EXHIBIT LIST FOR SUB 2021-002/EA 2021-007
Preliminary Plat of Highland Vineyards

			DATED
Planning Commission Memo Exhibit List - April 13, 2021			
PCM 1 Includes:	PCM 1.1	Staff Report	April 1, 2021
	PCM 1.2	Site Map	March 1, 2021
	PCM 1.3	Notice of Public Hearing	March 19, 2021
		APPLICATION SUBMITTAL	
	PCM 1.4	Subdivision Application	February 11, 2021
	PCM 1.5	Plat Map	February 11, 2021
	PCM 1.6	Preliminary Stormwater Drainage Report	February 11, 2021
	PCM 1.7	Geotechnical Engineering Report	February 11, 2021
	PCM 1.8	Trip Generation & Distribution letter	March 8, 2021
		SEPA INFORMATION	
	PCM 1.9	Environmental Checklist EA 2020-007	February 11, 2021
	PCM 1.10	Notice of Application	March 1, 2021
	PCM 1.11	Mitigated Determination of Non Significance	March 25, 2021
		COMMENTS	
	PCM 1.12	Fire District # 1	March 2, 2021
	PCM 1.13	City of Kennewick-Traffic Comments	March 4, 2021
	PCM 1.14	Benton PUD Comments	March 4, 2021
	PCM 1.15	Benton County Fire Marshal	March 4, 2021
	PCM 1.16	Benton County Public Works	March 8, 2021
	PCM 1.17	Benton County Public Works	March 9, 2021
	PCM 1.18	County Assessor's Office	March 9, 2021
	PCM 1.19	City of Kennewick - Public Works Comments	March 13, 2021
	PCM 1.20	Dept. of Arch. & Historic Preservation	March 15, 2021
	PCM 1.21	City of Kennewick - Addressing Map	March 16, 2021
	PCM 1.22	Dept. of Ecology	March 16, 2021
	PCM 1.23	Columbia Irrigation District	March 17, 2021
Planning Commission Hearing Exhibit List - April 13, 2021			
	PCH 1.1		
	PCH 1.2		
	PCH 1.3		
Board of County Commissioners Memo Exhibit List - DATE			
BCCM 1 Includes:	BCCM 1.1		
	BCCM 1.2		
	BCCM 1.3		
	BCCM 1.4		

The Exhibit Numbers are found in the Top Right Hand Corner of each document.
PCM = Planning Commission Memo Exhibits
PCH = Planning Commission Hearing Exhibits
BCCM = County Commissioner Memo Exhibits

Community Development Department
Prosser Office: 620 Market Street, 1st Floor
Kennewick Office: 102206 East Wiser Parkway
www.co.benton.wa.us

Planning Division
(509) 786-5612
P.O. Box 910, Prosser, WA 99350
planning.department@co.benton.wa.us

PCM 1.1

STAFF REPORT TO THE BENTON COUNTY PLANNING COMMISSION

FILE NO:	**SUB 2021-002** **Preliminary Plat of Highland Vineyards**
MEMO DATE:	April 1, 2021
HEARING DATE:	April 13, 2021
APPLICANT/: OWNER	R.J. and Diane Hoch 2921 S Auburn Place Kennewick, WA 99337
LOCATION:	The site is located east of the intersection of S Washington Street and E 27th Avenue and east of the Columbia Irrigation District canal. The project site spans to both north and south of E 27th Avenue in Kennewick WA on parcels 10780-300-0039-001, 1-1880-201-0466-002, 1-1880-201-0466-003, and 1-1880-201-0466-004.
PROPERTY SIZE:	Approximately 16.86 acres
AREA TO BE USED:	Approximately 16.86 acres
LAND USE:	Residential
COMP. PLAN:	Urban
ZONING:	Urban Growth Area Residential
SUGGESTED STAFF RECOMMENDATION:	**Positive recommendation** subject to seven (7) findings of fact and nineteen (19) conditions of approval.

APPLICATION DESCRIPTION

The applicant has submitted a preliminary plat application (PCM 1.4) and map (PCM 1.5) to subdivide approximately 16.86 acres into 60 residential lots. The preliminary plat is known as Highland Vineyards. The land is zoned Urban Growth Area Residential District.

The average lot size in the development is approximately 9,580 square feet and the lots are proposed to be served by new public roads and City of Kennewick water and sewer.

The property is located east of the intersection of S Washington Street and E 27th Avenue and east of the Columbia Irrigation District canal in unincorporated Kennewick, WA on parcels 10780-300-0039-001, 1-1880-201-0466-002, 1-1880-201-0466-003, and 1-1880-201-0466-004.

PUBLIC NOTICE

1. A Notice of Application was published in the Prosser Record Bulletin on March 3, 2021 (PCM 1.10).
2. Planning Staff mailed out review packets to technical agencies on March 1, 2021.

3. A Notice of Public Hearing was published in the Prosser Record Bulletin on March 31, 2021 (PCM 1.3)
4. Property owners within 300 feet were mailed notice on March 2, 2021.
5. A SEPA Determination of Mitigated Non-Significance (MDNS) (PCM 1.11) was issued on March 25, 2021.

APPLICABLE STANDARDS/ORDINANCES

1. Comprehensive Plan: Benton County Comprehensive Plan.
2. SEPA: BCC, Title 6, Chapter 6.35 Environmental Policy.
3. Subdivision Code: BCC, Title 9, Subdivision Regulations.
4. Zoning Code: BCC, Title 11, Zoning Regulations.
5. Critical Area Ord.: BCC, Title 15, Critical Areas- BCC 15.02 - 15.14.
6. RCW 58.17: Plats and Subdivisions.
7. Planning Commission/Open Record Hearing:

   Pursuant to BCC 9.05.070, an open record hearing on the proposed subdivision shall be held before the Planning Commission. The Planning Commission shall consider all relevant information, including but not limited to:

   a. The staff report by the Planning Division,
   b. Any written comments or concerns expressed by other reviewing agencies,
   c. Oral and written testimony from persons present at the hearing; and

   If the Planning Commission finds that additional information is needed, the Planning Commission may continue the hearing for up to thirty-five (35) days or such longer period as agreed to by the applicant and direct that the additional information be gathered.

AGENCY COMMENTS

1. Benton County Planning Division: See the suggested findings of fact and conditions of approval for the Planning Division's comments and requirements.
2. Benton County Public Works Department: See comments dated March 9, 2021 (PCM 1.17).
3. City of Kennewick Public Works Division: See comments dated March 13, 2021 (PCM 1.19).
4. City of Kennewick Traffic Engineering Division: See comments dated March 4, 2021 (PCM 1.13)
5. Benton County Assessor: See comments dated March 9, 2021 (PCM 1.18).
6. Benton PUD: See comments dated March 4, 2021 (PCM 1.14).
7. Benton County Fire Marshal: See comments dated March 4, 2021 (PCM 1.15).
8. Columbia Irrigation District: See comments dated March 17, 2021 (PCM 1.23).
9. Washington State Department of Archeology & Historic Preservation: See comments dated March 15, 2021 (PCM 1.20).
10. Fire District #1: See comments dated March 2, 2021 (PCM 1.12).
11. Washington State Department of Ecology: See comments dated March 16, 2021 (PCM 1.22).

CRITERIA FOR FINDINGS OF FACT

1. Pursuant to **BCC 9.05.080, Consideration of Preliminary Subdivision**, the Benton County Planning Commission, after conducting an open record hearing and considering all information presented, shall forward a recommendation to the Board of County Commissioners regarding whether the preliminary plat be approved, approved with conditions, or denied as proposed. Prior to making any recommendation, the Planning Commission shall make the following written findings:
    a. That the proposed subdivision conforms to the Benton County Comprehensive Plan, any applicable zoning requirements and other applicable land use controls;
    b. That the County Engineer, or designee, has provided a written representation that the proposed subdivision provides adequate means of access and conformance with the road and drainage requirements of Benton County;
    c. That the proposed subdivision meets the requirements of BCC 9.05;
    d. That the public interest will be served by the proposed division and dedication;
    e. That appropriate provisions are made for the public health, safety, and general welfare, for open spaces, drainage ways, streets or roads, alleys, other public ways, transit stops, potable water, sanitary wastes, parks and recreation, playgrounds, schools, school grounds, and sidewalks;
    f. That the Benton-Franklin Health District has reviewed the proposed subdivision for compliance with its rules and regulations and has not expressed objection to the proposed subdivision; and
    g. If any portion of the proposed subdivision is located within an irrigation district, that the applicant has complied with RCW 58.17.310 as it now exists or is hereafter amended.
2. **RCW 58.17.110 (1)(2)(3)(4). Approval or disapproval of subdivision - factors to be considered- conditions of approval**, including, (4) If water supply is to be provided by a groundwater withdrawal exempt from permitting under RCW 90.44.050, the applicant's compliance with RCW 90.44.050 and with applicable rules adopted pursuant to chapters 90.22 and 90.54 RCW is sufficient in determining appropriate provisions for water supply for a subdivision, dedication, or short subdivision under this chapter.

RECOMMENDATION

Benton County Planning Staff will assist the Planning Commission with the determination of findings and conditions for the preliminary plat of Highland Vineyards - File Number SUB 2021-002.

The Benton County Planning Division recommends that the Planning Commission forward a **recommendation of approval** to the Benton County Board of Commissioners for application SUB 2021-002, with the following suggested findings of fact, conditions of approval, and motion.

SUGGESTED FINDINGS OF FACT:

1. The proposed subdivision (PCM 1.4, application and PCM 1.5, preliminary plat map) conforms to the Benton County Comprehensive Plan, any applicable zoning requirements and other applicable land use controls;
    a. The proposed use is in conformance with the intent of the Comprehensive Plan based on the following facts:

i. The 16.86-acre site is bordered on the north, east, and south by lands zoned UGAR; and on the west by Kennewick city limits.

ii. The Benton County Comprehensive Plan designates this area as Urban;

iii. Properties with an Urban designation are to meet and comply with the respective city's Urban Area Comprehensive Plan. In this case, the applicable urban area is the City of Kennewick and the property is in the City of Kennewick's Urban Growth Area Boundary;

iv. The site is zoned Urban Growth Area Residential District (UGAR). The preliminary plat complies with the minimum lot size and minimum average lot width required for the UGAR Zoning District;

v. The smallest lot size is 7,515 square feet and the average lot size for this plat is 9,580 square feet;

vi. This development is consistent with the required minimum lot size and density standards contained in the Benton County Comprehensive Plan; and

vii. The creation of 60 residential lots in the UGAR Zoning District furthers the implementation of the Benton County Comprehensive Plan.

b. The proposed plat is consistent with the applicable zoning requirements of the Benton County Code, Title 11, based on the following facts:

i. The property is zoned Urban Growth Area Residential District (UGAR). The preliminary plat complies with the minimum lot size and minimum average lot width required for the UGAR Zoning District.

c. The proposed subdivision does comply with the requirements of the Benton County Code, Title 9, Subdivision Regulations;

i. The proposed subdivision complies with the purpose and preliminary plat requirements included in BCC 9.05 Subdivision - Preliminary Plat.

d. The proposed subdivision complies with the Benton County Critical Area Ordinance BCC Title 15.

i. Upon completion of a review of BCC Title 15 and the Benton County Critical Area Maps, no critical areas were identified on the property.

ii. The proposed plat is not located in a special flood hazard area as identified on the Federal Emergency Management Agency Flood Insurance Rate Maps and BCC 3.26.

e. The requirements of the State Environmental Policy Act have been met based on the following:

i. The proposed subdivision has been reviewed under the requirements of BCC Title 6, Chapter 6.35 and the State Environmental Policy Act.

ii. During the SEPA comment period the following comments were received:

1. Washington State Department of Archeology and Historic Preservation (PCM 1.20) recommended a professional archeological survey of the project area be conducted.

2. City of Kennewick Public Works Department required a a trip generation and distribution analysis letter.

3. Washington State Department of Ecology is requesting the applicant obtain a NPDES Construction Stormwater General Permit.

iii. An MDNS with mitigation/conditions (PCM 1.11) was issued for the project on March 25, 2021.

2. The County Engineer has provided a written representation that the proposed subdivision provides adequate means of access and conformance with the road and drainage requirements of Benton County;

   a. Reference the Benton County Public Works Department comments as it relates to stormwater and drainage easements (PCM 1.17); and

   b. Reference the Benton County Public Works Department comments as it relates to roads and mitigation requirements (PCM 1.17).

3. The proposed subdivision meets the requirements BCC 9 Subdivision Regulations;

   a. The proposed subdivision complies with the purpose and preliminary plat requirements included in BCC 9.05 Subdivision- Preliminary Plat;

4. The public interest will be served by the proposed division and dedication;

   a. The creation of 60 residential lots in the UGAR Zoning District furthers the implementation of the Benton County Comprehensive Plan; and

   b. Benton County standards are to be complied with including the construction and dedication of the new public roads.

5. Appropriate provisions are made for the public health, safety, and general welfare, for open spaces, drainage ways, streets or roads, alleys, other public ways, transit stops, potable water, sanitary wastes, parks and recreation, playgrounds, schools, school grounds, and sidewalks;

   a. Appropriate provisions have been made for the public health and safety based on the following facts:

      i. The applicant has proposed that the preliminary plat be served by City of Kennewick water and sewer;

      ii. The Benton Franklin Health District has reviewed the preliminary plat and has no objections provided water and sanitary services are provided by the City of Kennewick to each lot; and

      iii. West Benton Fire District #1 will provide fire protection and require fire hydrants to be installed.

   b. Appropriate provisions have been made for open spaces based on the following facts:

      i. The proposed subdivision does not contain land to be designated for open space.

   c. Appropriate provisions have been made for drainage ways based on the following facts:

      i. PBS Engineering and Environmental Inc. prepared a preliminary stormwater drainage report for the applicants of Highland Vineyards dated January 27, 2021 (PCM 1.6). The report discusses the provisions made for both offsite and onsite stormwater as it relates to this property and the proposed development;

      ii. Reference the Benton County and City of Kennewick Public Works Department comments as it relates to stormwater and drainage easements (PCM 1.17 and PCM 1.19).

d. Appropriate provisions have been made for streets or roads, alleys, and other public ways based on the following facts:

   i. The public interest will be served by the proposed division and dedication as the Benton County Road Department standards are to be complied with including the construction and dedication of new public roads; and

   ii. Reference the Benton County and City of Kennewick Public Works Department comments as it relates to road and mitigation requirements (PCM 1.17 and PCM 1.19).

e. Appropriate provisions have been made for transit stops based on the following facts:

   i. Ben Franklin Transit did not comment on transit service for the proposed development. The proposed plat and surrounding area are not served by public transit.

f. Adequate provisions have been made for potable water supplies based on the following facts:

   i. The project is located in the Rock-Glade Watershed, WRIA 31;

   ii. Potable water is proposed to be served by the City of Kennewick. The City has submitted comments stating that it has sufficient capacity within the water distribution system to provide these services. Construction drawings for water extension is required for review and approval per City of Kennewick standard specifications; and

   iii. The Benton Franklin Health District has no objections provided municipal services, such as sewer and water, are provided to all future development in the area.

g. Adequate provisions have been made for sanitary waste based on the following facts:

   i. Sewer is proposed to be served by the City of Kennewick. The City has submitted comments stating that it has sufficient capacity within the sewer collection systems to provide these services. Construction drawings for sanitary sewer extension is required for review and approval per City of Kennewick standard specifications; and

   ii. The Benton Franklin Health District has no objections provided municipal services, such as sewer and water, are provided to all future development in the area.

h. Adequate provisions have been made for parks, recreation, and playgrounds based on the following facts:

   i. The proposed subdivision does not contain land to be designated for parks or recreation. The Benton County Code does not require park dedications; however the development is located in the City of Kennewick's Urban Growth Area and landowners have access to city parks in the general area.

i. Appropriate provisions have been made for schools and school grounds and for sidewalks and other planning features that assure safe walking conditions for students who only walk to and from school based on the following facts:

   i. The proposed plat is within the Kennewick School District. The School District did not provide comments on this proposal as to whether there are adequate provisions to assure safe walking conditions for students who walk to and from school or waiting for school buses.

6. The applicable water/sanitary system agency has reviewed the proposed subdivision for compliance with its rules and regulations and has not expressed objection to the proposed subdivision; and

a. The City of Kennewick has reviewed the application and indicated that it has no objection to the 60 lots connecting to city water/sewer.

7. This plat is located within the Columbia Irrigation District and the applicant has complied with RCW 58.17.310 as it now exists or is hereafter amended.

   a. The applicant is required to comply with the Columbia Irrigation District standards and requirements as they relate to RCW 58.17.310.

SUGGESTED CONDITIONS OF APPROVAL:

1. Applicant shall meet and comply with the requirements of the **Benton County Road Department**, including the following:

   a. Changes to the preliminary plat:
      - The 18' Public sidewalk, utility and irrigation easement shall be shown on the preliminary and final plat per City of Kennewick street standards
      - Note 1: Change "RIGHT-OF-WAYS" to RIGHTS-OF-WAY
      - Note 2: Change "RIGHT-OF-WAYS" to RIGHTS-OF-WAY. Right-of-way shall be dedicated to the County not City

   b. Please add the following notes to the plat:
      - A signature block for the County Engineer with the following.
      - This Plat is hereby approved by the Benton County Road Department and all dedications of public right of way and/or easements shown hereon (if any) are accepted for their intended use.
      - No building permit or FAS permit will be issued for any lot within this subdivision until a road approach permit has been obtained from the Benton County Road Department. All Approaches shall be built to City of Kennewick standards.
      - There shall be no direct access to E 27th Ave from any lot within this subdivision.
      - Property owners shall be responsible to construct the sidewalk abutting their property to Kennewick City Standards. This shall be part of the road approach permit requirements.

   c. Conditions of approval of final plat:
      - The developer shall construct all roadway, water, stormwater, sanitary sewer and irrigation improvements in accordance with the City of Kennewick requirements
      - The Developer shall prepare a Trip Generation Analysis and Distribution letter in accordance with the City of Kennewick request
      - The Developer shall prepare complete construction drawings for review and approval by the Benton County Road Department and the City of Kennewick. Drawings shall be prepared in accordance with the requirements of the City of Kennewick
      - All signage including but not limited to stop signs, speed limit signs, street name signs and warning signs shall be installed by the developer to the City of Kennewick standards
      - Power Pole locations shall be approved by the City of Kennewick

- Developer shall remove exiting access to E 27th Ave on parcel 107803000039001, replace and repair the existing curb
- Encroachment permits shall be required for work in the County right-of-way

d. For more information please contact Cristina Woods at 509-786-5611 or Cristina.Woods@co.benton.wa.us.

2. Applicant shall meet and comply with the requirements of the **City of Kennewick**, including the following:

Traffic Engineering Division comments dated March 4, 2021:

a. Provide a trip generation and distribution analysis letter. The proposed development will exceed the trip threshold limits > 30 new peak trips. Recommend the traffic consultant to contact the city's Traffic Engineer prior to the start of the analysis to discuss the trip generation rates and distribution pattern used for the analysis.

b. KMC 17.20.010(2)(a) – Streets greater than 1,200 feet in continuous uninterrupted length will need traffic calming measure.

c. KMC 17.20.010(3)(b) – Streets greater than 600 feet in continuous uninterrupted length will need mid-block pedestrian crossings.

d. Effective 11/4/19, Residential driveways: Any lot may have a maximum driveway width of 36-ft (bottom width) – as long as it can meet the ADA requirement of a minimum 5-ft flat landing between driveways. Driveway widths are NO longer associated with garage/RV bays.

e. Residential driveways: The minimum 1:1 widening taper from the back of sidewalk, for widening out the driveway (behind the sidewalk) to greater than 36-ft wide, is required.

f. Please note that City roadways have to meet minimum centerline horizontal radius requirements per KMC 5.56.275(1).

g. Please refer to KMC Standard Drawing No. 2-9 for City's intersection design guidelines.

h. Please refer to the tables 3-34 and 3-36 for the design rate of vertical curvature, K, values or vertical curves at the proposed roadway design speed.

i. Street - Sightline setback triangles per KMC 13.12.020(5) are required with no view obstruction permitted between 36 inches and 90 inches above the roadway surface for both sides of the setback triangles, except as allowed in Section 13.12.020(6).

j. KMC 17.20.010(4)(d) – Lots shall not have direct driveway access onto arterial or collector streets unless approved by the Traffic Engineer.

k. The proposed street intersection spacing between the two proposed subdivision roads of E. 27th Ave does not appear to meet the minimum centerline offset of 300' per KMC 17.20.010(3)(l).

l. E. 27th Ave is a functionally classified Collector Street. Per KMC 17.20.010(2)(h), frontage improvements are required. Frontage improvements includes all of the following, as needed, additional pavement, curb, gutter, sidewalk and street lighting.

m. The proposed subdivision internal roadways are functionally classified Local Street. The roadway sections would need to meet City of Kennewick Standard Drawing 2-1.

n. Please note that any proposed roadways that are not constructed to full width will need to verify that there are adequate 2 - 12' wide travel lanes for 2-way traffic and on-street parking after the frontage improvements on the development side is completed.

o. Record 15' public sidewalk, utility and irrigation easement along the proposed development's frontage on E. 27th Ave.

p. Record 18' public sidewalk, utility and irrigation easement along both sides of all proposed internal roadways' frontage.

q. KMC 17.20.010(4)(d) – Lots shall not have direct driveway access onto arterial or collector streets unless approved by the Traffic Engineer. Record 1' No Access Easement along E. 27th Ave.

r. Please note that shared access will require recorded mutual Access Easement and the AFN shown on submitted plans.

s. The Civil plans will need to include a signing and striping plan.

t. Evaluate existing sidewalks along E. 27th Ave. and, if applicable, upgrade to City current standards for ADA compliance, upgrade to include installing truncated domes. If the existing sidewalks are in compliance, no upgrades are required. Please provide written response back to Traffic.

u. All proposed pedestrian facilities within the public right-of-way and easement, including but not limited to driveways, sidewalks, curb ramps, etc., shall be ADA compliant to maintain Pedestrian Accessibility Route (PAR) accessibility, continuity and connectivity.

v. All proposed sidewalk termini require ADA compliant transition ramps or to match into existing sidewalks.

w. Per KMC 5.53, Public Works Construction Standard Chapter 6, design and install street lighting per City of Kennewick Standard Drawings 6-1 and 6-2 along E. 27th Ave. and the internals roadways.

x. Roadway lighting plan sheet. – Per COK Standard Specifications 6-1.02, the plan needs to include callouts for the power source, meter locations, junction boxes, and conduits.

Public Works Department comments dated March 13, 2021:

y. Outside Utility Agreement (OUA) from all applicants, residing outside the City of Kennewick (COK) limits required before issuing Public Works permit per Kennewick Municipal Code.

z. (KMC) 14.07.020. Submit OUA including all existing parcels connecting to sanitary sewer.

aa. Submit the original OUA notarized with owners' name and property legal description and printed on legal paper to 1010 E Chemical Dr for City of Kennewick Public Works to submit to Council for approval. As City offices are closed to the public at this time, please call 585-4419 before you deliver the signed original document.

bb. Provide a water and sewer service to each proposed lot prior to final plat approval per KMC 17.10.080. Developer is required to submit civil drawings with the water and sanitary sewer design for City review and approval to issue a Public Works permit.

cc. There is an existing 12-inch waterline on the west side of Columbia Irrigation District Canal to serve the proposed development installed with COK Drawing number C2383_12.

dd. Developer will be required to extend 12-inch WL in E 27th Ave adjacent to development, Developer's portion of that 12-inch WL will depend on their need based on hydraulics.

ee. Hydraulic analysis required to model proposed water main system for the site. Developer's engineer to provide their utility layout as well as any phasing plan. COK will submit to RH2 for scope and pricing and the developer will need to approve of the cost as they will reimburse the City

ff. Provide water lines as required by Fire Department to meet fire protection to meet City of Kennewick Standards on Fire Hydrant spacing per City detail 1-3.

gg. Hydrants will be required at each intersection, and average spacing of 500' between hydrants. KFD will have final approval as to location and number per attached plan.

hh. Water main installation outside the City right of way to serve proposed development, Developer shall provide a 15-foot waterline tract centered over the new water main and five feet beyond fire hydrant runs. The documents must be recorded at Benton County Auditors and include the property owner signature. Dedication of the easement will be required prior to issuing a Public Works utility permit when waterline is outside the proposed plat.

ii. There is an existing 8-inch sanitary sewer line stubbed west from sanitary sewer manhole located at the street intersection of E 27th Ave and S Gum St installed with COK Drawing number C4005_12.

jj. Sanitary sewer main installation outside the City right of way to serve proposed development, Developer shall provide a 15-foot Sewer tract centered over the new sewer. The documents must be recorded at Benton County Auditor and include the property owner signature. Dedication of the easement will be required prior to acceptance of the utility permit.

kk. Each lot requires its own 4" connection to the city sewer system per KMC 14.22.030(10).

ll. When preparing civil drawings to connect or extend water and sewer services, all plans showing existing utilities shall call out the Record Drawing set number that installed the utilities. All plans need to clearly identify the size and type of water/sewer utility that is being proposed or connected to (i.e. "Existing 8-inch Water" or similar). Label private lines "Private".

mm. All plans showing existing utilities shall call out the Record Drawing set number that installed such utilities. All plans need to clearly identify the size and type of water/sewer utility that is being proposed or connected to (i.e. "Existing 8-inch Water" or similar).

nn. Relocation of the existing storm easement is acceptable, Professional Engineer licensed in the State of Washington to submit design for review and approval with the civil drawings.

oo. This site requires a separate DPW Permit for civil plan reviews with the following:

pp. PDF copy of the Application for Civil Review and Storm Calculations.

qq. One full size (24"x36") PDF copy of the construction plans.

rr. After project completion, Record Drawings showing improvements made on the property will be required prior to acceptance of the construction permit(s).

ss. Kennewick Survey Data Requirements for construction plans and as built drawings:

tt. Construct all projects using current City Survey Data.

uu. For detailed information on Kennewick Survey Data and Record Drawings go to COK website @ https://www.go2kennewick.com/314/Civil-Plan-Review.

vv. For more information please contact Fernando Garcia at (509) 585-4481 or Fernando.Garcia@ci.kennewick.wa.us.

GIS comments:

ww. Please show the following road names on the plat map:

- A Street running E-W: E 25TH AVE
- A Street running N-S: S ALDER ST
- B Street: S BEECH ST
- C Street: E 26TH AVE
- D Street: S BEECH PL

xx. Please label each lot with addresses assigned by the City of Kennewick.

3. Applicant shall meet and comply with the requirements of the **Benton Franklin Health District**. The BFHD did not provide comments regarding this proposal.

4. Applicant shall meet and comply with the requirements of the **Benton PUD**, including the following:

   a. The Benton PUD has no concerns regarding this project. The developer should contact Tina Glines well in advance so PUD may obtain the necessary files for subdivision layout.

   b. For more information please contact Tina Glines at 509-582-1241.

5. Applicant shall meet and comply with the requirements of the **Benton County Fire Marshal** including the following:

   a. Fire hydrants are to be located, installed, inspected, and approved by the City of Kennewick.

   b. The locations of the hydrants are not shown on the preliminary plat map. Please show the hydrant locations on the plat map and provide a copy of the agreement to supply services by the City of Kennewick Public Services Department prior to Final Plat Approval.

   c. Please contact the Benton County Fire Marshal, Clark Posey, at (509) 735-3500 or Clark.Posey@co.benton.wa.us for more information.

6. Applicant shall meet and comply with the requirements of the **Department of Archeology and Historic Preservation**, including the following:

   a. Thank you for contacting the Washington State Historic Preservation Officer (SHPO) and Department of Archaeology and Historic Preservation (DAHP) and providing documentation regarding the above referenced project. Our statewide predictive model indicates that there is a high probability of encountering cultural resources within the proposed project area. Further, the scale of the proposed ground disturbing actions would destroy any archaeological resources present. Identification during construction is not a recommended detection method because inadvertent discoveries often result in costly construction delays and damage to the resource. Therefore, we recommend a professional archaeological survey of the project area be conducted prior to ground disturbing activities. We also recommend consultation with the concerned Tribes' cultural committees and staff regarding cultural resource issues.

b. These comments are based on the information available at the time of this review and on behalf of the SHPO in conformance with Washington State law. Should additional information become available, our assessment may be revised.

c. Thank you for the opportunity to comment on this project and we look forward to receiving the survey report. Please ensure that the DAHP Project Number (a.k.a. Project Tracking Code) is shared with any hired cultural resource consultants and is attached to any communications or submitted reports. Should you have any questions, please feel free to contact me.

d. For more information please contact Sydney Hanson, Transportation Archaeologist at (360) 586-3082 or Sydney.Hanson@dahp.wa.gov.

7. Applicant shall meet and comply with the requirements of the **Department of Ecology**, including the following:

a. If the project anticipates disturbing ground with the potential for stormwater discharge off-site, the NPDES Construction Stormwater General Permit is recommended. This permit requires that the SEPA checklist fully disclose anticipated activities including building, road construction and utility placements. Obtaining a permit may take 38-60 days.

The permit requires that a Stormwater Pollution Prevention Plan (Erosion Sediment Control Plan) shall be prepared and implemented for all permitted construction sites. These control measures must be able to prevent soil from being carried into surface water and storm drains by stormwater runoff. Permit coverage and erosion control measures must be in place prior to any clearing, grading, or construction.

In the event that an unpermitted Stormwater discharge does occur off-site, it is a violation of Chapter 90.48 RCW, Water Pollution Control and is subject to enforcement action.

b. More information on the stormwater program may be found on Ecology's stormwater website at: http://www.ecy.wa.gov/programs/wq/stormwater/construction/.

c. Please submit an application or contact Lloyd Stevens Jr. at the Dept. of Ecology, 509-574-3991 or email lloyd.stevensjr@ecy.wa.gov , with questions about this permit.

8. Applicant shall meet and comply with the requirements of the **Columbia Irrigation District**, including the following:

a. Return flow, storm waters or any other substances are not allowed in CID infrastructure unless approved through our permitting process.

b. For more information please contact Lila Freshment at 509-586-6118.

9. Applicant shall meet and comply with the requirements of the **Benton County Planning Division**, including the following:

a. The applicant shall meet and comply with the SEPA Determination for this application, including the MDNS with mitigation/conditions issued by the Planning Division on March 25, 2021 (PCM 1.11).

- The Washington State Department of Archeology and Historic Preservation recommendations as outlined in the letter dated March 15, 2021 (PCM 1.20);

- The City of Kennewick traffic requirements as outlined in their letters dated March 4, 2021 and March 15, 2021 (PCM 1.13); and
- The Washington State Department of Ecology recommendations as outlined in their letter dated March 16, 2021 (PCM 1.22).

b. Per BCC 9.09.030(p) Development - Estate Fencing; double frontage lots are discouraged. To mitigate for this, an estate type fence or a 3-rail traditional ranch type fence shall be placed along the following locations:
   - North parcel line of Lots 38, 48, and 49 adjacent to E 27th ROW.
   - South parcel line of Lots 13, 14, 20, and 21 adjacent to E 27th ROW.
   - The fence shall be constructed in compliance with the City of Kennewick's road sightline standards for intersections.

c. Show the location, name, right-of-way widths, and type of surfacing of all streets and alleys located within and adjacent to the land to be subdivided on the plat map.

d. Please show the following canal easement on the final plat: AF# 92-20893.

e. Indicate any areas within the plat having a slope of fifteen (15) percent or greater.

f. Please remove references to the adjacent parcel owner names on the final plat map.

g. The following notes shall be placed on the final plat:
   - "During construction on each property, all construction debris shall be maintained on-site and properly disposed of. Dust control measures including an adequate water supply shall be provided".
   - "Address numbers [noted in brackets] have been assigned by the City of Kennewick and are subject to change."
   - "The utility easements shown hereon are hereby granted for the use, access and maintenance by the short-platted property's current utility provider. Said utility easements are for the use, access and maintenance of electric power, telephone, cable and any other defined utilities to and or through said tract."
   - "Prior to the granting of a building or factory assembled (FAS) permit for each lot by the County, the applicant for a building or FAS permit must provide evidence of potable water and sewer connection to the City of Kennewick utility services."
   - "Additional setbacks for structures on lots that do not have approved fire flow facilities may be required pursuant to BCC 3.18."

10. Preliminary plat approval shall be effective for 5 (five) years from the date of Board of County Commissioner approval. Exceptions shall comply and approved subject to the provisions of BCC 9.05.110 (e) as currently existing or hereafter amended.

11. Any amendments to an approved preliminary plat must be completed in accordance with BCC 9.05.140 as currently existing or hereafter amended.

12. Prior to the final plat being reviewed for final approval, the requirements of the Benton County Planning Division, Benton County Fire Marshal, Benton County Engineer, Benton Franklin Health District, and other commenting agencies and conditions shall be met and complied with.

13. Final Plat applications shall be submitted to the Planning Division. An applicant shall submit a final plat application that follows BCC 9.07 - Final Plat standards and requirements, as currently existing or hereafter amended:

14. All lots in the final plat shall meet the design standards for final plat approval as specified in Benton County Code 9.09 - Design and Improvements, as currently existing or hereafter amended, and meet all of the zoning requirements as specified in Benton County Code, Title 11 - Zoning, as currently existing or hereafter amended.

15. The location and size of all irrigation and utility easements necessary for electric power, telephone service, water, sewer and cable TV are to be coordinated with the proper utilities and/or reviewing agencies and shown on the final plat. The developer will need to open the utility trenches, including road crossings, based on individual utility requirements and specifications.

16. Address numbers shall be coordinated with the City of Kennewick and placed on the final plat. Addresses [noted in brackets] are subject to change until the exact location of the dwelling and access onto the plat is determined.

17. The applicant shall coordinate with the Post Office regarding centralized box unit (CBU) locations for the development, if necessary.

18. All of the statements that are required to be on the notes of the plat shall be either: 1) recorded as a restrictive covenant on each applicable parcel with the County Auditor, or 2) described in detail in the developer's covenants that are recorded and provided to each lot owner, prospective landowner, and the Planning Division at the time of final plat approval and recording.

19. That the preliminary plat is modified in all necessary respects so that the final plat will reflect the requirements of approval. If the final plat will be in conflict with any of the conditions of approval as adopted by the Planning Commission as a result of the modifications, then the final plat must be reviewed by the Planning Commission at a public meeting for approval prior to sending the final plat to the Board of County Commissioners.

SUGGESTED MOTION:

The Planning Commission forwards a **recommendation of approval** to the Benton County Board of Commissioners for Application SUB 2021-002/EA 2021-007, subject to the seven (7) findings of fact and nineteen (19) conditions of approval as stated in the staff memo (PCM 1.1) dated April 1, 2020, which includes the preliminary plat approval for 60 residential lots and that the Chairman, in conjunction with the Secretary of the Planning Commission, prepare and adopt written findings and conclusions reflecting the commission's recommendation for approval that articulate and are consistent with the findings, conclusions and recommendations made by the Planning Commission tonight.

those wishing to testify will be called out and at that time you will be able to present your comments/concerns regarding the specific agenda item.

At this hearing, the Planning Commission may recommend approval, conditional approval, or disapproval of the applications to the Benton County Board of Commissioners. All parties concerned may present any support or objections for the application per the phone in instructions above. Information concerning the applications can be obtained at the Benton County Planning Department, by calling 736-3086 (Tri-Cities) or 786-5612 (Prosser).

Dated at Prosser, Washington on this 19th day of March 2021.

