



## MEMORANDUM

To: Jamie Carter, Bryan Roberts – City of Puyallup  
Ken Gunther, Chris Larson, Tim Osborne, Greg Vigoren – City of Fife

From: Chelsea Morrison, Matt Palmer – Kimley-Horn and Associates, Inc.

Date: 10/21/2024

Subject: N Levee Road at Freeman Road E

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Improvements at the intersection of N Levee Road and Freeman Road are being considered with the Freeman Logistics Development. This memo serves to document design needs and constraints to provide context for design decisions.

### BACKGROUND

Freeman Road E is classified as a collector roadway located within the City of Fife with one lane of travel in each direction in the site vicinity. N Levee Road E is classified as a minor arterial roadway within the City of Puyallup and the City of Fife with one lane in each direction in the site vicinity. The intersection of N Levee Road and Freeman Road is located within the City of Fife. City of Puyallup limits begin at the eastern limits of the intersection.

At the intersection of N Levee Road and Freeman Road E, the northeast parcel is owned by the Puyallup Tribe. The Puyallup Tribe is historically unwilling to dedicate land to the City of Fife or City of Puyallup in other street improvement locations for street widening projects or for safety improvements.

### CITY OF FIFE MUNICIPAL CODE

Section 19.64.030 General Landscape Requirements in the City of Fife Municipal Code states:

F. Clear Line of Sight. Landscaping shall be designed, planted and maintained in a manner that ensures pedestrian, bicycle and vehicular safety. Shrubs and groundcover within and adjacent to parking lots and circulation areas shall not exceed 36 inches in height when necessary to provide for a clear line of sight for vehicular drivers. The groundcover height shall be measured from adjacent parking or circulation pavement surface.

### CITY OF PUYALLUP MUNICIPAL CODE

Item 3 of Section 20.58.020 Landscaping Requirements, Approval Criteria in the City of Puyallup Municipal Code states:

(3) No plant materials or landscape features shall be situated in such a manner so as to inhibit vehicle sight distances or otherwise create a traffic hazard.

## LOS ANALYSIS

A Traffic Impact Analysis was submitted for review on November 28, 2023. The analysis included 3 build alternatives at this intersection:

**Alternative 1:** Maintain existing operations of minor-leg stop control and 2-lane roadways

**Alternative 2:** Adding a SB left turn pocket on Freeman Road E and all-way stop control

**Alternative 3:** 167 Extension.

During the AM Peak period, the baseline LOS C of the intersection is maintained or improved upon in all scenarios. During the PM Peak period, the baseline LOS drops to LOS E. This baseline condition is below the City of Fife Standard LOS of LOS D. In the PM Peak build scenarios, Alternative 1 maintains the baseline LOS E, Alternative 2 improves to LOS C, and Alternative 3 improves to LOS B.

## DESIGN PROGRESSION

The proposed concept design submitted November 17, 2021, proposed the addition of a southbound left turn pocket on Freeman Road. The existing two-lane cross section along N Levee Road was maintained.

Comments related to this intersection received as part of the SEPA review, dated February 17, 2022, include:

- Show modifications at Levee/Freeman intersection to accommodate simultaneous inbound/outbound WB-67 trucks. Turn pockets required on Levee & Freeman Rd. Sight distance analysis required per City standards. Include streetlight design at intersection, ensure placements are protected from trailer off-tracking conflicts.

Based on the comment above, the design on N Levee Road was widened to accommodate an eastbound left turn pocket at Freeman Road. Due to site constraints adjacent to the Puyallup River, all widening was proposed to the north to avoid environmental impacts to this sensitive resource. The exiting lanes at Freeman Road were also widened significantly to accommodate the requested simultaneous turn movements for WB-67 vehicles.

Alternative 2 proposed by the TIA demonstrates that all-way stop control at the intersection improves baseline LOS in the PM Peak to an acceptable level of service of LOS C. It is understood that an all-way stop condition is not desired by the City of Puyallup due to the roadway classification of N Levee Road. This comment is inconsistent with adjacent stop-controlled intersection at 70<sup>th</sup> Ave E and N Levee Road in Fife.

