



COUNCIL STAFF REPORT

Blue Line Extension

60% Design Plans

FROM: John Sutter, Community Development Director

DATE: July 13, 2017

TO: Anne Norris, City Manager (for July 18 work session)

SUBJECT: Blue Line Update - 60% Design Plans

As you may know, Metro Transit's design and engineering efforts have progressed through the 60% level of design detail. The purpose of this work session item is to provide the Council with an update on various elements of interest in the 60% design.

The following items are attached:

1. July 13 summary memo from Metro Transit
2. West Broadway crossing and roundabout layout
3. Renderings and architectural details of retaining walls, bridge and noisewalls
4. Mailer sent March 14 to properties adjacent to noisewall south of Corvallis
5. Site plan for Bass Lake Road station and park & ride
6. Historic mitigation required due to shift of freight rail line
7. Station fencing plan and renderings
8. Fencing types throughout Crystal segment
9. Mailer sent March 24 to properties adjacent to visual screening fence
10. Site plans for three Traction Power Sub-Stations
11. June Avenue south of 36th
12. 45th Avenue crossing (Robbinsdale)

Councilmembers may already be familiar with many of these design elements. During the work session, staff will be ready to describe and answer questions about these items. In the interest of using work session time effectively, Councilmembers should feel free to direct staff to skip any items not needing description or explanation.



METRO Blue Line LRT Extension (BLRT)

5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

To: Anne Norris, City Administrator

From: Dan Soler, P.E.

Date: July 13, 2017

RE: City Council Update on 60% Plans

To assist the City staff in their update to the City Council of the BLRT 60% design plans, I would like to recap the project scope and project elements as they directly relate to the City of Crystal.

Since the design for this project began during the project development stage project staff has worked very diligently with all the project partners along the corridor to meet each partner's design requirements and needs in a consistent manner and have a uniform LRT design that is consistent with Metro Transit's design standards. BLRT project staff has worked closely with the project partners to coordinate and implement project design that incorporates elements for a safe and convenient LRT that is accessible and fits within the community. The project staff has limited project impacts in each community and has a policy to replace in-kind public infrastructure that will be impacted.

Each project partner has been given the opportunity to have additional work or enhancements added to the project. Any additional work or enhancements outside of the project scope is the responsibility of the project partners to fund.

Specific scope elements in the City of Crystal included in the 60% design plans are:

West Broadway Avenue Rail Crossing

A roundabout has been designed for West Broadway Avenue on the east side of the rail crossing. The West Broadway Ave and Welcome Ave intersection design was part of a broader design effort that included the W Broadway Ave-railroad grade crossing and access to W Broadway Ave on the east side of the railroad grade crossing. The primary design objectives for this area, which were established by Hennepin County, the City of Crystal, and the BPO, included;

- Maintain access to all directions on each side of the railroad crossing
- Maintain the continuity of the County roadway
- Design the railroad crossing to be Quiet Zone-ready
- Provide quality pedestrian facilities
- Adequate Lighting
-

Each of these design objectives has been met with the design included in the 60% plans.

Attachment 1: July 13 summary memo from Metro Transit



METRO Blue Line LRT Extension (BLRT)

5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

Noise Wall

Noise impact mitigation due to light rail has been identified for the residential properties on the east side of the rail corridor between West Broadway Avenue and Corvallis Avenue. The mitigation identified is a noise barrier that will extend approximately 10 feet above the top of rail and be located within the freight rail right of way. In the few cases where an impacted property cannot be screened by a noise wall, interior testing of those properties will be conducted to determine what further measure are required.

LRT Bridge Over CP Rail

BLRT staff has worked with City staff to determine the aesthetics of this bridge and it is being designed to be visually compatible with the nearby CSAH 81 bridge directly to the east.

Bass Lake Road Station

The proposed LRT station at Bass Lake Road was designed to be visually unique to Crystal and be compatible with the surrounding neighborhood, Becker Park and businesses along Bass Lake Road. The architecture has been designed with input from City staff and feedback from a Context and Character Workshop held specifically for this station.

The station will also include interpretative elements focused on the historical significance of the Osseo Subdivision.

