Staff Response: Satisfied with Conditions. The subject proposal shall provide the following:

- An 8-inch public sewer main extension from its current location on Pleasant View Drive within the public & private streets is required. The public sewer main within a private street shall be located within a 20 foot unobstructed & drivable utility easement.
- A 12-inch public water main extension is required in the public streets. Water meters for individual lots off a private street shall be located in the right-of-way of Pleasant View Drive.
- A 12-inch public water main extension across the east property line of Lot 1 located within a twenty (20) ft. unobstructed drivable public utility easement.
- A 12-inch public storm drain line in Pleasant View Drive.

- Onsite storm drain shall be provided to an approved location. Private drainage easements may be required based on the approved drainage plan.

A significant drop in elevation exists from the new Pleasant View Drive to the east property lines of proposed Lots 13 - 16. Provision of gravity sewer may not be possible for these lots unless significant amounts of fill are used to elevate the site. Private sewage grinder pumps may be required to provide sewer to the above lots. Separate sewer and water services will be required for separate lots. Private water laterals are not allowed within a City Utility Easement (CUE) as currently reflected on Randy Lane. Water meters for lots located internal to the private street must be located within the public right of way of Pleasant View Drive. A condition of approval will include a detailed utility plan to be submitted and approved by the Public Works Department. The utility plan shall include new sewer and water laterals for TL 718 off of Pleasant View Drive.

CRITERION (5): The tentative plan allows for the preservation or establishment of natural features or the preservation of historic features of the property, and allows access to solar energy to the extent possible under existing circumstances including:

(a) Providing the necessary information to complete the tree chart identified in Section 11.041.

(b) No cuts shall result in retaining walls greater than 15 feet high in a single wall from the finish grade or create any un-retained slopes greater than 100%.

(c) No fills shall result in a retaining wall within the required setback from a property not included in the development plan greater than 6 feet in height from the finish grade or create any slopes which are greater than 100%.

Staff Response: Satisfied with Conditions.

Article 11 establishes Tree Retention and Tree Re-establishment requirements. The applicant will be required to provide a tree plan and canopy chart that identifies the location of tree canopy cover and trees, or groups of trees, that will be retained following development. Prior to final plat approval, the applicant will need to submit an Existing Tree Canopy Cover and Tree Protection Plan and Tree Re-vegetation plan prepared by a Tree Professional. Four to five trees will be needed for each lot to maintain a tree canopy of 25 to 35 percent. Unless waived by the Community Development Director in compliance with Section 11.070(B), the applicant will be required to pay a tree deposit of $500 per lot. The money will be available to the original developer or any subsequent property owner for future installation of trees in accordance with the Tree Re-vegetation plan.

Solar Design Standard: The Development Code requires that at least eighty (80) percent of the lots in a residential subdivision:

a) have a north-south dimension of at least 80 feet; or
b) have a solar building line located on the lots to the north of the subject lot.

All lots proposed in the subdivision have a north-south lot dimension of at least eighty (80) feet. This exceeds the eighty (80) percent required in the subdivision.

CRITERION (6): The plan complies with applicable portions of the Comprehensive Plan, this Code, and state and federal laws.

Staff Response: Satisfied with Conditions.

By meeting the conditions of approval, the proposal complies with the Comprehensive Plan, this Code, and state and federal laws. Each lot will be provided with access from either a city street or a private street. The excluded Lot 13 (Tax Lot 718) must be shown to retain access to compensate for elimination of the flagpole portion the lot to provide adequate right-of-way for NW Pleasant View Drive. The tentative plan indicates that a majority of the frontage of the lot will be a retaining wall, leaving about a 20-foot unobstructed access at the northern end of the lot. While the applicant has not included the lot in the current proposal, its viability needs to be retained. A condition of approval will require the dedication of the flagpole for future right-of-way in accordance with Section 27.105(1)(b).

C. Planned Unit Development Criteria Section 18.043:

The review body shall approve, approve with conditions or deny the request, based upon the following criteria:

CRITERION (1): Development of any remaining contiguous property under the same ownership can be accomplished as provided in this Code.

Staff Response: Satisfied. The applicants do not own contiguous property.

CRITERION (2): Adjoining land under separate ownership can either be developed or be provided access that will allow its development in accordance with the Comprehensive Plan and this Code.

Staff Response: Satisfied. Parcels to the east (TLs 1200 and 3000) will be provided access from the extension of Pleasant View Drive (to include sewer and storm drain extensions). In addition, water will be extended from Valley View Drive along Pleasant View Drive to the south property line of TL 719.

CRITERION (3): The proposed street plan affords the most economic, safe, efficient and least environmentally damaging circulation of traffic possible under existing circumstances.

Staff Response: Satisfied. See the Subdivision discussion, Section B, Criterion 3 above.

CRITERION (4): The Preliminary Plan complies with applicable portions of the Comprehensive Plan, this Code, and State and Federal laws.

Staff Response: Not Satisfied. The application proposes only Lots 1 and 16 as part of the PUD, comprising of 4.19 acres (Sheet 1 of 4). The narrative says 20 units are proposed as part of the PUD, though the site plan reflects 21 units. The R-1-12 zoning allows 3.96 dwellings per acre (which would be 16 units). The proposal exceeds the allowable density without requesting or showing how possible density bonuses would be

achieved under Section 18.091(2). In addition, the plan only shows 0.52 acres of proposed open space for the PUD. Section 18.091(2) allows a density bonus of one dwelling unit per acre for each acre of open space that is provided in excess of the minimum required. The minimum open space requirement for multi-dwelling development in the R-1-12 zone is 40%. Sheet 1 of 4 reflects approximately 0.124% of open space area for the PUD.

CRITERION (5): The project results in an equal or superior product than would have resulted from following the Base Development Standards of the applicable Zoning District, as provided in Article 12 of this Code, or the Base Lot Standards of Land Divisions, as provided in Article 17 of this Code.

Staff Response: Not Satisfied. As noted in Criterion 4, Lots 1 and 16 are not in compliance with the maximum density allowance of 3.6 dwelling units per acre for the R-1-12 zoning district. The maximum number of units is sixteen (16) are the two lots.

CRITERION (6): The proposal results in a balanced exchange: for the developer, flexible development standards, maximum land utilization and alternate ownership options; for the Community, greater preservation of natural features and natural resources, greater proportions of useable open space and recreation facilities; for both, a greater opportunity for housing at all income levels.

Staff Response: Not Satisfied. Though the developer proposes alternate ownership options between the single-family residences and the condo style PUD lots, the proposal does not meet the other requirements of Criterion 6. The plan reflects extensive retaining walls to be used throughout the PUD lots without preserving natural features or providing greater portions of useable open space. The plan reflects approximately 12.4% open space. Schedule 22-1a requires a minimum of 40%.

CRITERION (7): Potential impacts to adjoining properties have been adequately mitigated through site design and attached development conditions. These conditions include the following protections:

(a) Providing the necessary information to complete the tree chart identified in Section 11.401.

(b) No cuts shall result in retaining walls greater than 15 feet high in a single wall from the finish grade or create any un-retained slopes that are greater than 100%.

(c) No fills may result in a retaining wall within the required setback from a property not included in the development plan greater than 6 feet in height from the finish grade nor create any retained slopes greater than 100%.

Staff Response: Not Satisfied. The PUD preliminary plan does not provide mitigation for potential impacts onto adjoining properties. The plan does not include detailed plans for the proposed retaining walls for the PUD lots and does not provide any information for the proposed retaining wall adjacent to the north end of Pleasant View Drive.

CRITERION (8): All utilities, access ways, open space and recreation areas not dedicated to the public are owned and maintained by a Homeowners' Association or other acceptable private legal entity with the responsibility for and capability of adequate maintenance and care of such facilities, to the satisfaction of the City Attorney and City Engineer.

Staff Response: Satisfied. The applicant has submitted draft Homeowners' Association documents or Conditions, Covenants and Restrictions (CC&Rs) for review. As conditioned below, a final/signed copy of the CC&Rs will be submitted along with the Final Plat.

CRITERION (9): The applicant has demonstrated the ability to finance the project through final completion.

Staff Response: Not Satisfied. The applicant has not provided financial documentation indicating financial ability to complete the project.

D. Major Site Plan Review Criteria Section 19.052:

The Review Body shall approve, conditionally approve, or deny the request based upon the following criteria:

CRITERION (1): Complies with applicable development standards: Base Standards of Zoning District, Special Development Standards, Residential Development Standards, or standards as previously approved under the provisions of an optional development plan or other approved permit.

Staff Response: Not Satisfied. Because the request dos not meet the criteria of Section 18.043, the Major Site Plan does not comply with applicable base development standards noted in this criterion.

CRITERION (2): Complies with applicable elements of the Comprehensive Plan, including: Traffic Plan, Water Plan, Sewer Plan, Storm Drainage Plan, Bicycle Plan, and Park Plan.

Staff Response: Not Satisfied. Because the request dos not meet the criteria of Section 18.043, the Major Site Plan does not comply with applicable base development standards noted in this criterion.

CRITERION (3): Complies with all other applicable provisions of this Code, including off-street parking, landscaping, buffering and screening, signage, environmental standards, and Special Purpose District standards.

Staff Response: Not Satisfied. Because the request dos not meet the criteria of Section 18.043, the Major Site Plan does not comply with applicable base development standards noted in this criterion.

CRITERION (4): Potential land use conflicts have been mitigated through specific conditions of development.

Staff Response: Not Satisfied. Because the request dos not meet the criteria of Section 18.043, the Major Site Plan does not comply with applicable base development standards noted in this criterion.

CRITERION (5): Adequate basic urban services are available, or can be made available by the applicant as part of a proposed development, or are scheduled by the City Capital Improvement Plan.

Staff Response: Not Satisfied. Because the request dos not meet the criteria of Section 18.043, the Major Site Plan does not comply with applicable base development standards noted in this criterion.

CRITERION (6): Provision of public facilities and services to the site will not cause service delivery shortages to existing development.

Staff Response: Not Satisfied. Because the request dos not meet the criteria of Section 18.043, the Major Site Plan does not comply with applicable base development standards noted in this criterion.

CRITERION (7): To the extent possible, identified significant resources, such as intermittent and perennial creeks, stands of pine, fir and oak trees, wildlife habitats, historic sites, and prominent land features have been preserved and designed into the project. Alternatives shall be considered and the proposal shall represent the most effective design to preserve these resources.

Staff Response: Not Satisfied. Because the request dos not meet the criteria of Section 18.043, the Major Site Plan does not comply with applicable base development standards noted in this criterion.

CRITERION (8): The characteristics of existing adjacent development have been determined and considered in the development of the site plan. At a minimum, special design consideration shall be given to:

(a) Areas of land use conflicts, such as more restrictive use adjacent or across street from proposal. Mitigate by orienting business operations away from use, additional setbacks, screening/buffering, landscaping, direct traffic away from use.

(b) Setbacks. Where existing buildings are setback deeper than required by Code, new setbacks to be compatible.

(c) Building Size and Design. Existing surrounding architecture and building size to be considered to ensure compatible scale and balance to the area.

(d) Signs. New signs shall not block primary view to existing signs, and shall be sized consistent with Code or existing signs, whichever is less.

(e) Lighting. Exterior lighting shall not impact adjacent development or traveling motorist.

Staff Response: Not Satisfied. Because the request dos not meet the criteria of Section 18.043, the Major Site Plan does not comply with applicable base development standards noted in this criterion.

CRITERION (9): Traffic conflicts and hazards are minimized on-site and off-site, as provided in Article 27.

Staff Response: Not Satisfied. Because the request dos not meet the criteria of Section 18.043, the Major Site Plan does not comply with applicable base development standards noted in this criterion.

CRITERION (10): If phased development, each phase contains adequate provisions of services, facilities, access, off-street parking, and landscaping.

Staff Response: Not Applicable. The applicant is not requesting phased development.

CRITERION (11): There are adequate provisions for maintenance of open space and other common areas.

Staff Response: Not Satisfied. Because the request dos not meet the criteria of Section 18.043, the Major Site Plan does not comply with applicable base development standards noted in this criterion.

CRITERION (12): Internal circulation is accommodated for commercial, institutional and office park uses with walkways and bikeways as provided in Article 27.

Staff Response: Not Applicable. The project is for residential developed.

CRITERION (13): If the property contains existing nonconforming use or development to remain, the application and the Review Body's decision shall also be consistent with the provisions of Article 15, including any additional standards, relief from the Code, or conditions imposed.

Staff Response: Not Satisfied. Because the request dos not meet the criteria of Section 18.043, the Major Site Plan does not comply with applicable base development standards noted in this criterion.

VII. RECOMMENDATION:

Staff recommends the Planning Commission **DENY** the request for the two (2) lot Planned Unit Development with 21 dwelling units.

Staff Recommends the Planning Commission **DENY** the request for a Major Site Plan Review for the 16 dwelling units.

Staff recommends the Planning Commission **APPROVE** the tentative plan for the 16-lot Subdivision with the conditions listed below:

CONDITIONS OF APPROVAL:

A. The following must be accomplished within 18 months of the Planning Commission's Decision and prior to issuance of a Development Permit. (Note: A Development Permit is required in order to obtain a grading permit.):

1. Provide a letter from the Responsible Engineer who will be supervising the construction of the subdivision. The Responsible Engineer will be required to submit a letter at final plat application verifying that he/ she supervised the grading and construction for the entire parcel and individual lots and that the grading and construction was completed according to approved plans.

   If the responsible engineer proposes to delegate any of these responsibilities, the arrangement shall be approved in writing by the City Engineering Division prior to issuance of a Development Permit.

2. Provide a recorded deed of dedication for the flag portion of TL 719 in accordance with Section 27.105(1)(b).

3. Obtain an NPDES permit from the Department of Environmental Quality. Submit a copy of the approved permit to the Community Development and Engineering Departments.

4. Present a revised tentative plan demonstrating compliance with the conditions stated in the report. Include the following:

   a. Renumber proposed Lots 1-15, excluding reference to TL 718 as Lot 13.

   b. Show the installation of a 12-inch water main within the public water line easement crossing Lot 1.

   c. Label any wells on site to be properly abandoned.

d. Show the location of public sewer easement along the two private streets and private driveway serving Lot 1.

e. Reflect the private water laterals serving Lots 8-12 located outside of the City Utility Easement (CUE) on Randy Lane.

f. Provide evidence that Tax Lot 718 will be provided access from NW Pleasant View Drive to compensate for loss of its flagpole access to NW Valley View Drive.

g. Clarify GPID easements and all other easements on the properties.

h. Provide driveway grades for each lot. Grades cannot exceed 18% (Section 27.121.11.d).

i. Show all segments of public sewer lines located outside of the public right-of-way located within 20-ft. unobstructed and drivable public sewer line easement.

j. Show all segments of public water lines outside of the public right-of-way located within 20-ft. unobstructed and drivable public water line easement.

5. Submit a tree canopy chart in accordance with Section 11.041.

6. Submit an Existing Tree Canopy Cover and Tree Protection Plan prepared by a Tree Professional for review and approval.

7. Submit a future development plan for Lot 1 and Lot 16.

8. Submit the following to the City Engineering Division for review and approval:

   a. Provide an engineered drainage plan for the subdivision and tentative drainage plan for each lot. The plan shall address the drainage along the Pleasant View Drive from the end of new improvements to the existing improvements. The plan shall include line size and percentage of fall. The drainage plan shall include the prevention of storm water from crossing property lines unless within dedicated easements. Indicate if the public drainage system has adequate capacity. Submit a copy of the drainage plan to the City Engineering Division for review.

   b. Provide steep slope and grading reports prepared by a geo-technical engineered for the entire site including the construction of the road, utilities, driveways and grading of individual lots.

c. Provide a grading plan and receive a grading permit prior to movement of any earthwork. Include the creation of building pads in the grading plan if completed as part of the construction of the subdivision. If building pads are created as part of the grading of the subdivision then a map showing the extent of the grading will be required at the time of final plat.

d. Provide an erosion control and dust control plan for the subdivision.

e. Include any provisions of the NPDES permit on the construction plans.

f. Present engineered construction drawings stamped by a registered Engineer, including plans and profiles if necessary, that detail the following improvements to the City Engineering Division for review and approval.

Street Improvements:

(a) Show the installation of a 5 foot sidewalk on Pleasant View Drive & Valley View Drive frontage.

(b) Show full street improvements on Pleasant View Drive from the end of the existing pavement to the beginning of the proposed improvements. Street grades must comply with City standards.

(c) Show detailed construction plans for the retaining wall on Pleasant View adjacent to TL 720. Provide alternative access for TL 720 if retaining wall interferes with existing driveway.

(d) Provide a curved radius around the property lines that match up with the street radius.

(e) Include street lights where necessary according Development Code spacing standards (Section 27.121.16).

(f) Obtain encroachment permits prior to any work in the right-of-way from the City and County where applicable.

(g) Provide a cross-section for a 20-ft. wide private street with no curb for Randy Lane.

Utility Plan **Provide detailed engineered drawings containing plan and profiles for the Utility Division Review (Specific conditions or changes to the utility shall be approved by the Engineering and Utility Departments).**

(h) Show the location of the required five fire hydrants.

(i) Show the extension of a 12-inch public water main from its current location on Valley View Drive to the east property line of Lot 1.

(j) Show the extension of a 12-inch public water line south from Pleasant View Drive across Lot 1 within a 20 foot unobstructed and drivable public water easement.

(k) Show the location of individual water meters for all lots in the public right-of-way.

(l) Revise the proposed detention pipe which is in conflict with the 12-inch water main crossing.

(m) Show the extension of the public sewer line from its current location on NW Pleasant View Drive (at sewer cleanout F129) west and north within Pleasant View Drive as far as feasible to provide service to lots fronting the new street.

(n) Show the extension of public sewer line from its current location on NW Valley View Drive south within Pleasant View Drive if necessary to service the remaining lots not served by the extension detailed above.

(o) Show all public sewer line extensions at grades and depths acceptable to the Utility Division.

(p) Show any unutilized sewer laterals located upon Valley View Drive and fronting TLs 400 and 719 to be properly abandoned as directed by the City of Grants Pass Wastewater Collection Division.

(q) Show the location of a private water laterals adjacent to Randy Lane. Laterals cannot be placed within the CUE.

(r) Show private water and sewer laterals for each lot. Private water and sewer laterals cannot cross property lines.

(s) Show any private wells and/or private septic systems to be properly abandoned.

(t) Show the storm drain to an approved location.

(u) Show electrical/power plans.

(v) Show new service laterals for TL 719 on Pleasant View Drive.

9. Sign a Developer Installed Agreement for Public Improvements.

10. Provide a letter from Grants Pass Irrigation District (GPID) satisfying their requirements.

11. Provide a revegetation/landscaping plan in accordance with the Galli report dated January 4, 2008, and consistent with Article 11 of the Development Code.

B. The following must occur within 18 months of issuance of the Development Permit and prior to Final Plat approval:

1. Substantially complete all construction items related to Pleasant View Drive, Valley View Drive and Private Street. Secure for any remaining construction items in accordance with City standards. Submit a one year maintenance guarantee. Submit as-built drawings of all public improvements or secure for them in accordance with City policy.

2. Construction shall comply with the Steep Slope Hazard area standards of Section 13.140.

3. Submit a tree deposit in the amount of $500 per lot (Section 11.060.2.A).

4. Install the revegetation/landscaping measures provided in the approved revegetation/landscaping plan.

5. Separate sewer and water services are required for each lot, to include TL 719. Private sewer and water lines shall not cross other tax lots.

6. If individual lots were graded as part of the grading permit for the subdivision, please provide a map of those lots with new building pads and include the dimensions of the area graded.

7. Install full street improvements from the end of the proposed improvement to the existing improvements on Pleasant View Drive, and an off site pedestrian path to Highland Avenue as proposed shall be completed.

8. Install the private street Randy Lane with a 20-ft wide pavement area. Install "No Parking" signs on each side of the drive and at the turnaround.

9. Either install sidewalks along the entire frontage of Pleasant View Drive & Valley View Drive or provide security equal to 115% of the cost of their installation. Sidewalks must be installed in front of a lot when it is built on, in front of lots or parcels not having sidewalks after 80 percent of the lots or parcels have been developed or on all lots within three years, whichever comes first.

10. All adjacent streets shall be swept regularly during construction.

11. Street names and signs shall be paid for by the developer and installed by the City. All other signs and markings including painting curbs at 20 foot setback at intersections for no parking, ten feet of yellow each side of hydrants, and a white stop bar at the stop signs are to be completed by the developer.

12. Power, telephone, cable television and natural gas lines shall be installed underground and within the 10 foot City Utility Easements.

13. Pay all engineering inspection fees due.

14. Submit a letter from the Responsible Engineer stating that he/she supervised the grading and construction for the entire parcel and individual lots and the grading and construction was completed according to approved plans.

15. Properly abandon any existing wells and provide evidence of proper abandonment to the Parks & Community Development Department.

16. All water services on existing public water lines shall be installed by City of Grants Pass Water Distribution Crews. All encroachment fees related to the installation of water services within Valley View Drive & Pleasant View Drive shall be the responsibility of the developer.

17. Complete installation of the public utility services as reflected on the approved utility plans.

18. All unutilized sewer laterals, located upon Valley View Drive and fronting tax lots 718, 719 & 400 shall be properly abandoned as directed by the City of Grants Pass Wastewater Collection Division.

19. Provide a copy of any proposed CC&R's & deed restrictions. The deed restrictions shall include:

    a. Shared access and maintenance agreement for the private streets and private water lines.

    b. The requirement for steep slope and erosion control plans for each lot.

    c. The development is located in a Wild Fire Hazard Zone and shall follow special building construction regulations as provided in the International Wildland-Urban Interface Code (IWUIC) Chapter 5.

20. Provide a land division guarantee issued by a title company.

21. Submit a tree inventory showing the remaining trees on the individual lots.

22. Submit a final plat in accordance with Section 17.422 of the City of Grants Pass Development Code. Incorporate any modifications or conditions required as part of tentative approval. A professional land surveyor must survey the subdivision. A plat check by the City Surveyor and payment of appropriate fees is required. Failure to comply with this condition will nullify the approval of the Tentative Plat. Include the following on the plat:

    a. A ten-foot wide City Utility Easement dedicated to the City of Grants Pass along all necessary street frontages.

    b. A steep slope easement where necessary.

    c. Include any necessary drainage and cross access easements.

    d. Signature block for GPID.

    e. Twenty (20) foot unobstructed and drivable public sewer line easements are required for the private street.

    f. A 20 foot unobstructed and drivable public water main easement across & along the east property line of Lot 1.

    g. Private drainage easements as shown on the plan.

    After all signatures are obtained, the plat must be recorded with the Josephine County Recorder within 30 days. The subdivider shall file one print of the recorded plat with the Community Development Department. Failure to do so will nullify plat approval.

C. The following shall be accomplished at the time of development of individual lots in the subdivision:

Note: The following conditions are not all-inclusive and are provided for the information of the applicant.

1. Payment of all System Development Charges due; including, but not limited to, water, storm, sewer, parks and transportation. ***See Exhibit 9.***

2. Fire flows shall be tested prior to construction of individual homes to determine any square footage restrictions on the homes to be built.

3. Development of each single-family residential lot shall be in accordance with the following:

    a. Section 12.152 ~ 15'ft. rule;
    b. Section 22.600 ~ solar standards;
    c. Schedule 12-4 ~ lot requirements; and
    d. Section 13.140(2) ~ steep slope.

4. The development is located in a Wild Fire Hazard Zone and shall follow special building construction regulations as provided in the International Wildland-Urban Interface Code (IWUIC) Chapter 5. Contact your design professional for assistance.

5. Each parcel shall have separate utility services.

6. All utilities shall be placed underground.

7. Comply with the Uniform Fire and Building Codes.

8. Submit steep slope reports for all individual lots in the subdivision with the building permit. Engineered grading and erosion control plans shall be submitted if the lot was not included in the steep slope report for the subdivision.

9. Developed or undeveloped building lots will need to be maintained for weed and grass control throughout the year.

10. Provide a detail of construction of the proposed driveways demonstrating that the slope of the driveway will not exceed 18% and that the transition from the street to the driveway will allow for access by City of Grants Pass Fire Vehicles. Lots with steep slopes need to have driveways approved by the Department of Public Safety prior to release of building permits. Structures located more than 150 feet from the main street will need to have driveway approaches approved by Public Safety for emergency access. Turn arounds are required for driveways longer than 150 feet.

11. Provide addresses visible from the public right-of-way.

12. Submit lot drainage plans for approval on all building plans.

13. DC backflow devices shall be required as point of use protection on all water services with multiple zone irrigation systems.

14. Gravel driveway approaches and other erosion and track out control measures shall be in place during construction of individual lots.

15. Prior to occupancy, driveways and parking and maneuvering areas shall be paved in accordance with the requirements of the Development Code and Public Safety requirements.

VIII. PLANNING COMMISSION ACTION:

A. Positive Action: Approve the request

1. as submitted.
2. with the conditions stated in the staff report.
3. with the conditions stated in the staff report as modified by the Planning Commission (list):

B. Negative Action: Deny the request for the following reasons (list):

C. Postponement: Continue item

1. indefinitely
2. to a time certain.

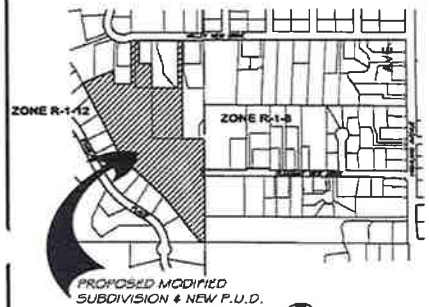
NOTE: State law requires that a decision be made on the application within 120 days of when the application was deemed complete.

IX. INDEX TO EXHIBITS:

1. Location Map
2. Aerial Photo
3. Tentative Plan
4. Applicant's response to the criteria
5. Memo from the City Engineer w/TIA
6. Email from John Replinger
7. Galli Geotechnical Comments dated 1/4/2008 w/Steep Slope Report
8. SDC Brochure

VALLEY LIGHTS SUBDIVISION / P.U.D.
P.U.D. PRELIMINARY PLAN & MAJOR SPR MAP
LOTS 1, & 16 (NOT INCLUDING LOT 13)

LOCATED IN THE S.E. 1/4 OF THE N.W. 1/4 OF SEC. 7, T. 36 S., R. 5 W., W.M. JO.CO., OR. TAX LOTS 400 & 719



VICINITY MAP
NW GRANTS PASS
NO SCALE

LOT TABLE		
LOT	SIZE	UNITS
1	72,653 (1.67 Ac.)	8
2	12,115 (0.28 Ac.)	1
3	12,029 (0.28 Ac.)	1
4	12,151 (0.28 Ac.)	1
5	13,272 (0.30 Ac.)	1
6	12,132 (0.28 Ac.)	1
7	12,018 (0.28 Ac.)	1
8	12,017 (0.28 Ac.)	1
9	12,742 (0.29 Ac.)	1
10	12,916 (0.29 Ac.)	1
11	14,407 (0.33 Ac.)	1
12	13,001 (0.30 Ac.)	1
13	NOT INCLUDED	0
14	18,700 (0.43 Ac.)	1
15	16,686 (0.38 Ac.)	1
16	122,091 (2.80 Ac.)	13
TOTAL		35

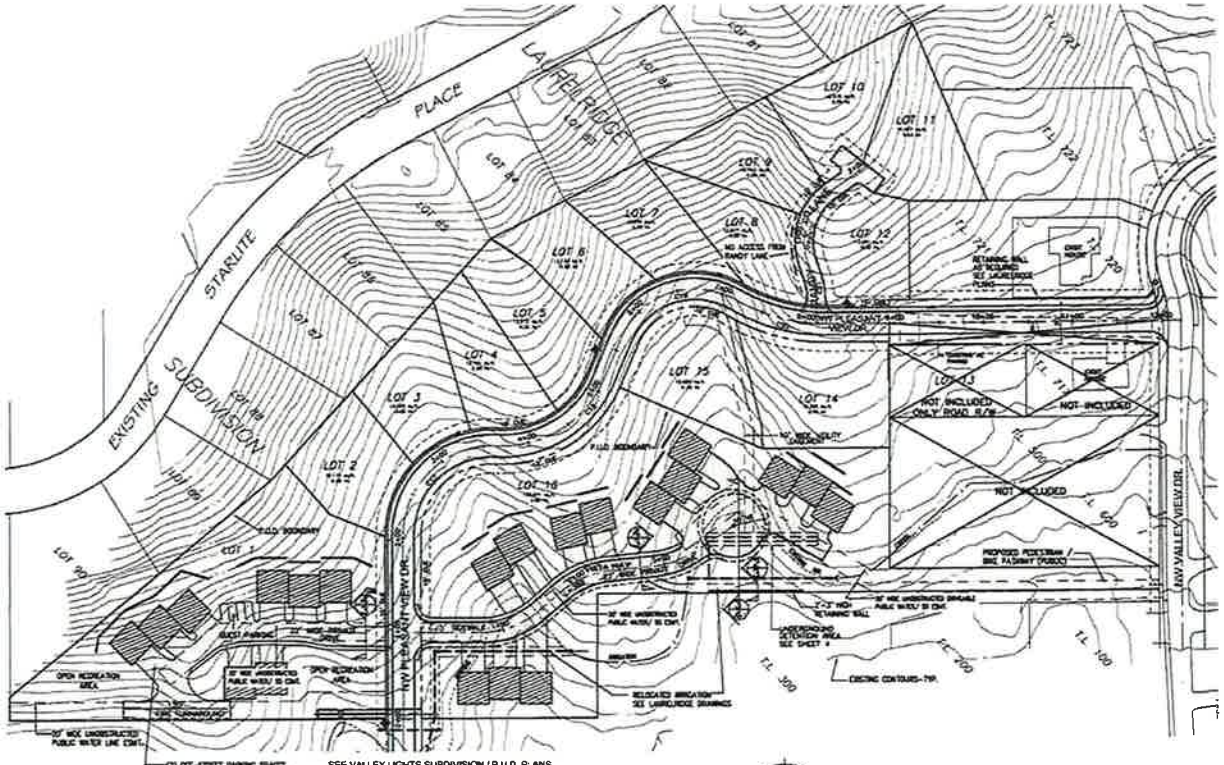
NOTE: PROPOSED P.U.D. LOTS ARE LOTS 1 AND 16, (NOT INCLUDING LOT 13) REMAINING LOTS TO REMAIN AS PART OF APPROVED VALLEY LIGHTS SUBDIVISION / P.U.D.

TOTAL SITE DATA

MAP & TAX LOT	36-05-07-24, TL's 400 & 719
TOTAL ACRES SITE (APPROVED LAURELRIDGE SUBDIVISION)	9.71 Ac.

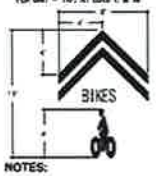
P.U.D. SITE DATA

PROPOSED PUD ACRES (LOTS 1, & 16)	4.19 Ac.
PROPOSED OPEN SPACE - PUD	0.52 Ac.
PROPOSED IMPERVIOUS SURFACE - PUD	1.23 Ac. (25.8%)
ACTUAL UNITS - PUD	20



(2) OFF-STREET PARKING SPACES PER UNIT - TYP. AT LOTS 1, & 16

SEE VALLEY LIGHTS SUBDIVISION / P.U.D. PLANS OFF SITE IMPROVEMENTS



NOTES:
1. BIKE STREET GRAPHIC SIGNS SHALL BE PAINTED ON THE SURFACE OF THE STREET IN THE CENTER OF THE 26'PE LANE TO WARN MOTORISTS THAT THIS STREET IS ALSO BEING USED BY BICYCLISTS.
2. BIKE STREET GRAPHIC SIGNS SHALL BE PAINTED IN WHITE LETTERS AS REQUIRED BY THE PROVIDED FOR CITY STANDARDS.
3. SEE PLANS (SEE PAVING LOT SURFACE TYPE) TO CITY STANDARDS FOR STREET GRADES GREATER THAN 15%
4. VEHICLE MANNED EQUIPMENT.
5. TWO FINISH COATS OR PRIMER FOR ASPHALT APPLICATIONS. CLEAN ALL SURFACES BEFORE PAINTING.
6. FINAL GRAPHIC DETAIL AND MEASUREMENTS IN ACCORDANCE WITH CITY OF GRANTS PASS STANDARDS.

① BIKE / AUTO GRAPHIC
SEE ALSO SHEET 3
NO SCALE

SITE PLAN
SCALE: 1" = 60'
60 30 0 60 120

OWNER
BILL FERGUSON
5200 PIONEER ROAD
MEDFORD, OREGON 97504
(541)944-2929

GEOTECHNICAL ENGINEER
THE GALLI GROUP
612 NW 3rd STREET
GRANTS PASS, OREGON 97526
(541)955-1611

ENGINEER
T.J. BOSSARD ENGINEERING, LLC
1750 DELTA WATERS ROAD, STE. 102 #305
MEDFORD, OREGON 97504
(541) 858-5774

SHEET INDEX

NOTE:
SEE VALLEY LIGHTS SUBDIVISION / P.U.D. CONSTRUCTION PLANS FOR DETAILS NOT SHOWN.

AREAS LABELED 'NOT INCLUDED' SHALL BE SUBJECT TO RIGHT OF WAY DEDICATION AS REQUIRED.

