

Exhibit “B”

Memo

Subject: Engineering Comments for Land Use Application for Proposed Retail on SE Corner of 1st and Baseline

Date: October 15, 2023

By: Terry, Keyes, P.E., City Engineer

These comments are based on existing conditions on the site.

The comments are preliminary and designed to help in creating the final engineering construction plans for the site. While the comments should not be interpreted as the final engineering comments on the development, these comments attempt to cover all major public infrastructure, erosion control, and stormwater runoff requirements related to development of this site.

General

The site consists of a 2.3 acre parcel at the southeast corner of Baseline and 1st Avenue.

All plans for public improvements must be designed by a registered professional engineer. Bonding for public improvements, as well as erosion control and stormwater treatment and detention facilities, is typically required to ensure the improvements are completed in a satisfactory manner. Improvement plans for Baseline must be approved by both the City and Oregon Department of Transportation (ODOT). ODOT requires its own permits for work in their right-of-way. The timelines for ODOT review and permitting is typically longer than the city's timelines.

Street

Baseline

The frontage along Baseline is unimproved with a combination bike lane/shoulder adjacent to a road-side ditch. Street lights are mounted on PGE power poles. The overhead power lines on the south side of the street include PGE transmission lines near the top of the existing poles and PGE distribution lines midway up the poles. The poles also appear to support telecommunication lines.

Frontage improvements required by the City and proposed in the applicant's preliminary plans include:

- Bike lane
- Concrete curb and gutter
- 6-foot concrete sidewalk
- Undergrounding all overhead lines, except the PGE transmission lines

- Cobra-head street lights on their own poles
- Driveways entering Baseline shall meet the Cornelius Standard Detail for a *Commercial Driveway with a Parkway Strip (Detail S-22)* or ODOT Standards

While the City's standards require street trees along frontages such as Baseline, these are not allowed in this area by ODOT because they can pose a hazard to drivers even though they protect pedestrians and are effective in slowing traffic.

A bus stop currently exists on the SE corner of Baseline and 1st. No special accommodation is required by the City for this bus stop.

As an ODOT road, ODOT controls access to Baseline. The applicant proposes a driveway accessing Baseline at the far eastern side of the parcel. This driveway is within a 100 feet of an approved driveway that the development to the east, which has land use approval, will construct. These two driveways spaced so closely together present a traffic hazard and will likely not be allowed by ODOT. The City agrees that two driveways in this location are hazardous and must be avoided.

Unless ODOT agrees the driveway is acceptable, the applicant must remove the proposed Baseline driveway from the plan. Fortunately, the driveway to be constructed by the development to the east is covered by a required access easement providing the applicant's parcel access to the driveway on the adjoining parcel to the east.

1st Avenue

The frontage along 1st is improved with a concrete curb and gutter and a concrete curb-tight sidewalk. Two driveway drops exist along this frontage. The applicant proposes to replace the northern driveway drop with standard curb/gutter and sidewalk which the city would require. The existing southern driveway is proposed to be used as the access point from S. 1st Avenue to the site. This is acceptable to the city.

Street lights are mounted on PGE power poles on the west side of S. 1st Avenue. No overhead power lines exist on the east side of the 1st.

The applicant proposes street trees along S. 1st Avenue meeting the requirements of the City's Public Works Standards.

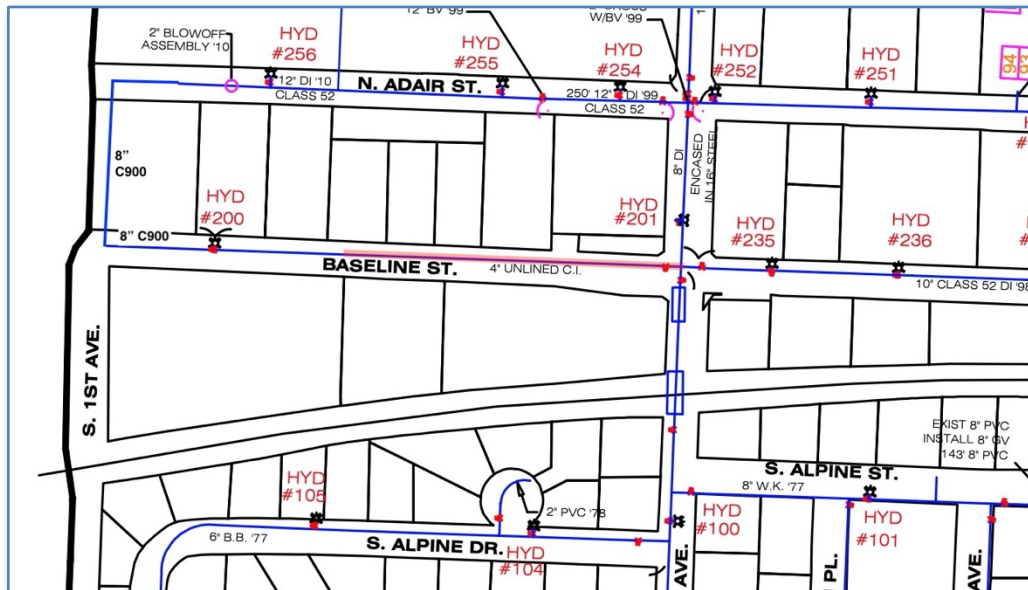
No other frontage improvements on S. 1st Avenue are required for this project.

