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# SOUTH UNIVERSITY DISTRICT TRAIL.

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Feasibility Report

January 2020 | Final

*The information contained in this document is for planning purposes and should not be relied upon for final design of any project. Readers are cautioned that this is a preliminary report and that all results, recommendations, concept drawings, cost opinions, and commentary contained herein are based on limited data available at the time of preparation. Further engineering analysis and design are necessary prior to implementing any of the recommendations contained herein.*

## **CONTENTS**

<b>1.0 Feasibility Assessment</b>	<b>2</b>
Boundary, Site, And Topographic Survey	2
Design Standards	3
Geotechnical Evaluation	4
<b>2.0 Constructability</b>	<b>5</b>
Property Impacts	6
Site Impacts	7
Topographic Impacts	10
<b>3.0 Conclusion</b>	<b>11</b>



## **1.0 FEASIBILITY ASSESSMENT**

The feasibility assessment is the first major task for the South University District Trail Feasibility project (Project). The Toole Design team has conducted this assessment with the following goals:

- » Identify the elements, risks and/or issues that may factor in determining the feasibility of placing a trail within the study focus area.
- » Develop a set of criteria and an evaluation methodology to assess the criteria and document the degree of feasibility.

The conceptual design of the trail will be conducted after the feasibility assessment.

### **BOUNDARY, SITE, AND TOPOGRAPHIC SURVEY**

To determine the location of existing site features within the study focus area, a boundary, site and topographic survey was conducted. The survey extends between the eastern edge of the Catalyst Building construction site and the existing Ben Burr Trail, covering the area between E Sprague Ave and the top of the slope above the Burlington Northern Santa Fe (BNSF) railroad. The survey did not cover the Catalyst Building site, as the property was under construction and current grades do not reflect the proposed grades when the project is complete. The survey did include recent grading activities northeast of the Catalyst Building and the top of the existing rock embankment adjacent to the railroad tracks, as these will influence the conceptual design of the trail. The survey also depicts property boundaries, limits of long-term leases with BNSF, and other easements that might affect trail design. The survey is included in Appendix A of this report.

After completion of the survey, the project team performed a field reconnaissance to verify that the site constraints were accurately represented. The survey includes existing sewer, water, power and gas lines that fall within the study focus area, as well as above ground utilities.

## **DESIGN STANDARDS**

The Toole Design team has reviewed the following national and regional design standards, which are expected to inform the conceptual design of the trail:

### *AASHTO's A Guide for the Development of Bicycle Facilities (2012)*

Chapter 5 concerns the design standards for Shared Use Paths. The following design criteria are relevant:

- » The minimum path width is 10 feet, with ranges typical between 10 and 14 feet (11 feet accommodates passing maneuvers); 8 feet may be used in very rare circumstances. For the project context, separation of bicyclists and pedestrians isn't considered necessary.
- » A minimum 2-foot wide shoulder should be provided on either side of the path, with a maximum grade of 1(v):6(h). Vertical objects (i.e. signs, poles) should be located outside of the 2-foot shoulder. For the project context, a barrier may be necessary at the top of the steep slope above the railroad corridor.
- » The design speed of the path is anticipated to be 18 mph, but this may vary with direction, as the downhill direction may typically see higher speeds, and the uphill direction lower speeds. This speed differential may warrant additional path width.

### *United States Access Board's Public Rights-of-Way Accessibility Guidelines (PROWAG)*

Since the project will provide a shared-use facility that accommodates wheeled users and pedestrians, maximum cross slope and longitudinal slopes will need to meet the Americans with Disabilities Act (ADA).

- » The path cross-slope should not exceed 2 percent.
- » The path longitudinal slope should not exceed 5 percent; if the slope is greater than 5 percent, the path is considered a ramp, and will necessitate landings every 30 inches of rise, and a railing. When the path is considered a ramp, the longitudinal slope should not exceed 8.3%.

### *BNSF Position on At-Grade Trails and Parallel Roadways*

This 1-page document identifies preferences for shared use path design for Agency Sponsored projects that are on or adjacent to BNSF right-of-way. The following key points are relevant to this project:

- » In general, trails are not allowed on BNSF property.
- » If a trail is adjacent to BNSF property, fencing should be installed along the trail to keep users off of BNSF property.
- » Increased pedestrian activity adjacent to active track increases exposure points to train movement and potential for trespassing. Efforts to deter trespassing should be included in any trail project.

### *WSDOT's Design Standards*

Chapter 1515 of the WSDOT Design Manual M 22-01.17 (September 2019) provides design standards that are largely consistent with the AASHTO Bike Guide. The additional design criteria are relevant to the project:

- » The design speed on long downgrades (steeper than 4% for longer than 500 feet) is 30 mph.
- » Periodic landings provide a place for users to rest.
- » Stopping sight distance calculations are provided in Exhibit 1515-14a through 16.
- » Signing, pavement marking, and lighting requirements are provided in Section 1515.05.
- » The appropriate use of bollards, when necessary, is outlined in Section 1515.06(2).

### *City of Spokane Design Standards*

The transportation design standards are located in Chapter 4 of the Comprehensive Plan (2017). This chapter has been rewritten since the initial publication, and the latest draft (V6 dated November 13, 2019) was also reviewed. The following standards are relevant to this project:

- » Paths have a minimum width of 10 feet to accommodate two-way traffic; Table 1 identifies street dimensions for various roadway classifications, with the desired shared use path width stated as 12 feet.
- » The maximum profile grade for pathways is 8%; the minimum profile grade is 0.8%

In summary, the Toole Design team proposes to use the following design standards during the development of the conceptual design:

- A 12-foot wide trail for wheeled users and pedestrians, with 2-foot wide shoulders; vertical objects are preferred to be located outside of the shoulder. In locations where this width is not available, a minimum width of 10 feet, and a constrained width of 8 feet, are appropriate. A fence along the BNSF side of the trail will be required anywhere the trail abuts BNSF property.
- The trail cross slope will not exceed 2%; a longitudinal slope of 5% is preferred, with a maximum of 8% (which will require landings and handrails); a minimum longitudinal slope of 0.8% is preferred.
- The design speed will vary for the uphill and downhill direction of the trail; for flat portions the design speed will be 18 mph, for long downhill sections the design speed will be 30 mph, for uphill sections the design speed will vary based on grade.
- Sight distance calculations, signing and striping requirements, lighting requirements, and the design of bollards (when deemed necessary) will follow the WSDOT Design Manual.

## GEOTECHNICAL EVALUATION

A geotechnical literature review and alignment reconnaissance was conducted to evaluate surface and near-surface conditions within the study focus area. The following key geotechnical considerations which could impact construction of the trail along the top of the railroad slope include:

- » Rock excavation of the basalt outcrop north of the Catalyst Building; specifically, the quality and estimated quantity of rock and associated rock removal could have significant impacts to the project budget.
- » Occasional maintenance associated with possible settlement of existing fill.
- » Regrading the 10-foot tall fill slope (note that this is the location of the future Lot “B” associated with the Catalyst Building and is expected to be regraded prior to completion of that project).

The report notes that these three considerations can be mitigated during design and do not significantly reduce the project feasibility. However, the report also notes that if the trail alignment requires a cantilevered design over the existing top-of-slope at any location, or support via new retaining walls or other structural improvements, that the project costs are likely to be dramatically increased due to the unknown nature and likely poor strength of the uncontrolled fill and rock excavation that could be required.

The full memorandum is included in Appendix B of this report.

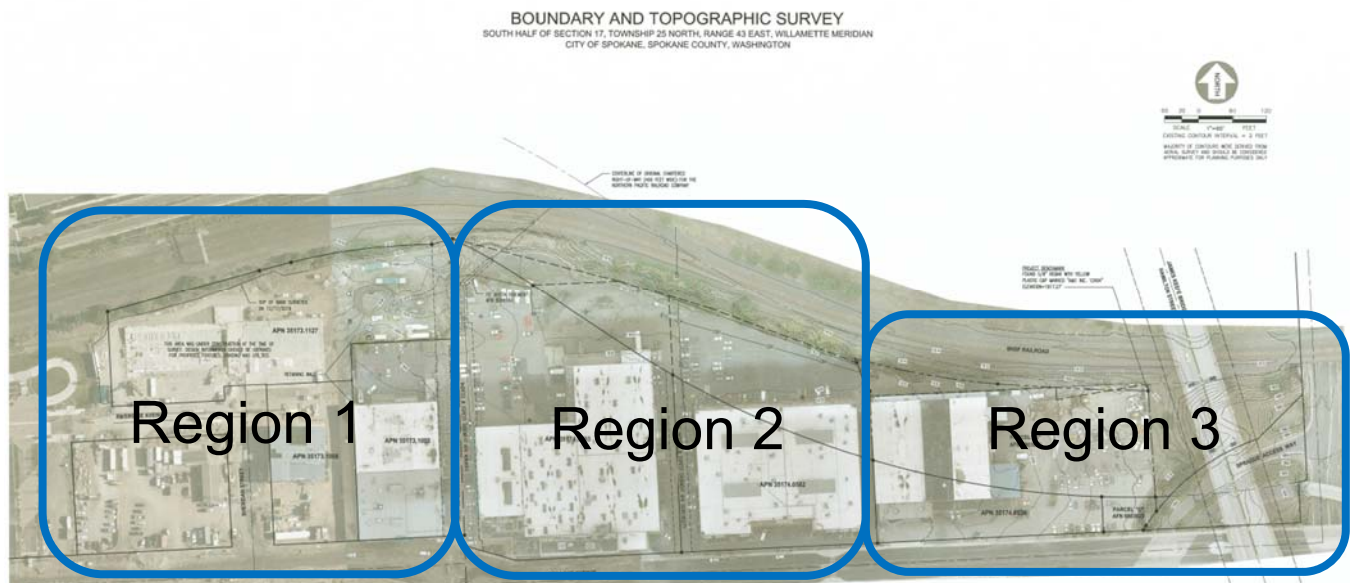


## 2.0 CONSTRUCTABILITY

To determine the constructability of a trail within the study focus area, the following evaluation criteria are identified:

- » **Property Impacts** – Identify affected property owners and lease holders and establish the degree and type of impact expected to construct the proposed trail.
- » **Site Impacts** – Identify existing and proposed site features that may impact the alignment of the trail or may need to be adjusted/relocated to accommodate the trail.
- » **Topographic Impacts** – Identify existing topographic features (e.g. steep slopes) that may impact the alignment of a proposed trail.

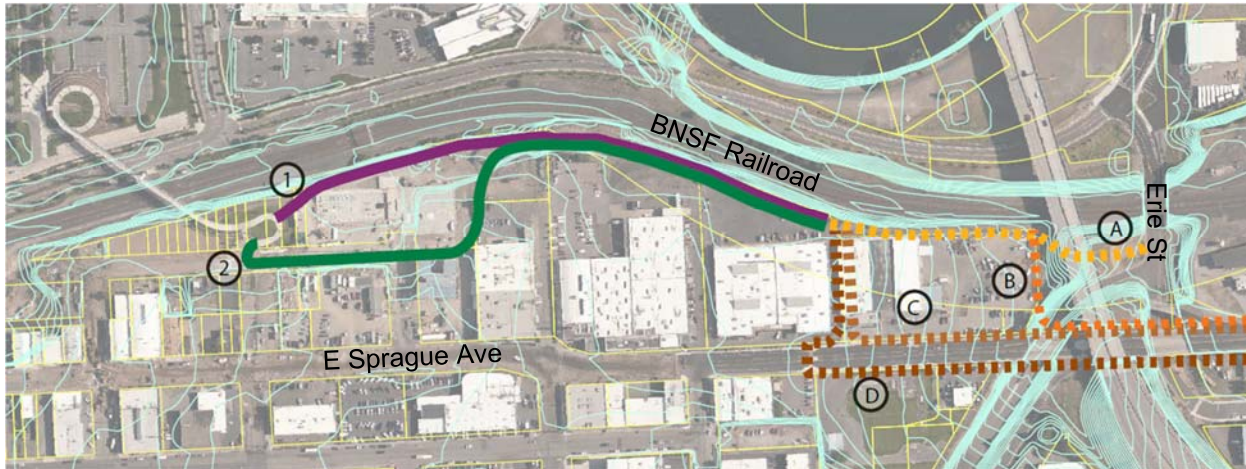
The study focus area is segmented into three (3) distinct regions for the purposes of assessing the evaluation criteria. The regions are identified in Figure 1.



**Figure 1 - Evaluation Regions Within the Study Focus Area**

- Region #1 is comprised of the Catalyst and Hub building sites, which are currently under construction (the project is being developed by McKinstry and Avista). Additionally, the property at 615 E Sprague Ave is in Region #1.
- Region #2 contains the businesses located at 711 and 815 E Sprague Ave.
- Region #3 is the City Wastewater Services building, located at 909 E Sprague Ave, and the area under the SR 290 overpass and north of the Sprague Access Way.

The Toole Design team worked with City of Spokane staff to identify illustrative alignments within the study focus area to present to property owners and request feedback. These alignments are depicted in Figure 2. A meeting with property owners occurred on October 30, 2019 where challenges and opportunities were discussed regarding the alignments.



**Figure 2 - Illustrative Trail Alignments**

- » Alignment #1 is preferred over Alignment #2 by McKinstry, one of the developers at the Catalyst Building property.
- » Alignment #A is preferred if the trail grading meets design standards.
- » Alignment #B is possible by utilizing city property at the Wastewater Building to route the trail toward Sprague Ave. Along Sprague Ave, the trail would consist of a widened sidewalk to provide a connection further east, connecting with the Ben Burr Trail.
- » Alignments #C and/or #D require coordination with property owners at #815 Sprague as the driveway is located entirely within their parcel. Similar to Alignment #B, the trail would consist of a widened sidewalk along Sprague Ave to complete the connection to the Ben Burr Trail.

