City of Puyallup
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May 06. 2022

ABBEY ROAD GROUP
PO BOX 1224
PUYALLUP, WA 98371

DEVELOPMENT REVIEW TEAM (DRT) LETTER	
DRT #	1
PERMIT #	P-21-0034
PROJECT NAME	EAST TOWN CROSSING
PERMIT TYPE	Preliminary Site Plan
PROJECT DESCRIPTION	PRELIMINARY SITE PLAN ~ EAST TOWN CROSSING DEVELOPMENT LETTER SENT 2021
SITE ADDRESS	2902 E PIONEER ;
PARCEL #	0420264021;
ASSOCIATED LAND USE PERMIT(S)	P-20-0027 P-20-0042 P-20-0028 L-20-0002 P-20-0077 P-21-0025 P-19-0010 P-20-0031
APPLICATION DATE	April 02, 2021
APPLICATION COMPLETE DATE	
PROJECT STATUS	**Active Development Review Team (DRT) review case – resubmittal required.** Please address review comments below and resubmit revised permit materials and by responding in writing to the remaining items that need to be addressed.
APPROVAL EXPIRATION	**N/A –** Active permit application, not approved
CONDITIONS	**Active permit application, not approved;** Pursuant to PMC 20.11.022 regarding inactive applications, any and all pending land use applications or plat applications shall be deemed null and void unless a timely re-submittal is made to the City within 1 year of issuance of this Development Review Team (DRT) comment letter. DRT review letters typically identify requested corrections, studies or other additional required pieces of information necessary to demonstrate conformance with the City's adopted development standards and codes. Subsequent applicant re-submittals shall make a good faith effort to respond to each request from this letter in order for the application to remain active. The failure to provide timely responses or lack of providing the requested material(s) within the 1-year window following DRT comment letter issuance shall be grounds for expiration, thus deeming the pending

	application null and void with or without a full or partial refund of application fees.

HOW TO USE THIS LETTER

This review letter includes two sections: **"Action Items"** and **"Conditions".**

The **"Action Items"** section includes all items that the applicant must address to comply with the Puyallup Municipal Code (PMC) and city standards. Items listed in under **Action Items** require a resubmittal under this permit for further review by the Development Review Team (DRT); your application is not approved. Please make those updates to the proposed plans and resubmit for review. Please include a response letter outlining how you have revised your proposal to meet these items for ease of plan check by DRT members.

The "**Conditions"** are items that will govern the final permit submittal(s) for the project. Please be aware that these conditions will become conditions of the final permits and/or recommendations to the Hearing Examiner, if applicable.

If you have questions regarding the action items or conditions outlined in this letter, please contact the appropriate staff member directly using the phone number and/or email provided.

ACTION ITEMS

Fire Review - David Drake; (253) 864-4171; DDrake@PuyallupWA.gov

- 1. Site Plan has drastically been changed.
  2. Previous notes that were once satisfied are now no longer in compliance.
  3. Frontage Fire Hydrants outside the fencing shall be separate from required internal Fire Hydrants.
  4. Remove FDC's outside fence line and place internal meeting the correct spacing.
  5. Do not block Fire Hydrants or FDC with parking stalls. All will be required to be moved to parking islands.
  6. Fire Hydrants and FDC's are required to be a minimum of 50' from the structure. If this can not be applied a variance can be accepted.
  7. If an FDC is utilizing A Fire Hydrant in front of the building, there will need to be a separate Fire Hydrant available that reaches all points for the same structure within 400' Check spacing on all Fire Hydrants that this can be met.
  8. All Fire Hydrants call out an FDC?
  9. This project requires a 26' wide fire lane. Show all dimensions throughout project including newly added drive through building where the gas station used to sit.
  10. No details provided for drive through and side building. Provide more details for approval.
  11. Auto-turn or equivalent program required to demonstrate fire apparatus turning radiuses with new design.
  12. Carports may impact ladder truck operations. Provide details on Heights, depths, and widths for approval.
  13. Club House with added pool. The riser room appears to be now in the fenced pool area? Relocate riser room or provide direct access outside of fenced area with a concrete path around building.
  14. This is not a complete review. Review past Fire notes and apply to this site plan.

Traffic Review - Bryan Roberts; (253) 841-5542; broberts@PuyallupWA.gov

- City has not received an updated TIA for this project. It's my understanding the applicant's traffic engineer is working on updating this document. Please see email sent 2/4/2022 for additional information on TIA requirements. The City will need to review/approve this document prior to preliminary site plan approval. Also, the following items were not addressed during the previous review:
  1. Right turn pocket was not evaluated at the E Pioneer Driveway using WSDOT Exhibit 1310-11.
  2. Provide a narrative within your traffic analysis showing how this driveway would be evaluated using this WSDOT Exhibit 1310-11. Provide your professional opinion on how this exhibit should be interpreted for this development.

  City will require a reduced speed school zone to be installed for Shaw Rd Elementary. The City has determined a reduced speed school zone on Shaw Rd is feasible. Design required during civil submittal. Coordinate with Engineering staff regarding equipment specs.

  Civil plan set shall provide a detailed channelization plan for all striping & pavement markings in within ROW. All proposed striping shall meet City and MUTCD requirements. Plan shall include signage located in ROW. All City standard details related to pavement markings, striping, sign placement must be provided.

  Provide AutoTurn analysis for this radius (NBR movement from outside Shaw Rd lane) to ensure design vehicles can safely maneuver without impacting WBL turn pocket

  Street lighting plan will be reviewed during civil review. Please reference "conditions" section for street lighting design requirements. Preliminary streetlight design does not meet City standards. (SL1)

  The E Pioneer curb alignment does not match Pioneer crossing offset. I estimate the curb alignment needs to shift 2ft toward roadway centerline. This will place the curb at approximately 34ft from centerline. Please see "conditions" section for more details. (sheet 91)

  Per previous comment, ROW dedication on E Pioneer needs clarification. City estimates that only 52.5ft (from centerline) is needed along frontage. However, 56ft (from centerline) is shown. (sheet 91)

  On the east side of the E Pioneer driveway, the creek alignment needs to shift approximately 2ft south of current location (match offset/alignment on the west side of the driveway). This will avoid conflicts with future frontage improvements. (sheet 91)

  Per previous comments, sight distance analysis required at the E Pioneer driveway per City Standards. ESD of 415ft is required at this driveway. Assume 14.5ft setback from the E Pioneer curb alignment (west side only) and 3.5ft driver eye height. It appears there's a pedestrian barricade and a fence that will obstruct sight distance here. (sheet 91)

  On sheet 91, please reference Engineering comments regarding the radius design at the E Pioneer driveway.

  Per previous comments, the channelization plan for E Pioneer needs to provide the following information:
  1. Applicant will need to verify there's adequate ROW to accommodate paved offsite taper.
  2. Applicant to verify paved transition will provide adequate utility pole clearance from the travel lane.

  (sheet 92)

Bus Stop 2A & 2B are not feasible. These locations will cause significant sight distance hazard for vehicles entering E Pioneer from site driveway. Please clarify if on-site school bus access is necessary. Email from PSD (9/21/22) seemed to indicate they do not want internal bus access. (sheet 97)

- CONDITIONS

Traffic Impact fees (TIF) will be assessed in accordance with fees adopted by ordinance, per PMC 21.10.

Impact fees are subject to change and are adopted by ordinance. The applicant shall pay the proportionate impact fees adopted at the time of building permit application

Park impact fees shall be charged per new dwelling unit based on its size. Fees are assessed in accordance with fees adopted by ordinance, per PMC 21.10

School impact fees shall be paid directly to the school district in accordance with adopted fee at the time of collection by the District.

Per Puyallup Municipal Code Section 11.08.130, the applicant/owner would be expected to construct half-street improvements including curb, gutter, planter strip, sidewalk, roadway base, pavement, and street lighting. Any existing improvements which are damaged now or during construction, or which do not meet current City Standards, shall be replaced. Based on the materials submitted, the applicant would be expected to construct half-street improvements on the following streets:
a. E Pioneer is designated as a major arterial roadway, consisting of curb, gutter, 10' planter strips, 8' sidewalks, and City standard streetlights every 150ft.
b. The east leg of the Shaw/Pioneer intersection was designed to accommodate 5 lanes of traffic (56ft throat) to align with the existing channelization on west side of Shaw Rd. The curb line along the south side of E Pioneer frontage shall continue this alignment heading East (approximately 34ft from centerline). This will require roadway widening to accommodate this alignment.
c. Sidewalks and planter strips will not be required east the E Pioneer driveway. However, ROW dedication will be required to facilitate future improvements.
d. A TWLTL is required along the E Pioneer frontage (minimum 75ft on either side of driveway).
e. Paved transitions off-site will be required for safety reasons.
f. Shaw Rd is designated as a major arterial. Per our comprehensive plan, this section of Shaw Rd shall be constructed with a shared use path along the entire length of frontage. The dimensions and materials shall match the existing Shaw Rd shared use path constructed between 23rd Ave SE & Manorwood Dr.
g. As part of these improvements, additional right-of-way (ROW) may need to be dedicated to the City.