This station includes a 170-space surface lot park and ride which will be accessed from Lakeland Avenue. Additionally, a plaza will be included at Bass Lake Road and CSAH 81 for access to the station.

CSAH 81/ Bass Lake Road Intersection

Intersection improvements are designed to enhance the pedestrian and bike safety at this intersection. Improvements will include; widened pedestrian refuge in the center of CSAH 81 and upgrades to the crosswalks to widen them and increase awareness of the crossing.

Visual Screening

As a result of impacts from vegetation clearing along the rail corridor north of Bass Lake Road, BLRT will be constructing an 8 to 10 foot tall visual screening fence. The fence will be installed on private property and will be owned by the property owners. The location, height and materials for the screening has been designed with input from the City Staff and the neighborhood.



METRO Blue Line LRT Extension (BLRT)

5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

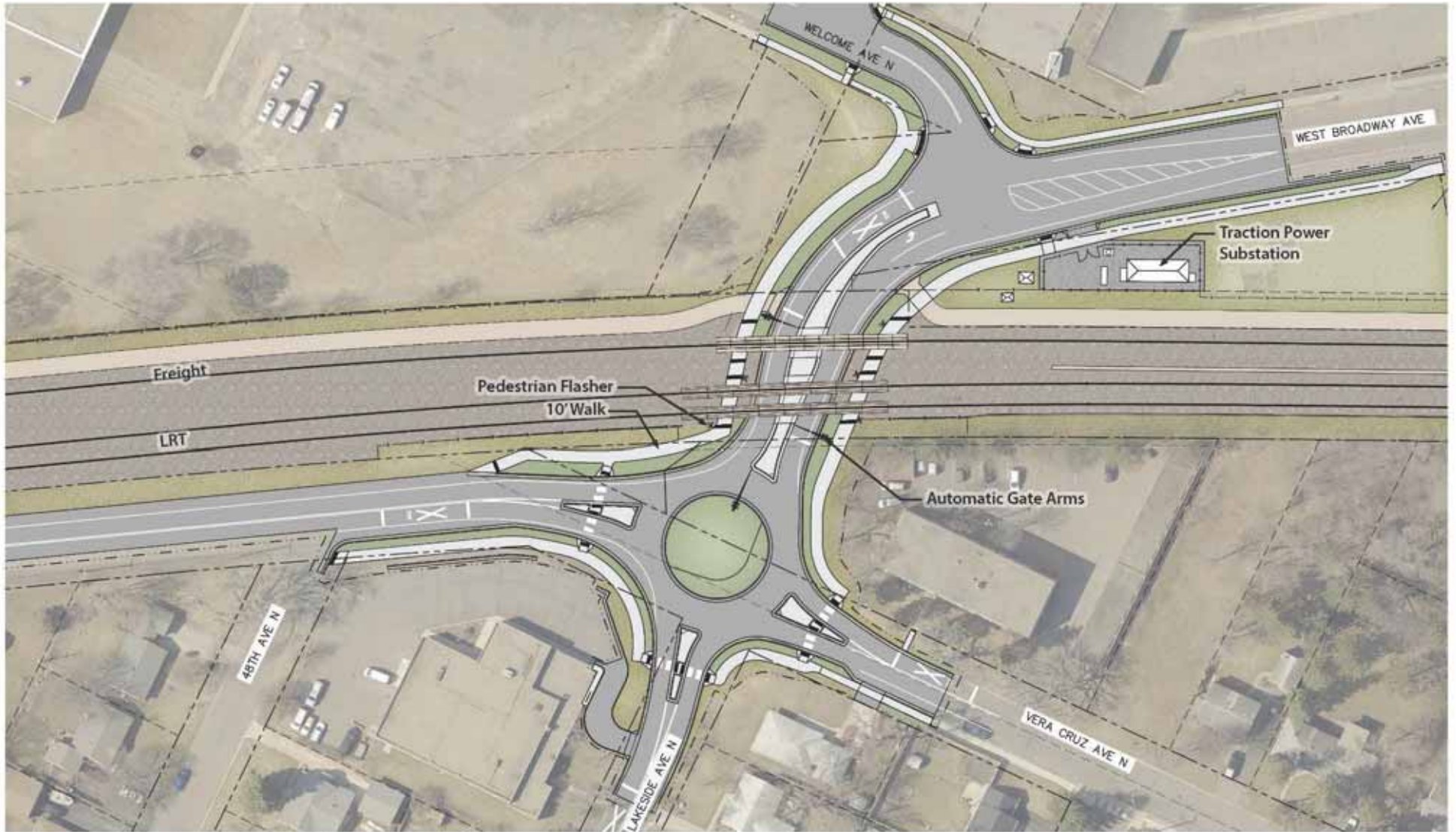
Utilities and Infrastructure

BLRT engineering staff has met regularly with the City of Crystal Public Works staff to ensure that any impacts to the City road, water, sewer and storm infrastructure are limited and coordinated and so the design meets City of Crystal standards.

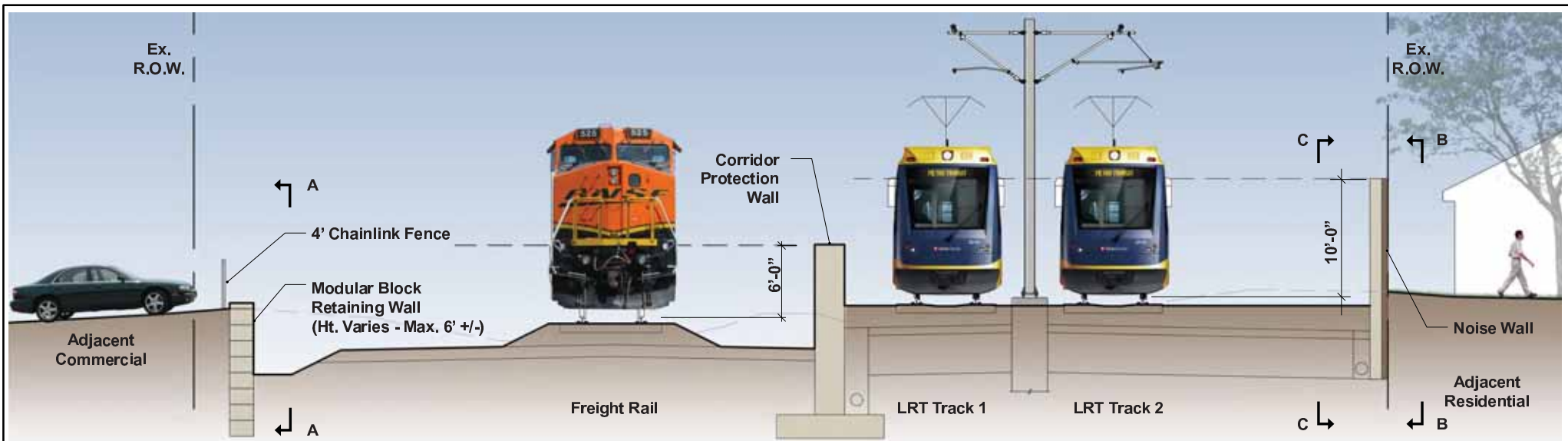
Traction Power Substations

Three traction power substations have been located within the City of Crystal. The locations include; West Broadway Avenue at the freight rail crossing, within the Bass Lake Road Station parking lot and on city owned right of way at 60th Avenue and Elmhurst Avenue. Each location will be fenced and screened with vegetation to fit within the character of the surrounding neighborhood.