⊕ TBM= CITY OF GRANTS PASS GEODETIC SURVEY, GPS CONTROL POINT No. 2108, A BRASS CAP IN TOP OF CONCRETE CURB AT THE N.E. CORNER OF HIGHLAND AVE. AND MIDLAND AVE. ELEV= 1044.54

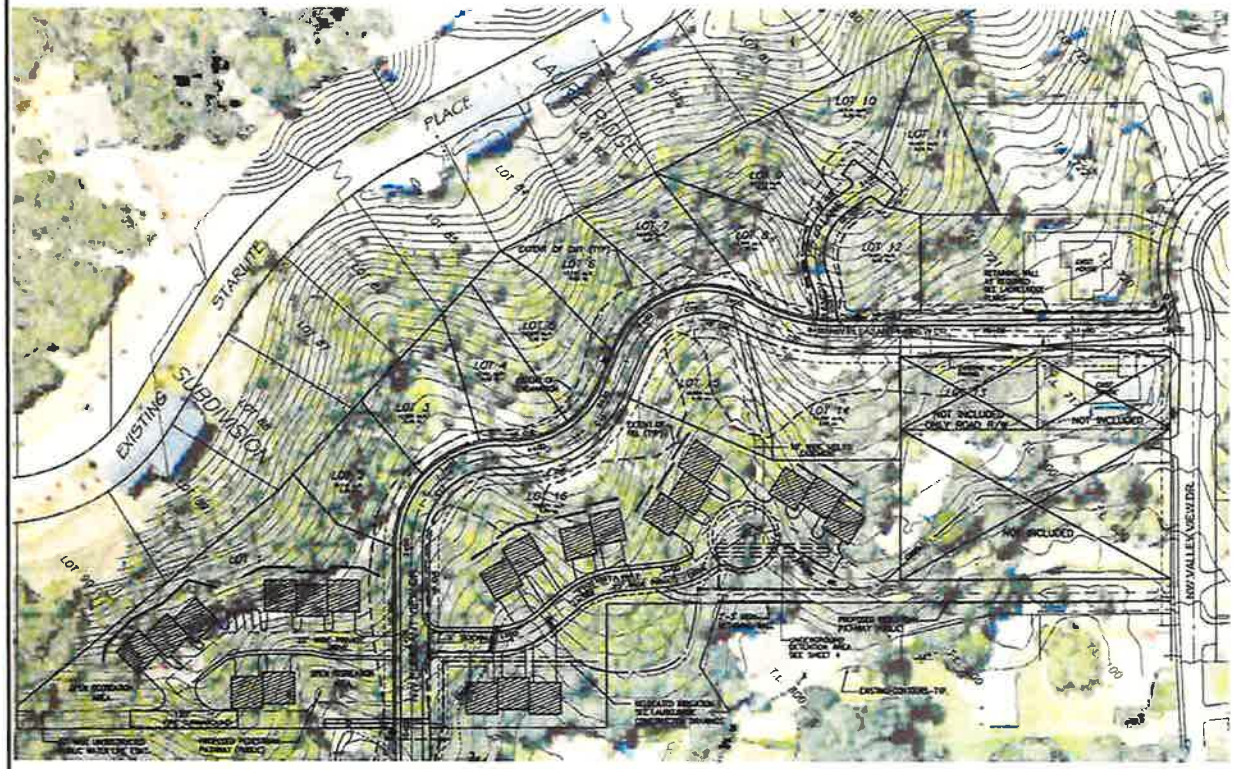
REVISIONS

T.J. BOSSARD ENGINEERING, LLC
1750 DELTA WATERS ROAD, STE. 102 #305
MEDFORD, OREGON 97504
PH. 541-858-5774

VALLEY LIGHTS SUBDIVISION / P.U.D.
LOTS 1, & 16 (NOT INCLUDED LOT 13)
BILL FERGUSON
5200 PIONEER ROAD, MEDFORD, OREGON 97504

DRAWN BY : T.MASSEY
CHECKED BY: T.BOSSARD
DATE : 12-15-16
SCALE : AS-NOTED
CADDFILE: PHE-APPS-16
JOB NO. :
SHEET 1 OF 4

EXHIBIT 3

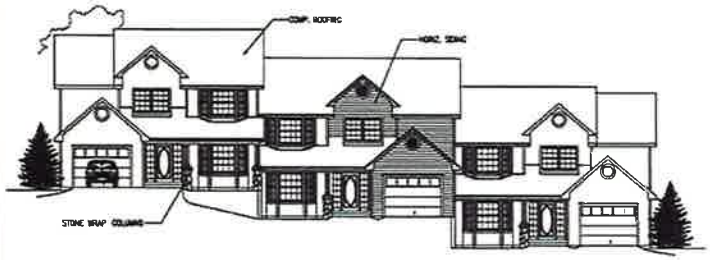


SEE VALLEY LIGHTS SUBDIVISION / P.U.D. PLANS FOR OFF SITE IMPROVEMENTS

AERIAL OVERLAY PLAN

SCALE: 1" = 60'

60 30 0 60 120



SAMPLE TRI-PLEX MULTI FAMILY

1,200 - 1,800 SQ. FT. PER UNIT NO SCALE

SAMPLE DUPLEX MULTI FAMILY

NO SCALE

NOTE:
SEE VALLEY LIGHTS SUBDIVISION / P.U.D. PLANS FOR DETAILS NOT SHOWN

CONNECTING PATHWAY - NW VALLEY VIEW

SCALE: 1" = 100'

100 50 0 100 200

REVISIONS

T.J. BOSSARD ENGINEERING, LLC
1730 DELTA WATERS ROAD, STE. 102 #305
MEDFORD, OREGON 97504
PH. 541-858-5774

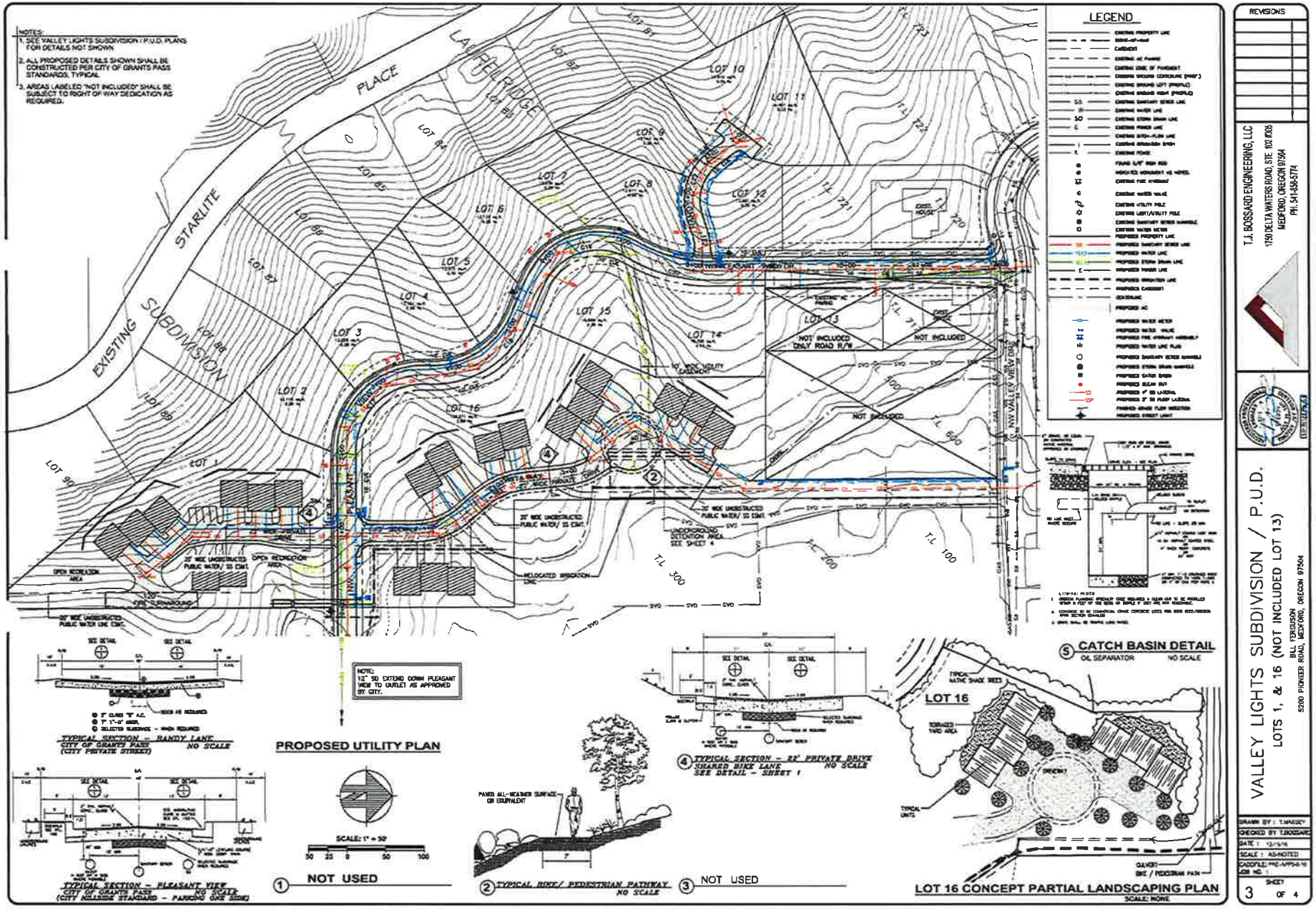
VALLEY LIGHTS SUBDIVISION / P.U.D.

LOTS 1, & 16 (NOT INCLUDED LOT 13)

WILL FERGUSON
5200 PIONEER ROAD, MEDFORD, OREGON 97504

DRAWN BY : T.NASSEY
CHECKED BY T.BOSSARD
DATE : 12-15-16
SCALE : AS-NOTED
CADDFILE: PRE-APPS-6-16
JOB NO. :

SHEET 2 OF 4

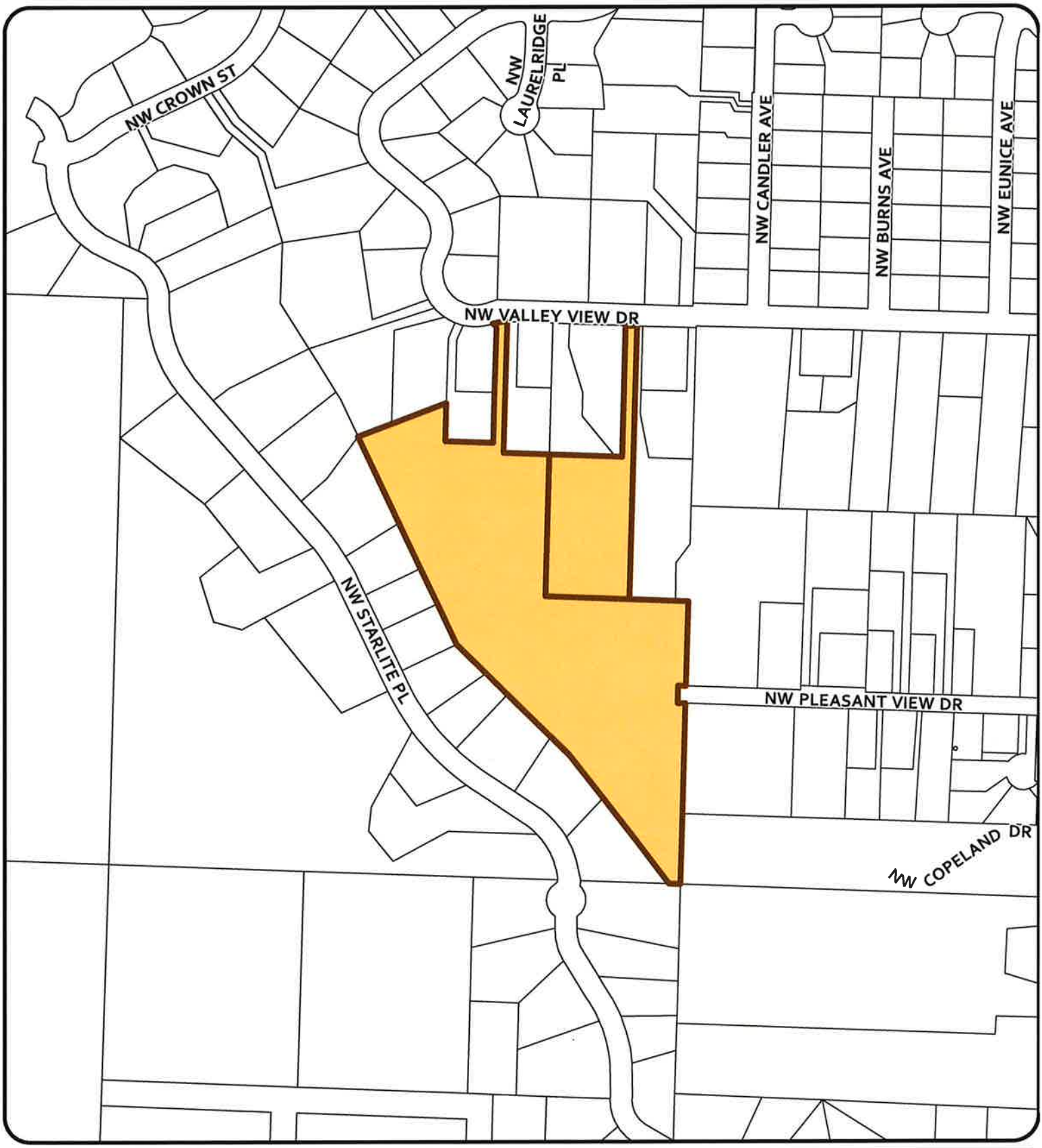

NOTES:
1. SEE VALLEY LIGHTS SUBDIVISION / P.U.D. PLANS FOR DETAILS NOT SHOWN.
2. ALL PROPOSED DETAILS SHOWN SHALL BE CONSTRUCTED PER CITY OF GRANTS PASS STANDARDS, TYPICAL.
3. AREAS LABELED "NOT INCLUDED" SHALL BE SUBJECT TO RIGHT OF WAY DEDICATION AS REQUIRED.
LEGEND
EXISTING SUBDIVISION
STARLITE PLACE
LAUREL RIDGE
NW VALLEY VIEW DRIVE
PLEASANT VIEW DRIVE
LOT 16
NOT INCLUDED ONLY ROAD R/W
NOT INCLUDED
NOTE: 12" SD EXTEND DOWN PLEASANT VIEW TO OUTLET AS APPROVED BY CITY.
PROPOSED UTILITY PLAN
SCALE: 1" = 50'
5 CATCH BASIN DETAIL
OIL SEPARATOR NO SCALE
TYPICAL SECTION - RANDY LANE
CITY OF GRANTS PASS (CITY PRIVATE STREET) NO SCALE
TYPICAL SECTION - PLEASANT VIEW
CITY OF GRANTS PASS NO SCALE (CITY HILLSIDE STANDARD - PARKING ONE SIDE)
1 NOT USED
2 TYPICAL BIKE/ PEDESTRIAN PATHWAY NO SCALE
PAVED ALL-WEATHER SURFACE OR EQUIVALENT
3 NOT USED
4 TYPICAL SECTION - 22' PRIVATE DRIVE SHARED BIKE LANE NO SCALE
SEE DETAIL - SHEET 1
LOT 16 CONCEPT PARTIAL LANDSCAPING PLAN
SCALE: NONE
REVISIONS
T.J. BOSSARD ENGINEERING, LLC
1750 DELTA WATERS ROAD, STE. 102 #205
MEDFORD, OREGON 97504
PH: 541-858-5774
VALLEY LIGHTS SUBDIVISION / P.U.D.
LOTS 1, & 16 (NOT INCLUDED LOT 13)
BILL FERGUSON
5000 PIONEER ROAD, MEDFORD, OREGON 97504
DRAWN BY : T.MASSEY
CHECKED BY T.BOSSARD
DATE : 12-15-16
SCALE : AS-NOTED
CADDFILE: PRE-APP3-0-16
JOB NO. :
SHEET 3 OF 4

VALLEY LIGHTS SUBDIVISION / P.U.D.
LOTS 1, & 16 (NOT INCLUDED LOT 13)
BILL FERGUSON
5200 PIONEER ROAD, MEDFORD, OREGON 97504

T.J. BOSSARD ENGINEERING, LLC
1750 DELTA WATERS ROAD, STE 102 #305
MEDFORD, OREGON 97504
PH. 541-858-5774

REVISIONS

SHEET 4 OF 4



CITY OF GRANTS PASS

543 & 551 NW Valley View Drive
36-05-07-BD, TL's 400 & 719

0 150 300 600 Feet

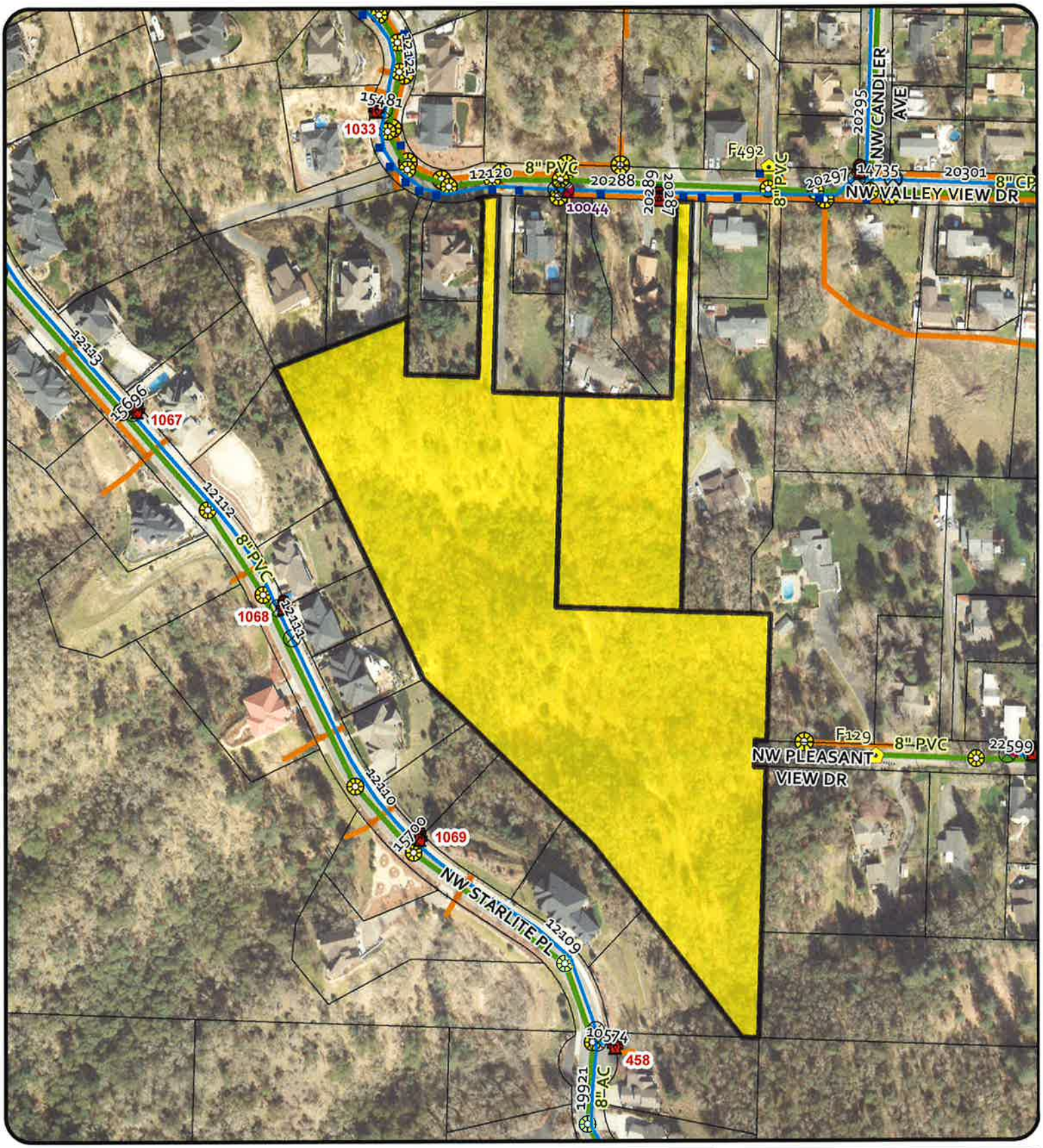
Legend

Subject Properties

N

CITY OF GRANTS PASS
Parks & Community Development Dept.
101 Northwest "A" Street
Grants Pass, OR 97526
Phone: (541) 450-6060
Fax: (541) 476-9218
Web: www.[illegible]
GPGIS

EXHIBIT



CITY OF GRANTS PASS

543 & 551 NW Valley View Drive
36-05-07-BD, TL's 400 & 719

0 100 200 400 Feet

Legend

- Subject Properties
- Water Mains
- Sewer Gravity Mains
- Storm Water Gravity Main

N

CITY OF GRANTS PASS
Parks & Community Development Dept.
101 Northwest "A" Street
Grants Pass, OR 97526
Phone: (541) 450-6060
Fax: (541) 476-9218
Web: www.
GPGIS

EXHIBIT

Community Development
101 NW A Street
Grants Pass, OR 97526
(541) 450-6060
Fax (541) 476-9218

PLANNING APPLICATION FORM

Property Address: 543 & 551 NW Valley View Drive

Assessor's Map & Tax Lot:
36 _05 _07 _BD **Tax Lot(s)** 400 & 719
___ _ ___ _ ___ _ ___ **Tax Lot(s)** _____

Zoning: R-1-12

City: ☑ UGB: ☐

Project Type: (Please check all applicable)

- ■ Site Plan
  - ☐ Standard Architectural Review
  - ☐ Discretionary Arch. Review
  - ☐ Special Concept Plan
- ☐ Partition
- ☐ Property Line Adjustment
- ☐ Property Line Vacation
- ■ Planned Unit Development
- ■ Subdivision
- ☐ Final Subdivision or PUD Plat
- ☐ Variance
- ☐ Comp Plan/Zone Map Amendment
- ☐ Text Amendment
- ☐ Pre-Application
- ☐ Appeal / Sign Code Appeal
- ☐ Sidewalk Café
- ☐ Other: _____

Size of Project (# of units, lots, sq. ft., etc):
15 lots - 9.71 Acres

Attachments:

- ☑ (8) Folded Maps/Site Plan to scale
- ☑ (1) 8 1/2x 11" reduced copy of site plan
- ☑ Written Narrative/Response to Criteria
- ☐ Power of Attorney
- ☐ Service Agreement
- ☐ Architectural Features
- ☐ Other: DEED

Description of Request
(include name of project and proposed uses):

Requesting a Major Site Plan Review

Property Owner: Kendell H Ferguson
Address: 133 NW D Street,
Grants Pass, OR 97526
Phone: 541-476-3883
Email: kferguson@roguevalleylaw.com

Applicant: Kendell H Ferguson & PAVISE, LLC
Address: 133 NW D Sreet BSE HW COUNCIL DRIVE
Grants Pass, OR 97526 GRESHAM, OR 97030
Phone: 541-476-3883
Email: kferguson@roguevalleylaw.com

Authorized Representative (if different from applicant):
Tyson Massey
Address: 1989 Alpine Court, Medford, OR 97504
Phone: (541) 301-4417
Email: tysonmassey@yahoo.com

Surveyor or Engineer (if applicable):
Tim Bernard - TJ Bossard Engineering LLC
Address: 1750 Delta Waters Road, Medford OR
Phone: (541) 858-5774
Email: tjb@tjbossard.com

CERTIFICATION: I hereby certify that the information on this application is correct and that I own the property or the owner has executed a Power of Attorney authorizing me to pursue this application (attached).

(Signature of owner or Attorney-in-Fact) 12/8/16 Date

(Signature of owner or Attorney-in-Fact) 12-13-16 Date

PER POWER OF ATTORNEY FOR PAVISE, LLC.

(For Office Use)
Date Application Received: 9/9/16
Date Application Complete: 12-16-16
Pre-App required: (Y) N Pre-App # 001-00139-16
Fees Paid: $3005.00 Initials: KW
File Number(s): 104-00106-16 and 201-00137-16

T:\CDA\PLANNING\FORMS\Planning Application Forms\Planning Application Form updated 4-28-16.doc.pdf

EXHIBIT 4

NARRATIVE – VALLEY LIGHTS SUBDIVISION/P.U.D.
DECEMBER 15, 2016

PRELIMINARY PLAN:

The enclosed revised maps and additional information together with this Narrative comprise a concurrent re-submittal for the following:

1. Minor modification to Tentative Subdivision Plan
2. Major Site Plan Review
3. Application for Planned Unit Development

This Application was packaged as outlined above in accordance with a Pre-Application Conferences held on August 18, 2016. The mapping and design of this PUD was also significantly influenced by previous land use planning submittals for this property which occurred chronologically as shown below:

4. Tentative Plat Subdivision and Variance for Lot and Block Configuration — July 29, 2005
5. Construction Drawings for Installation of Subdivision Improvements — May-September, 2007
6. Major Variance for Road Grading — January, 2008

Based upon approval of the grading variance and recent changes to the Zoning Code, it was decided to optimize the best and highest use of the property by proposing a Planned Unit Development (PUD) on a portion of the property, in accordance with the Grants Pass Development Ordinance (GPDO), Article 18, in lieu of developing the entire property as a Standard Subdivision. The current Application employs the previous approved tentative Plat Subdivision and Variances to propose a 16 Unit PUD and a 13 lot Standard Subdivision as shown on the Tentative Plat Maps. It should be noted that Lot 13 has been excluded from the previous submittals due to the current Owner's request.

Attached housing in the PUD areas will be architecturally attractive, as shown on Sheet 2, will be protected and guided by the CCR's of the Application, and will be more affordable housing for entry level families. They will have generous open recreational space between the units and the single family residents of the neighborhood below, which will serve both as a visual buffer between the existing and new homes, and will provide an area for the discrete development of passive open space or playground improvements, depending upon the eventual developers housing goals. This recreational space, whether passive or active in nature, will be traversed by a public pathway connecting Pleasant View Drive with Valley View Drive.

Overall, the housing type will be mixed, placing 13 single family lots where feasible for views on the steep slopes, and attached units on two lots below where either slope or access dictates such use. As the elevation of single family lots increases above the PUD,

some lots will have dramatic views of the valley and Grants Pass below. These lots can be considered medium income lots with the highest lots in the subdivision approaching the higher income lots on Starlite Drive.

The proposed street and utilities design for the PUD are similar to the September 2007 Construction Drawings with the exception of driveway access locations and modifications to the irrigation ditch on the lower portion of the property. Also, due to the exclusion of Lot 13, portions of the east side of Pleasant View Road bordering the excluded lot will be accommodated by either slope easements, retaining walls, or both. These modifications will be shown in detail on the final submittal of construction drawings after initial approval of the PUD.

GENERAL REQUIREMENTS:

As stated above, the evolution of design was driven by market timing, the steepness of the property requiring a variance to the typical subdivision road grading, and an ongoing desire by the Developer to create residential units that were most compatible with the neighborhood, created optimum density in accordance with the Zoning Ordinance, and created minimum impact on the steep slope and sensitive geology of the area. The Developers intent is to meet all the above criteria by utilizing a PUD design that is compliant with the flexible design standards, provide multiple and alternate ownership options, greater preservation of natural features and resources, more useable open space and recreation facilities, and a more flexible opportunity for housing types at all income levels that the PUD Ordinance requires.

All the lots in the development are proposed to be developed together, including the public roadway and drainage facilities. The multiple family lots (Lots 1 & 16) shall be sold individually and therefore the units and their utilities and access may be developed separately from the public roadway. The Owners ability to complete the project development is on separately submitted documents.

PROJECT SPECIFICS:

Every effort has been made to preserve existing vegetation by the use of hillside standards of the GPDO and by the variance acquired by the Developer in January 2008. The effect of these methods can be seen on Sheet 4 of 4 of the Plans. There are presently no buildings on the site, and each lot of the PUD will require an individual grading permit at the time the building permit is requested. Each lot may vary in layout and building placements based upon the owner or builder's preference. The grading and erosion control measures will be designed and detailed as a result of each lot development.

The proposed common and public areas are shown on Sheet 3 of 4 of the Plans with the Proposed Pedestrian/Bike Pathways, shown on Section 2, to be built by the Developer as a part of the Public Roadway Improvements. The remainder of the common lot unit improvements shall be built by those lot owners at the time each lot is developed.

Each individual lot, both single family and common, shall develop off street parking in accordance with the GPDO. The project utilities and public/private street standards shall be as shown on Sheet 3 of the Plans. Landscaping of common lots shall be as indicated on Sheet 3, with a specific plan being submitted for approval prior to issuance of a building permit. Sheet 2 of the Plans shows surrounding land use, and the buffering of the project shall be by way of pathway and roadway landscaping on the north and east sides, and preservation of natural vegetation on the south and west sides. Solar standards of the GPDO are preserved by the orientation and steepness of the property.

No traffic impact study (TIS) was deemed necessary by City Staff, because of the multiple outlets from the Project via Pleasant View Drive.

The Grading and Erosion Control Plan, developed by the Galli Group, is still valid as submitted for the Construction Drawings in May-September, 2007.

SUMMARY:

The proposed PUD is a result of several applications made since July, 2005. Due to development constraints such as steep slope area, irrigation ditch accommodation, and restricted conditions of access for vehicular and pedestrian traffic, the development has been altered since its original 2005 submittal to the present PUD. These modifications are also due largely to adaptation to the housing market. The PUD by its very definition provides a method in which past constraints can be overcome and present opportunities can be realized. We are certain that this Application has addressed the concerns of City Staff, to make this submittal one that is equally beneficial to Both the City, the Owner, and the general public. The modified project design results in a superior design than would have resulted from the original standard subdivision design.

The PUD offers a balanced exchange between flexible development standards, maximum land utilization, alternate ownership options, greater preservation of natural features and natural resources, and greater proportion of open useable space and recreational facilities for both the Developer and community at large. The Development proposes that by way of the Tentative Plan maps, this Application has fulfilled all of the requirements of Article 18 of the GPDC.

Lora Glover

From: replinger-associates@comcast.net
Sent: Wednesday, September 07, 2016 8:39 AM
To: Justin Gindlesperger; Lora Glover
Subject: Re: Question - Necessity of TIA

Justin & Lora:

I think it is reasonable to waive the requirement for a TIA for this proposed development.

The trips generated by the development are sufficient to require a TIA under most circumstances, but the provision for two different routes to access Highland Avenue does make it likely that no intersection or street segment will exceed the 25 auto trip threshold during the peak hour.

Let me know if you have questions.

Thanks,
John

John Replinger, PE
Replinger & Associates LLC
6330 SE 36th Avenue
Portland, OR 97202
503-719-3383
replinger-associates@comcast.net

From: "Lora Glover" <lglover@grantspassoregon.gov>
To: "replinger-associates" <replinger-associates@comcast.net>
Cc: "Justin Gindlesperger" <jgindlesperger@grantspassoregon.gov>
Sent: Friday, September 2, 2016 3:29:00 PM
Subject: Question - Necessity of TIA

Hi John,

I received a telephone call today from the applicant on the attached pre-app asking whether a TIA would be necessary. We were requiring the study since the project will add more than 25 trips peak hour. Mr. Ferguson's engineer is asking whether a full study would be necessary since the project will connect Pleasant View with Valley View, providing at least two access points onto Highland Avenue.

Looking forward to your comments. If you need any further information, please contact Justin as I will be out of the office next week.

Justin: Please forward John's comments on to Mr. Ferguson either by email or telephone: WHF2929@aol.com; 541-944-2929.

~ Lora

Lora Glover

From: Rich Schaff
Sent: Tuesday, February 07, 2012 4:46 PM
To: Lora Glover
Cc: Carla Angeli
Subject: Valley Lights Re Application to a 31 Unit PUD

Lora,

Typically a 31-lot subdivision would be a candidate for a Traffic Impact Study as it exceeds the 25 peak hour trips required in the development code. However, the development code provides me with the authority to waive the requirement of a TIA if it is reasonably known that the development will not create an adverse impact.

I have read the original TIA for the Valley Lights Subdivision dated March 31, 2005. The intersection of concern in this study, Highland Ave/Pleasant View, was analyzed to perform at a LOS A and B at build out of the previously proposed 25 unit subdivision. Even with additional background traffic since 2005 and the addition of six (31-25 = 6) peak hour trips, I do not foresee the intersection requiring mitigation as a result of the new proposal. Based on this reasoning, a revised traffic impact analysis will not be required.

Rich Schaff, P.E.
City Engineer
City of Grants Pass
101 NW A Street
Grants Pass, OR 97526
541-474-6355
rschaff@grantspassoregon.gov

EXHIBIT 5
PAGE 1 OF 12

Valley Lights Subdivision
Traffic Impact Study

Grants Pass, Oregon

Expires 6/30/06

March 31, 2005

EXHIBIT 5
PAGE 2 OF 17

TRAFFIC IMPACT STUDY
Valley Lights
Grants Pass, Oregon

1. Location and Vicinity Map

The Valley Lights Subdivision development is located west of Highland Avenue at the west end of Pleasant View Drive in Grants Pass, Oregon. (see Figure 1 in Appendix A). The study will document the estimated traffic impacts resulting from the development of this residential subdivision.

2. Development Description

A site plan of the development is shown in Figure 2 in Appendix A. The site plan shows a 25 lot subdivision with lots on both sides of Pleasant View Drive extended west and north to Valley View Drive. Lot #18, a panhandle lot, will have access to Valley View Drive while all others will access onto Pleasant View Drive. Pleasant View Drive is planned to be a 24 foot curbed street in a 40-foot right-of-way with a sidewalk on one side in accordance with the Hillside Standard in the Grants Pass Development Code. There will be one short private street that will serve 5 or 6 lots, approximately 150 feet in length, 20-feet wide with utility easements on both sides as per the city standard for private streets.

3. Existing Study Area Conditions

Highland Avenue is a city minor arterial street running north-south through Grants Pass from "M" Street north to the city limits where it becomes a frontage road to Interstate 5. In the study area, the roadway is 42-feet wide including two travel lanes with bike lanes, parking on the west side and curb side sidewalks on both sides. There is a marked school crosswalk with a median island across the north approach of the intersection of Highland Avenue and Pleasant View Drive. Parking is removed and the southbound travel and bike lanes shift to shift to the west curb at the island. The North Middle School is located on the east side of Highland Avenue two blocks north of Pleasant View Drive. The Highland Elementary School is located north of the middle school on Highland. There is a posted school speed on the Highland Avenue throughout this area. All streets intersecting Highland Avenue in the study area are controlled by STOP signs. The average daily traffic on Highland between Pleasant View and Midland was 5,580 in 2003.

Pleasant View Drive is a local street running west from Highland Avenue and currently ends about 1000 feet to the west. The asphalt mat roadway is roughly 22-feet wide with little or no shoulders on a right-of-way that varies but is a minimum of 40 feet. Parking occurs off the pavement. Pleasant View Drive currently has no other outlet other than the Highland Avenue intersection and serves a total of 41 single-family dwellings. The unposted speed is 25 MPH.

Valley View Drive is also a local street running west from Highland Avenue. The roadway has been improved with curbs for most of its length. At the intersection with Highland Avenue, Valley View Drive is controlled by a STOP sign and there is a marked school crosswalk on the south approach.

Access Engineering staff conducted a PM peak hour turning movement count at the intersection of Highland Avenue at Pleasant View Drive on Thursday, March 17, 2005. A summary of the traffic count can be found in Appendix B and the peak hour turning movements are shown in Figure 3 in Appendix A.

4. Analysis Data

4.1 Trip Generation

The trip generation estimate for the proposed development is based on data from the Seventh Edition of the Institute of Transportation Engineers Trip Generation Manual. Land Use Code 210 - Single-Family Detached Housing is used for the 25 lots to be developed. The following table shows the trip generation expected from this development.

Facility	Daily		PM Peak Hour					
ITE Code - Size	Rate*	Trips	Rate*	Trips	%In	%Out	In	Out
210 - 25 Dwelling Units	9.57	239	1.01	25	63%	37%	16	9

* Trips per Dwelling Unit

4.2 Trip Distribution and Assignment

We would expect that the PM peak hour trips generated by this residential development to be distributed in the same proportion as the existing PM peak hour traffic at the intersection of

EXHIBIT 5
PAGE 4 OF 17

Pleasant View and Highland. Figure 3 in Appendix A shows the proportion of trips in each direction that currently use Pleasant View Drive at Highland Avenue. Using those proportions, inbound trips would be distributed: 30% from the north, and 70% from the south. Outbound trips would be distributed: 12% to the north, and 88% to the south.