Martin Sheeran, Chairman
BENTON COUNTY PLANNING COMMISSION

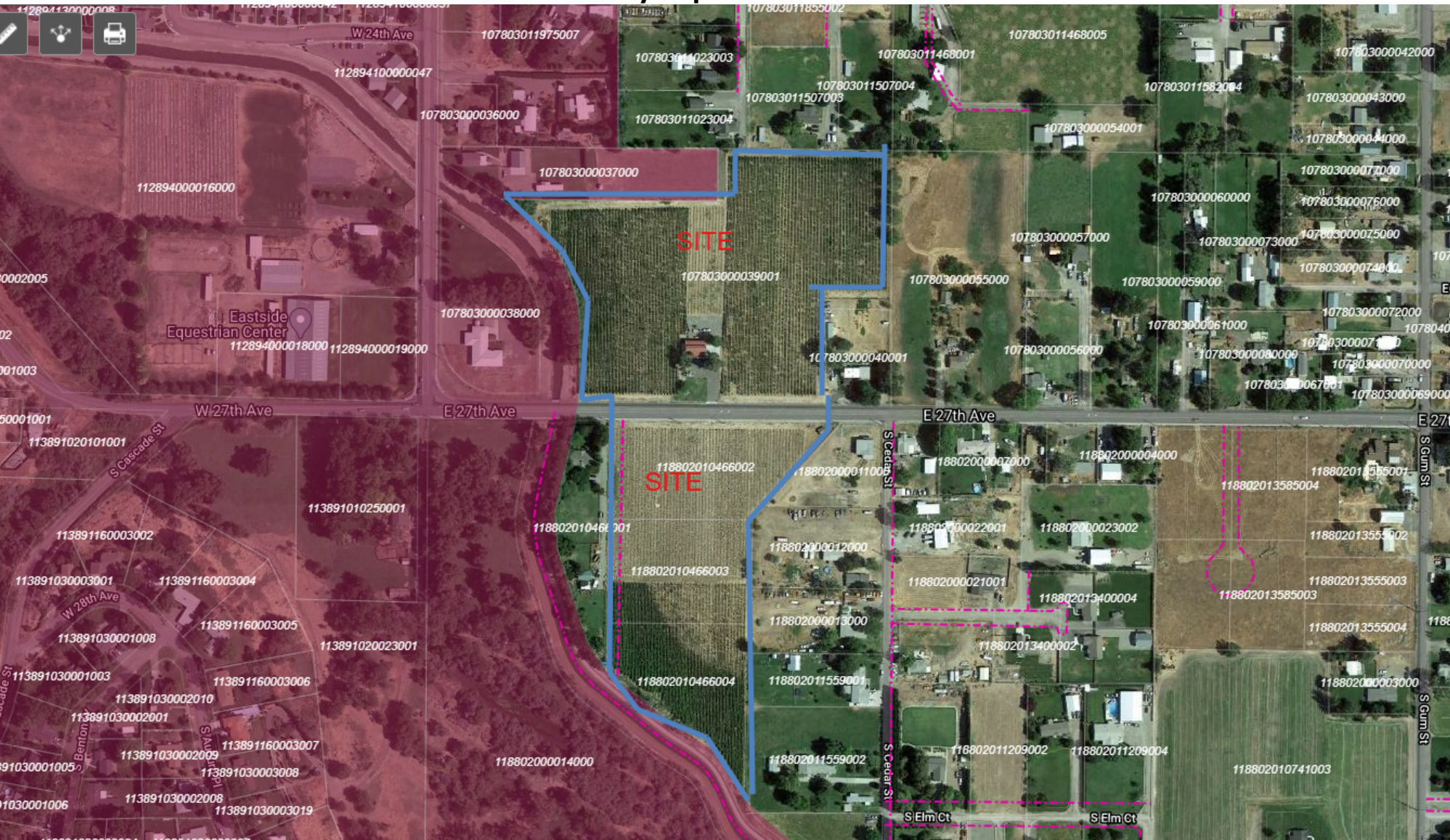
Greg Wendt, Director
COMMUNITY DEVELOPMENT DEPT.

PUBLISH ON: March 31, 2021

SUB 2021-002 Highland Vineyards
Vicinity Map

March 1, 2021

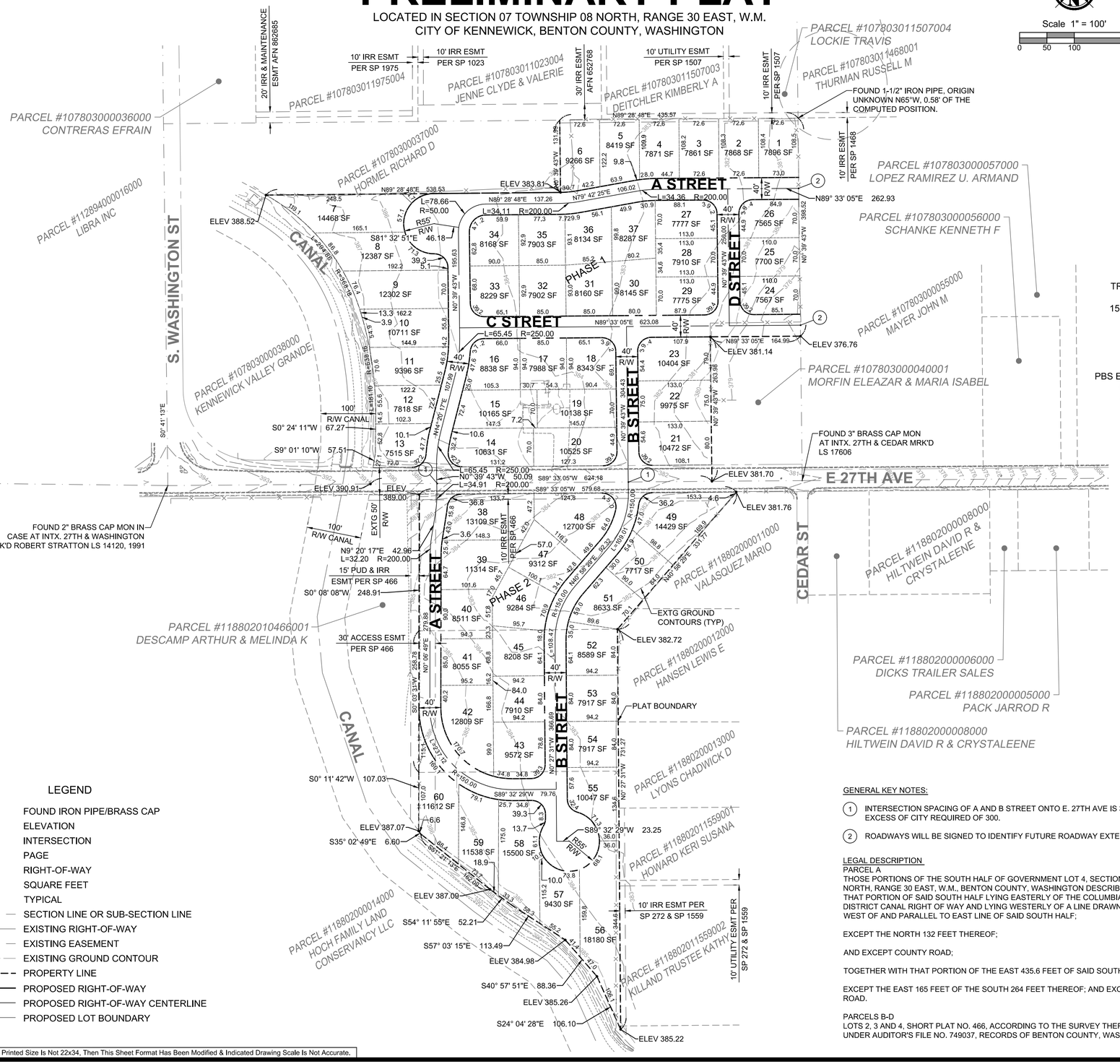
PCM 1.2

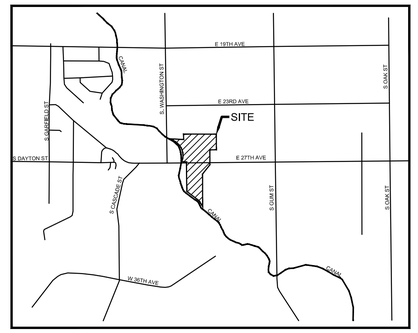


HIGHLAND VINEYARDS

PRELIMINARY PLAT

LOCATED IN SECTION 07 TOWNSHIP 08 NORTH, RANGE 30 EAST, W.M.
CITY OF KENNEWICK, BENTON COUNTY, WASHINGTON





VICINITY MAP
NOT TO SCALE

LEGEND

⊕	FOUND IRON PIPE/BRASS CAP
ELEV	ELEVATION
INTX	INTERSECTION
PG.	PAGE
R/W	RIGHT-OF-WAY
SF	SQUARE FEET
TYP	TYPICAL
	SECTION LINE OR SUB-SECTION LINE
	EXISTING RIGHT-OF-WAY
	EXISTING EASEMENT
735	EXISTING GROUND CONTOUR
	PROPERTY LINE
	PROPOSED RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY CENTERLINE
	PROPOSED LOT BOUNDARY

OWNER:
R.J. AND DIANE C. HOCH
2921 S. AUBURN PL.
KENNEWICK, WA. 99337

DEVELOPER:
TRI-CITIES DEVELOPMENT CO. LLC
CONTACT: MATT SMITH
15 SW COLORADO AVENUE SUITE 1
BEND, OR 97702
(541) 382-6691

ENGINEER:
PBS ENGINEERING AND ENVIRONMENTAL
CONTACT: JASON MATTOX, PE
400 BRADLEY BLVD, SUITE 106
RICHLAND, WA 99352
(509) 942-1600

SURVEYOR:
PBS ENGINEERING AND ENVIRONMENTAL
CONTACT: ALEX MATARAZZO, PLS
400 BRADLEY BLVD, SUITE 106
RICHLAND, WA 99352
(509) 942-1600

ZONING CLASSIFICATION:
URBAN GROWTH AREA RESIDENTIAL (UGAR)

EXISTING USE:
VACANT PROPERTY - PRIOR VINEYARD

BASIS OF BEARINGS:

NAD83 WASHINGTON STATE SOUTH ZONE GRID BEARING OF N89°33'05"E ALONG THE SOUTH LINE OF GOVERNMENT LOT 4 OF THE SOUTHWEST QUARTER OF SECTION 7, T8N, R30E, W.M., AS MEASURED BETWEEN EXISTING MONUMENTS.

NOTES:

1. ALL LOTS SHALL HAVE A 18' SIDEWALK, UTILITY, AND IRRIGATION EASEMENT ABUTTING STREET RIGHT-OF-WAYS.
2. ALL STREET TO BE DEVELOPED TO CITY OF KENNEWICK STANDARDS. RIGHT OF WAYS WILL BE DEDICATED TO CITY OF KENNEWICK REQUIREMENTS FOR LOCAL ACCESS ROADS.
3. WATER AND SEWER WILL BE PROVED BY CITY OF KENNEWICK.

LAND USE TABLE	
GROSS ACREAGE	16.86 ACRES
NET ACREAGE OF TOTAL SINGLE FAMILY RESIDENTIAL ZONED AREA	13.20 ACRES
RIGHT OF WAY DEDICATION:	3.66 ACRES
RECREATIONAL OPEN SPACE DEDICATION:	N/A
SINGLE FAMILY RESIDENTIAL LOT COUNT:	60 LOTS
MINIMUM LOT AREA:	7,515 SF
MAXIMUM LOT AREA:	18,180 SF
AVERAGE LOT AREA:	9,580 SF
AVERAGE DENSITY (NET)	4.5 UNITS/A.C.

GENERAL KEY NOTES:

1. INTERSECTION SPACING OF A AND B STREET ONTO E. 27TH AVE IS 350: THIS IS IN EXCESS OF CITY REQUIRED OF 300.
2. ROADWAYS WILL BE SIGNED TO IDENTIFY FUTURE ROADWAY EXTENSIONS.

LEGAL DESCRIPTION

PARCEL A
THOSE PORTIONS OF THE SOUTH HALF OF GOVERNMENT LOT 4, SECTION 7, TOWNSHIP 8 NORTH, RANGE 30 EAST, W.M., BENTON COUNTY, WASHINGTON DESCRIBED AS FOLLOWS: THAT PORTION OF SAID SOUTH HALF LYING EASTERLY OF THE COLUMBIA IRRIGATION DISTRICT CANAL RIGHT OF WAY AND LYING WESTERLY OF A LINE DRAWN 435.6 FEET WEST OF AND PARALLEL TO EAST LINE OF SAID SOUTH HALF;

EXCEPT THE NORTH 132 FEET THEREOF;

AND EXCEPT COUNTY ROAD;

TOGETHER WITH THAT PORTION OF THE EAST 435.6 FEET OF SAID SOUTH HALF;

EXCEPT THE EAST 165 FEET OF THE SOUTH 264 FEET THEREOF; AND EXCEPT COUNTY ROAD.

PARCELS B-D
LOTS 2, 3 AND 4, SHORT PLAT NO. 466, ACCORDING TO THE SURVEY THEREOF RECORDED UNDER AUDITOR'S FILE NO. 749037, RECORDS OF BENTON COUNTY, WASHINGTON.

CITY OF KENNEWICK FILE #:

PRELIMINARY
SUBJECT TO AGENCY REVIEW
NOT FOR CONSTRUCTION

PBS Engineering and Environmental Inc.
400 Bradley Blvd, Ste 106
Richland, WA 99352
509.942.1600
pbsusa.com

PBS

PRELIMINARY PLAT FOR:
HIGHLAND VINEYARDS
A SUBDIVISION LOCATED IN THE CITY OF KENNEWICK, WA.

811 Know what's below. Call before you dig.

JASON L. MATTOX — STATE OF WASHINGTON — 44707 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

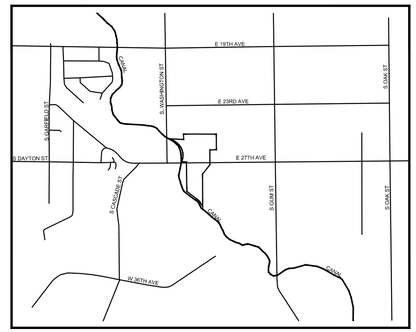
DESIGNED:	MER/DCC
CHECKED:	JLM
	JAN 2021
	66090.004
SHEET ID	
SHEET	1 OF 1

HIGHLAND VINEYARDS

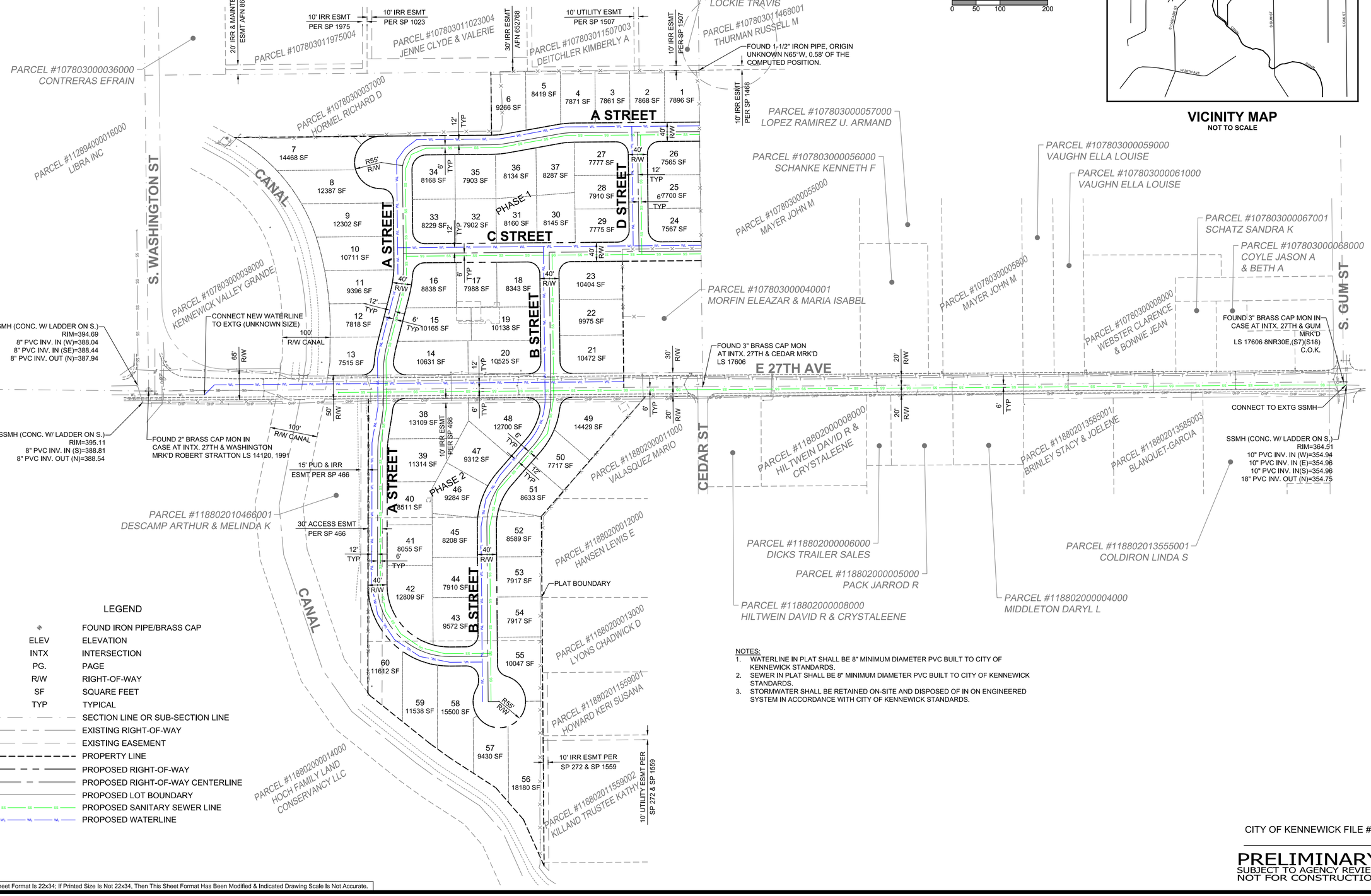
PRELIMINARY UTILITY PLAN

LOCATED IN SECTION 07 TOWNSHIP 08 NORTH, RANGE 30 EAST, W.M.
CITY OF KENNEWICK, BENTON COUNTY, WASHINGTON

Scale 1" = 100'
0 50 100 200



VICINITY MAP
NOT TO SCALE



LEGEND

⊕	FOUND IRON PIPE/BRASS CAP
ELEV	ELEVATION
INTX	INTERSECTION
PG.	PAGE
R/W	RIGHT-OF-WAY
SF	SQUARE FEET
TYP	TYPICAL
	SECTION LINE OR SUB-SECTION LINE
	EXISTING RIGHT-OF-WAY
	EXISTING EASEMENT
	PROPERTY LINE
	PROPOSED RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY CENTERLINE
	PROPOSED LOT BOUNDARY
SS	PROPOSED SANITARY SEWER LINE
WL	PROPOSED WATERLINE

NOTES:
1. WATERLINE IN PLAT SHALL BE 8" MINIMUM DIAMETER PVC BUILT TO CITY OF KENNEWICK STANDARDS.
2. SEWER IN PLAT SHALL BE 8" MINIMUM DIAMETER PVC BUILT TO CITY OF KENNEWICK STANDARDS.
3. STORMWATER SHALL BE RETAINED ON-SITE AND DISPOSED OF IN ON ENGINEERED SYSTEM IN ACCORDANCE WITH CITY OF KENNEWICK STANDARDS.

CITY OF KENNEWICK FILE #:

PRELIMINARY
SUBJECT TO AGENCY REVIEW
NOT FOR CONSTRUCTION

Full Size Sheet Format Is 22x34; If Printed Size Is Not 22x34, Then This Sheet Format Has Been Modified & Indicated Drawing Scale Is Not Accurate.

PBS Engineering and Environmental Inc.
400 Bradley Blvd, Ste 106
Richland, WA 99352
509.942.1600
pbsusa.com

PRELIMINARY UTILITY PLAN FOR:
HIGHLAND VINEYARDS
A SUBDIVISION LOCATED IN THE CITY OF KENNEWICK, WA.

Know what's below. Call before you dig.

JASON L. MARTIN — STATE OF WASHINGTON — 44707 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

DESIGNED:	MER/DCC
CHECKED:	JLM
JAN 2021	66090.004
SHEET ID	
SHEET	1 OF 1

Filename: L:\Projects\66090\66090\66090-004\Civil\CAD\Working\Sheets\Preplat\66090004_PUP01.dwg Layout Tab: PUP01 User: Doroteo Castillo CAD Plot Date/Time: 2/5/2021 1:10:55 PM

Community Development Department
Prosser Office: 620 Market Street, 1st Floor
Kennewick Office: 102206 East Wiser Parkway
www.co.benton.wa.us

Planning Division
(509) 786-5612
P.O. Box 910, Prosser, WA 99350
planning.department@co.benton.wa.us

PCM 1.3

NOTICE OF OPEN RECORD HEARINGS

NOTICE IS GIVEN that the following application will be considered by the Benton County Planning Commission at public hearings on Tuesday, April 13, 2021, at **6 p.m.** via a virtual meeting format (see below for more information).

OA 2021-002 -AN ORDINANCE relating to critical areas,· general provisions and fish and wildlife habitat conservation areas; ·amending the sections· relating to applicability and performance standards-general requirements;· amending Ordinance 609, Section 13 and BCC 15.02.120; amending Ordinance 609, Section 54 and BCC 15.14.040; and amending Ordinance 609, Section 56. This amendment updates references within the Applicability portion of the ordinance; amends the buffer requirements; and amends and changes the title to Section 56 to read "Appendix A - General References and Best Available Science" and adds the words "general references" when referring to the list of data and best available science.

SUB 2021-002 - The preliminary plat of Highland Vineyards for the subdivision of 16.86 acres into 60 lots with an average lot size of 9,580 square feet. The site is located East of the Columbia Irrigation District canal at the intersection of S. Washington Street and East 27th Avenue and is located on both the north and south side of East 27th Avenue in Kennewick WA on Parcel #'s 10780-300-0039-001, 1-1880-201-0466-002, 1-1880-201-0466-003, 1-1880-201-0466-004 Project Applicant: RJ and Diane Hoch, Kennewick WA 99337

NOTICE IS FURTHER GIVEN that the proposed ordinance amendment and Subdivision have been reviewed under the requirements of the State Environmental Policy Act and a Determination of Non-Significance (DNS) was issued on February 24, 2021 for the ordinance amendment and a Mitigated Determination of Non Significance was issued on March 25, 2021 for the subdivision. Accordingly, an Environmental Impact Statement was not required on either proposal. Any comments regarding these determinations and the environmental impacts of the proposals can be made at the Planning Commission Hearing using the method noted below or in writing to the Benton County Planning Department by 5 p.m. on Monday April 13, 2021.

Due to Governor's "Stay Home, Stay Healthy" order the County Offices are closed to in person visits from the public at this time. In an effort to continue to provide public access to the Planning Commission meetings, Benton County will be providing telephonic and video access for the public to view and provide testimony at the Planning Commission meetings. If you choose to join the meeting telephonically, we ask that you please limit background noise or mute your line to prevent any unnecessary interruption to the meeting. To find information on virtual attendance options, including streaming video, Webex video conferencing and telephone, please visit www.tinyurl.com/BCPublicNotice.

If you wish to provide comments on any of the actions before the Planning Commission, we ask that you please fill out our online form (found at https://tinyurl.com/testifyform) and submit your request to our office. **You must submit a request form to participate for each hearing that you wish to attend.** If you prefer to make the request by phone, please call our office at 786-5612 and we can add you to the list for providing testimony. At the meeting the names of

BENTON COUNTY PRELIMINARY PLAT APPLICATION

File No. SUB2021-002

RECEIVED
FEB 11 2021
Benton Co. Planning Dept.

Subdivision Name: Highland Vineyards

1. Applicant Name: R.J. and Diane C. Hoch
   Applicant Address: 2921 S Auburn Place, Kennewick, WA 99337
   Telephone number: Home _____ Work _____

2. If you wish to be contacted via email, please list your email address: _____
   jason.mattox@pbsusa.com

3. Legal Owners Name: R.J. and Diane C. Hoch
   Legal Owners Address: 2921 S Auburn Place, Kennewick, WA 99337
   Telephone number: Home _____ Work _____

4. Name and address of land surveyor Alex Matarazzo, PBS Engineering
   400 Bradley Blvd, Suite 106, Richland WA 99352
   Telephone 509.416.5456 alex.matarazzo@pbsusa.com

5. Name and address of engineer Jason Mattox, PBS Engineering
   400 Bradley Blvd, Suite 106, Richland, WA 99352
   Telephone 509.942.1600 jason.mattox@pbsusa.com

6. Parcel number and Legal description of property included in the preliminary plat:
   107803000039001, Section 7, T8N R30; 118802010466002, Short Plat 466 Lot 2; 118802010466003, Short Plat 466 Lot 3; 118802010466004, Short Plat 466 Lot 4

7. **Land Use Information:**
   a. Total area involved 16.86 acres
   b. Total number of lots 60
   c. Smallest lot area 7,515 sf
   d. Average lot area 9,580 sf

e. Acreage in parks 0

f. Length of public streets _____

g. Total acreage of public streets 3.66 acres

8. Proposed annexation plans None

9. Plat will be served by:
Water: Individual Wells _____ City Water XX

Name of City Provider _____

Private Water System _____ Name & Address of Private System _____

_____

Sewer: Septic Tank _____ City Sewer XX Private System _____

Power: P.U.D. XX R.E.A. _____

Telephone: Frontier Telephone _____ Sprint Telephone _____

Natural Gas: Yes _____ No _____ Name of Utility _____

Cable T.V. Yes _____ No _____ Name of Utility _____

Irrigation: Yes _____ No _____ Name of Utility _____

Private Irrigation Lines: Yes _____ No _____

10. School District Kennewick

11. Fire District 1

12. Any other comments or information that is significant _____

_____

_____

13. Will this plat be finalized in phases? Yes XX No ___ If so, how many? 2

14. Comprehensive Plan Designation Urban - UGA Jurisdiction

15. Zoning Designation UGAR - Urban Growth Area Residential

IF YOU HAVE ANY ADDITIONAL COMMENTS PLEASE ATTACH THEM ON A SEPARATE SHEET OF PAPER.

I also certify that the information given in this application is true and complete to the best of my knowledge.

Signature Block for individuals only.

R.J. Hoch Diane C. Hoch	R.J. Hoch Diane C. Hoch	2/2/2021
Applicant's Signature	Print Name	Date
R.J. Hoch Diane C. Hoch	R.J. Hoch Diane C. Hoch	2/2/2021
Signature of Legal Owners	Print Name	Date
Signature of Person with additional ownership interest	Print Name	Date

ALL persons with an ownership interest in the property on which the land use action is proposed must sign the application other than interests exclusively limited to ownership of the parcel's mineral rights.

If the applicant or owner is a corporation/partnership/LLC etc. please use the following signature block. Please copy this page if more than one corporation/partnership/LLC signature is required.

Applicant or legal owner:_____

By:_____,_____
(print name) (Title)

Signature:_____,_____
(Signature) (Title)

The above signed officer of _____ (name of entity) warrants and represents that all necessary legal and corporate actions have been duly undertaken to permit _____to submit this application and that the above signed officer has been duly authorized and instructed to execute this application.

IF YOU HAVE ANY ADDITIONAL COMMENTS PLEASE ATTACH THEM ON A SEPARATE SHEET OF PAPER.

I also certify that the information given in this application is true and complete to the best of my knowledge.

Signature Block for individuals only.

R.J. Hoch Diane C. Hoch	R.J. Hoch Diane C. Hoch	2/2/2021
Applicant's Signature	Print Name	Date
R.J. Hoch Diane C. Hoch	R.J. Hoch Diane C. Hoch	2/2/2021
Signature of Legal Owners	Print Name	Date
Signature of Person with additional ownership interest	Print Name	Date

ALL persons with an ownership interest in the property on which the land use action is proposed must sign the application other than interests exclusively limited to ownership of the parcel's mineral rights.

If the applicant or owner is a corporation/partnership/LLC etc. please use the following signature block. Please copy this page if more than one corporation/partnership/LLC signature is required.

Applicant or legal owner: HOCH GRAPEVINE LLC

By: MATTHEW SMITH, VICE PRESIDENT
(print name) (Title)

Signature: [signature], VICE PRESIDENT
(Signature) (Title)

The above signed officer of _____ (name of entity) warrants and represents that all necessary legal and corporate actions have been duly undertaken to permit _____ to submit this application and that the above signed officer has been duly authorized and instructed to execute this application.

Any information submitted to the Benton County Planning Department is subject to public records disclosure law for the State of Washington (RCW Chapter 42.17) and all other applicable law that may require the release of the documents to the public.

FEE: $1,000.00, plus $50.00 per lot submitted with the application. Checks are to be **made payable to the Benton County Treasurer. THIS FEE IS NON-REFUNDABLE. THE RECORDING FEE IS TO BE PAID AT THE TIME OF RECORDING.**

FOR OFFICIAL USE ONLY:

Critical Area Review Completed by ML on 2/18/2021.

Application approved for processing by ML on 2/18/21

Zoning UBAR Comp Plan Designation Urban

Leading the Way

February 12, 2021

Jason Mattox, P.E.
PBS
400 Bradley Blvd, Ste 106
Richland, WA 99352

RE: City of Kennewick Water & Sewer – Will Serve
Parcel 1-0780-300-0039-001, 109 E. 27th Ave
Parcel 1-1880-201-0466-002, E. 27th Ave
Parcel 1-1880-201-0466-003, E. 27th Ave
Parcel 1-1880-201-0466-004, E. 27th Ave

The subject parcels are located within Benton County outside the City of Kennewick's (City's) limits. Although outside the City limits, all parcels are located within the current Urban Growth Boundary. The City's utility infrastructure has sufficient capacity to provide both water and sewer services to the subject parcel.

Said parcel utility infrastructure shall comply with Kennewick Municipal Code (KMC) Chapter 14 and City of Kennewick Standards Specifications and Drawings Sections 3 and 4.

No unauthorized person shall uncover, make any connections with or opening into, use, alter or disturb any public sewer, water or storm system, or appurtenance thereof without first obtaining a written permit from the One Stop Permit Center located at 210 W. 6th Avenue.

All costs and expenses incidental to the installation and connection of the building sewer shall be borne by the owner. The owner shall indemnify and hold harmless the City from any loss or damage that may directly, or indirectly, be occasioned by the installation of the building sewer. Owner shall pay the City when due, all connection charges, capital recovery fees, service fees, and any other charges and fees required by law to be paid for the utility services being applied for connection. Sanitary sewer services are "Private" from the sewer main to the building(s) connection and the responsibility of the owner.

Sincerely,

Jeremy J. Lustig, P.E.
Utility Services Capital Projects Engineer

JL/kp
PW2021-041

cc: John A. Cowling, P.E., Utility Services Manager
Fernando Garcia, Development Services Supervisor
Project File

PUBLIC WORKS

1010 E. Chemical Drive • PO Box 6108 • Kennewick, WA 99336-0108
(509) 585-4413 • Fax (509) 585-4451 • Jeremy.Lustig@ci.kennewick.wa.us

PCM 1.6

Preliminary Storm Drainage Report

The Highland Vineyards
Kennewick, Washington

Prepared for:
Tri-Cities Development Co. LLC
Contact: Matt Smith
15 SW Colorado Avenue, Suite 1
Bend, OR 97702

January 27, 2021
PBS Project 66090.004

PBS
400 BRADLEY BLVD, SUITE 106
RICHLAND, WA 99352
509.942.1600 MAIN
866.727.0140 FAX
PBSUSA.COM

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APPENDICES

Appendix A: Figures
Figure 1: 25-Year Isopluvial Map
Figure 2: 2019 SMMEW Table 4.14 Runoff Curve Numbers (CNs) for Selected Agricultural, Suburban, and Urban Areas
Figure 3: 2019 SMMEW Table 4.14 Runoff Curve Numbers (CNs) for Selected Agricultural, Suburban, and Urban Areas (Cont.)

Appendix B: HydroCAD Model
HydroCAD Model

Certificate of Engineer

Design for the storm system was done in accordance with the Benton County Storm Drainage Design Guidance. Design for the storm systems was also done in compliance with applicable sections of the Eastern Washington Stormwater Manual. The technical information and data contained in this report was prepared under the direction and supervision of the undersigned, whose seal, as a professional engineer licensed to practice as such, is affixed below.

This document was:

Prepared by: _____

Elisabeth L. Giever, P.E.

Preliminary
02/05/2021 12:12:07 PM

Approved by: _____

Jason Mattox, P.E.

1 INTRODUCTION

1.1 General

The Highland Vineyards is a project seeking to develop 60 residential lots in two phases. The site is located in Section 7, Township 8 North, Range 30 East in the City of Kennewick Washington. The site fronts E 27th Avenue, east of S Washington Street and west of S Gum Street. See Preliminary Plat Map.

1.2 Project Description

This storm drainage report addresses the stormwater runoff generated by a typical residential street section with a 36' curb to curb width and 5 foot sidewalk each side. Storm runoff generated on-site will be retained on-site through subsurface infiltration in accordance with current City of Kennewick Standard Specifications and the Stormwater Management Manual for Eastern Washington (Publication No. 18-10-044, February 2019). This report looks at runoff generated at full build out of the project.

2 EXISTING CONDITIONS

2.1 Topography

The site comprises approximately 16.7 acres in a roughly rectangular shape which has been truncated by neighboring parcels. The project site is divided by E 27th Avenue. The property is bounded to the west by a Kennewick Irrigation District canal and by existing residential in the other directions. The site was formerly under agricultural production. Based on available topographical data, the site slopes down to the east, at generally less than 5% slopes.

2.2 Land Use

The site is currently vacent. The property to the north and south is residential development. Property to the west of the site is residential while the property to the west is directly agriculture and generally residential.

2.3 Drainage Patterns

The majority of the development drains from the west to the east. Currently, all the precipitation that enters the site infiltrates into surface soils. There are no existing drainages coming into or leaving the site.

There is not a water body located on the site. The proposed project will convey stormwater to the subsurface infiltration systems and no stormwater is designed to discharge off site.

2.4 Water Wells, Septic Tanks, etc.

There is a well and a septic system on site. The surrounding residences also have wells and septic systems. The stormwater management plan will follow the guidelines set forth by the Benton-Franklin Health District and the Washington State Department of Ecology, for well head protection.

3 DESIGN AND PROJECT COMPLIANCE

Benton County requires the proposed project to comply with the standards and requirements of the SMMEW. This project is part of a common pan of development and will comply with the eight core elements listed in the SMMEW.

The eight core elements this project and report will address are:

- Preparation of a Stormwater Site Plan
- Construction Stormwater Pollution Prevention
- Source Control of Pollution
- Preservation of Natural Drainage Systems
- Runoff Treatment

- Flow Control
- Operation and Maintenance
- Local Requirements

3.1 Preparation of a Stormwater Site Plan

Preliminary design plans will be prepared by a licensed professional engineer and submitted with each phase of the project construction that is permitted for the site.

3.2 Construction Stormwater Pollution Prevention

The intent of this element is to ensure adequate measures are taken to address construction stormwater. The contractor, selected by the owner, will be appointed as the Erosion Control Lead for this project. The owner will be responsible for a construction Stormwater Pollution Prevention Plan (SWPPP) as well as compliance with the NPDES Construction Stormwater General Permit.

The plan is as follows:

- The contractor should see at a minimum to provide the following measures:
- To control erosion during construction, existing catch basin grates should be wrapped in geotextile fabric or have a silt sack placed in the grate prior to construction, existing roadsides ditches shall have straw waddles placed to prevent sediment laden water traveling downstream of the property, and all downstream property boundaries should have silt fencing measures in place to prevent sediment laden runoff from leaving the site.
- To prevent wind-blown erosion, the contractor should use person-operated watering devices. No unattended watering of the site should be allowed.
- The site should have a construction entrance with a rip rap pad present to prevent the tracking of mud onto County streets. Any mud that is tracked onto County streets should be swept up to prevent sediment from entering the County storm facilities. This maintenance should be the responsibility of the contractor during construction.
- All construction storm facilities shall be protected from sediment intrusion until disturbed soils are stabilized. All disturbed soil areas must be stabilized immediately upon completion of construction.

3.3 Source Control of Pollution

The intent of source control MBPs is to prevent pollutants from coming into contact with stormwater. Following construction, projects shall apply all known, available, and reasonable source control BMPs. Source control BMPs shall be selected, designed and maintained according to the SMMEW. Applicable means of source control include but are not limited to preventative maintenance, spill prevention & cleanup, employee training inspections, and good housekeeping.