## PROPERTY IMPACTS

Research into the title reports was conducted as part of the boundary survey with property lines and locations of easements identified on the survey (located in Appendix A). Generally speaking, each property extends between E Sprague Avenue north to the top of the slope above the BNSF railroad corridor; however, the three western most properties (#711, #815 and #909) have existing land leases with BNSF for a portion of this area. The City of Spokane has negotiated the purchase of the property that is currently leased at #909 E Sprague Ave from BNSF.

**Table 1: Property Impacts Evaluation Criteria Assessment**

Region	Challenges	Opportunities
1	The trail would be located entirely on private property, necessitating a permanent easement.	The buildings under development, and future buildings, may be well served by the trail.
2	The trail would be located entirely on private property, with a portion of it within the leased BNSF land. Modifications to the existing lease agreements will be needed.	The school currently operating at #815 may benefit from the access created by the trail.
3	The eastern portion of this region is mostly located within BNSF property, which requires negotiation with the railroad to accommodate the trail.	The pending ownership of the western portion of this region by the City provides flexibility for trail routing, either with Alignment #A or #B.

Since the possible trail alignments within the study focus area almost entirely lie within private property, or leased parcels, the primary challenge is negotiation with existing property owners and BNSF to allow the use of the trail. Initial conversations with property owners have indicated that the site impacts are the biggest challenge to implementing this trail.

### *BNSF Coordination*

The Toole Design team has worked with City of Spokane staff to explore permitting a new trail through the leased parcels. The following identifies the key coordination that has occurred to date:

- » The team initially contacted Bruce Sparling ([Bruce.Sparling@BNSF.com](mailto:Bruce.Sparling@BNSF.com)) and was directed to Steve Semenick ([Stephen.Semenick@BNSF.com](mailto:Stephen.Semenick@BNSF.com)), who is the Manager of Public Projects.
- » Steve responded by providing the position paper (identified in Design Standards above), noting that generally BNSF does not allow trails within their right-of-way. Steve asked that we contact Terri Berkley at JLL ([Terri.Berkley@am.jll.com](mailto:Terri.Berkley@am.jll.com)) regarding questions pertaining to long-term leases.
- » Terri directed the team to Shawn Zepper ([Shawn.Zepper@am.jll.com](mailto:Shawn.Zepper@am.jll.com)) as the lease manager covering Washington State. Shawn advised that the course of action necessary is for the City of Spokane to submit new lease applications to accommodate the trail, and to work with property owners to modify the limits of their existing lease agreements (while keeping the terms of their existing leases).
- » The City of Spokane has submitted the new lease application for the trail, along with the illustrative trail alignments, and is awaiting feedback from the BNSF Real Estate office.
- » On January 22<sup>nd</sup>, 2019, Terri alerted city staff that the lease application was denied.

While BNSF denied the submitted application for information-gathering purposes, the leasing agent (Terri Berkley, JLL) indicated that a follow-up application could be submitted to address initial objections and conflicts with existing leases, should those be resolved through this study. The Toole Design team believes that the project is unique for the following reasons, which may support BNSF reconsidering the restriction on a trail within their right-of-way:

- The 2018 BNSF Railway Public Projects Manual notes that the position paper is a general resource only and is not absolute.
- The preliminary trail alignment(s) being considered is not “at-grade” since it would lie on the top of a 20-foot tall rock bluff; the exception is at/near the City Wastewater building, where Alignment #A qualify as an “at-grade” trail.
- There are existing buildings and parking improvements within the railroad right-of-way due to the current lease agreements.
- The trail may reduce instances of trespassing and vandalism since there is currently no fence along the railroad corridor in some locations (see Figure 7).
- The railroad is not likely to use this right-of-way for future use due to the rock bluff and the existing Hamilton Street bridge abutments and columns.

The team and City of Spokane staff continue to coordinate with JLL and BNSF to determine if a new lease agreement is acceptable to support the trail alignment.

## SITE IMPACTS

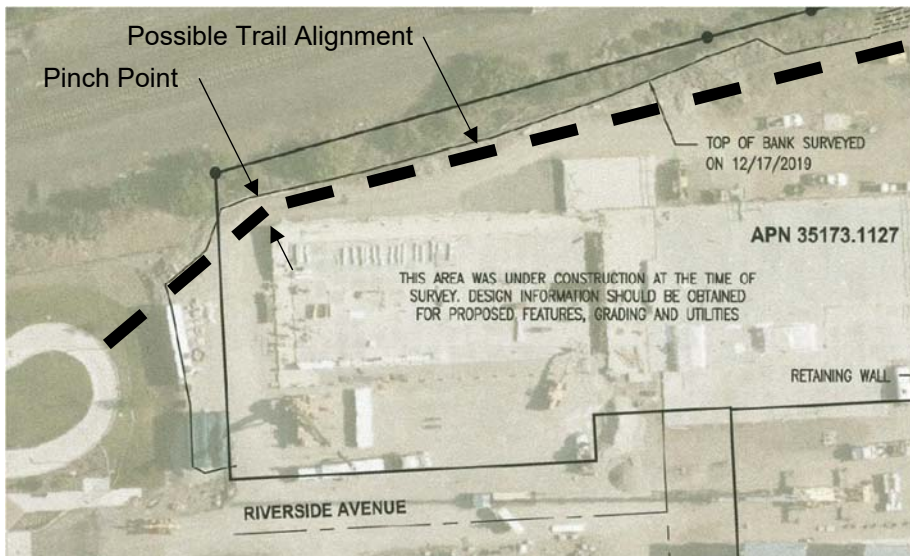
The predominant site features that affect the accommodation of a trail are the existing and proposed buildings. Additionally, all of the properties have current or proposed surface parking lots. There are several power poles located within the study focus area, which may also affect the trail alignment.

**Table 2: Site Impacts Evaluation Criteria Assessment**

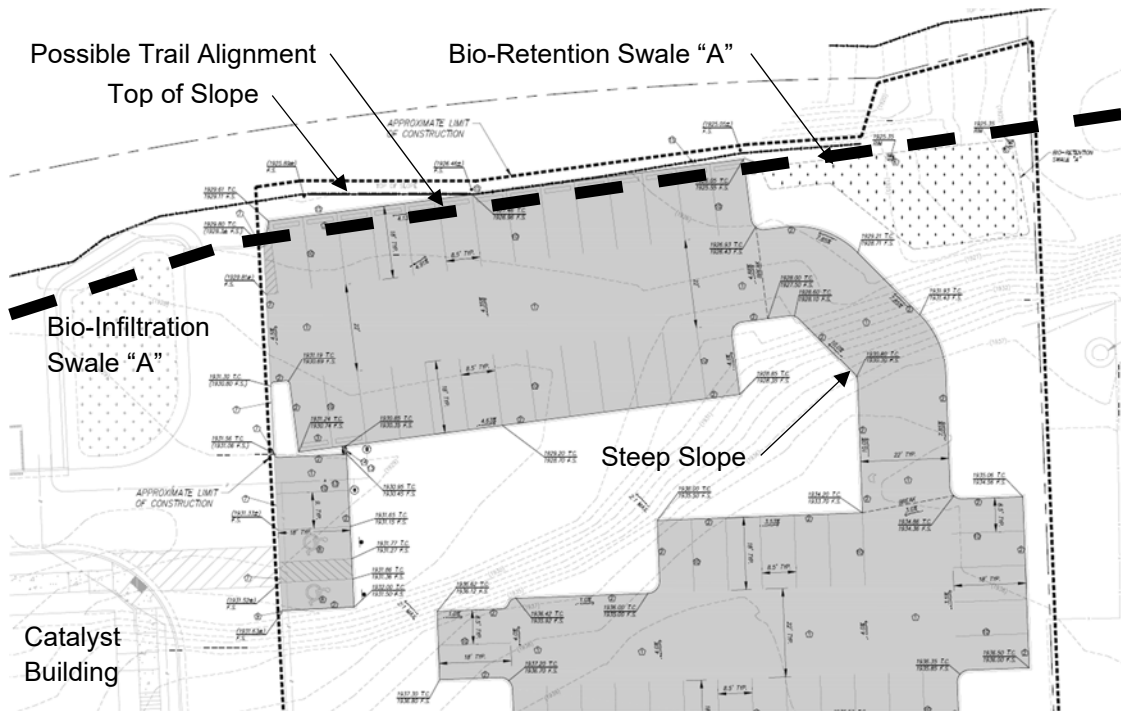
Region	Challenges	Opportunities
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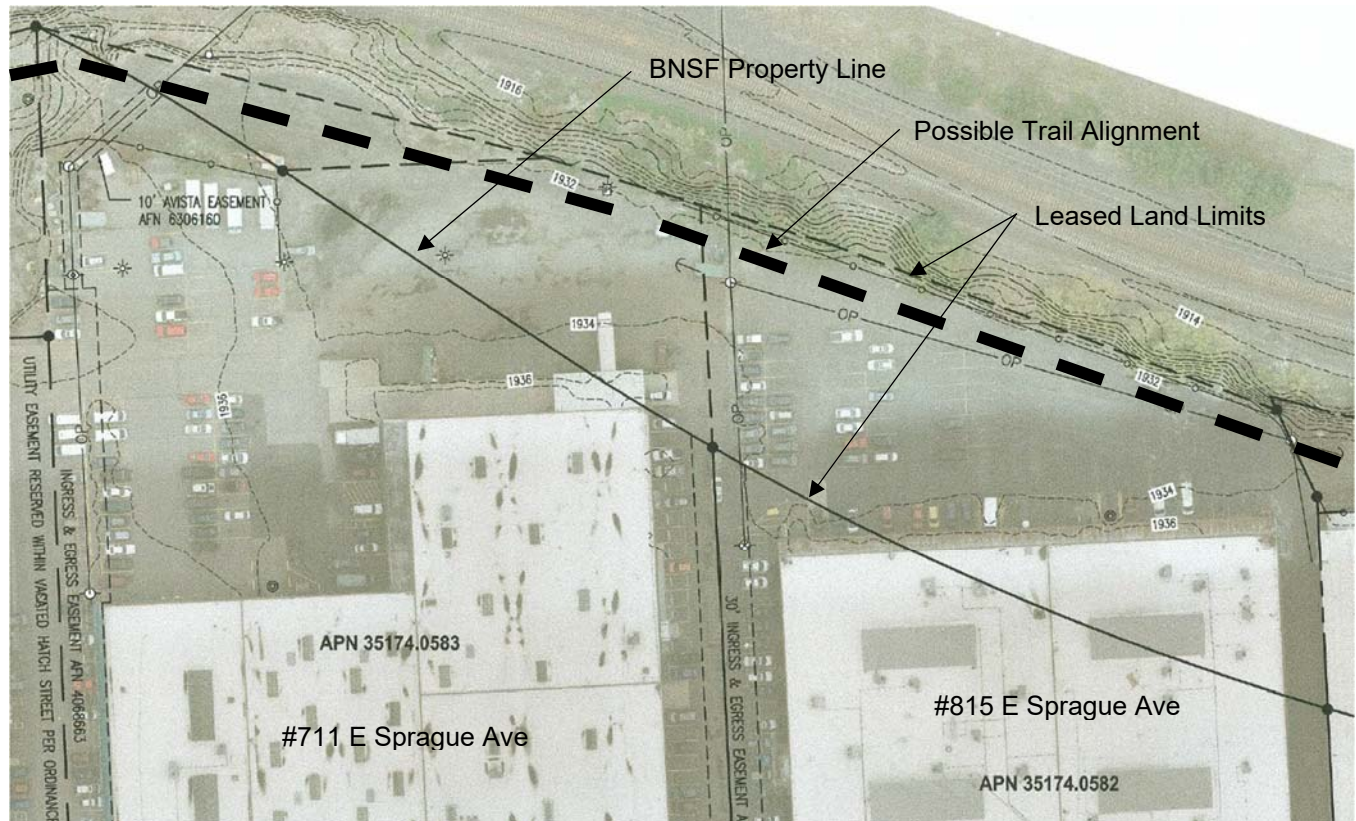
1	The under-construction Catalyst Building and Parking Lot “B” site features will need to be modified to accommodate a trail; there is limited space between the NW corner of the Catalyst Building and the top of the existing slope (Figure 3) and limited space between Parking Lot “B” and the top of the existing slope (Figure 4). The proposed stormwater features may need to be modified.	The trail alignment to the north of the Catalyst building may integrate well into the existing site plan.
2	At both #711 and #815, the presence of the trail will reduce the amount of parking spaces that are possible on the property (see Figure 5). In addition, active loading docks require a minimum amount of space for truck maneuvering.	The trail project can redesign the parking lots to increase efficiency, and the City can explore providing offsite parking replacement spaces.
3	The existing surface parking lot and storage yard may need to be reduced to accommodate the trail, especially if Alignment #B is preferred.	Since the parcel is owned by the City, impacts can be negotiated internally.



**Figure 3 - Catalyst Building: NW Corner Pinch Point**



**Figure 4 - Parking Lot "B" Constraints**



**Figure 5 - Existing Parking Uses in Region #2**

The conceptual design phase of the project will need to evaluate the pinch points within Region #1 to determine if the design standards can be met through this section. Additionally, the concept design will need to identify impacts to the existing Parking Lot “B” and the stormwater features associated with both the parking lot and the Catalyst Building.

The conceptual design should also identify the current use of all parking areas within Region #2 and #3. Within Region #2 specifically, the conceptual design should identify how the existing parking areas could be modified to maximize the amount of parking available when considering the presence of the trail. The City of Spokane should identify what, if any, opportunity there is to provide equivalent parking spaces off-site to mitigate the potential loss of parking along the trail corridor. The conceptual design should also identify any potential impacts to loading dock operations from the trail corridor.