Figure 4 in Appendix A shows the resulting PM peak hour traffic levels at the Pleasant View and Highland intersection. Even though one of the lots will access onto Valley View Drive, that trip will have an insignificant traffic impact on that street. For simplicity and to provide a worst case condition on Pleasant View Drive, that trip was assigned to the Pleasant View and Highland intersection.

4.3 Intersection Operational Analysis

A level-of-service (LOS) analysis was performed on the intersections in the study area. The latest edition of the Highway Capacity Manual defines the methods by which LOS is calculated in this analysis. LOS describes the quality of traffic flow on a roadway or at an intersection. It is described by a letter scale from "A" to "F." LOS "A" represents the highest service and LOS "F" represents the lowest. The City of Grants Pass requires a minimum LOS of "D" or better.

The operational analyses for the Highland Avenue and Pleasant View intersection was performed for the PM peak hour traffic conditions in 2005 and for the Build traffic conditions in 2006. The Highway Capacity Software (HCS2000 version 4.1d) was used in the analysis. The actual peak hour factors (PHF) from the traffic count was used.

The Table below shows the results of the level-of-service (LOS) analysis. The table shows the volume to capacity ratio (V/C), average intersection delay in seconds, and LOS. For the unsignalized intersection, only the approaches where movements are required to Stop or yield are reported with the LOS being based on delay. The Synchro6 output is available in Appendix C.

Intersection Movement	Existing PM Peak Hour			2006 Build		
	V/C	Delay	LOS	V/C	Delay	LOS
Highland Ave. @ Pleasant View Dr.						
Eastbound Movements	0.03	9.9	A	.04	10.1	B
Northbound Left turn	0.01	7.7	A	.02	7.8	A

EXHIBIT 5
PAGE 5 OF 12

The results of the operational analysis shows that all of intersections will operate at LOS "B" or better. In fact, the trips generated are so small that the largest difference in V/C is only 0.01.

5. Intersection Safety Analysis

A marked school crossing with a median island exists on the north approach of the Highland/Pleasant View intersection. Besides providing a highly visible crossing, the median island has the effect of slowing traffic southbound on Highland Avenue because the southbound lane must move to the curb to get around the island. This has the secondary effects of providing improved sight distance for Pleasant View traffic looking north because parking is removed in that section.

Another result of the island is to encourage right turns and discourage left turns from Pleasant View. This is bourne out by the differing percentages of turns inbound and outbound on Pleasant View Drive; inbound right turns (from the north) are 30% while outbound left turns (to the north) are only 12%.

The City of Grants Pass Department of Public Safety has provided crash information for Highland Avenue in the study area for the period 2002 through the present. During that period there have been only two crashes in the area; one at the Pleasant View intersection in 2002 and one at the Highland Avenue and Amelia Drive intersection in 2004. The crash data does not indicate a safety problem in this area.

6. Conclusions

The above analysis shows that the proposed Valley Lights Subdivision will have a very small if not negligible impact on traffic operations and safety in the study area. The extension of Pleasant View Drive to Valley View Drive is important because this street connection will provide a secondary access for both the new subdivision and the 41 existing homes that use Pleasant View that would otherwise have no other outlet.

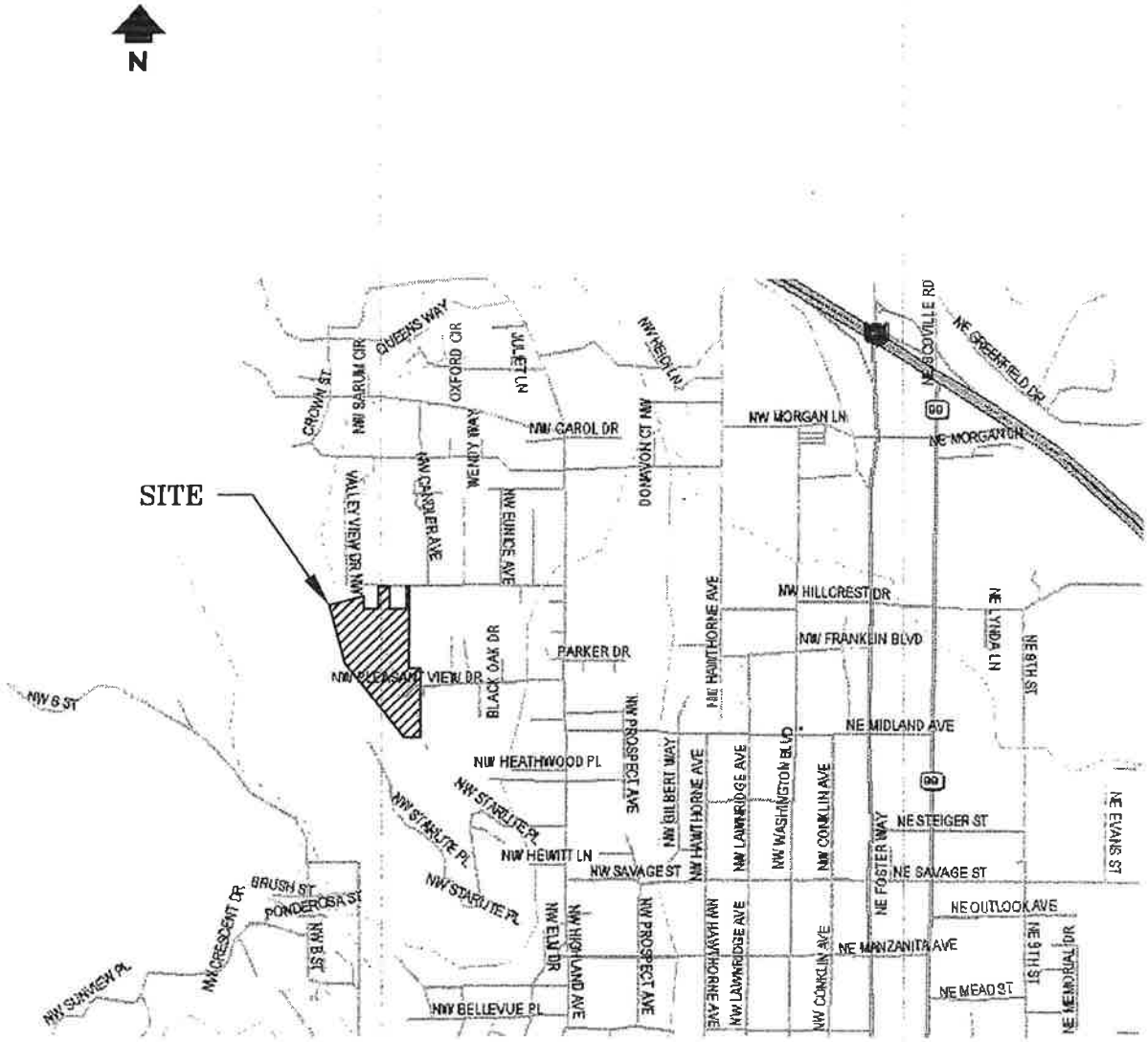
Appendix A
Figures

EXHIBIT 5
PAGE 7 OF 17

Figure 1

Valley Lights Subdivision Traffic Impact Study

Vicinity Map



Access Engineering

EXHIBIT 5

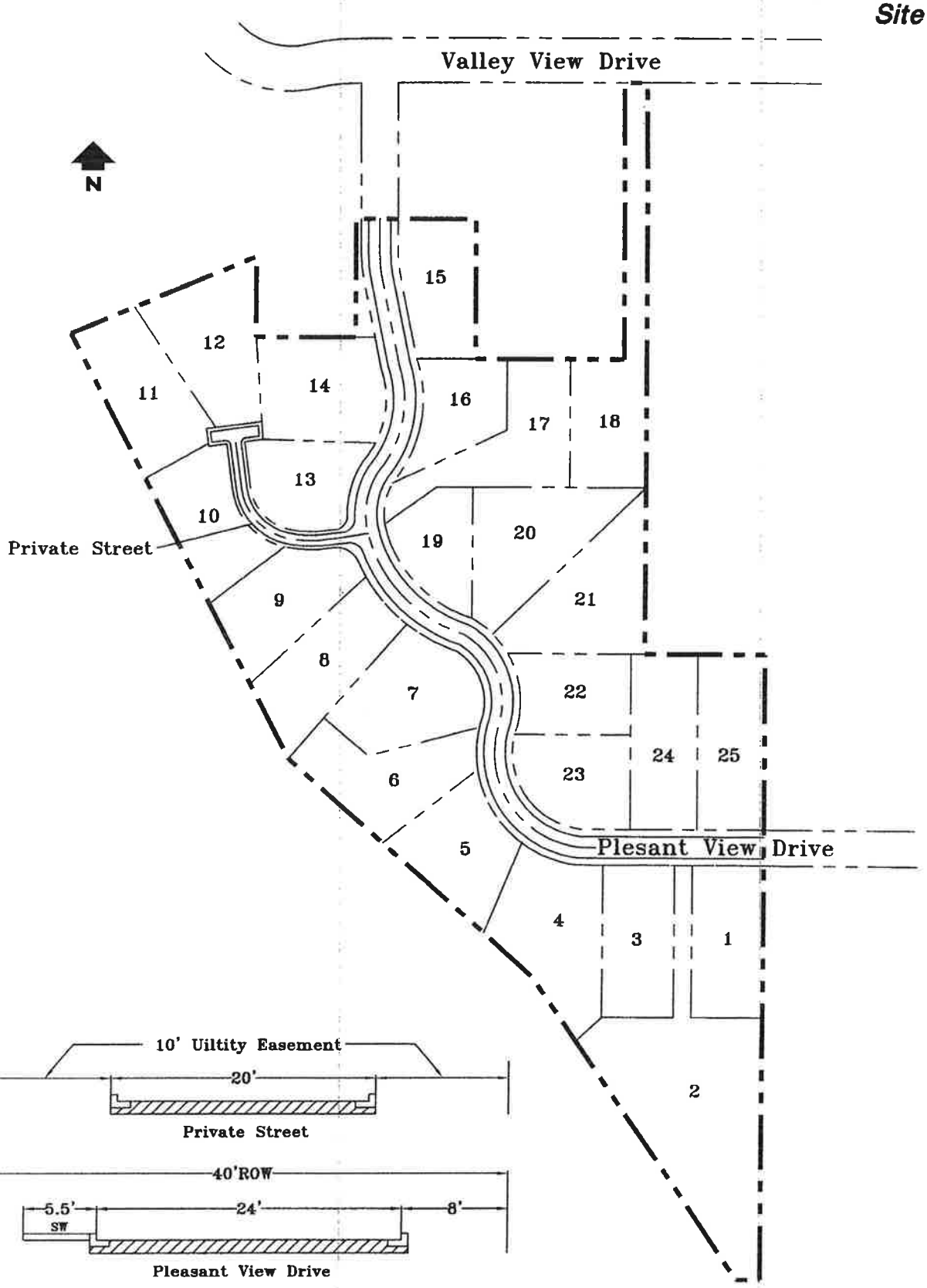
PAGE 8 OF 17

vicinity map

Figure 2

Valley Lights Subdivision Traffic Impact Study

Site Plan



Access Engineering

EXHIBIT 5

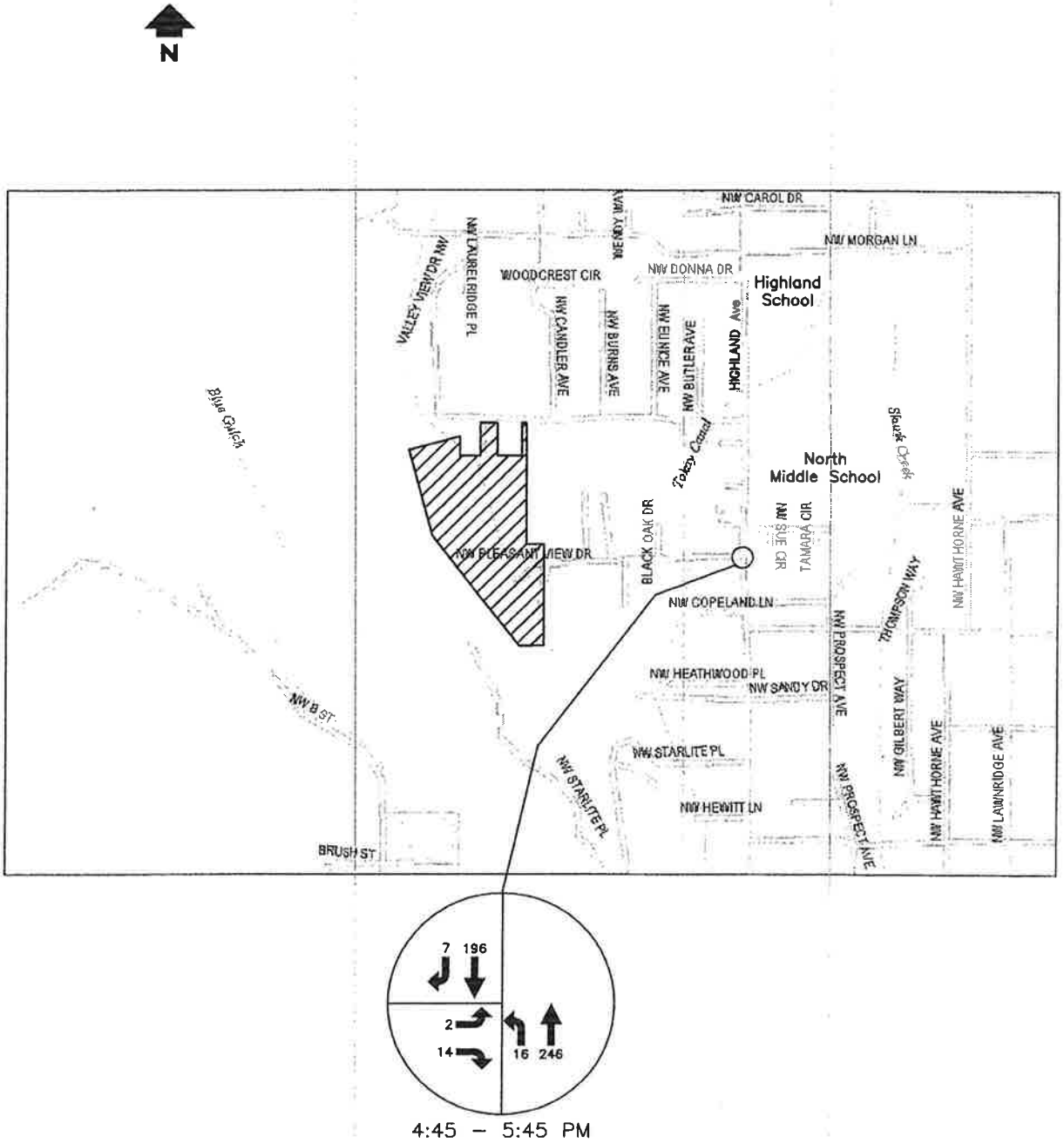
PAGE 9 OF 17

Site

Figure 3

Valley Lights Subdivvision Traffic Impact Study

Existing PM Peak Traffic Volumes



Access Engineering

EXHIBIT 3

PAGE 12 OF 17

X.DWG

Figure 4

Valley Lights Subdivvision Traffic Impact Study

2006 Build PM Peak Traffic Volumes

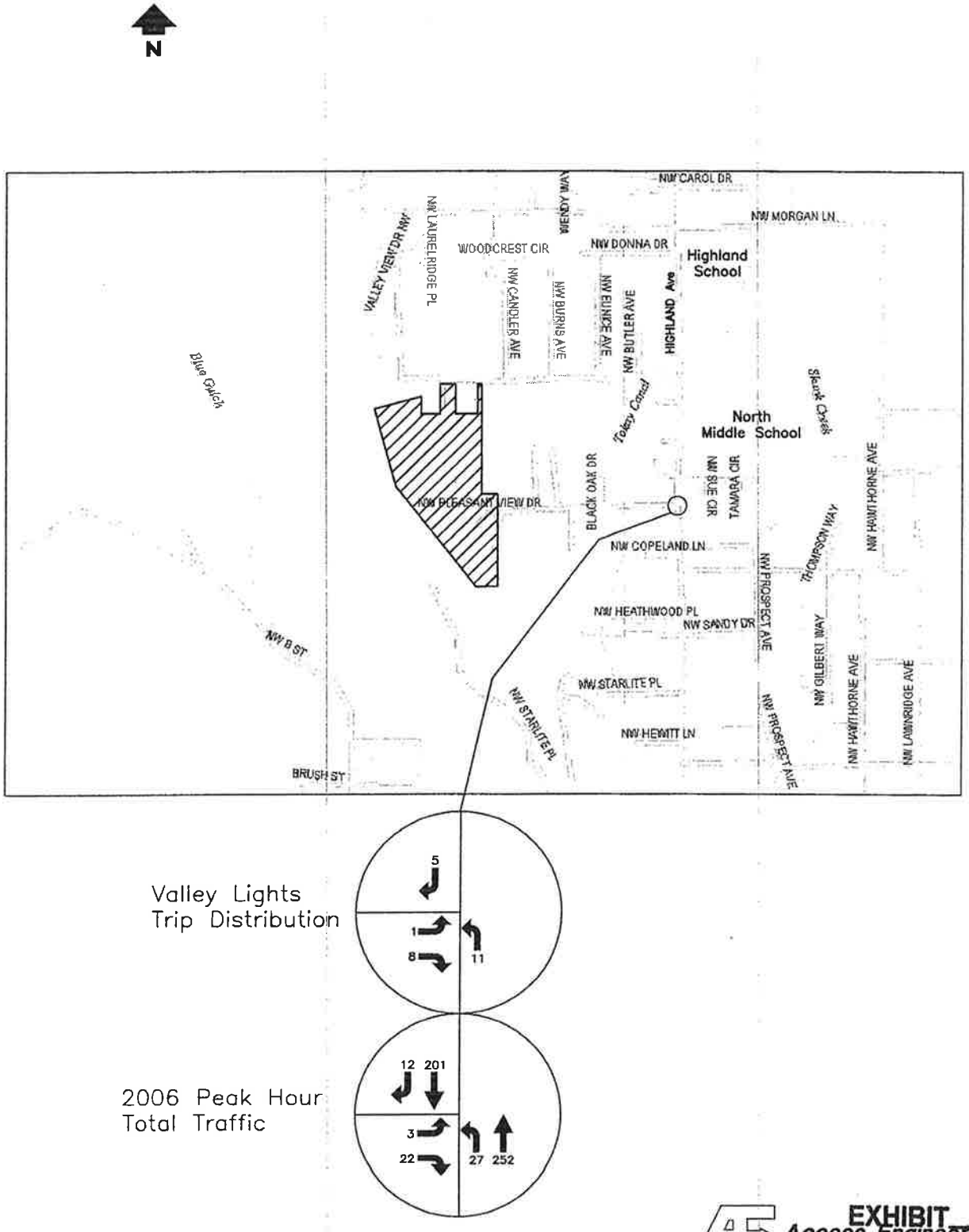


EXHIBIT 5
Access Engineering
PAGE 11 OF 17

X.DWG

Appendix B
Traffic Count Data

EXHIBIT 5
PAGE 12 OF 17

Job ID: 3600
N/S: Highland
E/W: Pleasant View

Intersection Turning Movement Count Summary

Counted By: cmw
Date: Mar 17, 2005

Time Period From-To PM	Northbound Highland				Southbound Highland				Eastbound Pleasant View				Westbound Pleasant View				All
	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	Left	Thru	Right	Total	
4:00-4:15	3	36	0	39	0	53	1	54	1	0	3	4	0	0	0	0	97
4:15-4:30	4	53	0	57	0	42	3	45	1	0	3	4	0	0	0	0	106
4:30-4:45	2	45	0	47	0	26	2	28	0	0	2	2	0	0	0	0	77
4:45-5:00	**4**	**67**	**0**	71	**0**	**46**	**1**	47	**1**	**0**	**3**	4	**0**	**0**	**0**	0	122
Hour Total:	13	201	0	214	0	167	7	174	3	0	11	14	0	0	0	0	402
5:00-5:15	**6**	**70**	**0**	76	**0**	**63**	**0**	63	**0**	**0**	**4**	4	**0**	**0**	**0**	0	143
5:15-5:30	**5**	**56**	**0**	61	**0**	**52**	**3**	55	**0**	**0**	**5**	5	**0**	**0**	**0**	0	121
5:30-5:45	**1**	**53**	**0**	54	**0**	**35**	**3**	38	**1**	**0**	**2**	3	**0**	**0**	**0**	0	95
5:45-6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total:	12	179	0	191	0	150	6	156	1	0	11	12	0	0	0	0	359
2-Hour Total:	25	380	0	405	0	317	13	330	4	0	22	26	0	0	0	0	761
Peak Hr. 4:45-5:45	**16**	**246**	**0**	**262**	**0**	**196**	**7**	**203**	**2**	**0**	**14**	**16**	**0**	**0**	**0**	**0**	**481**
PHF				**0.862**				**0.806**				**0.8**				**N/A**	**0.841**

EXHIBIT 5
PAGE 13 OF 17

Appendix C
HCS2000 Reports

EXHIBIT 5
PAGE 14 OF 17

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*cmw*	Intersection	*Highland @ Pleasant View*
Agency/Co.	*Access Engineering*	Jurisdiction	*City of Grants Pass*
Date Performed	*3/24/2005*	Analysis Year	*2005 - Existing Conditions*
Analysis Time Period	*PM Peak Hour*		
Project Description	*Valley Lights Subdivision TIA*		
East/West Street:	*Pleasant View Drive*	North/South Street:	*Highland Avenue*
Intersection Orientation:	*North-South*	Study Period (hrs):	*0.25*

Vehicle Volumes and Adjustments

Major Street		Northbound			Southbound	
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*16*	*246*	*0*	*0*	*196*	*7*
Peak-Hour Factor, PHF	*0.86*	*0.86*	*1.00*	*1.00*	*0.81*	*0.81*
Hourly Flow Rate, HFR	*18*	*286*	*0*	*0*	*241*	*8*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street		Westbound			Eastbound	
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*2*	*0*	*14*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.80*	*1.00*	*0.80*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*2*	*0*	*17*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (vph)	*18*						*19*	
C (m) (vph)	*1328*						*747*	
v/c	*0.01*						*0.03*	
95% queue length	*0.04*						*0.08*	
Control Delay	*7.7*						*9.9*	
LOS	*A*						*A*	
Approach Delay	--	--					*9.9*	
Approach LOS	--	--					*A*	

EXHIBIT 5
PAGE 15 OF 17

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*cmw*	Intersection	*Highland @ Pleasant View*
Agency/Co.	*Access Engineering*	Jurisdiction	*City of Grants Pass*
Date Performed	*3/24/2005*	Analysis Year	*2006 - Build*
Analysis Time Period	*PM Peak Hour*		
Project Description	*Valley Lights Subdivision TIA*		
East/West Street:	*Pleasant View Drive*	North/South Street:	*Highland Avenue*
Intersection Orientation:	*North-South*	Study Period (hrs):	*0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume	*27*	*252*	*0*	*0*	*201*	*12*
Peak-Hour Factor, PHF	*0.86*	*0.86*	*1.00*	*1.00*	*0.81*	*0.81*
Hourly Flow Rate, HFR	*31*	*293*	*0*	*0*	*248*	*14*
Percent Heavy Vehicles	*0*	–	–	*0*	–	–
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*0*	*1*	*0*
Configuration	*LT*					*TR*
Upstream Signal		*0*			*0*	

Minor Street	Westbound			Eastbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume	*0*	*0*	*0*	*3*	*0*	*22*
Peak-Hour Factor, PHF	*1.00*	*1.00*	*1.00*	*0.80*	*1.00*	*0.80*
Hourly Flow Rate, HFR	*0*	*0*	*0*	*3*	*0*	*27*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration					*LR*	

Delay, Queue Length, and Level of Service

Approach	NB	SB	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*LT*						*LR*	
v (vph)	*31*						*30*	
C (m) (vph)	*1314*						*734*	
v/c	*0.02*						*0.04*	
95% queue length	*0.07*						*0.13*	
Control Delay	*7.8*						*10.1*	
LOS	*A*						*B*	
Approach Delay	--	--					*10.1*	
Approach LOS	--	--					*B*	

EXHIBIT 5
PAGE 16 OF 17

Copy emailed + ccd 1/25/05

Access Engineering

1410 Oak Street, Suite 200
Eugene, OR 97401
(541) 485-3215
Fax: (541) 485-3253

LETTER OF TRANSMITTAL

TO: Max H. Hull
Max H. Hull Land Surveying
231 NW "B" Street
Grants Pass, Oregon 97526

DATE:	Mar. 31, 2005	JOB NO.:	3631
RE:	Valley Lights Subdivision		
	Traffic Impact Study		

WE ARE SENDING YOU:

- ■ Attached ☐ Under separate cover via _____
- ■ Originals ☐ Copies ☐ Prints ☐ Diskette(s)
- ■ Reports ☐ Plans ☐ Specifications ☐ _____

COPIES	DATE	DESCRIPTION
1	3/31/05	Valley Lights Subdivision - Traffic Impact Study

- ■ For your use ■ As requested ☐ Approved as submitted
- ☐ For approval ☐ Returned for correction ☐ Approved as noted
- ☐ For review & comment ☐ For your distribution ☐ _____

MESSAGE Please let me know if you need any further assistance on this project.

COPY TO _____

SIGNED M Weishar
Michael Weishar, P.E.

EXHIBIT 5
PAGE 12 OF 12

Lora Glover

From: replinger-associates@comcast.net
Sent: Wednesday, September 07, 2016 8:39 AM
To: Justin Gindlesperger; Lora Glover
Subject: Re: Question - Necessity of TIA

Justin & Lora:

I think it is reasonable to waive the requirement for a TIA for this proposed development.

The trips generated by the development are sufficient to require a TIA under most circumstances, but the provision for two different routes to access Highland Avenue does make it likely that no intersection or street segment will exceed the 25 auto trip threshold during the peak hour.

Let me know if you have questions.

Thanks,
John

John Replinger, PE
Replinger & Associates LLC
6330 SE 36th Avenue
Portland, OR 97202
503-719-3383
replinger-associates@comcast.net

From: "Lora Glover" <lglover@grantspassoregon.gov>
To: "replinger-associates" <replinger-associates@comcast.net>
Cc: "Justin Gindlesperger" <jgindlesperger@grantspassoregon.gov>
Sent: Friday, September 2, 2016 3:29:00 PM
Subject: Question - Necessity of TIA

Hi John,

I received a telephone call today from the applicant on the attached pre-app asking whether a TIA would be necessary. We were requiring the study since the project will add more than 25 trips peak hour. Mr. Ferguson's engineer is asking whether a full study would be necessary since the project will connect Pleasant View with Valley View, providing at least two access points onto Highland Avenue.

Looking forward to your comments. If you need any further information, please contact Justin as I will be out of the office next week.

Justin: Please forward John's comments on to Mr. Ferguson either by email or telephone: WHF2929@aol.com; 541-944-2929.

~ Lora

EXHIBIT 6

36-5-07-24 400, 718, 719

THE GALLI GROUP
Engineering Consulting

02-4010-02
January 4, 2008

Tim Bossard
Bioscape Technologies
816 Bennett Avenue
Medford, Oregon 97504

Subject: **GEOTECHNICAL COMMENTS**
REVEGETATION OF TERRACED 1H:1V CUT SLOPES
GRANTS PASS, OREGON

Mr. Bossard:

In accordance with your request, we are providing additional information regarding our recommendation to "reconstruct" the topsoil layer and provide a growth medium on cut slopes. Our Steep Slope and Geotechnical Design report provides recommendations to terrace the slopes and to infill the terraces with a topsoil and mulch in order to provide an organic and nutrient rich medium for the revegetation of the cut slopes.

Our experience with cut slopes into the Decomposed and weathered Granite is such that slopes are unable to sustain long-term vegetation growth due to the lack of nutrients and the inert nature of the granite soils. This is especially the case for slopes steeper than 1½H:1V due to the fact that manmade mulches and fertilizers tend to "runoff" these slopes and collect at the toe of the slope.

Therefore, our report recommends that 1H:1V cut slopes which are embedded into the underlying weathered Granite bedrock should be terraced with 2-foot wide terraces and 2-foot vertical steps between each terrace (stair-step effect). The terraces help "hold" the topsoil layer on the slope and helps "recreate" the removed topsoil layer. These terraced cut slopes are generally constructed from the top down during the earthwork process. The Meadow Wood Subdivision in southwest Grants Pass has successfully constructed and revegetated these cut slopes. The steps are then infilled utilizing a combination of topsoil and mulch in order to "reconstruct" a topsoil layer on the steep cut slope (and creates an overall slope of 1H:1V with triangular wedges of topsoil filling in each step). The organic materials and nutrients within the topsoil zone are much more conducive to maintaining

612 NW Third Street, Grants Pass, Oregon 97526 • Phone (541) 955-1611 • Fax (541) 955-1650

EXHIBIT 7
PAGE 1 OF 3
36.5.07.24.400.718.719

long-term plant growth (especially when compared to the inert Decomposed Granite soil and weathered Granite rock).

This new topsoil/mulch layer can be blown on the slopes with a blower truck which utilizes a 4-inch diameter hose for placement or deposited on the slopes with a conveyor truck. Some hand work by laborers will be required to spread the topsoil/mulch across the slope if the conveyor truck is utilized, while the operator for the blower truck can continually and precisely locate the final location and thickness of the topsoil.

Local contractors who are capable of providing this service include:

Ground Control Inc. (www.776-bark.com or 776-BARK)
Eski's Conveyor Truck Service – Mark Eskitgis (479-7008)

The "reconstructed" slope can then be seeded with a locally accepted grass and wildflower mix by a hydroseeding company. We understand that Ground Control, Inc. of Central Point provides a product called Ecoblanket® which combines the seed for grass, wildflowers or native plants into the blown mulch on the surface. The mulch has been shown to effectively decrease erosion and increase the germination of the plant seed.

The cut slope could also periodically incorporate several native trees which would have to be planted in the deeper zones of topsoil "zones" across the slope. Planting of native trees across the slope would tend to improve the aesthetics of this slope and result in a more natural looking finished product. However, in order to establish the trees on the slope, an irrigation system must be implemented during the hot summer months for the first 2 to 3 years.

It should be noted that at these terraced cut slopes may experience some shallow sloughing and slumping of the slope surface should be expected in wet weather and extremely dry weather until they become fully vegetated. In accordance to our Geotechnical Design Report, the upper 3 to 5 feet of the surficial soils should be flattened to 2H:1V in an attempt to alleviate the sloughing of the weaker native materials. The above-listed recommendations (and recommendations from our April 27, 2007 report) assume that concentrated surface water flows are not present and "run" down these slopes. Excessive amounts of surface water will result in surficial sloughing of the upper topsoil units (which will require buttress repairs and/or site regrading).

LIMITATIONS

This letter report was prepared for the use of Bioscape Technologies and its team for the planning, design and construction of the Valley Lights Subdivision. It should be made available to others for information and factual data only. This report should not be used for contractual purposes as a warranty of site subsurface conditions. It should also not be used at other sites or for projects other than the one intended.

We have performed these services in accordance with generally accepted geotechnical engineering practices in southern Oregon. No other warranties, either expressed or implied, are provided.

We hope this meets with your needs at this time. If you have any questions, please feel free to call us at your convenience.

THE GALLI GROUP
GEOTECHNICAL CONSULTING

Paul A. Sellke, P.E.
Senior Engineer

RENEWAL: JUNE 30, 2008

STEEP SLOPE EVALUATION AND GEOTECHNICAL DESIGN REPORT VALLEY LIGHTS SUBDIVISION GRANTS PASS, OREGON

For: Tim Bossard
Bioscape Technologies
816 Bennett Avenue
Medford, OR 97504

By: **THE GALLI GROUP**
612 NW Third Street
Grants Pass, OR 97526
(541) 955-1611

02-4010-01
April 27, 2007

EXHIBIT A
PAGE 1 OF 58

EXHIBIT 8
PAGE 2 OF 58

TABLE OF CONTENTS

LIST OF FIGURES

EXHIBIT 8
PAGE 4 OF 58

STEEP SLOPE EVALUATION AND GEOTECHNICAL DESIGN REPORT VALLEY LIGHTS SUBDIVISION GRANTS PASS, OREGON

1.0 INTRODUCTION

In accordance with your request, we have completed our soils investigation, site review, steep slope evaluation, geologic hazards evaluation, erosion control plan and geotechnical recommendations for the above-referenced subdivision. The following sections outline 1) our understanding of the proposed site development, 2) our conclusions regarding steep slope development on this parcel, 3) our geology and geologic hazards review and 4) our geotechnical recommendations for design, construction and erosion control on the site.

The parcel has slopes in excess of 25% and therefore is considered to be a Class B Slope Hazard area. The data, recommendations and conclusions contained in this report are intended to meet the requirements of Article 13.100 Slope Hazard Districts of the City of Grants Pass Development Code.

2.0 SITE AND PROJECT DESCRIPTION

2.1 SITE DESCRIPTION

This subject parcel is generally situated near the west end of Pleasant View Drive and extends west to northwest to Valley View Drive, in northwest Grants Pass, Oregon. The subject project encompasses approximately a ten-acre area. Please see Figure 1, Vicinity Map, for additional site location details.

The project site slopes trend generally toward the east with several ridges and swales "running" in that direction. The slopes across the ridges, swales and hill sideslopes of the proposed development range from moderately to very steep. Site grades range from 15% to 25% in swale areas to from 15% to 60% along the ridges and on the steep side slopes. The site vegetation generally consists of a moderate to dense forest of madrone and oak trees with scattered pine and Douglas fir trees. Scattered other understory brush such as poison oak and native grasses are also present.

Currently, there is an old existing trail that crosses the middle of the site, generally trending from north to south along the natural contours. Several small cuts and fills ranging from 3 to 6 feet in height were accomplished along this roughed in "road".

2.2 PROJECT DESCRIPTION

The subject parcel will be divided into a total of 24 new lots for new, single-family residences and will create the new Valley Lights Subdivision. Other improvements included as part of this development will be:

1. The continuation of Pleasant View Drive from its current 'dead-end' terminus at the east edge of the project site. The proposed extension of Pleasant View Drive will cross the site to an intersection with Valley View Drive, at the north end of the site. Also, a short private road is proposed to provide access to the lots in the northwest corner of the subdivision and will intersect with Pleasant View Drive.
2. Installation of sanitary sewer and domestic water systems. Service will be provided by the City of Grants Pass public utilities.
3. Site grading, drainage, and stormwater systems to intercept and convey stormwater runoff through and off the parcel.
4. Temporary Erosion Control measures during construction of the roadway and other areas of soil disturbance and permanent erosion control measures along the roadways within the development.

The subject main road (Pleasant View Drive) will extend west, and roughly following the natural contours of the site, turn toward the north and terminate at an intersection with Valley View Drive. Street alignments will be shaped to the hillsides through cut and fill cross-sections across the moderately to steeply sloping topography. We have assumed that the lots will be left in a "natural" state with access driveway approaches off of the planned streets. Please see Figure 2, Site Plan, for details of the proposed subdivision layout.