3.4 Preservation of Natural Drainage Systems

In order to maintain and preserve natural drainage on-site, all stormwater runoff produced will be retained and infiltrated on-site and will be discharged below the rate and volume that existed prior to development or infiltrated through underground injection control (UIC) devices. The UIC devices will infiltrate stormwater runoff at the runoff source. The intent of the design is to preserve the existing infiltration volumes to a condition equal to or better than their current conditions.

3.5 Runoff Treatment

The stormwater treatment methodology will seek to provide basic treatment to remove 80% of total suspended solids and 50% removal of solids by pretreatment as defined in the SMMEW.

The UIC devices will be sized for the applicable design storm according to the City of Kennewick requirements. Generally, the required design storm for non-linked networks is a Type 1A 24-hour storm for the 25-year storm return period.

3.6 Flow Control

The site will be utilizing a subsurface UIC device and no off-site discharge to surface water is anticipated to occur. Wherever possible, infiltration methods will be targeted as the primary means of flow control on the site.

3.7 Operation and Maintenance

Upon project completion, all stormwater facilities within the project limits will be owned and maintained by the County and will be subjected to their current operations and maintenance programs compliant with the SMMEW. All proposed improvements are in compliance with City of Kennewick code and are detailed using City standard details and notes identified on the construction plans.

3.8 Local Requirements

The City of Kennewick requires that stormwater disposal methodologies be compliant with City standards and the SMMEW.

4 STORMWATER SYSTEM DESIGN

The stormwater runoff from the new impervious surfaces will be directed and infiltrated on-site. The design of the proposed stormwater collection, conveyance, and infiltration facilities will be done with the aide of HydroCAD version 10.0 computer software (HydroCAD). HydroCAD utilizes the SCS TR-20 methodology to determine runoff excess for a given amount of rainfall. The stormwater system will be designed in accordance with City of Kennewick standards. The City's rainfall distribution design requirements are a SCS Type 1A, 25-year, 24-hour distribution. The 25-year event was used to design the UIC devices. Rainfall for the 25-year event is 1.6 inches, as shown on the National Oceanic and Atmospheric Administration (NOAA) map.

The drainage basins analyzed will account for impervious roadway areas and additional impervious areas from individual lots contributing to each catch basin constructed in the roadway. Each lot is assumed to contribute 500 square feet of impervious driveway surface, 1,250 square feet of impervious roof area, and 50 feet behind the sidewalk for pervious area to stormwater runoff. Sub-catchments are routed independently to a typical UIC device and modeled as a "pond" in HydroCAD to properly account for the storage/discharge relationship.

The stage/discharge rate for the "UIC" is based on the infiltration rate of the soils. The on-site soils are classified as silt intermixed with fine-grained sand and fine-grained, poorly graded sand according to PBS geotechnical analysis preformed on-site. Multiple percolation tests were conducted on-site. The test pit showed a minimum percolation rate 2.2 inches per hour (in/hr) and was determined by PBS in their on-site field test of the soils a design rate of 1.1 in/hr was used in the storm system models, which accounts for a factor of safety of 2.

The attached HydroCAD spreadsheet summarize the storage volume and dissipation for a sample UIC device. Those values were used in the HydroCAD model as in the HydroCAD model as input for stage storage and stage discharge curves. HydroCAD then determines the peak stage and storage that occurs during the design storm event. The attached "pond summaries" show the peak stage and storage in the UIC during a 25-year, 24-hour event (1.6 inches of rainfall).

4.1 Evaluation of Compliance

Design for the UIC devices was done in accordance with City requirements, which comply with the SMMEW BMP F6.20: Drywells and F6.22: Infiltration Trenches.

4.2 Evaluation of Flood Control Capacity

As mentioned above, no flooding will occur during the 25-year, 24-hour event. Should localized flooding occur due to a storm event happening in excess of one of the required design events or the UIC device fails due to lack of maintenances, the localized low point is located in the northeast corner of the site. Should flooding continue to increase, it would be expected to retain within the roadway prism. Should flooding continue to increase it would be expected to flow along E 27th Avenue easterly.

4.3 Evaluation of Water Quality Treatment Compliance

The proposed means of stormwater treatment will be through collection and disposal via means of infiltration through UIC devices. The identified level of treatment required would be basic treatment for the site.

Basic treatment in accordance with the manual requires that 80% of total suspended soils (TSS) be removed. Infiltration facilities developed in accordance with the manual seek to provide that level of basic treatment. It is identified that the majority of TSS and any oils would be contained in a water quality storm event. The on-site soils will be classified per Table 5.2 of SMMEW, and the site will be classified per Table 5.

5 PROPSED EROSION CONTROL PLAN

To control erosion during construction, existing catch basin grates should have a geotextile fabric "witch's hat" installed prior to construction, existing roadside ditches are to be stabilized with straw wattles and check dams, and all downstream property boundaries should have silt fencing measures in place to prevent sediment laden runoff from leaving the site. To prevent wind blown erosion, the contractor should use person-operated watering devices. No unattended watering of the site should be allowed. The site should have a construction entrance with a rip rap pad present to prevent the tracking of mud onto County streets. Any mud that is tracked onto County streets should be swept up to prevent sediment from entering the City of Kennewick storm facilities shall be protected from sediment intrusion until disturbed soils are stabilized. All disturbed soil areas must be stabilized immediately upon completion of construction with a hydroseed mulch placed on the disturbed surfaces.

6 PROPOSED MAINTENANCE PLAN

Once the project is completed, all stormwater systems will become the property of the City, and it is assumed that the system will be cleaned and maintained in accordance with the systems maintenance plan. It is recommended that the owner follow the maintenance criteria described under BMP F6.20 for Drywells or F6.22 for Infiltration Trenches in order to prevent the buildup of materials that could inhibit infiltration.

During construction, the contractor should be responsible for the maintenance of all erosion control measures to include silt fencing, catch basin fabric measures, and the preventative maintenance to keep tracked mud off County streets.

7 CONCLUSION

The stormwater system design described in this report will adequately provide storage and treatment of stormwater for the given design storm events as required by the County and the SMMEW. No flooding will occur during the 25-year, 24-hour design storm event and pretreatment and basic treatment of stormwater will be provided through the vadose zone with adequate separation between the bottom of the UIC device

and the identified groundwater table. All proposed stormwater storage and infiltration measures are found to be in compliance with BMP F6.20 and F6.22 of the SMMEW.

8 REFERENCES

PBS (PBS Engineering and Environmental Inc.). (November 2020). *Geotechnical Engineering Report* (Project No. 66090.004). Prepared for William Smith Properties.

Washington State Department of Ecology. (2019, February). *2019 Stormwater Management Manual for Eastern Washington*. Water Quality Program. Publication Number 18-10-044.

Appendix A

Figures

Figure 1: 25-Year Isopluvial Map
Figure 2: 2019 SMMEW Table 4.14 Runoff Curve Numbers (CNs) for Selected Agricultural, Suburban, and Urban Areas
Figure3: 2019 SMMEW Table 4.14 Runoff Curve Numbers (CNs) for Selected Agricultural, Suburban, and Urban Areas (Cont.)

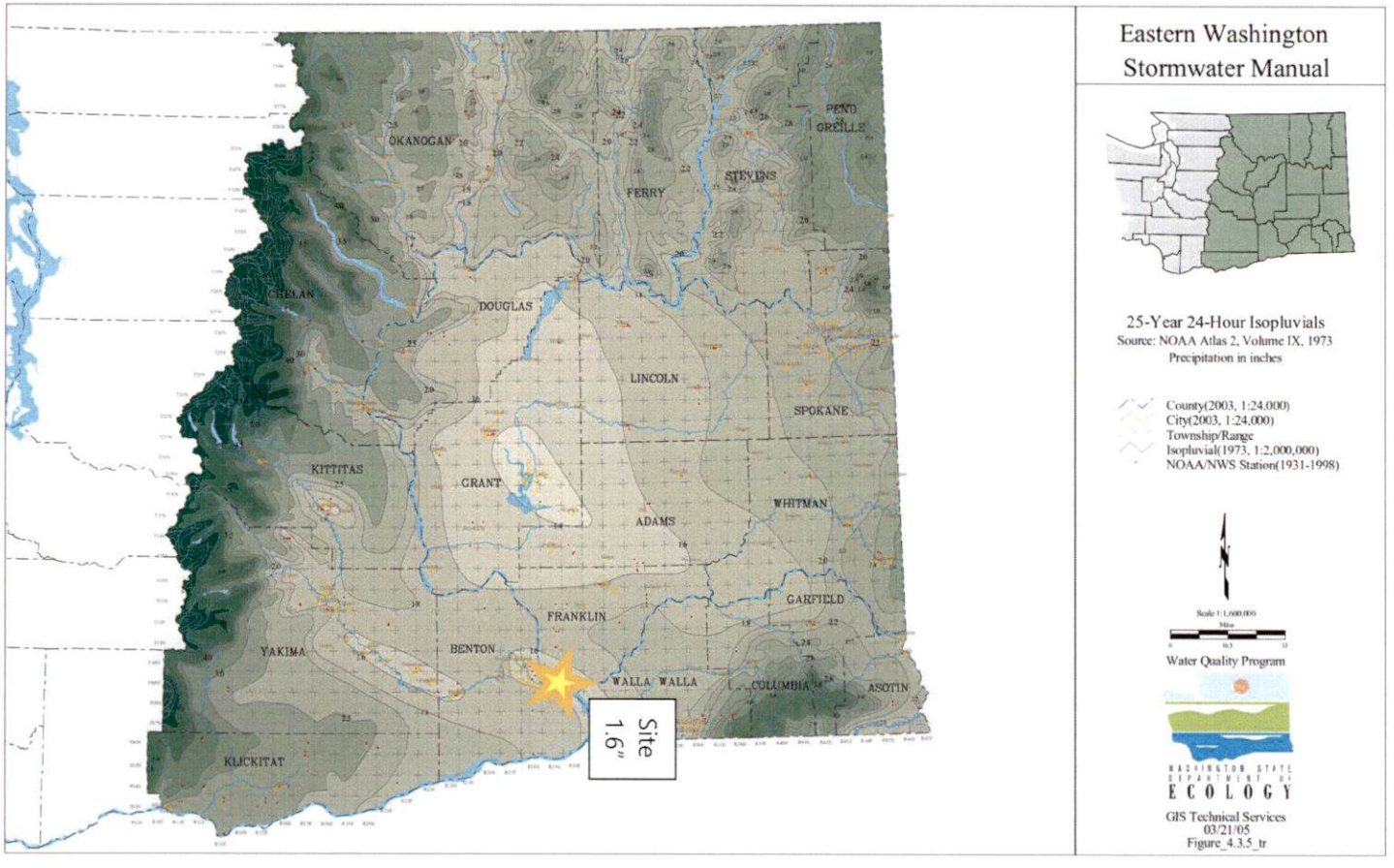


Figure 1: 25-Year Isopluvial Map

Table 4.14: Runoff Curve Numbers (CNs) for Selected Agricultural, Suburban, and Urban Areas

Cover type and hydrologic condition	CNs for hydrologic soil group			
	A	B	C	D
Open space (lawns, parks, golf courses, cemeteries, landscaping, etc.)[a]				
Poor condition (grass cover <50% of the area)	68	79	86	89
Fair condition (grass cover on 50% to 75% of the area)	49	69	79	84
Good condition (grass cover on >75% of the area)	39	61	74	80
Impervious areas				
Open water bodies: lakes, wetlands, ponds etc.	100	100	100	100
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)	98	98	98	98
Permeable pavers and permeable interlocking concrete (assumed as 85% impervious and 15% lawn)				
Fair lawn condition (weighted average CNs)	95	96	97	97
Gravel (including right-of-way)	76	85	89	91
Dirt (including right-of-way)	72	82	87	89
Pasture, grassland, or range-continuous forage for grazing				
Poor condition (ground cover <50% or heavily grazed with no mulch)	68	79	86	89
Fair condition (ground cover 50% to 75% and not heavily grazed)	49	69	79	84
Good condition (ground cover >75% and lightly or only occasionally grazed)	39	61	74	80
Cultivated agricultural lands				
Row Crops (good) e.g., corn, sugar beets, soy beans	64	75	82	85
Small Grain (good) e.g., wheat, barley, flax	60	72	80	84
Meadow				
Continuous grass, protected from grazing and generally mowed for hay	30	58	71	78
Brush (brush-weed-grass mixture with brush the major element)				

Figure 2: 2019 SMMEW Table 4.14 Runoff Curve Numbers (CNs) for Selected Agricultural, Suburban, and Urban Areas

Table 4.14: Runoff Curve Numbers (CNs) for Selected Agricultural, Suburban, and Urban Areas (continued)

Cover type and hydrologic condition	CNs for hydrologic soil group			
	A	B	C	D
Poor (<50% ground cover)	48	67	77	83
Fair (50% to 75% ground cover)	35	56	70	77
Good (>75% ground cover)	30[b]	48	65	73
Woods-grass combination (orchard or tree farm)[c]				
Poor	57	73	82	86
Fair	43	65	76	82
Good	32	58	72	79
Woods				
Poor (Forest litter, small trees, and brush destroyed by heavy grazing or regular burning)	45	66	77	83
Fair (Woods are grazed but not burned, and some forest litter covers the soil)	36	60	73	79
Good (Woods are protected from grazing, and litter and brush adequately cover the soil)	30	55	70	77
Herbaceous (mixture of grass, weeds, and low-growing brush, with brush the minor element)				
Poor (<30% ground cover)	n/a[d]	80	87	93
Fair (30% to 70% ground cover)		71	81	89
Good (>70% ground cover)		62	74	85
Sagebrush with grass understory				
Poor (<30% ground cover)	n/a[d]	67	80	85
Fair (30% to 70% ground cover)		51	63	70
Good (>70% ground cover)		35	47	55

[a]Composite CNs may be computed for other combinations of open space cover type.

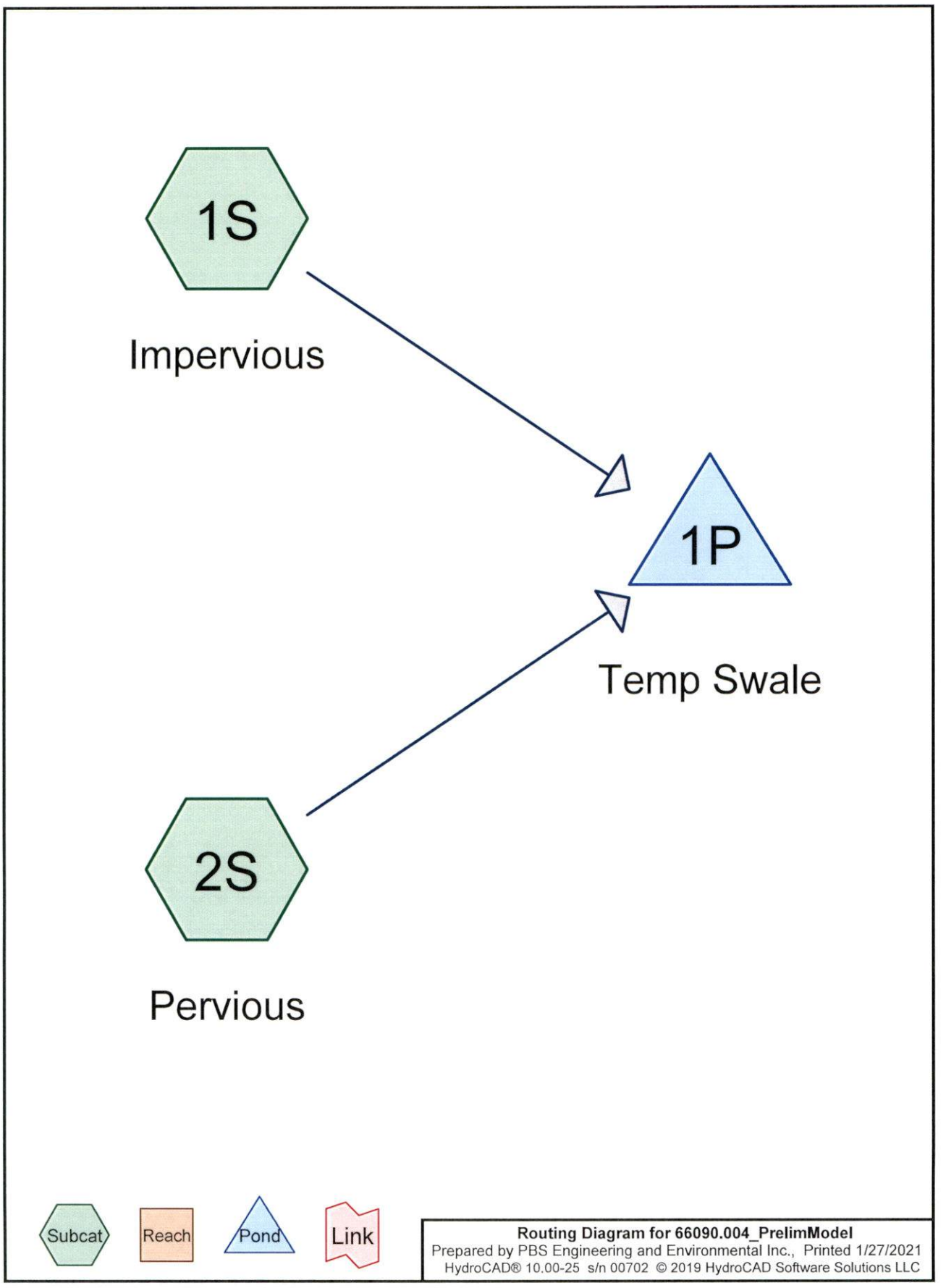
[b]Actual CN is < 30; use CN = 30 for runoff computations.

[c]The indicated CNs were computed for areas with 50% woods and 50% grass (pasture) cover. Other combinations of conditions may be computed from the CNs for woods and pasture.

[d]CNs have not been developed for hydrologic soil group A.

Figure 3: 2019 SMMEW Table 4.14 Runoff Curve Numbers (CNs) for Selected Agricultural, Suburban, and Urban Areas (Cont.)

Appendix B
HydroCAD Model



Routing Diagram for 66090.004_PrelimModel
Prepared by PBS Engineering and Environmental Inc., Printed 1/27/2021

Time span=0.00-72.00 hrs, dt=0.05 hrs, 1441 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Impervious Runoff Area=9,950 sf 100.00% Impervious Runoff Depth=1.48"
Tc=5.0 min CN=98 Runoff=0.09 cfs 0.028 af

Subcatchment2S: Pervious Runoff Area=10,000 sf 0.00% Impervious Runoff Depth=0.12"
Tc=5.0 min CN=69 Runoff=0.00 cfs 0.002 af

Pond 1P: Temp Swale Peak Elev=7.09' Storage=500 cf Inflow=0.09 cfs 0.030 af
Outflow=0.01 cfs 0.030 af

Total Runoff Area = 0.458 ac Runoff Volume = 0.030 af Average Runoff Depth = 0.80"
50.13% Pervious = 0.230 ac 49.87% Impervious = 0.228 ac

Summary for Subcatchment 1S: Impervious

Runoff = 0.09 cfs @ 7.87 hrs, Volume= 0.028 af, Depth= 1.48"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type IA 24-hr 25-YR 24-HR Rainfall=1.70"

	Area (sf)	CN	Description
*	4,700	98	100' Roadway & Sidewalk
*	1,500	98	Driveways (3 @ 500 SF)
*	3,750	98	Roofs (3 @ 1250 SF)
	9,950	98	Weighted Average
	9,950		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Subcatchment 2S: Pervious

Runoff = 0.00 cfs @ 19.35 hrs, Volume= 0.002 af, Depth= 0.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Type IA 24-hr 25-YR 24-HR Rainfall=1.70"

Area (sf)	CN	Description
10,000	69	50-75% Grass cover, Fair, HSG B
10,000		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Pond 1P: Temp Swale

Inflow Area = 0.458 ac, 49.87% Impervious, Inflow Depth = 0.80" for 25-YR 24-HR event
Inflow = 0.09 cfs @ 7.87 hrs, Volume= 0.030 af
Outflow = 0.01 cfs @ 17.33 hrs, Volume= 0.030 af, Atten= 85%, Lag= 567.9 min
Discarded = 0.01 cfs @ 17.33 hrs, Volume= 0.030 af

Routing by Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.05 hrs
Peak Elev= 7.09' @ 17.33 hrs Surf.Area= 165 sf Storage= 500 cf

Plug-Flow detention time= 503.0 min calculated for 0.030 af (100% of inflow)
Center-of-Mass det. time= 503.4 min (1,218.0 - 714.7)

Volume	Invert	Avail.Storage	Storage Description
#1	0.00'	380 cf	**12.83'W x 12.83'L x 9.00'H Prismatoid** 1,481 cf Overall - 330 cf Embedded = 1,151 cf x 33.0% Voids
#2	0.00'	254 cf	**6.00'D x 9.00'H Vertical Cone/Cylinder**Inside #1 330 cf Overall - 5.0" Wall Thickness = 254 cf
		634 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Discarded	0.00'	**1.100 in/hr Exfiltration over Wetted area**

Discarded OutFlow Max=0.01 cfs @ 17.33 hrs HW=7.09' (Free Discharge)
↑—**1=Exfiltration** (Exfiltration Controls 0.01 cfs)

PCM 1.7

Geotechnical Engineering Report

West 27th Avenue
South Washington Street and West 27th Avenue
Kennewick, Washington

Prepared for:
William Smith Properties
15 SW Colorado Avenue, Suite 1
Bend, Oregon 97702

November 14, 2020
PBS Project 66090.004

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Geotechnical Engineering Report

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November 14, 2020
PBS Project 66090.004

Prepared by:

11/14/2020

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Principal Geotechnical Engineer

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Table A-1. Terminology Used to Describe Soil
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Figures A1–A17. Logs for Test Pits TP-1 through TP-17

Appendix B: Laboratory Testing
Figure B1. Summary of Laboratory Data

1 INTRODUCTION

1.1 General

This report presents results of PBS Engineering and Environmental Inc. (PBS) geotechnical engineering services for the proposed subdivision located at South Washington Street and West 27th Avenue in Kennewick, Washington (site). The general site location is shown on the Vicinity Map, Figure 1. The locations of PBS' explorations in relation to existing and proposed site features are shown on the Site Plan, Figure 2.

1.2 Purpose and Scope

The purpose of PBS' services was to develop geotechnical design and construction recommendations in support of the planned subdivision. This was accomplished by performing the following scope of services.

1.2.1 Literature and Records Review

PBS reviewed various published geologic maps of the area for information regarding geologic conditions and hazards at or near the site.

1.2.2 Subsurface Explorations

PBS excavated 17 test pits within the proposed subdivision to depths of up to 13 feet below the existing ground surface (bgs). The test pits were logged and representative soil samples collected by a member of the PBS geotechnical engineering staff. Interpreted test pit logs are included as Figures A1 through A17 in Appendix A, Field Explorations.

1.2.3 Field Infiltration Testing

Two open-hole, falling-head field infiltration tests were completed in test pits TP-3 and TP-13 within the proposed development at a depth of 4 feet bgs. Infiltration testing was monitored by PBS geotechnical engineering staff.

1.2.4 Soils Testing

Soil samples were returned to our laboratory and classified in general accordance with the Unified Soil Classification System (ASTM D2487) and/or the Visual-Manual Procedure (ASTM D2488). Laboratory tests included natural moisture contents and grain-size analyses. Laboratory test results are included in the exploration logs in Appendix A, Field Explorations; and in Appendix B, Laboratory Testing.

1.2.5 Geotechnical Engineering Analysis

Data collected during the subsurface exploration, literature research, and testing were used to develop site-specific geotechnical design parameters and construction recommendations.

1.2.6 Report Preparation

This Geotechnical Engineering Report summarizes the results of our explorations, testing, and analyses, including information relating to the following:

- Field exploration logs and site plan showing approximate exploration locations
- Laboratory test results
- Infiltration test results
- Groundwater levels and considerations
- Liquefaction potential
- Shallow foundation recommendations:
    - Minimum embedment

  - Allowable bearing pressure
  - Estimated settlement
  - Sliding coefficient
- Earthwork and grading, cut, and fill recommendations:
  - Structural fill materials and preparation
  - Utility trench excavation and backfill requirements
  - Slab and pavement subgrade preparation
  - Wet weather considerations
- Seismic design criteria in accordance with the 2018 International Building Code (IBC) with state of Washington amendments
- Slab-on-grade design recommendations
- Asphalt concrete (AC) pavement section recommendations

1.3 Project Understanding

PBS understands the client plans to develop the roughly 17-acre area into a subdivision. PBS assumes construction will consist of one- and two-story, single-family residences using wood-frame construction. Development will also include the addition of access roads and utility installation.

2 SITE CONDITIONS

2.1 Surface Description

The site consists of two irregularly shaped parcels separated by W 27th Avenue, and is located just east of the intersection with S Washington Street in Kennewick, Washington. The site is bordered to the south and partially to the west by Columbia Canal Number 3 and is otherwise surrounded by single-family residences. The site has been operating as vineyard and is currently occupied by grape vines throughout both parcels, with a commercial building located north of W 27th Avenue. The site slopes gently to the east with a maximum elevation of 384 feet above mean sea level (amsl) in the northwest corner and a minimum elevation of 374 feet amsl in the northeast corner.

2.2 Geologic Setting

2.2.1 Regional Geologic Setting

The site is located along the eastern extent of the Yakima fold and thrust belt, a structural-tectonic sub-province occupying the western extent of the greater Columbia Basin geologic province. The Columbia Basin province is separated from the Deschutes-Columbia Plateau and Blue Mountains Provinces of Oregon by the Oregon border. The province is composed primarily of volcanic basement rocks of the Columbia River Basalt Group (CRBG) subdivided into smaller recognizable flows and members that are overlain by Quaternary deposits (Derkey et al., 2006). These older flood basalts were generated by volcanic eruptions in eastern Oregon, eastern Washington, and western Idaho between 16.7 million years ago (Ma) and 5.5 Ma (Reidel, 2004).

The Yakima fold and thrust belt is an actively deforming series of faults and folds that is accommodating clockwise rotation through crustal shortening within the western Columbia Province (McCaffrey et al., 2016). Active Quaternary and Holocene faults are found throughout this sub-province. Northwest-southeast and east-west trending anticlinal ridges and wide synclinal valleys dominate much of the Yakima fold and thrust belt. Reverse faulting is pervasive along the flanks of these anticline-syncline complexes (Gomberg et al., 2012). The eastern-most extent of the Yakima fold and thrust belt is continued across the Oregon-Washington border by

the Horse Heaven Anticline (locally referred to as the Horse Heaven Hills) and the Wallula fault system before reaching the Blue Mountains province of Oregon.

The Horse Heaven Anticline forms the local topographic high point along the southern margin of the Columbia Basin, and has been continuously incised by the ancestral and historical Columbia River resulting in a narrow water gap at the southern extent of the Columbia Basin (Reidel and Fecht, 1994; Schuster, 1994). Throughout the Pleistocene, cataclysmic outburst flood waters from Glacial Lake Missoula resulted in rapid sedimentation as floodwaters ponded behind the Horse Heaven Anticline. Slowing flood waters blanketed the basin with slackwater flood deposits over much of the low-lying areas, as well as created extensive gravel bar complexes near the Columbia River. After glacial outburst flooding, reworking of fine-grained material by aeolian processes has created deposits of loess in elevated areas that were not directly affected by glacial floodwaters.

2.2.2 Local Geology

The site is mapped as underlain by Pleistocene age outburst flood deposit gravels (Riedel and Fecht, 1994). These flood deposits are described as sand to boulder-sized clasts that decrease in size from the major Pleistocene outburst flood channels and contain beds of fine sediment. Gravel clasts primarily consist of basalt, granite, quartzite, and diorite.

2.3 Subsurface Conditions

The site was explored by excavating 17 test pits, designated TP-1 through TP-17, to depths of up to 13 feet bgs. The excavation was performed by Andrist Enterprises of Kennewick, Washington, using a Case CX130D excavator outfitted with a 24-inch toothed bucket.

PBS has summarized the subsurface units as follows:

SILT:	Silt intermixed with fine-grained sand was encountered from the ground surface to the termination depth in all test pits except TP-1, TP-3, TP-4, TP-13, and TP-16, where silt terminated between 6 and 11 feet bgs. The silt was generally brown and dry with a consistency/relative density ranging from soft to hard. The silt exhibited low plasticity. Moist to wet silt was encountered in test pits TP-1 and TP-2, which are located to the south, nearest the canal.
SAND:	Gray sand was encountered below the silt in test pits TP-1, TP-3, TP-4, TP-13, and TP-16. The fine-grained, poorly graded sand was prone to caving, when encountered.

The materials encountered at the time of our exploration are inconsistent with geologic mapping of the area and may represent an upward fining sequence of outburst flood sediments, or subsequent deposition of aeolian sediments postdating Pleistocene flood deposits.

2.4 Groundwater

Static groundwater was encountered during our explorations in test pit TP-1 at approximately 11 feet bgs. We suspect the groundwater encountered is likely due to close proximity to the canal, as water was not encountered in any other test pits. Based on a review of regional groundwater logs available from the Washington State Department of Ecology, we anticipate that the static groundwater level across most of the site is present at a depth at or below approximately 20 feet bgs. Please note that groundwater levels can fluctuate during the year depending on climate, irrigation season, extended periods of precipitation, drought, and other factors.

2.5 Infiltration Testing

PBS completed two open-hole, falling-head infiltration tests in test pits TP-3 and TP-13 at a depth of 4 feet bgs within the silt. The infiltration test was conducted in general accordance with the Stormwater Management Manual for Eastern Washington procedures within the unlined test pit. During testing, the test pit was filled with water to achieve a minimum 1-foot-high column of water. After a period of saturation, the height of the water column in the test pit was then measured initially and at regular, timed intervals. Results of our field infiltration testing are presented in Table 1.

Table 1. Infiltration Test Results

Test Location	Depth (feet bgs)	Field Measured Infiltration Rate (in/hr)	Soil Classification
TP-3	4	2.2	Silt (ML)
TP-13	4	2.3	Silt (ML)

The infiltration rates listed in Table 1 are not permeabilities/hydraulic conductivities, but field-measured rates, and do not include correction factors related to long-term infiltration rates. The design engineer should determine the appropriate correction factors to account for the planned level of pre-treatment, maintenance, vegetation, siltation, etc. Field-measured infiltration rates are typically reduced by a minimum factor of 2 to 4 for use in design.

Soil types can vary significantly over relatively short distances. The infiltration rates noted above are representative of one discrete location and depth. Installation of infiltration systems within the layer the field rate was measured is considered critical to proper performance of the systems. PBS recommends use of the slowest infiltration rate for design, before application of reduction factors, to account for the soil mixing that occurs during normal construction activities.

3 CONCLUSIONS AND RECOMMENDATIONS

3.1 Geotechnical Design Considerations

The subsurface conditions at the site consist of silt and fine-grained sand. Based on our observations and analyses, conventional foundation support on shallow spread footings is feasible for the proposed subdivision. Excavation with conventional equipment is feasible at the site.

The grading and final development plans for the project had not been completed when this report was prepared. Once completed, PBS should be engaged to review the project plans and update our recommendations, as necessary.

3.2 Shallow Foundations

Shallow spread footings bearing on native medium stiff to hard silt may be used to support loads associated with the proposed development, provided the recommendations in this report are followed. Footings should not be supported on undocumented fill.

3.2.1 Minimum Footing Widths and Design Bearing Pressure

Continuous wall and isolated spread footings should be sized according to local codes. Footings should be sized using a maximum allowable bearing pressure of 2,000 pounds per square foot (psf). This is a net bearing pressure and the weight of the footing and overlying backfill can be disregarded in calculating footing sizes.

The recommended allowable bearing pressure applies to the total of dead plus long-term live loads. Allowable bearing pressures may be increased by one-third for seismic and wind loads.

Footings will settle in response to column and wall loads. Based on our evaluation of the subsurface conditions and our analysis, we estimate post-construction settlement will be less than 1 inch for the column and perimeter foundation loads. Differential settlement will be on the order of one-half of the total settlement.

3.2.2 Footing Embedment Depths

PBS recommends that all footings be founded a minimum of 24 inches below the lowest adjacent grade. The footings should be founded below an imaginary line projecting upward at a 1H:1V (horizontal to vertical) slope from the base of any adjacent, parallel utility trenches or deeper excavations.

3.2.3 Footing Preparation

Excavations for footings should be carefully prepared to a neat and undisturbed state. A representative from PBS should confirm suitable bearing conditions and evaluate all exposed footing subgrades. Observations should also confirm that loose or soft materials have been removed from new footing excavations and concrete slab-on-grade areas. Localized deepening of footing excavations may be required to penetrate loose, wet, or deleterious materials.

PBS recommends a layer of compacted, crushed rock be placed over the footing subgrades to help protect them from disturbance due to foot traffic and the elements. Placement of this rock is the prerogative of the contractor; regardless, the footing subgrade should be in a dense or stiff condition prior to pouring concrete. Based on our experience, approximately 4 inches of compacted crushed rock will be suitable beneath the footings.

3.2.4 Lateral Resistance

Lateral loads can be resisted by passive earth pressure on the sides of footings and grade beams, and by friction at the base of the footings. A passive earth pressure of 250 pounds per cubic foot (pcf) may be used for footings confined by native soils and new structural fills. The allowable passive pressure has been reduced by a factor of two to account for the large amount of deformation required to mobilize full passive resistance. Adjacent floor slabs, pavements, or the upper 12-inch depth of adjacent unpaved areas should not be considered when calculating passive resistance. For footings supported on native soils or new structural fills, use a coefficient of friction equal to 0.35 when calculating resistance to sliding. These values do not include a factor of safety (FS).

3.3 Floor Slabs

Satisfactory subgrade support for building floor slabs can be obtained from the native silt subgrade prepared in accordance with our recommendations presented in the Site Preparation, Wet/Freezing Weather and Wet Soil Conditions, and Imported Granular Materials sections of this report. A minimum 6-inch-thick layer of imported granular material should be placed and compacted over the prepared subgrade. Thicker aggregate sections may be necessary where undocumented fill is present, soft/loose soils are present at subgrade elevation, and/or during wet conditions. Imported granular material should be composed of crushed rock or crushed gravel that is relatively well graded between coarse and fine, contains no deleterious materials, has a maximum particle size of 1 inch, and has less than 5 percent by dry weight passing the US Standard No. 200 Sieve.

Floor slabs supported on a subgrade and base course prepared in accordance with the preceding recommendations may be designed using a modulus of subgrade reaction (k) of 100 pounds per cubic inch (pci).

3.4 Seismic Design Considerations

3.4.1 Code-Based Seismic Design Parameters

The current seismic design criteria for this project are based on the 2018 International Building Code with State of Washington amendments. Based on subsurface conditions encountered at the site, Site Class D is appropriate for use in design. The seismic design criteria, in accordance with the 2018 IBC, are summarized in Table 2.

Table 2. 2018 IBC Seismic Design Parameters

Parameter	Short Period	1 Second
Maximum Credible Earthquake Spectral Acceleration	S_s = 0.42 g	S_1 = 0.16 g
Site Class	D	
Site Coefficient	F_a = 1.47	F_v = 2.29
Adjusted Spectral Acceleration	S_{MS} = 0.61 g	S_{M1} = 0.36 g
Design Spectral Response Acceleration Parameters	S_{DS} = 0.41 g	S_{D1} = 0.24 g

g= Acceleration due to gravity

3.4.2 Liquefaction Potential

Liquefaction is defined as a decrease in the shear resistance of loose, saturated, cohesionless soil (e.g., sand) or low plasticity silt soils, due to the buildup of excess pore pressures generated during an earthquake. This results in a temporary transformation of the soil deposit into a viscous fluid. Liquefaction can result in ground settlement, foundation bearing capacity failure, and lateral spreading of ground.

Based on a review of the Washington Division of Geology and Earth Resources, the site is shown as having a low liquefaction hazard. Based on the lack of groundwater encountered in our explorations and depth to groundwater reported in nearby well logs, our current opinion is that the risk of structurally damaging liquefaction settlement at the site is low. Subsequently, the risk of structurally damaging lateral spreading is also low.