During civil review, City staff shall review street tree placement, monument signage, fences, etc. to ensure required sight distance requirements are met.

Site access driveways shall meet our minimum commercial driveway requirements (35ft curb radius, 30ft width). This is could change based on design vehicles used for the AutoTurn.

Site access restrictions:
a. No SBL movement at traffic signal
b. E Pioneer Driveway
Driveway can remain full access as shown with the following conditions:
1. Driveway spacing from Shaw Rd remains as shown on the current site plan
2. TWLTL extending 75ft on either side of driveway (within E Pioneer)
3. Entering sight distance standards are met to allow outbound left turns.
4. At the City's full discretion, outbound left turns from the proposed E Pioneer driveway can be restricted in the future. The following statement will be placed on the face of the short plat:
a. "At the discretion of the City, the City may restrict outbound left turns from the E Pioneer access in the future. At the request of the City, the Owners, Heirs, Successors and Assigns agree to renovate

and/or improve the driveway access in accordance with the City of Puyallup Municipal Code and Engineering Standards."

At the time of civil permit review provide a separate street lighting plan and pavement striping plan (channelization) sheet for the City to review.
a. Street lighting plan:
i. City standard streetlights are required every 150ft along E Pioneer frontage.
ii. E Pioneer (Arterial) will require GE EVOLVE ELR2 Fixtures ERL2-3-23-A3-40-D-Gray-A-V1 (City to provide latest part numbers)
iii. The existing service cabinet at the E Pioneer/Shaw Rd traffic signal has capacity to power the E Pioneer streetlights.
iv. City would allow new streetlights to be installed on the north side of E Pioneer to avoid overhead utility conflicts.
v. If the applicant choses to install streetlights on the south side of E Pioneer, it is the sole responsibility of the design engineer to ensure streetlight design/placement is outside of the 10ft minimum "safe zone" area. The City will not allow streetlights to be within 10ft of the PSE primary for safety reasons.
vi. Streetlights shall have shorting caps installed with remote photocell located on the service cabinet.
vii. The existing PSE utility pole mounted streetlight does not meet current City standards and will be removed with installation of City standard streetlights.
viii. Streetlight design shall provide the following:
1. Provide details on how streetlights will be powered
2. Location of conduit runs
3. Wiring Schedule
a. Conduit size and type for each raceway
b. Conductors details
4. Pole schedule
a. STA & offset for each luminaire
5. Show location of junction boxes

b. Channelization + signage plan:
i. Shaw Rd/E Pioneer traffic signal may require striping and signage modifications based on the design of the E Pioneer frontage/driveway.
ii. The new Shaw Rd traffic signal will also require striping and signage modifications.
iii. Pavement markings approaching traffic signal shall be thermoplastic

Traffic signal modifications
a. The Shaw Rd access intersection (signal) will require modifications to accommodate the proposed driveway. The applicant will coordinate with the City's Adaptive Signal Contractor to purchase/install/configure proprietary equipment.
b. Signal designer will implement modifications to the westbound and eastbound approach:
i. Signal heads + phases
ii. Flashing yellow arrows
iii. Left turn phases
iv. Striping/channelization modifications - Channelization shall match the assumptions outlined in the TIA
c. The applicant will install a new crosswalk at this signal to accommodate pedestrians crossing Shaw Rd. At this location, only one crosswalk will be allowed to cross Shaw Rd.
d. Crosswalk will be installed on the south leg of the intersections (see additional requirements below).
e. The required signal/intersection modifications must be fully configured and operational no less than 2

weeks prior to receiving occupancy for any building on-site. Adaptive signal contractor (Rhythm Engineering) will be required to configure the adaptive system on-site.
f. At the SE corner of the new Shaw Rd access location, adequate ROW must be dedicated, or an easement granted for signal maintenance purposes.

Based on comments received from the school district, this site will not receive bus service for students attending Shaw Rd Elementary. These students will be expected to walk. Based on the increase volume of elementary age students walking to Shaw Rd Elementary. The City will require the following modifications:
a. At the new traffic signal, an electronic blank-out sign shall be mounted on the eastbound signal pole that restricts eastbound "right turn on red" vehicle movement when pedestrians are using the crossing
b. Internal pedestrian paths will need to accommodate safe routing to the traffic signal.
c. Reduced Speed School Zone along Shaw Rd has been requested by the School District. If the City determines a reduced speed school zone is feasible/warranted for Shaw Rd Elementary, this mitigation will be required (to be installed by the East Town Crossing development).

Planning Review - Chris Beale; (253) 841-5418; CBeale@PuyallupWA.gov

- CRITICAL AREAS - FLOODPLAIN HABITAT ASSESSMENT: Currently under review by city's critical areas consultant (Confluence). Notes to be transmitted under a separate cover.
  CRITICAL AREAS – STREAM BUFFER MITIGATION PLAN: Provide encroachment agreement for TPN 0420351000. Currently under review by city's critical areas consultant (Confluence). Notes to be transmitted under a separate cover.
  CRITICAL AREAS – GEOTECHNICAL REVIEW: Please re-review the April 22, 2021 report from Landou and provide substantive response. The 12/22/21 response to comment letter from Abbey Road incorrectly indicates the wetland report as a response to the city's geotechnical review comment letter.

- SEPA: The city's Safe Routes to Schools Plan does indicate a need to slow and calm traffic on this high speed 5 lane arterial corridor per our previous comment. The project may be required through SEPA to mitigate conditions to allow safe walking for children residing in the area as a result of the project. This may include speed zone signage off site, or some other form of improvements. Please be aware this is an outstanding SEPA issue.
- provide ADA raised pathway cross walk. [arch site plan sheet 1]
- Landscaping with a wall or berm required by code. 25' landscape setback required by SPO overlay [arch site plan sheet 1]
- Plaza space oriented to street corner required - Shaw Road has a min/max setback. See PMC 20.30.037 [arch site plan sheet 1]
- Plaza area and street orientation required - max setback is 20' See PMC 20.30.037 [arch site plan sheet 1]
- 25' setback for building H and adjacent car port [arch site plan sheet 1]
- SPO overlay only allows 25' landscaping between building and street - not drive thru lane, [arch site plan sheet 1]
- Landscape yard at zero [arch site plan sheet 1]
- 10' building setback from buffer [arch site plan sheet 1.
- 10' building setback from buffer [arch site plan sheet 1.
- Swale cannot conflict with site plan design principles See PMC 20.30.037 [arch site plan sheet 1]

- RESIDENTIAL SITE PLAN: Building setbacks from all roadway frontages (Shaw and Pioneer) is 25' per PMC 20.25.020 (12). Building H and the adjacent car port structure appears to not meet this standard and may only be constructed as shown if the Development Agreement authorizes setbacks. Can cumulative adjustments to yard spaces within the court yard and yard spaces for buildings G and H be made to adjust the setback along Shaw Road to 25' for building H? Can the carport nearest Shaw Road be omitted?
- RESIDENTIAL SITE PLAN: Please provide coordination of the revised bus plan and autoturn analysis with the School District. The included documentation (McMillan email, 09/22/21) shows concerns on the part of the school district. Its not clear if those issues are resolved.
- RESIDENTIAL SITE PLAN: PMC 21.06.840 requires a 10' building setback from all critical area buffers.
- RM PROPERTY DEVELOPMENT STANDARDS – DENSITY: The overall bonus density calculation has not been provided on the site plan sheets to verify the bonuses we are able to grant; on sheet 1 of the Abbey Road cover sheet, the land area is described as 8.29a (@ 193 units = density of 23 units/acre). We can analyze the applicability of the buffer density transfer and the open space allowed to re-calculate what is allowed by code.

  BUFFER DENSITY TRANSFER: To transfer the density from the off-site stream buffer, a permanent protective easement shall be established pursuant to PMC 21.06. – a copy must be provided with the preliminary site plan application for TPN 0420351000. The land area involved and shown on the site plan is 1.3 acres of off site, zoned RS-10 (4 units/acre). 25% of the allowed density is (1.3 acres X 4 units/acre = 5.23 additional units allowed to transfer.

  OPEN SPACE BONUS: This bonus is related to centralized active open space above and beyond the required active amenity area required by 20.25.040 (2)(A). The analysis shows the site qualifies for this bonus as follows – 8.29a X 16 units = 133 units (base allowed by RM-20). 133 units X 15% bonus = 20 additional units, or a maximum of 153 units total

  PUBLIC TRANSIT: Bus stops for School District will not count toward this requirement.

- LANDSCAPING: Any DA landscape yard proposed cannot be assumed until the DA is approved. Please reference previous review notes for correct yard areas. Once the DA is approved, the corrected yards will be plan checked at the civil permit stage. The type IV landscape islands can be adjusted administratively.