3.0 FIELD EXPLORATION

On January 4, 2007, our Staff Engineer, Mr. Melvin J. Galli, visited the site to conduct the subsurface investigation. Site soils were investigated by excavating seven (7) test pits at locations selected generally along the roadway alignment(s). Test pits were excavated to depths of between 4.8 feet and 10.5 feet using a Volvo EC55B excavator. The small to medium-sized excavator was outfitted with a 24" bucket and 4 teeth. Approximate locations of the exploratory test pits are presented on Figure 2 at the end of this report. At the conclusion of the subsurface investigation, all test pits were backfilled with the soil spoils from the excavation operations and the ground surface leveled with the blade and scoop.

Our representative located the test pits generally along the proposed roadway alignment(s) and across the site, observed and logged subsurface soil conditions and collected soil samples for transport to the office and laboratory. Visual classifications of the soils were made in the field and are presented in the Test Pit Logs in Appendix A at the end of the report. These classifications were utilized by our representative to provide

informed engineering recommendations for the proposed site improvements. Please note that in the logs soil changes are depicted as distinct layers, while in nature they may be more gradual. A more detailed description of the test pits can be viewed in Appendix A at the end of this report.

4.0 SUBSURFACE CONDITIONS

4.1 SOIL

The test pits encountered relatively similar soil conditions across the proposed site. In general, the majority of the test pits encountered a surficial layer of topsoil. The topsoil layer was underlain by a surficial sandy Silt to silty Sand layer which transitions into the underlying dense, coarse Sands (Decomposed Granite). Please note that these descriptions are based on our observations at specific test pit locations. Variability between test pit locations most likely will be present. Therefore, this should not be viewed as a warranty of site soil conditions. The following generalized descriptions represent the units likely to be encountered at the site during construction.

Topsoil / Rootzone

In most of the test pits, a thin layer of topsoil was encountered at the surface. The topsoil/rootzone layer ranged in thickness from 0.2 to 0.7 feet. The topsoil unit generally consisted of a soft to medium stiff, dark brown, silty Sand with numerous roots.

Sandy Silt to Silty Sand

Underlying the topsoil layer is a layer of a very stiff, mottled, red-tan to gray-tan, sandy Silt. In many cases, this unit slowly transitions into a dense, silty Sand unit near the bottom of this unit. The sand and silt content within this unit varied somewhat between test pits. All samples were moist to wet within this unit. In TP-4 and TP-5, groundwater seepages were encountered within this soil unit, thereby causing the soil to be wet in nature. The bottom of this unit ranged from 1.8 feet in TP-7 to 6.0 feet in TP-4. The thickness of this unit tends to increase in swale areas

Coarse Sand (Decomposed Granite)

The silty Sand unit transitions into a unit of extremely weathered granite, commonly known as "Decomposed Granite". The slightly silty, coarse Sands were initially encountered at depths ranging from the ground surface (TP-1) to 6.0 feet (TP-4) below the surface. This unit was excavated out of the test pits as a slightly silty, coarse Sand with gravel to cobble-sized pieces which were easily broken up by hand (hand friable). The excavated soil tended to be slightly moist to moist in nature. This dense to very

EXHIBIT 8c
PAGE 2 OF 58

dense material was excavated with moderate to heavy effort using the medium-sized excavator. All the test pits terminated within this unit.

Please note that soil descriptions and layer interfaces are interpreted from observations at the site. While the layers are shown as having distinct boundaries in the test pit logs, in nature they may grade slowly from one soil type to another. Soil conditions will also vary between the test pit locations. For additional detail of the soils conditions encountered at the site, please see the Test Pit Logs in Appendix A at the end of this report.

4.2 WATER

Groundwater. No static groundwater levels were encountered in any of the test pits accomplished at the site. In the swale areas of the site, "perched" groundwater seepages were encountered at depths ranging from 3.5 to 5.0 feet. The presence of shallow dense, Decomposed Granite or hard Granite bedrock underneath the surficial silt and sand soils can result in minor subsurface seepage and subsurface "flow" during wet weather and can cause "perched" groundwater seepages. Our observations of existing slopes and other areas of the site appear to indicate that groundwater seepage is low across this site. Small amounts of groundwater seepage will be present as "perched" water on top of the underlying granite rock during wet weather.

Given the steepness of the lot, which promotes rapid surface runoff, large amounts of groundwater are not anticipated. The regional drinking groundwater is typically very deep with wells encountering the water in fractures of the granite rock commonly known as "tombstone granite".

Groundwater levels do change due to seasonal rainfall and other climatic occurrences. Given the site geometry and nature of the soils encountered, it is likely that a seasonal water table could rise within two or three feet of the surface. Some perched water could also be present where stormwater cannot percolate through the upper clayey soil layers. Therefore, it is prudent to use footing and wall drains and floor subdrains where structures are embedded into the subsurface soils.

Surface Water. Several small swales cross the site and "run" towards the east end of the project. It appears that surface water is only present during the winter months and in some swales during the heavy rainfall events which can occur in Grants Pass. During the dry summer months, the existing drainage swales are dry with surface flows only occurring during the periodic summer storms which can occur in Grants Pass. Much of the surface water on the project currently discharges into the existing GPID irrigation canal which "runs" along the lower reaches of the project. We have assumed that surface runoff from the project will continue to be discharged into the canal or will be rerouted into the city storm drain system which eventually discharges into Gilbert Creek.

Therefore, overall water flow to distant Gilbert Creek will not be altered. Interception of the runoff should not adversely affect parcels upstream or downstream of the project.

Runoff will be somewhat quicker during storms due to an increase in "impermeable" surface. These sources of water are very small and do not provide a water supply for agriculture and/or domestic water wells.

5.0 GEOLOGY AND SEISMICITY

5.1 GEOLOGIC SETTING

The project area is located in the northwestern portion of the city of Grants Pass, Oregon. The site is within Oregon's Klamath Mountain Geologic province.

The principal bedrock unit in the project area is the Grants Pass Pluton, a Cretaceous/Jurassic age granitic intrusive body (KJg). The KJg bedrock is described as: "Mostly tonalite and quartz diorite but including lesser amounts of other granitoid rocks" (Walker and MacLeod, 1991).

Granitic rocks in the project area are moderately weathered near the surface, but relatively unweathered granitic rock has been observed at depths of less than ten to fifteen feet in the project area. Practical refusal with standard backhoe equipment is sometimes experienced at relatively shallow depths.

No Holocene or Quaternary faults are shown in the project area on Earthquake Hazards Maps for Oregon (Madin and Mabey, 1996), geologic mapping of the area (Walker and MacLeod, 1991), or the Quaternary Fault and Fold Database (USGS, 2007)

5.2 DESIGN EARTHQUAKE

The design earthquake for the project area is based upon established values and methodologies in the International Building Code (IBC; 2006).

The Maximum Considered Earthquake (MCE) and spectral response accelerations were established as set forth in Section 1613. The site has a mapped Maximum Considered Earthquake (MCE) spectral response acceleration at 0.2 seconds for Site Class B (Ss) from Figure 1613.5-1 (IBC, 2006) of S_s=0.770g. The site has a mapped Maximum Considered Earthquake (MCE) spectral response acceleration at 1.0 second for Site Class B (S1) from Figure 1613.5-2 (IBC, 2006) of S_1= 0.386g.

A Site Class of C was established for the project site (Table 1613.5.2; IBC, 2006). Spectral Parameters for Site Class C are:

0.2 sec Period- S_{MS}=FaSs, Fa=1.092 S_{MS}=0.841g (Equation 16-37)
1.0 sec Period- S_{M1}=FvS1, Fv=1.414 S_{M1}=0.546 (Equation 16-38)

EXHIBIT 8
PAGE 9 OF 58

As reference information, the expected peak horizontal bedrock acceleration at the project site, due to all earthquake hazards for an event with frequency of occurrence of once in 2500 years (2% chance of occurrence in any 50-year period.), is 0.3217g (USGS, 2002). For an event with a frequency of occurrence of once in 500 years (10% chance of occurrence in any 50-year period), the expected peak horizontal bedrock acceleration is 0.1267g USGS, 2002).

5.3 GEOLOGIC HAZARDS REVIEW

Based on our observations at the project site, review of geologic maps, and our knowledge of the area, the following should constitute the geologic hazards for this site with associated risk of damage at the site due to each hazard.

Expansive Soils. No expansive soils were encountered at the project site during the investigation. We do not anticipate any potentially expansive (clayey) soils to be encountered during construction. Therefore, the risk of damage at the site due to expansive soils is considered to be low.

Liquefaction. Stiff, sandy Silt and dense, silty Sand soil horizons were observed in our field investigation to have developed on the granitic bedrock. The soil horizons varied in depth, but typically extended four to six feet below ground surface.

Shallow groundwater or saturated conditions commonly do not occur within these relatively thin deposits. Based on well logs in the area (ODWR, 2007) the regional groundwater table in the fractured bedrock is greater than 50 feet in depth. Based on these subsurface conditions, the risk of damage at the site due to liquefaction is considered to be very low.

The publication "Relative Earthquake Hazard Maps for selected urban areas in western Oregon" (Madin and Wang, 1999) indicates the project area, including steeper slopes, is Zone D (lowest hazard) with regard to earthquake induced liquefaction potential.

Slope Stability. The site has slopes developed on the granitic bedrock, which range from 15% near the eastern boundary of the project, increasing to, and in excess of, approximately 50% toward the western boundary. No active landslides or slope instability was observed at the time of our field investigation, or upon review of aerial photos of the site (BLM, 2001). Project development will occur on these slopes. Dislodged cobble and boulder-sized pieces of granite may develop on joints or fracture planes in the bedrock. Such pieces may be dislodged and roll partially downslope during the construction process. No large rock outcrops/overhangs which could be unstable during a seismic event were noted during the field investigation. The risk of damage due to rockfall from natural formations at the site is very low. This condition must be maintained through roadway construction.

Relatively minor sloughing of the surface soils was observed in these soil/rock conditions. The risk of damage at the site due to large-scale slope movements is very low. Any rapidly-moving landslides (debris flows), if they should originate in the steep headwalls and drainages, would be confined to topographically lower areas along the existing drainages in the project area. Lot lay-out should consider this, and final building pad location and grading plans should be reviewed by our staff before construction.

The occurrence of any significant slope instability we have observed in similar granitic terrain resulted when large cuts, at extremely steep angles, were made by uninformed parties. The granitic rocks are typically massive, with some jointing and fractures observed in outcrops. Steep, tall, cut slopes could produce isolated rockfall due to adverse fracture planes. In-progress grading inspections must be made during construction to note any adverse joints or shear zones which might negatively impact cut slopes. Therefore, cut slopes (for roadways particularly) must be observed by our geologist during the road building process. Adverse fracture planes observed will require additional grading to decrease the likelihood of rock fall in the future. Highly weathered rock and soil zones will require flatter cut slopes to remain stable in the roadway cuts. These items will be addressed later in the design portion of this report so as not to be a significant problem or risk to the project.

The "Relative Earthquake Hazard Maps for selected urban areas in western Oregon" (Madin and Wang, 1999) publication indicates the project area, including steeper slopes, is Zone D (lowest hazard) with regard to earthquake induced landslides.

Recommendations for site grading and proper methods of cut-and-fill construction are provided in our geotechnical report, and it is essential these recommendations be followed closely in order to minimize slope instability both during and after construction. Similarly, recommendations addressing surface and subsurface drainage in the project area, as well as erosion control measures, are provided in this report, and must be followed during construction to maintain slope stability in the project area. In-progress grading inspections should be made during construction to note any adverse joints or shear zones which could negatively affect cut slopes.

Ground Rupture. There are no Quaternary fault traces identified across or near the project site on published geologic maps (Madin and Mabey, 1996; USGS, 2007). Therefore, the risk of damage at the site due to ground rupture is considered very low.

Ground Shaking. The expected peak horizontal bedrock acceleration at the project site, due to all earthquake hazards for an event with frequency of occurrence of once in 2500 years (2% chance of occurrence in any 50-year period), is 0.3217g (USGS; 2002). For an event with a frequency of occurrence of once in 500 years (10% chance of occurrence in any 50-year period) the anticipated maximum horizontal bedrock acceleration at the site is expected to be 0.1267g (USGS, 2002).

Tsunami and Seiche. The site is located over 50 miles inland, and is therefore not subject to inundation from a tsunami. The site is not located downstream of major dams or adjacent to reservoirs or lakes. There are also no water tanks currently upslope of the proposed site. Therefore, in our opinion, the site is not subject to hazard from seiche or seismic-induced flooding.

Seismic Ground Amplification or Resonance. No hazardous amplification or resonance effects from seismic waves have been associated with the soil/bedrock subsurface conditions in the project area. The IBC Site Class designation given in the design report should compensate for any ground amplification or resonance that would occur at the proposed site. The risk of damage at the site from unexpectedly severe shaking due to seismic wave amplification is low.

The "Relative Earthquake Hazard Maps for selected urban areas in western Oregon" (Madin and Wang,1999) publication indicates the project area, including steeper slopes, is Zone D (lowest hazard) with regard to earthquake induced ground amplification of seismic waves.

Conclusions. Therefore, based on our site observations and review of geologic literature and map review, in our opinion, there are no geologic hazards that will cause severe damage at the site. The project must be designed for the potential for severe ground shaking during the anticipated seismic events. Also, as noted earlier, adverse fracture planes and soil profiles in cuts are items that must be reviewed during final design and construction in order to decrease the potential risk of rockfall and bank sloughing on cut slopes.

6.0 STEEP SLOPE CONSIDERATIONS

Relatively large cuts and fills (ranging from 5 to 25 feet) will be required to construct the extension of Pleasant View Drive. These cuts and fills are generally required in order to properly develop these steep slope areas. We recommend the project be designed to minimize the amounts and/or heights of cuts and fills as much as possible. Proper design and construction of these cut slopes will be required to ensure that future instability is not caused by the development. Grading inspections and testing must be made during construction to note any adverse joints or shear zones which might negatively impact cut slopes and to verify proper placement and compaction of fill slopes.

The proposed roadway and its utilities, as planned, will not decrease the stability of the native steep Decomposed Granite and weathered Granite slopes. The very stable weathered rock beneath the shallow soils will not have its stability altered by this development (if properly constructed). Due to the steepness of the slopes at the site, loose fills placed on these slopes can result in future slope instability; therefore, we

EXHIBIT 8
PAGE 12 OF 58

recommend all fills placed for this project be verified by The Galli Group during construction.

All foundations will be required to be embedded into the dense native granite unit. These are very stable natural granitic hillsides. The use of embedded basement levels and foundations can be utilized to minimize the impact on viewscapes by lowering the roofline of the new home. Due to the extreme variability of grades across the site and the variability between building sites, we recommend each lot owner or builder be required to obtain a lot specific Geotechnical Design Report, Grading Plan and Erosion Control Plan.

There have been no observed slope failures on these granitic slopes caused by properly designed and constructed projects. With proper water control and cut and fill slope control, the development will not decrease stability of this or adjacent parcels. Therefore, the proposed development will not adversely affect the overall stability of this or adjacent parcels.

The road and subdivision construction will not significantly affect the surface or groundwater regime of this area. All runoff will still move towards the existing natural swales which cross the site and discharge into the same swales or ditches as prior to development. These are the current runoff destinations. Therefore, this development should not significantly alter surface water discharge locations.

Based on the above-listed items, in our professional opinion, the subject development will not adversely affect this or adjacent parcels.

7.0 CONCLUSIONS

In our professional opinion, based on our field observations and office review, the subsurface conditions at the site are suitable for the proposed roadways and single-family residences, provided the recommendations contained in this report are followed during design and construction of the project. Proper design and construction of the cuts and fills will provide "stable" subgrades for the subdivision roadways. We anticipate that the future homes will be supported on reinforced concrete, continuous and isolated spread footings founded on the dense soils and weathered granitic rock beneath the surficial looser soils. All foundations must be founded into the underlying, dense native soils. Cuts and fills are allowed for foundation excavations and for roads and driveways.

8.0 GEOTECHNICAL RECOMMENDATIONS

The site consists of moderate to steep slopes consisting of sandy Silt, silty Sand, coarse Sands (Decomposed Granite) and the underlying, weathered Granite bedrock. The site is

acceptable for the proposed development, provided all foundations are founded in the dense, native granite, roadway fills are securely "anchored" on the slopes and cut/fill slopes are sloped properly. Surface water control and final grading procedures are also critical to limiting erosion on the slopes and in the swales of the project and to maintain slope stability. The following sections provide detailed geotechnical recommendations for the design and construction of the proposed subdivision.

8.1 SITE PREPARATION

All areas proposed for structures, roads, driveways and structural fill beneath these items, should be cleared and grubbed of all trees, stumps, brush and other debris and/or deleterious materials. The site should then be stripped and cleared of all vegetation, sod and organic topsoil. It appears that a stripping depth of from 4 to 8 inches would be required across the undisturbed portions of the project. This would be deeper in any areas where concentrated runoff has altered the soil to a greater depth (such as shallow swales or ditch areas). Additional stripping would be required in areas to remove the larger rootzone and root balls from large trees and brush.

The stripped materials should be hauled from the site or stockpiled for use in landscape areas only. This material should not be used in structural fill, trench backfill, footing backfill or to create fill slopes on this project. The very silty surficial soils will be difficult to compact, will have low strength and should also not be used as structural fill or utility trench backfill.

All undocumented fill and/or debris below structures and close to finish subgrade within roadway areas should be removed. Movement of surface and/or groundwater into and through these old conduits can create the potential for piping of soils (the removal of soil fines by water seeping into the void spaces or through conduits), resulting in subsidence of the surface or settlement of structures and paved areas.

Holes or depressions resulting from the removal of underground obstructions, old ditches and excavations that extend below the finish subgrade and will be beneath structures or roadways shall be cleared of all loose or soft material and dished to provide access for compaction equipment. These areas shall then be filled with lean concrete or be backfilled and compacted to grade with structural fill, as described in the following section(s).

It is recommended that the finished stripping of the site and backfill and compaction of depressions below finish subgrade be observed by our representative prior to construction at the site.

8.2 SITE EXCAVATIONS

During the construction of the project, we estimate utility excavations up to 10 to 12 feet and roadway cuts up to 15 feet may be required for construction of utility lines and roadway grades within the project. The combination of the roadway and utility cut will most likely require excavations of 15 to 25 feet below existing grades. The bottom of the deeper excavations may encounter the fractured to competent Granite bedrock beneath the surficial sandy Silt and Decomposed Granite soils.

During the subsurface investigation, the Volvo EC55B trackhoe did not "hit" refusal in the exploratory test pits. The Decomposed Granite unit was excavated very slowly by the small to medium-sized excavator. In our opinion, larger trackhoes (with narrow buckets) and dozers with rippers should be able to excavate this unit to deeper depths. However, excavations (especially excavations deeper than 10 feet into the Decomposed Granite) may encounter hard rock units, which may require the use of a hydraulic hoe-ram and/or blasting.

While conventional excavation equipment should be adequate across most of the site, it should be understood that there is a risk of encountering local areas of relatively hard rock that may require rock excavation techniques, such as use of a hydraulic hoe-ram, to excavate. The risk of encountering hard rock can be lessened by minimizing the depth of cut required for construction of the subdivision roadways.

8.3 STRUCTURAL FILL PLACEMENT AND COMPACTION

8.3.1 Beneath Structures

Structural fill is defined as any fill placed and compacted to specified densities and used in areas that will be under structures, roadways, fills, pavements, parking areas, shoulders and other load-bearing areas or be used for backfill. At this time it appears that small to large fills will be required for the roadway, utilities and driveway approaches.

Structural Fill Materials. Ideally, and particularly for wet weather construction, structural fill should consist of a free-draining granular material (non-expansive) with a maximum particle size of six inches. The material should be reasonably well-graded with less than 5 percent fines (silt and clay size passing the No. 200 mesh sieve). During dry weather, any organic-free, non-expansive, compactable granular material, free of debris and other deleterious materials, meeting the maximum size criteria, is acceptable for this purpose. The excavated Decomposed Granite (silty to coarse Sands) material and weathered granitic rock should perform well as structural fill during dry weather. The more clayey and silty portions of these soils will be difficult to compact and proper moisture content of the soils is critical to compaction. We recommend all fills placed for this project be compacted as structural fill to minimize erosion and sloughing of loose granite soils.

Locally available crushed rock and good quality jaw-run or crushed "shale" have performed adequately for most applications of structural fill. Care must be taken when the granitic materials are used to minimize the likelihood of erosion.

Structural Fill Placement. Structural fill should be placed in horizontal lifts not exceeding 8 inches loose thickness (less, if necessary to obtain proper compaction) for heavy compaction equipment and four inches or less for light and hand-operated equipment. Each lift should be compacted to a minimum of 98 percent of the maximum dry density, as determined by ASTM Test Method D-698 (Standard Proctor).

We recommend utilizing a large segmented pad or sheepsfoot roller when compacting the onsite silty and sandy Decomposed Granite soils and any imported sandy materials. However, with thinner lifts (4-inches or less), smooth drum rollers, jumping-jacks or large vibra-plate compactors may be utilized to compact the onsite Decomposed Granite soils. A large, vibratory smooth drum roller may be utilized when compacting rock materials such as crushed rock or jaw-run "shale".

Structural fill placed beneath footings or other structural elements must extend beyond all sides of such elements a distance equal to at least ½ the total depth of the structural fill beneath the structural element in question for vertical support. Where fill is placed to build up the area on the low side of the site for support, we recommend the structural fill extend beyond the footing or roadway paved surface area at least 4 feet horizontally then slope away at no steeper than 2H:1V with a compacted fill slope surface.

To facilitate the earthwork and compaction process, the earthwork contractor should place and compact fill materials at or slightly above their optimum moisture content. If fill soils are on the wet side of optimum, they can be dried by continuous windrowing and aeration or by intermixing lime or Portland Cement to absorb excess moisture and improve soil properties. If soils become dry during the summer months, a water truck should be available to help keep the moisture content at or near optimum during compaction operations.

Note: Proper fill placement and compaction is critical to the proper long-term performance of the project. Site preparation, fill material type, moisture content, lift thickness and mechanical effort by the proper compaction equipment all play a critical part in attaining properly constructed fills. Properly constructed fills also decrease the likelihood of heavy erosion on the site. Therefore, we recommend the general contractor and subcontractors read and understand the content and intent of this report prior to beginning the earthwork process.

Fill Placement Observation and Testing Methods. The required construction monitoring of the structural fill, utilizing standard nuclear density gauge testing and standard laboratory compaction curves (ASTM D-698 specified), is not applicable to larger jaw-run "shale" or larger crushed rock. The high percentage of rock particles

EXHIBIT 9
PAGE 16 OF 58

greater than ¾'s of an inch in these materials causes laboratory and field density test results to be erratic and does not provide an accurate representation of the density achieved. Therefore, construction specifications for this type of material typically specify method of placement and compaction coupled with visual observation during the placement and compaction operations.

For these larger rock materials (such as 4-inch minus crushed rock or jaw-run "shale"), we recommend the 8-inch lift be compacted by a minimum of three (3) passes with a heavy vibratory roller. One "pass" is defined as the roller moving across an area once in both directions. The placement and compaction should be observed by our representative. After compaction, as specified above, is completed the entire area should be proofrolled with a loaded dump truck to verify density has been achieved. All areas which exhibit movement or compression of the rock material under proofrolling should be reworked, removed or replaced as specified above.

Field density testing by "nuclear" methods would be adequate for verifying compaction of 2-inch to ¾-inch minus crushed base rock, Decomposed Granite and other materials 2 inches or smaller in size. Therefore, typical verification specifications as listed earlier would suffice.

We recommend all structural fill placement and compaction be tested for density compliance or be observed during placement (as for coarser material such as 4" or 6" minus rock) by a representative of The Galli Group prior to covering individual lifts.

8.3.2 Utility Trench Backfill

Utility lines of various types will be buried across the project. Based on our review of the development site plan, it appears some of the utility lines may be founded within the roadway fills. This fill, if not properly placed and compacted, may subside and/or settle to the point of causing cracks or breaks in pipes. It is important that all utility lines, especially those placed entirely within fill masses, are adequately supported and the trenches need to be backfilled and compacted properly to prevent subsidence of the surface or damage to the utility lines or pavement section.

In our experience, utility trench backfill has been the source of the majority of post-construction fill settlement problems in paved areas. These areas cause early pavement failure due to inadequate subgrade support. Poor trench compaction across sloped landscape areas can also result in significant surface erosion.

We strongly recommend that all utility trench backfill be placed and compacted in the same manner as described for structural fill above. The onsite Decomposed Granite, or crushed rock, should make reasonable trench backfill during dry weather and on moderate to flat slopes. However, if placed in trenches on the slope the Decomposed Granite can wash out easily. Therefore, angular rock fill or slurry would be a better choice for

trenches on slopes. Trench backfill beneath structures should be placed and compacted in accordance with the section on Structural Fill, earlier in this report. Trench backfill beneath asphalt pavements but not under structures should be compacted to at least 98 percent of the maximum dry density, as determined by ASTM Test Method D-698 (Standard Proctor) for the upper 36 inches. Below 36 inches the trench backfill should be compacted to at least 95 percent of the maximum dry density. Trench backfill in landscape areas, that is not part of a cut or fill slope, may be compacted to between 90 and 93 percent of the maximum dry density per ASTM D-698.

We recommend our personnel periodically observe and/or test trench backfill to verify compliance with project plans and specifications.

Preventing Shallow Groundwater Movement. Where utility trenches will lead upslope or downslope we recommend any granular backfill, which can channel seepage, be blocked by a lean concrete or clayey soil "check dam" (at least 24" wide) the full depth of the trenches. We recommend these check dams be placed at 100-foot intervals in all trenches to minimize movement of shallow groundwater through the trench backfill. Allowing groundwater to migrate through "porous" trench backfill can create slope stability problems lower on the hill when the channeled groundwater emerges from the trench. Alternately, trenches should be backfilled with a low permeability backfill. Well-compacted, silty, Decomposed Granite, compacted at 2% to 3% above optimum moisture content would be acceptable.

Utility Lines in Slopes. In locations in which storm drains or other utility lines will "run" upslope or downslope into individual lots; if possible, we recommend locating these utility lines in native soil areas (i.e. not in the face of the fill or cut slopes). Our experience with utility lines which tend to "run" up or down these cut/fill slopes is that the trench areas tend to experience large amounts of erosion and slope failures. If a utility line must be located in the face of a cut or fill slope, it is prudent to utilize a lean cement-sand slurry (minimum of 2 sacks of cement per cubic yard) for backfilling the utility line to reduce the likelihood of future erosion and instability along the trench line.

Thrust Block Design. Thrust blocks will be required along the alignment where changes in direction or taps on water lines occur. Assuming the centerline of the pipelines will be approximately 5 feet (or greater) below the surface, thrust blocks may be designed using a lateral bearing capacity of 2,000 pounds per square foot, to a maximum of 15 kips for the dense, silty to coarse Sands (Decomposed Granite). Areas requiring larger lateral thrust resistance values should be evaluated in the field by the engineer to verify soils at the pipeline depth at those locations are capable of withstanding the proposed loads. Minimum thrust block size should be 2 square feet.

All thrust blocks must be poured neat against undisturbed, dense, native soils. In no case, should the thrust block be poured against loose fills or disturbed soils. All loose soils must be removed prior to placement of the concrete. The cured thrust blocks should be

backfilled against on all sides with compacted trench backfill. We recommend the backfill be placed and compacted evenly on each side of the thrust blocks and opposite side of the utility line to minimize their movement during compaction operations.

8.3.3 Non-Structural Fill

Any waste soil, organic strippings, soft, sandy Silt or other deleterious soil would be considered non-structural fill. These soils must be removed from the site or used in a thin layer as "topsoil". They should not be placed as structural fills or to create fill slopes on this sloping site. It is recommended that these soils be given a moderate level of compaction (about 90%) to help "seal" these soils from surface water.

8.4 CUT AND FILL SLOPES

Cut and fill slopes will be required in order to create the roadways and portions of the building pads and driveways for the proposed project. Due to the relatively steeply sloping topography across the majority of the site, cuts ranging from 5 to 15 feet may be required for construction of the Pleasant View Drive extension. Fills between 5 to 25 feet in height may be required for the roadway as well. Cuts and fills should be designed and constructed as described below.

8.4.1 Cut Slopes

All permanent cut slopes should be constructed at no steeper than 2H:1V in the upper 3 to 5 feet of the surficial soils and 1H:1V in the denser underlying weathered Granite rock. The surficial soils should be cut at slopes of 2H:1V or flatter to decrease the risk of future sloughing. Some sloughing and/or raveling of the slope surface could be expected in wet weather and extremely dry weather until they become fully vegetated. It should be noted that these cut slope recommendations are for roadway and driveway approaches only. Cut slope inclinations around yards, homes and foundation setbacks should be evaluated on a lot-by-lot basis during the geotechnical evaluation and grading plan for each parcel.

Temporary cut slopes of ½H to ¾H:1V may be constructed during the construction of partial basements, driveway areas and the roadway. The "temporary" cut slopes must be backfilled once the retaining walls are completed. These must also be cut back for roadways to the permanent inclination when not backfilled against. Care must be taken due to the possibility of rock fall off these steep cut slopes. It should be noted that some excavations on this ridge may have rockfall due to adverse fracture planes dipping into the excavation. Therefore, our geologist should observe excavations during construction in order to verify the presence or absence of such conditions. **Note:** Workmen must be protected at all times in excavations. The contractor is at all times responsible for job site safety including cut slope and trench safety. The project engineer is not responsible for any aspects of job site safety.

8.4.2 Fill Slopes

Fill slopes will be utilized to construct parts of the roadway, driveways, parking and possibly yard areas. Where fill slopes are required, the following provides guidelines for their construction.

Fill slopes may be constructed of imported rock or shale fill, the excavated weathered granite or Decomposed Granite soils. We recommend maximum slope angles of fill of 2H:1V. All materials should be placed and compacted as structural fill, as described in previous sections of this report. Keying in the toe of all fills and benching of fill into the slopes is critical to long-term stability. This is described later in this report and shown on Figure 3. *We strongly recommend, in order to decrease sloughing and erosion of the fill slope, that all fills be overbuilt laterally and that the face be cut back to a compacted fill face.* This would not be required of slopes constructed of rock fill materials. It is critical to decrease long-term settlements beneath portions of the project that these fills be placed and compacted properly.

We recommend periodic density testing of all individual lifts as they are being built. Density testing on only the top lift of fills is not adequate. For this project, assuming the onsite Decomposed Granite soils are used as structural fill, this will require a full-time inspector with a nuclear density gauge.

Many times native Decomposed Granite soils are used to help create cut/fill roadway sections. Fills are placed on the slope with less than perfect benching, somewhat steeper then recommended (in the Geotechnical Report) fill slopes and without the specified densities. In almost all cases it has been found that the high angle of internal friction of the angular sand and gravel-sized Decomposed Granite has allowed these fills to densify under subsequent winter rains. Some slight settlements and small to moderate sloughs off the fill face are experienced (especially during heavy rainstorms the first 1 to 2 winters). But rarely do we see major failures in these fills that damage a major portion of the roadway, where effort was expended for key trenches and compaction of the fill. *For proper long-term performance and to allow our engineer to verify compliance with the geotechnical report at the end of the project as required by the city, we recommend all fills be placed and constructed in accordance with the recommendations of this report.*

8.4.3 Fill Placed on Sloping Sites

Fill placed on sloping areas of the site (slope angle of underlying native slope 10% or greater) must incorporate additional precautionary measures. To assure that these fills remain in place or do not fail due to gravity, seismic loads or hydrostatic pressure of trapped water, we recommend the following:

Key Trench. The toe of all fills placed on slopes must be keyed into the slope by use of a key trench. The depth of key trench embedment should be 2 feet into the undisturbed, native soils for fill slopes up to 15 feet high and 3 feet for fills up to 30 feet high. The

EXHIBIT 9
PAGE 20 OF 58

key trench should be wide enough to accommodate excavation and compaction equipment (8 to 12 feet minimum) and have the base flat or sloped back into the hillside somewhat (see Figure 3). The key trench generally runs along the contours at the base of the proposed fill slope.

Benching. The underlying native slope should be benched into flat benches back up the slope above the key trench prior to placement of the fill slope. These benches should be flat or tipped back slightly into the hillside. They should run parallel to the contours. Please see Figure 3 for graphic representation of these details.

Drainage. All noticeable seepage or wet zones observed during the keying and benching excavation process should be provided with subdrains. At the discretion of the project engineer, at a minimum, the key trench would require a subdrain section. Where wet conditions exist the benches may also require subdrain sections to remove subsurface flow from behind the new fill. Please note that fills placed on slopes have a much lower lateral permeability than the native soils. Therefore, seepage through the native soil can become trapped behind these fills causing fill slope stability problems. Figure 3 depicts typical subdrain locations to help prevent fill soil saturation.

This is particularly important in areas where fills may cross shallow swales leading down the slope. These swales tend to carry small to moderate amounts of surface flow and also shallow "perched" groundwater. A way must be provided to intercept this water (and convey it downslope of the fill zone) before it can saturate and possibly destabilize the fill mass. A combination of shallow French Drains and catch basin entrances to the cross culverts at these locations could help mitigate this potential problem. Control of the surface and shallow subsurface water above such fills is critical to their long-term stability.

8.4.4 Fill Placed in Swale Areas

The construction of Pleasant View Court will require cut/fill sections which are situated across existing seasonal drainage swales. These swale areas, no matter how small, will generally still "pass" considerable amounts of subsurface groundwater seepage during wet weather. Therefore, we recommend all swale areas be cleared of organics and soft soil and have a subdrain installed along the invert. The subdrain should be similar to that shown in Figure 4, Swale Subdrain. The rigid wall, perforated pipe should be connected to a rigid wall tightline which discharges to an acceptable discharge location.

We recommend that our engineer or a representative of The Galli Group observe all potential swale areas and locate swale subdrains prior to placement of structural fill in these areas.

Many times, swales that are filled across for roadways or structure pads will also pass surface water during wet weather. This surface water should be intercepted upslope of

EXHIBIT 8
PAGE 21 OF 58

the fill areas by an appropriately sized catch basin. Shallow subsurface water should also be intercepted upslope of cut slopes to decrease surface sloughing at the top of these slopes. As before, the intercepted water must be conveyed to an acceptable discharge location or back into the natural drainage swales. We recommend the project civil designer size the catch basins and discharge lines to "carry" at least a 50-year storm.

8.5 PRELIMINARY FOUNDATION RECOMMENDATIONS

8.5.1 Standard Spread Footings

Due to the dense Decomposed Granite soils which exist across much of the subdivision, it appears that structures will be supported on conventional spread footings. However, we recommend that the building department require a lot specific Geotechnical Report, Grading Plan and Erosion Control Plan be accomplished for each residential lot at the time of construction by the individual homebuilder or owner. It is highly likely that at the conclusion of the roadway and utility construction, each lot will have unique design and construction difficulties which will require lot specific information and design.