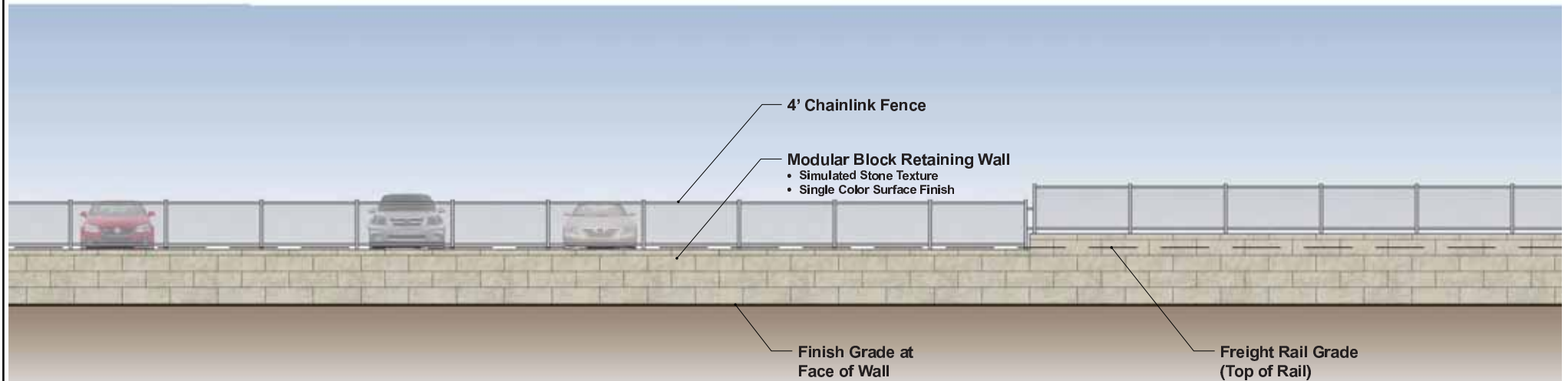
The BLRT project leadership and staff value our partnership with the City of Crystal and are committed to working with the City to successfully advance the BLRT project.



Attachment 2: West Broadway crossing and roundabout layout

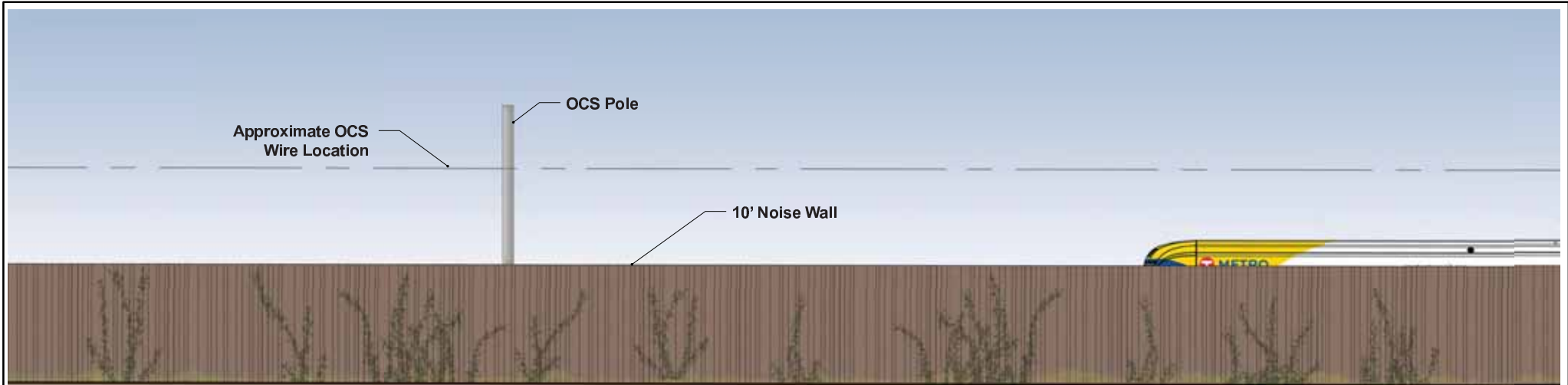


Section View (Looking North)