3.5 Temporary and Permanent Slopes

All temporary cut slopes should be excavated with a smooth-bucket excavator, with the slope surface repaired if disturbed. In addition, upslope surface runoff should be rerouted to not run down the face of the slopes. Equipment should not be allowed to induce vibration or infiltrate water above the slopes, and no surcharges are allowed within 25 feet of the slope crest.

Permanent cut and fill slopes up to 10 feet high can be inclined at 2H:1V in medium dense or better silt or compacted structural fill. If slow seepage is present, use of a rock blanket or a suitably revegetated, reinforced erosion control blanket may be required. PBS should be consulted if seepage is present; additional erosion control measures, such as additional drainage elements, and/or flatter slopes, may also be required. Exposed soils that are soft or loose may also require these measures. Fill slopes should be over-built and cut back into compacted structural fill at the design inclination using a smooth-bucket excavator. Erosion control is critical to maintaining slopes.

3.6 Ground Moisture

3.6.1 General

The perimeter ground surface and hard-scape should be sloped to drain away from all structures and away from adjacent slopes. Gutters should be tight-lined to a suitable discharge and maintained as free-flowing. All crawl spaces should be adequately ventilated and sloped to drain to a suitable, exterior discharge.

3.6.2 Perimeter Footing Drains

Due to the relatively low permeability of site soils and the potential for perched groundwater at the site, we recommend perimeter foundation drains be installed around all proposed structures.

The foundation subdrainage system should include a minimum 4-inch diameter perforated pipe in a drain rock envelope. A non-woven geotextile filter fabric, such as Mirafi 140N or equivalent, should be used to completely wrap the drain rock envelope, separating it from the native soil and footing backfill materials. The invert of the perimeter drain lines should be placed approximately at the bottom of footing elevation. Also, the subdrainage system should be sealed at the ground surface. The perforated subdrainage pipe should be laid to drain by gravity into a non-perforated solid pipe and finally connected to the site drainage stem at a suitable location. Water from downspouts and surface water should be independently collected and routed to a storm sewer or other positive outlet. This water must not be allowed to enter the bearing soils.

3.6.3 Vapor Flow Retarder

A continuous, impervious barrier must be installed over the ground surface in the crawl space and under slabs of all structures. Barriers should be installed per the manufacturer's recommendations.

3.7 Pavement Design

City of Kennewick standard pavement sections may be used. Depending on weather conditions at the time of construction, a thicker aggregate base course section could be required to support construction traffic during preparation and placement of the pavement section.

The asphalt cement binder should be selected following WSDOT SS 9-02.1(4) – Performance Graded Asphalt Binder. The AC should consist of ½-inch hot mix asphalt (HMA) with a maximum lift thickness of 3 inches. The AC should conform to WSDOT SS 5-04.3(7)A – Mix Design, WSDOT SS 9-03.8(2) – HMA Test Requirements, and WSDOT SS 9-03.8(6) – HMA Proportions of Materials. The AC should be compacted to 91 percent of the maximum theoretical density (Rice value) of the mix, as determined in accordance with ASTM D2041, following the guidelines set in WSDOT SS 5-04.3(10) – Compaction.

Heavy construction traffic on new pavements or partial pavement sections (such as base course over the prepared subgrade) will likely exceed the design loads and could potentially damage or shorten the pavement life; therefore, we recommend construction traffic not be allowed on new pavements, or that the contractor take appropriate precautions to protect the subgrade and pavement during construction.

If construction traffic is to be allowed on newly constructed road sections, an allowance for this additional traffic will need to be made in the design pavement section.

4 CONSTRUCTION RECOMMENDATIONS

4.1 Site Preparation

Construction of the proposed subdivision will involve clearing and grubbing of the existing vegetation or demolition of possible existing structures. Demolition should include removal of existing pavement, utilities, etc., throughout the proposed new development. Underground utility lines or other abandoned structural

elements should also be removed. The voids resulting from removal of foundations or loose soil in utility lines should be backfilled with compacted structural fill. The base of these excavations should be excavated to firm native subgrade before filling, with sides sloped at a minimum of 1H:1V to allow for uniform compaction. Materials generated during demolition should be transported off site or stockpiled in areas designated by the owner's representative.

4.1.1 Proofrolling/Subgrade Verification

Following site preparation and prior to placing aggregate base over shallow foundation, floor slab, and pavement subgrades, the exposed subgrade should be evaluated either by proofrolling or another method of subgrade verification. The subgrade should be proofrolled with a fully loaded dump truck or similar heavy, rubber-tire construction equipment to identify unsuitable areas. If evaluation of the subgrades occurs during wet conditions, or if proofrolling the subgrades will result in disturbance, they should be evaluated by PBS using a steel foundation probe. We recommend that PBS be retained to observe the proofrolling and perform the subgrade verifications. Unsuitable areas identified during the field evaluation should be compacted to a firm condition or be excavated and replaced with structural fill.

4.1.2 Wet/Freezing Weather and Wet Soil Conditions

Due to the presence of fine-grained silt and sands in the near-surface materials at the site, construction equipment may have difficulty operating on the near-surface soils when the moisture content of the surface soil is more than a few percentage points above the optimum moisture required for compaction. Soils disturbed during site preparation activities, or unsuitable areas identified during proofrolling or probing, should be removed and replaced with compacted structural fill.

Site earthwork and subgrade preparation should not be completed during freezing conditions, except for mass excavation to the subgrade design elevations. We recommend the earthwork construction at the site be performed during the dry season.

Protection of the subgrade is the responsibility of the contractor. Construction of granular haul roads to the project site entrance may help reduce further damage to the pavement and disturbance of site soils. The actual thickness of haul roads and staging areas should be based on the contractors' approach to site development, and the amount and type of construction traffic. The imported granular material should be placed in one lift over the prepared undisturbed subgrade and compacted using a smooth-drum, non-vibratory roller. A geotextile fabric should be used to separate the subgrade from the imported granular material in areas of repeated construction traffic. Depending on site conditions, the geotextile should meet Washington State Department of Transportation (WSDOT) SS 9-33.2 – Geosynthetic Properties for soil separation or stabilization. The geotextile should be installed in conformance with WSDOT SS 2-12.3 – Construction Geosynthetic (Construction Requirements) and, as applicable, WSDOT SS 2-12.3(2) – Separation or WSDOT SS 2-12.3(3) – Stabilization.

4.1.3 Compacting Test Pit Locations

The test pit excavations were backfilled using the excavator bucket and relatively minimal compactive effort; therefore, soft spots can be expected at these locations. We recommend that the relatively uncompacted soil be removed from the test pits to a depth of at least 3 feet below finished subgrade elevation in pavement areas and to full depth in building areas. The resulting excavation should be backfilled with structural fill.

4.2 Excavation

The near-surface soils at the site can be excavated with conventional earthwork equipment. Sloughing and caving should be anticipated. All excavations should be made in accordance with applicable Occupational

Safety and Health Administration (OSHA) and state regulations. The contractor is solely responsible for adherence to the OSHA requirements. Trench cuts should stand relatively vertical to a depth of approximately 4 feet bgs, provided no groundwater seepage is present in the trench walls. Open excavation techniques may be used provided the excavation is configured in accordance with the OSHA requirements, groundwater seepage is not present, and with the understanding that some sloughing may occur. Trenches/excavations should be flattened if sloughing occurs or seepage is present. Use of a trench shield or other approved temporary shoring is recommended if vertical walls are desired for cuts deeper than 4 feet bgs. If dewatering is used, we recommend that the type and design of the dewatering system be the responsibility of the contractor, who is in the best position to choose systems that fit the overall plan of operation.

4.3 Structural Fill

Structural fill should be placed over subgrade that has been prepared in conformance with the Site Preparation and Wet/Freezing Weather and Wet Soil Conditions sections of this report. Structural fill material should consist of relatively well-graded soil, or an approved rock product that is free of organic material and debris, and contains particles not greater than 3 inches nominal dimension.

The suitability of soil for use as compacted structural fill will depend on the gradation and moisture content of the soil when it is placed. As the amount of fines (material finer than the US Standard No. 200 Sieve) increases, soil becomes increasingly sensitive to small changes in moisture content and compaction becomes more difficult to achieve. Soils containing more than about 5 percent fines cannot consistently be compacted to a dense, non-yielding condition when the water content is significantly greater (or significantly less) than optimum.

If fill and excavated material will be placed on slopes steeper than 5H:1V, these must be keyed/benched into the existing slopes and installed in horizontal lifts. Vertical steps between benches should be approximately 2 feet.

4.3.1 On-Site Soil

On-site soils encountered in our explorations are generally suitable for placement as structural fill during moderate, dry weather when moisture content can be maintained by air drying and/or addition of water. The fine-grained fraction of the site soils are moisture sensitive, and during wet weather, may become unworkable because of excess moisture content. In order to reduce moisture content, some aerating and drying of fine-grained soils may be required. The material should be placed in lifts with a maximum uncompacted thickness of approximately 8 inches and compacted to at least 92 percent of the maximum dry density, as determined by ASTM D1557 (modified proctor).

4.3.2 Imported Granular Materials

Imported granular material used during periods of wet weather or for haul roads, building pad subgrades, staging areas, etc., should be pit or quarry run rock, crushed rock, or crushed gravel and sand, and should meet the specifications provided in WSDOT SS 9-03.14(2) – Select Borrow. In addition, the imported granular material should be fairly well graded between coarse and fine, and of the fraction passing the US Standard No. 4 Sieve, less than 5 percent by dry weight should pass the US Standard No. 200 Sieve.

Imported granular material should be placed in lifts with a maximum uncompacted thickness of 9 inches and be compacted to not less than 95 percent of the maximum dry density, as determined by ASTM D1557.

4.3.3 Base Aggregate

Base aggregate for floor slabs and beneath pavements should be clean crushed rock or crushed gravel. The base aggregate should contain no deleterious materials, meet specifications provided in WSDOT SS 9-03.9(3) – Crushed Surfacing Base Course, and have less than 5 percent (by dry weight) passing the US Standard No. 200 Sieve. The imported granular material should be placed in one lift and compacted to at least 95 percent of the maximum dry density, as determined by ASTM D1557.

4.3.4 Foundation Base Aggregate

Imported granular material placed at the base of excavations for spread footings, slabs-on-grade, and other below-grade structures should be clean, crushed rock or crushed gravel, and sand that is fairly well graded between coarse and fine. The granular materials should contain no deleterious materials, have a maximum particle size of 1½ inch, and meet WSDOT SS 9-03.12(1)A – Gravel Backfill for Foundations (Class A). The imported granular material should be placed in one lift and compacted to not less than 95 percent of the maximum dry density, as determined by ASTM D1557.

4.3.5 Trench Backfill

Trench backfill placed beneath, adjacent to, and for at least 2 feet above utility lines (i.e., the pipe zone) should consist of well-graded granular material with a maximum particle size of 1 inch and less than 10 percent by dry weight passing the US Standard No. 200 Sieve, and should meet the standards prescribed by WSDOT SS 9-03.12(3) – Gravel Backfill for Pipe Zone Bedding. The pipe zone backfill should be compacted to at least 90 percent of the maximum dry density as determined by ASTM D1557, or as required by the pipe manufacturer or local building department.

Within pavement areas or beneath building pads, the remainder of the trench backfill should consist of well-graded granular material with a maximum particle size of 1½ inches, less than 10 percent by dry weight passing the US Standard No. 200 Sieve, and should meet standards prescribed by WSDOT SS 9-03.19 – Bank Run Gravel for Trench Backfill. This material should be compacted to at least 92 percent of the maximum dry density, as determined by ASTM D1557, or as required by the pipe manufacturer or local building department. The upper 2 feet of the trench backfill should be compacted to at least 95 percent of the maximum dry density, as determined by ASTM D1557.

Outside of structural improvement areas (e.g., roadway alignments or building pads), trench backfill placed above the pipe zone should consist of excavated material free of wood waste, debris, clods, or rocks greater than 6 inches in diameter and meet WSDOT SS 9-03.14 – Borrow and WSDOT SS 9-03.15 – Native Material for Trench Backfill. This general trench backfill should be compacted to at least 90 percent of the maximum dry density, as determined by ASTM D1557, or as required by the pipe manufacturer or local building department.

4.3.6 Stabilization Material

Stabilization rock should consist of pit or quarry run rock that is well-graded, angular, crushed rock consisting of 4- or 6-inch-minus material with less than 5 percent passing the US Standard No. 4 Sieve. The material should be free of organic matter and other deleterious material. WSDOT SS 9-13.1(5) – Quarry Spalls can be used as a general specification for this material with the stipulation of limiting the maximum size to 6 inches.

5 ADDITIONAL SERVICES AND CONSTRUCTION OBSERVATIONS

In most cases, other services beyond completion of a final geotechnical engineering report are necessary or desirable to complete the project. Occasionally, conditions or circumstances arise that require additional work that was not anticipated when the geotechnical report was written. PBS offers a range of environmental, geological, geotechnical, and construction services to suit the varying needs of our clients.

PBS should be retained to review the plans and specifications for this project before they are finalized. Such a review allows us to verify that our recommendations and concerns have been adequately addressed in the design.

Satisfactory earthwork performance depends on the quality of construction. Sufficient observation of the contractor's activities is a key part of determining that the work is completed in accordance with the construction drawings and specifications. We recommend that PBS be retained to observe general excavation, stripping, fill placement, footing subgrades, and/or pile installation. Subsurface conditions observed during construction should be compared with those encountered during the subsurface explorations. Recognition of changed conditions requires experience; therefore, qualified personnel should visit the site with sufficient frequency to detect whether subsurface conditions change significantly from those anticipated.

6 LIMITATIONS

This report has been prepared for the exclusive use of the addressee, and their architects and engineers, for aiding in the design and construction of the proposed development and is not to be relied upon by other parties. It is not to be photographed, photocopied, or similarly reproduced, in total or in part, without express written consent of the client and PBS. It is the addressee's responsibility to provide this report to the appropriate design professionals, building officials, and contractors to ensure correct implementation of the recommendations.

The opinions, comments, and conclusions presented in this report are based upon information derived from our literature review, field explorations, laboratory testing, and engineering analyses. It is possible that soil, rock, or groundwater conditions could vary between or beyond the points explored. If soil, rock, or groundwater conditions are encountered during construction that differ from those described herein, the client is responsible for ensuring that PBS is notified immediately so that we may reevaluate the recommendations of this report.

Unanticipated fill, soil and rock conditions, and seasonal soil moisture and groundwater variations are commonly encountered and cannot be fully determined by merely taking soil samples or completing explorations such as soil borings or test pits. Such variations may result in changes to our recommendations and may require additional funds for expenses to attain a properly constructed project; therefore, we recommend a contingency fund to accommodate such potential extra costs.

The scope of work for this subsurface exploration and geotechnical report did not include environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous substances in the soil, surface water, or groundwater at this site.

If there is a substantial lapse of time between the submission of this report and the start of work at the site, if conditions have changed due to natural causes or construction operations at or adjacent to the site, or if the basic project scheme is significantly modified from that assumed, this report should be reviewed to determine the applicability of the conclusions and recommendations presented herein. Land use, site conditions (both on and off site), or other factors may change over time and could materially affect our findings; therefore, this report should not be relied upon after three years from its issue, or in the event that the site conditions change.

7 REFERENCES

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Important Information about This

Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you – assumedly a client representative – interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will not likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will not be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnical-engineering report did not read the report in its entirety. Do not rely on an executive summary. Do not read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept*

responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are not final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnical-engineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform construction-phase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note conspicuously that you've included the material for information purposes only.* To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, *only* from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and *be sure to allow enough time* to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, ***proper implementation of the geotechnical engineer's recommendations will not of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration*** by including building-envelope or mold specialists on the design team. ***Geotechnical engineers are not building-envelope or mold specialists.***

GEOPROFESSIONAL BUSINESS ASSOCIATION

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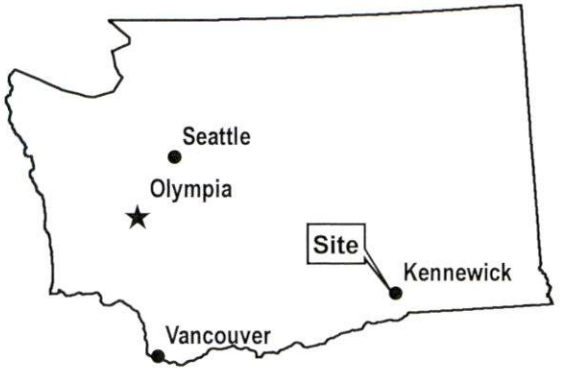
e-mail: info@geoprofessional.org www.geoprofessional.org

Figures



VICINITY MAP

WEST 27TH AVENUE
KENNEWICK, WASHINGTON

DATE: NOV 2020 · PROJECT: 66090.004

PBS

FIGURE
1

\\pbsenv.lan\LGis\GEOTECH\project\66090.004\fig_01_WA_tricities.mxd

EXPLANATION

- TP-1 - Test pit name and approximate location
- TP-3 - Test pit name and approximate location with infiltration test
- Approximate site boundary

SOURCES: Google Earth imagery

1 inch = 250 feet

0 125 250 Feet 500

SITE PLAN

WEST 27TH AVENUE
KENNEWICK, WASHINGTON

DATE: NOV 2020 · PROJECT: 66090.004

PBS

FIGURE 2

Appendix A
Field Explorations

Appendix A: Field Explorations

A1 GENERAL

PBS explored subsurface conditions at the project site by excavating test pits to depths of up to 13 feet bgs on October 8 and 9, 2020. The approximate locations of the explorations are shown on Figure 2, Site Plan. The procedures used to advance the test pits, collect samples, and other field techniques are described in detail in the following paragraphs. Unless otherwise noted, all soil sampling and classification procedures followed engineering practices in general accordance with relevant ASTM procedures. "General accordance" means that certain local excavation and descriptive practices and methodologies have been followed.

A2 TEST PITS

A2.1 Excavation

Test pits were excavated using a Case CX130D excavator equipped with a 24-inch-wide, toothed bucket provided and operated by Andrist Enterprises of Kennewick, Washington. The test pits were observed by a member of the PBS geotechnical staff, who maintained a detailed log of the subsurface conditions and materials encountered during the course of the work.

A2.2 Sampling

Representative disturbed samples were taken at selected depths in the test pits. The disturbed soil samples were examined by a member of the PBS geotechnical staff and sealed in plastic bags for further examination.

A2.3 Test Pit Logs

The test pit logs show the various types of materials that were encountered in the excavations and the depths where the materials and/or characteristics of these materials changed, although the changes may be gradual. Where material types and descriptions changed between samples, the contacts were interpreted. The types of samples taken during excavation, along with their sample identification number, are shown to the right of the classification of materials. The natural water (moisture) contents are shown farther to the right. Measured seepage levels, if observed, are noted in the column to the right.

A3 MATERIAL DESCRIPTION

Initially, samples were classified visually in the field. Consistency, color, relative moisture, degree of plasticity, and other distinguishing characteristics of the soil samples were noted. Afterward, the samples were reexamined in the PBS laboratory, various standard classification tests were conducted, and the field classifications were modified where necessary. The terminology used in the soil classifications and other modifiers are defined in Table A-1, Terminology Used to Describe Soil.

Table A-1
Terminology Used to Describe Soil

Soil Descriptions

Soils exist in mixtures with varying proportions of components. The predominant soil, i.e., greater than 50 percent based on total dry weight, is the primary soil type and is capitalized in our log descriptions (SAND, GRAVEL, SILT, or CLAY). Smaller percentages of other constituents in the soil mixture are indicated by use of modifier words in general accordance with the ASTM D2488-06 Visual-Manual Procedure. "General Accordance" means that certain local and common descriptive practices may have been followed. In accordance with ASTM D2488-06, group symbols (such as GP or CH) are applied on the portion of soil passing the 3-inch (75mm) sieve based on visual examination. The following describes the use of soil names and modifying terms used to describe fine- and coarse-grained soils.

Fine-Grained Soils (50% or greater fines passing 0.075 mm, No. 200 sieve)

The primary soil type, i.e., SILT or CLAY is designated through visual-manual procedures to evaluate soil toughness, dilatency, dry strength, and plasticity. The following outlines the terminology used to describe fine-grained soils, and varies from ASTM D2488 terminology in the use of some common terms.

Primary soil NAME, Symbols, and Adjectives			Plasticity Description	Plasticity Index (PI)
SILT (ML & MH)	**CLAY (CL & CH)**	**ORGANIC SOIL (OL & OH)**		
SILT		Organic SILT	Non-plastic	0 – 3
SILT		Organic SILT	Low plasticity	4 – 10
SILT/Elastic SILT	Lean CLAY	Organic SILT/ Organic CLAY	Medium Plasticity	10 – 20
Elastic SILT	Lean/Fat CLAY	Organic CLAY	High Plasticity	20 – 40
Elastic SILT	Fat CLAY	Organic CLAY	Very Plastic	>40

Modifying terms describing secondary constituents, estimated to 5 percent increments, are applied as follows:

Description	% Composition	
With Sand	% Sand ≥ % Gravel	15% to 25% plus No. 200
With Gravel	% Sand < % Gravel	
Sandy	% Sand ≥ % Gravel	≤30% to 50% plus No. 200
Gravelly	% Sand < % Gravel	

Borderline Symbols, for example CH/MH, are used when soils are not distinctly in one category or when variable soil units contain more than one soil type. **Dual Symbols,** for example CL-ML, are used when two symbols are required in accordance with ASTM D2488.

Soil Consistency terms are applied to fine-grained, plastic soils (i.e., PI ≥ 7). Descriptive terms are based on direct measure or correlation to the Standard Penetration Test N-value as determined by ASTM D1586-84, as follows. SILT soils with low to non-plastic behavior (i.e., PI < 7) may be classified using relative density.

Consistency Term	SPT N-value	Unconfined Compressive Strength	
		tsf	kPa
Very soft	Less than 2	Less than 0.25	Less than 24
Soft	2 – 4	0.25 – 0.5	24 – 48
Medium stiff	5 – 8	0.5 – 1.0	48 – 96
Stiff	9 – 15	1.0 – 2.0	96 – 192
Very stiff	16 – 30	2.0 – 4.0	192 – 383
Hard	Over 30	Over 4.0	Over 383

Soil Descriptions

Coarse - Grained Soils (less than 50% fines)

Coarse-grained soil descriptions, i.e., SAND or GRAVEL, are based on the portion of materials passing a 3-inch (75mm) sieve. Coarse-grained soil group symbols are applied in accordance with ASTM D2488-06 based on the degree of grading, or distribution of grain sizes of the soil. For example, well-graded sand containing a wide range of grain sizes is designated SW; poorly graded gravel, GP, contains high percentages of only certain grain sizes. Terms applied to grain sizes follow.

Material NAME	Particle Diameter	
	Inches	Millimeters
SAND (SW or SP)	0.003 – 0.19	0.075 – 4.8
GRAVEL (GW or GP)	0.19 – 3	4.8 – 75
Additional Constituents:		
Cobble	3 – 12	75 – 300
Boulder	12 – 120	300 – 3050

The primary soil type is capitalized, and the fines content in the soil are described as indicated by the following examples. Percentages are based on estimating amounts of fines, sand, and gravel to the nearest 5 percent. Other soil mixtures will have similar descriptive names.

Example: Coarse-Grained Soil Descriptions with Fines

>5% to < 15% fines (Dual Symbols)	≥15% to < 50% fines
Well graded GRAVEL with silt: GW-GM	Silty GRAVEL: GM
Poorly graded SAND with clay: SP-SC	Silty SAND: SM

Additional descriptive terminology applied to coarse-grained soils follow.

Example: Coarse-Grained Soil Descriptions with Other Coarse-Grained Constituents

Coarse-Grained Soil Containing Secondary Constituents	
With sand or with gravel	≥ 15% sand or gravel
With cobbles; with boulders	Any amount of cobbles or boulders.

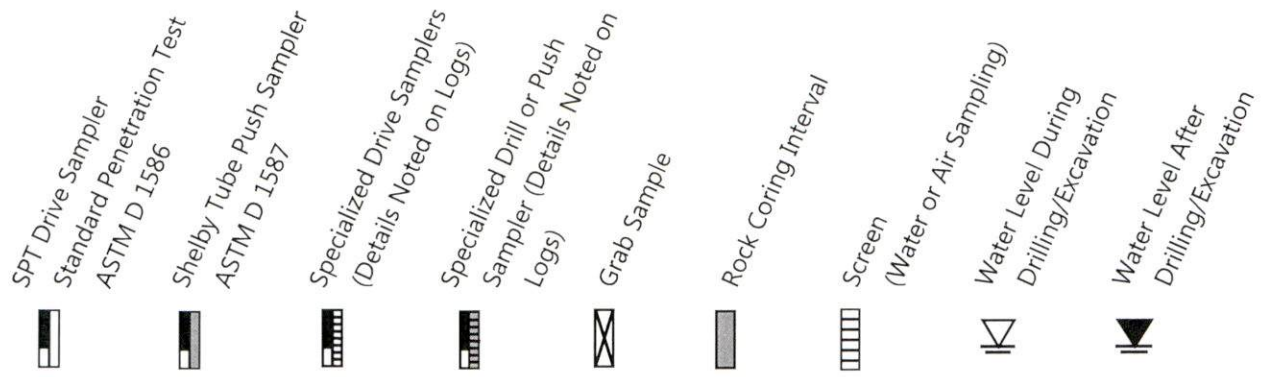
Cobble and boulder deposits may include a description of the matrix soils, as defined above.

Relative Density terms are applied to granular, non-plastic soils based on direct measure or correlation to the Standard Penetration Test N-value as determined by ASTM D1586-84.

Relative Density Term	SPT N-value
Very loose	0 – 4
Loose	5 – 10
Medium dense	11 – 30
Dense	31 – 50
Very dense	> 50

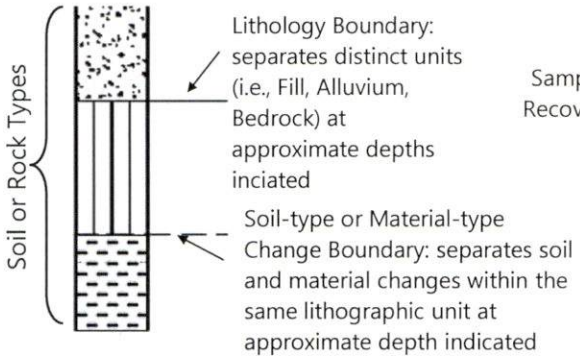
Table A-2
Key To Test Pit and Boring Log Symbols

SAMPLING DESCRIPTIONS

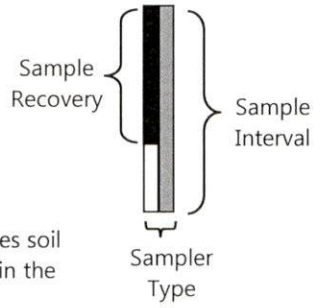


LOG GRAPHICS

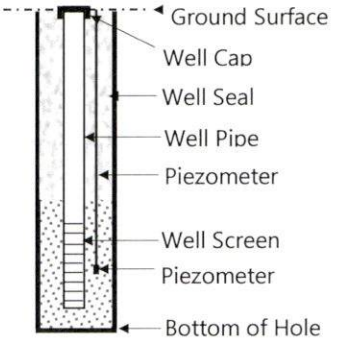
Soil and Rock



Sampling Symbols



Instrumentation Detail



Geotechnical Testing Acronym Explanations

PP	Pocket Penetrometer	HYD	Hydrometer Gradation
TOR	Torvane	SIEV	Sieve Gradation
DCP	Dynamic Cone Penetrometer	DS	Direct Shear
ATT	Atterberg Limits	DD	Dry Density
PL	Plasticity Limit	CBR	California Bearing Ratio
LL	Liquid Limit	RES	Resilient Modulus
PI	Plasticity Index	VS	Vane Shear
P200	Percent Passing US Standard No. 200 Sieve	bgs	Below ground surface
OC	Organic Content	MSL	Mean Sea Level
CON	Consolidation	HCL	Hydrochloric Acid
UC	Unconfined Compressive Strength		

Details of soil and rock classification systems are available on request.

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WEST 27TH AVENUE
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TEST PIT TP-1

APPROX. TEST PIT TP-1 LOCATION:
(See Site Plan)

Lat: 46.18211 Long: -119.11508

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH	TESTING	SAMPLE TYPE / SAMPLE ID	DYNAMIC CONE PENETROMETER / STATIC PENETROMETER / MOISTURE CONTENT %	COMMENTS
		Lines representing the interface between soil/rock units of differing description are approximate only, inferred where between samples, and may indicate gradual transition.				0 50 100	Surface Conditions: Vineyard
0.0		Soft, brown SILT (ML) with sand; low plasticity; fine sand; moist	0.0				Dense vegetation at surface
2.0					S-1		
4.0				DCP	S-2	4	
6.0		Gray, poorly graded SAND (SP); fine sand; wet	6.0				Caving at 6 feet bgs
8.0							
10.0					S-3		Seepage at 11 feet bgs
		Final depth 11.0 feet bgs; test pit backfilled with excavated material to existing ground surface.	11.0				∿ 10/08/20
12.0							
14.0						0 50 100	

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EXCAVATION METHOD: CASE CX130D

FIGURE A1

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WEST 27TH AVENUE
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TEST PIT TP-2

APPROX. TEST PIT TP-2 LOCATION:
(See Site Plan)
Lat: 46.18170 Long: -119.11435

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH	TESTING	SAMPLE TYPE / SAMPLE ID	DYNAMIC CONE PENETROMETER / STATIC PENETROMETER / MOISTURE CONTENT % (0 50 100)	COMMENTS
0.0		Medium stiff, brown SILT (ML) with sand; low plasticity; fine sand; moist	0.0				Dense vegetation at surface
2.0					S-1		Surface Conditions: Vineyard
		fine roots to 3 feet bgs; moderate cementation					
4.0				DCP	S-2	8	
6.0							
8.0							
10.0							
12.0		Final depth 12.0 feet bgs; test pit backfilled with excavated material to existing ground surface. Groundwater not encountered at time of exploration.	12.0		S-3		
14.0							

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FIGURE A2
Page 1 of 1

TEST PIT LOG - 1 PER PAGE 66090.004_TP1-17_20201021.GPJ PBS_DATATMPL_GEO.GDT PRINT DATE: 11/13/20 RPG

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WEST 27TH AVENUE
KENNEWICK, WASHINGTON

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66090.004

TEST PIT TP-3

APPROX. TEST PIT TP-3 LOCATION:
(See Site Plan)
Lat: 46.18235 Long: -119.11463

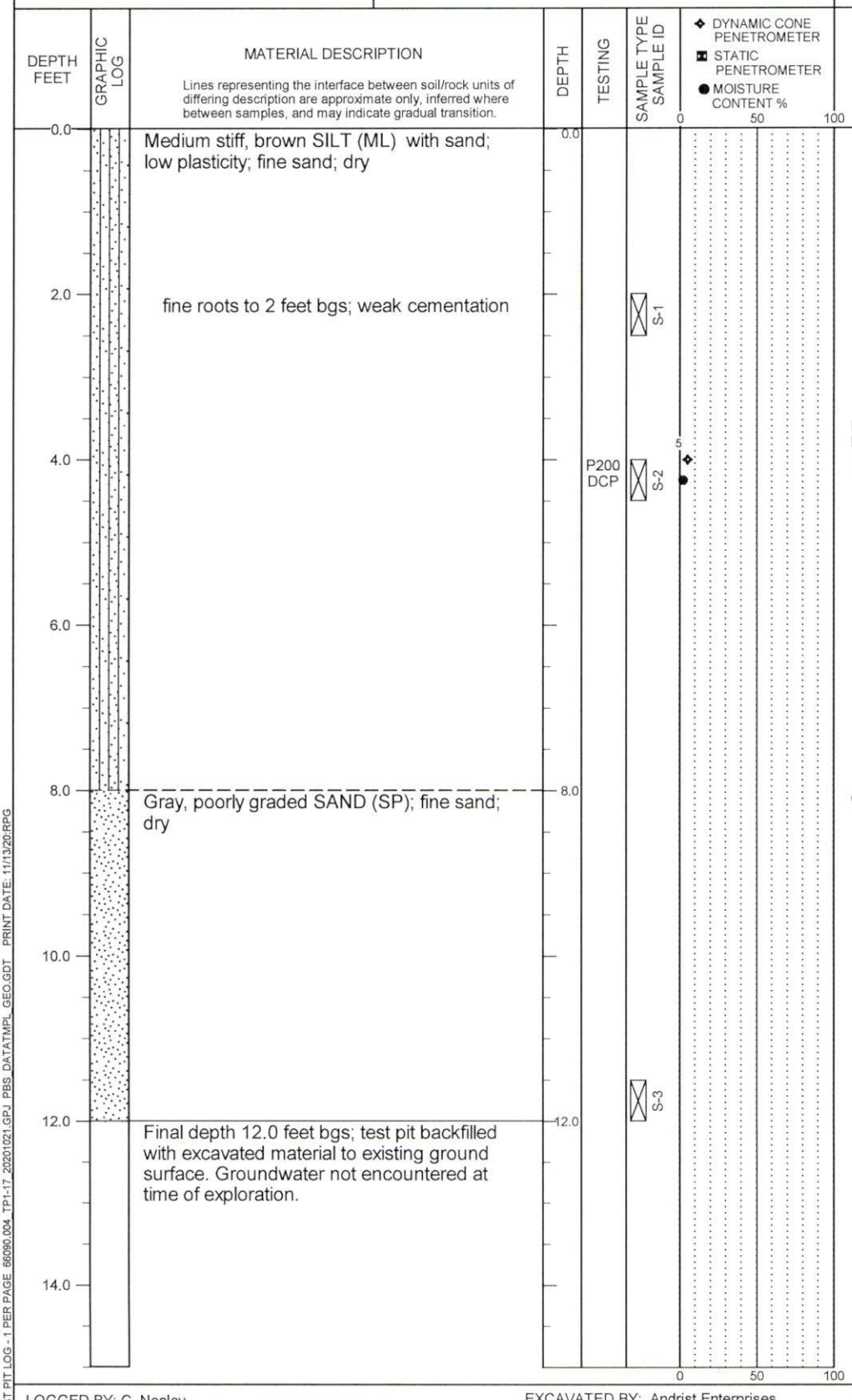

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FIGURE A3
Page 1 of 1

TEST PIT LOG - 1 PER PAGE 66090.004_TP1-17_20201021.GPJ PBS_DATATMPL_GEO.GDT PRINT DATE: 11/13/20 RPG

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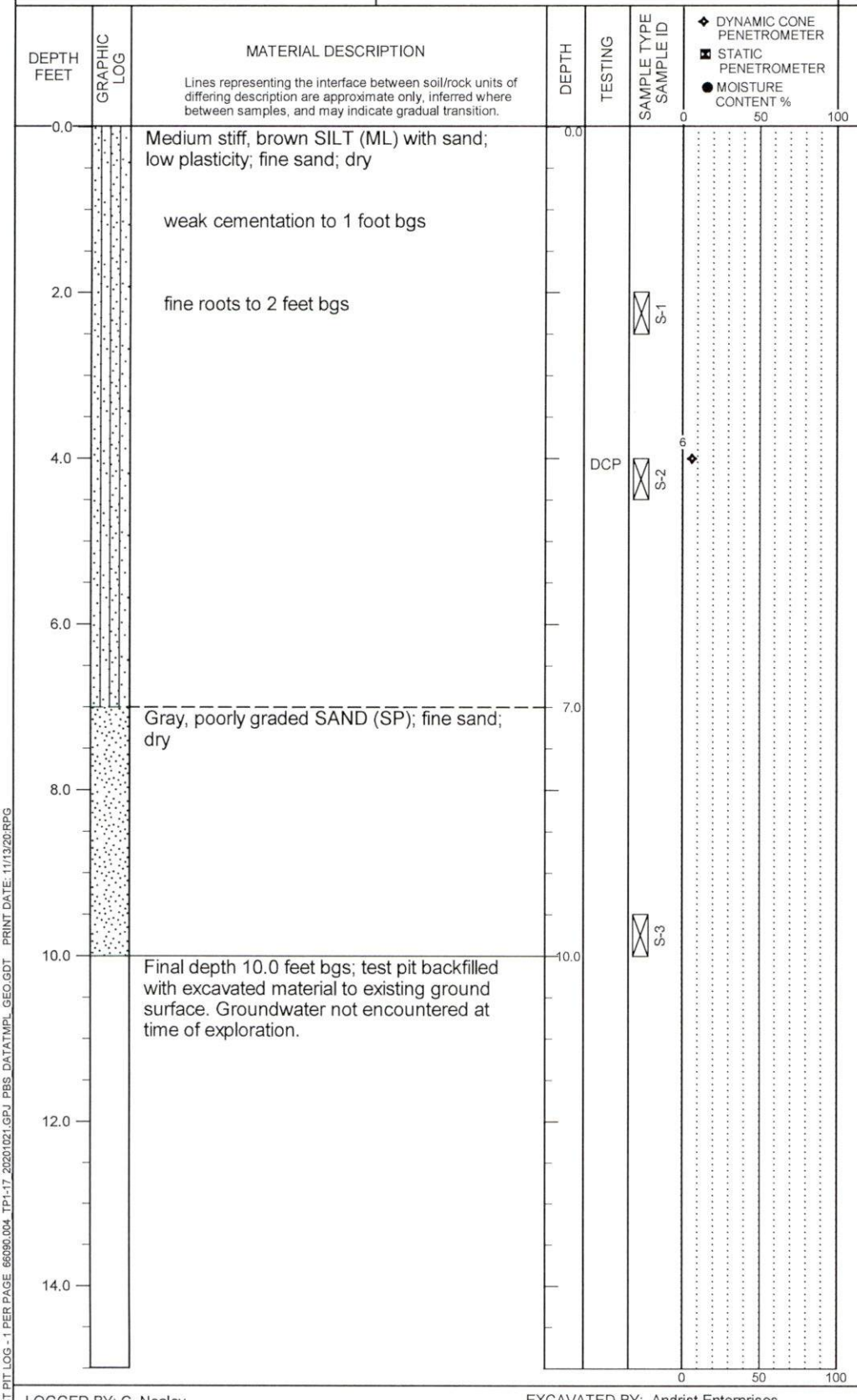
TEST PIT TP-4