  LANDSCAPING: The buffer area on the south side of the stream corridor on East Pioneer and the entire east site of the site plan shall include only native plants. The landscape plan sheets show cultivated varieties of ornamentals in the stream buffer areas. The stream mitigation plan landscaping sheets do not show a large enough area of native buffer – please reconcile the sheets. This will also be covered in the Confluence letter review (separate cover).

  LANDSCAPING: Please specify the 'marsh mix' of plants. The bio swale area near the Shaw/Pioneer corner must be landscaped to meet the intent of the Type II landscape design. Grass line swales do not qualify to meet code. I cannot locate the marsh mix on the details sheets. Additionally, the swale is conflicting with the building location (PMC 20.30.037).

- COMMERCIAL SITE PLAN: Lot 2 drive through land use – the Shaw Pioneer overlay district requires

  "a 25-foot arterial setback shall be preferred in CG/CB zones and the setback area shall be landscaped. Arterial setbacks of less than 25 feet may be permitted upon demonstration that the setback is landscaped and provides a pedestrian-friendly experience consistent with subsection (3) of this section. Buildings shall be oriented toward the adjacent street(s) and separated from the street by the above landscaped setback."

  The drive-through restaurant separates the building frontage from the public street – a 25' landscaped setback with a berm is required. The drive through lane is not allowed to separate the building frontage from the street ROW and may only be deviated from through the DA.

- ARCHITECTURAL DESIGN REVIEW– COMMERCIAL: Provide analysis for PMC 20.26.300 (1)-(5), PMC 20.46 (SPO Overlay) and 20.30.037 (site plan design principles) related to the two commercial structures.
- COMMERCIAL SITE PLAN: Please provide parking space break down per proposed building use(s). A total of 73 stalls are provided – we need a break down based on total floor area and land uses anticipated.
- COMMERCIAL SITE PLAN: A required plaza space on the lot 1 commercial building shall be located on the Shaw Road and Pioneer side per PMC 20.30.037. The building on the street corner of Shaw and Pioneer is set too far back to meet the build to area maximum setback of 20'.
- ARCHITECTURAL DESIGN REVIEW – RESIDENTIAL: PMC 20.26.200 (4)(b)(iv). Please address the code requirements with a revised architects narrative and how the roof line change for each building is meeting code, staff cannot determine compliance: "Roofline variety in buildings over one story in height such that no ridgeline is greater than 24 feet in length without a two-foot vertical or sloped offset that creates a new ridgeline that is at least 10 feet in length".

  ARCHITECTURAL DESIGN REVIEW– RESIDENTIAL: PMC 20.26.200 (5)(b)(iv). The Abbey Road 12/22/21 response letter does not describe the approach to change in each story of the building how the horizontal change is met. The lower floor on buildings 1, 2 and 3 has a pronounced horizontal trim band but stories above do not. Code contemplates between stories, not limited to the lowest floor only. "Between the stories of a building, a change in materials or color separated by continuous horizontal trim bands, continuous horizontal decorative masonry, or a recess or projection by at least two feet

  ARCHITECTURAL DESIGN REVIEW– RESIDENTIAL: PMC 20.26.200 (6)(b). Section (6)(b) requires some level of variation between all 8 buildings and cannot 'photo-copy' the design throughout. If the DA is approved with a deviation, the allowed variation standard would be plan checked at the building permit stage.

  ARCHITECTURAL DESIGN REVIEW– RESIDENTIAL: PMC 20.26.200 (7) – entry design. Please provide a short narrative response on which standards (2) are being applied to the entry ways on each building type; each entry looks covered, but we cannot determine based on Abbey Road's response which other standard is selected. The elevations don't show enough detail to conduct determine on the two required methods used.

  ARCHITECTURAL DESIGN REVIEW– RESIDENTIAL: PMC 20.26.200 (8), (9) – Abutting RS zone standards. Staff is accepting of the issues related to the adjacent RS zoned property given that a protective easement for the stream corridor will substantially separate the site development from any future residential land uses.

Building Review - Janelle Montgomery; (253) 770-3328; JMontgomery@PuyallupWA.gov

- • House plans would need to be complete at the time of submittal with all building, plumbing, mechanical, truss specs stamped by the truss engineer and showing all current 2018 I-codes.
  • Include 2018 Washington State Energy code items and supporting reports for new construction.
  • Provide the approved septic designs and approvals from the Tacoma-Pierce County Health Department with the application.
  • Floor plan is preliminary but items to consider when application is submitted.

  Garage heat detector required per R314.2.3 of 2018 IRC (new)
  No dimensions on preliminary plan, note shower is required (R307) and minimum size is 900 sq. ft. per UPC 408.6.
  No indication of utility room, note if washer/dryer to be located on first floor in garage it is required to be elevated.
  Entry door between residence and garage require to be solid wood doors, 20-minute fire-rated equipped with self-closing or automatic-closing device. (no door shown)
  Living space above garage requires fire-rated separation.

  • This is not a complete plan review but informational only. No other Building items at this time. Contact me for any clarification of building requirements.

Engineering Review - Mark Higginson; (253) 841-5559; MHigginson@PuyallupWA.gov

• Comments regarding design and construction of new utilities and road improvements are provided for the applicant's information and use. Unless specifically noted, design and construction of these infrastructure improvements is not a condition of Preliminary Site Plan (PSP) approval. However, infrastructure improvements must be approved and permitted prior to issuance of the first building permit.

• The applicant's stormwater response letter dated December 14, 2021 makes a number of accusations and incorrect statements regarding the City's prior review comments. As clearly indicated in City codes, standards, as well as the Ecology Manual, a proposed project must provide sufficient technical information to allow a finding that the proposed stormwater design is viable. In the case of East Town Crossing, the applicant has proposed the use of permeable pavement constructed on engineered fill above subgrade soils with zero infiltrative capacity. At a minimum, two conditions must be met for permeable pavement to be feasibile; 1) adequate hydraulic conductivity, and 2) the ability of the underlying soils (engineered fill) to provide water quality treatment for pollution generating surfaces (drive aisles and parking areas). If either of these conditions is not met, then permeable pavement is not feasible. Although the applicant has made reasonable assumptions regarding hydraulic conductivity, the applicant has not provided any supporting information that clarifies how the pollution generating hard surfaces onsite will meet water quality standards. Until that information is received, the use of permeable pavement on engineered fill is not viable. As stated in previous DRT letters, prior to PSP approval, provide acknowledgment from a licensed geotechnical engineer that the proposed import fill can/will meet the treatment criteria as well as the assumed infiltration rate; or provide other documentation that clarifies how the proposed pollution generating hard surfaces will meet water quality regulations.

• The City does not agree with the applicant's assertion that "the fact that the entire roof areas [sic] has been modeled to be dispersed to permeable pavement (concrete or asphalt) is the defining determination of feasibility". The Ecology Manual clearly states that concentrated stormwater intended to be infiltrated shall have a minimum separation to any restrictive layer of 5-feet unless a mounding analysis would support a separation down to 3-feet. Based on the recent PIT testing, the restrictive layer is essentially the existing ground surface, and considering the applicant's intention to import 1 to 3 feet of engineered fill, the minimum separation of 5-feet cannot be met…deeming the proposed Onsite stormwater plan not viable. The use of bioretention would allow a minimum separation of 1 to 3 feet depending on tributary area, but bioretention is no longer proposed for the Onsite stormwater design. In addition, due to the minimal depth to the restrictive layer on this site, the City will require a mounding analysis for any infiltration facility other than permeable pavement in accordance with Ecology Volume III, Section 3.3.4. Per previous review comment, prior to PSP

approval, provide acknowledgement from a licensed geotechnical engineer that the proposed stormwater design is feasible considering the Ecology Manual separation requirements and the potential for mounding at locations where roof runoff is discharged into the permeable pavement reservoir course.