Due to the steepness of various portions of the subdivision, some of the homes should utilize embedded foundations to "hold" the homes onto the slopes. The use of daylight basements, variable height crawl-spaces and suspended garage floors should also be utilized to embed the homes into the hillside and to minimize the amount of fill used to create the yard areas around the homes. At the time of individual home construction, it is likely that the slopes will be terraced and over-excavated in order to accommodate the foundations and retaining walls to create "flat" yard and driveway areas around the homes.

Due to the moderate steepness on portions of the lots at the edge of the prospective building envelopes, we recommend spread footings not be founded in the surficial sandy Silt soils. They should also not be placed on any undocumented fill soils. Support on these soils can result in differential settlement between these and members founded deeper in the native soils or weathered rock. All footings must be embedded into the top of the dense, Decomposed Granite or weathered rock unit below the surface soils on the slopes. We recommend the following for all footings at the site:

1. Excavate through the surface soils or fill and into the dense Decomposed Granite or the underlying weathered rock.
2. We recommend all foundations penetrate the surficial sandy Silt soils and/or fill into the dense granitic materials. On slopes greater than 20%, the footings must penetrate at least two feet into the dense granite materials.
3. Where softer soils are present on flatter lots, over-excavation and backfill with structural rock fill may be needed. This will have to be evaluated on a lot-by-lot basis.
4. Clean all loose, soft, soil out of the excavations.

EXHIBIT 8
PAGE 22 OF 58

5. Final embedment from the base of the footing to the exterior ground surface should be at least 16 inches in all locations for frost protection and lateral resistance.
6. Footings constructed in this manner may be designed for an allowable bearing pressure of 2,000 pounds per square foot (psf) on the dense Decomposed Granite. The allowable bearing capacity given may be increased by 1/3 for transient wind and seismic loading.
7. Minimum footing sizes should be at least 12 inches for continuous strip footings and 18 inches for isolated pier footings on the granite. The exception would be for posts which support floor loads only. These could be as small as 12-inch square, as long as they are founded into the top of the dense native granite.
8. Foundations which "run" up and down a slope must be "stepped" such that all areas of the footing bear on a level subgrade cut into the dense Decomposed Granite soils as described above. In no case should footings be poured on a sloping subgrade.

All footings must be poured "neat" against the undisturbed, cleaned off, dense, Decomposed Granite or weathered granite rock. All loose rock, soil and rock fines must be removed prior to placing rebar and pouring concrete. We recommend our firm be contacted when the contractor begins footing excavation in order to verify subgrade conditions of all footing excavations.

After completion of footings and the foundation stem wall, the footing excavations should be backfilled against to maintain the minimum embedment recommended above.

8.5.2 Footings on Slopes

Portions of the residences and site development will be constructed on or near the steeper slopes of the parcel. Support on the steeper slopes (>20%) will require deeper embedment for proper vertical and lateral support.

Vertical Support Only. Where footings are required to provide only vertical support (i.e., not backfilled behind where sliding resistance is critical) we recommend the footings be embedded into the underlying dense, Decomposed Granite. Embedment should be sufficient such that the horizontal distance from the outside bottom corner of the footing to the sloping ground surface is at least five (5) feet.

Vertical and Lateral Support. In some areas of the site, design of the structure will require lateral restraint as well as vertical support of footings. Some of these foundation areas will be for conventional retaining walls that also take the place of foundation stem walls. For these, lateral resistance can be attained by friction on the base of the footings, passive resistance at the toe and keyways or rock bolts extending through the base of the footings, into the dense underlying unit. It should be noted that for foundation/retaining walls that have the toe of the footing close to the native slope, the typical passive resistance will be compromised due to the lack of lateral support of the soils. If additional resistance such as shallow drilled piers, driven piles or rock bolts are required

for sliding resistance, we should be contacted to review such conditions on a lot-by-lot basis and provide designs as necessary.

Note: As the final design details progress for this project, we would be available to discuss methods of vertical and lateral support for foundations and retaining walls on steep slopes on a lot-by-lot basis.

8.6 LATERAL LOAD RESISTANCE

8.6.1 General

Lateral loads can be resisted by passive pressure acting on buried portions of the foundation and other buried structures, and by friction between the bottom of concrete elements of the foundations and the underlying dense Decomposed Granite. We recommend the use of passive equivalent fluid pressures of the following values for portions of the structure and foundations embedded into the native soils, dense fills or granite.

- Stiff, sandy Silt 200 pcf
- Dense, Decomposed Granite 350 pcf
- Extremely soft, weathered Granite 450 pcf

The value of the shear strength of much of the Decomposed Granite and weathered rock under lateral load will actually be greater than the equivalent fluid pressure given. However, the likelihood of discontinuous and angled fracture planes, which can compromise the global strength, does not allow us to provide a blanket recommendation of higher values.

We also recommend that the first ½ foot below the ground surface (in the soil) be ignored when computing the passive resistance. A coefficient of friction of 0.45 can be used for elements poured neat against structural rock fill, Decomposed Granite and weathered to fractured Granite. This should be reduced to 0.30 for footings over sandy Silts and to 0.20 for slabs over plastic vapor barriers.

8.6.2 Global Lateral Resistance

The parameters provided in this report for lateral earth pressures and lateral resistance are to be used to design retaining walls and other retaining structures. While these loads provide the anticipated load each wall component must resist, global lateral stability of any fill, stacked wall and house structure combination may require a greater amount of lateral restraint/resistance.

This would apply to areas of any structure or adjoining deck and wall areas that have, by their construction, created a large backfill mass that will have to be restrained during a

seismic event. Garage areas that might be backfilled in order to utilize a concrete slab-on-grade and that are situated over the upper portion of the steeper slopes would have a large mass of fill material (plus the structure mass) that will try to "slide off" the back of the ridge during a seismic event. "Stacked" retaining walls can also create instability for the overall slope. These must be designed properly for adequate lateral resistance.

We recommend that we be allowed to review the final project design (when all methods of structural support and construction have been determined) to verify global stability meets typically required factors of safety against failure under seismic loading (FS = 1.15 to 1.20).

8.7 RETAINING WALL RECOMMENDATIONS

We anticipate that various types of retaining walls may be utilized during the construction of the subdivision as well as during individual home construction.

8.7.1 Conventional Concrete or CMU Block Walls

Lateral earth pressures will be imposed on all below ground and backfilled structures or walls or lean mix underpinning, including foundations, which do not have uniform heights of fill on both sides. The following recommendations are provided for design and construction of conventional concrete or CMU block retaining walls:

- We recommend walls which are free to rotate at the top (unrestrained), be designed for an equivalent fluid pressure of at least 40 pcf.
- Walls that are fixed at the top (restrained) should be designed for an equivalent fluid pressure of at least 60 pcf.
- These values are for properly compacted, non-expansive, free-draining granular soils (such as "clean" Decomposed Granite crushed rock, drain rock or jaw-run "shale"), free of organics and other debris or for imported granular backfill. Utilize a wet soil unit weight of 125 pcf for design. Organic topsoil and silty soils should not be used for wall backfill materials.
- These design values assume the wall or structure is fully drained (see Figure 5 for drainage recommendations), has a flat backfill and has no surcharge loads from traffic or other structures. The structural designer should include surcharge loading from traffic and building loads.
- We recommend designing retaining walls to resist seismic loading. A peak horizontal ground acceleration of 0.127g for a 10% in any 50-year period is given by the U.S. Geological Survey's "Interpolated Probabilistic Ground Motion Values-Conterminous 48 States" (USGS, 2002). Therefore, a horizontal component of at least 0.13g should be applied to the mass of an enlarged active wedge of soil behind the walls and utilized in a pseudo-static analysis. The wedge length back from the wall along the ground surface may be taken as approximately

EXHIBIT 8
PAGE 25 OF 58

0.6H to 0.8H, where H is the height of the wall. This relates to a uniform load on the back of the wall equal to approximately 8 psf for each foot of backfill behind the wall, for walls up to 10 feet tall (i.e., for a 10-foot tall wall, utilize a uniform load of 80 psf).

- The backfill should be placed in lifts at near the optimum moisture content and compacted to between 93 and 95 percent of the maximum dry density as determined by laboratory procedure ASTM D-698 (Standard Proctor).
- Backfill and compaction against walls or embedded structures should be accomplished with lighter hand-operated equipment within a distance of 1/2h (h being the vertical distance from the level being compacted down to the surface on the opposite side of the wall). Outside this distance, normal compaction equipment may be used.

While proper compaction of wall backfill is critical to the proper performance of the walls, care should be taken to not over-compact the backfill materials. Over-compaction can induce greater lateral loads on the wall or structure than the design pressures given above.

8.7.2 Mechanically Stabilized Earth (MSE) Retaining Wall Recommendations

The following section provides general recommendations for design and construction of Mechanically Stabilized Earth (MSE) wall systems such as Versa-Lok, Keystone, Ultra Block, Allan Block or Hilfiker Welded Wire walls.

Soil Strengths. Based on our site visit, it appears that the surficial soils will tend to consist of a sandy Silts or the underlying silty to "clean" Sands (Decomposed Granite). We recommend against using the surficial sandy Silt soils for backfill behind MSE walls. Based on previous laboratory testing in the area, we recommend the soil parameters given below be used for design of MSE walls within the project.

Decomposed Granite (silty Sand):	Friction Angle = 32°
	Cohesion = 0 psf
	Wet Unit Weight = 125 pcf

It should be noted that the Decomposed Granite materials and the more highly weathered saprolitic soils overlying these tend to vary a great deal across a project. We recommend the wall designer use the above-listed values for the retaining wall design aspect of the project. However, the soils conditions exposed during construction should be observed at the site by our personnel to confirm the soils are as anticipated during the design phase.

Wall Loading Considerations. All retaining structures are acted upon by lateral earth pressures from the wall backfill, surcharge loads from sloping backfill, vehicles,

structures and dynamic loads during seismic events. We recommend these walls be designed for a peak horizontal ground acceleration of at least 0.13g.

Surcharge loads due to traffic are generally modeled as a 200-pound per square foot load on the surface behind the wall. Where heavy truck traffic could apply very heavy tire loads immediately adjacent to the wall, some form of rigid top course or curb must be used to maintain the integrity of walls constructed of smaller individual units. Any walls that have a sloping backfill behind the wall or footings for the adjacent home must also be designed for these added loads.

The static lateral earth pressure exerted on the wall is highly dependent upon compaction of the backfill materials. Looser backfill will exert greater pressures. They are also more susceptible to a decrease in shear strength during wet weather. Therefore, proper compaction (at least 98% per ASTM D-698) must be accomplished during construction for the above-listed soil strength parameters to be valid.

All of the design recommendations assume the following:

- The wall and backfill are placed on level benches with proper toe embedments on the downslope side.
- All walls are fully drained and any benches cut into the slope to facilitate backfill are fully drained as shown on our Wall Drainage Cross-Section (See Figure 6).

Geogrid Reinforcement. In our experience, geogrid reinforcement lengths should generally be longer than recommended by the manufacturer's recommendations. The manufacturers design manuals do not generally account for seismic loading on the wall. We generally recommend that the geogrid reinforcement be extended a minimum of H+24" from pins for stacked walls such as these. As the upper portions of the stacked wall combination is constructed, the geogrid reinforcement is generally shortened to account for the change in loading conditions.

In no case should the geogrid reinforcement layers be loosely placed (which would result in the outward rotation of the retaining wall system). The geosynthetic reinforcement grids must be "stretched" and pulled taught and staked in place to ensure the retaining wall system does not have to "move" to fully mobilize the strength of the geogrid reinforcement. The contractor must also be careful to ensure that the geogrids are not damaged during the structural fill placement around the geogrids. Double layers of geogrid reinforcement area sometimes utilized to "reinforce" the connection between the nylon connection pins and the geogrid reinforcement.

Due to the varied conditions and possible locations of these walls, we recommend our firm be allowed to review the final wall design prior to construction bidding.

EXHIBIT 8
PAGE 27 OF 58

8.8 SLAB-ON-GRADE FLOORS

Slab-on-grade floors could be utilized for the lower level (daylight basements) of the residences and for the garages. Properly prepared structural fill over recompacted and redensified sandy Silt or Decomposed Granite subgrade would be adequate for support of concrete slabs-on-grade. The subgrade soils should be cleaned of loose material prior to placement of structural fill or underslab rock. The subgrade soils should be densified with a vibratory roller (unless it consists of dense granite) and then proofrolled with a loaded dump truck or other heavily loaded rubber-tired vehicle. If proofrolling appears to begin "pumping" of the subgrade a lighter vehicle should be used or proofrolling should be discontinued. The loose and/or unstable areas revealed during proofrolling should be removed and replaced with structural fill. The contractor must be very careful not to "disturb" the subgrade. Proofrolling in basement levels would not be required.

The following recommendations are provided for slabs constructed on properly prepared granitic subgrade soils (non-expansive):

1. A filter fabric between the sandy soils and the drain rock layer will help protect the drainage layer from plugging over time (this is especially needed where the drain rock layer is embedded below the exterior grades). This would not be needed if the exposed subgrade is hard, fractured granite.
2. A six-inch layer of clean (less than 2% passing the No. 200 sieve and less than 5% passing the No. 10 sieve) crushed rock (¼" to ¾" clean crushed rock works well) should be placed over the structural fill or native subgrade to provide a positive capillary moisture break and uniform slab support. The capillary break is especially helpful in areas with floors that will not "breathe" (such as tile or linoleum). **Note:** This drain rock layer should be increased to at least 10 inches and underslab drains installed as described later in this report when the slab is embedded such as a daylight basement level.
3. A relatively impermeable membrane, such as 6-mil (10-mil works better) plastic sheeting, should be placed over the clean, crushed rock layer to further retard upward migration of moisture vapor into and through the concrete slab.
4. In order to protect the membrane, one to two inches of clean sand could be placed on top of the membrane. The sand should be moistened slightly prior to placing concrete.

Note: In some cases others have felt the sand layer and/or vapor barrier could trap moisture causing dampness in the floor. They many times use concrete additives to decrease moisture transmission through the slab. While we disagree with this, we leave the decision to the building designer to use or not use the sand layer, concrete additives and/or vapor barrier.

We recommend that the contractor use deformed reinforcing steel for slab reinforcement rather than welded wire fabric. A minimum reinforcement scheme would be #3 or #4

EXHIBIT 9
PAGE 28 OF 58

bars, 18 inches on center, both ways. Fibermesh may be used to help decrease drying shrinkage cracks, however it is not a replacement for structural reinforcing. All slabs will crack, therefore jointing at 8 to 10 foot intervals or less, both ways, will significantly decrease random cracking in the open areas. Decreasing the water/cement ratio by adding additional cement or using water reducers will also decrease shrinkage cracks and increase surface toughness. Sealing or covering the freshly finished slabs will also slow down the initial surface drying which will decrease drying shrinkage cracks. This is especially important during the hot summer months. Refer to your structural designer for detailed slab reinforcement, jointing and concrete mix design that will provide the desired performance over the life of the project.

8.9 EXTERIOR FLATWORK

Concrete slabs-on-grade will be used for walkways, driveways, patios and porches. Proper subgrade preparation and slab design will provide a better, more durable and nicer looking end result.

Compaction of fill used to level areas beneath flatwork should be accomplished with mechanical compactors. "Water-settling" of the fill will not attain the density required and should not be allowed. All fill materials will need proper compaction (i.e., there are no "self-compacting" products).

We recommend that all flatwork be reinforced with deformed reinforcing steel. The rebar should extend across all dissimilar pours, construction joints and surface jointing to help limit the possibility of vertical offset.

It has been found that pouring the concrete directly on the granite soils has, at times, caused significant discoloration or erratic color variation on the surface of slabs. To prevent these soils from causing such visually unpleasing impacts, a thin (2" to 3") layer of ¾-inch minus crushed rock could be used as a leveling course beneath the slabs. This rock could be wetted, which will generally allow the slabs to cure more uniformly and help avoid the discoloration problems. Verify such methods with your concrete subcontractor.

8.10 FOOTING DRAINS, WALL DRAINS AND FLOOR SUBDRAINS

All exterior foundations, embedded structures and retaining walls should have proper drainage.

Footing Drains. Drainage should consist of a rigid, smooth interior perforated drain pipe (capable of being cleaned by a roto-rooter type apparatus), typically resting adjacent to the footing near the base of the footing, provided this level is below the drain rock layer under any floor slabs and at least 6 inches below the crawl-space. The perforated pipe should be surrounded (sides and above) by a minimum of 8 inches of clean drain

EXHIBIT 9
PAGE 29 OF 58

rock or pea gravel. The drain rock envelope should be wrapped in a non-woven geotextile designed as a filter fabric (AMOCO 4546 or equivalent). We recommend the fabric be covered with a 2-inch layer of sand to protect it against damage during backfilling operations and potential partial plugging from soil fines over the life of the structure. Please see Figure 7 for typical foundation drain details.

Wall Drains. Wall drains should also have a minimum 12-inch wide drainage zone of drain rock wrapped in non-woven filter fabric immediately behind the wall extending up from the drainage section to within 12 to 18 inches of the surface. A preformed, fabric-wrapped, polymer sheet drain, such as Linq Drain, Enkamat or Amerdrain may be used in lieu of the vertical drainage zone, provided this is backfilled with clean, free draining granular material. Exterior wall drains, which will not be sealed on top by asphalt or concrete, should have the upper 12 to 18 inches backfilled with compacted onsite silt and clay soils (with a layer of filter fabric over the rock) to minimize intrusion of surface waters into the wall drain system. Please see Figures 5 and 6 for details of wall drainage methods.

Note: Walls that are part of a basement or daylight basement and that must remain reasonably dry, must have additional water proofing. We recommend a rolled or troweled on bitumen-base sealer (sealcoats that do not harden are less likely to crack and allow moisture into the wall) on the exterior, covered by plastic sheeting and the polymer sheet drain, backfilled with free draining granular materials. While applying the sealer to the entire wall is important, attaining an excellent seal in the lower two feet of the wall, as well as at the wall to footing/floor interface, is critical.

Floor Subdrains. Where the drain rock layer below slabs will be lower than the adjacent exterior grades, water will tend to accumulate in this low area. This is especially true with daylight basements. One method to drain this water is to include a series of subdrains at the bottom of the drain rock layer beneath the slab. The drain rock section should be thickened to at least 10 inches for such basement areas. The subdrain lines typically consist of 3-inch diameter, smooth interior, solid wall, perforated pipe at spacing of 15 feet (or less) across the structure (and around the interior perimeter). The perforated pipe is placed in a deepened zone of the drain layer as shown on Figure 8. The pipes are sloped to drain and collected by a tightline which leads to the stormwater disposal system. We recommend we be allowed to review the subdrain system design prior to final plan submittal or construction bidding.

All foundation drains and subdrains should be connected to a tightline that discharges at an approved stormwater disposal location that leads to natural swales that currently convey water. Discharge and outlet locations should be "protected" by placing a non-woven geotechnical fabric and a 4-inch covering of 4 to 6-inch minus jaw-run "shale". *In no case should this collected water be discharged onto fill slopes.* We strongly recommend against connecting roof downspouts or surface area drains to foundation,

EXHIBIT 8
PAGE 30 OF 58
The Galli Group

wall, or floor subdrain systems. We recommend cleanouts be placed periodically by the designer to facilitate cleaning and maintenance of all drainage systems.

8.11 SITE DRAINAGE

Final grading should be such that the ground surface promotes rapid positive drainage away from all structures for a horizontal distance of at least 8 feet (typical code requirements can be at least 6 inches of fall in 8 feet). This water should be channeled to surface drains or swales for proper disposal. The landscaping areas around the homes should be finish graded such that they drain internally to small catch basins which discharge through curbs into the gutter or into other approved public drainage easements. All downspouts must be connected to a sealed tightline system that discharges to an acceptable disposal location.

Disposal should be into the roadside ditches or the current natural swales that will be used by culvert discharge beneath roadways. Collected waters at each residence may also be disposed of on the slopes by use of a long dispersion pipe running along the slope contour. These should be designed by an engineer to decrease the likelihood of increasing surface erosion.

Upslope of Homes. A few of the homes may be situated on their lots where a portion of the hillside upslope will contribute surface water runoff to the slope immediately above the residence. These areas are particularly susceptible to water intrusion and seepage into crawl-spaces and basement areas. To limit the volume of water these other drainage systems must intercept, we recommend this area upslope of the home be graded to intercept and keep such runoff away from the foundations. Shallow surface swales with periodic catch basins and French drains can be used to accomplish this. See Figure 9, French Drain Detail, for a conceptual idea of how this drainage could be accomplished.

French Drains. Some areas of the site (particularly near the base of hillsides and upslope of homes) may require a French Drain to help intercept downslope runoff and shallow seepage. These should be constructed as shown in Figure 9. The surface can be covered with rounded rock to help this act as both a surface and shallow seepage interceptor. These are particularly helpful in shallow, flat, swale-like features that can channel shallow subsurface water into the homesite.

Drainage Swale. In some areas of the proposed lots and along the proposed roadways, surface flow may need to be intercepted by an erosion-protected surface swale. Figure 10 shows how this could be constructed across the toe of a slope where surface flow is anticipated. The runoff should be conveyed to a natural swale on the parcel. In the case where a road or driveway crosses the swale, a culvert beneath the roadway should then carry the water underneath the fill mass and discharge across an erosion protected entrance. Refer to subsequent sections in this report for details regarding erosion control measures at discharge locations.

8.12 SITING OF HOMES AND DRIVEWAYS

Due to the slope of the lots and the overall size of the subdivision, existing surface flow that now crosses proposed lot boundaries will likely remain in many locations after site development. Therefore, it is imperative that existing drainage patterns be considered carefully before selecting homesites and driveway access. Where slope or other constraints precludes locating homes and driveways out of all such drainage pattern areas care must be taken to implement excellent site drainage. This would include conveying all intercepted waters back into the natural drainageway where it leaves the low side of the lots. *In no case shall collected waters be conveyed into a different drainageway than where it currently flows.*

8.13 ASPHALTIC PAVEMENTS

It is our understanding that the residential streets and access roads to the commercial lots will be constructed as part of the subdivision project. The following sections provide recommendations for asphaltic concrete section design and construction.

The successful performance of pavement structures is a function of subgrade material properties, traffic conditions, drainage conditions, the pavement material properties and design, careful construction, and ongoing maintenance. These elements are discussed briefly in the following sections.

8.13.1 Pavement Subgrade & Traffic Loading

Our subsurface investigation of the project indicates that the site is underlain by units of sandy Silts, silty Sands or weathered Granite bedrock. Based on our review of preliminary plans, it appears that the roadway grades will vary significantly from existing grades. Therefore the roadway subgrade will most likely consist of either slightly silty coarse Sands (Decomposed Granite) or the underlying weathered Granite Bedrock. It is likely that material exposed in the finish subgrade of the roadways will consist of both of these soil "types". Our firm assumed an R-value of 20 for pavement design over the medium dense to dense, silty Sand soils.

The following asphalt sections were designed utilizing the California Design Method. In this method a formula is used to assign Gravel Equivalents (GE) to various subgrade, base rock and asphalt products. Sufficient thickness of asphaltic concrete and rock materials are used to provide the computed Gravel Equivalent needed to protect the subgrade soils and the individual rock layers from anticipated traffic loads.

We anticipate the traffic loading to consist of autos, pick-ups, and delivery trucks (occasional trash truck). Heavy truck traffic is not anticipated for these roadways. The following roadways with corresponding Traffic Indices (TI) are recommend for use in the

subdivision. **Note:** Selection of the appropriate road type and associated TI should be done with the concurrence of the City of Grants Pass Engineering and Public Works Departments.

Roadway Type	**Traffic Indices (TI)**
Minor Collector	8.0
Standard Local Residential	6.5

8.13.2 Pavement Design

We have evaluated pavement section design using a Traffic Index (TI) of 8.0 for minor collector roadways and 6.5 for local residential streets. We have also included a pavement section which only utilizes 1-inch minus crushed rock beneath the pavements. Based on these TI's and an R-value of 20, we have computed asphalt design sections (utilizing the California Design Method) with the following results:

Minor Collector (TI=8.0)

3" Asphaltic Concrete
6" Aggregate Base Rock (¾" or 1" minus Crushed Rock)
12" Aggregate Subbase (4" minus Crushed Rock or Jaw-Run "Shale")
Woven Geotextile Support Fabric (AMOCO 2006 or equivalent)

Local Residential Street (TI=6.5)

3" Asphaltic Concrete
6" Aggregate Base Rock (¾" or 1" minus Crushed Rock)
9" Aggregate Subbase (4" minus Crushed Rock or Jaw-Run "shale")
Woven Geotextile Support Fabric (AMOCO 2006 or equivalent)

The following designs provide alternate pavement sections which utilize ¾ or 1-inch minus crushed rock exclusively and can "replace" the above-listed sections. Please note that these sections will not perform as well during construction due to the heavy construction traffic (4-inch minus crushed rock tends to better "protect" the subgrade soils during construction). During wet periods of the year, we recommend the contractor construct a "working surface" as recommended in the Wet Weather Construction recommendations outlined later in this report.

Minor Collector (1-inch minus Only)

3" Asphaltic Concrete
16" Aggregate Base Rock (¾" or 1" minus Crushed Rock)
Woven Geotextile Support Fabric (AMOCO 2006 or equivalent)

Local Residential Street (1-inch minus Only)

3" Asphaltic Concrete
12" Aggregate Base Rock (¾" or 1" minus Crushed Rock)
Woven Geotextile Support Fabric (AMOCO 2006 or equivalent)

EXHIBIT 8
PAGE 32 OF 58

All of the design sections given above assume a dense, silty Sand subgrade, properly prepared, as described below. These road section recommendations must typically be approved by the City if they are to take "ownership" of the roadways upon completion of the project.

8.13.3 Pavement Construction and Materials Recommendations

Site preparation, construction materials, and construction technique all play a critical role in the performance of the completed project pavements.

Subgrade Preparation. Subgrade preparation should begin with removal of debris and loose and disturbed soils. All debris and organic material should be disposed of properly and is not permitted as subgrade or fill material.

The subgrade should be shaped to a uniform surface running reasonably true to established line and grade described in the contract documents. Areas so specified must be redensified and/or backfilled with structural fill. It is important that dense, stable conditions of the subgrade be maintained until the subgrade is covered with the 1-inch minus crushed rock.

Subgrade preparation should include cleaning and proofrolling to identify soft and disturbed subgrade areas. We recommend a geotextile filter fabric be placed between the soils and the asphalt section base rock, if the overlying material is open-work with voids between the large materials.

After subgrade preparation is completed, the upper 12 inches of exposed subgrade prepared for the pavement structure should demonstrate at least 98 percent of the maximum dry density, as determined by the Standard Proctor test.

Soft or loose materials disturbed during the excavation process, incapable of achieving the compaction criteria should be removed to appropriate bearing materials prior to placing structural fill. Where loose or softened subgrade areas are identified, the area should be over-excavated and replaced with imported granular fill with less than 5 percent of the material passing the Number 200 sieve.

It should be noted that in no case should construction traffic or trucks be allowed to "run" directly on top of the subgrade soils. This would most likely result in the disturbance of the subgrade soils due to the heavily loaded vehicles (which would result in additional over-excavation to remove softened soils). In areas where subgrade soils are not disturbed, we recommend covering the subgrade soils with at least 12 inches of crushed rock or jaw-run "shale" prior to construction truck traffic traversing the area.

EXHIBIT 9
PAGE 34 OF 58

Wet Weather Construction. We recommend that for construction during wet weather, in all construction roadways and drive lanes, the subgrade should be covered with a woven geotextile support fabric (AMOCO 2006 or equivalent) and a minimum of 16 inches of imported granular crushed fill (such as jaw-run "shale"). Compaction of the fill should not begin until a minimum of 12 inches of rock is placed above the fabric. This should provide an adequate working surface and help protect the subgrade from damage from construction traffic. Construction traffic should not be allowed to traverse the area until the minimum of 16 inches of material has been placed and compacted.

Preparation of subgrade and rock placement during dry weather typically yields a better asphaltic concrete section.

Fabric Placement. When the subgrade has been properly prepared, it should be covered with the woven geotextile support fabric. We recommend a fabric such as AMOCO 2006 or equivalent. The fabric should be laid longitudinally with the roadway. All ends and edges should be overlapped a minimum of 5 and 2 feet, respectively. Fabric layout generally is best when the "runs" align with the lane traffic directions.

Care must be taken to not damage the fabric. In no case shall track vehicles be allowed on the fabric. At least 12 inches of rock should be over the fabric prior to allowing truck traffic in the area. Then the traffic should be light to protect the subgrade. Be careful not to disturb the subgrade when compacting the rock.

Materials. All materials used and construction techniques applied at the site must result in conditions as assumed for design of the pavement sections. We recommend materials used in the pavement support sections be as follows:

Aggregate Base Rock

- 3/4" or 1" minus material
- Well-graded, crushed, angular hard rock
- Minimum: R=80
- Maximum passing No. 200 sieve=5%
- Compacted to 98% of the maximum dry density as determined by ASTM D-698

Aggregate Subbase Rock

- Crushed hard "Shale" (6" Minus) or Crushed Rock (2 to 4" Minus)
- Minimum: R=50
- Maximum passing the No. 200 sieve=10%
- Compacted to 98% of the maximum dry density as determined by ASTM D-698

We recommend avoiding the use of soft rock or subrounded and/or sandy gravel materials for the aggregate base, since they typically do not perform well in supporting asphaltic pavement sections (i.e. usually do not meet CBR requirements).

Installation of utilities and other site work, which may compromise the integrity of the completed base rock section, should be avoided when possible. Therefore, utilities which must cross through these areas should be placed and backfilled prior to placing the 1" minus aggregate base rock section.

We recommend that the finished subgrade and subbase be viewed and that base rock be tested for density and stability by a representative of The Galli Group prior to placement of asphalt at the site.

Asphaltic Concrete. The asphaltic concrete mix used should be as required by City of Grants Pass requirements for residential streets. Care must be taken to insure the contractor keeps the asphalt trucks covered on the way to the site to insure asphalt temperature remains high. The asphalt mix must be placed and compacted by smooth-drum rollers while it is still very hot to insure adequate asphalt density is attained. Trying to densify cooled down asphalt mix results in a low-density asphalt layer. These are subject to water intrusion and frost heave, and typically do not meet the 20 year design life.

Asphalt mix design, aggregate type and gradation, bitumen type and percentage, proper placement and compaction at the job site are critical to the long-term performance of the pavement sections. The asphaltic concrete mix design should provide a compacted asphalt section that is "stiff" enough (excessive bitumen content will cause bleeding and deformation) to resist "pushing" and "rutting" in concentrated traffic areas during hot weather. It should also be flexible enough to prevent fatigue cracking due to the high loading repetitions. Densification of the asphalt must be accomplished while the asphalt is still "hot" per Asphalt Institute standards, to have the desired design life.

We recommend all aspects of the asphaltic paving be accomplished in accordance with applicable Asphalt Institute standards and recommendations.

Drainage. Adequate provision should be made to direct surface water away from the pavement section and subgrade. Ponded water adjacent to the roadway can saturate the subbase resulting in loss of support. Therefore, we recommend the areas along the edge of the roadway be well drained.

All paved areas should be sloped and drainage gradients maintained to carry surface water to catch basins or ditches for transmission off the roadway. Adequate provisions should be made to direct surface water away from the pavement section and subgrade. Ponded water adjacent to the roadway can saturate the subbase resulting in loss of support. Excessive landscape watering can also saturate the subbase and decrease pavement life. Deep curbs, drip irrigation and/or use of dry-land plants will mitigate these affects.

EXHIBIT 9
PAGE 31 OF 58

Existing Pavement Treatment. In order to maximize the "bond" between the existing and new areas of pavements, we recommend all exposed asphalt edges be fully coated with an acceptable bitumen tack coat or tacquifier. Liberal use of the tacquifier generally results in a good bond between the old and new pavement seams. All cracks in the existing pavement surface (including repaired areas) should be filled with sealant to prevent intrusion of surface water into the subbase. This work should be done in warm weather to help maximize densities in the new asphalt.

Maintenance. Pavement life can be extended by providing proper maintenance and overlays as needed. Cracks in the pavement should be filled to prevent intrusion of surface water into the subbase. Asphalt pavements typically require seal coats or overlays after 15 to 20 years to maintain structural performance and aesthetic appearance.

8.14 EROSION CONTROL RECOMMENDATIONS

The following are general comments which should be incorporated into erosion control at the site. A formal Erosion Control Plan is presented on Figure 11 (pocket).

General. Site soils are susceptible to erosion when left unprotected (especially when disturbed). The site grades are such that erosion during construction could be large if left unattended. Therefore, it is imperative to grade the site in such a manner that stormwater will not collect and flow offsite over disturbed soil, or over the crest and down the face of fill slopes. Temporary, rock-lined ditches should be installed at the toe of all roadway cut slopes during construction, to be replaced by sidewalks and/or curb and gutters. The building pads and roadway and driveway cuts and fills should be graded such that all surface water collects and flows away in the protected ditches or swales away from the edge of fills or slopes. *In no case should surface water be allowed to concentrate and flow over the crest and down the face of fill slopes or native slopes unless they are discharged into erosion protected areas of natural swales.*

The basic purpose of any erosion control plan is to decrease erosion and prevent offsite migration of soil fines. In this manner, the amount of suspended solids in site runoff can be reduced to acceptable levels. This is typically accomplished by 1) slowing down surface water runoff by means of vegetation, hay bales and rock coverings or check dams, 2) holding the soil in place by erosion control matting or a covering of grass or other material and 3) by limiting the amount of water which can flow through any area of the project.

Runoff should be directed on to erosion protected areas that will dissipate flow energy and direct water in the swales and to collection points where small settling basins (generally consisting of silt fencing and hay bales) can filter out sand and silt before runoff flows offsite or into nearby drainageways.

Ditch Protection/Lining. Flowing water in swale or ditch areas will tend to cause considerable erosion of the inverts unless these are protected by erosion control netting or angular rock coverings. In general, an angular rock zone to dissipate flow energy upslope of erosion control netting zones is the best combination. Hay bales or biobags (staked in place) or crushed rock check dams placed periodically across the ditches are recommended to help decrease the flow velocity and help filter out sand and silt fines. The seasonal swales should be "protected" with hay bales and check dams at 50 to 100-foot intervals. Once constructed, all storm drain inlets and curb lines should be "protected" and/or covered with geotextile fabrics or biobags.

Silt Fence. A silt fence along the low side of all disturbed areas of the site will be required to minimize offsite migration of soil fines. All pathways of exit from the site for the site runoff should be protected from silt and sand migration by hay bale and silt fence enclosures. In low areas where concentrated flow can develop, we recommend backing the silt fence with staked hay bales to ensure that the silt fence is not overwhelmed.

Settling Basins and Hay Bales. The runoff from the site, the access roadway and backfilled trenches will inevitably be carrying silt and sand particles. Therefore, we recommend small settling basins be installed below the site at the discharge end of all graded areas, ditches and swale areas. These should be placed to remove silt and sand prior to the runoff entering other conveyance systems such at the natural drainage swales or existing roadside ditches.