## TOPOGRAPHIC IMPACTS

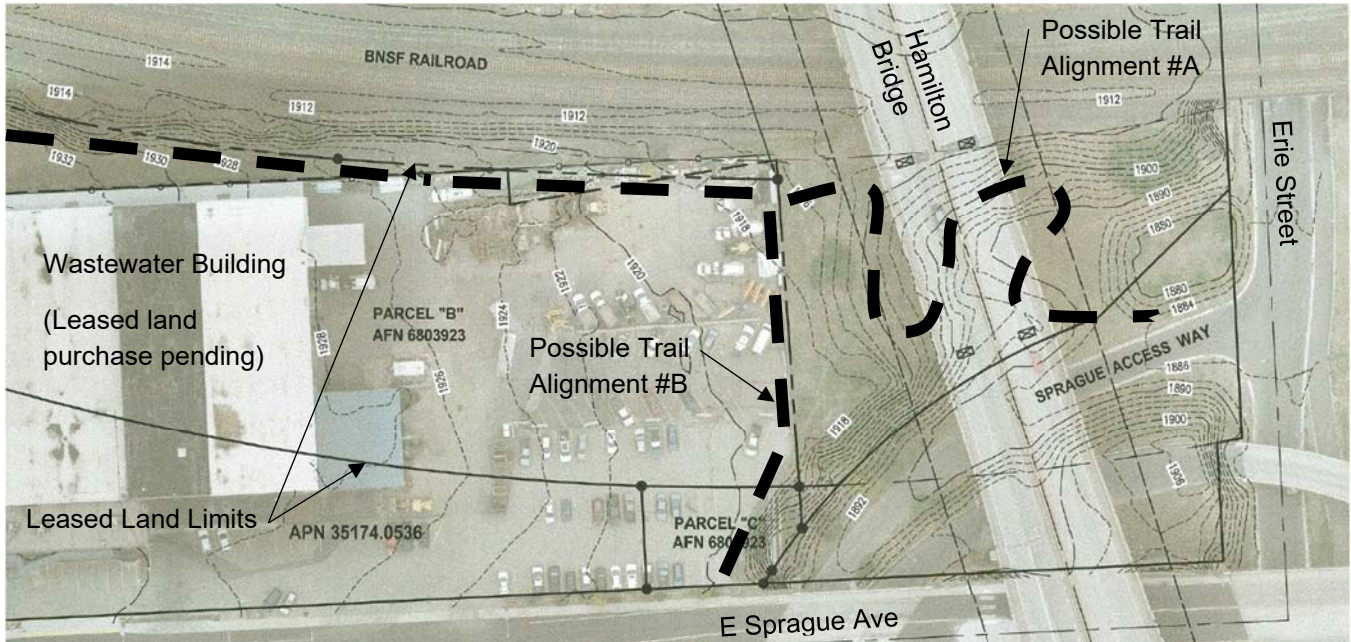
Starting at the western edge of the project study area, any possible trail alignment would drop slightly in elevation between the University District Bridge landing and the NE corner of Region #1. From this location, the elevation is relatively flat along the top of the slope to the NE corner of Region #2; the existing surface drops 15 feet along the northern edge of the City Wastewater Building property. Between this point and Erie Street, there is an additional 30 feet of elevation drop.

**Table 3: Topographic Impacts Evaluation Criteria Assessment**

Region	Challenges	Opportunities
1	The trail may require modifications to the existing steep slope above the railroad corridor; as stated in the geotechnical assessment, this would introduce unknown cost to the project by requiring a cantilevered design, or the addition of retaining walls. Additionally, an existing basalt rock formation may need to be modified to accommodate the trail through this section.	The elevation difference is minimal; the trail alignment may provide good views from the top of the steep slope.
2	The trail alignment should provide enough setback from the top of steep slope.	The elevation difference is minimal; the trail alignment may provide good views from the top of the steep slope.
3	The elevation difference between the NE corner of the City parcel and Erie Street may require extensive switch-backing to achieve design standards, which will impact whether Alignment #A or #B is preferred (see Figure 6).	Alternative alignments, including connecting to E Sprague Ave, can be explored to identify a trail accommodation.

The conceptual design will need to consider design standards, existing site constraints and the existing site topography within Region #1 to determine the right balance; impacts to the steep slope above the railroad corridor could result in significant project costs associated with cantilevered trail designs or retaining walls. Within Region #3, the conceptual design will need to determine if Alignment #A can meet the design standards. If not, Alignment #B will need to be evaluated, which has more site impacts.





**Figure 6 - Region #3 Constraints**

## 3.0 CONCLUSION

There are several key findings from the feasibility report concerning the constructability of the trail through the study focus area:

- » Negotiation with property owners over site impacts is a critical path. These include mitigation for the loss of existing and future on-site parking capacity, and revisions to existing or proposed site features (i.e. stormwater features). The conceptual design will help establish the impacts to parking, loading operations, and site features, which will help the city negotiate with property owners.
- » Negotiation with BNSF for a new lease agreement to accommodate the trail within Region #2 and #3; this also requires cooperation from current lease holders within Region #2 to modify the limits of their existing lease agreements. This item carries risk for the feasibility of the trail, as BNSF may not allow changes to the existing lease agreements or may continue to state that a trail is not an allowable use within their right-of-way.
- » The conceptual design will help establish which alignments are feasible, and how well they are able to meet the design standards. For example, the pinch point at the NW corner of the Catalyst Building will be detailed to determine if the trail can pass through this point, or if Alignment #2 is a better option. Similarly, the concept design will identify is Alignment #A can meet the design standards, or if Alignment #B is preferred.



**Figure 7 - The north edge of Region 3**



## MEMORANDUM

July 2, 2020 (Revised August 7, 2020)

To: Colin Quinn-Hurst  
Organization: City of Spokane, WA  
From: Craig Schoenberg, PE  
Project: South University District Trail Feasibility Study

**Re: Conceptual Design**

This memorandum accompanies the conceptual design plans, which constitutes Task 3 of the South University District Trail Feasibility Study (Project).

### 1.0 Feasibility Report Summary

The first deliverable for the Project was the Feasibility Report, submitted in January 2020. The Feasibility Report provided background information regarding the design standards, the geotechnical evaluation, and the evaluation criteria assessment for constructability. The Feasibility Report evaluated risks and issues that may play a role in determining the feasibility of designing and constructing the Project.

The following conclusions were identified in the Feasibility Report:

- **Property Impacts:** Negotiation with Burlington Northern Santa Fe (BNSF) for a new lease agreement, or multiple lease agreements, to accommodate the trail is on the Project's critical path timeline.
- **Site Impacts:** Negotiation with property owners over site impacts is on the Project's critical path timeline. These include mitigation for the loss of existing and future on-site parking capacity, and revisions to existing or proposed site features (i.e., stormwater features).
- **Topographic Impacts:** The conceptual design will help establish which alignments are feasible, and how well they are able to meet the design standards.

This memorandum describes the conceptual design and identifies how the conclusions from the Feasibility Report are addressed.

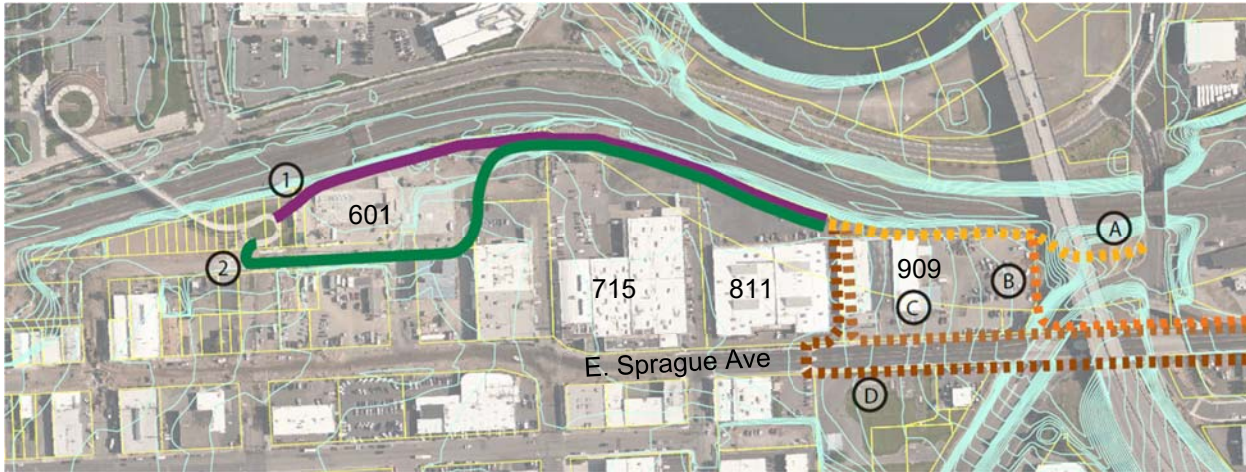
### 2.0 Conceptual Design

#### 2.1 Preferred Trail Alignment

The conceptual design presented in Appendix A of this memo is based on the preferred alignment identified in the Feasibility Report, which was determined through discussion with property owners and City staff. Elaborating on the illustrative trail alignments presented in the Feasibility Report (Figure 1, below), the following should be noted:

- Alignment 1 was selected over Alignment 2 based on the preference from the property owner (McKinstry).

- Alignment B was selected over Alignment A based on the high construction cost associated with grading and walls to achieve the design standards. Additionally, Alignment B was preferred (over Alignment C and D) as it is located within City property and therefore requires no additional property acquisition.
- The Feasibility Report did not explore how Alignment B would connect to the Ben Burr Trail; this report details the alternatives analysis conducted to support the conceptual design (see Section 2.3).



**Figure 1 - Illustrative Trail Alignments (from the Feasibility Report)**

The conceptual design follows the design criteria identified in the Feasibility Report. The trail follows the top of the existing slope above the railroad corridor, providing the opportunity for good views of the University District. Additionally, by passing along the backside of the parcels discussed below, future development may consider orienting north to provide trail-side access and amenities, capitalizing on the available views and transportation facility. The trail slope varies, as there is some elevation change between parcels, but is predominately under 4% grade.

## **2.2 Evaluation Criteria Summary**

The three evaluation criteria identified in the Feasibility Report are revisited for the preferred alignment and conceptual design (see Appendix A for conceptual design and property map references).

### *Criteria #1: Property Impacts*

#### **601 E Riverside Ave, Parcel No. 35173.1127**

The Bicycle Master Plan identifies this corridor as a future Shared Use Path, and thus it was a topic of discussion during the permitting of the Catalyst building development. City staff verbally communicated with the property owner the need to provide accommodation for the future trail; however, final SEPA documentation and site plans for the project development do not contain documentation of this communication.

The preferred alignment is along the north edge of the under-construction Catalyst building development and associated Parking Lot B, based on feedback and preference of the property owner (McKinstry). The City of Spokane will need to continue to coordinate and establish a permanent easement for the trail through this parcel, which will also need to be accommodated if/when future development of the parcel occurs.

#### **715 E Sprague Ave, Parcel No. 35174.0583**

The preferred trail alignment passes through the northwest corner of the 715 E Sprague Ave property; additionally, the alignment passes through adjoining BNSF property that is currently leased to the owners of the

715 E Sprague Ave property. The City of Spokane has coordinated with BNSF and the leasing agent regarding options to either establish a new easement on BNSF property specifically for the trail and revise the existing easement with the property owner, or to purchase the land from BNSF; the costs for these two options are identified in the Preliminary Engineer's Estimate in Appendix C. Additional coordination with the property owner will be necessary to establish a permanent easement for the trail through the private parcel, and to modify the existing lease agreement regarding their use of BNSF property.

#### **811 E Sprague Ave, Parcel No. 35174.0528**

The preferred trail alignment also passes through BNSF property that is currently leased to the owners of the 811 E Sprague Ave property. In the manner described for the 715 E Sprague Ave property, coordination between the City of Spokane, BNSF and the property owner is necessary.

#### **909 E Sprague Ave, Parcel No. 35174.0536**

The preferred trail alignment also lies along the north and east edge of the Spokane Wastewater Building. Currently most of this site is property leased from BNSF, but the Spokane City Council has approved a purchase of this land. If the property is acquired by the City, the preferred trail alignment would be located entirely within City-owned property. If the City were to then sell the property in the future, a permanent easement to accommodate the trail alignment would be established as part of the future property sales agreement.

#### ***Criteria #2: Site Impacts***

In an effort to minimize the impacts to planned features in the Catalyst Building and Parking Lot B development, the trail is shown within the footprint of the gravel access path, vehicle hammerhead turnaround, and parking lot drive aisle. Within the hammerhead turnaround and parking lot drive aisle, the trail consists of pavement markings, which will work as a wayfinding device and help alert all roadway users to the presence of the trail.

At the remaining properties (715, 811 and 909 E Sprague Ave), the location of the trail affects the current and future surface parking capacity for motor vehicles. The conceptual design identifies modifications to the existing parking lots to accommodate the maximum number of parking spaces while maintaining other existing uses of the parcels (e.g., loading dock areas). The City of Spokane has indicated that reserved off-site parking spaces may be provided to the impacted property owners at either the Wastewater Building or the CSO Tank properties south of E Sprague Ave; the total number of stalls at these locations that would be available is not known at this time.

**Table 1 - Parking Impacts**

Property	Existing Parking Spaces	Estimated Parking Spaces with Trail
#715 E Sprague Ave	20	54
#811 E Sprague Ave	50	49
#909 E Sprague Ave	64	97*

\*assumes current vehicle and equipment yard is modified to allow additional vehicle parking

Additionally, at the 715 E Sprague Ave property the trail will pass behind the existing loading dock. From site observations and conversations with the property owner, we do not expect the trail to impact the current operations of this loading dock. We understand these operations to be: approximately 1 medium-sized semi-truck (e.g. a WB-40), and up to 4 additional box trucks (SU-30), entering the site to the east of the building (S Scott St) and leaving the site to the west of the building (S Hatch St). The loading docks are accessed by backing up to a raised concrete dock.