- The preliminary storm report indicates the use of run-on from conventional pavement drive aisles onto permeable pavement parking areas. The applicant is correct that BMP T5.15 Permeable Pavement "…does not state anywhere in the limitation and or design sections that Permeable Pavement MUST be used for pavement areas where feasible". However, Ecology Manual, Vol. I, Minimum Requirement 5 (MR5) specifies "Where pavement is proposed, it must be permeable to the extent feasible unless full dispersion is employed". Since the applicant is proposing permeable pavement on imported engineered fill as feasible on the parking areas of the project site, then it is obvious that permeable pavement would also be feasible on the drive aisles and walking paths which are also intended to be constructed on imported fill. The applicant's misunderstanding of the context of BMP T5.15 warrants clarification. Run-on onto permeable pavement areas is allowed by the Ecology Manual…provided, the proposed project demonstrates compliance with the LID Performance Standard. Otherwise, MR5 List 2 governs and the project must provide permeable pavement where feasible. As of this writing, the preliminary storm reports submitted to date have not provided sufficient information that would support a conclusion of complying with the LID Performance Standard considering the minimum separation requirements necessary for infiltrating roof runoff. In accordance with prior review comments, and prior to PSP approval, revise the stormwater design to either comply with the LID Performance Standard, provide permeable pavement where feasible, or justify a finding of infeasibility.
- The proposed Pioneer Way bioswale detail (Storm Report, Figure F5) indicates the outlet to be approximately 1.2 feet above the bottom of the swale resulting in standing water within the bioswale. Per Ecology, the bioswale must drain within 48 hours to ensure water quality viability. Since this bioswale is also a flow control facility, please revise the bioswale design to ensure the proposed Pioneer Way stormwater design is viable.
- At the time of the Preliminary Site Plan application, the site is located within a Special Flood Hazard Area Unnumbered A-Zone as determined by the National Flood Insurance Program Community Panel Number 53053C0342E, dated March 7, 2017. However, the applicant has recently submitted a Letter of Map Revision (LOMR) to FEMA requesting approval of a revised floodplain delineation. Please be aware that landuse approval cannot be granted until the flood study is approved by FEMA, or a separate written agreement is executed between the applicant and the City outlining the conditions necessary for the project to either adhere to current floodplain regulations, including compensatory storage requirements, or restoration of the project site to its pre-development existing condition.

- -The proposed engineered fill below the permeable pavement section must comply with the Soil Suitability Criteria for treatment...otherwise, permeable pavement is infeasible. Provide acknowlegement from a licensed geotechnical engineer that the proposed import fill can/will meet the treatment criteria as well as the assumed infiltration rate. [Storm Report; Cover] OK...pavement only and LID Performance Standard met. [Storm Report; Pg 4]
- The City's recommendation would be to connect the existing grass-lined ditch east of the project site with the proposed stream to avoid mixing "clean" ditch runoff and "clean" stream water with the polluted road runoff...see add'l review comments on Pioneer Basin Map, Appendix D. [Storm Report; Pg 5]
- -This design approach appears to be recirculating stormwater between the splitter and the biocell...see add'l comments Pioneer Basin Map, Appendix D. [Storm Report; Pg 6]
- Since flow control (MR7) is triggered, is the biocell large enough to treat (MR6) the entire frontage basin? This would eliminate the need for the "splitter" structure. Also, see add'l review comments on Pioneer Basin Map, Appendix D. [Storm Report; Pg 6]
- Clarify...is the intent to strip the site to these lower elevations? Considering the results of the PIT testing, its obvious that any existing soil above the "restrictive layer" elevation is also non-infiltrative. [Storm Report; Pg 6]
- Hard surfaces must be permeable to the extent feasible per MR5 List Option...essentially no run-on allowed. If the design intent is to meet the LID Performance Standard, then any concentrated infiltration facility (roof runoff) must meet Ecology's separation criteria. [Storm Report; Pg 7]
- NOTE: The engineered fill must also meet the WQ Soil Suitability Criteria per Ecology, Sect. 3.3.7, SSC-6. This will require geotechnical confirmation prior to PSP approval to ensure that permeable pavement is feasible. [Storm Report; Pg 7]
- Due to the minimal depth to the restrictive layer on this site, any infiltration facility other than permeable pavement will require a mounding analysis in accordance with Ecology 3.3.4. [Storm Report; Pg 8]
- Please be aware that discharging roof runoff to the permeable pavement reservoir course is only acceptable if there is adequate separation to the restrictive layer and an individual subbasin meets the LID Performance Standard, otherwise List 2 BMPs would apply. If List 2 applies, then roof runoff must be evaluated per MR5 BMPs. BMP T5.10A is not applicable (high density multi-family) then bioretention must be considered. If bioretention infeasible, then roof infiltration would require a minimum separation of 5ft to the restrictive layer...which is not possible based on the geotech analysis. (A separation down to 3ft would be allowed if supported by a mounding analysis). [Storm Report; Pg 8]
- If the proposed engineered fill is intended to be used for treatment, provide geotechnical acknowledgement prior to PSP approval that the proposed engineered fill can meet Ecology SSC-6. (Note: if engineered soil cannot meet the WQ suitability criteria outlined in Ecology SSC-6, then permeable pavement is not feasible) [Storm Report; Pg 9]
- pond conversion area? [Storm Report; Pg 9]
- Revise per comments in Section 1 and on the individual basin maps. [Storm Report; Pg 9]
- Per Fig. F5, the biocell will remain saturated and not provide treatment. Revise accordingly. [Storm Report; Pg 9]
- This may be due to the pond filling with sediment as a result of the sidewall failure and lack of maintenance over the decades. [Storm Report; Pond Conv]
- Please note that the converted pond must provide the same volumes and stages for both WQ an FC (not appropriate to match the existing pond condition for water quality). [Storm Report; Pond Conv]
- Also need to account for wetpool storage for WQ (23,454cf below live storage per CES Design Report) [Storm Report; Pond Conv]
- and 1/2-2yr event (ref. CES Para 3.4) [Storm Report; Pond Conv]
- This is ok for the control riser, but both FC and WQ facility volumes must be "equivalent" to those in the CES Design Report. [Storm Report; Pond Conv]
- In order to meet WQ, the dead storage must match the CES design, not the blown out pond condition. CES WQ Storage = 23,454cf. [Storm Report; Pond Conv]

- If this is the footprint, then only 8,192cf of WQ volume is provided. Need to match the CES Design WQ Volume of 23,454cf. [Storm Report; Pond Conv]
- Once WQ wetpool volume (23454cf) is accounted for, will the same flow frequency results be obtained? [Storm Report; Pond Conv]
- These WQ values have no meaning (hypothetical pond). Need to match the original CES design WQ volume to provide the same level of treatment at the time of the original pond approval. [Storm Report; Pond Conv]
- Gravel Bed Footprint = 20,480sf
- Revise per review comments. [Storm Report; Pond Conv]
- Please label as "Dead Storage" (wetpool for WQ) [Storm Report; Pond Conv; Fig 3]
- Per CES design report, total dead storage below El 66.55 (70.05) for WQ should be 23,454cf. [Storm Report; Pond Conv; Fig 3]
- Adjust elevations for 3.5ft conversion factor from NGVD29 to NAVD88. [Storm Report; Pond Conv; Fig 3]
- Shouldn't this be zero (bottom of live storage)? [Storm Report; Fig 5}
- Shouldn't this be zero (bottom of live storage)? [Storm Report; Pond Conv; Fig 5]
- These WQ values have no meaning. WQ volume should be based on CES's original wetpond design (23,454cf) [Storm Report, Pond Conv; Fig 6]
- This appears to be the pond volumes based on the as-surveyed condition. The conversion design must match the FC volumes (and release rates) as well as the original WQ volume of 23,454cf. [Storm Report; Pond Conv; Fig 6]
- Match original WQ volume of 23, 454cf and account for the backfill void space. [Storm Report; Pond Conv; Fig 6]
- -Provide preliminary geotechnical information, or an acknowledgement letter, which would support proposed infiltration rates. For BMPs placed on fill, provide geotechnical engineer's recommendation for preliminary infiltration rate and justification of correction factors used (See Vol. III, Table 3.4.1 and Table 3.4.2). [Storm Report; Cover]
- The preliminary storm report indicates the use of run-on onto permeable pavement areas. Please be aware that permeable pavement must be used for any pavement areas "where feasible" if choosing the MR5 List Option rather than the LID Performance Standard. If the design intent is to meet the LID Performance Standard, then any concentrated infiltration facility (roof runoff) must meet Ecology's separation criteria. [Storm Report; Cover]
- 6.03ac per 2002 CES Design Report. [Storm Report; Pg3]
- Discuss existing floodplain and status of flood study. [Storm Report; Pg 3]
- Note: Any storm facility serving public infrastructure must be located in ROW or located in a tract dedicated to the City. [Storm Report; Pg 6]
- 60-in shown on Fig A4 [Storm Report; Pg6]
- Provide FEMA floodplain map for the project site. [Storm Report; Appendix A]
- WQ Volume required = 23, 454cf No Good.[Storm Report; Pond Conv]
- Due to depth of groundwater (El 70.63) and the history of failures associated with clay liners in saturated conditions, a synthetic liner shall be used. [Storm Report; Pond Conv; Fig 9]
- Min. wetpool storage for WQ is 23,454cf below live storage per CES design report) [Storm Report; Pond Conv, Fig 9]
- Liner must be impervious due to groundwater levels onsite. [Storm Report; Pond Conv.; Fig 9]
- At time of civil application, the lower arm of the control riser shall extend 2-ft below the Dead Storage elevation. [Storm Report; Pond Conv; Fig 9]
- 6.03ac per 2002 CES Design Report. [Storm Report; Fig. B2]