Siltation ponds or settling ponds must be large enough to not overflow during storms until the silt and sand has settled out. Excess capacity must be planned into all settling basins to accommodate for the siltation caused by sediment carried into the pond areas. An adequate number of hay bale lines and silt fence runs must be installed across such flow areas to effectively filter out and hold back the sediment generated by surface flows. All concentrated water flow must be occurring through planned ditches and outlets such that it does not cause erosion, offsite movement of sediment and siltation of the ditches. Please see Figure 12 for details regarding the silt fence and settling basin installations.

Construction Entrance Protection. We also recommend the initial 100 feet of the entrance(s) to the site be covered and maintained with clean "shale" or crushed rock, prior to or at the start of construction, to decrease mud tracking onto the city streets. If this construction entrance becomes covered with mud; additional clean shale or crushed rock must be placed. Please see Figure 13, Construction Entrance Detail for additional information regarding the entrance(s) to the site.

Erosion Control Netting. If construction of these slopes is planned or completed during the late fall to winter months, we recommend the fill slopes be covered with an erosion control netting to minimize erosion during the winter months. The fill slopes should be covered with an erosion control netting, blanket or revegetation mat (installed per manufacturers recommendations). Products such as the Excelsior Blankets (which can

EXHIBIT_ 8
PAGE 38 OF 58

include plastic nettings, seed and fertilizer) have been shown to protect against erosion and tend to increase the likelihood of slope revegetation. The netting or blankets must be securely staked to the slopes to insure full contact with the soil surface (per manufacturer's recommendations). These areas must also be revegetated with appropriate vegetation and irrigated as required to germinate and sustain vegetation growth.

Terraced 1H:1V Slopes. Some local contractors in the Grants Pass area have had success in revegetating cut slopes as steep as 1H:1V by terracing the slopes and "infilling" the terraces with a growing medium such as topsoil or mulch. In general, the slopes are cut at an overall slope of 1H:1V, however, the slope is terraced with 2-foot tall and wide terraces which creates a stair-stepped slope. The 2-foot wide "steps" are then infilled with a compost and topsoil mixture to "recreate" a 1H:1V slope. This provides a "topsoil" layer which provides enough nutrients for the grass and wildflower seeds to flourish after the initial fertilizers have been exhausted by the vegetation.

Permanent Erosion Control. For this site we recommend all exposed soil areas be regraded such that surface water moves as sheet flow rather than concentrated flow (unless the concentrated flow is in a rock-lined or erosion net lined ditch). The flattened regraded areas should have the backfill soil compacted and the surface scarified to a depth of ½ inch in areas to receive hydromulch seed. The area should then be planted with a grass mix with wildflower seed (optional) added. Hydroseeding with the seed, a mulch and fertilizer added to a water borne slurry should help the seed root and grow well the first year, especially on the roadway fills. Other additives to help the soil remain in place will be required on the steeper cut slope areas of the parcel.

Seed, Fertilizer and Mulch. In accordance with our discussions with agricultural extension agents, a seed mix of the following combination (or other acceptable mix) could be applied at a rate of 10 pounds per 1,000 square feet for broadcast spreading and 200 pounds per acre for hydroseeding methods.

Annual Ryegrass	25%
Perennial Ryegrass	25%
Creeping Fescue	25%
Hard Fescue	25%
Wildflower Mix as Desired	

The grass seed should be a minimum of 80% pure live seed with not more than 1.0% weed seed. **Note:** This seed mix may not satisfy Josephine County requirements for local species. In that case, local nurseries should be contacted for advice on the plant or seed types.

We recommend the seed be placed in combination with an Ammonium Phosphate Sulfate fertilizer containing a minimum of 16% nitrogen, 20% available phosphoric acids and

EXHIBIT 8
PAGE 39 OF 58

15% sulfur. The fertilizer should be dry and free-flowing. It should be applied at a uniform rate of 500 pounds per acre.

Mulch consisting of either straw, wood cellulose fiber or other similar materials should be used. The mulch should be applied with the slurry at a rate of approximately 2,000 pounds per acre. The seeded areas must be covered with a 2-inch thick layer of straw, bark or another an acceptable mulch to aid in the seed germination and to minimize erosion of the side soils.

Please note that other seed mixes, fertilizers and mulch materials are acceptable for erosion control at the site. Generally accepted erosion control mixes placed by hydroseeding companies or seed mixes provided for erosion control by local seed stores should be acceptable for use at the site. We recommend the grass and plant mix be used that satisfies City of Grants Pass and/or Josephine County fire control and historic view criteria.

Maintenance. Please note that all erosion control measures must be monitored and repaired periodically. The Erosion Control Plan on Figure 11 with details on Figures 12 & 13 must also have its recommendations augmented with additional measures if conditions warrant such additions. We recommend the site be observed after heavy rainfall events. Changes, additions and repairs should be implemented at that time where needed. When permanent landscaping and hydroseeding has effectively stopped erosion, the hay bales, silt fences and settling ponds may be removed. Areas disturbed by this removal should be hydroseeded or otherwise protected from erosion. **Note:** It must be understood that erosion control maintenance is a long-term process which requires continual maintenance, as needed, to correct and repair all items to insure good erosion control throughout the wet seasons.

Timing. The earthwork contactor should install the silt fences, settling basins and construction entrances prior to beginning construction at the site.

We recommend that the seeding be accomplished early in the fall to allow for germination and rooting of the grass and wildflowers. The hay bales and settling basins should be placed prior to seeding to minimize disturbance of the site after seeding. It is generally thought that the seeding should be accomplished by September 15th to allow the seed time to germinate and prosper prior to the heavier winter rains. If placed during or prior to the hot summer months, some method of watering must be included to promote initial germination and continued growth. The hay bales, ditch protection, silt fences and settling ponds must be placed as soon after or during grading as is practical. This will help protect the site from erosion during summer storms. <u>All</u> erosion control measures should be installed and functional by October 15th.

9.0 ADDITIONAL SERVICES AND LIMITATIONS

9.1 ADDITIONAL SERVICES

Additional services by The Galli Group are recommended to help verify that design recommendations are correctly interpreted in final project design and to help monitor compliance with project specifications during the construction process. These are mandatory if our firm is to sign verification of project completion as required by The City of Grants Pass. For this project we anticipate additional services would include the following:

1) Review of final erosion control and drainage plans, roadway plans, driveway plans and site drainage plans for compliance with geotechnical recommendations.
2) Observation of all roadway cuts for adverse fracture planes.
3) Observation and testing of all roadway and driveway fills.
4) Observation and verification of all roadway and site drainage items.
5) Observation and verification of all erosion control measures.
6) Observations of drainage, structural fill placement, compaction and density testing of structural fill. Observation of key trenches, benching and slope drainage for fills on the slope.
7) Periodic construction field reports, as requested by the client and/or required by the City of Grants Pass engineering department.
8) Final project verification for City of Grants Pass (geotechnical aspects).
9) Other geotechnical related items requested by the client.

We would provide these additional services on a time-and-expense basis in accordance with our current Fee Schedule and terms and conditions at the time of construction. If we are not retained to provide these services we cannot be held responsible for design, design review, and decisions of others for unverified items. The owner and contractor will accept all responsibility for geotechnical-related items.

9.2 LIMITATIONS

The analyses, conclusions and recommendations contained in this report are based on site conditions and proposed development plans as they existed at the time of the study, and assume soils, rock and groundwater conditions exposed and observed at the site are representative of soils, and groundwater conditions throughout the site. If during construction, subsurface conditions or assumed design information is found to be different, we should be advised at once so that we can review this report and reconsider our recommendations in light of the changed conditions. If there is a significant lapse of time between submission of this report and the start of work at the site, if the proposed development is changed, the building lots or roads are reconfigured, the method of site development is changed or if conditions have changed due to acts of God or construction,

at or adjacent to the site, it is recommended that this report be reviewed in light of the changed conditions and/or time lapse.

This report was prepared for the use of Bioscape Technologies and its planning, design, and construction team for submittal to City of Grants Pass Planning & Public Works departments and in the design and construction of the subject subdivision. It should be made available to others for information and factual data only. This report should not be used for contractual purposes as a warranty of site subsurface conditions. It should also not be used at other sites or for projects other than the one intended. Any re-use by others or on other projects is unauthorized and done so at the sole risk of the user.

We have performed these services in accordance with generally accepted engineering geology and geotechnical engineering practices in southern Oregon, at the time the study was accomplished. No other warranties, either expressed or implied, are provided.

THE GALLI GROUP
GEOTECHNICAL CONSULTING

Melvin J. Galli III
Staff Engineer

Paul A. Sellke, P.E.
Senior Engineer

REGISTERED PROFESSIONAL ENGINEER
65488PE
OREGON
July 9, 2001
PAUL A. SELLKE
EXPIRES: 6/08

Edward Busby, C.E.G.
Senior Engineering Geologist

CERTIFIED
OREGON
EDWARD G. BUSBY
E916
ENGINEERING GEOLOGIST

REFERENCES

BLM (Bureau of Land Management); 2001; Color aerial photos; Bureau of Land Management; Scale 1"=1000'; 7/8/2001; photos 0-01-MED;10-34.0- #38, 39, and 40.

IBC; 2006; International Building Code; International Conference of Building Officials.

Madin, I.P. and Mabey, M.A.; 1996; Oregon Department of Geology and Mineral Resources; GMS-100, Geological Map Series; Earthquake Hazard Maps of Oregon

Madin, I.P. and Wang, Zhenming; 1999; Relative Earthquake Hazard Maps for selected urban areas in western Oregon (Ashland, Cottage Grove, Grants Pass, Roseburg, Sutherlin-Oakland); Oregon Department of Geology and Mineral Resources; IMS-9, Interpretive Map Series.

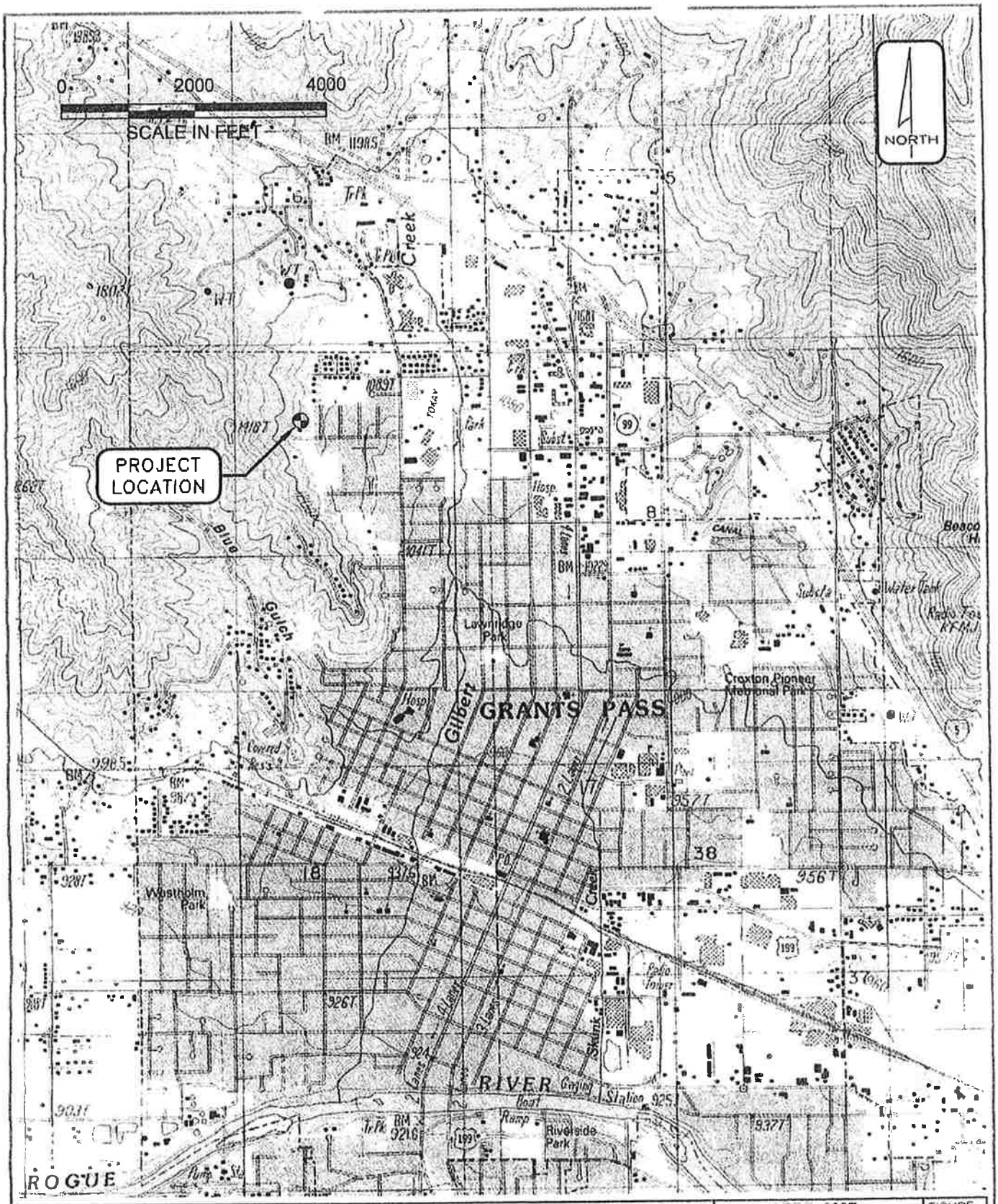
Oregon Department of Water Resources; 2007; webpage access to state well logs; www.wrd.state.or.us/.

Ramp, L. & Peterson, N.V. 2004; Geologic Map of Josephine County, Oregon; 1:125,000; revised from original map (Plate I) in Geology and mineral resources of Josephine County Oregon: Oregon Department of Geology and Mineral Industries Bulletin 100, 1979.

United States Geological Survey; 2002; Interpolated Probabilistic Ground Motion Values- Conterminous 48 States; http://earthquake.usgs.go/hazmaps/

United States Geological Survey; 2006; Quaternary Fault and Fold Database for the United States; Medford 1 x 2 degree sheet. http://geohazards.cr. usgs.gov/qfaults/or/bla/index.html

Walker, G.W. & MacLeod, N.S.; 1991; Geologic Map of Oregon; U.S. Geological Survey; 1:500,000.



THE GALLI GROUP GEOTECHNICAL CONSULTING 612 NW 3rd Street Grants Pass, OR 97526	VICINITY MAP VALLEY LIGHTS SUBDIVISION GRANTS PASS, OREGON	DATE: APRIL 2007 JOB NO: 02-4010-01 REV: MP01-041907A PRE 4010 Valley Lights VICINITY.dwg	FIGURE: 1

EXHIBIT 8
PAGE 22 OF 58

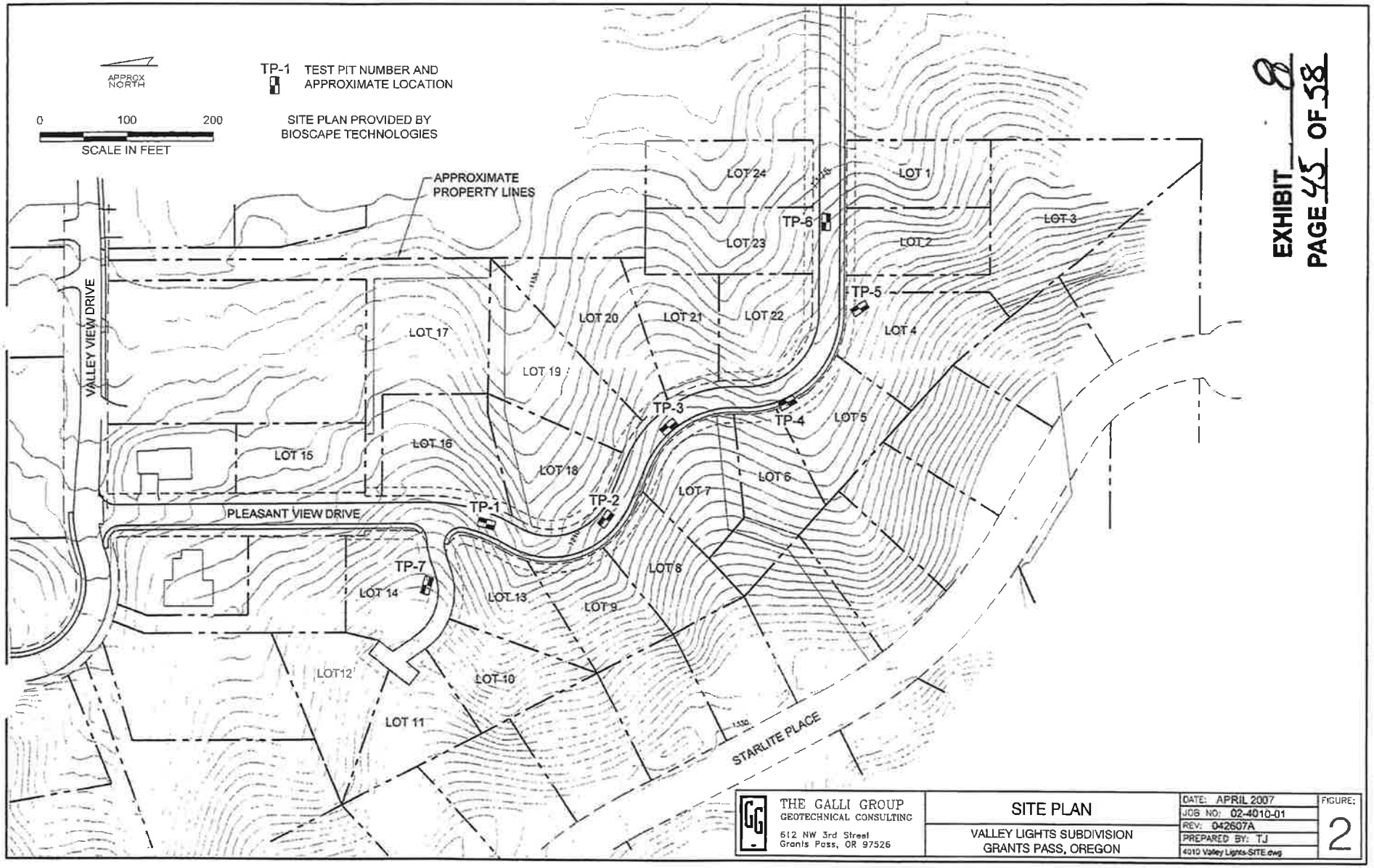
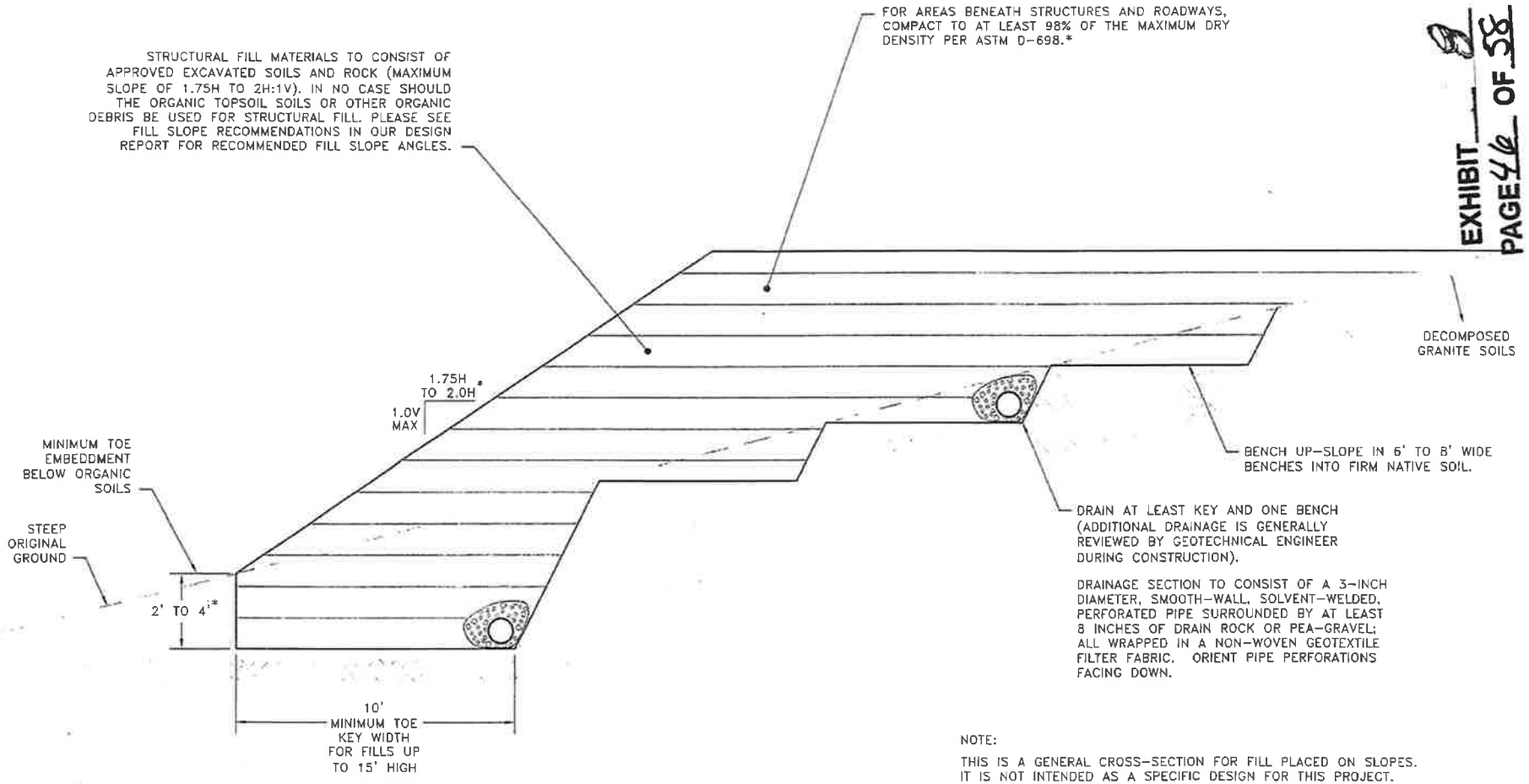


EXHIBIT 8
PAGE 45 OF 58

EXHIBIT 4 PAGE 46 OF 58



NOTE:

THIS IS A GENERAL CROSS-SECTION FOR FILL PLACED ON SLOPES. IT IS NOT INTENDED AS A SPECIFIC DESIGN FOR THIS PROJECT.

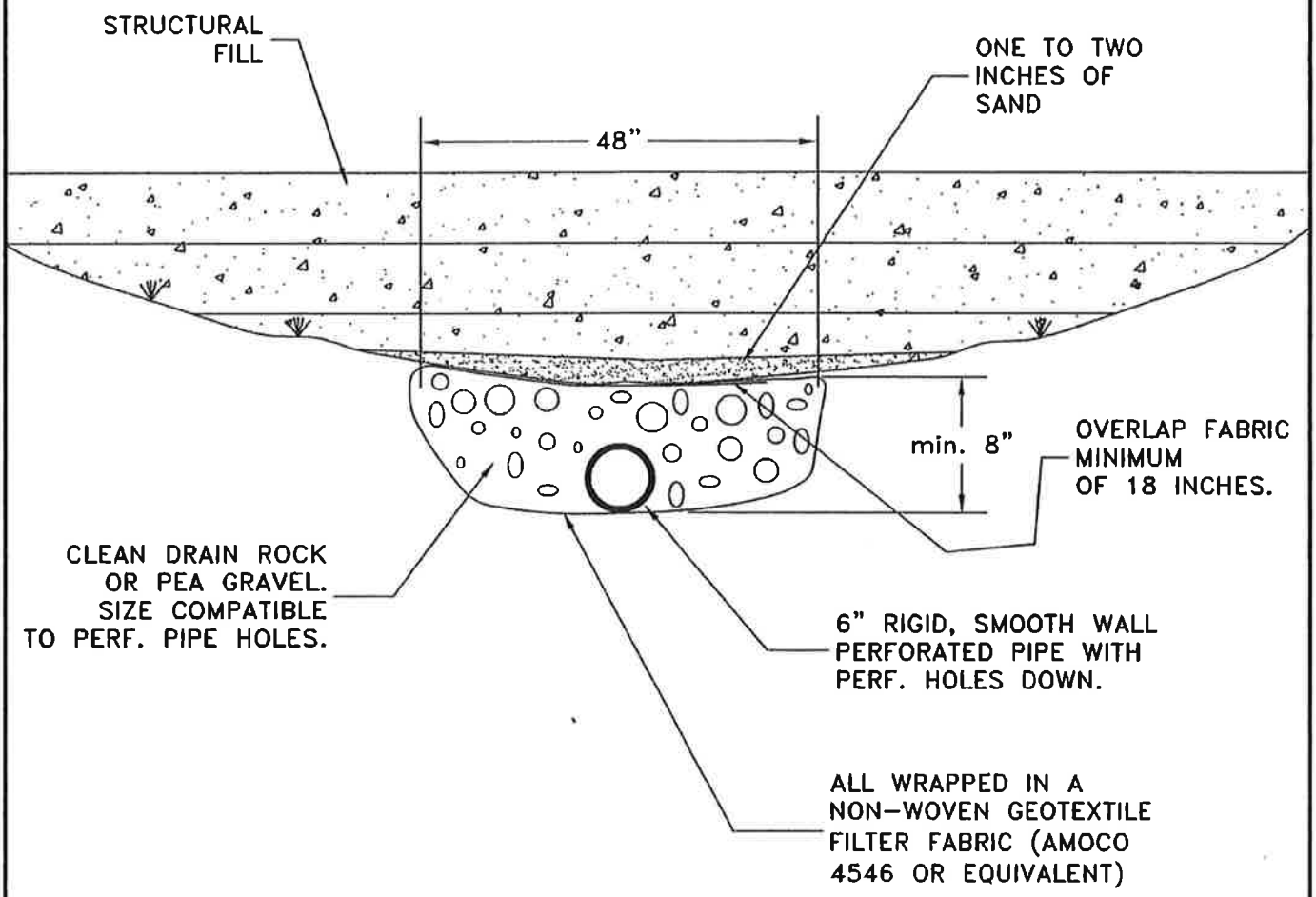
*SEE GEOTECHNICAL DESIGN REPORT FOR SPECIFICS.

FOR ILLUSTRATION PURPOSES ONLY
NOT TO SCALE

THE GALLI GROUP GEOTECHNICAL CONSULTING 612 NW 3rd Street Grants Pass, OR 97526	FILL ON STEEP SLOPE CROSS-SECTION VALLEY LIGHTS SUBDIVISION GRANTS PASS, OREGON	DATE: APRIL 2007 JOB NO: 02-4010-01 REV: SL01-041907A PREPARED BY: TJ 4010 Valley Lights-FILL.dwg	FIGURE 3

SWALE SUBDRAIN DRAIN

NOT TO SCALE



*CARE MUST BE TAKEN TO PROVIDE ADEQUATE SOIL COVER PRIOR TO EQUIPMENT DRIVING OVER THE SUBDRAIN.

THE GALLI GROUP GEOTECHNICAL CONSULTING 612 NW 3rd Street Grants Pass, OR 97526	SWALE SUBDRAIN VALLEY LIGHTS SUBDIVISION GRANTS PASS, OREGON	DATE: APRIL 2007 JOB NO: 02-4010-01 REV: 041907A PREPARED: 4010 Valley Lights-SWALE.dwg

FIGURE: 4

EXHIBIT 8
PAGE 27 OF 58

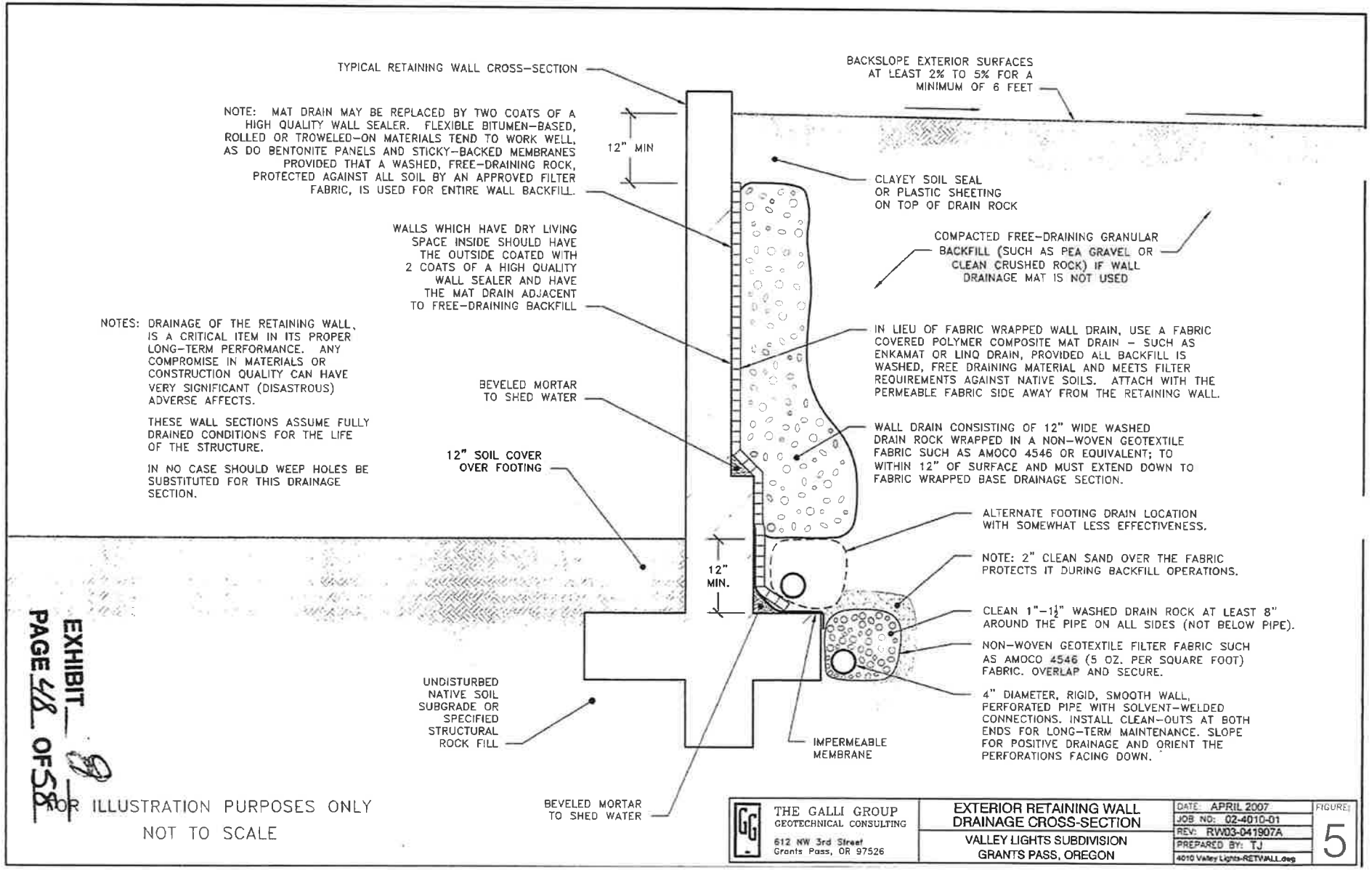
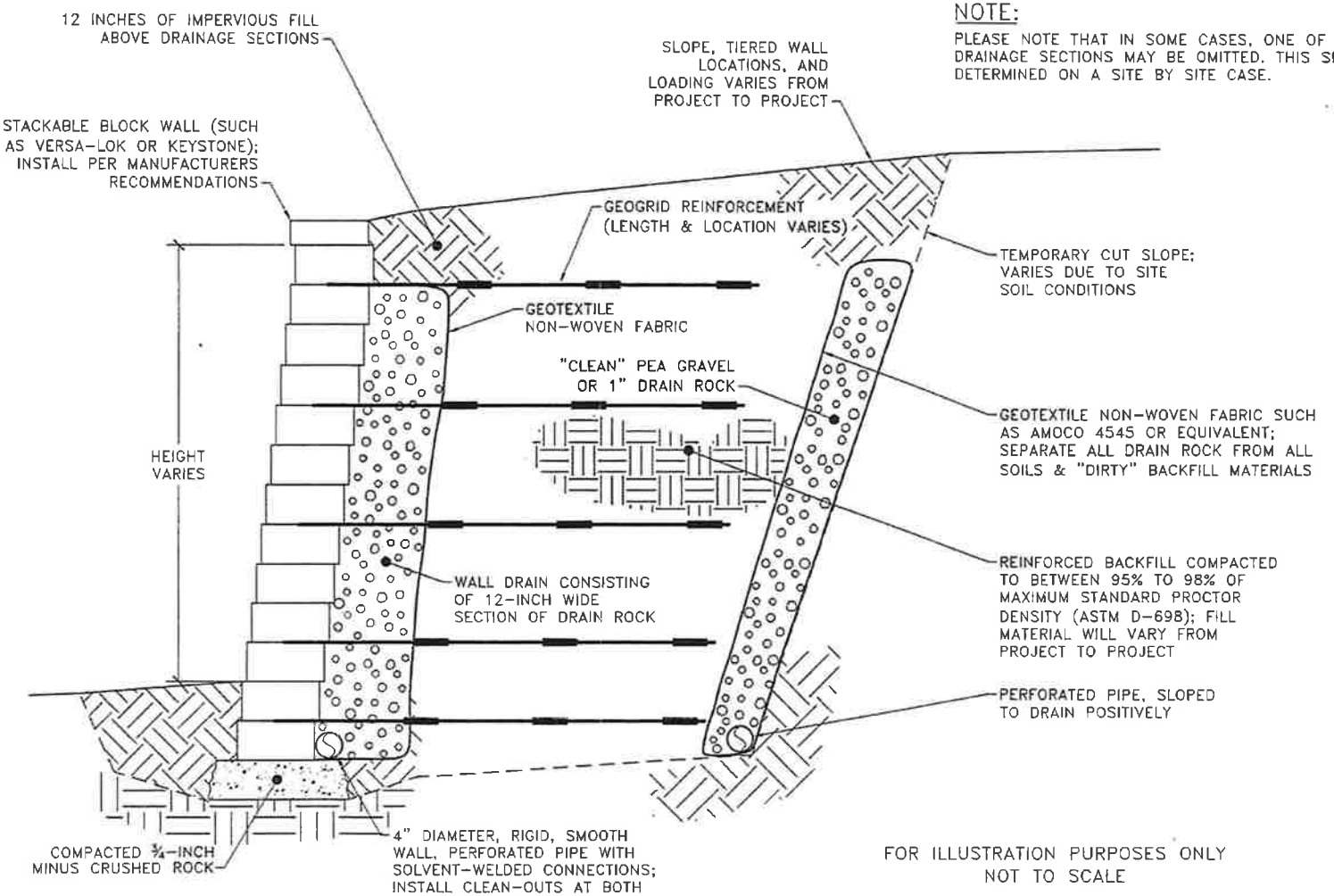


EXHIBIT 8
PAGE 48 OF 58



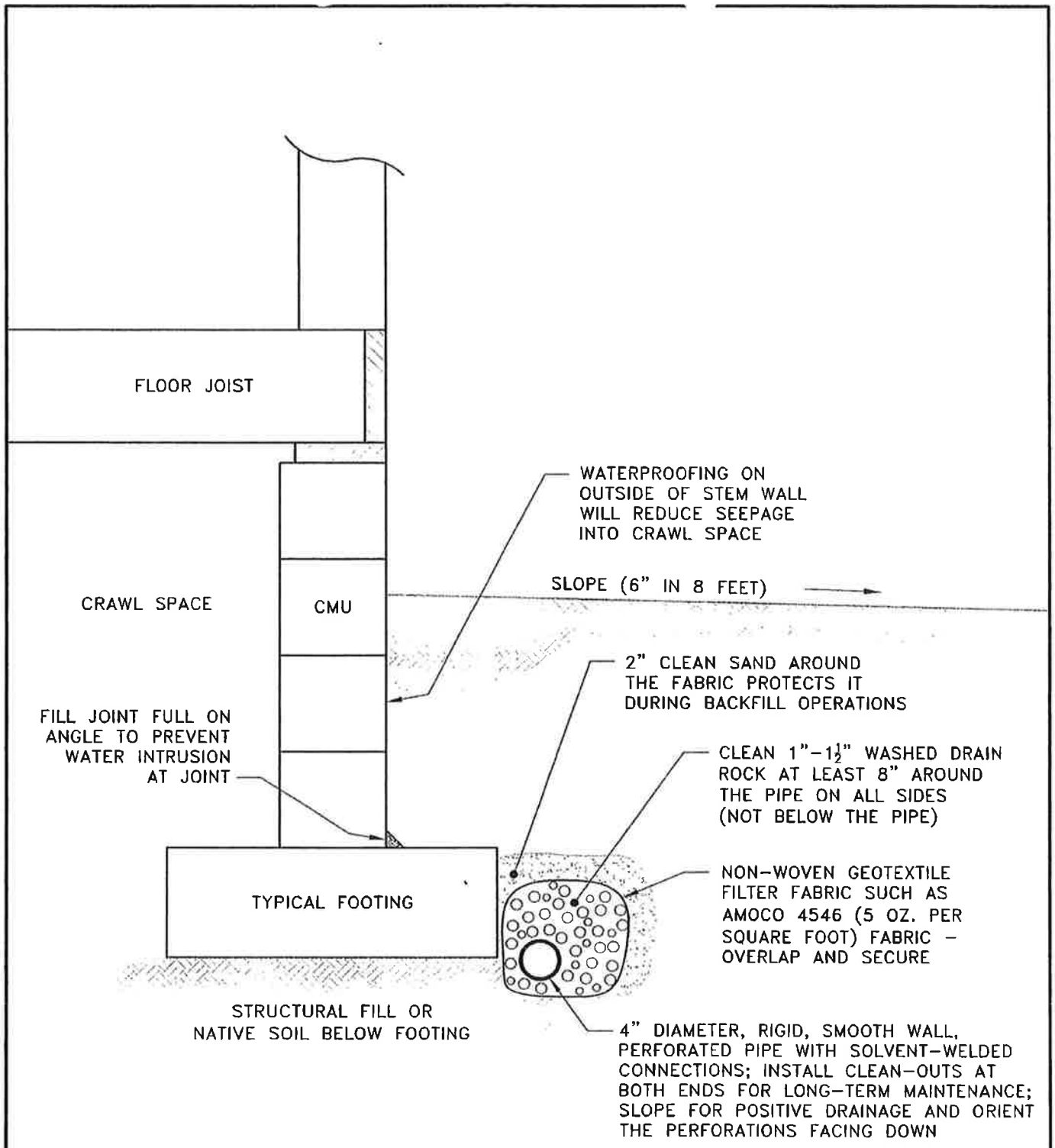
NOTE:

PLEASE NOTE THAT IN SOME CASES, ONE OF THE DRAINAGE SECTIONS MAY BE OMITTED. THIS SHOULD BE DETERMINED ON A SITE BY SITE CASE.