Lastly, the trail alignment requires the relocation of an existing power pole in the northeast corner of the 811 E Sprague Ave property. Coordination with Avista for relocation of the power pole will be necessary.

### *Criteria #3: Topographic Impacts*

While the conceptual alignment of the trail at the northwest corner of the Catalyst Building is located within the footprint of the proposed gravel access path, some modifications to the slope immediately to the south of this path are necessary to maintain the required clearances between the trail and the surrounding site features. This will likely require a short retaining wall within this proposed sloped area.

Additionally, as the trail passes to the south of an existing basalt rock outcropping, some modifications to this outcropping may be necessary to achieve the trail design standards.

Between the Parking Lot B area and the adjacent 715 E Sprague Ave property, there is approximately 10 feet of vertical elevation difference; in order to minimize the impacts to the northwest corner of the 715 E Sprague Ave parcel, the conceptual design proposes to use short retaining walls on the south side of the trail to reduce the required grading.

Within the remaining properties (811 and 909 E Sprague Ave) there are no expected topographic impacts.

## **2.3 Ben Burr Trail Alternatives Analysis**

With the selection of Alignment #B, it is necessary to determine how best to connect the trail from E Sprague Ave to the Ben Burr Trail. To accomplish this, the project team evaluated alternatives for a continuation of the trail along E Sprague Ave (as a sidepath) and connections via shared lanes on the neighborhood streets to the south of E Sprague.

### *E Sprague Ave Sidepath*

E Sprague Ave was recently reconstructed as part of a capital improvement project. The improvements include on-street parking, a center two-way turn lane, curb extensions and crossing islands within a curb-to-curb width of 50 feet. Due to the parking restrictions on E Sprague Ave between the Wastewater Building and S Ivory St, roughly the area of the N Sprague Access Way and Erie Street overpasses, wider lane widths are used within the same curb-to-curb width. This means it is feasible to reduce the lane widths and provide a sidepath.

The design team evaluated a sidepath location on either the north or south side of E Sprague Ave within this section. It was determined that a northside alignment is preferred for the following reasons (See Appendix A for concept design):

- A northside alignment crosses the N Sprague Way “on-ramp” rather than crossing the S Sprague Way “off-ramp.” Generally, it is easier to achieve higher yielding by motorists at crossings on on-ramps rather than off-ramps, as motorists are transitioning from a lower speed roadway to a higher speed one. In the project context:
  - » A motorist approaching E Sprague Ave from S Sprague Way has traveled approximately 1/3 mile on grade separated, one-way roadway, and has relatively poor sight lines to the crossing location.
  - » A motorist approaching N Sprague Way from E Sprague Ave has traveled along the reconstructed roadway through the curb extensions and crossing island at S Ivory St, which creates a gateway that is likely to reduce motor vehicle speeds. The sight distance is unobstructed approaching the crossing location.



- A northside alignment affords the opportunity to use the existing crossing island at S Ivory St for users to transition down to the Ben Burr Trail. A southside alignment would require removal and replacement of the existing crossing island at S Sprague Way to a location further west where the trail leaves the Wastewater Building property.
- A northside alignment allows the existing shoulder on the north side of E Sprague Ave to be used as a bike lane, making a connection between S Perry and S Ivory St, which is identified as a key connection in the evaluation of the neighborhood streets below. A southside alignment would either require an extension of the sidepath to S Perry, thus impacting parking in front of current businesses, or would require multiple crossings of E Sprague Ave.

### *Neighborhood Street Connections*

Appendix B includes schematic diagrams of the various neighborhood street connections. Figure 2 below provides a general reference map of the vicinity.

The Ben Burr Trail intersects the street grid at the intersection of E 2<sup>nd</sup> Ave and S Perry Street, the intersection of E Pacific Ave and S Ivory St, and the intersection of E 1<sup>st</sup> Ave and Erie Street. A user of the Ben Burr trail connecting to the South University District Trail may choose a different neighborhood street based on the direction of travel. The matrix below identifies reasons why different routes would be preferred.

Travel Direction	Considerations
Northbound on Ben Burr Trail (to westbound on South University District Trail)	<ol style="list-style-type: none"> <li>The path with the least amount of grade change is to continue straight on S Perry St after passing through the I-90 underpass. A short bike lane connection on E Sprague is necessary to get from S Perry St to S Ivory St where the sidepath begins.</li> <li>The shortest path of travel is to leave the trail at E Pacific Ave and S Ivory Street and continue up S Ivory Street to reach the beginning of the sidepath.</li> </ol>
Southbound on Ben Burr Trail (to westbound on South University District Trail)	<ol style="list-style-type: none"> <li>The path with the least amount of grade change is to leave the trail at E Pacific Ave and S Ivory Street, and use E Pacific Ave and S Perry Street to reach E Sprague Ave. The bike lane connection described above also serves this movement.</li> <li>The shortest path of travel is to leave the trail at E 1<sup>st</sup> Ave and Erie Street and use E 1<sup>st</sup> Ave and S Ivory Street to reach the end of the sidepath.</li> </ol>
Eastbound on South University District Trail to Ben Burr Trail (northbound & southbound)	<ol style="list-style-type: none"> <li>The steep slope on S Ivory Street can be utilized in the downhill direction to connect more directly with the Ben Burr Trail;               <ol style="list-style-type: none"> <li>A user continuing southbound on the Ben Burr Trail would access the trail at E Pacific Ave and S Ivory Street</li> <li>A user continuing northbound on the Ben Burr Trail would access the trail at E 1<sup>st</sup> Street and Erie Street.</li> </ol> </li> </ol>



**Figure 2 - Street Network and Ben Burr Trail for Neighborhood Connection**

Based on this analysis, we recommend wayfinding signage and pavement markings for the following routes within the neighborhood streets (see Appendix B for map):

- S Perry Street between E 2<sup>nd</sup> Ave and E Sprague Ave for northbound Ben Burr Trail users
- E Pacific Ave between S Ivory Street and S Perry Street for southbound Ben Burr Trail users
- S Ivory Street between E Sprague and E Pacific Ave for eastbound South University District Trail users
- E 1<sup>st</sup> Ave between S Ivory Street and Erie Street for eastbound South University District Trail users

Further, we recommend the following improvements to support these routes:

- Widened sidewalk and bicycle box between the Ben Burr Trail and the intersection of Liberty Park Place and E 2<sup>nd</sup> Ave
- Curb ramps at the intersection of E Pacific Ave and S Ivory Street
- Designating the neighborhood greenway on E 1<sup>st</sup> Ave as jogging south to E Pacific Ave (rather than jogging north to stay on E 1<sup>st</sup> Ave)
- Add a crossing island at S Perry Street and E Sprague Ave
- Adding a westbound bike lane on E Sprague Ave between S Perry Street and S Ivory Street

## 3.0 Next Steps

A preliminary cost estimate accompanies this study (located in Appendix C). This memorandum, the conceptual design, and the cost estimate can be used by City of Spokane officials to determine whether it is desirable to move forward with this project to the next phase of design.

While property arrangements have been identified that could accommodate the trail as proposed, if arrangements met the specific conditions of landowners regarding parking and site impacts, the associated financial impacts to the City could prove prohibitive.

### 3.1 BNSF Property Coordination

In addition to the expense of offsetting private parking losses by building new parking on nearby City property, the annual rent costs associated with leasing the proposed trail alignment from BNSF amounts to an estimated \$135,000 annually or \$6.75 million over the course of a 50-year lease<sup>1</sup>. Were the City to purchase the trail alignment from BNSF at per-square-foot estimates based on neighboring real estate transactions and existing property values as of 2019, the estimated cost would range between \$1 million to \$2.7 million, depending on the extent of the purchase required and the logistics of coordinating such a purchase with existing leaseholders and BNSF. These costs do not include provisions for the trail easement that would be required at 601 E Riverside Ave and 715 E Sprague Ave.

Whether or not trail construction is ultimately possible across the BNSF-owned portion of the trail alignment, it is recommended that the City maintain requirements for a trail connection from the E Sprague Avenue viaduct across the City-owned 909 E Sprague Ave site to the northeast corner of the 811 E Sprague Ave property. A connection through the 909 E Sprague Ave Wastewater Building site would provide valuable active transportation access to existing and future uses of this property, as the Sprague Ave viaduct is anticipated to play a long-term role in accommodating active transportation access between the South University District and the Sprague Union Business District to the east.

Sincerely,

**Craig Schoenberg, PE** | Senior Engineer

#### TOOLE DESIGN

720 3rd Avenue, Suite 2020 | Seattle, WA 98104  
[cschoenberg@tooledesign.com](mailto:cschoenberg@tooledesign.com) | 206.297.1601 x314

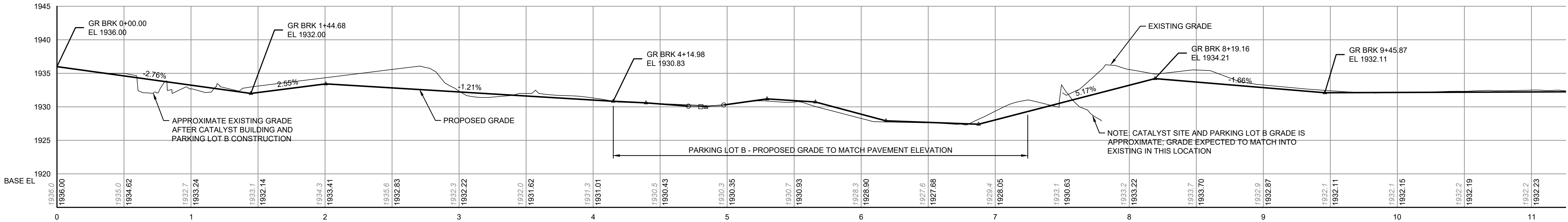
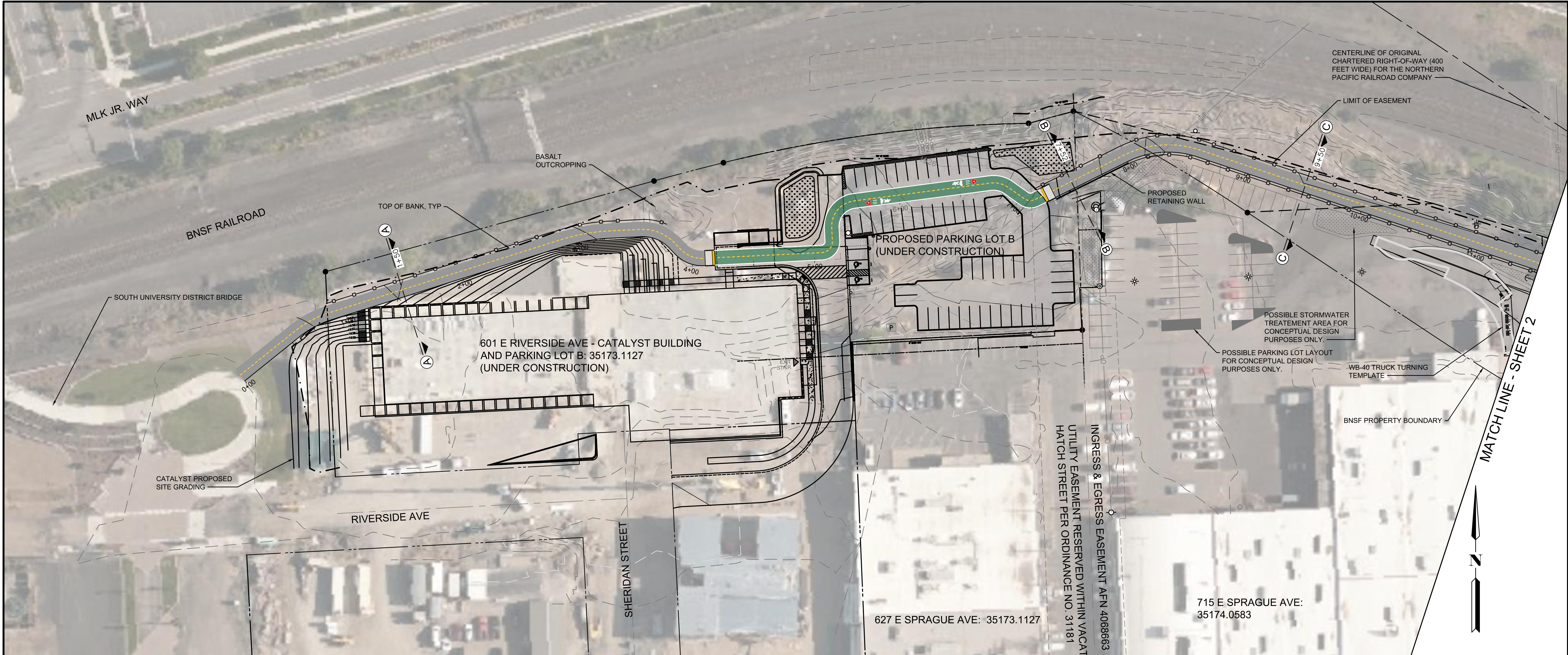
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<sup>1</sup> Telephone conversation 6/25/20 between City staff and BNSF Lease Agent