Water

A new 8-inch C900 water main exists on the north side of Baseline from the City boundary to Hydrant #200 in the drawing below. This line was installed by the Carl's Jr. development a year ago and connects to a 12-inch public main in Adair Street. However, from Hydrant #200 to 4th Avenue, the water main is a substandard 4" cast iron line.

The applicant is required to replace the substandard water main along the Baseline frontage with an 8" C900 pipe from Hydrant #200 to their eastern property boundary. The applicant's preliminary plans show this improvement. As the parcels to the east on both sides of Baseline development, this line will be upgraded to current standards.

The applicant should note that Hybrid HVAC on the north side of Baseline (TL 2900) is also required to replace the substandard water main along their frontage. Review of the improvements plans for Hybrid is completed by the City, although the plans are still under review by ODOT. The applicant should coordinate the water main improvements with the Hybrid HVAC engineer to minimize disruption and avoid duplicating efforts.

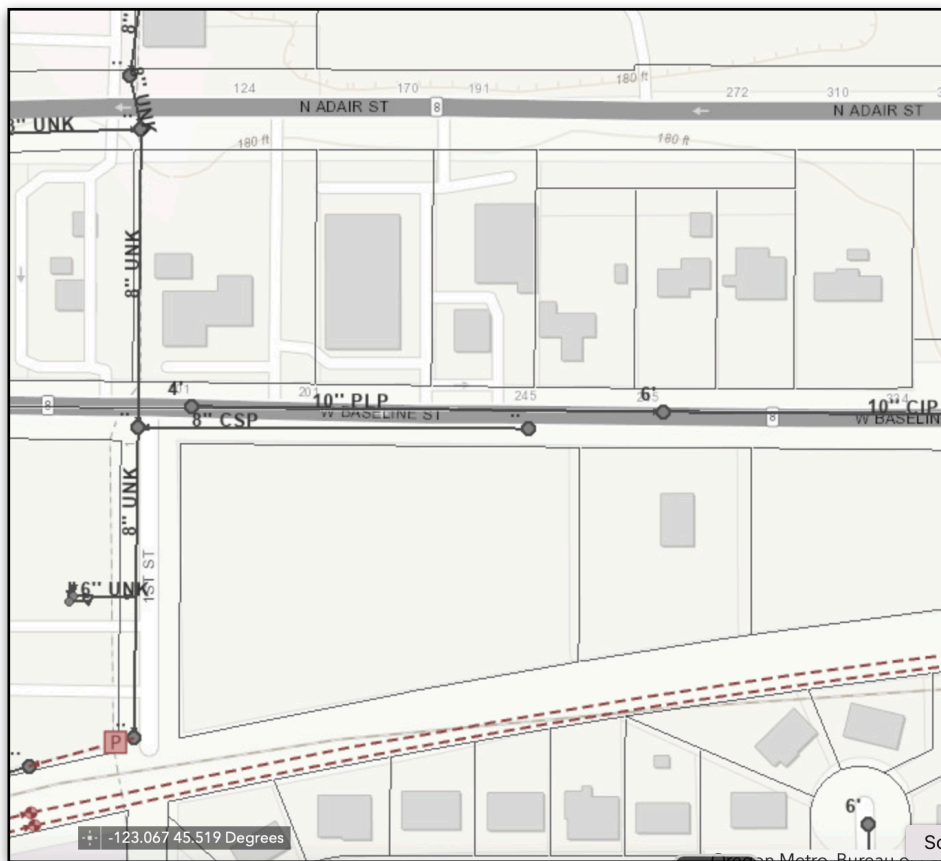


One fire hydrant exists (#200) on the north side of Baseline, as shown above. The applicant will be required to install a new hydrant on the south side of Baseline, ideally toward the eastern edge of their frontage. This proposed hydrant is shown on the preliminary plans. The Fire Department may determine that hydrants, in addition to a new one mentioned above, are needed.

Sanitary Sewer

A variety of sanitary sewers surround the site as shown in the drawing below. Along the Baseline frontage and on S. 1st Avenue is an 8" public sanitary sewer. This sewer primarily serves Forest Grove and goes to a pump station at S. 1st Avenue and the railroad. This 8" line and the system it is connected to do NOT have capacity for the site.

A 10" public sewer exists on the north side of Baseline and drains to the east. This line does have capacity for the site. Therefore, the site shall connect to the 10" main flowing east in Baseline. The preliminary plans show this connection.