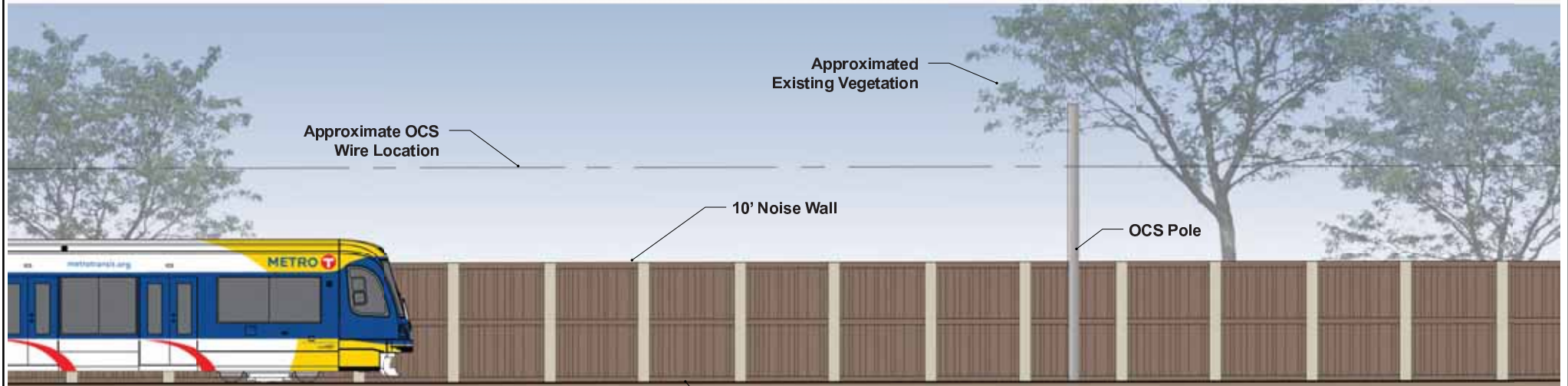
Elevation View A-A (Looking West)

	<p align="center">BLUE LINE LRT EXTENSION CITY OF CRYSTAL WALLS (RAIL CORRIDOR SOUTH OF CORVALLIS AVE.)</p>	<p>Rev 2 03/23/2017</p>		 <p align="right">DRAFT-WORK IN PROCESS</p>
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View B-B (Looking West from Residential)

Note:
Adjacent buildings are not illustrated in this view



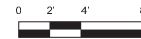
View C-C (Looking East from LRT Track)

Note:
Adjacent buildings are not illustrated in this view



BLUE LINE LRT EXTENSION
CITY OF CRYSTAL
WALLS (RAIL CORRIDOR SOUTH OF CORVALLIS AVE.)