## **APPENDIX A**

### **CONCEPTUAL DESIGN PLANS**





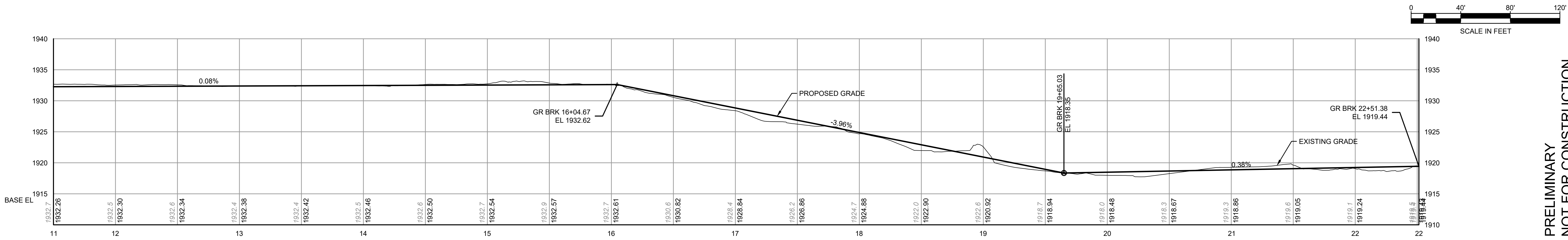
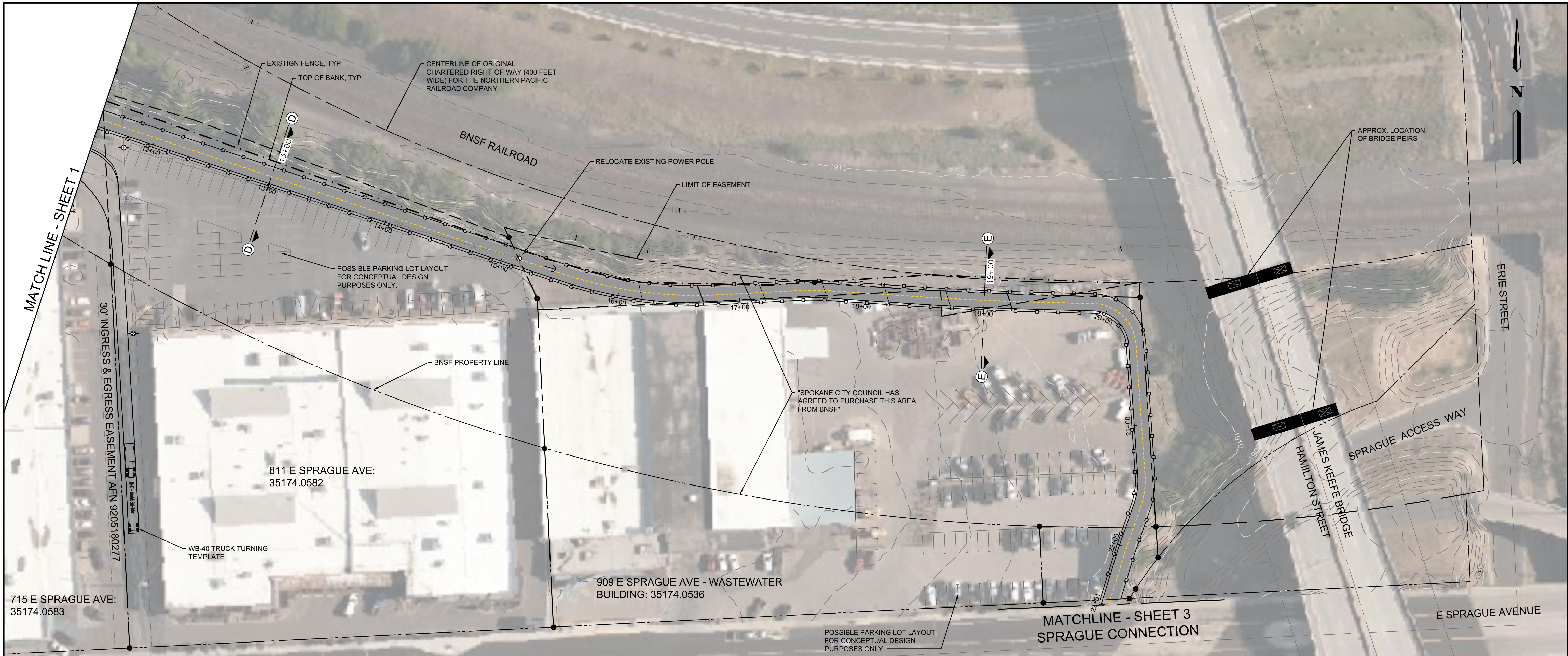
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NOT FOR CONSTRUCTION