- -Will WDFW allow easterly grass-lined ditch to tie directly to stream (exist'g cond'n) and avoid mixing "clean" ditch runoff and stream with the PGIS frontage? -If WDFW does not allow the ditch-to-stream connection, then construct the proposed conveyance pipe to align with the storm main along the frontage. [Storm Report; Pioneer Basin Map]
- -Not sure how this works...it appears that the stream culvert, frontage storm main, and biocell outlet pipe all enter the "splitter structure"? If so, then the biocell stormwater is simply being recirculated from/to the splitter. [Storm Report; Pioneer Basin Map]
- Exist'g stub...best place to discharge biocell into downstream system if doable. (May be worthwhile to rerun a new pipe to the Biocell. [Storm Report; Pioneer Basin Map]
- New structure req'd if connection to exist'g stub (if in sidewalk, address ADA at time of civil). [Storm Report; Pioneer Basin Map]
- Esmt Reqd for any public storm infrastructure not in ROW.[Storm Report; Pioneer Basin Map]
- Is it possible to inlet easterly frontage flows across stream culvert using DI and 1-ft cover to avoid mixing the PGIS w/ the stream; then gutter flow only to westerly CB and 2nd Biocell inlet? This would allow the stream and easterly ditch to bypass the frontage storm facility altogether [Storm Report; Pioneer Basin Map
- Based on pipe alignment shown and the flow splitter detail, it seems the polluted road water is mixing with the clean stream water prior to the road water being treated. If doable, the stream should be isolated from the PGIS until after treatment of the road runoff. [Storm Report; Pioneer Basin Map]
- Since flow control is triggered, is the biocell large enough to treat all of the frontage basin? This would eliminate the need for a splitter structure. [Storm Report; Pioneer Basin Map]
- At time of civil, locate storm main at proposed curb alignment per standards. Provide stub and cap for future connection. [Storm Report; Pioneer Basin Map]
- Stub and cap if WDFW allows ditch connection to stream.[Storm Report; Pioneer Basin Map]
- Clarify...vault is connected to POC, but it appears that the vault is discharging back into the flow splitter per the Bioswale Detail Sheet. [Storm Report; Fig. D3]
- Please be aware that discharging roof runoff to the permeable pavement reservoir course is only acceptable if there is adequate separation to the restrictive layer and an individual subbasin meets the LID Performance Standard, otherwise List 2 BMPs would apply. If List 2 applies, then roof runoff must be evaluated per MR5 BMPs. BMP T5.10A is not applicable (high density multi-family) then bioretention must be considered. If bioretention infeasible, then roof infiltration would require a minimum separation of 5ft to the restrictive layer...which is not possible based on the geotech analysis. (A separation down to 3ft would be allowed if supported by a mounding analysis). [Storm Report; Onsite Basin Map]
- Due to the minimal depth to the restrictive layer on this site, any infiltration facility other than permeable pavement will require a mounding analysis in accordance with Ecology Vol. III, Section 3.3.4. [Storm Report; Onsite Basin Map]
- Drive aisles must be permeable if feasible per Ecology MR5 [Storm Report; Onsite Basin Map]
- It is unclear where/how the stream culvert enters along with the road frontage conveyance pipe and the bioswale outlet pipe (see Fig. D1). How does the combined volume of the stream and easterly ditch compare to the frontage volume? It would seem that the frontage runoff would be significantly diluted prior to being treated. [Storm Report; Fig. F4]
- This area differs from the biocell shown on the Basin Map. [Storm Report; Bioswale Details]
- Standing Water Elevation...won't drain down w/in 48hrs. Redesign accordingly. [Storm Report; Bioswale Details]
- Any storm facility serving public infrastructure must be in ROW or a tract dedicated to the City. [Storm Report; Bioswale Details]

- If any portion of the project site remains in a regulated floodplain after FEMA's LOMR determination, development of the property shall adhere to the regulations contained in PMC Chapter 21.07. Specifically:
  - The applicant shall submit a habitat assessment prepared by a qualified professional evaluating the effects and/or indirect effects of the proposed development (during both construction and post-construction) on floodplain functions and documenting that the proposed development will not result in "take" of any species listed as threatened or endangered under the Endangered Species Act (ESA).
  - If it is determined that the proposed project will impact any listed species or their habitat, the applicant shall provide a mitigation plan to achieve equivalent or greater biologic functions as those lost prior to development of the site.
  - Provide compensatory storage, if necessary, in accordance with PMC 21.07.060(1)f.
  - The lowest floor of any structure, including any basement, shall be elevated 1-foot (min) above the BFE and/or floodproofed to 1-foot (min) above the BFE. Please be aware that providing additional freeboard above the BFE can reduce insurance premiums.
  - No occupancy permit shall be issued until such time as a Federal Emergency Management Agency Elevation Certificate is completed based on "Finished Construction" and submitted to the Engineering Services Manager.

- Culvert appears to conflict with the existing power pole. [Storm Report; Pioneer Basin Map]
- See review comments in the Preliminary Storm Report. Make revisions as needed. [Site Plan Part 1-Storm Master Plan; Pg 74]
- Indicate the flow control facilities for the individual building structures considering the Ecology Manual minimum separation requirements for infiltrating concentrated storm runoff. [Site Plan Part 1-Storm Master Plan; Pg 74]
- Culvert appears to conflict with the existing power pole. [Site Plan Part 1-Storm Master Plan; Pg 74]
- See review comments in the Preliminary Storm Report. Make revisions as needed. [Site Plan Part 1-Storm Detention Plan; Pg 77]
- See review comments in the Preliminary Storm Report. Make revisions as needed. [Site Plan Part 1-Pioneer Frontage Storm Plan; Pg 79]
- The stream realignment is subject to the review and approval of the Washington State Department of Fish and Wildlife (WDFW). Prior to Preliminary Site Plan approval, the applicant shall acknowledge that the WDFW conditions of approval may revise the proposed stream realignment which in turn could necessitate revisions to the site plan currently being considered under this application. [Site Plan Part 1-Pioneer Frontage Storm Plan; Pg 79]
- See review comments in the Preliminary Storm Report. Make revisions as needed. [Site Plan Part 1-Storm Notes and Details; Pg 81]
- See review comments in the Preliminary Storm Report. Make revisions as needed. [Site Plan Part 1-Storm Notes and Details; Pg 81]
- See review comments in the Preliminary Storm Report. Make revisions as needed. [Site Plan Part 2-Impervious Surfacing Plan; Pg 1]
- See review comments in the Preliminary Storm Report. Make revisions as needed. [Site Plan Part 2-Aisle/Pervious/Roof Drain Exhibit; Pg 2]
- See review comments in the Preliminary Storm Report. Make revisions as needed. [Site Plan Part 2-Pioneer Storm Details; Pg 4]
- See review comments in the Preliminary Storm Report. Make revisions as needed. [Site Plan Part 2-Pioneer Frontage Plan; Pg 10]
- Publicly maintained storm facilities shall be in a dedicated tract. [Site Plan Part 1-Storm Notes and Details; Pg 81]
- Remove/Relocate Exist'g Power Pole [Site Plan Part 2-Shaw Road Frontage Plan; Pg 9]

- Non-standard design...must have documented City Engineer approval (AMR? Other?). [Site Plan Part 2-Shaw Road Frontage Plan; Pg 9]
- See review comments in the Preliminary Storm Report. Make revisions as needed. [Site Plan Part 2-Pioneer Frontage Plan; Pg 10]
- Curb alignment does not appear to align with the Pioneer Crossing curb west of Shaw Road. [Site Plan Part 2-Pioneer Frontage Plan; Pg 10]
- Per City Standards, curb radius must align with future curb extension. If non-standard design is desired, then City Engineer approval must be obtained using the AMR process. [Site Plan Part 2-Pioneer Frontage Plan; Pg 10]
- Depending on the outcome of the City Engineer's decision, if the non-standard curb radius AMR is not approved, then the existing power pole must be relocated to the future planter strip area. If the AMR is approved, there must be a minimum of 4-ft separation between the travel lane and face of pole while meeting City Standard taper requirements. If 4-ft cannot be provided, the power pole must be relocated. [Site Plan Part 2-Pioneer Frontage Plan; Pg 10]
- The December 2021 resubmittal has proposed a realignment of the regulated stream that runs along the east property line which currently discharges to the existing Pioneer Way ditch. The applicant is aware that the stream realignment is subject to the review and approval of the Washington State Department of Fish and Wildlife (WDFW). Prior to Preliminary Site Plan approval, the applicant shall acknowledge that the WDFW conditions of approval may revise the proposed stream realignment which in turn could necessitate revisions to the site plan currently being considered under this application.
- Per City Standards, the easterly Pioneer Way curb radius must align with future curb extension. If non-standard design is desired, then City Engineer approval must be obtained using the AMR process prior to Preliminary Site Plan approval.

  Depending on the outcome of the City Engineer's decision, if the non-standard curb radius AMR is not approved, then the existing power pole must be relocated to the future planter strip area. If the AMR is approved, there must be a minimum of 4-ft separation between the travel lane and face of pole while meeting City Standard taper requirements. If 4-ft cannot be provided, the power pole must be relocated.