APPROX. TEST PIT TP-4 LOCATION:
(See Site Plan)

Lat: 46.18283 Long: -119.11490



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EXCAVATION METHOD: CASE CX130D

FIGURE A4
Page 1 of 1

TEST PIT LOG - 1 PER PAGE 66090.004 TP1-17 20201021.GPJ PBS_DATATMPL_GEO.GDT PRINT DATE: 11/13/20 RPG

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KENNEWICK, WASHINGTON

TEST PIT TP-5

PBS PROJECT NUMBER:
66090.004

APPROX. TEST PIT TP-5 LOCATION:
(See Site Plan)
Lat: 46.18282 Long: -119.11430

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION Lines representing the interface between soil/rock units of differing description are approximate only, inferred where between samples, and may indicate gradual transition.	DEPTH	TESTING	SAMPLE TYPE SAMPLE ID	DYNAMIC CONE PENETROMETER STATIC PENETROMETER MOISTURE CONTENT %	COMMENTS
0.0		Medium stiff, brown SILT (ML) with sand; low plasticity; fine sand; dry	0.0			0 50 100	Surface Conditions: Vineyard
		moderate cementation to 1.5 feet bgs					
2.0		fine roots to 2 feet bgs			S-1		
4.0				DCP	S-2	5	
6.0							
8.0							
10.0							
12.0		Final depth 12.0 feet bgs; test pit backfilled with excavated material to existing ground surface. Groundwater not encountered at time of exploration.	12.0		S-3		
14.0						0 50 100	

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FIGURE A5
Page 1 of 1

TEST PIT LOG - 1 PER PAGE 66090.004 TP1-17 20201021.GPJ PBS_DATATMPL_GEO.GDT PRINT DATE: 11/13/20 RPG

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WEST 27TH AVENUE
KENNEWICK, WASHINGTON

PBS PROJECT NUMBER:
66090.004

TEST PIT TP-6

APPROX. TEST PIT TP-6 LOCATION:
(See Site Plan)
Lat: 46.18324 Long: -119.11456

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH	TESTING	SAMPLE TYPE SAMPLE ID	DYNAMIC CONE PENETROMETER / STATIC PENETROMETER / MOISTURE CONTENT % (0 50 100)	COMMENTS
0.0		Very stiff, brown SILT (ML) with sand; low plasticity; fine sand; dry	0.0				Surface Conditions: Vineyard
		weak cementation to 1.5 feet bgs					
2.0		fine roots to 2 feet bgs			S-1		
4.0					S-2		
6.0							
8.0							
10.0							
12.0		Final depth 12.0 feet bgs; test pit backfilled with excavated material to existing ground surface. Groundwater not encountered at time of exploration.	12.0		S-3		
14.0							

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EXCAVATION METHOD: CASE CX130D

FIGURE A6
Page 1 of 1

TEST PIT LOG - 1 PER PAGE 66090.004 TP1-17 20201021.GPJ PBS_DATATMPL_GEO.GDT PRINT DATE: 11/13/20 RPG

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WEST 27TH AVENUE
KENNEWICK, WASHINGTON

PBS PROJECT NUMBER:
66090.004

TEST PIT TP-7

APPROX. TEST PIT TP-7 LOCATION:
(See Site Plan)
Lat: 46.18356 Long: -119.11486

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH	TESTING	SAMPLE TYPE / SAMPLE ID	DYNAMIC CONE PENETROMETER / STATIC PENETROMETER / MOISTURE CONTENT % (0 50 100)	COMMENTS
0.0		Soft, brown SILT (ML) with sand; low plasticity; fine sand; dry	0.0				Surface Conditions: Vineyard
2.0					S-1		
4.0				DCP	S-2	4	
6.0							
8.0							
10.0							
12.0		Final depth 12.0 feet bgs; test pit backfilled with excavated material to existing ground surface. Groundwater not encountered at time of exploration.	12.0		S-3		
14.0							

Lines representing the interface between soil/rock units of differing description are approximate only, inferred where between samples, and may indicate gradual transition.

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FIGURE A7
Page 1 of 1

TEST PIT LOG - 1 PER PAGE 66090.004_TP1-17_20201021.GPJ PBS_DATATMPL_GEO.GDT PRINT DATE: 11/13/20 RPG

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KENNEWICK, WASHINGTON

PBS PROJECT NUMBER:
66090.004

TEST PIT TP-8

APPROX. TEST PIT TP-8 LOCATION:
(See Site Plan)
Lat: 46.18347 Long: -119.11394

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH	TESTING	SAMPLE TYPE / SAMPLE ID	DYNAMIC CONE PENETROMETER / STATIC PENETROMETER / MOISTURE CONTENT % (0 50 100)	COMMENTS
0.0		Stiff, brown SILT (ML) with sand; low plasticity; fine sand; dry	0.0				Surface Conditions: Vineyard
2.0		fine roots to 2 feet bgs weak cementation to 2.5 feet bgs			S-1		
4.0				DCP	S-2	12	
6.0							
8.0							
10.0							
12.0		Final depth 12.0 feet bgs; test pit backfilled with excavated material to existing ground surface. Groundwater not encountered at time of exploration.	12.0		S-3		
14.0							

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EXCAVATION METHOD: CASE CX130D

FIGURE A8
Page 1 of 1

TEST PIT LOG - 1 PER PAGE 66090.004_TP1-17_20201021.GPJ PBS_DATATMPL_GEO.GDT PRINT DATE: 11/13/20 RPG

PBS

WEST 27TH AVENUE
KENNEWICK, WASHINGTON

PBS PROJECT NUMBER:
66090.004

TEST PIT TP-9

APPROX. TEST PIT TP-9 LOCATION:
(See Site Plan)

Lat: 46.18399 Long: -119.11545

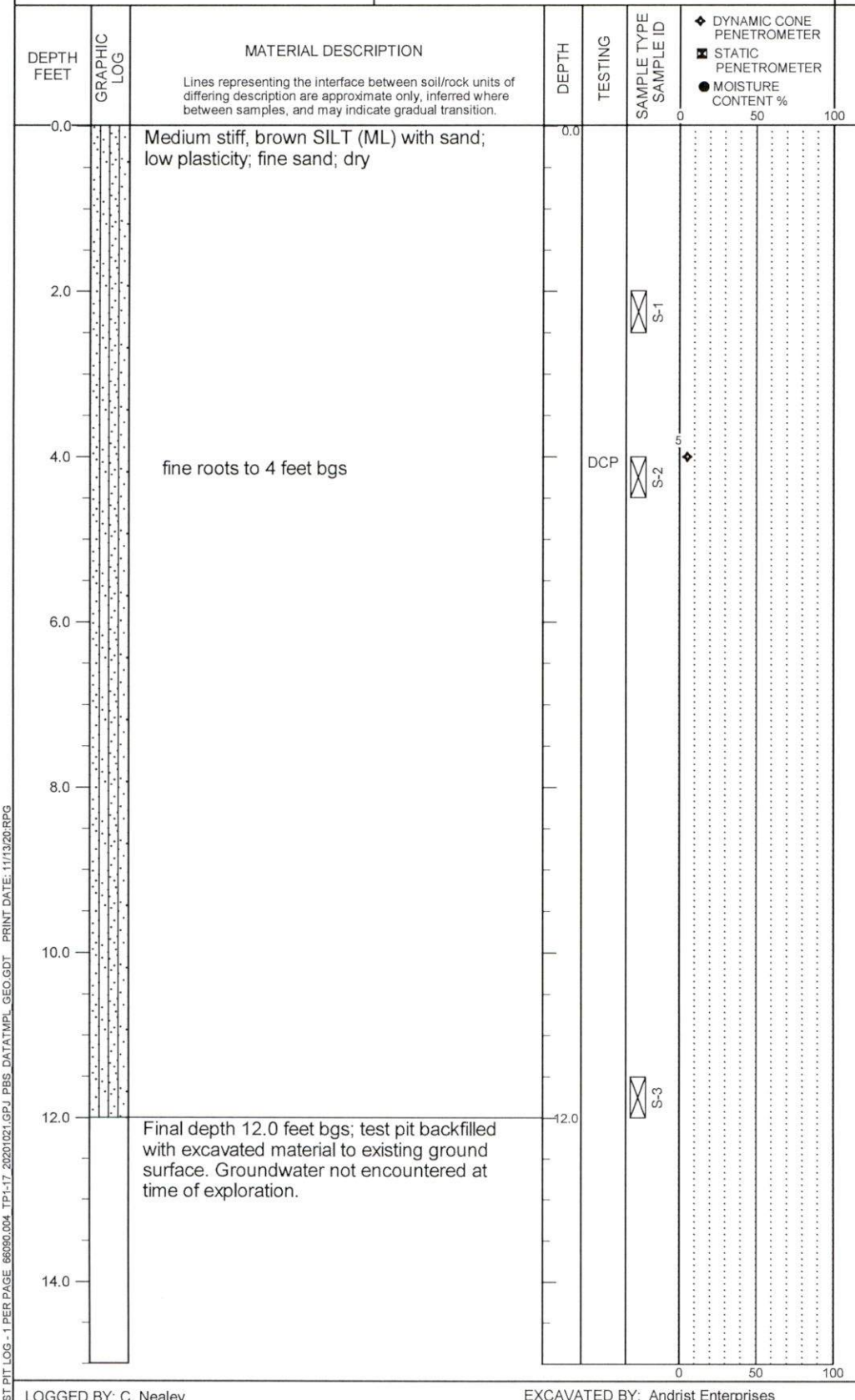

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FIGURE A9
Page 1 of 1

TEST PIT LOG - 1 PER PAGE 66090.004 TP1-17 20201021.GPJ PBS_DATATMPL_GEO.GDT PRINT DATE: 11/13/20 RPG

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WEST 27TH AVENUE
KENNEWICK, WASHINGTON

PBS PROJECT NUMBER:
66090.004

TEST PIT TP-10

APPROX. TEST PIT TP-10 LOCATION:
(See Site Plan)
Lat: 46.18397 Long: -119.11474

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH	TESTING	SAMPLE TYPE SAMPLE ID	DYNAMIC CONE PENETROMETER / STATIC PENETROMETER / MOISTURE CONTENT %	COMMENTS
0.0		Medium stiff, brown SILT (ML) with sand; low plasticity; fine sand; dry	0.0				Surface Conditions: Vineyard
2.0		fine roots to 2 feet bgs; weak cementation			S-1		Buried pipe encountered, nothing inside
4.0				DCP	S-2	7	
6.0							
8.0							
10.0							
12.0		Final depth 12.0 feet bgs; test pit backfilled with excavated material to existing ground surface. Groundwater not encountered at time of exploration.	12.0		S-3		
14.0							

DYNAMIC CONE PENETROMETER
STATIC PENETROMETER
MOISTURE CONTENT %
0 50 100

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FIGURE A10
Page 1 of 1

TEST PIT LOG - 1 PER PAGE 66090.004 TP1-17 20201021.GPJ PBS_DATATMPL_GEO.GDT PRINT DATE: 11/13/20 RPG

PBS

WEST 27TH AVENUE
KENNEWICK, WASHINGTON

PBS PROJECT NUMBER:
66090.004

TEST PIT TP-11

APPROX. TEST PIT TP-11 LOCATION:
(See Site Plan)

Lat: 46.18390 Long: -119.11373

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH	TESTING	SAMPLE TYPE / SAMPLE ID	DYNAMIC CONE PENETROMETER / STATIC PENETROMETER / MOISTURE CONTENT %	COMMENTS
0.0		Stiff, brown SILT (ML) with sand; low plasticity; fine sand; dry	0.0				Surface Conditions: Vineyard
		fine roots to 1.5 feet bgs					
2.0		weak cementation to 2 feet bgs			S-1		
4.0				DCP	S-2	12	
6.0							
8.0							
10.0							
12.0		Final depth 12.0 feet bgs; test pit backfilled with excavated material to existing ground surface. Groundwater not encountered at time of exploration.	12.0				
14.0							

Lines representing the interface between soil/rock units of differing description are approximate only, inferred where between samples, and may indicate gradual transition.

0 50 100

0 50 100

LOGGED BY: C. Nealey
COMPLETED: 10/08/2020

EXCAVATED BY: Andrist Enterprises
EXCAVATION METHOD: CASE CX130D

FIGURE A11
Page 1 of 1

TEST PIT LOG - 1 PER PAGE 66090.004 TP1-17 20201021.GPJ PBS_DATATMPL_GEO.GDT PRINT DATE: 11/13/20 RPG

PBS

WEST 27TH AVENUE
KENNEWICK, WASHINGTON

PBS PROJECT NUMBER:
66090.004

TEST PIT TP-12

APPROX. TEST PIT TP-12 LOCATION:
(See Site Plan)
Lat: 46.18451 Long: -119.11514

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH	TESTING	SAMPLE TYPE SAMPLE ID	DYNAMIC CONE PENETROMETER / STATIC PENETROMETER / MOISTURE CONTENT %	COMMENTS
0.0		Soft, brown SILT (ML) with sand; low plasticity; fine sand; dry	0.0				Surface Conditions: Vineyard
2.0		weak cementation to 2.5 feet bgs fine roots to 3 feet bgs			S-1		
4.0				DCP	S-2	4	
6.0							
8.0							
10.0							
12.0		Final depth 12.0 feet bgs; test pit backfilled with excavated material to existing ground surface. Groundwater not encountered at time of exploration.	12.0		S-3		
14.0							

Lines representing the interface between soil/rock units of differing description are approximate only, inferred where between samples, and may indicate gradual transition.

0 50 100

LOGGED BY: C. Nealey
COMPLETED: 10/08/2020

EXCAVATED BY: Andrist Enterprises
EXCAVATION METHOD: CASE CX130D

FIGURE A12
Page 1 of 1

TEST PIT LOG - 1 PER PAGE 66090.004_TP1-17_20201021.GPJ PBS_DATATMPL_GEO.GDT PRINT DATE: 11/13/20 RPG

PBS

WEST 27TH AVENUE
KENNEWICK, WASHINGTON

PBS PROJECT NUMBER:
66090.004

TEST PIT TP-13

APPROX. TEST PIT TP-13 LOCATION:
(See Site Plan)
Lat: 46.18450 Long: -119.11369

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH	TESTING	SAMPLE TYPE SAMPLE ID	DYNAMIC CONE PENETROMETER / STATIC PENETROMETER / MOISTURE CONTENT %	COMMENTS
0.0		Very stiff, brown SILT (ML) with sand; low plasticity; fine sand; dry	0.0				Surface Conditions: Vineyard
		weak cementation to 1.5 feet bgs			S-1		
2.0							
4.0				P200 DCP	S-2	28	Infiltration testing completed at 4 feet bgs P200 = 88%
6.0							
8.0							
		Gray, poorly graded SAND (SP); fine sand; dry	9.0				
10.0					S-3		
		Final depth 11.0 feet bgs; test pit backfilled with excavated material to existing ground surface. Groundwater not encountered at time of exploration.	11.0				
12.0							
14.0							

0 50 100

LOGGED BY: C. Nealey
COMPLETED: 10/08/2020

EXCAVATED BY: Andrist Enterprises
EXCAVATION METHOD: CASE CX130D

FIGURE A13
Page 1 of 1

TEST PIT LOG - 1 PER PAGE 66090.004_TP1-17_20201021.GPJ PBS_DATATMPL_GEO.GDT PRINT DATE: 11/13/20 RPG

PBS

WEST 27TH AVENUE
KENNEWICK, WASHINGTON

PBS PROJECT NUMBER:
66090.004

TEST PIT TP-14

APPROX. TEST PIT TP-14 LOCATION:
(See Site Plan)
Lat: 46.18493 Long: -119.11562

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH	TESTING	SAMPLE TYPE / SAMPLE ID	DYNAMIC CONE PENETROMETER / STATIC PENETROMETER / MOISTURE CONTENT %	COMMENTS
0.0		Medium stiff, brown SILT (ML) with sand; low plasticity; fine sand; dry	0.0				Surface Conditions: Vineyard
		fine roots to 1.5 feet bgs			S-1		
4.0				DCP	S-2	7	
12.0					S-3		
13.0		Final depth 13.0 feet bgs; test pit backfilled with excavated material to existing ground surface. Groundwater not encountered at time of exploration.	13.0				

0 50 100

LOGGED BY: C. Nealey
COMPLETED: 10/08/2020

EXCAVATED BY: Andrist Enterprises
EXCAVATION METHOD: CASE CX130D

FIGURE A14
Page 1 of 1

TEST PIT LOG - 1 PER PAGE 66090.004 TP1-17 20201021.GPJ PBS_DATATMPL_GEO.GDT PRINT DATE: 11/13/20 RPG

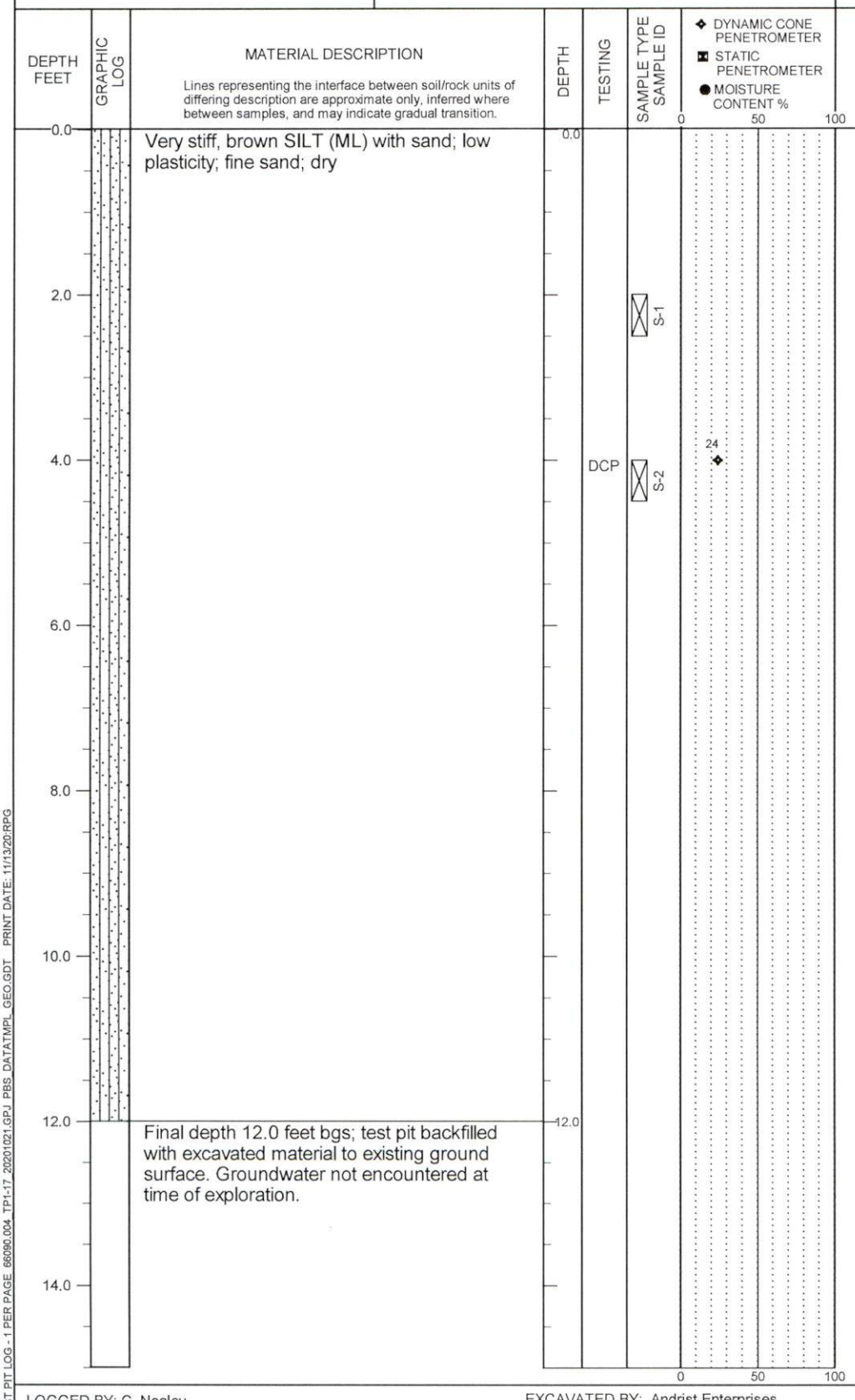
PBS

WEST 27TH AVENUE
KENNEWICK, WASHINGTON

PBS PROJECT NUMBER:
66090.004

TEST PIT TP-15

APPROX. TEST PIT TP-15 LOCATION:
(See Site Plan)
Lat: 46.18487 Long: -119.11471



LOGGED BY: C. Nealey
COMPLETED: 10/08/2020

EXCAVATED BY: Andrist Enterprises
EXCAVATION METHOD: CASE CX130D

FIGURE A15
Page 1 of 1

TEST PIT LOG - 1 PER PAGE 66090.004 TP1-17 20201021.GPJ PBS_DATATMPL_GEO.GDT PRINT DATE: 11/13/20 RPG

PBS

WEST 27TH AVENUE
KENNEWICK, WASHINGTON

PBS PROJECT NUMBER:
66090.004

TEST PIT TP-16

APPROX. TEST PIT TP-16 LOCATION:
(See Site Plan)
Lat: 46.18477 Long: -119.11299

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH	TESTING	SAMPLE TYPE SAMPLE ID	DYNAMIC CONE PENETROMETER / STATIC PENETROMETER / MOISTURE CONTENT %	COMMENTS
		Lines representing the interface between soil/rock units of differing description are approximate only, inferred where between samples, and may indicate gradual transition.				0 50 100	Surface Conditions: Vineyard
0.0		Medium stiff, brown SILT (ML) with sand; low plasticity; fine sand; dry	0.0				
2.0		weak cementation to 2 feet bgs			S-1		
4.0				DCP	S-2	32	
6.0							
8.0							
10.0							
		Gray, poorly graded SAND (SP); fine sand; dry	11.0		S-3		
12.0		Final depth 12.0 feet bgs; test pit backfilled with excavated material to existing ground surface. Groundwater not encountered at time of exploration.	12.0				
14.0							

0 50 100

LOGGED BY: C. Nealey
COMPLETED: 10/08/2020

EXCAVATED BY: Andrist Enterprises
EXCAVATION METHOD: CASE CX130D

FIGURE A16
Page 1 of 1

TEST PIT LOG - 1 PER PAGE 66090.004 TP1-17 20201021.GPJ PBS_DATATMPL_GEO.GDT PRINT DATE: 11/13/20 RPG

PBS

WEST 27TH AVENUE
KENNEWICK, WASHINGTON

TEST PIT TP-17

PBS PROJECT NUMBER:
66090.004

APPROX. TEST PIT TP-17 LOCATION:
(See Site Plan)
Lat: 46.18529 Long: -119.11370

DEPTH FEET	GRAPHIC LOG	MATERIAL DESCRIPTION	DEPTH	TESTING	SAMPLE TYPE SAMPLE ID	DYNAMIC CONE PENETROMETER / STATIC PENETROMETER / MOISTURE CONTENT % (0 50 100)	COMMENTS
0.0		Hard, brown SILT (ML) with sand; low plasticity; fine sand; dry	0.0				Surface Conditions: Vineyard
2.0					S-1		
4.0		fine roots to 4 feet bgs		DCP	S-2	45	
6.0							
8.0							
10.0							
12.0		Final depth 12.0 feet bgs; test pit backfilled with excavated material to existing ground surface. Groundwater not encountered at time of exploration.	12.0		S-3		
14.0							

0 50 100

LOGGED BY: C. Nealey
COMPLETED: 10/08/2020

EXCAVATED BY: Andrist Enterprises
EXCAVATION METHOD: CASE CX130D

FIGURE A17
Page 1 of 1

TEST PIT LOG - 1 PER PAGE 66090.004 TP1-17 20201021.GPJ PBS_DATATMPL_GEO.GDT PRINT DATE: 11/13/20 RPG

Appendix B
Laboratory Testing

Appendix B: Laboratory Testing

B1 GENERAL

Samples obtained during the field explorations were examined in the PBS laboratory. The physical characteristics of the samples were noted and field classifications were modified where necessary. During the course of examination, representative samples were selected for further testing. The testing program for the soil samples included standard classification tests, which yield certain index properties of the soils important to an evaluation of soil behavior. The testing procedures are described in the following paragraphs. Unless noted otherwise, all test procedures are in general accordance with applicable ASTM standards. "General accordance" means that certain local and common descriptive practices and methodologies have been followed.

B2 CLASSIFICATION TESTS

B2.1 Visual Classification

The soils were classified in accordance with the Unified Soil Classification System with certain other terminology, such as the relative density or consistency of the soil deposits, in general accordance with engineering practice. In determining the soil type (that is, gravel, sand, silt, or clay) the term that best described the major portion of the sample is used. Modifying terminology to further describe the samples is defined in Table A-1, Terminology Used to Describe Soil, in Appendix A.

B2.2 Moisture (Water) Contents

Natural moisture content determinations were made on samples of the fine-grained soils (that is, silts, clays, and silty sands). The natural moisture content is defined as the ratio of the weight of water to dry weight of soil, expressed as a percentage. The results of the moisture content determinations are presented on the exploration logs in Appendix A and on Figure B1, Summary of Laboratory Data, in Appendix B.

B2.4 Grain-Size Analyses (P200 Wash)

Washed sieve analyses (P200) were completed on samples to determine the portion of soil samples passing the No. 200 Sieve (i.e., silt and clay). The results of the P200 test results are presented on the exploration logs in Appendix A and on Figure B1, Summary of Laboratory Data, in Appendix B.

PBS

SUMMARY OF LABORATORY DATA

WEST 27TH AVENUE
KENNEWICK, WASHINGTON

PBS PROJECT NUMBER:
66090.004

SAMPLE INFORMATION				MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	SIEVE			ATTERBERG LIMITS		
EXPLORATION NUMBER	SAMPLE NUMBER	SAMPLE DEPTH (FEET)	ELEVATION (FEET)			GRAVEL (PERCENT)	SAND (PERCENT)	P200 (PERCENT)	LIQUID LIMIT (PERCENT)	PLASTIC LIMIT (PERCENT)	PLASTICITY INDEX (PERCENT)
TP-3	S-2	4	282.0	2.1				76			
TP-13	S-2	4	304.0	3.1				88			

FIGURE B1
Page 1 of 1

March 5, 2021

PCM 1.8

Matt Smith
Tri-Cities Development Co. LLC
15 SW Colorado Avenue, Suite 1
Bend, Oregon 97702

Via email: matt@wspi.net

Regarding: Trip Generation and Distribution Letter
Highland Vineyards
109 E 27th Avenue
Kennewick, Washington 99337
PBS Project 66090.004

Dear Mr. Smith:

This trip generation and distribution letter supports the preliminary plat application for the Highland Vineyards project in Benton County, Washington. The site lies within the City of Kennewick (City) urban growth area, and this letter addresses City guidelines for a Level 2 Trip Generation and Distribution Letter.

PROJECT DESCRIPTION

The site is in Sections 7 and 18, Township 8 North, Range 30 East, Willamette Meridian. Figure 1 presents a vicinity map. The site comprises four tax lots (1-0780-300-0039-001, 1-1880-201-0466-002, 1-1880-201-0466-003, and 1-1880-201-0466-004) totaling 16.86 acres; one tax lot has an address assigned as 109 E 27th Avenue.

The project proposes dividing the site into a 60-lot single-family subdivision. The project will be built in two phases with the first phase being the portion of the site north of E 27th Avenue and the second phase being the portion that is south of E 27th Avenue. This letter assumes approximately one phase per year, with buildout estimated to be complete by the end of 2023. Figure 2 presents a site map.

The following intersections are identified for trip assignments:

1. S Washington Street / E 27th Avenue
2. S Gum Street / E 27th Avenue

TRIP GENERATION AND DISTRIBUTION

Proposed Trip Generation

The trips generated by the site are based on the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 10th Edition (2017), treating the Highland Vineyards development as "Single-Family Detached Housing," ITE Land Use Code 210, with 60 dwelling units as the independent variable. Trip generation is calculated using the datasets for the peak hours of the adjacent streets and, following ITE guidelines, using the ITE regression equations. The results are summarized in Table 1, and the calculation details are provided in Appendix A.

Table 1. Trip Generation Estimates for Highland Vineyards

Land Use (ITE Code)	Single-Family Detached Housing (210)	
Dwelling Units	60	
Total Average Weekday Trips (ADT)	650	
Peak Hour	**AM**	**PM**
Entering	12	39
Exiting	35	23
Total Trips	47	62

The proposed Highland Vineyards project will generate 650 new trips on an average weekday, including 47 new trips in the AM peak hour, and 62 new trips in the PM peak hour.

Proposed Trip Distribution

The proposed distribution of new trips is based on the Benton Franklin Council of Governments (BFCG) travel demand model. Copies of the model outputs are attached in Appendix B. Site-generated trips are estimated to distribute as follows:

- 75% to or from the west on 27th Avenue, west of the site
  - 30% to and from W 27th Avenue, west of S Washington Street
  - 45% to and from S Washington Street, north of W 27th Avenue
- 25% to or from the east on 27th Avenue, east of the site
  - 5% to and from E 27th Avenue, east of S Gum Street
  - 20% to and from S Gum Street, north of E 27th Avenue

The distribution pattern above represents an external distribution of the new trips entering and exiting the study area. The distribution and assignment of the project's new trips are shown on Figure 3.

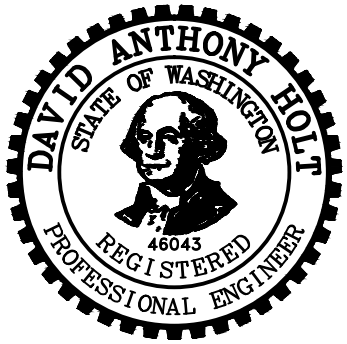
CLOSING

Please feel free to contact me at 360.567.2123 or david.holt@pbsusa.com with any questions or comments.

Sincerely,

David Holt

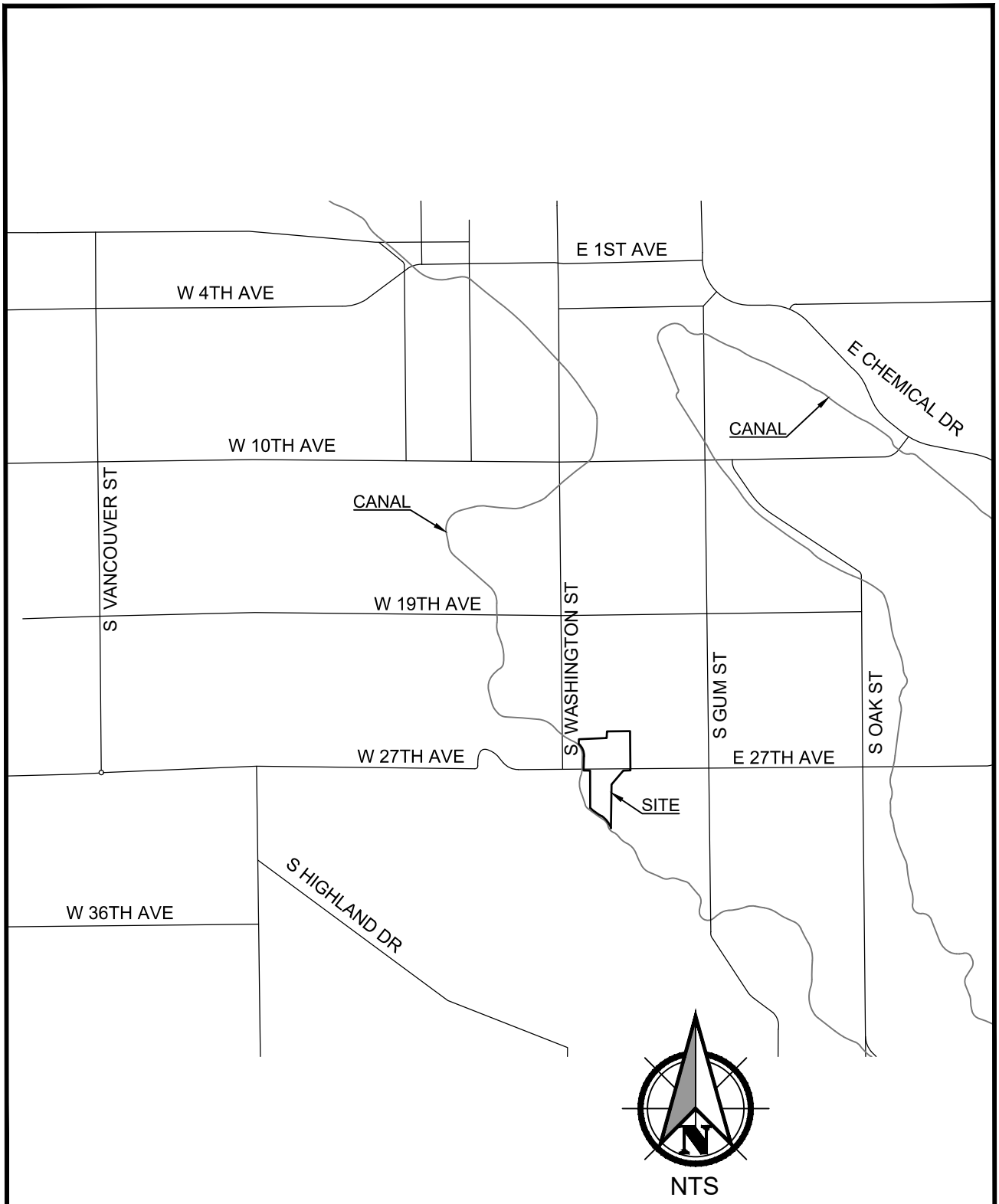
David Holt, PE
Project Traffic Engineer



cc: Jason Mattox and Anne Marie Skinner, PBS Engineering and Environmental Inc.