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		DR		VR								AUGUST 6, 2020			
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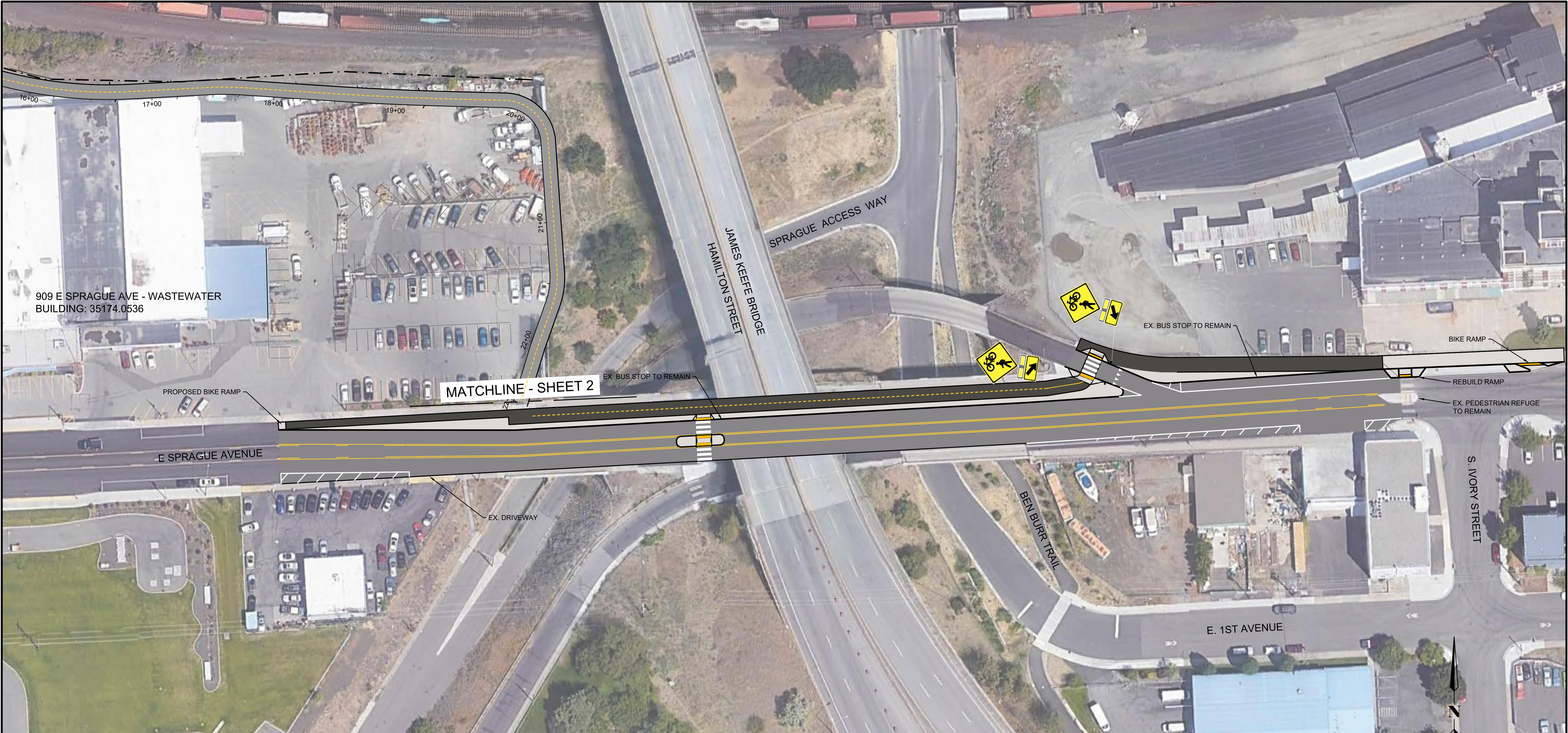
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THIS PRELIMINARY CONCEPT IS FOR PLANNING PURPOSES ONLY. FIELD VERIFICATION, SITE CONDITION ASSESSMENTS, ENGINEERING ANALYSIS, AND DESIGN ARE NECESSARY PRIOR TO IMPLEMENTING RECOMMENDATIONS CONTAINED HEREIN.		ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.																CONCEPTUAL DESIGN - 2		70133			
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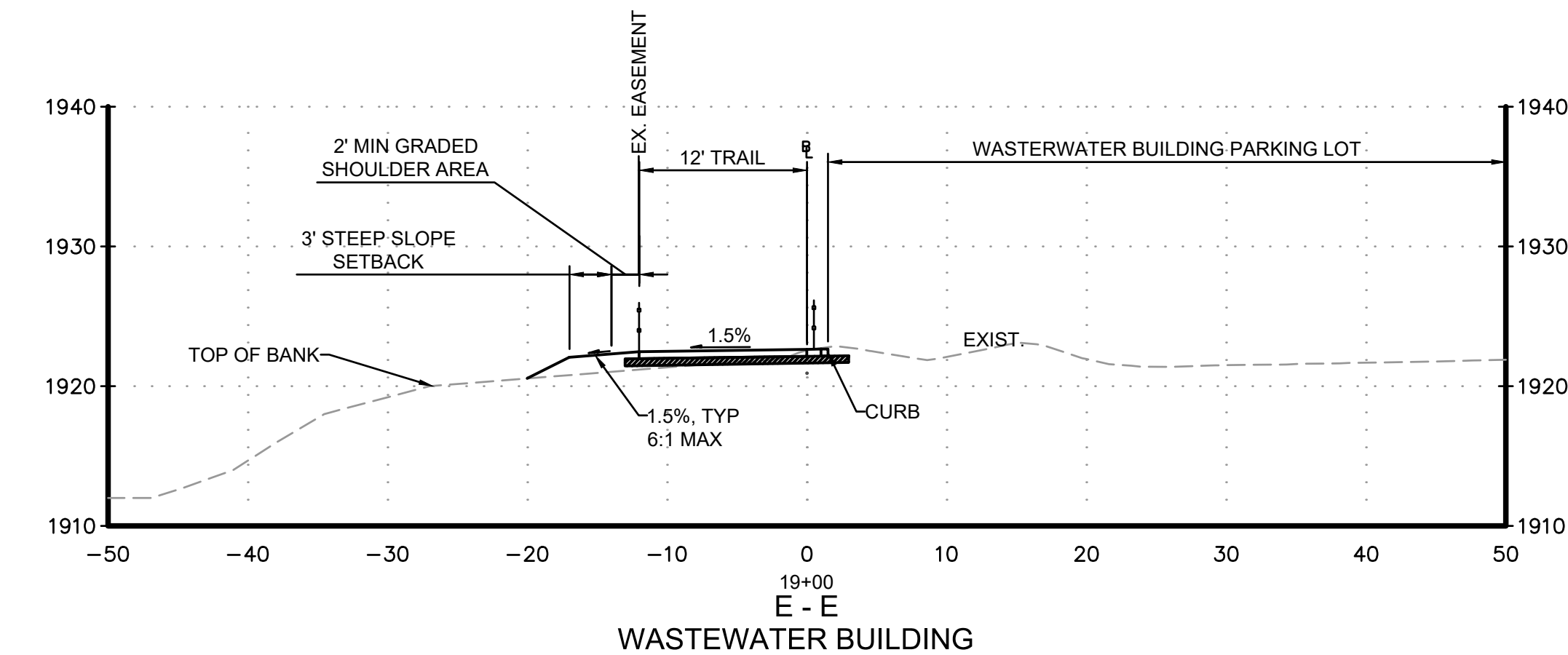
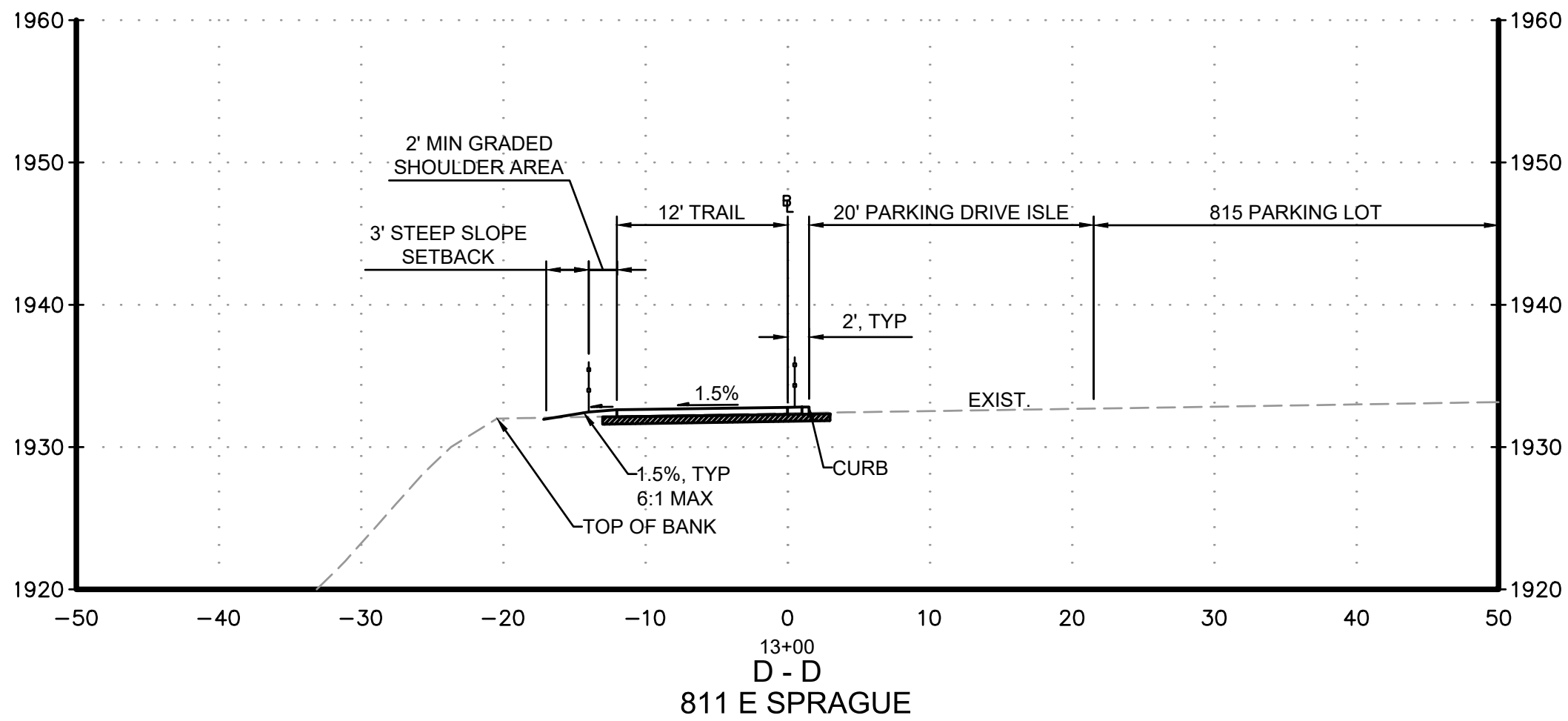
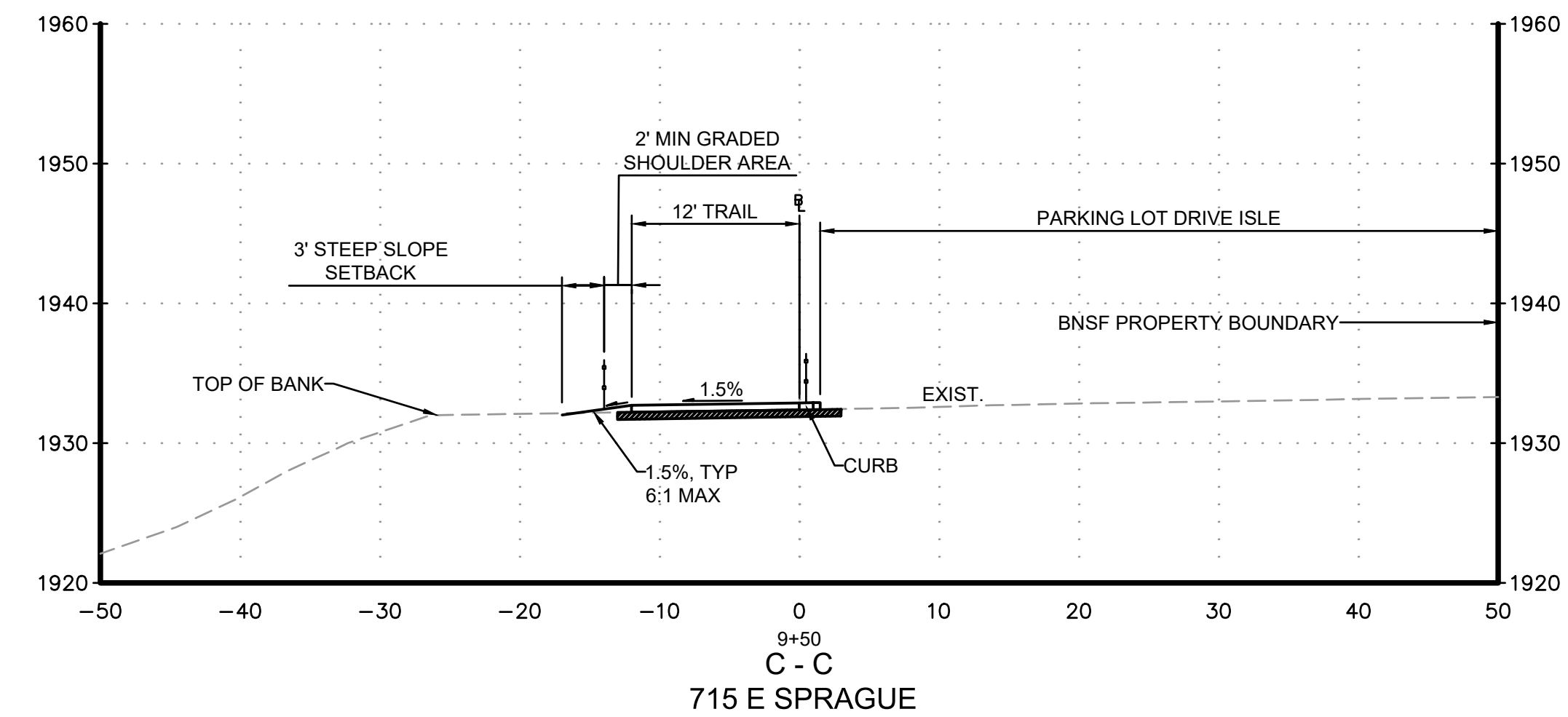
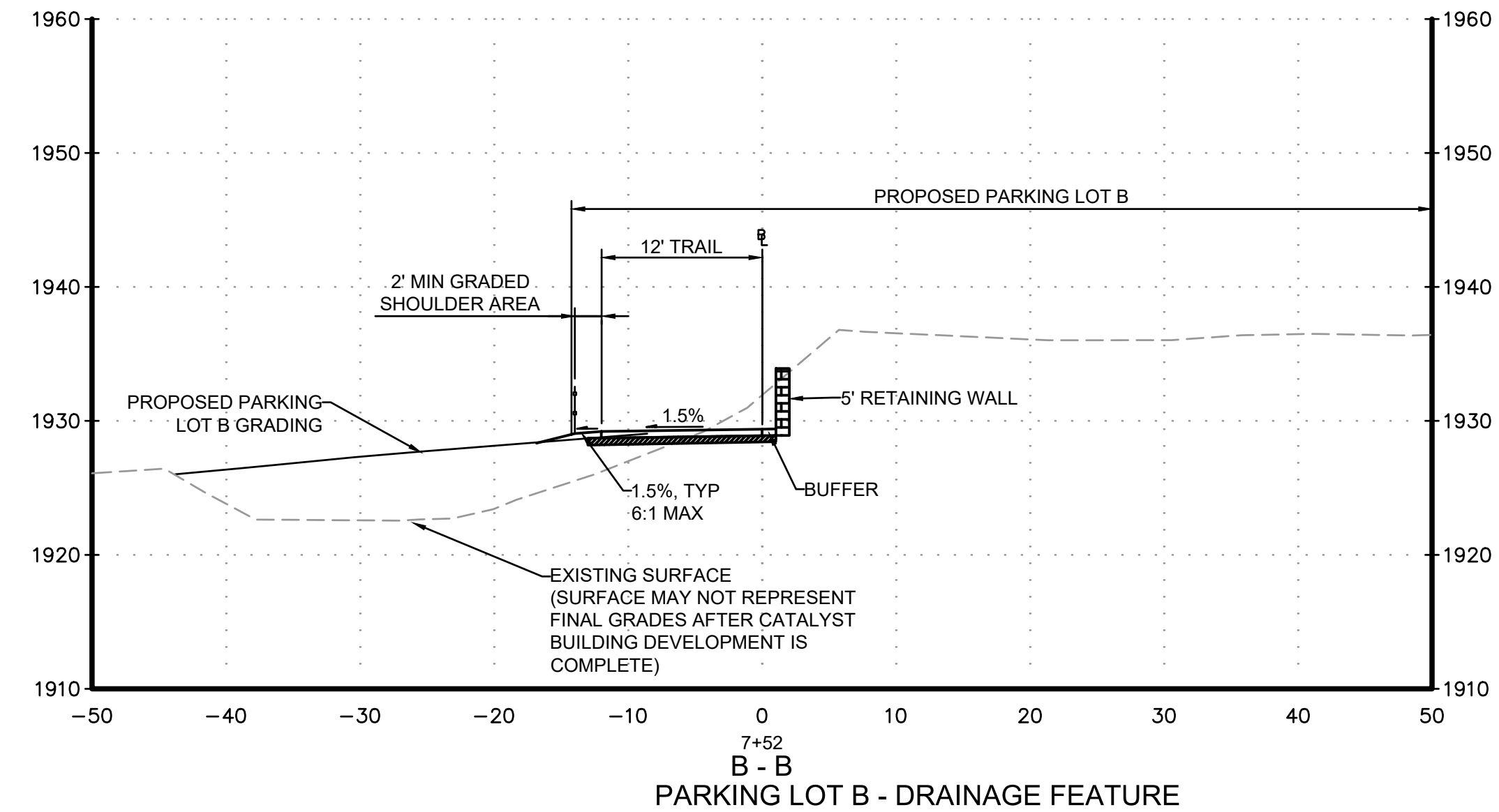
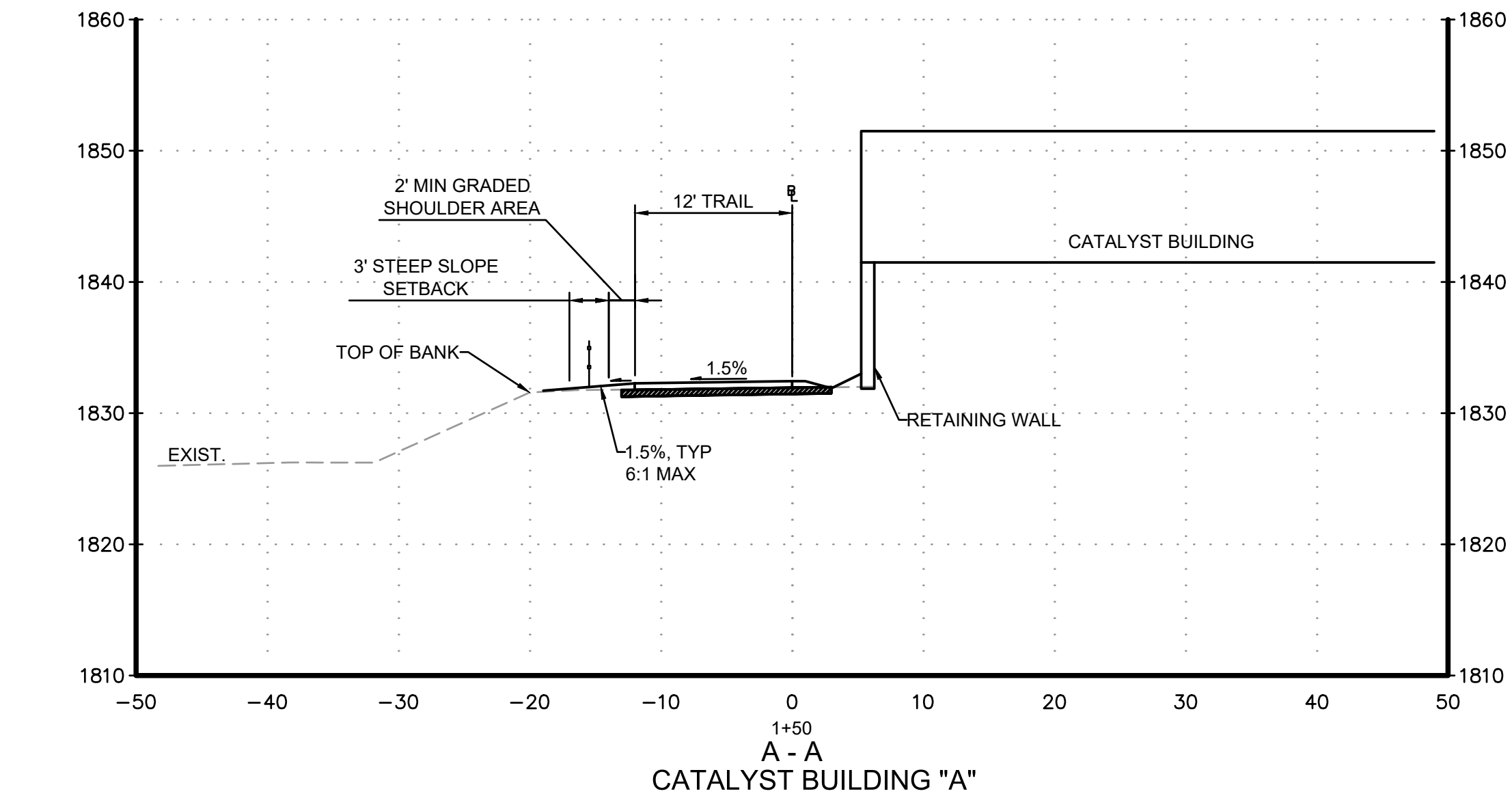
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ALL DRAWINGS ARE INSTRUMENTS OF PROFESSIONAL SERVICE FOR THIS PROJECT. REUSE OR ALTERATION IS AT THE USER'S SOLE RISK.										CONCEPTUAL DESIGN - SPRAGUE CONNECTION						70133						
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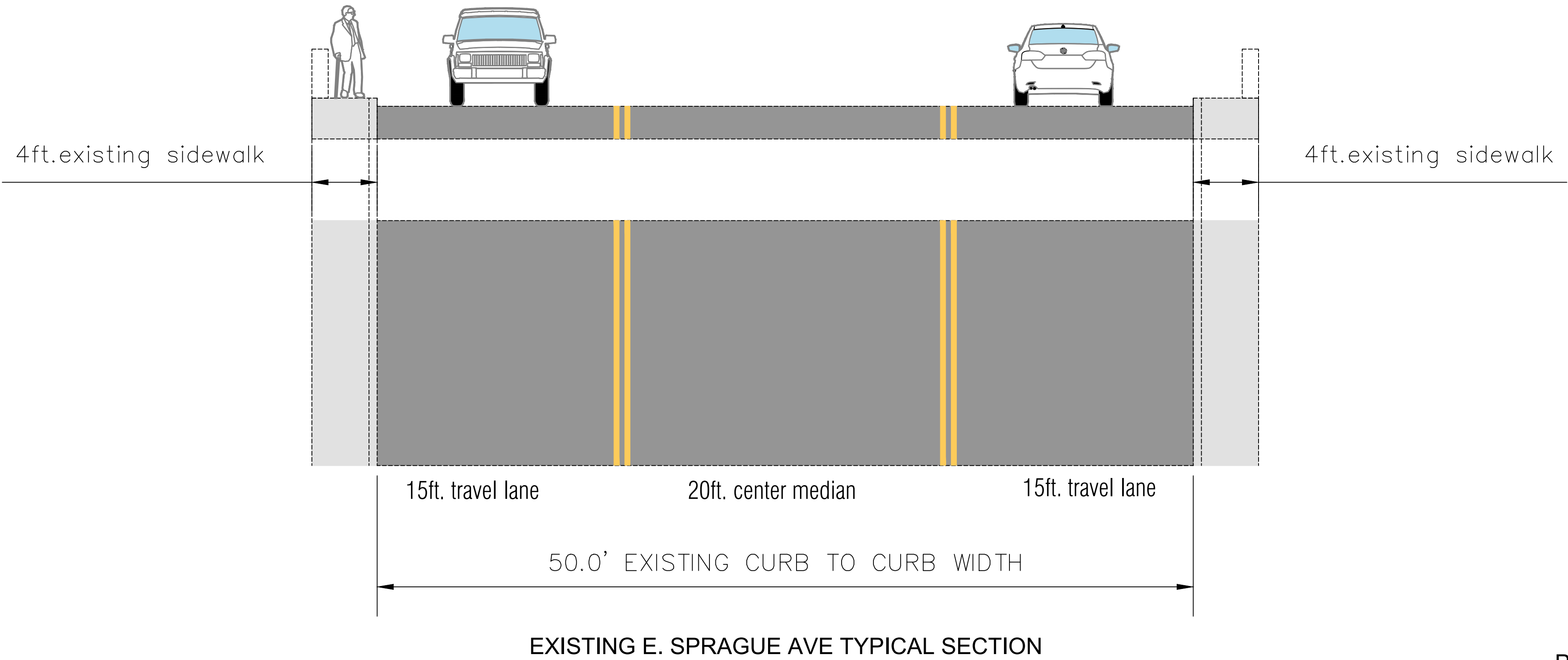
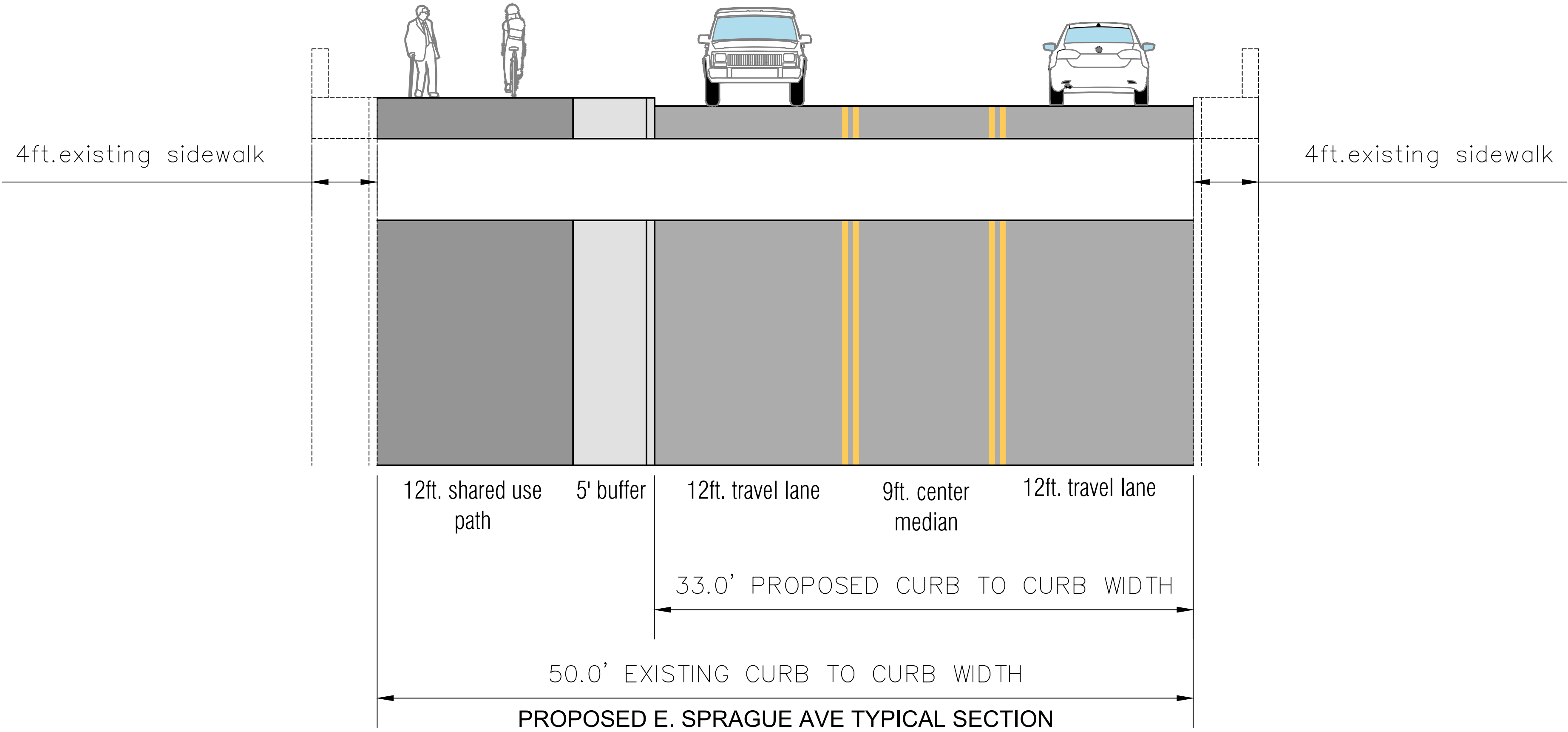