CONDITIONS

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- General: PRELIMINARY SITE PLAN SPECIFIC CONDITIONS:

  1. At time of civil application, the geotechnical engineer shall provide recommendations to protect the native subgrade and the engineered fill beneath all permeable paving areas during the course of construction.
  2. At time of civil application, the geotechnical engineer shall provide specifications for the engineered fill considering hydraulic conductivity, water quality criteria, and structural stability (under saturated conditions) with an emphasis on long-term performance.
  3. At time of civil application, the geotechnical engineer and the engineer-of-record shall address concerns associated with potential lateral flow exiting the site due to the shallow depth to native soils and associated restrictive layers. In addition, permeable pavement overflow protection will be required at low areas adjacent to the property lines, e.g., drive entrances, to allow safe discharge to the downstream public storm system.
  4. At time of construction, engineered fill shall be field tested prior to placement of the permeable pavement reservoir course using Small Scale PIT testing at a frequency specified by the Ecology Manual.
  5. At time of construction, if the engineered fill will be used for water quality treatment of pollution generating hard surfaces, the fill shall be field tested prior to placement to confirm the Site

Suitability Criteria (CEC testing) specified by the Ecology Manual.
6. Run-on from landscape surfaces shall comply with the Ecology Manual requirements. At time of civil application, the applicant shall provide measures to minimize the potential for clogging and long-term performance concerns associated with run-on from landscape areas.
7. At time of civil application, the wetpool of the converted offsite storm facility shall be separated into two cells for water quality purposes and appropriately sized based on the original CES design.
8. At time of civil application, clarify how the new improvements over the top of the converted pond is being accounted for flow control and water quality. If permeable pavement, the infiltrated water must be prevented from entering the gravel/glass bed.
9. Due to the widening of Pioneer Avenue and associated flows generated by the project, at the time of civil application provide a backwater analysis of the Pioneer Avenue conveyance system considering the tailwater elevation of the Pioneer Avenue ditch as outlined in City Standards Section 204.3. The analysis shall include any upstream basin flows tributary to the pipe outfall.
10. At time of civil application, the storm conveyance system along the frontage must be installed per City Standards in terms of alignment (CS Detail 01.01.14) and structures (CBs)...see additional review comments on the Pioneer Basin Map, Appendix D of the Storm Report.
11. At time of civil application, the lower arm of the control riser associated with the pond conversion shall extend 2-ft below the Dead Storage elevation.
12. At time of civil application, trench dams will be required where utilities cross the property line(s) in accordance with Standard Detail 06.01.10.
13. Similarly, permeable pavement overflow protection will be required at low areas adjacent to the property lines, e.g., drive entrances.
14. Permeable Paving site preparation and pavement cross-section shall adhere to the latest APWA/WSDOT General Special Provisions.
15. Where landscaping abuts permeable pavement, provide 12" (min) CSTC intercept strip to reduce sediment loading onto the permeable pavement section.
16. The slope of landscaping areas should be minimized to the maximum extent practical to reduce the potential of run-on onto permeable pavements.
17. Measures shall be taken to reduce/eliminate clogging of the permeable pavement section due to debris captured in stormwater such as pine needles, leaves, etc.; e.g., downturned elbows, tee-sections, screens, etc.
18. City Standards require domestic water meters serving individual buildings to be located within the public ROW. Buildings fronting public ROW shall have the meters placed in the ROW. However, the City will allow the domestic meters to be located onsite for other structures that are not located adjacent to public ROW provided the civil plans clearly note that the individual service connections, with the exception of the meter and radio sending unit, are privately owned and maintained.
19. Fire hydrants installed within the public ROW shall be served by the individual public watermains located in Shaw Road and East Pioneer. (See comments on the preliminary Water Master Plan). Final hydrant locations shall be confirmed at the time of civil application.

On East Pioneer, tap one fire hydrant off the existing 8-inch water main that currently extends into the site, and tap the other hydrant off of the existing 16-inch watermain using an 8-inch crossing reducing to a 6-inch hydrant lead.

On Shaw Road, locate one public hydrant near Building H which shall be tapped off the existing 16-inch watermain with an 8-inch crossing reducing to a 6-inch hydrant lead. At the other hydrant location closer to the intersection, provide an 8-inch crossing (which possibly can connect to the onsite looped system for additional fire flow for the project), reducing to a 6-inch hydrant lead.

Please note that the 6-inch hydrant leads shall be connected to the 8-inch supply lines using a tee and

reducer.

20. The proposed sewer system will ultimately serve offsite properties in the future. Until such time that the properties to the east develop, the onsite sewer system shall be privately owned and maintained. To ensure a future public easement right, the applicant will be required to execute and record a "covenant for future sewer easement" prior to Occupancy.

21. At the time of civil application, the applicant shall confirm the need for an area drain at the trash enclosures. The City would prefer the enclosure pad be elevated to prevent any storm run-on and no area drain. If an area drain is desired, the entire enclosure area shall be covered to minimize stormwater inflow to the sanitary sewer system.

22. At the Shaw Road entrance, adequate ROW must be dedicated or an easement granted for maintenance and operation of the traffic signal equipment.

23. A Street Maintenance Covenant will be required to ensure that pavement markings located on private property at the drive entrances will be maintained.

24. Due to the condition of the existing Pioneer Way roadway, the applicant should anticipate full half-street road reconstruction will be required along the length of the frontage.

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- General: GENERAL:

25. Engineered plans must follow the latest regulations and standards set forth in the Puyallup Municipal Code (PMC), the City Standards for Public Works Engineering and Construction (design standards), and the current City adopted stormwater manual at the time of civil permit application [PMC 21.10.040].

The comments provided below are intended to assist the applicant with incorporating City requirements into the project design documents, but should not be considered an exhaustive list of all necessary provisions from the PMC, design standards, or the Ecology stormwater manual.

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- General: WATER:

26. The Water Dept. has raised concerns that there may be an existing 4-inch water pipe buried onsite associated with Ackerman springs. If the pipe location is known, the pipe shall be plugged and abandoned and/or removed. If the pipe location is not known, a note shall be added to the civil drawings to abandon the line if discovered during construction operations.

27. Any wells on the site must be decommissioned in accordance with Washington State requirements. Documentation of the decommissioning must be provided along with submittal of engineering drawings. If an existing well is to remain, the well protection zone shall be clearly delineated and appropriate backflow protection (Reduced Pressure Backflow Assemblies) shall be installed at all points of connection to the public water system. [PMC 14.02.220(3)(b)]

28. The applicant shall be responsible for the operation and maintenance of the proposed water system located on private property.

29. There is an existing 8-inch private watermain that extends from Pioneer Way southward through the site and connects to the watermain located in Shaw Road. The applicant shall verify that the existing onsite private watermain is adequately sized to provide the necessary flows for both the domestic system and fire protection system. [PMC 14.02.190, 14.20.010 & CS 301.1(1)]

30. The domestic service line and fire system service line shall have separate, independent connections to the supply main. [PMC 14.02 & CS 302.3(4)]

31. The minimum distance between water lines and sewer lines shall be 10-feet horizontally and 18-inches vertically. If this criterion cannot be met, the applicant shall isolate the sewer and water lines by encasement, shielding, or other approved methods. [PMC 14.02.120(f) & CS 301.1(8)]

32. The applicant shall be responsible to provide and install the water meters required to service the site. [PMC 14.02.120(f) & CS 301.3]

33. Any existing services that are to be abandoned at this site shall be disconnected at the main,

the corp. stop removed, and the service plugged to city standards. The existing services associated with the recently demolished SFRs shall be removed as noted above. [PMC 14.02.120(f)]

34. Water pipe and service connections shall be a minimum of 10-feet away from building foundations and/or roof lines.

35. Applicant shall provide backflow protection on the domestic service line(s) with the installation of a double check valve assembly (DCVA) on the domestic connection. The unit should be located outside the building, immediately downstream of the water meter. If an irrigation system is also proposed, a DCVA is required on that line as well. [PMC 14.02.220(3) & CS 302.2]

36. If any of the proposed building uses are included under WAC 246-290-490 Table 9 facilities, then the DCVA shall be upgraded to a reduced pressure backflow assembly (RPBA).

37. Available fire flow for the project site must be determined by hydraulic modeling conducted by the City's consultant. The cost of this analysis is $400 and shall be paid by the applicant.

38. Fire hydrants and other appurtenances such as DDCVA and PIV shall be placed as directed by the Puyallup Fire Code Official. Fire hydrants shall be placed so that there is a minimum of 50-feet of separation from hydrants to any building walls. [PMC 16.08.080 & CS 301.2, 302.3]

39. The fire sprinkler double detector check valve assemblies (DDCVA) may be located either inside, or outside, of the building.