## SAFETY CONCERNS

There is an existing sight distance concern for the southbound turn movements. The existing footprint of N Levee Road overlaps with the property line on the northeast corner of the intersection, owned by the Puyallup Tribe. Dense vegetation extends to the roadway shoulder, creating a situation where

vehicles must approach the intersecting roadway to gain appropriate entering sight distance visibility to their left.

This existing condition is exacerbated by the requested addition of a westbound left turn pocket on N Levee Road. By shifting the edge of travelled way an additional 12' north, the sight lines further encroach onto Tribal Lands. Due to the Puyallup Tribe's historical unwillingness to dedicate land to the City of Puyallup for additional Right-of-Way, and the City's existing lack of enforcement on pruning within the sight line, it is not recommended to proceed with this design alternative.

Freeman Logistics' recommended solution of an all-way stop control would improve the baseline LOS to a LOS C. This would also eliminate the need for an EB left turn pocket, allowing existing sightlines to be maintained. Modification of the intersection control type would bring the available existing sight lines into compliance by modifying the needed sight distance from Entering Sight Distance clearance to intersection sight distance (AASHTO Case E), requiring clear sight lines to "the first stopped vehicle on each approach" only.

This all-way stop control condition could be an interim condition until the SR-167 extension is completed and volumes shift from N Levee Road. After the Development is constructed and the extension is complete a level of service analysis of the intersection could be completed to determine if the volumes have decreased enough and the sight distance is improved to justify removal of the stop signs on N Levee Road.

### **MUTCD STOP WARRANT**

The MUTCD 11<sup>th</sup> Edition, Sections 2B.12 through 2B.17, describes the warrants with which an engineering study may determine all-way stop control. Using engineering judgement and consideration of the 5 warrants described below, the decision to install all-way stop control may be justified. It is not required that a project meet multiple warrants to justify installation of all-way stop control. Warrants that may justify installation of all-way stop control include:

- A. All-Way Stop Control Warrant A: Crash Experience (see Section 2B.13)
- B. All-Way Stop Control Warrant B: Sight Distance (see Section 2B.14)
- C. All-Way Stop Control Warrant C: Transition to Signal Control or Transition to Yield Control at a Circular Intersection (see Section 2B.15)
- D. All-Way Stop Control Warrant D: 8-Hour Volume (Vehicles, Pedestrians, Bicycles) (see Section 2B.16)
- E. All-Way Stop Control Warrant E: Other Factors (see Section 2B.17)

Both Warrants B and E are met by the location under review. Warrant B is justified because the intersection would not meet appropriate sight distance visibility, as established in AASHTO, without the installation of all-way stop control (see discussion under "Safety Concerns"). Warrant E is justified because the proposed increase in volume of heavy vehicles at this location exacerbates the sight distance concern, as heavy vehicles require additional time to complete turning movements upon entering the intersection.

## **SUMMARY**

The requested changes to add a left turn pocket on N Levee Road are not required due to the proposed development. Traffic demand from Freeman Logistics does not result in a degradation to LOS at this intersection. The baseline development condition in the PM peak indicates a LOS below City preferred standard of LOS D. The Developer's preferred solution of all-way stop control, which would have improved upon the baseline condition to a LOS C, was initially denied by the City of Puyallup.

The City's requested mitigation to add an EB left turn pocket has been considered by the Developer. The requested mitigation reviewed cannot be completed to an acceptable design sight distance standard within the right-of-way constraints and should not be considered a responsibility of the Freeman Logistics Development. Freeman Logistics Development requests reconsideration of the initial proposal to introduce all-way stop control at this intersection.

The full off-site SEPA mitigation for this intersection would include the southbound left-turn channelization and installation of all-way stop control signing at this intersection. This is consistent with appropriate design standards including MUTCD and AASHTO. This would mitigate the Development's impact to the intersection.