FOR ILLUSTRATION PURPOSES ONLY
NOT TO SCALE

THE GALLI GROUP GEOTECHNICAL CONSULTING 612 NW 3rd Street Grants Pass, OR 97526	TYPICAL MSE RETAINING WALL DRAINAGE CROSS-SECTION VALLEY LIGHTS SUBDIVISION GRANTS PASS, OREGON	DATE: APRIL 2007 JOB NO: 02-4010-01 REV: RW04-041907A PREPARED BY: TJ 4010 Valley Lights-MSEWALL.dwg	FIGURE: 6

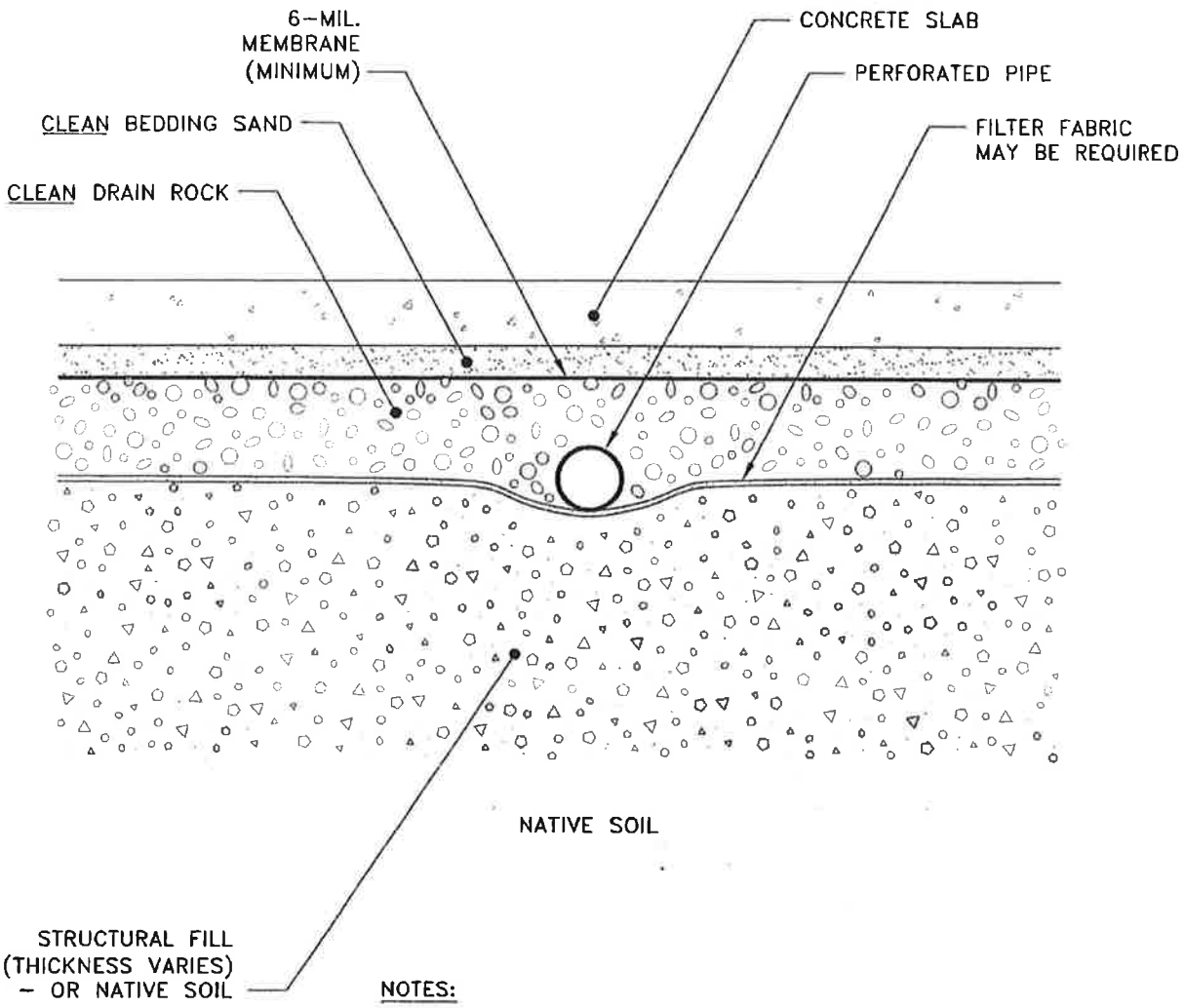
EXHIBIT 1
PAGE 42 OF 58



FOR ILLUSTRATION PURPOSES ONLY
NOT TO SCALE

THE GALLI GROUP GEOTECHNICAL CONSULTING 612 NW 3rd Street Grants Pass, OR 97526	TYPICAL FOUNDATION DRAIN WITH CRAWL SPACE VALLEY LIGHTS SUBDIVISION GRANTS PASS, OREGON	DATE: APRIL 2007 JOB NO: 02-4010-01 REV: ED02-0419 PREPARED BY: TJ 1918 Valley Lights Boulevard	FIGURE: 7

EXHIBIT 8
PAGE 52 OF 58



NOTES:

(1) MAXIMUM SPACING IS 15 FEET.

(2) ORIENT PIPE PERFORATIONS TO BOTTOM.

(3) ASSEMBLE PIPE USING SOLVENT-WELDED CONNECTIONS.

(4) DO NOT DRIVE OVER DRAIN LINES.

(5) DRAIN ROCK AND STRUCTURAL FILL TO MEET SPECS. IN REPORT BODY - SLOPE PIPE TO DRAIN.

(6) MAY REQUIRE FILTER FABRIC ON NATIVE SUBGRADE OR IF STRUCTURAL FILL IS VERY SILTY OR SANDY.

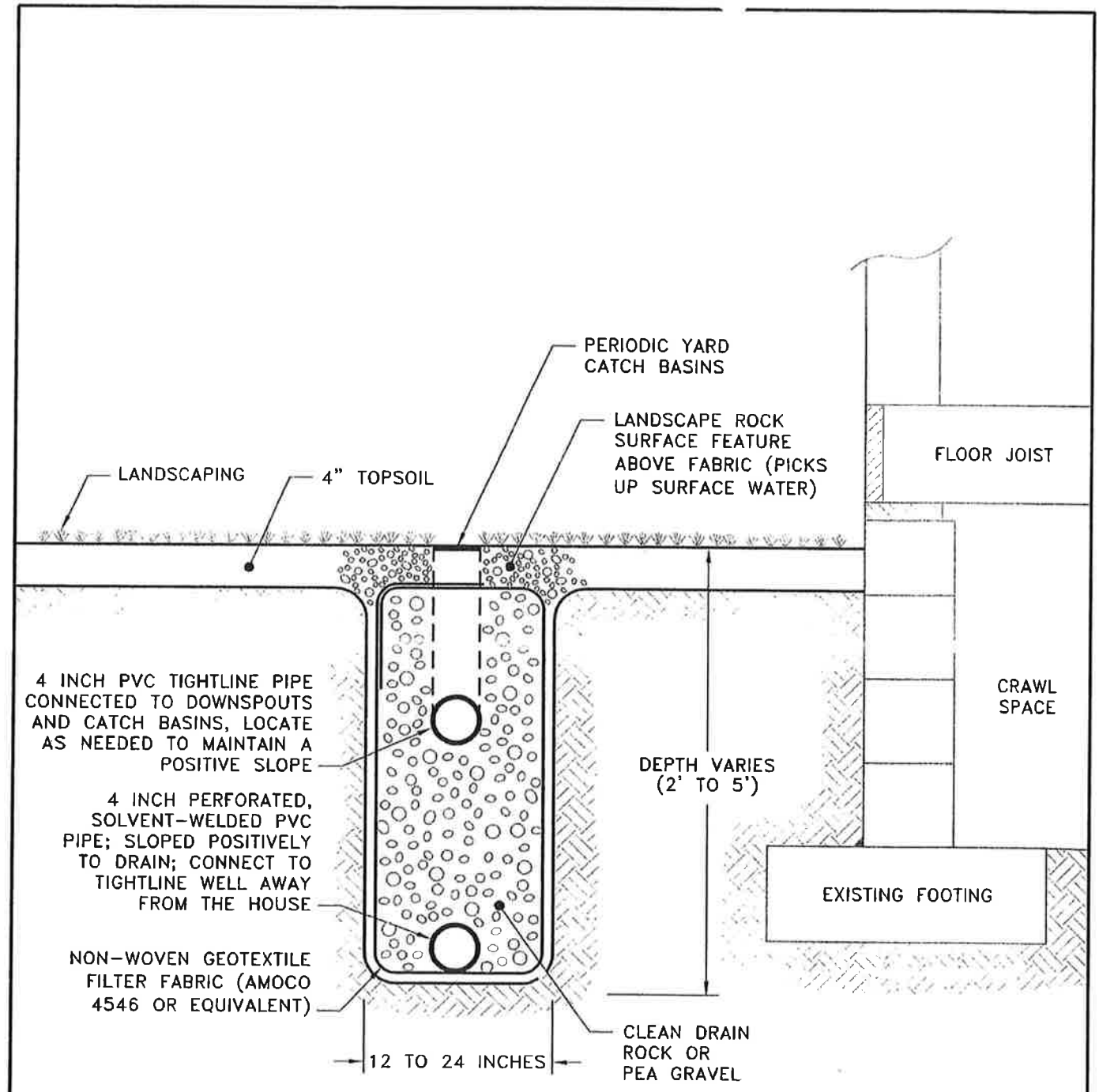
FOR ILLUSTRATION PURPOSES ONLY

NOT TO SCALE

THE GALLI GROUP GEOTECHNICAL CONSULTING 612 NW 3rd Street Grants Pass, OR 97526	FLOOR SUBDRAIN DETAIL VALLEY LIGHTS SUBDIVISION GRANTS PASS, OREGON	DATE: APRIL 2007 JOB NO: 02-4010-01 REV: SD01-0419I PREPARED BY: TJ DWG: Valley Lights SUBDRN.dwg

FIGURE: 8

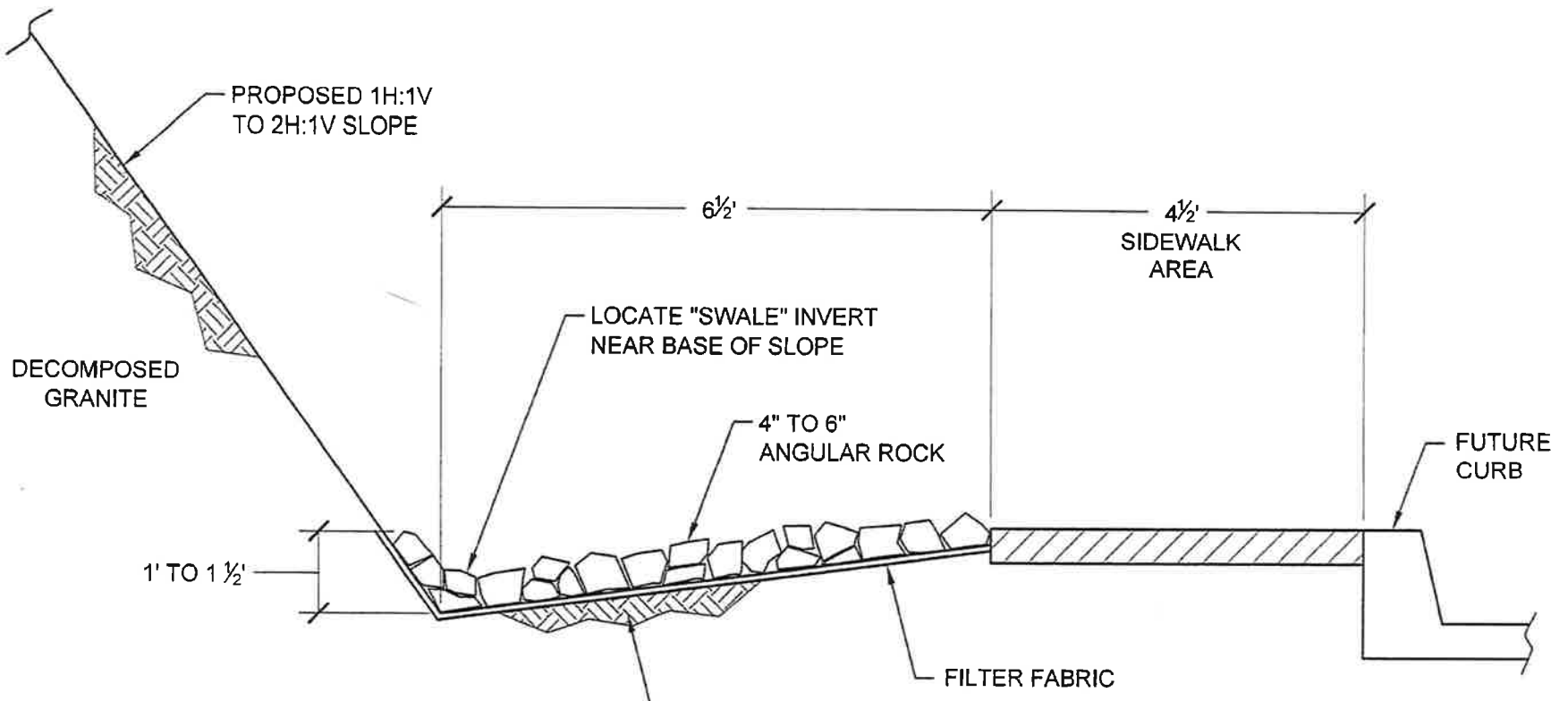
EXHIBIT 8
PAGE 5 OF 18



FOR ILLUSTRATION PURPOSES ONLY
NOT TO SCALE

THE GALLI GROUP GEOTECHNICAL CONSULTING 612 NW 3rd Street Grants Pass, OR 97526	FRENCH DRAIN DETAIL VALLEY LIGHTS SUBDIVISION GRANTS PASS, OREGON	DATE: APRIL 2007 JOB NO: 02-4010-04 PREPARED BY: TJ	FIGURE: 9

EXHIBIT 8
PAGE 53 OF 68

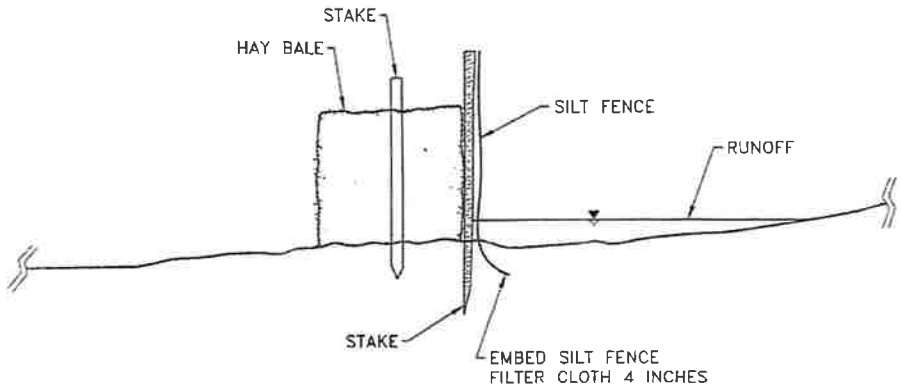


THIS CROSS-SECTION IS INTENDED TO PROVIDE A CONCEPTUAL IDEA OF HOW SURFACE WATER CAN BE CONTROLLED DURING CONSTRUCTION (UNTIL STREET AND STORM DRAIN SYSTEM IS COMPLETED).

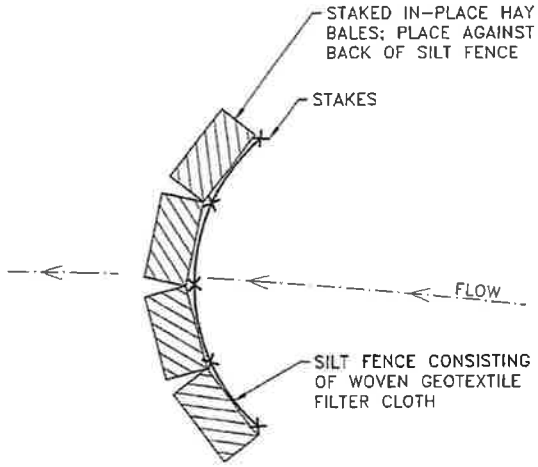
NOTE: ALTERNATE SWALE PROTECTION WOULD BE POLYMER REINFORCED EROSION CONTROL NETTING SECURED PER MANUFACTURERS RECOMMENDATIONS. USE FABRIC TO RESIST 8 FPS WATER FLOW SUCH AS EROSION CONTROL SYSTEMS, HIGH IMPACT EXCELSIOR DOUBLE NET STITCHED BLANKET.

THE GALLI GROUP GEOTECHNICAL CONSULTING 612 NW 3rd Street Grants Pass, OR 97526	TEMPORARY CONSTRUCTION SWALE CROSS-SECTION VALLEY LIGHTS SUBDIVISION GRANTS PASS, OREGON	DATE: APRIL 2007 JOB NO: 02-4010-01 REV: 042307A PREPARED BY: TJ 4010 Valley Lights-EC SWALE.dwg	FIGURE: 10

EXHIBIT
PAGE 53 OF 58



SETTLING POND
CROSS-SECTION



SETTLING POND
PLAN VIEW

EXHIBIT 8
PAGE 54 OF 58

FOR ILLUSTRATION PURPOSES ONLY
NOT TO SCALE

THE GALLI GROUP GEOTECHNICAL CONSULTING 612 NW 3rd Street Grants Pass, OR 97526	EROSION CONTROL DETAILS VALLEY LIGHTS SUBDIVISION GRANTS PASS, OREGON	DATE: APRIL 2007 JOB NO: 02-4010-01 REV: 042707A PREPARED BY: TJ 4010 Valley Lights-SITE.dwg	FIGURE: 12

EXHIBIT 8
PAGE 55 OF 58

APPENDIX A

TEST PIT LOGS

EXHIBIT 8
PAGE 56 OF 58

TEST PIT LOGS

Please note that the soil descriptions given below are representative of how the field representative observed and classified them at the time of test pit excavation. However, these should not be used as a guarantee of subsurface conditions across the site. Any interpretation or estimates made by others based on these logs, is done at their risk.

TP-1 From road surface @ base of 5 foot cut

0.0 - 4.8	Dense to very dense, orange-tan, slightly silty, coarse SAND; occasional roots to 4.5 feet (Decomposed Granite).

No Free Groundwater or Seepage Observed.
Bottom of Test Pit 4.8 Feet.

TP-2 From road surface @ base of 3 foot cut

0.0 - 0.2	Topsoil/Rootzone, organics, brown, silty SAND; moist.
0.2 - 2.5	Very stiff/dense, tan, sandy SILT to silty SAND; moist.
2.5 - 5.6	Very dense, mottled, orange-tan and gold, slightly silty coarse SAND; moist, (Decomposed Granite).

No Free Groundwater or Seepage Observed.
Bottom of Test Pit at 5.6 Feet.

TP-3

0.0 - 0.5	Topsoil/Rootzone, soft, dark brown.
0.5 - 2.4	Very stiff, red-tan, sandy SILT to silty SAND; moist.
2.4 - 10.5	Very dense, mottled, orange-tan with black, slightly silty, coarse SAND; occasional roots to 5.0 feet, heavy scraping and slow progress through the bottom 18 inches (Decomposed Granite).

No Free Groundwater or Seepage Observed.
Bottom of Test Pit at 10.5 Feet.

TP-4

0.0 - 0.7	Topsoil/Rootzone; medium dense, dark brown, silty SAND.
0.7 - 6.0	Very stiff/dense, gray-tan, sandy SILT to silty SAND; some sloughing below 3.0 feet; moist to wet.
6.0 - 6.8	Dense, mottled, orange-tan and black, silty SAND; moist; slow digging, slightly cemented, (Decomposed Granite).

Slow Seepage Observed at 3.5 Feet.
Bottom of Test Pit at 6.8 Feet.

TP-5

0.0 - 0.3	Topsoil/Rootzone.
0.3 - 4.7	Very stiff/dense, tan, sandy SILT to silty SAND; moist to wet.
4.7 - 6.1	Dense, orange-tan, slightly silty coarse SAND; moist, (Decomposed Granite).

Slight Seepage at 4.4 to 4.7 Feet.
Bottom of Test Pit at 6.1 Feet.

TP-6

0.0 - 0.7	Topsoil/Rootzone, numerous roots.
0.7 - 2.9	Dense, tan, silty SAND; moist.
2.9 - 5.3	Dense, orange-tan, slightly silty coarse SAND; numerous roots to 2.0 feet; moist, (Decomposed Granite).

No Free Groundwater or Seepage Observed.
Bottom of Test Pit at 5.3 Feet.

TP-7

0.0 - 0.5	Topsoil/Rootzone.
0.5 - 1.8	Dense, tan, silty SAND; moist.
1.8 - 6.3	Dense to very dense, orange-tan, slightly silty, coarse SAND; moist (Decomposed Granite).

No Free Groundwater or Seepage Observed.
Bottom of Test Pit at 6.3 Feet.

This brochure is intended to be used as a **guideline only** for estimating System Development Charges as a part of total project costs. Actual costs for your project may differ due to site specific requirements.

It does not include information on other fees which may be due including planning review fees, engineering fees, building permit fees, water and sewer connection fees, reimbursement district fees and business licenses.

Please contact the Parks & Community Development office at 541-450-6060 for information on SDC's specific to your project and information on other potential costs.

Who to contact at Community Development:

Our Planning Division can assist you with questions on our Parks and Transportation SDC's.

Our Building Permit Technician can assist with Water, Sewer and Storm Drain SDC questions and estimates.

Visit our website at:
www.grantspassoregon.gov

Parks & Community Development Office is located at:

101 NW A Street
Upstairs Room 201
Grants Pass, Oregon 97526
541-450-6060

Open 8 am – 5 pm Monday – Friday
Building Counter Hours 8 – 10 M – F
Planning Counter Hours 8 – 5 M – F

Storm Drain System

Storm Water and Open Space SDC's were adopted by the City Council on February 4, 2004. At that time, two separate charges were created, one applying to all lands within the urban growth boundary, and one specifically limited to properties which fall within the Sand Creek Drainage Basin.

The Storm Water and Open Space SDC's are an incurred charge for the planning, acquisition and capital development of facilities to accommodate and control storm water runoff, directly associated open space, and water quality control facilities to clean surface water runoff prior to return to natural surface water conveyances.

Storm Drain SDC's are due and payable upon issuance of building permit for any new construction or expansion which creates additional residential units and any construction which expands or remodels a business building which includes an increase in impervious surface of 25% or more.

The Storm Drain and Open Space Plan SDC
For residential and commercial development is **$493.24 per development permit.**

The Sand Creek Drainage Basin Storm Drain SDC
For residential and commercial development is **.33 per square foot of the lot or improvement.**

What are SDCs?

The City of Grants Pass is committed to providing quality services to our community.
As our community grows, old systems need to be updated and new systems must be built.
System Development Charges are one way to fund those improvements.

System Development Charges (SDCs) are fees imposed upon new and expanding development within the City of Grants Pass and the urbanizing area that connects to or otherwise will use City services of the water system, sanitary sewer system, parks, streets and storm drainage.

The objective of SDCs is to charge new users an equitable share of the cost of services and to pay for improvements necessary as a result of increased development and demand on the City's infrastructure.

SDC Fee Adoption & Adjustments

On July 17, 1991 the City of Grants Pass adopted an ordinance allowing the creation of system development charges. SDCs are now in place to fund the Water, Sewer, Parks, Storm Drain and Transportation Systems.

On January 2, 2002, the Council adopted a resolution establishing Cost of Living (COLA) Adjustments for SDCs.

The figures in this brochure reflect the fees for January 1, 2017 through December 31, 2017 only.

For further assistance...
If you would like more information on System Development Charges call (541) 450-6060

SYSTEM DEVELOPMENT CHARGES

EXHIBIT 8

Fees Effective
January 1, 2017 through
December 31, 2017

This brochure <u>is only a guideline</u> for anticipating potential system charges for new development and is subject to change.

Water System

The Water SDC was first adopted by the City Council on August 21, 1991 and last amended on July 25, 2005. It is charged and payable for development at the time of permit to connect to the water system.

The method of calculating the Water SDC depends on what Water Pressure Zone service area the development is connecting to, as follows:

Water Pressure Zones 1, 2&3:
(based on water meter size)
3/4" $2,874
1" $7,189
1-1/2" $14,382
2" $23,014

Water Pressure Zones 4, 5 & up:
(based on water meter size)
3/4" $3,344
1" $8,364
1-1/2" $16,731
2" $26,771

Water meter size required for your project can vary and is site specific please contact our office for actual cost for your connection.

Per Municipal Code 3.11.400 All Residential Development. The water system development charge shall be the greater of the charge based on water meter size or the charge based on residential living units.

Sewer System

The Sewer SDC was first adopted by the City Council on October 19, 1994 and last amended on July 25, 2005. The Sewer SDC is charged and payable for development at the time of permit to connect to the sewer system.

Sewer SDCs for residential use are based on Equivalent Residential Units (ERUs) as follows:

Single-family or Manufactured Home $3,039
Duplex $4,862

Sewer SDCs for commercial, public and quasi-public development are determined by the number of fixture units and strength of discharge. A worksheet is available to estimate the sewer SDC for individual projects.

Redwood Sewer District

Properties located within the Redwood Sanitary Sewer Service District (RSSSD) are Subject to a different sewer SDC schedule, *and may be subject to additional assessment charges or eligible for credits. *Please contact the Community Development office for an estimate of RSSSD charges.*

*For typical new construction within the RSSSD, the following schedule applies:
Residential in Redwood Sewer District:

1 toilet $3,951	4 toilets $4,851
2 toilets $4,251	5 toilets $5,151
3 toilets $4,551	

Redwood Sewer SDCs for commercial, public and quasi-public development are determined by the number of fixtures units, strength of discharge and water meter size. A worksheet is available to estimate the sewer SDC for individual projects.

Transportation

The Transportation SDC was adopted by the City Council on September 15, 1999. The Transportation SDC helps to pay for the expansion and capital development of the transportation system to accommodate and control motorized vehicular traffic, pedestrian traffic, and bicycle traffic.

In September 2011, the City Council adopted Ordinance 5546 which identifies the method of calculating the SDC's to be based on the Institute of Transportation Engineers Trip Generation Report. Trips are calculated based on the Land Use and Title that best fits the Development as interpreted by the City. If the ITE Trip Generation Report includes multiple measure that can be used to determine average daily trip generation including area, the measure of square footage (area) will be used. The Director may consider an alternative trip calculation when a report is supplied by a licensed traffic engineer and said alternative is reviewed and approved by the City Engineer.

The Transportation SDC is due and payable at the time of building permit issuance for construction.

The City Council adopted Resolution 15-6338 to establish the current Transportation SDC trip rate. This rate is a 30% reduction from the previous rate.

In certain cases, a credit may be applied towards the Transportation SDC for previous uses on the site. *Please contact Planning for an estimate of the Transportation SDC's for your project.*

Below is an example using the $112.30/trip rate.
Single Family Residence
Category: Single-family (9.57 trips/unit)
1 unit x 9.57 trips/unit x $112.30/trip = $1074.71

Parks

The City of Grants Pass has adopted two SDCs for Parks. The Parkland Acquisition SDC was adopted by the City Council on June 30, 1997. The SDC pays for the purchase of parkland, trails, and open space for the parks and recreation master plan. On December 18, 2006 the City Council adopted a Park Development SDC effective June 1, 2007. This SDC will help fund capital improvements and development of the park, trail and open space system.

Parks SDCs are due and payable upon issuance of a building permit for: any new construction or expansion which creates additional residential units; any construction which creates a new business building or enlarges a business building; or issuance of the first manufactured home placement permit granted upon an individual building lot.

The Parks SDCs for residential development is based on the number of units:
Parkland Acquisition ..... $466.05 per residence
Park Development ..... $374.34 per residence
Total per unit $840.39

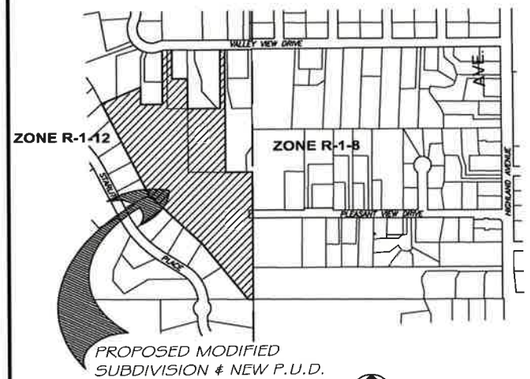
The Parks SDCs for non-residential development is based upon the number of required parking spaces built to serve the development.
Parkland Acquisition ..... $42.67 per new parking space built
Park Development ..... $33.32 per new parking space built
Total per parking space $75.99

The City Council adopted Resolution 15-6338 to establish the Parks SDC rates. These rate is a 30% reduction from the previous rate.

See other side for Storm Drain SDC Information

VALLEY LIGHTS SUBDIVISION / P.U.D.
P.U.D. PRELIMINARY PLAN & MAJOR SPR MAP
LOTS 1, & 16 (NOT INCLUDING LOT 13)

LOCATED IN THE S.E. 1/4 OF THE N.W. 1/4 OF SEC. 7, T. 36 S., R. 5 W., W.M. JO.CO., OR. TAX LOTS 400 & 719



VICINITY MAP
NW GRANTS PASS
NO SCALE

LOT TABLE		
LOT	SIZE	UNITS
1	72,653 (1.67 Ac.)	8
2	12,118 (0.28 Ac.)	1
3	12,029 (0.28 Ac.)	1
4	12,151 (0.28 Ac.)	1
5	13,272 (0.30 Ac.)	1
6	12,132 (0.28 Ac.)	1
7	12,078 (0.28 Ac.)	1
8	12,077 (0.28 Ac.)	1
9	12,742 (0.29 Ac.)	1
10	12,916 (0.29 Ac.)	1
11	14,407 (0.33 Ac.)	1
12	13,001 (0.30 Ac.)	1
13	NOT INCLUDED	0
14	18,700 (0.43 Ac.)	1
15	16,686 (0.38 Ac.)	1
16	122,071 (2.80 Ac.)	13
TOTAL		35

NOTE:
PROPOSED P.U.D. LOTS ARE LOTS 1 AND 16. (NOT INCLUDING LOT 13) REMAINING LOTS TO REMAIN AS PART OF APPROVED VALLEY LIGHTS SUBDIVISION / P.U.D.