Attachments: Figures – 1. Vicinity Map 2. Site Plan 3. Trip Distribution and Assignment
Appendices – A. Trip Generation Calculations and B. BFCG Travel Demand Model Outputs

BJ:JRP:DAH:mo



Vicinity Map
Highland Vineyards

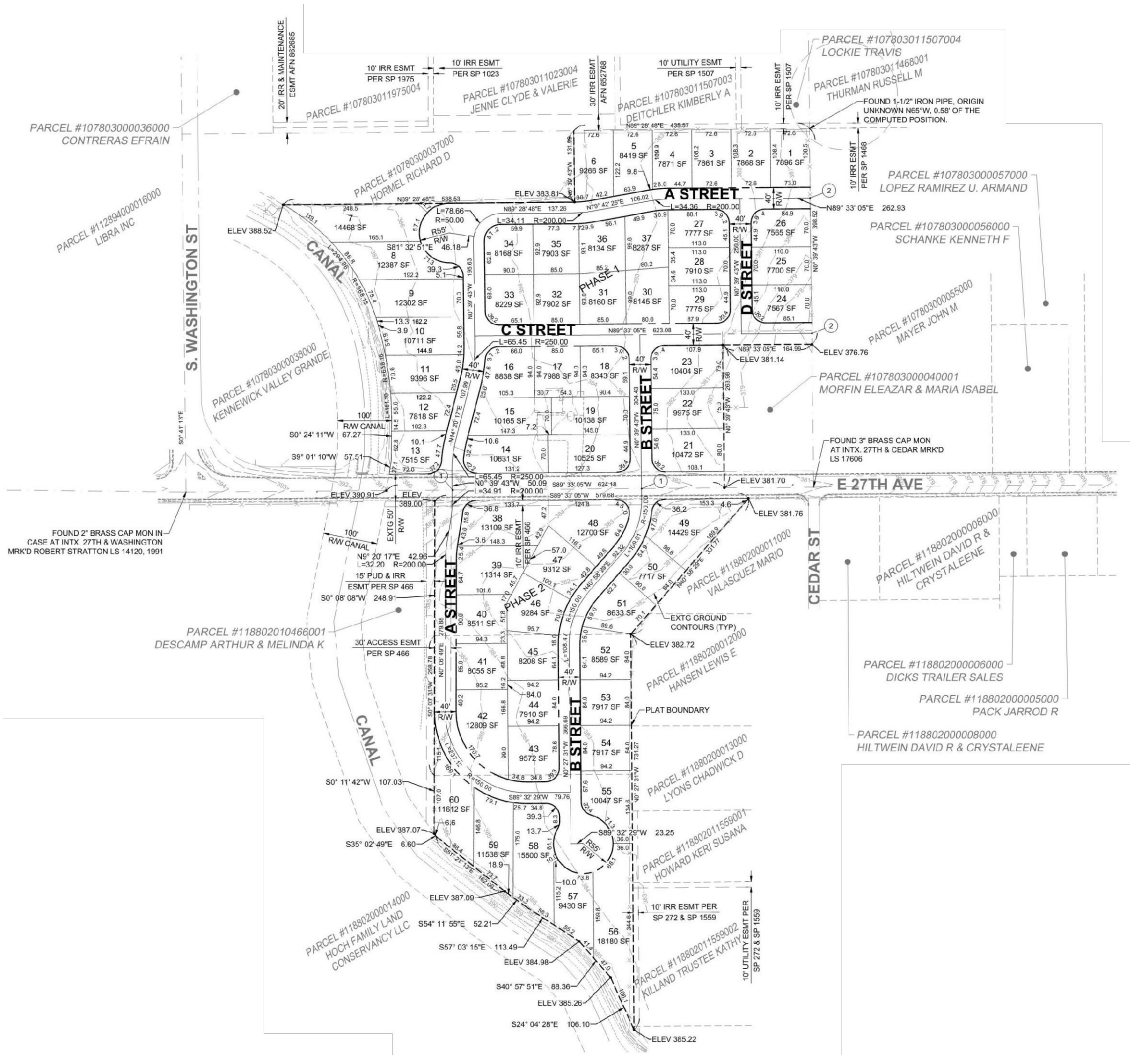
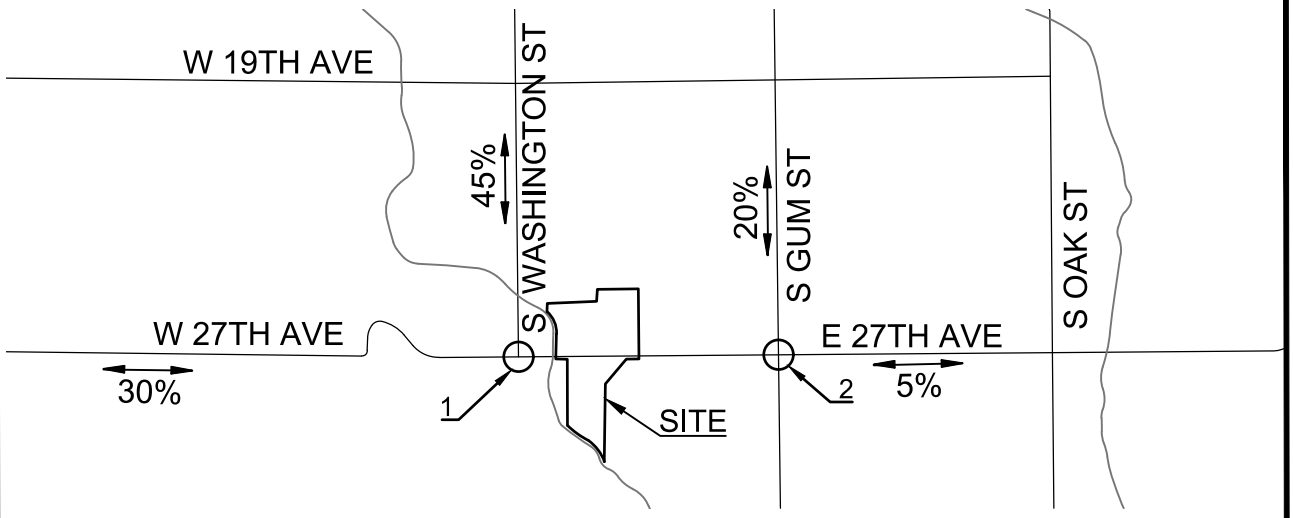
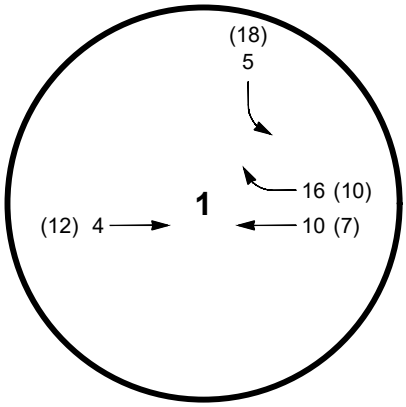


FIGURE 2

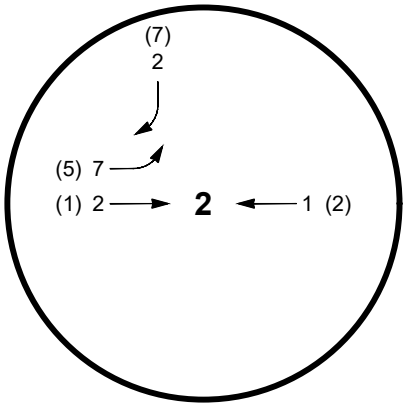
Site Plan

Highland Vineyards

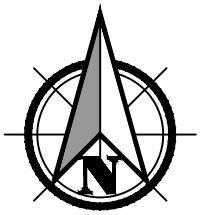




S Washington St /
27th Ave



S Gum St /
E 27th Ave



NTS

WEEKDAY AM PEAK HOUR TRIPS
ENTER = 12
EXIT = 35
TOTAL =47

WEEKDAY PM PEAK HOUR TRIPS
ENTER = 39
EXIT = 23
TOTAL = 62

LEGEND

○	INTERSECTION
XXX	AM PEAK HOUR
(XXX)	PM PEAK HOUR

FIGURE 3

Trip Distribution and Assignment

Highland Vineyards

Appendix A
Trip Generation Calculations

Detailed Land Use Data

For 60 Dwelling Units of SFHOUSE 1

(210) Single-Family Detached Housing

Open Date: 2/9/2021

Project: Highland Vineyards

Analysis Date: 2/9/2021

Day / Period	Total Trips	Pass-By Trips	Avg Rate	Min Rate	Max Rate	Std Dev	Avg Size	% Enter	% Exit	Use Eq.	Equation	R2
Weekday Average Daily Trips	650	0	9.44	4.81	19.39	2.1	264	50	50	True	Ln(T) = 0.92 Ln(X) + 2.71	0.95
Source : Trip Generation Manual 10th Edition												
Weekday AM Peak Hour of Adjacent Street Traffic	47	0	0.74	0.33	2.27	0.27	219	25	75	True	T = 0.71(X) + 4.8	0.89
Source : Trip Generation Manual 10th Edition												
Weekday PM Peak Hour of Adjacent Street Traffic	62	0	0.99	0.44	2.98	0.31	242	63	37	True	Ln(T) = 0.96 Ln(X) + 0.2	0.92
Source : Trip Generation Manual 10th Edition												

Trip Generation Summary

Alternative: Alternative 1
Phase:
Project: Highland Vineyards

Open Date: 2/9/2021
Analysis Date: 2/9/2021

ITE	Land Use		Weekday Average Daily Trips *	Enter	Exit	Total	Weekday AM Peak Hour of Adjacent Street Traffic *	Enter	Exit	Total	Weekday PM Peak Hour of Adjacent Street Traffic *	Enter	Exit	Total
210	SFHOUSE 1			325	325	650		12	35	47		39	23	62
	60	Dwelling Units												
Unadjusted Volume				325	325	650		12	35	47		39	23	62
Internal Capture Trips				0	0	0		0	0	0		0	0	0
Pass-By Trips				0	0	0		0	0	0		0	0	0
Volume Added to Adjacent Streets				325	325	650		12	35	47		39	23	62

Total Weekday Average Daily Trips Internal Capture = 0 Percent
Total Weekday AM Peak Hour of Adjacent Street Traffic Internal Capture = 0 Percent
Total Weekday PM Peak Hour of Adjacent Street Traffic Internal Capture = 0 Percent

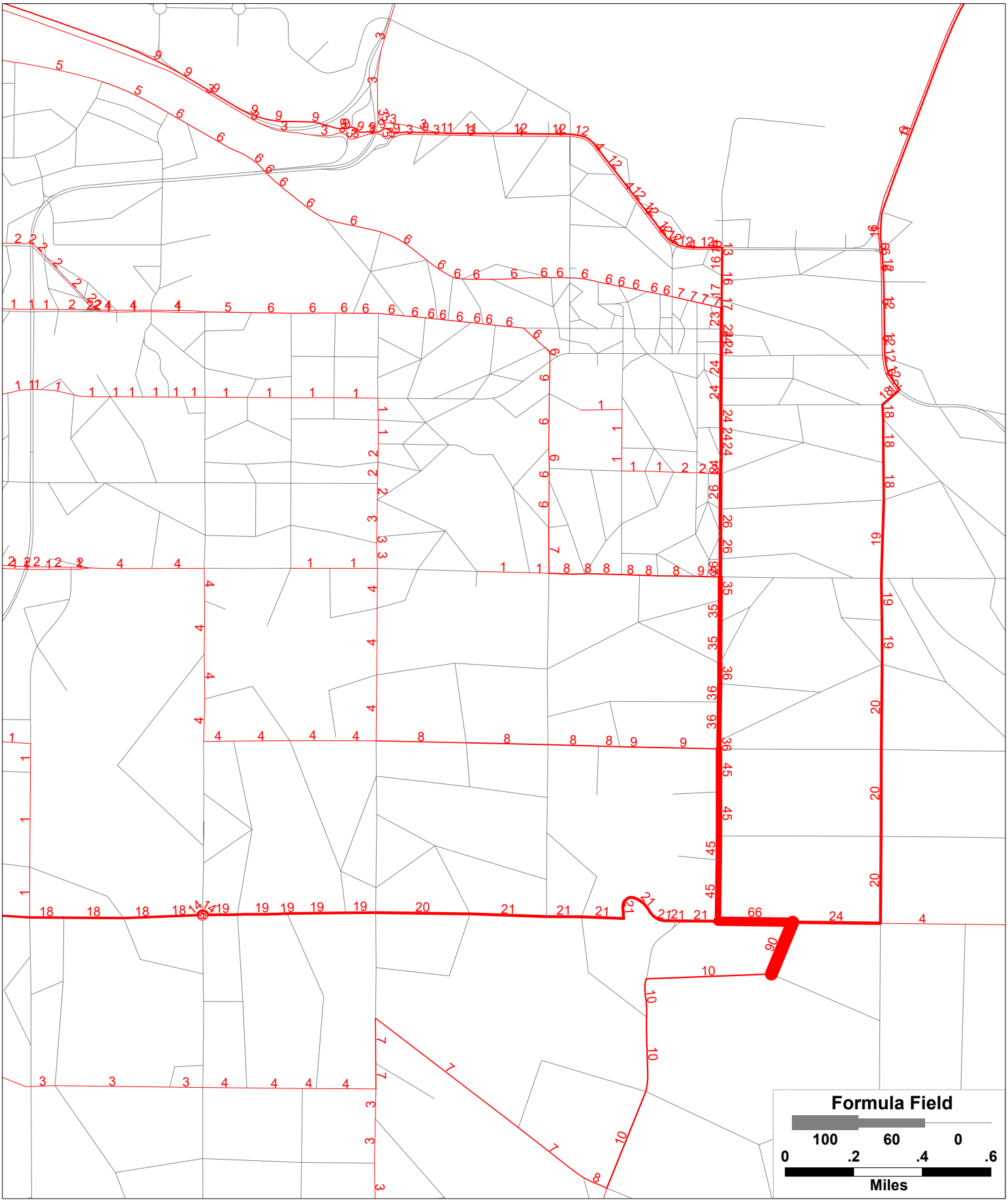
* - Custom rate used for selected time period.

Source: Institute of Transportation Engineers, Trip Generation Manual 10th Edition

Appendix B

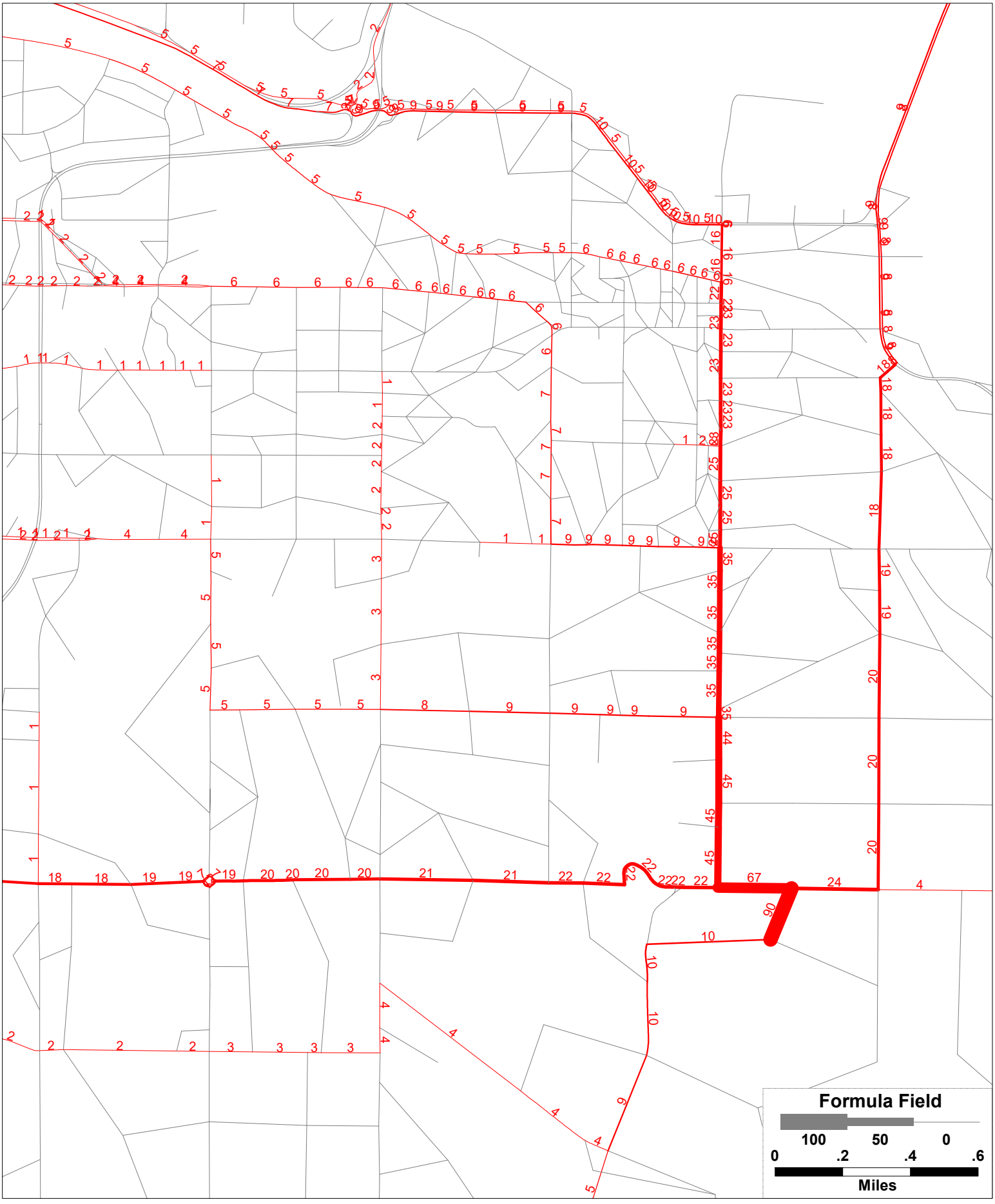
BFCG Travel Demand Model Outputs

2040 Distribution
AM Peak Hour



Note: Numbers represent percentages.

2040 Distribution
PM Peak Hour



Note: Numbers represent percentages.

RECEIVED
FEB 11 2021
Benton Co. Planning Dept.

EA 2020-007 Checklist

A. Background

1. Name of proposed project, if applicable: *Highland Vineyards*

2. Name of applicant: *R.J. Hoch and Diane C. Hoch*

3. Address and phone number of applicant and contact person:
R.J. and Diane C. Hoch, 2921 S Auburn Place, Kennewick, WA 99337
Contact: Jason Mattox, PBS Engineering, 400 Bradley Blvd, Ste 106 Richland, WA 99352; 509.942.1600
jason.mattox@pbsusa.com

4. Date checklist prepared: *December 16, 2020*

5. Agency requesting checklist: *Benton County, Washington Planning Department*

6. Proposed timing or schedule (including phasing, if applicable):
60 lots developed in 2 phases to begin immediately upon approvals

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.
No.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.
A geotechnical engineering report has been prepared. An engineered stormwater plan and grading plan will be fully developed with the civil engineering construction drawings for the subdivision.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.
There are no additional applications pending on the property at this time beyond the proposed preliminary plat application.

10. List any government approvals or permits that will be needed for your proposal, if known.
Preliminary and final plat approvals will be needed, along with approval of the final engineering plans. Building permits will be needed for construction of the dwellings and any other structures. Benton County will review, approve, and issue these approvals and permits.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)
The proposed subdivision will divide approximately 17 acres into 60 lots for the future construction of detached single-family dwellings. The project will include provisions for public streets, water, sewer, storm, and utilities within the development.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The project lies approximately 400 feet east of the intersection of S Washington Street and E 27th Avenue. The project is located in Sections 7 and 18, Township 8 North, Range 30 East, W.M. The project comprises 4 tax lots. 3 of the 4 tax lots are unaddressed; the 4th has an address of 107 E 27th Ave, Kennewick, WA 99337. The addressed tax lot is adjacent to the north of E 27th Avenue, while the other 3 tax lots are south of E 27th Avenue. See attached preliminary plat for additional location information and project configuration.

B. Environmental Elements

1. Earth

a. General description of the site:

(circle one): Flat, rolling, hilly, steep slopes, mountainous, other *Sloping gently to the east*

b. What is the steepest slope on the site (approximate percent slope)?

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

The geotechical engineering report prepared by PBS summarizes the subsurface units as Silt and Sand. The site has been operating as a vineyard and contains grape vines, which will be removed. The County's GIS Soils Map lists the soils as Scooteney-Kennewick (s8381). NRCS lists the site with Warden Silt Loam

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

*The County's GIS Geologically Hazardous Areas Map shows the site does **not** contain any historic landslide area, steep slope 15% area, or erosion hazard area. No known history of unstable soils.*

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

The project will seek to regrade the entire site to establish lots for dwellings. The project does not propose to import any off-site sources of fill material. All plans will be prepared under the direction of a licensed engineer.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Potential erosion, both wind-blown and runoff, is possible as a result of construction and will be handled with a temporary erosion control plan.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? *Approximately 35% of the site will be covered with impervious surfaces upon project completion. This will consist of City streets, sidewalks, and dwellings.*

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

During construction, erosion control measures will be implemented to include person-operated watering

devices, silt fences, and rocked construction entrances. Street sweeping may be necessary on an as-needed basis. After project completion, the site would be stabilized with landscaping from single-family development.

2. AIR

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

During construction, there will be exhaust emissions from construction equipment as well as dust. After project completion, there would be normal air emissions resulting from a residential neighborhood.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

There are no known off-site sources of emissions or odor that may affect this proposal, to the applicant's knowledge.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

During construction, emissions will be limited to working hours and dust will be controlled by person-operated watering devices.

3. WATER

a. Surface Water:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

There are no surface water bodies on the site. Portions of the site are adjacent to the Columbia Irrigation District Canal.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

The project will require the extension of a City waterline in 27th Avenue that will need to cross the canal at an existing culvert/bridge structure.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

No fill and dredge material would be placed in or removed from surface water or wetlands.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No, the proposal will not require surface water withdrawals or diversions.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

No, the proposal does not lie within a 100-year floodplain.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
No, the proposal does not involve any discharges of waste materials to surface waters.

b. Ground Water:

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.
No groundwater will be withdrawn from the development of the project. No water will be directly discharged to the groundwater with the project.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.
No waste materials will be discharged into the ground with the development of the project.

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Water will be collected within the roadway prism and disposed of via subsurface methods in an engineered stormwater system that is compliant with City of Kennewick standards and those of the Eastern Washington Stormwater Manual.

2) Could waste materials enter ground or surface waters? If so, generally describe.
It is not anticipated that this will occur since waste materials are not allowed to be discharged to City of Kennewick owned and maintained storm systems.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.
The proposal will alter the existing drainage patterns on the site since existing drainages will be filled and runoff waters diverted to engineered stormwater retention areas.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:
The stormwater disposal methods will be in compliance with the City of Kennewick standards as well as the Department of Ecology Stormwater Management Manual for Eastern Washington.

4. PLANTS

a. Check the types of vegetation found on the site:

_XX_ deciduous tree: alder, maple, aspen, other
____ evergreen tree: fir, cedar, pine, other
_XX_ shrubs
_XX_ grass
____ pasture
____ crop or grain
_XX_ Orchards, vineyards or other permanent crops.
____ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
____ water plants: water lily, eelgrass, milfoil, other
____ other types of vegetation

b. What kind and amount of vegetation will be removed or altered?
Existing vegetation of all trees, shrubs, grass, and grape vines will all be removed.

c. List threatened and endangered species known to be on or near the site.
None, to the applicant's knowledge.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:
The single-family residential lots will be landscaped with vegetation typical of detached dwellings to include trees, grass, and shrubs.

e. List all noxious weeds and invasive species known to be on or near the site.
None, to the applicant's knowledge.

5. ANIMALS

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site.
Examples include:

birds: hawk, heron, eagle, songbirds, other:
mammals: deer, bear, elk, beaver, other: ***Townsend's Ground Squirrel***
fish: bass, salmon, trout, herring, shellfish, other _____

b. List any threatened and endangered species known to be on or near the site.
Townsend's Ground Squirrel is listed as having been observed in the generalized location and is listed as "sensitive" in the Priority Habitats and Species web mapping (location is generalized to Township or Section, according to the website). There are no threatened or endangered species known to be on or near the site, based on the mentioned website, nor to the applicant's knowledge.

c. Is the site part of a migration route? If so, explain.
Yes, Canada Geese and ducks are known to migrate through the Columbia Basin.

d. Proposed measures to preserve or enhance wildlife, if any:
None.

e. List any invasive animal species known to be on or near the site.
None, to the applicant's knowledge.

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.
The project will require the use of electricity and natural gas for the houses.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.
The project will not affect the potential use of solar energy by adjacent properties, to the applicant's knowledge.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:
The houses will be constructed in accordance with applicable building and energy codes.

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

There are no recognized toxic health hazards associated with single-family houses.

1) Describe any known or possible contamination at the site from present or past uses.

There are no known or possible contamination sources identified from past uses, to the applicant's knowledge.

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

There are no existing hazardous chemicals/conditions or gas pipelines that might affect the project development and design.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

No storage, use, or production of toxic or hazardous chemicals is being proposed.

4) Describe special emergency services that might be required.

No special emergency services would be needed to deal with environmental concerns.

5) Proposed measures to reduce or control environmental health hazards, if any:
None proposed.

B. NOISE

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?
There are no known sources of noise that would directly affect the proposal.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.
In the short-term, there will be noise present with construction, and in the long-term, there will be noise associated with vehicles entering and leaving the site's houses upon project completion.

3) Proposed measures to reduce or control noise impacts, if any:
Construction hours limited to working hours defined by Benton County, Washington.

8. LAND AND SHORELINE USE

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.
The current use of the land is as a vineyard. Surrounding properties are single-famiily residential, with one property to the west being utilized as Kennewick Valley Grange.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?
The site is currently in use as a vineyard and contains grape vines. The entire site will be converted to single-family residential dwellings, and all grape vines will be removed.

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:
There are no surrounding working farm or forest land business operations. The proposal would not affect, or be affected by, surrounding working farm or forest land business operations to the applicant's knowledge.

c. Describe any structures on the site.
There is an existing commercial building on the northern tax lot.

d. Will any structures be demolished? If so, what?
All structures on the site will be demolished.

e. What is the current zoning classification of the site?

Current zoning classification is UGAR Urban Growth Area Residential.

f. What is the current comprehensive plan designation of the site?

Current comprehensive plan designation is Urban in the UGA jurisdiction.

g. If applicable, what is the current shoreline master program designation of the site?

The site is not part of the current shoreline master program to the applicant's knowledge.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

The site has not been classified as a critical area by the city or county to the applicant's knowledge.

i. Approximately how many people would reside or work in the completed project?

Approximately 164 people would reside in the completed project.

j. Approximately how many people would the completed project displace?

No one will be displaced since the site does not contain any dwellings.

k. Proposed measures to avoid or reduce displacement impacts, if any:

None proposed.

L. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

The project will be built in accordance with Benton County zoning UGAR zoning requirements.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

The project does not seek to alter nearby agricultural and forest lands.

9. HOUSING

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

60 detached single-family dwellings are proposed.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

No housing units will be eliminated.

c. Proposed measures to reduce or control housing impacts, if any:

Housing impacts will be controlled by the underlying UGAR zoning codes enforced by Benton County.

10. AESTHETICS

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The tallest height of any dwelling would be 30 feet.

b. What views in the immediate vicinity would be altered or obstructed?

Views in the immediate area would be altered by new rooftops.

c. Proposed measures to reduce or control aesthetic impacts, if any:

Aesthetic impacts will be controlled by the Benton County zoning code for the UGAR designation.

11. LIGHT AND GLARE

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

The proposed project would produce light from the residential street lights installed with the project and exterior light fixtures placed on the dwellings.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

Not to the applicant's knowledge.

c. What existing off-site sources of light or glare may affect your proposal?

None, to the applicant's knowledge

d. Proposed measures to reduce or control light and glare impacts, if any:

All lighting will be directed downward.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Eastside Equestrian Center is approximately 800 feet west of the site, on the north side of W 27th Avenue.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

There are no measures being proposed that would directly address recreational opportunities. There will be sidewalks constructed with the project to allow walking within the development.

13. Historic and cultural preservation

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers ? If so, specifically describe.

None, to the applicant's knowledge.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

None, to the applicant's knowledge. There have been no studies conducted.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

Benton County GIS maps were utilized to assess areas of cultural and historic resources. None were found.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

None.

14. TRANSPORTATION

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

The site will be served by E 27th Avenue, which is a collector. New internal streets will be constructed as local streets to provide access throughout the site. The new streets will take access from E 27th Avenue.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

Ben Franklin Transit has bus routes in the City of Kennewick to the west. The nearest bus stop to the site is Stop ID KE295 on Route 49, approximately 0.7 mile to the west of the site.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

Off-street parking will be provided for each lot in the form of a driveway. The project will eliminate approximately 10 parking spaces on the site's commercial building area of the vineyard.

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

The project will require the development of new public streets within the dedicated public right-of-way of the plat. The streets will be constructed in accordance with City of Kennewick standards.

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

The project would generate approximately 565 Average Weekday Trips based on the ITE Trip Generation Manual's ITE Code of 210 for single-family detached housing. The peak trips would be in the morning and evening hours.

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

The project will not interfere or be affected by the movement of agricultural products on the roads or streets in the area.

h. Proposed measures to reduce or control transportation impacts, if any:

New local streets will be constructed and required street frontage improvements will be installed on the site's E 27th Avenue frontage.

15. PUBLIC SERVICES

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

The project would increase the need for public services as population in the area increases due to the number of residents. This would include the need for fire protection, police protection, public transit, health care, and schools.

b. Proposed measures to reduce or control direct impacts on public services, if any.

The residents of the development would be subject to local taxes and levies used to support public services in Benton County.

16. Utilities

a. Circle utilities currently available at the site:
electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other _____

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Utilities to include water and sewer will be provided by the City of Kennewick. Electricity will be provided by the Benton County PUD. The natural gas provider in the area is Cascade Natural Gas. New sanitary sewer, water, and irrigation mains, as well as dry utilities will need to be extended to the project site to service the new lots.

C. Signature

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____

Name of signee Jason Mottox, PE

Position and Agency/Organization Civil Engineer / PBS Engineering & Environmental

Date Submitted: 2/5/2021

D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS

(**IT IS NOT NECESSARY** to use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

Proposed measures to avoid or reduce such increases are:

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

Proposed measures to protect or conserve plants, animals, fish, or marine life are:

3. How would the proposal be likely to deplete energy or natural resources?

Proposed measures to protect or conserve energy and natural resources are:

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

Proposed measures to protect such resources or to avoid or reduce impacts are:

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

Proposed measures to avoid or reduce shoreline and land use impacts are:

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

Proposed measures to reduce or respond to such demand(s) are:

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

ESA LISTED SALMONIDS CHECKLIST

Applicant Information

Name R.J. Hoch and Diane Hoch
Phone Contact is Jason Mattox
Jason.mattox@pbsusa.com

Project Information

Name Highland Vineyards
Location 107 E 27th Avenue
Description 60 lot subdivision For single-family dwellings

This worksheet was designed to help project proponents and government agencies identify when a project needs further analysis regarding adverse effects on ESA (Endangered Species Act) listed salmonids. Salmonids are salmon, trout and chars, e.g. bull trout. For our purposes, "ESA listed salmonids" is defined as fish species listed as endangered, threatened or being considered for listing.

If ESA listed species are present or ever were present in the watershed where your project will be located, your project has the potential for affecting them, and you need to comply with the ESA. The questions in this section will help determine if the ESA listings will impact your project.

The Fish Program Manager at the appropriate Department of Fish and Wildlife (DFW) regional office can provide information for the following two questions

1. Are ESA listed salmonids currently present in the watershed in which your project will be located?
   Yes **XX** No___
   Please describe.

2. Has there ever been an ESA listed salmonid stock present in this watershed? Yes **XX** No___ Uncertain___
   Please describe.

   NOTE: Kennewick is in the upper Mid-Columbia watershed. Salmonids are present in the watershed - questions 1 and 2 are answered yes.

If you answered "yes" to either of the above questions, you should complete the remainder of this checklist.

PROJECT SPECIFICS: The questions in this section are specific to the project and vicinity.

1. Name of watershed: Upper Mid-Columbia

2. Name of nearest waterbody: *Columbia District Irrigation Canal to the west; Columbia River to the east*

3. What is the distance from this project to the nearest body of water? *Approx. 400 feet to irrigation canal; approx. 3 ½ miles to Columbia River.*
   Often a buffer between the project and a stream can reduce the chance of a negative impact to fish.

4. What is the current land use between the project and the potentially affected water body (*parking lots, farmland, etc)?*
A house and landscaping between the site and the irrigation canal. Houses, streets, farmland, and landscaping between the site and the Columbia River.

5. Is the project above a:
   - natural permanent barrier (waterfall) Yes___ No **XX**
   - natural temporary barrier (beaver pond) Yes___ No **XX**
   - man-made barrier (culvert, dam) Yes___ No **XX**
   - other (explain):

6. If yes, are there any resident salmonid populations above the blockage? Yes___ No___ Don't know___
Not applicable, since answered no.

7. What percent of the project will be impervious surface (including pavement & roof area)? *Approximately 35% of the site will be impervious surfaces upon project completion.*

FISH MIGRATION: The following questions will help determine if this project could interfere with migration of adult and juvenile fish.

Both increases and decreases in water flows can affect fish migration.

1. Does the project require the withdrawal of:
   i. Surface water? Yes___ No **XX**
      Amount _____
      Name of surface water body _____

   ii. Ground water? Yes___ No **XX**
      Amount _____
      From where _____
      Depth of well _____

2. Will any water be rerouted? Yes___ No **XX**
   If yes, will this require a channel change?

3. Will there be retention or detention ponds? Yes**XX** No___
   If yes, will this be an infiltration pond or a surface discharge to either a municipal storm water system or a surface water body?

Surface discharge to the City of Kennewick storm water system will take place.

   If to a surface water discharge, please give the name of the waterbody.

4. Will this project require the building of new roads?
   Yes **XX** No___ *Increased road mileage may affect the timing of water reaching a stream and may impact fish habitat.*

5. Are culverts proposed as part of this project? Yes___
   No **XX**

6. Will topography changes affect the duration/direction of runoff flows? Yes **XX** No___ If yes, describe the changes.

The site will be graded to direct roadway runoff to on-site infiltration facilities while dwelling runoff will be directed to surface infiltration.

7. Will the project involve any reduction of the floodway or floodplain by filling or other partial blockage of flows?
   Yes ___ No **XX**
   If yes, how will the loss of flood storage be mitigated by your project?

WATER QUALITY: The following questions will help determine if this project could adversely impact water quality. Such impacts can cause problems for listed species.

Water quality can be made worse by runoff from impervious surfaces, altering water temperature, discharging contaminants, etc.

1. Do you know of any problems with water quality in any of the streams within this watershed? Yes___ No__**XX**__
   If yes, describe.

2. Will your project either reduce or increase shade along or over a waterbody? Yes___ No_**XX**__
   Removal of shading vegetation or the building of structures such as docks or floats often result in a change in shade.

3. Will the project increase nutrient loading or have the potential to increase nutrient loading or contaminants (fertilizers, other waste discharges, or runoff) to the waterbody? Yes___ No__**XX**_

4. Will turbidity be increased because of construction of the project or during operation of the project? Yes___ No_**XX**__
   In-water or near water work will often increase turbidity.

5. Will your project require long term maintenance, i.e. bridge cleaning, highway salting, chemical sprays for vegetation management, clearing of parking lots?
   Yes___ No __**XX**__ If yes, please describe.

VEGETATION: The following questions are designed to determine if the project will affect riparian vegetation, thereby, adversely impacting salmon.

1. Will the project involve the removal of any vegetation from the stream banks? Yes___ No__**XX**__

   If yes, please describe the existing conditions, and the amount and type of vegetation to be removed.

2. If any vegetation is removed, do you plan to re-plant? Yes___ No___ If yes, what types of plants will you use? *Not applicable, since no vegetation from stream banks will take place.*

RESOURCES

Washington Department of Fish and Wildlife Website
http://wdfw.wa.gov/
This site has useful information on fish habitat.

Washington Department of Ecology Website
www.ecy.wa.gov
Click on the Water Quality button on the left side of this page.

National Marine Fisheries Services Website
Evolutionarily Significant Unit (ESU) maps can be found at
www.nwr.noaa.gov
Click on the Endangered Species Act (ESA) links to view the ESU maps and other information.