40. At the time of Civil permit application, the fire sprinkler supply line shall be designed, and shown on the plan, into the building to the point of connection to the interior building riser. Provide plan and elevation detail(s) where the riser enters the building with dimensions, clearances, and joint restraint in accordance with NFPA 24. [CS 302.3, CS 303]

41. The Fire Department Connection (FDC) shall be located no closer than 10-feet and no further than 15-feet from a fire hydrant. (Note: If the project is utilizing a fire booster pump, the FDC must connect to the sprinkler system on the discharge side of the pump in accordance with NFPA regulations.) A post indicator valve (PIV) shall be provided for the fire sprinkler system in advance of the DDCVA. [CS 302.3]

42. For each residential building, a water system development charge (SDC) will be assessed based on the number of "residential" units in the facility. [PMC 14.02.040, 14.10.030]

43. For each commercial building, including common/administrative facilities associated a residential use (clubhouse), a water system development charge (SDC) will be assessed based on the number of plumbing fixture units as defined in the Uniform Plumbing Code. [PMC 14.02.040]

44. Water connection fees and systems development charges are due at the time of building permit issuance and do not vest until time of permit issuance. [PMC 14.02.040, 14.10.030]

45. To obtain credit towards System Development Fees for any existing fixture units, the applicant shall provide the City evidence of the existing plumbing fixtures prior to demolition or removal. A written breakdown of the removed fixture types, quantities, and associated fixture units shall accompany the building permit application and be subject to review and approval by the City. [PMC 14.02.040]

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- General: SANITARY SEWER:

46. A separate and independent side sewer will be required from the onsite sewer main to all building sites for each proposed lot. Side sewers shall be 6-inch minimum diameter with a 0.02 foot per foot slope. [PMC 14.08.110 & CS 401(6)]

47. Side sewers shall have a cleanout at the property line, at the building, and every 100 feet between the two points. Sampling stations shall be provided in accordance with City Standard Detail 04.03.04. [PMC 14.08.120 & CS 401(7)]

48. If the proposed side sewer is greater than 6-inches, a sanitary sewer manhole shall be provided at the property line.

49. Sewer main pipe and service connections shall be a minimum of 10-feet away from building foundations and/or roof lines.

50. Grease Interceptors are required for all commercial facilities involved in food preparation. If food preparation facilities are proposed now, or in the future, the applicant shall install an external grease interceptor in accordance with the current edition of the Uniform Plumbing Code adopted by the City of Puyallup, Puyallup Municipal Code, and City standard details. [PMC 14.06.031(3) & CS 401(5), 402.3]
51. The construction of a trash enclosure will require the enclosure pad to be elevated to prevent stormwater run-on. If an area drain is proposed for the trash enclosure, then the drain shall be connected to the sewer system and the trash enclosure covered to prevent stormwater run-on and inflow into the area drain.
52. For each residential building, a sanitary sewer system development charge (SDC) will be assessed based on the number of "residential" units in the facility. [PMC 14.10.010, 14.10.030]
53. For each commercial building, including common/administrative facilities associated a residential use (office, clubhouse, hallways, pool areas, etc.), sanitary sewer system development charge (SDC) will be assessed based on the number of plumbing fixture units as defined in the Uniform Plumbing Code. [PMC 14.10.010, 14.10.030]
54. Sewer connection fees and systems development charges are due at the time of building permit issuance and do not vest until time of permit issuance. [PMC 14.10.010, 14.10.030]

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- General: STORMWATER/ EROSION CONTROL:

55. Stormwater design shall be in accordance with the 2012 Stormwater Management Manual for Western Washington as amended in the December, 2014 (The 2014 SWMMWW aka "Ecology Manual").
56. The applicant shall complete the stormwater flowchart, Figure 3.1, contained in Ecology's Phase II Municipal Stormwater Permit, Appendix I. The completed flowchart shall be submitted with the preliminary stormwater site plan and highlight the Minimum Requirements (MR) triggered by the project thresholds. The link below may be used to obtain the flowchart:
Western Washington PH II Stormwater Permit

57. NOTE: Areas of disturbance within the public ROW must be included in the project area as part of the stormwater thresholds and calculations.
58. Each section of the TIR/SSP shall be individually indexed and tabbed with each permit application and every re-submittal prior to review by the City. [PMC 21.10.060]
59. Public right-of-way runoff shall be detained and treated independently from proposed private stormwater facilities. This shall be accomplished by enlarging the private facilities to account for bypass runoff; providing separate publicly maintained storm facilities within a Pu or dedicated right-of-way; or, other methods as approved by the City Engineer. [PMC 21.10.190(3)]
60. Development and redevelopment projects are required to employ, wherever feasible, Low Impact Development (LID) Best Management Practices (BMPs) to meet the design criteria set forth in PMC 21.10.190, the Ecology Manual Volume I, Minimum Requirement 5; Volume III, Chapter 3; and Volume V, Chapter 5.
61. Preliminary feasibility/infeasibility testing for infiltration facilities/BMPs shall be in accordance with the site analysis requirements of the Ecology Manual, Volume I, Chapter 3, specifically:
- Groundwater evaluation, either instantaneous (MR1-5), or continuous monitoring (MR1-9), during the wet weather months (December 21 through April 1).
- Hydraulic conductivity testing:
i. If the development meets the threshold to require implementation of Minimum Requirement #7 (flow control); or, if the site soils are consolidated; or, if the property is encumbered by a critical area, then Small Scale Pilot Infiltration Testing (PIT) during the wet weather months (December 21 through April 1) is required.
ii. If the development does not meet the threshold to require implementation of Minimum

Requirement #7; or, is not encumbered by a critical area; and is located on soils unconsolidated by glacial advance, grain size analyses may be substituted for the Small Scale PIT test at the discretion of the review engineer.

- Testing to determine the hydraulic restriction layer.
- Mounding analysis may be required in accordance with Ecology Volume III Section 3.3.4 and 3.3.8.

62. Upon submission of the geotechnical infiltration testing, appropriate long-term correction factors shall be noted for any areas utilizing infiltration into the underlying native soils in accordance with the Ecology Manual, Volume III, Chapter 3.

63. If infiltration facilities/BMPs are anticipated, the number of infiltration tests shall be based on the area contributing to the proposed facility/BMP, e.g., one test for every 5,000 sq. ft of permeable pavement, or one test for each bioretention cell.

64. If the proposed project discharges to an adjacent wetland, the applicant shall provide a hydrologic analysis which ensures the wetland's hydrologic conditions, hydrophytic vegetation, and substrate characteristics are maintained. See Ecology Manual Volume I, Minimum Requirement 8.

65. The proposed project is part of a larger, common plan of development, and includes the use of existing stormwater facilities. The Technical Information Report (TIR) or Stormwater Site Plan (SSP), shall provide supporting documentation and engineering calculations which substantiate the affect of the proposed project in regards to the design assumptions of the existing stormwater facilities. [PMC 21.10.060]

66. At the time of civil permit application, the applicant is responsible for submitting a permanent storm water management plan which meets the design requirements provided by PMC Section 21.10. [PMC 21.10.190, 21.10.060]

- When using WWHM for analysis, provide the following WWHM project files with the civil permit application:
- Binary project file (WHM file extension)
- ASCII project file (WH2 file extension)
- WDM file (WDM file extension)
- WWHM report text (Word file)

67. The submitted project documentation indicates that the existing combined detention-wetpool facility serving adjacent properties to the South will be filled in as part of this proposed development. This facility was designed and constructed to past stormwater regulations using a single event model, Santa Barbara Urban Hydrograph (SBUH) for flow control, and a wetpool sized using ½ of the 2-yr release rate for water quality compliance.

- The applicant shall provide supporting documentation substantiating the 2-yr, 10-yr, and 100-yr release rates of the existing detention facility.
- The upstream basins tributary to the existing detention facility shall be incorporated into the current project's stormwater model in such a way as to ensure no increase in flow (release rate) to the downstream stormwater system post-project while complying with the requirements of the Ecology Manual for the proposed project.
- The applicant shall provide water quality facilities for the existing upstream basins equal to, or better, than the existing wetpool facility to ensure no degradation of stormwater from the properties to the South.
- Provide a detailed explanation of the analysis in the written technical report, including, but not limited to, assumptions; calculations; discharge rates; stage-storage relationships; recommendations, and any proposed modifications to the existing system.

68. The use of permeable pavement(s) will require trench dams where utility pipes cross property lines accordance with Standard Detail 06.01.10.