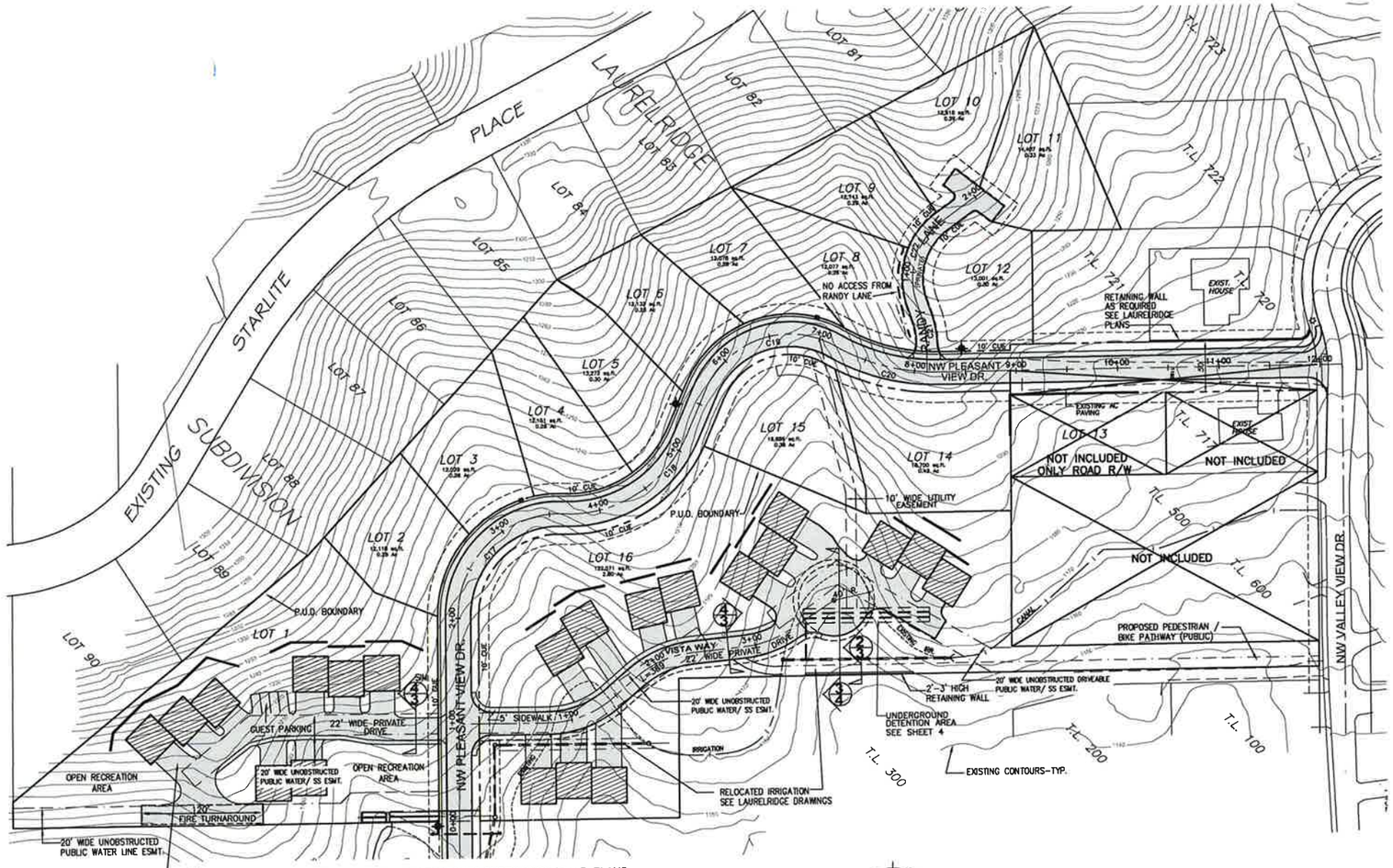
TOTAL SITE DATA

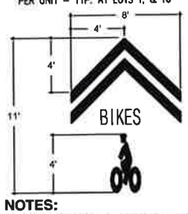
MAP & TAX LOT	36-05-07-24, TL's 400 & 719
TOTAL ACRES SITE (APPROVED LAURELRIDGE SUBDIVISION)	9.71 Ac.

P.U.D. SITE DATA

PROPOSED PUD ACRES (LOTS 1, & 16)	4.19 Ac.
PROPOSED OPEN SPACE -PUD	0.52 Ac.
PROPOSED IMPERVIOUS SURFACE - PUD	1.23 Ac. (25.8%)
ACTUAL UNITS - PUD	20

TBM= CITY OF GRANTS PASS GEODETIC SURVEY, GPS CONTROL POINT No. 2109, A BRASS CAP IN TOP OF CONCRETE CURB AT THE N.E. CORNER OF HIGHLAND AVE. AND MIDLAND AVE. ELEV= 1044.54





NOTES:
1. BIKE STREET GRAPHIC SIGNS SHALL BE PAINTED ON THE SURFACE OF THE STREET IN THE CENTER OF THE DRIVE LANE TO WARN MOTORISTS THAT THIS STREET IS ALSO BEING USED BY BICYCLISTS.
2. THE STREET GRAPHIC SIGNS SHALL BE PAINTED IN WHITE USING A TEMPLATE IN THE POSITIONS PER CITY STANDARDS.
3. THE PAINT SHALL BE PARKING LOT STRIPING PAINT TO CITY STANDARDS FOR STREET GRAPHICS SPRAYED ON WITH VEHICLE MOUNTED EQUIPMENT.
4. TWO FINISH COATS ON PRIMER FOR ASPHALT APPLICATIONS. CLEAN ALL SURFACES BEFORE PAINTING.
5. FINAL GRAPHIC DETAIL AND MEASUREMENTS IN ACCORDANCE WITH CITY OF GRANTS PASS STANDARDS.

① BIKE / AUTO GRAPHIC
SEE ALSO SHEET 3 NO SCALE

SITE PLAN
SCALE: 1" = 60'
60 30 0 60 120

OWNER
BILL FERGUSON
5200 PIONEER ROAD
MEDFORD, OREGON 97504
(541)944-2929

GEOTECHNICAL ENGINEER
THE GALLI GROUP
612 NW 3rd STREET
GRANTS PASS, OREGON 97526
(541)955-1611

ENGINEER
T.J. BOSSARD ENGINEERING, LLC
1750 DELTA WATERS ROAD, STE. 102 #305
MEDFORD, OREGON 97504
(541) 858-5774

SHEET INDEX

NOTE:
SEE VALLEY LIGHTS SUBDIVISION / P.U.D. CONSTRUCTION PLANS FOR DETAILS NOT SHOWN.

AREAS LABELED "NOT INCLUDED" SHALL BE SUBJECT TO RIGHT OF WAY DEDICATION AS REQUIRED.

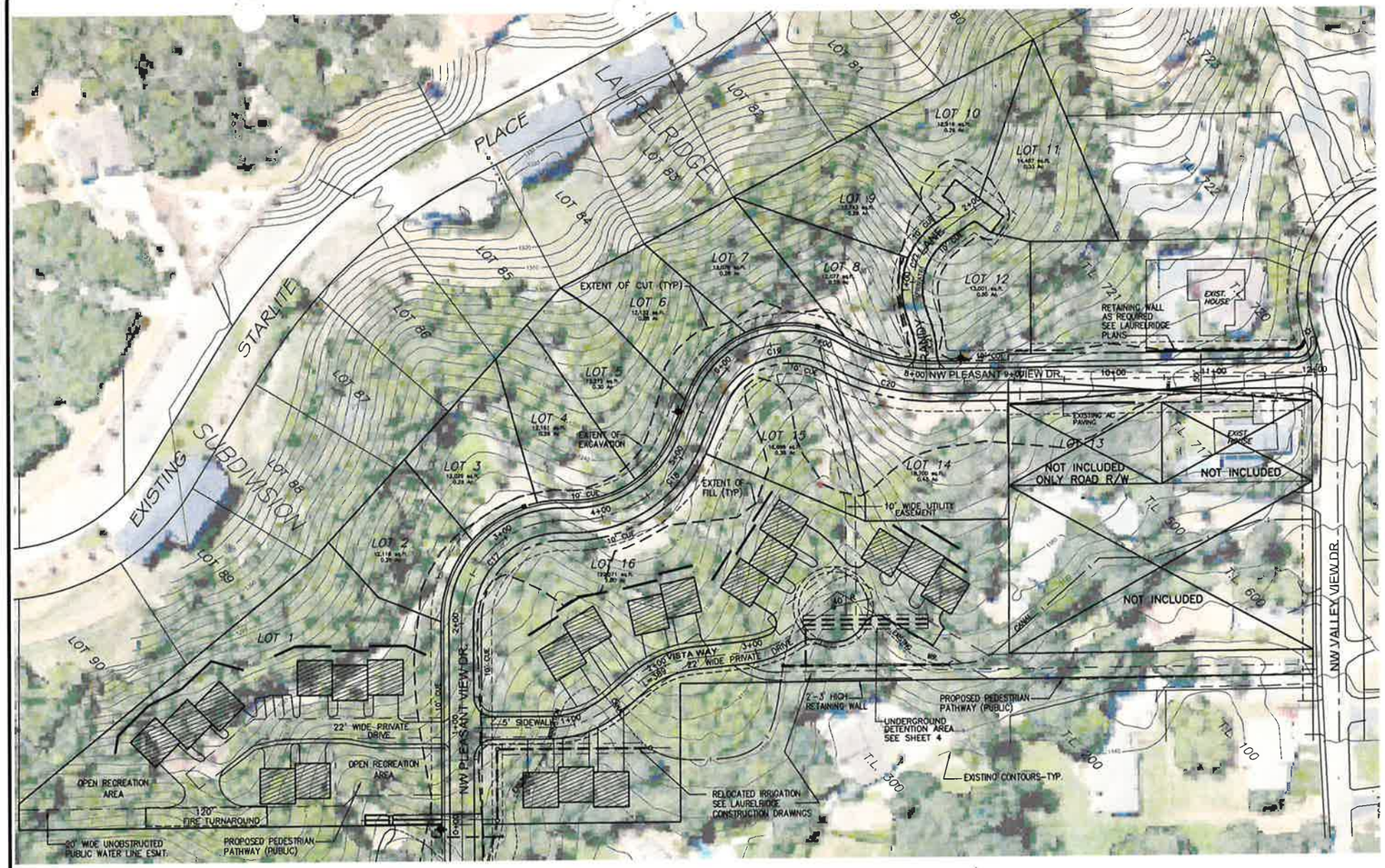
REVISIONS

T.J. BOSSARD ENGINEERING, LLC
1750 DELTA WATERS ROAD, STE. 102 #305
MEDFORD, OREGON 97504
PH. 541-858-5774

REGISTERED PROFESSIONAL ENGINEER — OREGON JULY 27, 1984 TIMOTHY J. BOSSARD 9211 — RENEWS: 12/31/17

VALLEY LIGHTS SUBDIVISION / P.U.D.
LOTS 1, & 16 (NOT INCLUDED LOT 13)
BILL FERGUSON
5200 PIONEER ROAD, MEDFORD, OREGON 97504

DRAWN BY :	T.MASSEY
CHECKED BY	T.BOSSARD
DATE :	12-15-16
SCALE :	AS-NOTED
CADDFILE:	PRE-APP9-6-16
JOB NO. :	
SHEET	1 OF 4

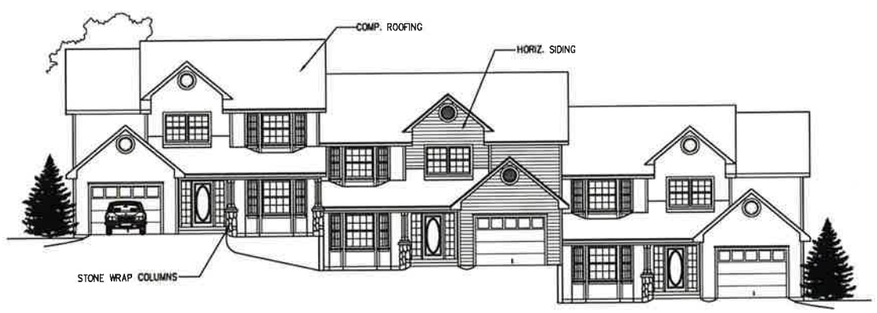


SEE VALLEY LIGHTS SUBDIVISION / P.U.D. PLANS FOR OFF SITE IMPROVEMENTS

AERIAL OVERLAY PLAN

SCALE: 1" = 60'

60 30 0 60 120



SAMPLE TRI-PLEX MULTI FAMILY

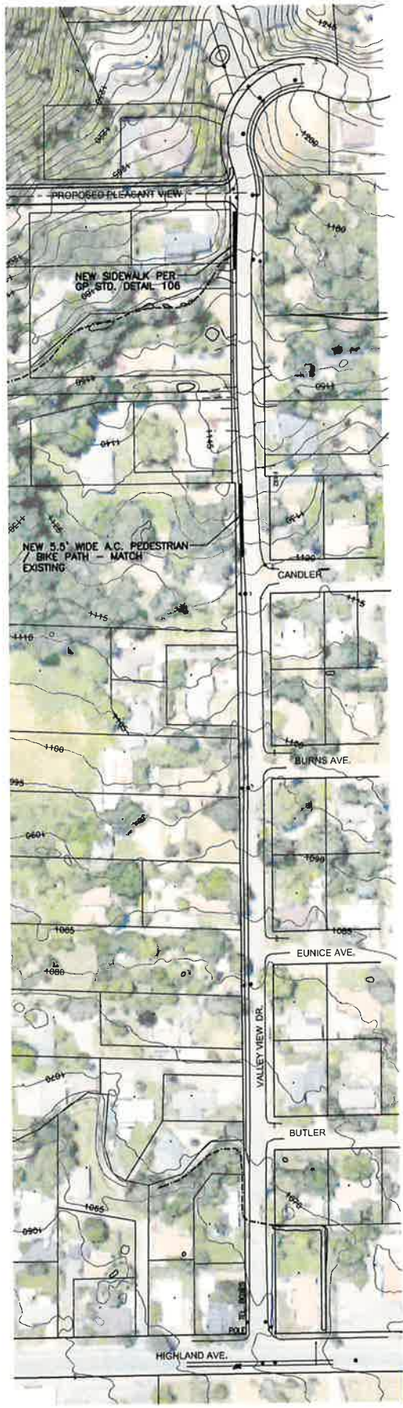
1,200 – 1,600 SQ. FT. PER UNIT

NO SCALE

SAMPLE DUPLEX MULTI FAMILY

NO SCALE

NOTE:
SEE VALLEY LIGHTS SUBDIVISION / P.U.D. PLANS FOR DETAILS NOT SHOWN



CONNECTING PATHWAY - NW VALLEY VIEW

SCALE: 1" = 100'

100 50 0 100 200

REVISIONS

T.J. BOSSARD ENGINEERING, LLC
1750 DELTA WATERS ROAD, STE. 102 #305
MEDFORD, OREGON 97504
PH. 541-858-5774

VALLEY LIGHTS SUBDIVISION / P.U.D.

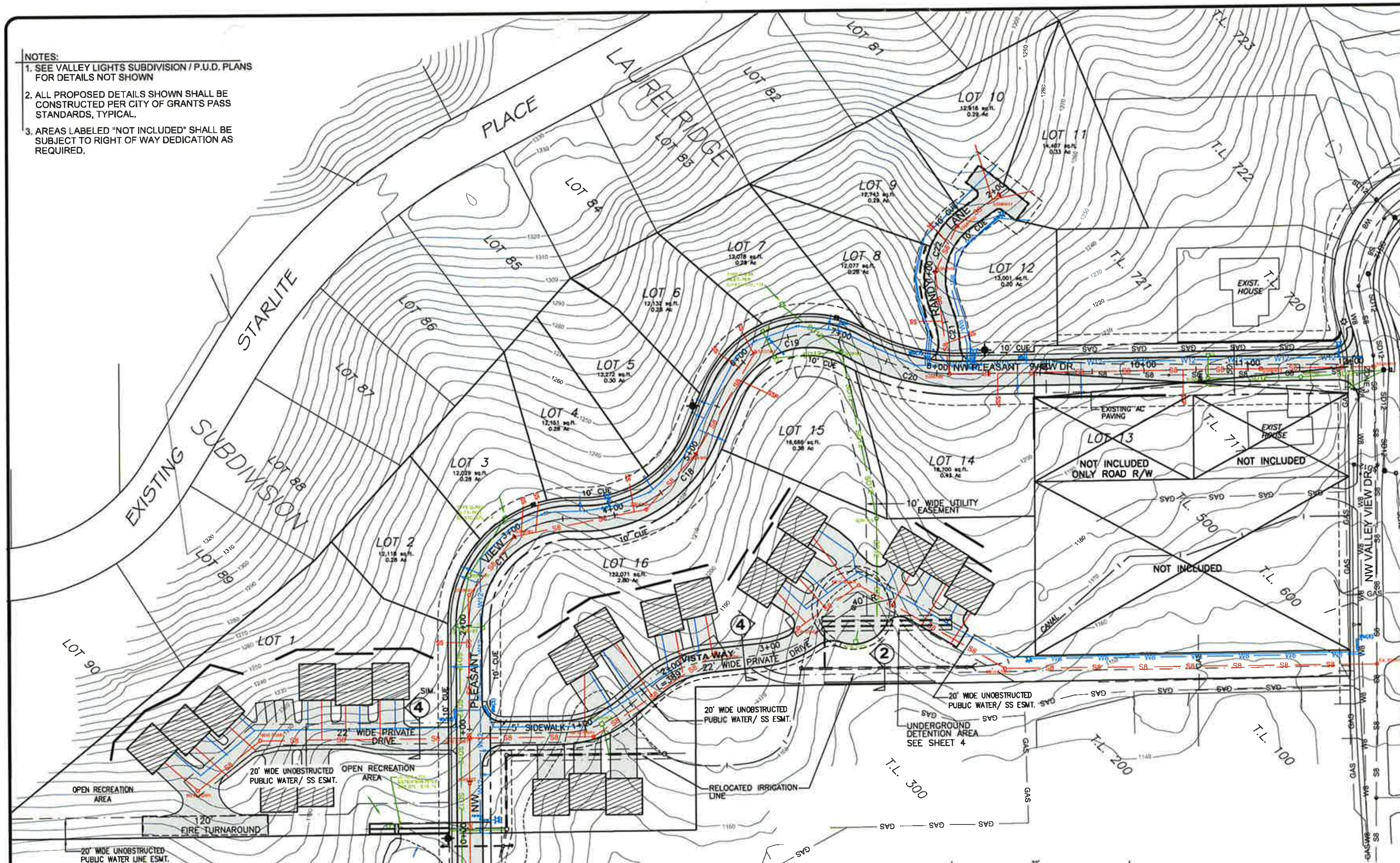
LOTS 1, & 16 (NOT INCLUDED LOT 13)

BILL FERGUSON
5200 PIONEER ROAD, MEDFORD, OREGON 97504

DRAWN BY : T.MASSEY
CHECKED BY T.BOSSARD
DATE : 12-15-16
SCALE : AS-NOTED
CADDFILE: PRE-APP9-6-16
JOB NO. :

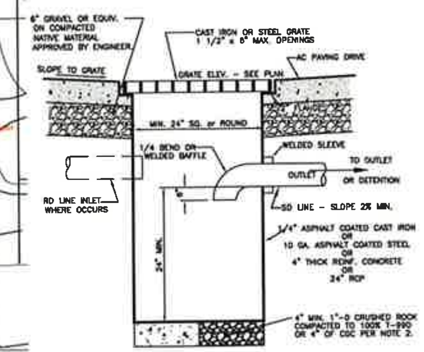
SHEET
2 OF 4

NOTES:
1. SEE VALLEY LIGHTS SUBDIVISION / P.U.D. PLANS FOR DETAILS NOT SHOWN
2. ALL PROPOSED DETAILS SHOWN SHALL BE CONSTRUCTED PER CITY OF GRANTS PASS STANDARDS, TYPICAL.
3. AREAS LABELED "NOT INCLUDED" SHALL BE SUBJECT TO RIGHT OF WAY DEDICATION AS REQUIRED.



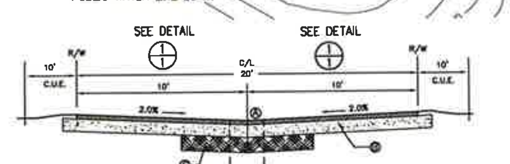
LEGEND

	EXISTING PROPERTY LINE
	RIGHT-OF-WAY
	EASEMENT
	EXISTING AC PAVING
	EXISTING EDGE OF PAVEMENT
EGC	EXISTING GROUND CENTERLINE (PROF.)
EGL	EXISTING GROUND LEFT (PROFILE)
EGR	EXISTING GROUND RIGHT (PROFILE)
SS	EXISTING SANITARY SEWER LINE
W	EXISTING WATER LINE
SD	EXISTING STORM DRAIN LINE
E	EXISTING POWER LINE
	EXISTING DITCH-FLOW LINE
I	EXISTING IRRIGATION DITCH
X	EXISTING FENCE
	FOUND 5/8" IRON ROD
	INDICATES MONUMENT AS NOTED.
	EXISTING FIRE HYDRANT
	EXISTING WATER VALVE
	EXISTING UTILITY POLE
	EXISTING LIGHT/UTILITY POLE
	EXISTING SANITARY SEWER MANHOLE
	EXISTING WATER METER
	PROPOSED PROPERTY LINE
S8	PROPOSED SANITARY SEWER LINE
W12	PROPOSED WATER LINE
SD12	PROPOSED STORM DRAIN LINE
E	PROPOSED POWER LINE
	PROPOSED IRRIGATION LINE
	PROPOSED EASEMENT
	CENTERLINE
	PROPOSED AC
	PROPOSED WATER METER
	PROPOSED WATER VALVE
	PROPOSED FIRE HYDRANT ASSEMBLY
	PROPOSED WATER LINE PLUG
	PROPOSED SANITARY SEWER MANHOLE
	PROPOSED STORM DRAIN MANHOLE
	PROPOSED CATCH BASIN
	PROPOSED CLEAN OUT
SS	PROPOSED 4" SS LATERAL
SSP	PROPOSED 2" SS PUMP LATERAL
	FINISHED GRADE FLOW DIRECTION
	PROPOSED STREET LIGHT



GENERAL NOTES:
1. OREGON PLUMBING SPECIALTY CODE REQUIRES A CLEAN OUT TO BE INSTALLED WITHIN 5 FEET OF THE BEND OR BAFFLE IF THEY ARE NOT REMOVABLE.
2. CONCRETE TO BE COMMERCIAL GRADE CONCRETE (CCC) PER 2002 ODOT/OREGON APWA SECTION 00440.00
3. GRATE SHALL BE TRAFFIC LOAD RATED.

5 CATCH BASIN DETAIL
OIL SEPARATOR — NO SCALE

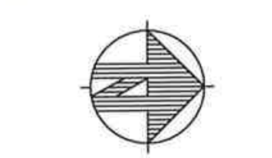


Ⓐ 2" CLASS "B" A.C.
Ⓑ 7" 1"-0" AGGR.
Ⓒ SELECTED SUBGRADE - WHEN REQUIRED

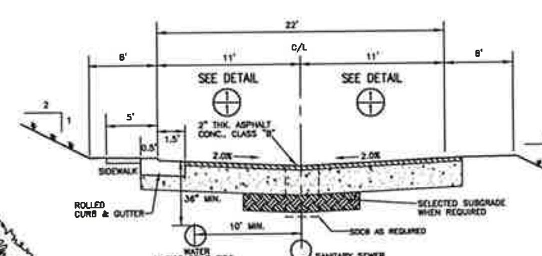
TYPICAL SECTION – RANDY LANE
CITY OF GRANTS PASS (CITY PRIVATE STREET) — NO SCALE

NOTE:
12" SD EXTEND DOWN PLEASANT VIEW TO OUTLET AS APPROVED BY CITY.

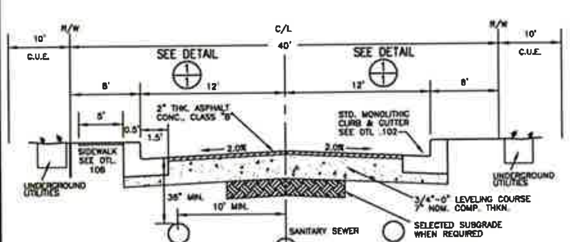
PROPOSED UTILITY PLAN



SCALE: 1" = 50'

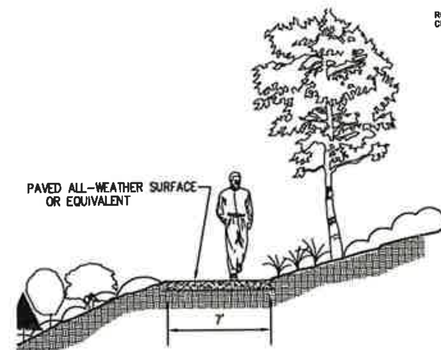


4 TYPICAL SECTION – 22' PRIVATE DRIVE
SHARED BIKE LANE — NO SCALE
SEE DETAIL – SHEET 1



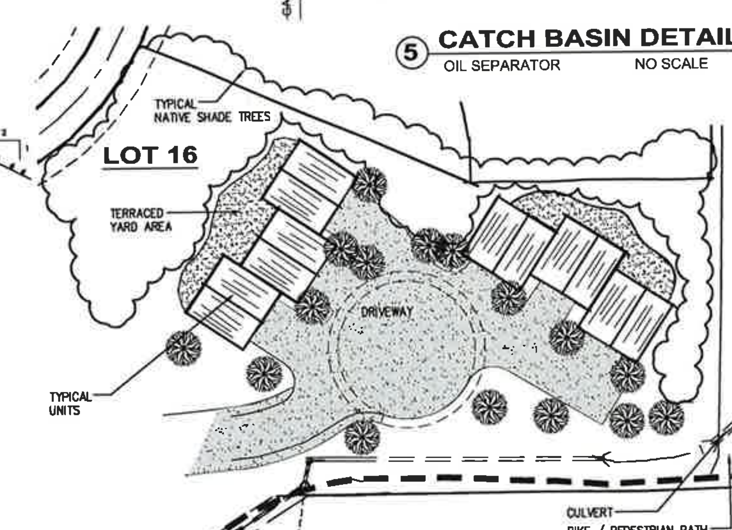
TYPICAL SECTION – PLEASANT VIEW
CITY OF GRANTS PASS — NO SCALE
(CITY HILLSIDE STANDARD – PARKING ONE SIDE)

1 NOT USED



2 TYPICAL BIKE/ PEDESTRIAN PATHWAY — NO SCALE

3 NOT USED



LOT 16 CONCEPT PARTIAL LANDSCAPING PLAN
SCALE: NONE

REVISIONS

T.J. BOSSARD ENGINEERING, LLC
1750 DELTA WATERS ROAD, STE. 102 #305
MEDFORD, OREGON 97504
PH. 541-858-5774

REGISTERED PROFESSIONAL ENGINEER 19210 OREGON JULY 22, 1981 TIMOTHY JAY BOSSARD EXPIRES 12/31/17

VALLEY LIGHTS SUBDIVISION / P.U.D.

LOTS 1, & 16 (NOT INCLUDED LOT 13)

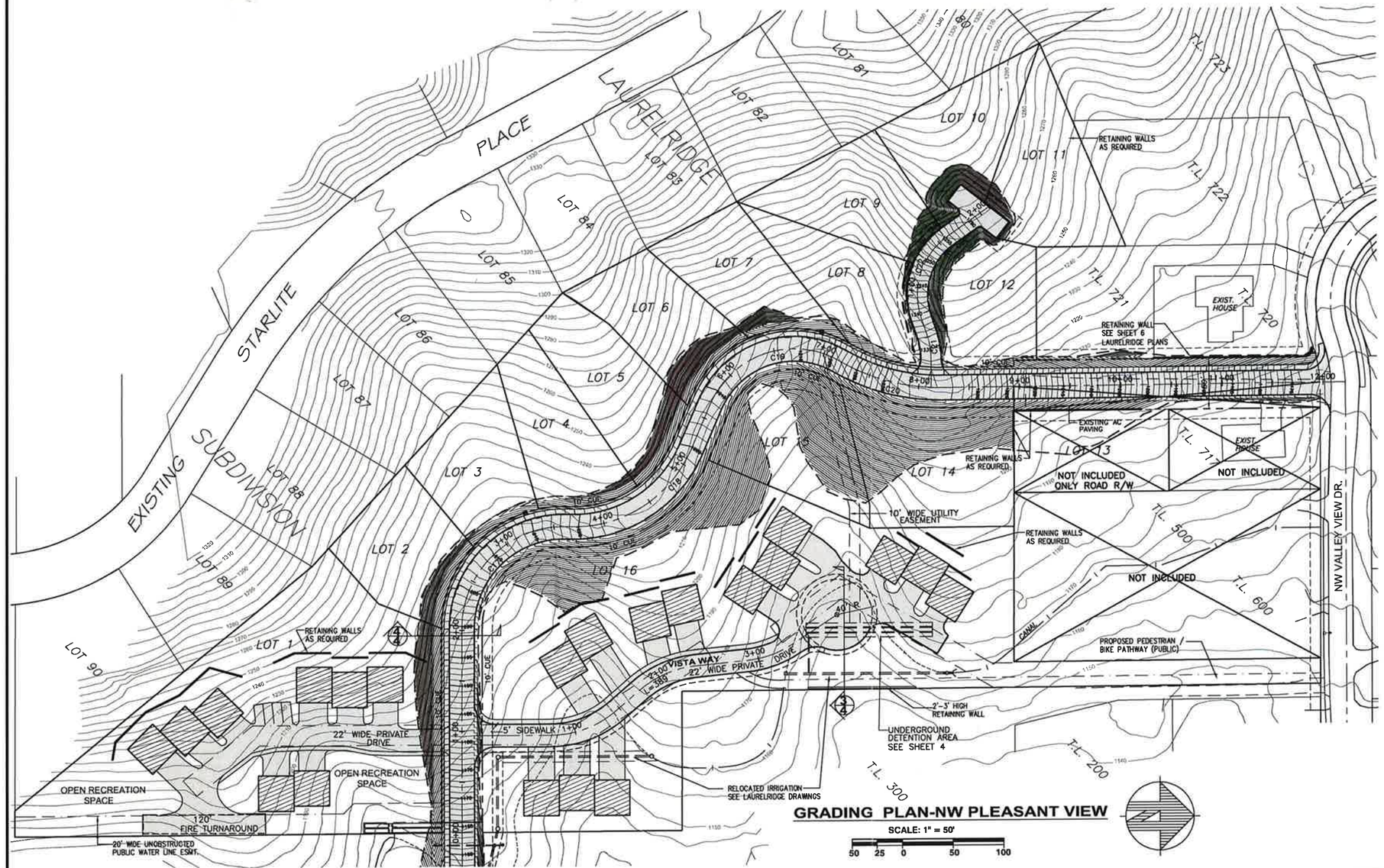
BILL FERGUSON
5200 PIONEER ROAD, MEDFORD, OREGON 97504

DRAWN BY :	T.MASSEY
CHECKED BY	T.BOSSARD
DATE :	12-15-16
SCALE :	AS-NOTED
CADDFILE:	PRE-APP9-6-16
JOB NO. :	
SHEET	3 OF 4

GRADING NOTES:

1. EACH INDIVIDUAL LOT OF THIS SUBDIVISION SHALL BE REQUIRED BY THE FINAL PLAT TO OBTAIN A GRADING PERMIT FROM THE CITY OF GRANTS PASS PRIOR TO ANY EXCAVATION OR CONSTRUCTION. THIS PERMIT SHALL BE IN CONFORMANCE WITH THE PROJECT GEOTECHNICAL DESIGN REPORT BY THE GALLI GROUP, DATED APRIL 27, 2007 AND SHALL INSURE THAT NO INDIVIDUAL LOT DRAINAGE CROSSES PROPERTY LINES AND BOTH CONSTRUCTION EROSION AND LONG TERM EROSION IS NOT ALLOWED TO ENTER INTO DRAINAGE STRUCTURES OR NATURAL DRAINAGE WAYS.
2. PROPOSED DRIVEWAY GRADES FOR EACH INDIVIDUAL LOT SHALL NOT EXCEED 18% AND SHALL MEET THE REQUIREMENTS OF THE CITY OF GRANTS PASS.

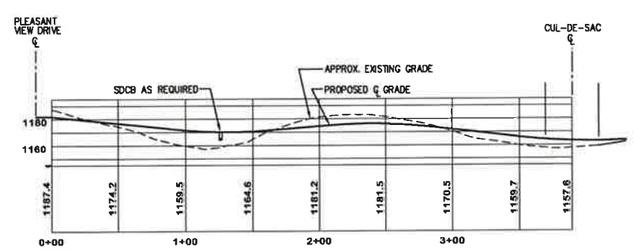
NOTE:
SEE VALLEY LIGHTS SUBDIVISION / P.U.D. PLANS FOR DETAILS NOT SHOWN
AREAS LABELED "NOT INCLUDED" SHALL BE SUBJECT TO RIGHT OF WAY DEDICATION AS REQUIRED.



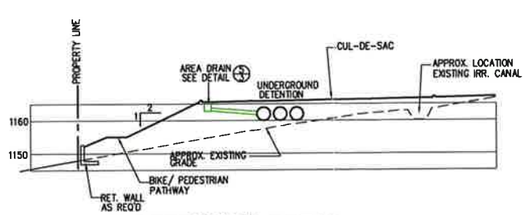
GRADING PLAN-NW PLEASANT VIEW

SCALE: 1" = 50'

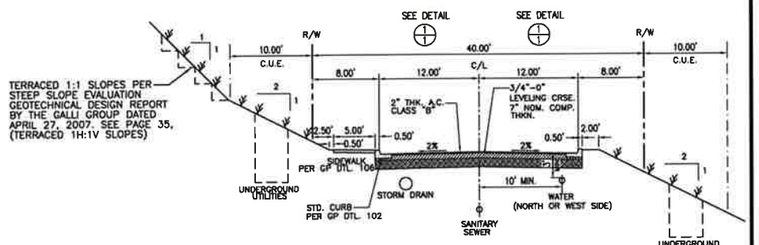
50 25 0 50 100



② PROFILE - VISTA WAY
22' PRIVATE DRIVE 1" = 50'



③ DETENTION DETAIL
1" = 20'



VALLEY LIGHTS SUBDIVISION / P.U.D.
④ TYPICAL STREET SECTION - PLEASANT VIEW
LOOKING WEST

SCALE: 1" = 8'

8 4 0 8 16

REVISIONS

T.J. BOSSARD ENGINEERING, LLC
1750 DELTA WATERS ROAD, STE. 102 #305
MEDFORD, OREGON 97504
PH. 541-858-5774

REGISTERED PROFESSIONAL ENGINEER OREGON JULY 22, 2005 TIMOTHY J. BOSSARD EXPIRES: 12/31/16

VALLEY LIGHTS SUBDIVISION / P.U.D.
LOTS 1, & 16 (NOT INCLUDED LOT 13)
BILL FERGUSON
5200 PIONEER ROAD, MEDFORD, OREGON 97504

DRAWN BY :	T.MASSEY
CHECKED BY :	BOSSARD
DATE :	12-15-16
SCALE :	AS-NOTED
CADDFILE:	PRE-APP9-6-16
JOB NO. :	

SHEET 4 OF 4