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DISCLAIMER		REUSE OF DOCUMENTS							<div><div>TOOLE DESIGN</div><div>8484 GEORGIA AVENUE, SUITE 800 SILVER SPRING, MD 20910 PHONE: 301.927.1900 FAX: 301.927.2800 www.tooledesign.com</div></div> <div>SOUTH UNIVERSITY DISTRICT TRAIL CITY OF SPOKANE</div>		DRAWING DISCIPLINE		PROJECT NO. 70133	
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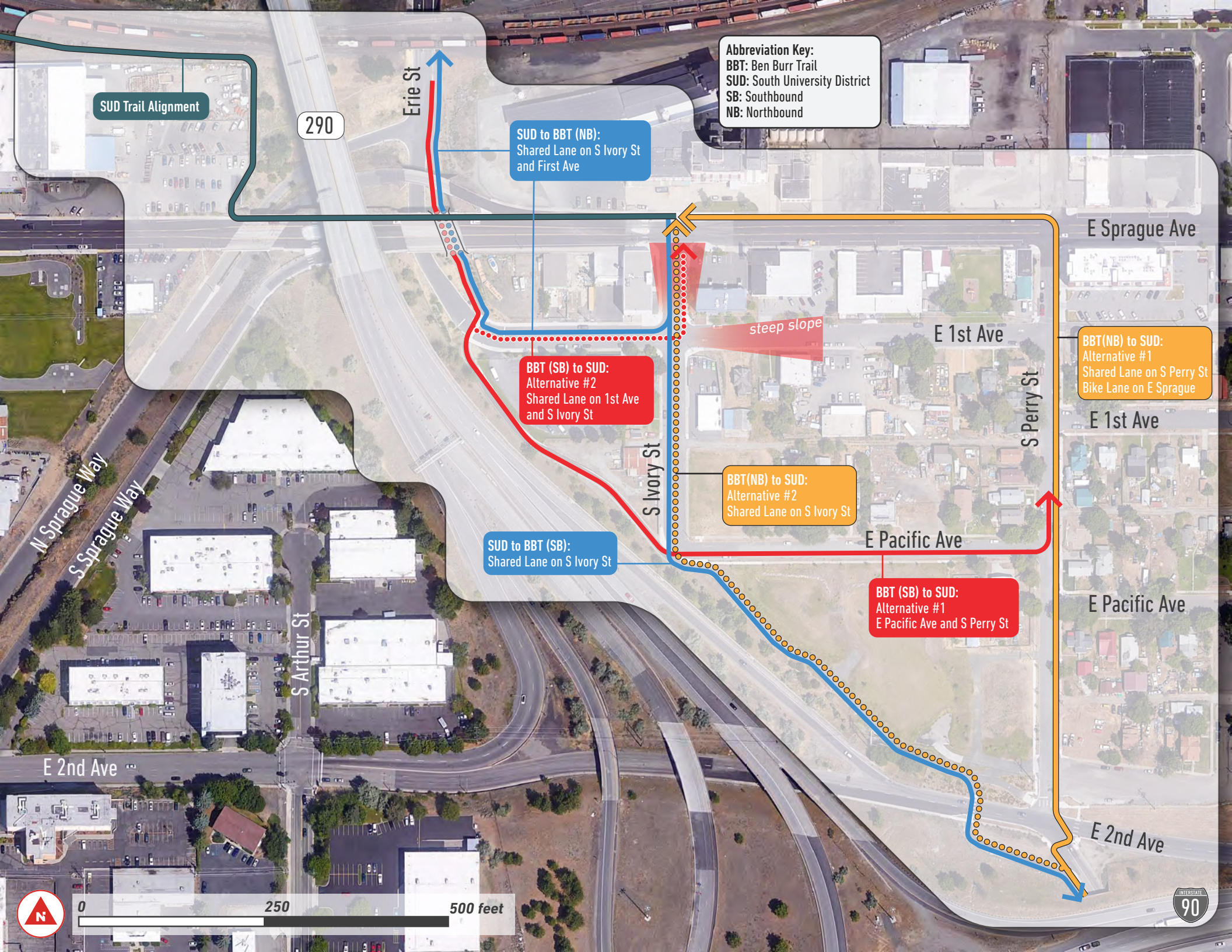
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## **APPENDIX B**

### **NEIGHBORHOOD CONNECTION MAP**







## **APPENDIX C**

### **PRELIMINARY ENGINEER'S ESTIMATE**



**City of Spokane, WA**  
**South University District Trail Concept Design**

**Preliminary Engineer's Estimate**  
7/28/2020

ITEM NO.	ITEM	SPEC REF	UNIT	QUANTITY	UNIT COST	TOTAL
1	CONSTRUCTION SURVEYING (10%)	1-07	LS	1	\$ 74,680.00	\$ 74,680
2	MOBILIZATION (10%)	1-09	LS	1	\$ 74,680.00	\$ 74,680
3	PROJECT TEMPORARY TRAFFIC CONTROL, MIN. BID (2%)	1-10	LS	1	\$ 14,940.00	\$ 14,940
4	CLEARING AND GRUBBING	2-01	AC	0.69	\$ 500.00	\$ 345
5	REMOVE ASPHALT PAVEMENT	2-02	SY	1500	\$ 40.00	\$ 60,000
6	REMOVE CURB	2-02	LF	1000	\$ 12.00	\$ 12,000
7	SAWCUT ASPHALT AND CEMENT CONCRETE, FULL DEPTH	2-02	LF	2100	\$ 10.00	\$ 21,000
8	ROADWAY EXCAVATION INCL. HAUL	2-03	CY	836	\$ 4.00	\$ 3,344
9	COMMON BORROW INCL. HAUL	2-03	CY	110	\$ 40.00	\$ 4,400
10	ROCK EXCAVATION	2-03	CY	70	\$ 300.00	\$ 21,000
11	CRUSHED SURFACING BASE COURSE, 1-1/4 IN. MINUS	4-04	CY	370	\$ 75.00	\$ 27,750
12	HMA CL. 1/2 IN	5-04	TN	760	\$ 110.00	\$ 83,600
13	EROSION/WATER POLLUTION CONTROL (5%)	8-01	FA	1	\$ 37,340.00	\$ 37,340
14	CEMENT CONC. VERTICAL CURB	8-04	LF	2100	\$ 100.00	\$ 210,000
15	CHAIN LINK FENCE, TYPE 4	8-12	LF	4000	\$ 27.00	\$ 108,000
16	CEMENT CONC. SIDEWALK	8-14	SY	160	\$ 75.00	\$ 12,000
17	CEMENT CONC. CURB RAMP TYPE PARALLEL	8-14	EA	7	\$ 4,000.00	\$ 28,000
18	DETECTABLE WARNING SURFACE	8-14	SF	168	\$ 60.00	\$ 10,080
19	RRFB ASSEMBLY (PAIR)	8-20	EA	1	\$ 30,000.00	\$ 30,000
20	TRAIL SIGNS	8-21	LS	1	\$ 4,000.00	\$ 4,000
21	PAINT LINE, 4 IN. STRIPE	8-22	LF	6350	\$ 3.00	\$ 19,050
22	PAINT LINE, 6 IN. STRIPE	8-22	LF	770	\$ 3.00	\$ 2,310
23	PLASTIC STOP BAR	8-22	LF	34	\$ 18.00	\$ 612
24	PLASTIC CROSSWALK LINE	8-22	LF	120	\$ 16.00	\$ 1,920
25	PLASTIC BICYCLE LANE SYMBOL	8-22	EA	10	\$ 500.00	\$ 5,000
26	PLASTIC COLORED, GREEN	8-22	SF	3600	\$ 18.00	\$ 64,800
27	GRAVITY BLOCK WALL	8-24	SF	350	\$ 50.00	\$ 17,500
MATERIAL AND CONSTRUCTION SUBTOTAL						\$ 948,351
<u>MATERIAL AND CONSTRUCTION CONTINGENCIES</u>						
	RELOCATE AVISTA POWER POLE AND COORDINATION		LS	1	\$ 6,000.00	\$ 6,000
	LANDSCAPE RESTORATION AND ESTABLISHMENT		LS	1	\$ 10,000.00	\$ 10,000
	CONCEPTUAL LEVEL CONTINGENCY (30%)		LS	1	\$ 284,505.30	\$ 284,505
SUBTOTAL WITH CONTINGENCIES						\$ 1,248,856
<u>DESIGN AND CONSTRUCTION MANAGEMENT CONTINGENCIES</u>						
	DESIGN ENGINEERING & PM (15%)		LS	1	\$ 187,328.45	\$ 187,328
	CONSTRUCTION MANAGEMENT (10%)		LS	1	\$ 124,885.63	\$ 124,886
	CONTRACT CONTINGENCY (10%)		LS	1	\$ 124,885.63	\$ 124,886
<b>Total Estimate</b>						<b>\$ 1,685,956</b>