NOTE: Most applicants should have the information necessary to answer most of the questions in this checklist. Additional information will need to be obtained by local and state agencies if it appears that the project is likely to affect ESA listed species.

Community Development Department
Prosser Office: 620 Market Street, 1st Floor
Kennewick Office: 102206 East Wiser Parkway
www.co.benton.wa.us

Planning Division
(509) 786-5612
P.O. Box 910, Prosser, WA 99350
planning.department@co.benton.wa.us

PCM 1.10

Notice of Application - Optional DNS Process

Benton County has received a preliminary plat application and environmental checklist for the following project:

Date of permit application: **February 11, 2021**
Date of determination of completeness: **February 19, 2021**
Date of Notice of Application: **March 1, 2021**
Comment due date: **14 days from publication of this notice**
Date of Notice of Application Publication: **March 3, 2019**

Agency Contact: Michelle Cooke, Benton County Assistant Planning Manager
michelle.cooke@co.benton.wa.us (509) 786-5612

Agency File Number(s): SUB 2021-002 and EA 2021-007

Project Description: The preliminary plat of Highland Vineyards for the subdivision of 16.86 acres into 60 lots with an average lot size of 9,580 square feet.

Project Location: The site is located East of the Columbia Irrigation District canal at the intersection of S. Washington Street and East 27th Avenue and is located on both the north and south side of East 27th Avenue in Kennewick WA on Parcel #'s 10780-300-0039-001, 1-1880-201-0466-002, 1-1880-201-0466-003, 1-1880-201-0466-004

Project Applicant: RJ and Diane Hoch, Kennewick WA 99337

SEPA Environmental Review: The Benton County Planning Department has reviewed the proposed project for probable adverse environmental impacts and expects to issue a Determination of Non-Significance (DNS) or Mitigated Determination of Non-Significance (MDNS). The proposal may include mitigation measures under applicable codes, and the project review process may incorporate or require mitigation measures regardless of whether an EIS is prepared. The optional DNS process in WAC 197-11-355 is being used. This may be your only opportunity to comment on the environmental impacts of the proposed project.

Agencies, tribes, and the public are encouraged to review and comment on the proposed project and its probable environmental impacts. Comments must be submitted 14 days from date of publication to the Benton County Planning Department, P.O. Box 910, Prosser, WA 99350. Any information submitted to Benton County is subject to the public records disclosure law for the State of Washington (RCW Chapter 42.17) and all other applicable law that may require the release of the documents to the public.

Preliminary Development Regulations and Existing Environmental Documents: To evaluate the impacts of the proposed project, the following may be used for mitigation, consistency, and the development of findings and conclusions:

Benton County Code, including BCC Title 15 CAO, BCC Title 6.35 SEPA, Comprehensive Plan, BCC Title 9-Subdivision Regulations, BCC Title 11-Zoning Regulations, Department of Ecology, and the SEPA Environmental Checklist, dated April 23, 2019.

Other required agency evaluations, approvals, permits, and mitigation as necessary.

Required Permits:
Benton County Building Department Grading Permit and other forms, reports, or approvals as necessary.

Required Studies:
Unknown at this time.

This project does require an open record hearing before the Planning Commission and a closed record hearing before the Board of County Commissioners. A copy of the subsequent threshold determination and any other information concerning this action may be obtained by contacting the Benton County Planning Dept. P.O. Box 910, Prosser, WA, (509) 786-5612.

Dated at Prosser, Washington on this 1st day of March 2021.

Michelle Cooke, Assistant Planning Manager
Benton County Planning Department

Community Development Department
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PCM 1.11

MITIGATED DETERMINATION OF NON-SIGNIFICANCE

Proponent:
R.J. and Diane C. Hoch
2921 S. Auburn Place
Kennewick WA 99337

File No. EA 2021-007

Project Description: The applicant is proposing a preliminary plat with 60 residential lots on 16.86 acres with an average lot size of 9,580 square feet.

Project Location: The site is located east of the intersection of S Washington Street and E 27th Avenue and east of the Columbia Irrigation District canal. The project site spans to both north and south of E 27th Avenue in Kennewick WA on parcels 10780-300-0039-001, 1-1880-201-0466-002, 1-1880-201-0466-003, and 1-1880-201-0466-004.

Jurisdiction: Benton County, Washington.

Lead Agency: Benton County Planning Division.

Threshold Determination: The lead agency for this proposal has determined that it will not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(3), provided that the following measures are taken to mitigate potential adverse impacts. Substantive authority to require mitigation is derived from WAC 197-11-660 and Benton County Code, Chapter 6.35.120. The decision was made after review of a completed environmental checklist, comments received from various agencies and other information on file with the lead agency. This information is available to the public on request.

This MDNS is issued under WAC 197-11-355; no additional comments are being requested.

Conditions/Mitigating Measures: See Attached.

Appeals: You may appeal this determination to the Benton County Planning Department at Post Office Box 910, Prosser, WA 99350, no later than April 8, 2021 by written notice. The fee for a threshold determination appeal is $700.00. An appeal of the determination must be made in writing to the Benton County Planning Department and a public hearing will be scheduled and the appellant will be notified of the date, time, and place. You should be prepared to make specific factual objections. Contact the Planning Department to read or ask about the procedures for SEPA appeals.

SEPA Responsible Official: Greg Wendt
Position/Title: Planning Manager
Address: P.O. Box 910, Prosser WA 99350

Date**: March 25, 2021**

Michelle Cooke, Assistant Planning Manager

DISTRIBUTION:
Benton County Building Office
Department of Natural Resources -Ellensburg
Department of Natural Resources - Olympia
Benton Clean Air Authority
Benton County Engineer
Benton-Franklin Dist. Health Department
Department of Transportation
Washington State Department of Health
Department of Ecology - Olympia
Department of Ecology - Yakima
Benton County Fire Marshal
Dept. of Fish and Wildlife
Bureau of Reclamation
Bureau of Land Management
Fire District # 1
Futurewise
Department of Archaeology/Historic Preservation
Tom Price-Environmental Review Inc.
City of Kennewick
Columbia Irrigation Dist.

CONDITIONS/MITIGATION MEASURES

File No.: EA 2021-007- Highland Vineyards Subdivision

Applicant:
R.J. and Diane C. Hoch
2921 S. Auburn Place
Kennewick WA 99337

Documents and Regulations:

The environment threshold determination and conditions are based on an analysis of information contained in the following documents or the applicable regulations and restrictions of various agencies:

1. Benton County, BCC Title 6.35 Environmental Policy (SEPA);
2. Benton County, BCC Title 11, Zoning;
3. Benton County, BCC Title 9, Subdivisions;
4. Benton County Comprehensive Plan;
5. Benton County, BCC Title 15 Critical Area Ordinance;
6. Benton County, BCC Title 3 Building Code, Fire Code, and Road Standards;
7. Regulations of the Benton Clean Air Agency;
8. Regulations of the Washington State Department of Fish and Wildlife, Department of Transportation, Department of Ecology, Department of Natural Resources and Department of Archaeology and Historic Preservation; and
9. Application submittal materials including a Preliminary Drainage Study, dated 1-27-2021 and SEPA Environmental Checklist-dated 2-5-2021.

Findings:

1. Location:
    a. The site is located east of the intersection of S Washington Street and E 27th Avenue and east of the Columbia Irrigation District canal. The project site spans to both north and south of E 27th Avenue in Kennewick WA on parcels 10780-300-0039-001, 1-1880-201-0466-002, 1-1880-201-0466-003, and 1-1880-201-0466-004.
2. Benton County, BCC Title 11, Zoning:
    a. The zoning designation for the project area is Urban Growth Area Residential (UGAR). This zoning district has a minimum lot size of 7,500 sf; and
    b. A single-family home is an allowed use in the UGAR Zoning District.
3. Benton County, BCC Title 9, Subdivisions:
    a. Applicant has applied for preliminary plat consideration in accordance with BCC 9.05 Preliminary Plats.
4. Benton County Comprehensive Plan:
    a. The property is located in the City of Kennewick's Urban Growth Area and is designated Urban in the Benton County Comprehensive Plan.

5. Benton County, BCC Title 15, Critical Area Ordinance:

   a. Upon completion of a review of BCC Title 15 and the Benton County Critical Area Maps, no designated critical areas have been identified on this property. A critical area report is not required for the processing of a preliminary plat at this location.

   b. Wetlands: None identified.

   c. Critical Aquifer Recharge Area: None identified.

   d. Fish and Wildlife Habitat Conservation Area: None identified.

   e. Frequently Flooded Areas: None identified.

   f. Geologically Hazardous Areas: None identified.

6. The applicant is proposing a preliminary plat with 60 residential lots on 16.86 acres with an average lots size of 9,580 square feet.

7. The applicant submitted the following materials for the SEPA review process:

   a. Preliminary Drainage Report, dated 1-23-20; and

   b. SEPA Environmental Checklist-dated 1-14-20.

8. During the SEPA comment period, the State of Washington Department of Archaeology & Historic Preservation commented (see letters dated March 15, 2021) that the project site has the potential to contain archaeological resources. DAHP requested the applicant conduct a professional archaeological survey of the project area prior to ground disturbing activities.

Conditions:

The applicant must complete and comply with the following mitigating conditions for this Mitigated Determination of Non-Significance (MDNS).

1. **Benton County Planning Department**. Meet and comply with BCC Title 9, Subdivisions, including preliminary and final plat requirements, if approved. Contact Benton County Planning Department at 509-786-5612;

2. **Kennewick Traffic Engineering Division**. Meet and comply with the City of Kennewick requirements stated in comment letters dated March 4, 2021 and March15, 2021, including a trip generation and distribution analysis letter. For question, please contact Joe Seet with the City of Kennewick at 509-585-4527.

3. **Benton Clean Air Agency**. Prior to any excavations or construction at the site, the applicant shall meet and comply with the permitting requirements and standards of the Benton Clean Air Agency;

4. **Washington State Department of Ecology**. Meet and comply with Ecology requirements for all activities at the site including obtaining a NPDES Construction Stormwater General Permit as outlined in the comment letter dated March 16, 2021;

5. **Benton Franklin Health District.** Meet and comply with Health District requirements for all activities at the site.

6. **State of Washington Department of Archaeology & Historic Preservation.** Meet and comply with DAHP requirements and recommendations stated in comment letter dated March 15, 2021 prior to ground disturbing activities. A note shall be placed on the subdivision plat specifying DAHP requirements and permitting. If you have questions regarding DAHP permitting, please email DAHP at sydney.hanson@dahp.wa.gov.

Donna Hutchinson

From: Lonnie Click <Lonnie@bentonone.org>
Sent: Tuesday, March 2, 2021 3:00 PM
To: Donna Hutchinson; City of Kennewick-Greg.McCormick; City of Kennewick; City of Kennewick - Fernando Garcia ; Ben Franklin Transit - Bill Barlow (bbarlow@bft.org); Ben Franklin Transit K. McMullen; Ben Franklin Transit - B. Windler; Billie Paden-Lilly; Staff-BentonOne; School District # 17-Ryan Jones; Columbia Irrigation District (CID@columbiairrigation.com); john.lyle@bentoncleanair.org; Benton Clean Air-Priddy; Benton Clean Air-Rodger ; Benton Clean Air-Tyler Thompson; Benton-Franklin Dist. Health Dept.; Frontier Telephone; Dept. of Transportation (scplanning@wsdot.wa.gov); Dept. of Transportation-Jacob Prilucik; Dept. of Transportation- Paul G; Cascade Natural Gas (Walter.Nelson@cngc.com); Natural Resources Conservation Service; US Postal Service (ina.n.beutler@usps.gov); US Postal Service - Address Management System; WA Dept of Health - Kelly Cooper - WA Dept of Health - Kelly Cooper (SEPA.reviewteam@doh.wa.gov); Cristina Woods; Southeast Communication Center (k.lettrick@bces.wa.gov); Dept. of Ecology - Lori White (lori.white@ecy.wa.gov); Clark Posey; Mosquito Control (admin@mosquitocontrol.org); Mosquito Control District (angela@mosquitocontrol.org); Kathy Mann; PARKS; Segregations; Benton PUD-Chad Brooks; Benton PUD-Mike Irving; Benton PUD-Shanna Everson; Benton PUD-tina Glines (glinest@bentonpud.org)
Subject: [EXTERNAL] RE: SUB 2021-002 Agency Review

Benton County Fire District #1 would like to see hydrant requirements in SUB 2021-002 per NFPA or Building Code requirements for such Plat.

Thank you,

Lonnie E. Click
Fire Chief
Benton County Fire District #1
"Dedicated to Providing the Highest Level of Public Safety Services to our Community"
101108 E Badger Road | Kennewick, WA 99338
p-(509)737-0911 ***Ext: 111*** | f-(509)737-0927 | Lonnie@BentonOne.org

From: Donna Hutchinson <Donna.Hutchinson@co.benton.wa.us>
Sent: Monday, March 1, 2021 2:40 PM
To: City of Kennewick-Greg.McCormick <Greg.McCormick@ci.kennewick.wa.us>; City of Kennewick <cedinfo@ci.kennewick.wa.us>; City of Kennewick - Fernando Garcia <Fernando.Garcia@ci.kennewick.wa.us>; Ben Franklin Transit - Bill Barlow (bbarlow@bft.org) <bbarlow@bft.org>; Ben Franklin Transit K. McMullen <KmcMullen@bft.org>; Ben Franklin Transit - B. Windler <bwindler@bft.org>; Billie Paden-Lilly <Billie@bentonone.org>; Staff-BentonOne <staff@bentonone.org>; School District # 17-Ryan Jones <Ryan.Jones@ksd.org>; Columbia Irrigation District (CID@columbiairrigation.com) <CID@columbiairrigation.com>; john.lyle@bentoncleanair.org; Benton Clean Air-Priddy <robin.priddy@bentoncleanair.org>; Benton Clean Air-Rodger <rob.rodger@bentoncleanair.org>; Benton Clean

Air-Tyler Thompson <tyler.thompson@bentoncleanair.org>; Benton-Franklin Dist. Health Dept. <rickd@bfhd.wa.gov>; Frontier Telephone <north.central.dbmc.control.desk@ncnetwork.net>; Dept. of Transportation (scplanning@wsdot.wa.gov) <scplanning@wsdot.wa.gov>; Dept. of Transportation-Jacob Prilucik <PrilucJ@wsdot.wa.gov>; Dept. of Transportation- Paul G <Gonsetp@wsdot.wa.gov>; Cascade Natural Gas (Walter.Nelson@cngc.com) <Walter.Nelson@cngc.com>; Natural Resources Conservation Service <ray.gekosky@wa.usda.gov>; US Postal Service (ina.n.beutler@usps.gov) <ina.n.beutler@usps.gov>; US Postal Service - Address Management System <Tina.C.Fisher@usps.gov>; WA Dept of Health - Kelly Cooper - WA Dept of Health - Kelly Cooper (SEPA.reviewteam@doh.wa.gov) <SEPA.reviewteam@doh.wa.gov>; Cristina Woods <Cristina.Woods@co.benton.wa.us>; Southeast Communication Center (k.lettrick@bces.wa.gov) <k.lettrick@bces.wa.gov>; Dept. of Ecology - Lori White (lori.white@ecy.wa.gov) <lori.white@ecy.wa.gov>; Clark Posey <Clark.Posey@co.benton.wa.us>; Mosquito Control (admin@mosquitocontrol.org) <admin@mosquitocontrol.org>; Mosquito Control District (angela@mosquitocontrol.org) <angela@mosquitocontrol.org>; Kathy Mann <Kathy.Mann@co.benton.wa.us>; PARKS <PARKS@co.benton.wa.us>; Segregations <segregations@co.benton.wa.us>; Benton PUD-Chad Brooks <Brooksc@bentonpud.org>; Benton PUD-Mike Irving <irvingm@bentonpud.org>; Benton PUD-Shanna Everson <eversons@bentonpud.org>; Benton PUD-tina Glines (glinest@bentonpud.org) <glinest@bentonpud.org>
Subject: SUB 2021-002 Agency Review

The Benton County Planning Department has prepared a Agency Review Packet for your review and comment. Due to the size of the document we have included a dropbox link below for you to access the file. We appreciate your review of the proposal and return of comments no later than **March 16, 2021**. This proposal will not be acted upon before that time.

https://www.dropbox.com/s/fc2jvvphh20jh4j/SUB%202021-002%20EA%202021-007%20Agency%20Review%20Packet%203-1-21.pdf?dl=0

Donna Hutchinson
Office Assistant IV
Community Development
Dept. - Planning Division
P.O. Box 910
Prosser, WA 99350
509-786-5612

Prosser: We are now located within the Road Department/Public Works Office on the first floor of the Benton County Courthouse at 620 Market St, Prosser WA 99350. Due to COVID 19 the Prosser Courthouse is currently closed to the public. Please contact us by email or phone.
Kennewick: The County has opened a new Public Services Office at 102206 E Wiser Parkway, Kennewick, which houses the Planning, Building and Road Departments.

MEMORANDUM

Traffic Engineering Division

To: Michelle Cooke, Principal Planner
Benton County Planning Department

From: Joe Seet, Assistant Traffic Engineer

Date: March 4, 2021

Re: Traffic Engineering Comments for Highland Vineyards 60 lot Subdivision
Benton County Subdivision

Project: Benton County Subdivision

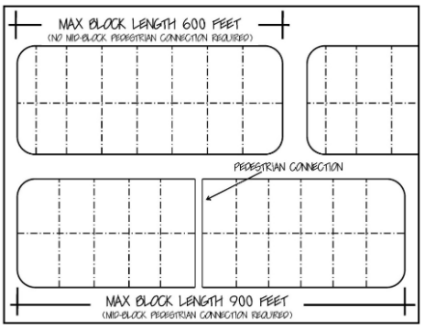
Traffic Operations

1. Provide a trip generation and distribution analysis letter. The proposed development will exceed the trip threshold limits > 30 new peak trips. Recommend the traffic consultant to contact the city's Traffic Engineer prior to the start of the analysis to discuss the trip generation rates and distribution pattern used for the analysis.

Development Level	Trip Generation [a]	Analysis Requirement
Level 1	≤ 30 peak hour trips	None
Level 2	>30 < 100 new peak hour trips	Trip Generation and Distribution Letter
Level 3 [b]	≥ 100 new peak hour trips	Traffic Impact Analysis (TIA) Study

2. KMC 17.20.010(2)(a) – Streets greater than 1,200 feet in continuous uninterrupted length will need traffic calming measure.

3. KMC 17.20.010(3)(b) – Streets greater than 600 feet in continuous uninterrupted length will need mid-block pedestrian crossings.



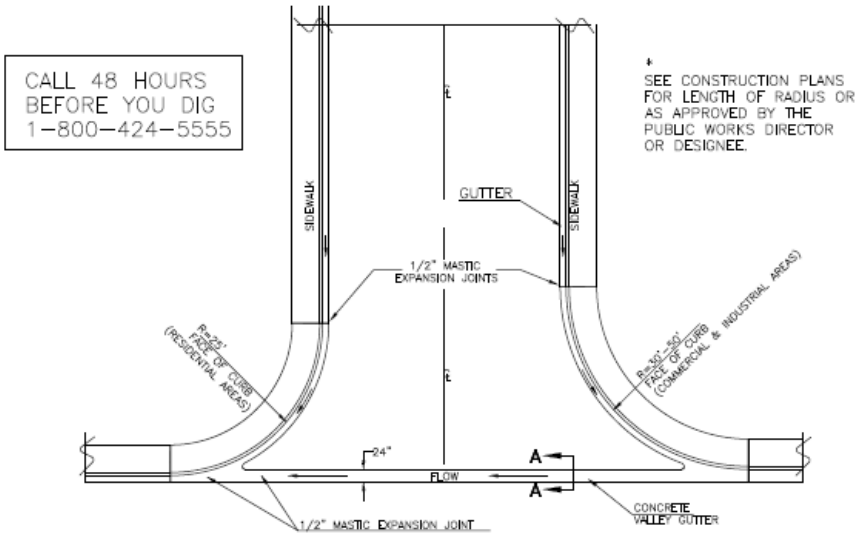
Proposed Driveway(s)

1. Effective 11/4/19, Residential driveways: Any lot may have a maximum driveway width of 36-ft (bottom width) – as long as it can meet the ADA requirement of a minimum 5-ft flat landing between driveways. Driveway widths are **NO** longer associated with garage/RV bays.
2. Residential driveways: The minimum 1:1 widening taper from the back of sidewalk, for widening out the driveway (behind the sidewalk) to greater than 36-ft wide, is required.
3. Please note that City roadways have to meet minimum centerline horizontal radius requirements per KMC 5.56.275(1). See below.

5.56.275: - Street Radii and Grade.

(1) Local Streets: Unless otherwise approved by the Deputy Director of Public Works, local streets shall be constructed with centerline radii which meet the following standards. On minor loop streets and cul-de-sac streets, where the street makes a 90-degree plus or minus five-degree turn, the minimum centerline radius shall be 50 feet. On all other minor loop street and cul-de-sac street curves, the minimum centerline radius shall be 150 feet. On all local through streets, other than minor loop streets, as determined by the Deputy Director of Public Works, the minimum centerline radius shall be 200. Unless otherwise approved by the Deputy Director of Public Works, the maximum grade on local streets shall be 12 percent.

4. Please refer to KMC Standard Drawing No. 2-9 for City's intersection design guidelines.



NOTE: SEE CITY OF KENNEWICK STD. DWG. No.2-12 OR 2-12A FOR WHEELCHAIR RAMP DETAILS AND LOCATIONS.

5. Please refer to the table below for the design rate of vertical curvature, K, values for vertical curves at the proposed roadway design speed.

Table 3-34. Design Controls for Crest Vertical Curves Based on Stopping Sight Distance

Metric				U.S. Customary			
Design Speed (km/h)	Stopping Sight Distance (m)	Rate of Vertical Curvature, K[a]		Design Speed (mph)	Stopping Sight Distance (ft)	Rate of Vertical Curvature, K[a]	
		Calculated	Design			Calculated	Design
20	20	0.6	1	15	80	3.0	3
30	35	1.9	2	20	115	6.1	7
40	50	3.8	4	25	155	11.1	12
50	65	6.4	7	30	200	18.5	19
60	85	11.0	11	35	250	29.0	29
70	105	16.8	17	40	305	43.1	44
80	130	25.7	26	45	360	60.1	61
90	160	38.9	39	50	425	83.7	84
100	185	52.0	52	55	495	113.5	114
110	220	73.6	74	60	570	150.6	151
120	250	95.0	95	65	645	192.8	193
130	285	123.4	124	70	730	246.9	247
				75	820	311.6	312
				80	910	383.7	384

[a] Rate of vertical curvature, K, is the length of curve per percent algebraic difference in intersecting grades (A), K = L/A.

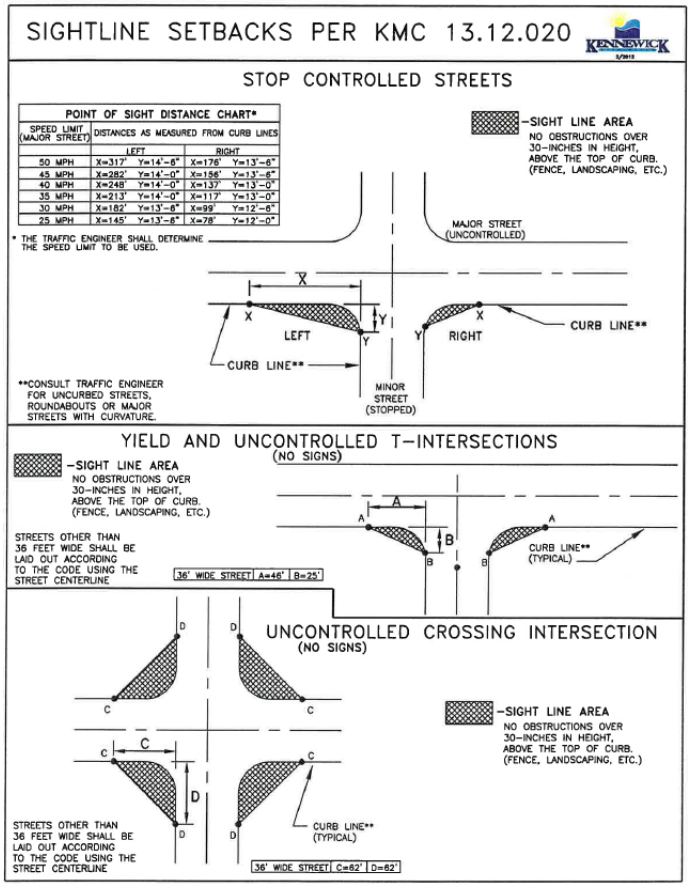
Table 3-36. Design Controls for Sag Vertical Curves

Metric				U.S. Customary			
Design Speed (km/h)	Stopping Sight Distance (m)	Rate of Vertical Curvature, K[a]		Design Speed (mph)	Stopping Sight Distance (ft)	Rate of Vertical Curvature, K[a]	
		Calculated	Design			Calculated	Design
20	20	2.1	3	15	80	9.4	10
30	35	5.1	6	20	115	16.5	17
40	50	8.5	9	25	155	25.5	26
50	65	12.2	13	30	200	36.4	37
60	85	17.3	18	35	250	49.0	49
70	105	22.6	23	40	305	63.4	64
80	130	29.4	30	45	360	78.1	79
90	160	37.6	38	50	425	95.7	96
100	185	44.6	45	55	495	114.9	115
110	220	54.4	55	60	570	135.7	136
120	250	62.8	63	65	645	156.5	157
130	285	72.7	73	70	730	180.3	181
				75	820	205.6	206
				80	910	231.0	231

[a] Rate of vertical curvature, K, is the length of curve (m) per percent algebraic difference intersecting grades (A), K = L/A.

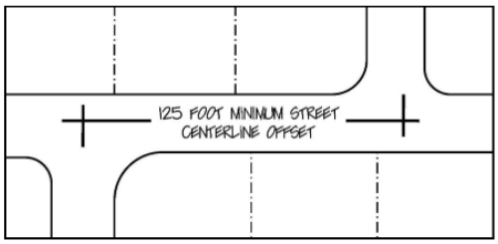
6. Street - Sightline setback triangles per KMC 13.12.020(5) are required with no view obstruction permitted between 36 inches and 90 inches above the roadway surface for both sides of the setback triangles, except as allowed in Section 13.12.020(6).

KMC 13.12.020:



7. KMC 17.20.010(4)(d) – Lots shall not have direct driveway access onto arterial or collector streets unless approved by the Traffic Engineer.
8. The proposed street intersection spacing between the two proposed subdivision roads of E. 27th Ave does not appear to meet the minimum centerline offset of 300' per KMC 17.20.010(3)(l). See below.

(l) Residential streets shall be aligned at the centerline or be offset a minimum of 125 feet while intersections with arterial or collector streets shall have a minimum centerline offset of 300 feet, unless specifically waived by the City Traffic Engineer;



KMC 17.20.010(3)(l)

Right-of-Way and Easement

1. E. 27th Ave is a functionally classified Collector Street. Per KMC 17.20.010(2)(h), frontage improvements are required. Frontage improvements includes all of the following, as needed, additional pavement, curb, gutter, sidewalk and street lighting.
2. The proposed subdivision internal roadways are functionally classified Local Street. The roadway sections would need to meet City of Kennewick Standard Drawing 2-1.
3. Please note that any proposed roadways that are not constructed to full width will need to verify that there are adequate 2 - 12' wide travel lanes for 2-way traffic and on-street parking after the frontage improvements on the development side is completed.
4. Record 15' public sidewalk, utility and irrigation easement along the proposed development's frontage on E. 27th Ave.
5. Record 18' public sidewalk, utility and irrigation easement along both sides of all proposed internal roadways' frontage.
6. KMC 17.20.010(4)(d) – Lots shall not have direct driveway access onto arterial or collector streets unless approved by the Traffic Engineer. Record 1' No Access Easement along E. 27th Ave.
7. Please note that shared access will require recorded mutual Access Easement and the AFN shown on submitted plans.
8. The Civil plans will need to include a signing and striping plan.

American Disability Act (ADA) Compliance

1. Evaluate existing sidewalks along E. 27th Ave. and, if applicable, upgrade to City current standards for ADA compliance, upgrade to include installing truncated domes. If the existing sidewalks are in compliance, no upgrades are required. Please provide written response back to Traffic.
2. All proposed pedestrian facilities within the public right-of-way and easement, including but not limited to driveways, sidewalks, curb ramps, etc., shall be ADA compliant to maintain Pedestrian Accessibility Route (PAR) accessibility, continuity and connectivity.
3. All proposed sidewalk termini require ADA compliant transition ramps or to match into existing sidewalks.

Street Lights

1. Per KMC 5.53, Public Works Construction Standard Chapter 6, design and install street lighting per City of Kennewick Standard Drawings 6-1 and 6-2 along E. 27th Ave. and the internals roadways.
2. Roadway lighting plan sheet. – Per CoK Standard Specifications 6-1.02, the plan needs to include call-outs for the power source, meter locations, junction boxes, and conduits.

JS:cm
PW2021-080

Donna Hutchinson

From: Tina Glines <glinest@bentonpud.org>
Sent: Thursday, March 4, 2021 10:07 AM
To: Donna Hutchinson
Subject: [EXTERNAL] RE: [E] SUB 2021-002 Agency Review

Donna,

Benton PUD has no concerns regarding this project. The developer should contact me well in advance so I may obtain the necessary files for subdivision layout.

Thank you,

Tina Glines
Distribution Design Technician
(509) 582-1241

BENTON P·U·D

From: Donna Hutchinson <Donna.Hutchinson@co.benton.wa.us>
Sent: Monday, March 1, 2021 2:40 PM
To: City of Kennewick-Greg.McCormick <Greg.McCormick@ci.kennewick.wa.us>; City of Kennewick <cedinfo@ci.kennewick.wa.us>; City of Kennewick - Fernando Garcia <Fernando.Garcia@ci.kennewick.wa.us>; Ben Franklin Transit - Bill Barlow (bbarlow@bft.org) <bbarlow@bft.org>; Ben Franklin Transit K. McMullen <KmcMullen@bft.org>; Ben Franklin Transit - B. Windler <bwindler@bft.org>; Fire District #1-Billie <billie@bentonone.org>; Fire District #1-Staff <staff@bentonone.org>; School District # 17-Ryan Jones <Ryan.Jones@ksd.org>; Columbia Irrigation District (CID@columbiairrigation.com) <CID@columbiairrigation.com>; john.lyle@bentoncleanair.org; Benton Clean Air-Priddy <robin.priddy@bentoncleanair.org>; Benton Clean Air-Rodger <rob.rodger@bentoncleanair.org>; Benton Clean Air-Tyler Thompson <tyler.thompson@bentoncleanair.org>; Benton-Franklin Dist. Health Dept. <rickd@bfhd.wa.gov>; Frontier Telephone <north.central.dbmc.control.desk@ncnetwork.net>; Dept. of Transportation (scplanning@wsdot.wa.gov) <scplanning@wsdot.wa.gov>; Dept. of Transportation-Jacob Prilucik <PrilucJ@wsdot.wa.gov>; Dept. of Transportation-Paul G <Gonsetp@wsdot.wa.gov>; Cascade Natural Gas (Walter.Nelson@cngc.com) <Walter.Nelson@cngc.com>; Natural Resources Conservation Service <ray.gekosky@wa.usda.gov>; US Postal Service (ina.n.beutler@usps.gov) <ina.n.beutler@usps.gov>; US Postal Service - Address Management System <Tina.C.Fisher@usps.gov>; WA Dept of Health - Kelly Cooper - WA Dept of Health - Kelly Cooper (SEPA.reviewteam@doh.wa.gov) <SEPA.reviewteam@doh.wa.gov>; Cristina Woods <Cristina.Woods@co.benton.wa.us>; Southeast Communication Center (k.lettrick@bces.wa.gov) <k.lettrick@bces.wa.gov>; Dept. of Ecology - Lori White (lori.white@ecy.wa.gov) <lori.white@ecy.wa.gov>; Clark Posey <Clark.Posey@co.benton.wa.us>; Mosquito Control (admin@mosquitocontrol.org) <admin@mosquitocontrol.org>; Mosquito Control District (angela@mosquitocontrol.org)

<angela@mosquitocontrol.org>; Kathy Mann <Kathy.Mann@co.benton.wa.us>; PARKS <PARKS@co.benton.wa.us>; Segregations <segregations@co.benton.wa.us>; Chad Brooks <brooksc@bentonpud.org>; Mike Irving <irvingm@bentonpud.org>; Shanna Everson <eversons@bentonpud.org>; Tina Glines <glinest@bentonpud.org>
Subject: [E] SUB 2021-002 Agency Review

The Benton County Planning Department has prepared a Agency Review Packet for your review and comment. Due to the size of the document we have included a dropbox link below for you to access the file. We appreciate your review of the proposal and return of comments no later than **March 16, 2021**. This proposal will not be acted upon before that time.

https://www.dropbox.com/s/fc2jvvphh20jh4j/SUB%202021-002%20EA%202021-007%20Agency%20Review%20Packet%203-1-21.pdf?dl=0

Donna Hutchinson
Office Assistant IV
Community Development
Dept. - Planning Division
P.O. Box 910
Prosser, WA 99350
509-786-5612

Prosser: We are now located within the Road Department/Public Works Office on the first floor of the Benton County Courthouse at 620 Market St, Prosser WA 99350. Due to COVID 19 the Prosser Courthouse is currently closed to the public. Please contact us by email or phone.
Kennewick: The County has opened a new Public Services Office at 102206 E Wiser Parkway, Kennewick, which houses the Planning, Building and Road Departments.

Building Department
Brad O'Brian, Manager
102206 E. Wiser Parkway
Kennewick, WA 99338
BuildingDepartment@co.benton.wa.us

Fire Marshal
Clark A. Posey
(509) 735-3500
Clark.Posey@co.benton.wa.us

PCM 1.15

March 4, 2021

From: Clark Posey, Fire Marshal
Sent: Thursday, March 4, 2021
To: Donna Hutchinson, Planning Department

RE: SUB 2021-002 and EA 2021-007 Highland Vineyards

The applicant/owners are RJ and Diane Hoch. 2921 S. Auburn Place Kennewick, WA 99337, they are requesting to sub-divide 17-acres into 60 lots.

Parcel # 1-0780-300-0039-001 being North of E. 27th Ave description is all that portion of the south one/half of the southwest quarter of the southwest quarter lying east of The Columbia irrigation district canal right of way and North of E. 27th Ave. in Section 7 Township 8 north, Range 30. E. WM. and Lots 2, 3, and 4 of Short Plat 466. Being Parcels, 1-0780-300-0039-002, 1-0780-300-0039-003, 1-0780-300-0039-004 located South of E. 27th Ave in Section 18, Township 8 North, Range 30 E. WM.

The property is zoned by the county as UGAR, (Urban Growth area Residential).
Per the application For SUB 2021-002 the City of Kennewick has agreed to supply Water and Sewer Services to Highland Vineyards Sub-Division.

The Benton County Fire Marshal comments are that fire hydrants are to be located, installed, inspected, and approved by the City of Kennewick.

I don't see the locations of the hydrants on the preliminary plat map. I would like to see a copy of the hydrant locations shown by site plan and a copy of the agreement to supply services by the City of Kennewick Public Services Department prior to Final Plat Approval.