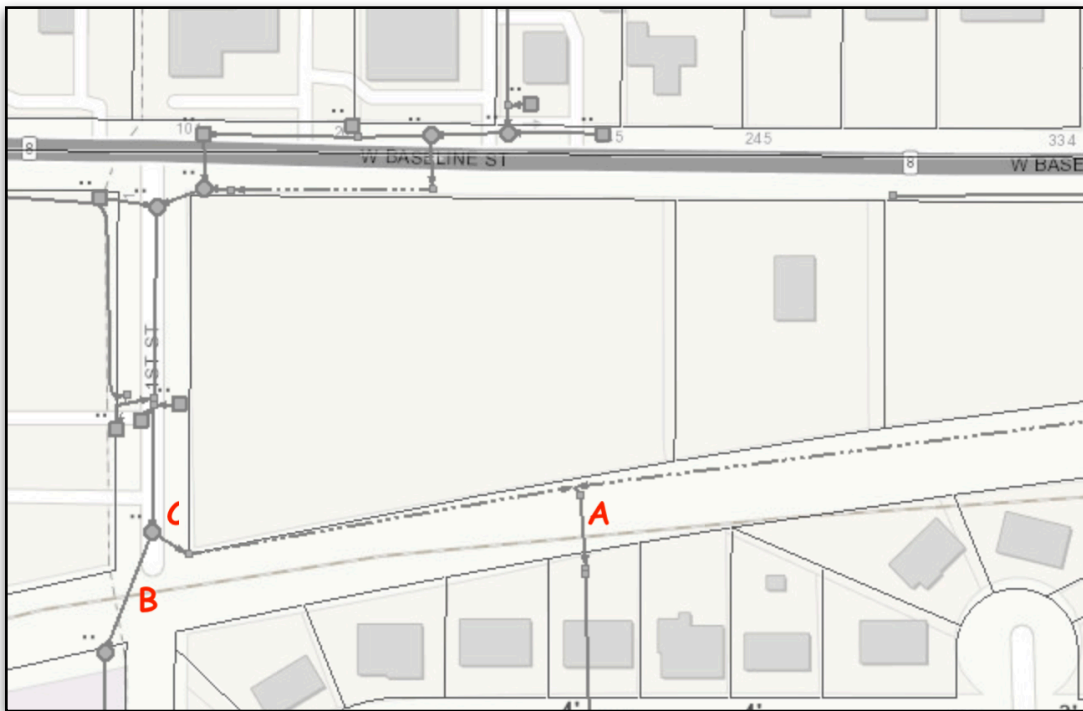


Stormwater

Conveyance

Before Walmart was constructed 14 years ago, stormwater runoff in the basin north of the railroad all flowed through a single culvert under the railroad. This is shown as point A in the drawing below. This routing of stormwater caused periodic flooding problems in the downstream neighborhood because the system lacks the capacity for handling all the runoff north of the railroad.

To deal with the additional stormwater flows from the Walmart site north of Adair, Walmart constructed a stormwater bypass pipe from the railroad to Heather Street along the Cornelius/Forest Grove boundary. The bypass goes under the railroad at point B. A control manhole at point C allows the city to split stormwater flows between the two routes under the railroad. Over the past 14 years, this system has successfully eliminated flooding in the neighborhoods to the south.



The applicant's preliminary stormwater plan routes the majority of runoff into the bypass system near manhole C. A portion of the site runoff is routed directly into the wetland area at point A. With the proposed detention provided for site runoff, this arrangement of discharges is acceptable and should not overburden the storm system south of point A.

Treatment, Detention, and LIDA

Stormwater runoff from all new development in urban Washington County must be treated and detained in accordance with Clean Water Services (CWS) Standards. The CWS requirements consist of three parts.

- 1) *Treatment* – All runoff from new impervious surfaces must be treated before release into the public storm system. The applicant is proposing a mix of stormwater filter units and an extended dry basin. While a more detailed review will be provided when final engineering plans are submitted, this proposed treatment approach appears to easily meet requirements.
- 2) *Hydromodification or Detention* – This requirement is based on a series of factors. These factors and their ratings for this site are:

Risk – low
Development Class – developed area
Project Size – large (over 80,000 sq.ft.)

These criteria place the project in CWS's *Category 2*. Category 2 projects require significant detention as spelled out in the CWS Design and Construction Standards. The applicant proposes a mix of underground storage and an extended dry basin. While a more detailed review will be provided when final engineering plans are submitted, these techniques appear to meet requirements.

- 3) *Low Impact Development Approach (LIDA)* – Projects must also incorporate some type of LIDA or green approach to stormwater control. The applicant's proposed extended dry basin meets the LIDA requirements.

Service Provider Letter (SPL) and Vegetated Corridor

The applicant has a SPL issued by Clean Water Services (CWS) on July 17, 2023. The SPL identifies a degraded vegetated corridor on the south side of the site. **The final engineering plans must include the landscaping plan that will to bring this vegetated corridor up to good condition as required by CWS.**

Erosion Control

An erosion control plan is required to be included with the final engineering plans for this project. Since 1 acre or more of land will be disturbed, the erosion control plan will need to meet the requirements for a 1200-CN permit.