**Cost Estimate Assumptions**

- 1) Relocation of Avista power pole contingency cost is not based on discussions with owner
- 2) Landscape restoration and establishment cost is based on expected modifications to Catalyst Building and Parking Lot B site
- 3) Costs associated with irrigation are not included in this estimate
- 4) Rock excavation is expected at the existing basalt outcropping; unit price has not been confirmed by project geotechnical engineer
- 5) Stormwater treatment and detention facilities are not included in this estimate
- 6) Cost of modifying or obtaining new easements or Right-of-Way is not included in this estimate
- 7) Costs associated with off-site parking lot modifications are not included
- 8) Costs associated with modifications to the neighborhood streets (Appendix B) are not included

*Disclaimer: Opinions of probable cost were developed by identifying major pay items and establishing rough quantities to determine a rough order of magnitude cost. Additional pay items have been assigned approximate lump sum prices based on a percentage of the anticipated construction cost. Planning-level cost opinions include a 30% contingency to cover items that are undefined or are typically unknown early in the planning phase of a project. Unit costs are based on 2020 dollars and were assigned based on historical cost data from WSDOT Historical Bid Prices. Cost opinions do not include items identified in the assumptions. A cost range has been assigned to certain general categories such as utility relocations; however, these costs can vary widely depending on the exact details and nature of the work. The overall cost opinions are intended to be general and used only for planning purposes. Toole Design Group, LLC makes no guarantees or warranties regarding the cost estimate herein. Construction costs will vary based on the ultimate project scope, actual site conditions and constraints, schedule, and economic conditions at the time of construction.*

**City of Spokane, WA**  
**South University District Trail Concept Design**

**Preliminary Property Cost Estimate**  
7/28/2020

**Preferred Trail Alignment Through BNSF Leased Land**

715 E Sprague Ave Trail Area	5,488 square feet
811 E Sprague Ave Trail Area	5,728 square feet
<b>Total Trail Area</b>	<b>11,216 square feet</b>

**Existing Land Leased from BNSF**

715 E Sprague Ave BNSF Area	56,320 square feet
811 E Sprague Ave BNSF Area	26,170 square feet
<b>Total BNSF Area</b>	<b>82,490 square feet</b>

**Property Comparables**

Waste Water Building Purchase Cost	\$ 1,559,712.00
Property Area	135,056.32 square feet
Price	\$ 11.55 per sf
715 E Sprague Ave Market Value*	\$ 2,634,750.00
Property Area	169,737.00 square feet
Price	\$ 15.52 per sf
811 E Sprague Ave Market Value*	\$ 2,468,980.00
Property Area	77,145.00 square feet
Price	\$ 32.00 per sf

\*market value from Spokane County Assessor database, June 2020

**BNSF Property**

*Scenario 1 - New Lease for Trail*

Estimated Annual Lease**	\$ 135,000.00
Lease Duration	50 years
<b>Total Cost</b>	<b>\$ 6,750,000.00</b>

\*estimate from BNSF Leasing Agent

*Scenario 2A - Purchase BNSF Land for Trail Area Only*

Total Trail Area	11,216 square feet
Low Price	\$ 11.55 per sf
High Price	\$ 32.00 per sf
Estimated Low Cost	\$ 129,529.15
Estimated High Cost	\$ 358,961.43

*Scenario 2B - Purchase All Existing BNSF Leased Land*

Total Leased Area	82,490 square feet
Low Price	\$ 11.55 per sf
High Price	\$ 32.00 per sf
Estimated Low Cost	\$ 952,644.37
Estimated High Cost	\$ 2,640,043.56

**601 E Riverside Ave Property**

Trail area next to Catalyst Building	5,840 square feet
Trail area next to Parking Lot B	3,648 square feet
<b>Total Trail Area</b>	<b>9,488 square feet</b>
Low Price	\$ 11.55 per sf
High Price	\$ 32.00 per sf
Estimated Low Cost	\$ 109,573.16
Estimated High Cost	\$ 303,657.82
Estimated Easement Cost*	\$ 100,000.00

\*estimated to be approximately 80% of low purchase price

**Summary**

Preliminary Engineer's Estimate	\$ 1,685,956.01
Scenario 1 + 601 E Sprague Ave Lease	\$ 6,850,000.00
<b>Estimated New Total*</b>	<b>\$ 8,535,956.01</b>
	Low High
Scenario 2A + 601 E Sprague Ave Lease	\$ 229,529.15 \$ 458,961.43
<b>Estimated New Range</b>	<b>\$ 1,915,485.15 \$ 2,144,917.44</b>
Scenario 2B + 601 E Sprague Ave Lease	\$ 1,052,644.37 \$ 2,740,043.56
<b>Estimated New Range</b>	<b>\$ 2,738,600.37 \$ 4,425,999.56</b>

\*Scenario 1 represents a non-standard way of procuring public access and financial resources may not be available for annual lease payments for this purpose

*Disclaimer: Property estimate assumptions and methodology was developed in partnership with City of Spokane staff, and is based on conversations between City staff and BNSF, historic property purchase information provided by the City of Spokane, and current market value of land estimated by the Spokane County Assessor's web-based database. Estimate totals identified in the Summary section are provided for decision-making purposes regarding the feasibility of the project and are intended to be general and used only for planning purposes. Toole Design Group, LLC makes no guarantees or warranties regarding the cost estimate herein. Construction costs will vary based on the ultimate project scope, actual site conditions and constraints, schedule, and economic conditions at the time of construction.*

## **APPENDIX C**

### **PRELIMINARY ENGINEER'S ESTIMATE**

**City of Spokane, WA**  
**South University District Trail Concept Design**

**Preliminary Engineer's Estimate**  
7/28/2020

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23	PLASTIC STOP BAR	8-22	LF	34	\$ 18.00	\$ 612
24	PLASTIC CROSSWALK LINE	8-22	LF	120	\$ 16.00	\$ 1,920
25	PLASTIC BICYCLE LANE SYMBOL	8-22	EA	10	\$ 500.00	\$ 5,000
26	PLASTIC COLORED, GREEN	8-22	SF	3600	\$ 18.00	\$ 64,800
27	GRAVITY BLOCK WALL	8-24	SF	350	\$ 50.00	\$ 17,500
MATERIAL AND CONSTRUCTION SUBTOTAL						\$ 948,351
<u>MATERIAL AND CONSTRUCTION CONTINGENCIES</u>						
	RELOCATE AVISTA POWER POLE AND COORDINATION		LS	1	\$ 6,000.00	\$ 6,000
	LANDSCAPE RESTORATION AND ESTABLISHMENT		LS	1	\$ 10,000.00	\$ 10,000
	CONCEPTUAL LEVEL CONTINGENCY (30%)		LS	1	\$ 284,505.30	\$ 284,505
SUBTOTAL WITH CONTINGENCIES						\$ 1,248,856
<u>DESIGN AND CONSTRUCTION MANAGEMENT CONTINGENCIES</u>						
	DESIGN ENGINEERING & PM (15%)		LS	1	\$ 187,328.45	\$ 187,328
	CONSTRUCTION MANAGEMENT (10%)		LS	1	\$ 124,885.63	\$ 124,886
	CONTRACT CONTINGENCY (10%)		LS	1	\$ 124,885.63	\$ 124,886
<b>Total Estimate</b>						<b>\$ 1,685,956</b>

**Cost Estimate Assumptions**

- 1) Relocation of Avista power pole contingency cost is not based on discussions with owner
- 2) Landscape restoration and establishment cost is based on expected modifications to Catalyst Building and Parking Lot B site
- 3) Costs associated with irrigation are not included in this estimate
- 4) Rock excavation is expected at the existing basalt outcropping; unit price has not been confirmed by project geotechnical engineer
- 5) Stormwater treatment and detention facilities are not included in this estimate
- 6) Cost of modifying or obtaining new easements or Right-of-Way is not included in this estimate
- 7) Costs associated with off-site parking lot modifications are not included
- 8) Costs associated with modifications to the neighborhood streets (Appendix B) are not included

*Disclaimer: Opinions of probable cost were developed by identifying major pay items and establishing rough quantities to determine a rough order of magnitude cost. Additional pay items have been assigned approximate lump sum prices based on a percentage of the anticipated construction cost. Planning-level cost opinions include a 30% contingency to cover items that are undefined or are typically unknown early in the planning phase of a project. Unit costs are based on 2020 dollars and were assigned based on historical cost data from WSDOT Historical Bid Prices. Cost opinions do not include items identified in the assumptions. A cost range has been assigned to certain general categories such as utility relocations; however, these costs can vary widely depending on the exact details and nature of the work. The overall cost opinions are intended to be general and used only for planning purposes. Toole Design Group, LLC makes no guarantees or warranties regarding the cost estimate herein. Construction costs will vary based on the ultimate project scope, actual site conditions and constraints, schedule, and economic conditions at the time of construction.*



**City of Spokane, WA**  
**South University District Trail Concept Design**

**Preliminary Property Cost Estimate**  
7/28/2020

**Preferred Trail Alignment Through BNSF Leased Land**

715 E Sprague Ave Trail Area	5,488 square feet
811 E Sprague Ave Trail Area	5,728 square feet
<b>Total Trail Area</b>	<b>11,216 square feet</b>

**Existing Land Leased from BNSF**

715 E Sprague Ave BNSF Area	56,320 square feet
811 E Sprague Ave BNSF Area	26,170 square feet
<b>Total BNSF Area</b>	<b>82,490 square feet</b>

**Property Comparables**

Waste Water Building Purchase Cost	\$ 1,559,712.00
Property Area	135,056.32 square feet
Price	\$ 11.55 per sf
715 E Sprague Ave Market Value*	\$ 2,634,750.00
Property Area	169,737.00 square feet
Price	\$ 15.52 per sf
811 E Sprague Ave Market Value*	\$ 2,468,980.00
Property Area	77,145.00 square feet
Price	\$ 32.00 per sf

\*market value from Spokane County Assessor database, June 2020

**BNSF Property**

*Scenario 1 - New Lease for Trail*

Estimated Annual Lease**	\$ 135,000.00
Lease Duration	50 years
<b>Total Cost</b>	<b>\$ 6,750,000.00</b>

\*estimate from BNSF Leasing Agent

*Scenario 2A - Purchase BNSF Land for Trail Area Only*

Total Trail Area	11,216 square feet
Low Price	\$ 11.55 per sf
High Price	\$ 32.00 per sf
Estimated Low Cost	\$ 129,529.15
Estimated High Cost	\$ 358,961.43

*Scenario 2B - Purchase All Existing BNSF Leased Land*

Total Leased Area	82,490 square feet
Low Price	\$ 11.55 per sf
High Price	\$ 32.00 per sf
Estimated Low Cost	\$ 952,644.37
Estimated High Cost	\$ 2,640,043.56

**601 E Riverside Ave Property**

Trail area next to Catalyst Building	5,840 square feet
Trail area next to Parking Lot B	3,648 square feet
<b>Total Trail Area</b>	<b>9,488 square feet</b>
Low Price	\$ 11.55 per sf
High Price	\$ 32.00 per sf
Estimated Low Cost	\$ 109,573.16
Estimated High Cost	\$ 303,657.82
Estimated Easement Cost*	\$ 100,000.00

\*estimated to be approximately 80% of low purchase price

**Summary**

Preliminary Engineer's Estimate	\$ 1,685,956.01
Scenario 1 + 601 E Sprague Ave Lease	\$ 6,850,000.00
<b>Estimated New Total*</b>	<b>\$ 8,535,956.01</b>
	Low High
Scenario 2A + 601 E Sprague Ave Lease	\$ 229,529.15 \$ 458,961.43
<b>Estimated New Range</b>	<b>\$ 1,915,485.15 \$ 2,144,917.44</b>
Scenario 2B + 601 E Sprague Ave Lease	\$ 1,052,644.37 \$ 2,740,043.56
<b>Estimated New Range</b>	<b>\$ 2,738,600.37 \$ 4,425,999.56</b>

\*Scenario 1 represents a non-standard way of procuring public access and financial resources may not be available for annual lease payments for this purpose

*Disclaimer: Property estimate assumptions and methodology was developed in partnership with City of Spokane staff, and is based on conversations between City staff and BNSF, historic property purchase information provided by the City of Spokane, and current market value of land estimated by the Spokane County Assessor's web-based database. Estimate totals identified in the Summary section are provided for decision-making purposes regarding the feasibility of the project and are intended to be general and used only for planning purposes. Toole Design Group, LLC makes no guarantees or warranties regarding the cost estimate herein. Construction costs will vary based on the ultimate project scope, actual site conditions and constraints, schedule, and economic conditions at the time of construction.*