Thank you,

Clark A. Posey
Benton County Fire Marshal

Donna Hutchinson

From: Cristina Woods
Sent: Monday, March 8, 2021 3:05 PM
To: Donna Hutchinson
Subject: RE: CORRECTED Notice of Application for EA 2021-007

Good afternoon

Public Works has no comments

Thank you

Cristina Woods, MS • *Engineering Tech III*
Benton County Public Works
102206 Wiser Parkway , WA, 99338
cristina.woods@co.benton.wa.us
(509) 786-5611

From: Donna Hutchinson <Donna.Hutchinson@co.benton.wa.us>
Sent: Monday, March 1, 2021 4:18 PM
To: Brian Bell <Brian.Bell@co.benton.wa.us>; Jenelle Schadler <Jenelle.Schadler@co.benton.wa.us>; Michelle Johnson <Michelle.Johnson@co.benton.wa.us>; Rod Worthington <Rod.Worthington@co.benton.wa.us>; Troy Taylor <Troy.Taylor@co.benton.wa.us>; Brad O'Brien <Brad.Obrien@co.benton.wa.us>; Clark Posey <Clark.Posey@co.benton.wa.us>; Dept. of Natural Resources <dnrmisepacenter@dnr.wa.gov>; Dept. of Natural Resources-Shafer (ana.shafer@dnr.wa.gov) <ana.shafer@dnr.wa.gov>; Cristina Woods <Cristina.Woods@co.benton.wa.us>; Benton Franklin Health District - Rick Dawson <rickd@bfhd.wa.gov>; Dept. of Transportation (scplanning@wsdot.wa.gov) <scplanning@wsdot.wa.gov>; Dept. of Transportation- Paul G <Gonsetp@wsdot.wa.gov>; Dept. of Transportation-Jacob Prilucik <PrilucJ@wsdot.wa.gov>; WA Dept of Health - Kelly Cooper - WA Dept of Health - Kelly Cooper (SEPA.reviewteam@doh.wa.gov) <SEPA.reviewteam@doh.wa.gov>; Dept. of Ecology - Lori White (lori.white@ecy.wa.gov) <lori.white@ecy.wa.gov>; Dept. of Ecology <SEPAUNIT@ecy.wa.gov>; Dept. of Ecology <crosepacoordinator@ecy.wa.gov>; Dept. of Ecology SEPA Register <separegister@ecy.wa.gov>; Dept. of Fish and Wildlife, Michael W. Ritter <rittemwr@dfw.wa.gov>; Dept. of Fish and Wildlife-SEPA Review (SEPADesk@dfw.wa.gov) <SEPADesk@dfw.wa.gov>; Bureau of Land Management - Spokane <OR_Spokane_Mail@blm.gov>; lonnie@bentonone.org; Fire District #1 - Billie <billie@bentonone.org>; Fire District # 1 - Scott <scott@bentonone.org>; Fire District #1 - Staff <staff@bentonone.org>; Futurewise - Alison Cable <alison@futurewise.org>; Futurewise - Tim Trohimovich <tim@futurewise.org>; WA Dept of Archaeology and Historic Preservation (sepa@dahp.wa.gov) <sepa@dahp.wa.gov>; Fernando Garcia <Fernando.Garcia@ci.kennewick.wa.us>; City of Kennewick - Greg McCormick <Greg.McCormick@ci.kennewick.wa.us>; City of Kennewick - CEDInfo <cedinfo@ci.kennewick.wa.us>; Columbia Irrigation District <CID@columbiairrigation.com>; Tom Price-Environmental Review Inc. (envreview@gmail.com) <envreview@gmail.com>; john.lyle@bentoncleanair.org; Benton Clean Air - Rob Rodger <rob.rodger@bentoncleanair.org>; Benton Clean Air - Tyler Thompson <tyler.thompson@bentoncleanair.org>; Benton Clean Air Authority - Robin Priddy <robin.priddy@bentoncleanair.org>; Bureau of Reclamation - C. Garner (cgarner@usbr.gov) <cgarner@usbr.gov>; Bureau of Reclamation - L Hendrix - Bureau of Reclamation (lhendrix@usbr.gov) <lhendrix@usbr.gov>; Bureau of Reclamation -McKinley (cmckinley@usbr.gov)

<cmckinley@usbr.gov>
Subject: RE: CORRECTED Notice of Application for EA 2021-007

Please see the corrected Agency Review Packet for your review.

The Benton County Planning Division has prepared the attached Notice of Application. This is being circulated for review by all agencies with jurisdiction. We are circulating it for comments on the **environmental impacts** of this action. We appreciate your review of the proposal and return of comments no later than **March 17, 2021**. This proposal will not be acted upon before that time.

Donna Hutchinson
Office Assistant IV
Community Development
Dept. - Planning Division
P.O. Box 910
Prosser, WA 99350
509-786-5612

Prosser: We are now located within the Road Department/Public Works Office on the first floor of the Benton County Courthouse at 620 Market St, Prosser WA 99350. Due to COVID 19 the Prosser Courthouse is currently closed to the public. Please contact us by email or phone.
Kennewick: The County has opened a new Public Services Office at 102206 E Wiser Parkway, Kennewick, which houses the Planning, Building and Road Departments.

BENTON COUNTY WA

PUBLIC WORKS DEPARTMENT

TO: PLANNING DEPARTMENT

FROM: CRISTINA WOODS

DATE: MARCH 9TH, 2021

SUBJECT: HIGHLAND VINEYARDS SUB 2021-002 PRELIMINARY PLAT COMMENTS

The Benton County Public Works have the following comments for the preliminary plat of Highland Vineyards:

Changes to the Preliminary Plat:

- The 18' Public sidewalk, utility and irrigation easement shall be shown on the preliminary and final plat per City of Kennewick street standards
- Note 1: Change "RIGHT-OF-WAYS" to RIGHTS-OF-WAY
- Note 2: Change "RIGHT-OF-WAYS" to RIGHTS-OF-WAY. Right-of-way shall be dedicated to the County not City

Conditions of Approval of Final Plat:

- The developer shall construct all roadway, water, stormwater, sanitary sewer and irrigation improvements in accordance with the City of Kennewick requirements

- The Developer shall prepare a Trip Generation Analysis and Distribution letter in accordance with the City of Kennewick request

- The Developer shall prepare complete construction drawings for review and approval by the Benton County Road Department and the City of Kennewick. Drawings shall be prepared in accordance with the requirements of the City of Kennewick

- All signage including but not limited to stop signs, speed limit signs, street name signs and warning signs shall be installed by the developer to the City of Kennewick standards

- Power Pole locations shall be approved by the City of Kennewick

- Developer shall remove exiting access to E 27th Ave on parcel 107803000039001, replace and repair the existing curb

- Encroachment permits shall be required for work in the County right-of-way

Add the following notes to the final plat.

- A signature block for the County Engineer with the following.

  This Plat is hereby approved by the Benton County Road Department and all dedications of public right of way and/or easements shown hereon (if any) are accepted for their intended use.

- No building permit or FAS permit will be issued for any lot within this subdivision until a road approach permit has been obtained from the Benton County Road Department. All Approaches shall be built to City of Kennewick standards.

- There shall be no direct access to E 27th Ave from any lot within this subdivision.

- Property owners shall be responsible to construct the sidewalk abutting their property to Kennewick City Standards. This shall be part of the road approach permit requirements.

Donna Hutchinson

From: Segregations
Sent: Tuesday, March 9, 2021 11:55 AM
To: Donna Hutchinson
Subject: RE: SUB 2021-002 Agency Review

Follow Up Flag: Follow up
Flag Status: Flagged

This one looks good with regards to the legal description & ownership. Rikki Davis is taking a look at the parcels 118802010466002, 003 & 004 that are currently in open space program. Because they will need to be removed and back taxes paid.

Thanks.
Judy

From: Donna Hutchinson <Donna.Hutchinson@co.benton.wa.us>
Sent: Monday, March 1, 2021 2:40 PM
To: City of Kennewick-Greg.McCormick <Greg.McCormick@ci.kennewick.wa.us>; City of Kennewick <cedinfo@ci.kennewick.wa.us>; City of Kennewick - Fernando Garcia <Fernando.Garcia@ci.kennewick.wa.us>; Ben Franklin Transit - Bill Barlow (bbarlow@bft.org) <bbarlow@bft.org>; Ben Franklin Transit K. McMullen <KmcMullen@bft.org>; Ben Franklin Transit - B. Windler <bwindler@bft.org>; Fire District #1-Billie <billie@bentonone.org>; Fire District #1-Staff <staff@bentonone.org>; School District # 17-Ryan Jones <Ryan.Jones@ksd.org>; Columbia Irrigation District (CID@columbiairrigation.com) <CID@columbiairrigation.com>; john.lyle@bentoncleanair.org; Benton Clean Air-Priddy <robin.priddy@bentoncleanair.org>; Benton Clean Air-Rodger <rob.rodger@bentoncleanair.org>; Benton Clean Air-Tyler Thompson <tyler.thompson@bentoncleanair.org>; Benton-Franklin Dist. Health Dept. <rickd@bfhd.wa.gov>; Frontier Telephone <north.central.dbmc.control.desk@ncnetwork.net>; Dept. of Transportation (scplanning@wsdot.wa.gov) <scplanning@wsdot.wa.gov>; Dept. of Transportation-Jacob Prilucik <PrilucJ@wsdot.wa.gov>; Dept. of Transportation-Paul G <Gonsetp@wsdot.wa.gov>; Cascade Natural Gas (Walter.Nelson@cngc.com) <Walter.Nelson@cngc.com>; Natural Resources Conservation Service <ray.gekosky@wa.usda.gov>; US Postal Service (ina.n.beutler@usps.gov) <ina.n.beutler@usps.gov>; US Postal Service - Address Management System <Tina.C.Fisher@usps.gov>; WA Dept of Health - Kelly Cooper - WA Dept of Health - Kelly Cooper (SEPA.reviewteam@doh.wa.gov) <SEPA.reviewteam@doh.wa.gov>; Cristina Woods <Cristina.Woods@co.benton.wa.us>; Southeast Communication Center (k.lettrick@bces.wa.gov) <k.lettrick@bces.wa.gov>; Dept. of Ecology - Lori White (lori.white@ecy.wa.gov) <lori.white@ecy.wa.gov>; Clark Posey <Clark.Posey@co.benton.wa.us>; Mosquito Control (admin@mosquitocontrol.org) <admin@mosquitocontrol.org>; Mosquito Control District (angela@mosquitocontrol.org) <angela@mosquitocontrol.org>; Kathy Mann <Kathy.Mann@co.benton.wa.us>; PARKS <PARKS@co.benton.wa.us>; Segregations <segregations@co.benton.wa.us>; Benton PUD-Chad Brooks <Brooksc@bentonpud.org>; Benton PUD-Mike Irving <irvingm@bentonpud.org>; Benton PUD-Shanna Everson <eversons@bentonpud.org>; Benton PUD-tina Glines (glinest@bentonpud.org) <glinest@bentonpud.org>
Subject: SUB 2021-002 Agency Review

The Benton County Planning Department has prepared a Agency Review Packet for your review and comment. Due to the size of the document we have included a dropbox link below for you to access the file. We appreciate your review of the proposal and return of comments no later than **March 16, 2021**. This proposal will not be acted upon before that time.

https://www.dropbox.com/s/fc2jvvphh20jh4j/SUB%202021-002%20EA%202021-007%20Agency%20Review%20Packet%203-1-21.pdf?dl=0

Donna Hutchinson
Office Assistant IV
Community Development
Dept. - Planning Division
P.O. Box 910
Prosser, WA 99350
509-786-5612

Prosser: We are now located within the Road Department/Public Works Office on the first floor of the Benton County Courthouse at 620 Market St, Prosser WA 99350. Due to COVID 19 the Prosser Courthouse is currently closed to the public. Please contact us by email or phone.
Kennewick: The County has opened a new Public Services Office at 102206 E Wiser Parkway, Kennewick, which houses the Planning, Building and Road Departments.

Memorandum
Public Works

Leading the Way

To: Michelle Cooke, Benton County Assistant Planning Manager

From: Fernando Garcia, Development Services Supervisor

Date: March 13, 2021

Re: Public Works Comments

Project: SUB 2021-002 and EA 2021-007
Highland Vineyards

1. Outside Utility Agreement (OUA) from all applicants, residing outside the City of Kennewick (COK) limits required before issuing Public Works permit per Kennewick Municipal Code (KMC) 14.07.020. Submit OUA including all existing parcels connecting to sanitary sewer.
2. Submit the original OUA notarized with owners name and property legal description and printed on legal paper to 1010 E Chemical Dr for City of Kennewick Public Works to submit to Council for approval. As City offices are closed to the public at this time, please call 585-4419 before you deliver the signed original document.
3. Provide a water and sewer service to each proposed lot prior to final plat approval per KMC 17.10.080. Developer is required to submit civil drawings with the water and sanitary sewer design for City review and approval to issue a Public Works permit.
4. There is an existing 12-inch waterline on the west side of Columbia Irrigation District Canal to serve the proposed development installed with COK Drawing number C2383_12.
5. Developer will be required to extend 12-inch WL in E 27th Ave adjacent to development, Developer's portion of that 12-inch WL will depend on their need based on hydraulics.
6. Hydraulic analysis required to model proposed water main system for the site. Developer's engineer to provide their utility layout as well as any phasing plan. COK will submit to RH2 for scope and pricing and the developer will need to approve of the cost as they will reimburse the City
7. Provide water lines as required by Fire Department to meet fire protection to meet City of Kennewick Standards on Fire Hydrant spacing per City detail 1-3.
8. Hydrants will be required at each intersection, and average spacing of 500' between hydrants. KFD will have final approval as to location and number per attached plan.
9. Water main installation outside the City right of way to serve proposed development, Developer shall provide a 15-foot waterline tract centered over the new water main and five feet beyond fire hydrant runs. The documents must be recorded at Benton County Auditors,

and include the property owner signature. Dedication of the easement will be required prior to issuing a Public Works utility permit when waterline is outside the proposed plat.

10. There is an existing 8-inch sanitary sewer line stubbed west from sanitary sewer manhole located at the street intersection of E 27th Ave and S Gum St installed with COK Drawing number C4005_12.

1. Sanitary sewer main installation outside the City right of way to serve proposed development, Developer shall provide a 15-foot Sewer tract centered over the new sewer. The documents must be recorded at Benton County Auditors, and include the property owner signature. Dedication of the easement will be required prior to acceptance of the utility permit.
2. Each lot requires its own 4" connection to the city sewer system per KMC 14.22.030(10).
3. When preparing civil drawings to connect or extend water and sewer services, all plans showing existing utilities shall call out the Record Drawing set number that installed the utilities. All plans need to clearly identify the size and type of water/sewer utility that is being proposed or connected to (i.e. “Existing 8-inch Water” or similar). Label private lines “Private”.
4. All plans showing existing utilities shall call out the Record Drawing set number that installed such utilities. All plans need to clearly identify the size and type of water/sewer utility that is being proposed or connected to (i.e. “Existing 8-inch Water” or similar).
5. Relocation of the existing storm easement is acceptable, Professional Engineer licensed in the State of Washington to submit design for review and approval with the civil drawings.
6. This site requires a separate DPW Permit for civil plan reviews with the following:
    a. PDF copy of the Application for Civil Review and Storm Calculations.
    b. One full size (24”x36”) PDF copy of the construction plans.
    c. After project completion, Record Drawings showing improvements made on the property will be required prior to acceptance of the construction permit(s).
7. Kennewick Survey Data Requirements for construction plans and as built drawings:
    a. Construct all projects using current City Survey Data.
    b. For detailed information on Kennewick Survey Data and Record Drawings go to COK website @ https://www.go2kennewick.com/314/Civil-Plan-Review.

After Recording, Return to:

City of Kennewick
P.O. Box 6108
Kennewick WA 99336

CITY OF KENNEWICK
OUTSIDE UTILITY AGREEMENT

THIS AGREEMENT is made between the City of Kennewick, a municipal corporation, hereinafter referred to as "City," and the undersigned Owner(s), hereinafter referred to as "Owner."

Owner Name: _____
Address: _____
Parcel Number: _____
Legal Description:_____

SECTION 1. DEFINTIONS.

Unless otherwise specifically stated in this Agreement, the following terms shall have the following meanings:

1.1 The term "property" shall mean the property as shown in "Exhibit A" which is attached to this Agreement and incorporated by reference. The term shall also mean the individual lots or parcels that occur or are created as a result of the subdivision of the property as shown in "Exhibit A."

1.2 The term "Owner" and "Owners" shall mean any person, corporation, partnership, entity, being, trust, or agency that currently has title, or obtains title or ownership at any time in the future, to the property or properties as shown in "Exhibit A" of this Agreement. The definition of "Owner" as contemplated by this Agreement is intended to include the owner's heirs, successors, and assigns. The term shall also mean any person, corporation, partnership, entity, being, trust, or agency who purchases or otherwise obtains title to a lot or lots that are created as a result of the subdivision of the property as shown in "Exhibit A."

SECTION 2. RECITALS.

2.1 The City of Kennewick is not legally required to provide water and/or sewer service to property located outside of the Kennewick city limits.

2.2 Pursuant to Kennewick Municipal Code (KMC) 14.10.040 and 14.22.040(1), no extensions of the public water system or public sewer system shall be made outside of city limits except by contract approved by City Council.

2.3 Paragraph 2 of Resolution 13-28 provides that in exchange for supplying utility services, property owners are to sign an Outside Utility Agreement which conveys to the City the right to petition for annexation or protest any annexation or proposed annexation of the property receiving utility services.

2.4 The Outside Utility Agreement signed by the property owner(s) does not result in immediate annexation of the owner's property, but instead grants the City of Kennewick the authority to act on the property owner's behalf with regard to the issue of annexation should the property ever become eligible for annexation.

2.5 The Outside Utility Agreement does not give the City of Kennewick title to, or an ownership interest in, the property receiving utility services.

SECTION 3. UTILITY SERVICE CONDITIONS.

3.1 **Annexation Agreement.** In consideration and as a condition of receiving water and/or sewer service provided by the City of Kennewick, and for not denying a local improvement district as authorized under RCW 35.43.075, Owner agrees that at such time as the City desires to annex the property as shown in "Exhibit A," Owner shall fully cooperate with and agree to the annexation as follows:

3.1.1 Owner has been advised and understands that the City may commence annexation proceedings regarding the property as shown in "Exhibit A" at any time after the property becomes eligible for annexation following the authorization and recording of this Agreement.

3.1.2 Whenever so requested, Owner shall sign any letter, notice, petition, or other document initiating, furthering, or accomplishing the annexation of the property as shown in "Exhibit A" to the City.

3.1.3 Owner agrees that this document, once signed and recorded, shall be considered a valid petition for annexation of the property as shown in "Exhibit A," or any portion thereof, subject to any debt or zoning requirements imposed by the City upon such petition.

3.1.4 By entering into this Agreement, Owner knowingly, intelligently, and voluntarily waives any right to actively protest annexation of the property receiving utility services, whether annexation be by petition or otherwise.

3.1.5 By accepting the terms of this Agreement, Owner grants to the City an irrevocable power of attorney to execute any annexation documents on behalf of the Owner, or as may be necessary to complete the annexation, so long as the City remains a municipal corporation. This power of attorney shall not be affected by the disability of the principal.

3.2 **Utility Improvements**. Water and/or sewer service shall not be provided until all applicable utility improvements are constructed, inspected and approved, and meet City standards and specifications. Owner shall pay to the City, when due, all connection charges, capital recovery fees, service fees, local improvement assessments, and any other charges and fees required by law to be paid for the utility services being applied for. Connection to, or extension of, the public utility system will be at Owner's expense and liability. Further, Owner is required to obtain and record any easements as may be required.

3.3 **Change in Development.** Any change in the site development from the approved use or corresponding development plan as provided to the City, that is determined by the City to constitute a significant change in the demand on the utility system, may result in the imposition of additional conditions to this Agreement, or the revocation of this Agreement.

3.4 **Fire Protection.** The City's approval of water service does not guarantee fire protection flow requirements.

SECTION 4. MISCELLANEOUS PROVISIONS.

4.1 **Modification.** No modification of this Agreement, with the exception of the conditions imposed by the City pursuant to subsection 3.2 of this Agreement, shall be made unless mutually agreed upon by the parties in writing.

4.2 **Severability.** In the event that any term or clause of this Agreement conflicts with applicable law, the conflicting term shall be severed, and such conflict shall not affect the other terms and conditions of this Agreement.

4.3 **Costs and Attorney Fees.** In the event that litigation of this Agreement results between the parties hereto, the prevailing party shall be awarded, in addition to other damages allowed by law, its reasonable attorney fees and costs incurred in pursuing such litigation. Further, Owner agrees that, should it be necessary for the City to enforce any of the provisions of this Agreement, Owner shall pay to the City all reasonable attorney fees and costs incurred by the City in enforcing this Agreement.

4.4 **Agreement Runs With Land.** The terms and conditions of this Agreement shall constitute covenants running with the land and shall be binding upon the heirs, successors, and assigns of the Owner.

4.5 **Community Property.** When the property receiving utility services is community property, Owner acknowledges and agrees that subsequent removal of one spouse's name from the property's title does not void, rescind, or otherwise invalidate this Agreement.

4.6 **Recording.** This Agreement shall be recorded immediately upon execution among the land records of the Benton County Auditor. In addition, this Agreement shall be recorded and shall appear on the title of each parcel or lot that is created as a result of the subdivision of the property, if applicable. All recordings of this Agreement shall occur at Owner's expense.

4.7 **Breach.** The failure to meet any of the terms or conditions of this Agreement shall constitute a material breach of this Agreement. In the event of a breach, the City may, in addition to any other remedy provided by law, refuse to provide water and/or sewer service to the breaching party or the affected property.

4.8 **Release of Claims.** By signing this Agreement, Owner releases the City from any and all lawsuits, claims, causes of action, damages or fees, whether known or unknown, that it may have or may bring against the City as a result of the process for obtaining the water and/or sewer service as contemplated by this Agreement.

4.9 **Complete Agreement.** This Agreement represents and contains the entire understanding between Owner and the City with regard to obtaining water and/or sewer services outside of City limits. The parties acknowledge that no other oral or written collateral agreements, understandings, or representations exist outside of this document. Any such prior agreements are specifically terminated.

Owner(s) have been given an opportunity to address any questions and concerns with the attorney of their choosing. By signing below, Owner(s) agree that they have read this Agreement, or have had this Agreement read to them. Further, Owner(s) agree that they understand the terms and conditions of this Agreement, and have chosen to enter into this Agreement in a knowing, intelligent, and voluntary manner.

Dated this _____ day of _____, 20___.

_____ _____

Signature of Property Owner
Printed Legal Name: _____

City Manager (Representative)

_____

Signature of Property Owner
Printed Legal Name: _____

(Note: If the Grantor is a corporation or partnership, please attach documentation of authority for signature, i.e. Articles of Incorporation.)

STATE OF WASHINGTON)
) ss.
County of Benton)

On the _____ day of _____, 20__, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared _____, to me known to be the individual that executed the within and foregoing instrument and acknowledged said instrument to be their free and voluntary act and deed for the uses and purposes therein mentioned.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

_____
Notary Public in and for the State of Washington,
residing at _____. My Com. Exp.: _____.

STATE OF WASHINGTON)
) ss.
County of Benton)

On the _____ day of _____, 20__, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared _____, to me known to be the individual that executed the within and foregoing instrument and acknowledged said instrument to be their free and voluntary act and deed for the uses and purposes therein mentioned.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

_____
Notary Public in and for the State of Washington,
residing at _____. My Com. Exp.: _____.

STATE OF WASHINGTON)
) ss.
County of Benton)

On the _____ day of September, 2019, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared **MARIE E. MOSLEY**, to me known to be the City Manager of the City of Kennewick, Washington, the corporation that executed the within and foregoing instrument and acknowledged said instrument to be the free and voluntary act and deed of said municipal corporation for the uses and purposes therein mentioned, and on oath stated that he is authorized to execute said instrument and that the seal affixed is the corporate seal of the City of Kennewick.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

_____
Notary Public in and for the State of Washington,
residing at _____. My Com. Exp.: _____.

Exhibit A, Map

Allyson Brooks Ph.D., Director
State Historic Preservation Officer

March 15, 2021

Michelle Cooke
Assistant Planning Manager
Benton County
620 Market St, 1st Floor
Prosser, WA

In future correspondence please refer to:
Project Tracking Code: 2021-03-01550
Property: Benton County_Highland Vineyards Subdivision (EA 2021-007)
Re: Survey Requested

Dear Michelle Cooke:

Thank you for contacting the Washington State Historic Preservation Officer (SHPO) and Department of Archaeology and Historic Preservation (DAHP) and providing documentation regarding the above referenced project. Our statewide predictive model indicates that there is a high probability of encountering cultural resources within the proposed project area. Further, the scale of the proposed ground disturbing actions would destroy any archaeological resources present. Identification during construction is not a recommended detection method because inadvertent discoveries often result in costly construction delays and damage to the resource. Therefore, we recommend a professional archaeological survey of the project area be conducted prior to ground disturbing activities. We also recommend consultation with the concerned Tribes' cultural committees and staff regarding cultural resource issues.

These comments are based on the information available at the time of this review and on behalf of the SHPO in conformance with Washington State law. Should additional information become available, our assessment may be revised.

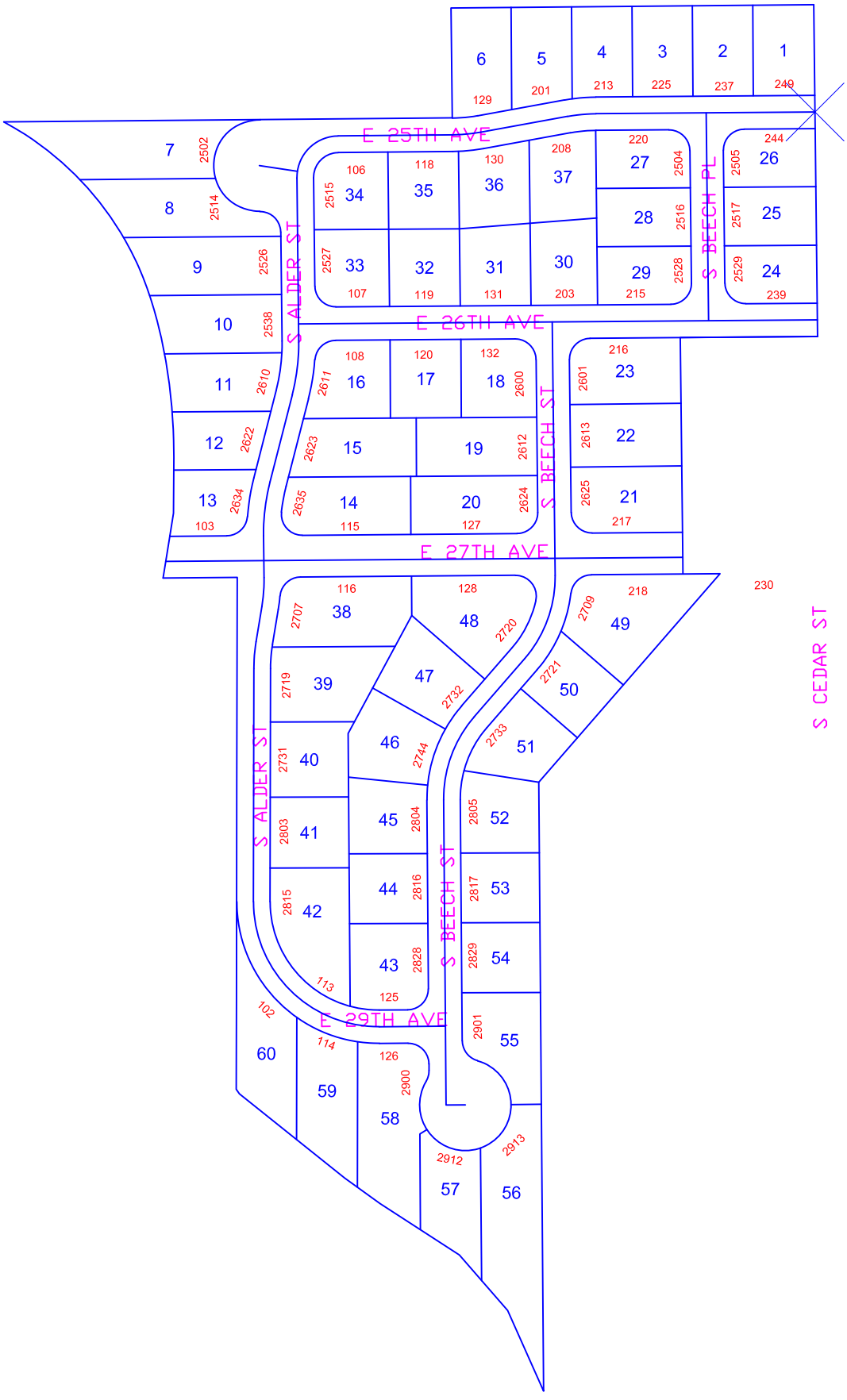
Thank you for the opportunity to comment on this project and we look forward to receiving the survey report. Please ensure that the DAHP Project Number (a.k.a. Project Tracking Code) is shared with any hired cultural resource consultants and is attached to any communications or submitted reports. Should you have any questions, please feel free to contact me.

Sincerely,

Sydney Hanson
Transportation Archaeologist
(360) 280-7563
Sydney.Hanson@dahp.wa.gov

City of Kennewick
Addressing Map

PCM 1.21



PCM 1.22

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
1250 West Alder Street • Union Gap, Washington 98903-0009 • (509) 575-2490

March 16, 2021

Michelle Cooke
Benton County Planning
PO Box 910
Prosser, WA 99350

Re: SEPA Register 202101041, EA 2021-007; SUB 2021-002

Dear Ms. Cooke:

Thank you for the opportunity to comment during the Optional Determination of Non Significance process for the preliminary plat of Highland Vineyards for the subdivision of 16.86 acres into 60 lots, proposed by RJ and Diane Hoch. We have reviewed the documents and have the following comments.

WATER QUALITY

Project with Potential to Discharge Off-Site
If the project anticipates disturbing ground with the potential for stormwater discharge off-site, the NPDES Construction Stormwater General Permit is recommended. This permit requires that the SEPA checklist fully disclose anticipated activities including building, road construction and utility placements. Obtaining a permit may take 38-60 days.

The permit requires that a Stormwater Pollution Prevention Plan (Erosion Sediment Control Plan) shall be prepared and implemented for all permitted construction sites. These control measures must be able to prevent soil from being carried into surface water and storm drains by stormwater runoff. Permit coverage and erosion control measures must be in place prior to any clearing, grading, or construction.

In the event that an unpermitted Stormwater discharge does occur off-site, it is a violation of Chapter 90.48 RCW, Water Pollution Control and is subject to enforcement action.

More information on the stormwater program may be found on Ecology's stormwater website at: http://www.ecy.wa.gov/programs/wq/stormwater/construction/. Please submit an application or contact **Lloyd Stevens Jr.** at the Dept. of Ecology, 509-574-3991 or email lloyd.stevensjr@ecy.wa.gov , with questions about this permit.

Sincerely,

Gwen Clear

Gwen Clear
Environmental Review Coordinator
Central Regional Office
(509) 575-2012
crosepa@ecy.wa.gov

Donna Hutchinson

From: CID <cid@columbiairrigation.com>
Sent: Wednesday, March 17, 2021 10:11 AM
To: Donna Hutchinson
Subject: [EXTERNAL] RE: Notice of Application for EA 2021-007 Highland Vineyards

Good Morning,

Thank you for sending a reminder. We only have one comment: Return flow, storm waters or any other substances are not allowed in CID infrastructure unless approved through our permitting process. Please contact me with any questions.

Thank you,

Lila Freshment
Office Manager
Columbia Irrigation District
10 E Kennewick Avenue
Kennewick, WA 99336
Phone: (509) 586-6118
Fax: (509) 586-0485
lfreshment@columbiairrigation.com

From: Donna Hutchinson <Donna.Hutchinson@co.benton.wa.us>
Sent: Tuesday, March 16, 2021 10:38 AM
To: Michelle Cooke <Michelle.Cooke@co.benton.wa.us>
Subject: FW: Notice of Application for EA 2021-007 Highland Vineyards

This is a reminder that the deadline for comments on the Environmental Checklist for Highland Vineyards Subdivision File No. EA 2021-007 is up tomorrow and we are still waiting for comments from your agency on the Environmental impacts this project may have. Please send any comments you may have on this project to our office as soon as possible. Thank You If you have questions regarding this action please contact our office.

Donna Hutchinson
Office Assistant IV
Community Development
Dept. - Planning Division
P.O. Box 910
Prosser, WA 99350
509-786-5612

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Kennewick: The County has opened a new Public Services Office at 102206 E Wiser Parkway, Kennewick, which houses the Planning, Building and Road Departments.

From: Donna Hutchinson
Sent: Monday, March 1, 2021 1:17 PM
To: Brian Bell <Brian.Bell@co.benton.wa.us>; Jenelle Schadler <Jenelle.Schadler@co.benton.wa.us>; Michelle Johnson <Michelle.Johnson@co.benton.wa.us>; Rod Worthington <Rod.Worthington@co.benton.wa.us>; Troy Taylor <Troy.Taylor@co.benton.wa.us>; Brad O'Brien <Brad.Obrien@co.benton.wa.us>; Clark Posey <Clark.Posey@co.benton.wa.us>; Dept. of Natural Resources <dnrmisepacenter@dnr.wa.gov>; Dept. of Natural Resources-Shafer (ana.shafer@dnr.wa.gov) <ana.shafer@dnr.wa.gov>; Benton County Roads/Public Works - Cristina Woods (Cristina.Woods@co.benton.wa.us) <Cristina.Woods@co.benton.wa.us>; Benton Franklin Health District - Rick Dawson <rickd@bfhd.wa.gov>; Dept. of Transportation (scplanning@wsdot.wa.gov) <scplanning@wsdot.wa.gov>; Dept. of Transportation- Paul G <Gonsetp@wsdot.wa.gov>; Dept. of Transportation-Jacob Prilucik <PrilucJ@wsdot.wa.gov>; WA Dept of Health - Kelly Cooper - WA Dept of Health - Kelly Cooper (SEPA.reviewteam@doh.wa.gov) <SEPA.reviewteam@doh.wa.gov>; Dept. of Ecology - Lori White (lori.white@ecy.wa.gov) <lori.white@ecy.wa.gov>; Dept. of Ecology <SEPAUNIT@ecy.wa.gov>; Dept. of Ecology <crosepacoordinator@ecy.wa.gov>; Dept. of Ecology SEPA Register <separegister@ecy.wa.gov>; Dept. of Fish and Wildlife, Michael W. Ritter <rittemwr@dfw.wa.gov>; Dept. of Fish and Wildlife-SEPA Review (SEPADesk@dfw.wa.gov) <SEPADesk@dfw.wa.gov>; Bureau of Land Management - Spokane <OR_Spokane_Mail@blm.gov>; Chief Lonnie Click - Fire District #1 <Lonnie@BentonOne.org>; Fire District #1 - Billie <billie@bentonone.org>; Fire District # 1 - Scott <scott@bentonone.org>; Fire District #1 - Staff <staff@bentonone.org>; Futurewise - Alison Cable <alison@futurewise.org>; Futurewise - Tim Trohimovich <tim@futurewise.org>; WA Dept of Archaeology and Historic Preservation (sepa@dahp.wa.gov) <sepa@dahp.wa.gov>; Fernando Garcia <Fernando.Garcia@ci.kennewick.wa.us>; City of Kennewick - Greg McCormick <Greg.McCormick@ci.kennewick.wa.us>; City of Kennewick - CEDInfo <cedinfo@ci.kennewick.wa.us>; Columbia Irrigation District <CID@columbiairrigation.com>; Tom Price-Environmental Review Inc. (envreview@gmail.com) <envreview@gmail.com>; Benton Clean Air - John Lyle <john.lyle@bentoncleanair.org>; Benton Clean Air - Rob Rodger <rob.rodger@bentoncleanair.org>; Benton Clean Air - Tyler Thompson <tyler.thompson@bentoncleanair.org>; Benton Clean Air Authority - Robin Priddy <robin.priddy@bentoncleanair.org>; Bureau of Reclamation - C. Garner (cgarner@usbr.gov) <cgarner@usbr.gov>; Bureau of Reclamation - L Hendrix - Bureau of Reclamation (lhendrix@usbr.gov) <lhendrix@usbr.gov>; Bureau of Reclamation -McKinley (cmckinley@usbr.gov) <cmckinley@usbr.gov>
Subject: Notice of Application for EA 2021-007

The Benton County Planning Division has prepared the attached Notice of Application. This is being circulated for review by all agencies with jurisdiction. We are circulating it for comments on the **environmental impacts** of this action. We appreciate your review of the proposal and return of comments no later than **March 17, 2021**. This proposal will not be acted upon before that time.

Donna Hutchinson
Office Assistant IV
Community Development
Dept. - Planning Division
P.O. Box 910
Prosser, WA 99350
509-786-5612

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