69. Any above-ground stormwater facility shall be screened from public right-of-way and adjacent property per the underlying zoning perimeter buffer requirements in the PMC.
70. Stormwater R/D facilities shall be a minimum of 20-feet from any public right-of-way, tract, vegetative buffer, and/or property line measured from the toe of the exterior slope/embankment of the facility. [PMC 21.10 & DOE Manual, Vol. V, Pg 10-39 and Pg 10-9]
71. The 2-yr, 10-yr, and 100-yr water surface elevation (WSE) shall be shown on any R/D facility cross-section(s).
72. A Stage-Storage Table for the 2-yr, 10-yr, and 100-yr water surface elevations shall be provided on the same civil sheet as the R/D facility cross-section(s).
73. Water quality treatment of stormwater shall be in accordance with the Ecology Manual, Volume 1, Minimum Requirement 6; and Volume 5, Runoff Treatment.
74. Construction of frontage improvements associated with this project will require installation/extension of the stormwater main to accommodate road runoff. The new stormwater main shall be adequately sized to accommodate any upstream basins tributary to main.
75. At the time of civil permit application, all pipe reaches shall be summarized in a Conveyance Table containing the following minimum information and included in the TIR:

Pipe Reach Name Design Flow (cfs)
Structure Tributary Area Pipe-Full Flow (cfs)
Pipe Diameter (in) Water Depth at Design Flow (in)
Pipe Length (ft) Critical Depth (in)
Pipe Slope (%) Velocity at Design Flow (fps)
Manning's Coefficient (n) Velocity at Pipe-Full Flow (fps)
Percent full at Design Flow (%)
HGL for each Pipe Reach (elev)

76. All storm drains shall be signed as follows:

a) Publicly maintained stormwater catch basins shall be signed using glue-down markers supplied by the City and installed by the project proponent.
b) Privately maintained stormwater catch basins shall be signed with pre-cut 90ml torch down heavy-duty, intersection-grade preformed thermoplastic pavement marking material. It shall read either "Only Rain Down the Drain" or "No Dumping, Drains to Stream". Alternatively, the glue-down markers may be purchased from the City for a nominal fee.

77. All private storm drainage facilities shall be covered by a maintenance agreement provided by the City and recorded with Pierce County. Under this agreement, if the owner fails to properly maintain the facilities, the City, after giving the owner notice, may perform necessary maintenance at the owner's expense.
78. Erosion control measures for this site will be critical. A comprehensive erosion control plan will be required as part of the civil permit application.
79. A Stormwater Systems Development fee will be assessed for each new equivalent service unit (ESU) in accordance with PMC Chapter 14.26. Each ESU is equal to 2,800 square feet of 'hard' surface.
80. Stormwater Systems Development fees are due at the time of site development permit or in the case where no site development permit is required, at the time of building permit issuance for the individual lot(s); and the fees do not vest until the time of site development permit issuance, or at the time of building permit issuance in the case where a site development permit is not required.
81. A Construction Stormwater General Permit shall be obtained from the Department of Ecology if any land disturbing activities such as clearing, grading, excavating and/or demolition will

disturb one or more acres of land, or are part of larger common plan of development or sale that will ultimately disturb one or more acres of land.

Engineering Division - Mark Higginson; 2538415559; MHigginson@PuyallupWA.gov

- General: STREET:

82. Additional right-of-way dedication is required along both the Pioneer Way and Shaw Road frontages in order to accommodate the final design. See traffic engineering comments for minimum criteria. [PMC 11.08.120, 11.08.130, 19.12.050(1)]

83. Half-street improvements shall be completed along the entire E Pioneer property frontage and include curb, gutter, sidewalk, roadway base, pavement, street lighting, and drainage. [PMC 11.08.120, 11.08.130, 19.12.050(1)]

84. Existing private utilities (gas, telcom, cable, etc…) that are in conflict with City maintained right-of-way and utilities shall be relocated outside of the travelled road section, i.e., behind the curb under the sidewalk area.

85. Upon civil permit application, the following items shall be provided:

- Road plans shall include a plan and profile view of the roadway indicating both the centerline and flow line elevations. [PMC 17.42 & CS 2.2]
- A separate street lighting and channelization plan shall be provided in accordance with City Standards.
- Commercial and Multi-family projects shall provide an autoturn analysis for the largest anticipated vehicle that would access the site. Curb radii and entrance dimensions shall be increased as necessary to allow vehicles to access the site without encroaching into adjacent lanes of traffic.
- Root barriers in accordance with City Standard Detail 01.02.03 shall be installed for all street trees within ten (10) feet of the public ROW.
- Wheel chair ramps, accessible routes, etc. shall be constructed in accordance with City Standards and current ADA regulations. If there is a conflict between the City Standards and ADA regulations, the ADA regulations shall take precedence over the City's requirements. [PMC 17.42]
- Any surface area proposed for parking, drive aisle, or outdoor storage shall be paved with asphalt or concrete. [PMC 20.30.045(3), 20.35.035(3), 20.44.045(2)]

86. Upon review of the required, submitted traffic report, additional off-site improvements may be required as directed by the Traffic Engineering Department. [PMC 17.42]

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- General: GRADING:

87. A Grading Plan conforming to all requirements of PMC Section 21.14.120 will be required for this project. The Plan shall be prepared by a Civil Engineer licensed in the State of Washington. [PMC 21.14.070]

88. A geotechnical report conforming to all requirements PMC Sections 21.14.150 and 21.14.160 will be required for this project. The Report shall be prepared by a Civil Engineer or Engineering Geologist licensed in the State of Washington. Prior to final acceptance of this project, the author of the Report shall provide certification to the City the project was constructed in accordance with the recommendations contained in the report.

89. Cross sections will be required at various points along the property lines extending 30-feet beyond the project limits to assure no impact from storm water damming or runoff. [PMC 17.42 & CS 502.1]

90. It should be noted there are existing drainage ditches along the east boundary of the site. Section 502.5 of the City Standards requires a minimum setback of 5-feet between the top of any fill placement and the top of any bank of any defined drainage channel. The perimeter drainage ditche(s) must remain in service to drain the properties outside of the project site. The ditch should not be altered without review by the affected property owners. If the ditch is a regulated stream, then additional review by the City Planning Dept., COE, and/or WDFW may be necessary.

91. At the time of civil permit application, the following notes shall be added to the first sheet of the TESCP:
-"At any time during construction it is determined by the City that mud and debris are being tracked onto public streets with insufficient cleanup, all work shall cease on the project until this condition is corrected. The contractor and/or the owner shall immediately take all steps necessary to prevent future tracking of mud and debris into the public ROW, which may include the installation of a wheel wash facility on-site."
-"Contractor shall designate a Washington Department of Ecology certified erosion and sediment control leadperson, and shall comply with the Stormwater Pollution Prevention Plan (SWPPP) prepared for this project."
-"Sediment-laden runoff shall not be allowed to discharge beyond the construction limits in accordance with the Project's NPDES General Stormwater Permit."
-"The permanent infiltration system shall not be utilized for TESC runoff. Connect infiltration trench to road system only after construction is complete and site is stabilized and paved."

92. RCW 19.122 requires all owners of underground facilities to notify pipeline companies of scheduled excavations through the one-number locator service if proposed excavation is within 100 feet. Notification must occur in a window of not less than 2 business days but not more than 10 business days before beginning the excavation. If a transmission pipeline company is notified that excavation work will occur near a pipeline, a representative of the company must consult with the excavator on-site prior to excavation.

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- General: MISC:

93. All proposed improvements shall be designed and constructed to current City Standards. [PMC 14.08.040, 14.08.120, 17.42]
94. Engineering plans cannot be accepted until Planning Department requirements have been satisfied, including but not limited to, SEPA, Preliminary Site Plan approval, CUP, and/or Hearing Examiner conditions.
95. Civil engineering drawings will be required for this project prior to issuance of the first building permit. Included within the civil design package shall be a utility plan overlaid with the proposed landscaping design to ensure that potential conflicts between the two designs have been addressed.
- At the time of civil application, submit electronic files in PDF format, through the City's Permit Portal. Contact the Permit staff via email at PermitCenter@ci.puyallup.wa.us for the initial project submittal.
96. Civil engineering plan review fee is $470.00 (plus an additional per hour rate of $130.00 in excess of 5 hours). The Civil permit shall be $300.00 and the inspection fee shall be 3% of the total cost of the project as calculated on the Engineering Division Cost Estimate form. [City of Puyallup Resolution No. 2098]
97. Benchmark and monumentation to City of Puyallup datum (NAVD 88) will be required as a part of this project / plat.
98. Engineering plans submitted for review and approval shall comply with City Standards Section 1.0 and Section 2.0, particularly:
- Engineering plans submitted for review and approval shall be based on 24 x 36-inch sheets.
- The scale for design plans shall be indicated directly below the north arrow and shall be only 1"=20' or 1"=30'. The north arrow shall point up or to the right on the plans.
- Engineering plan sheets shall be numbered sequentially in this manner: Sheet 1 of 20, Sheet 2 of 20, etc. ending in Sheet 20 of 20.
99. All applicable City Standard Notes and Standard Details shall be included on the construction plans for this project. A copy of the City Standards can be found on the City's web site under City

Engineering, Development Engineering.

100. Prior to Acceptance/Occupancy, Record Drawings shall be provided for review and approval by the City. The fee for this review is $200.00. Record Drawings shall be provided as follows:

- In accordance with City Standards Manual Section 2.3.
- Electronic version of the record drawings in the following formats:

1. AutoCAD Map 2007 or newer in State Plane South Projection
2. PDF

Sincerely,

Chris Beale
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