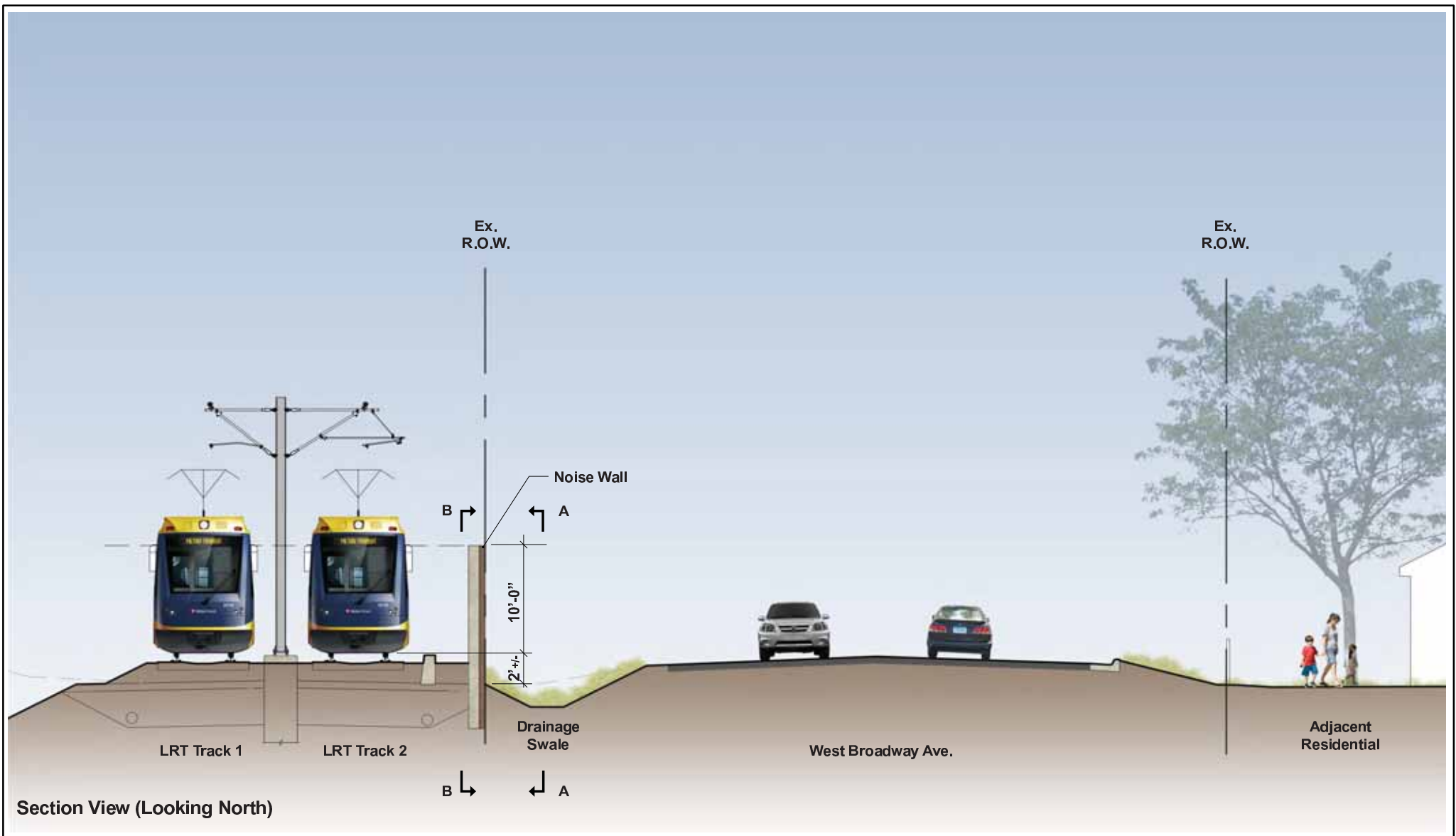
Rev 1
03/23/2017



Kimley»Horn

SRE miller dunwiddie
Consulting Group, Inc.

DRAFT-WORK IN PROCESS

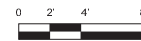


Section View (Looking North)



BLUE LINE LRT EXTENSION
 CITY OF CRYSTAL
 WALLS (RAIL CORRIDOR NORTH OF BYRON AVE.)

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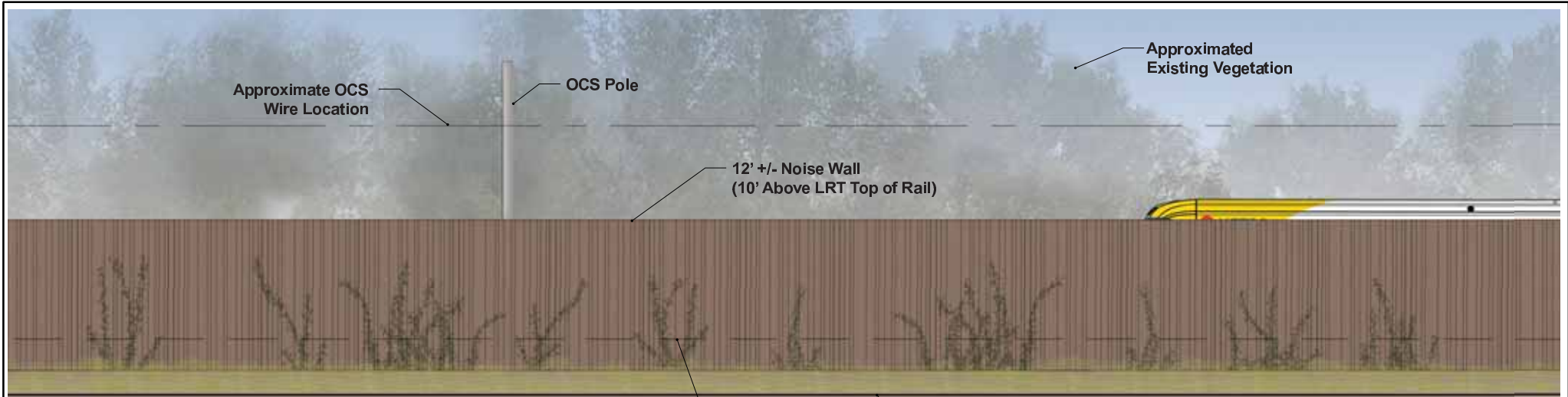


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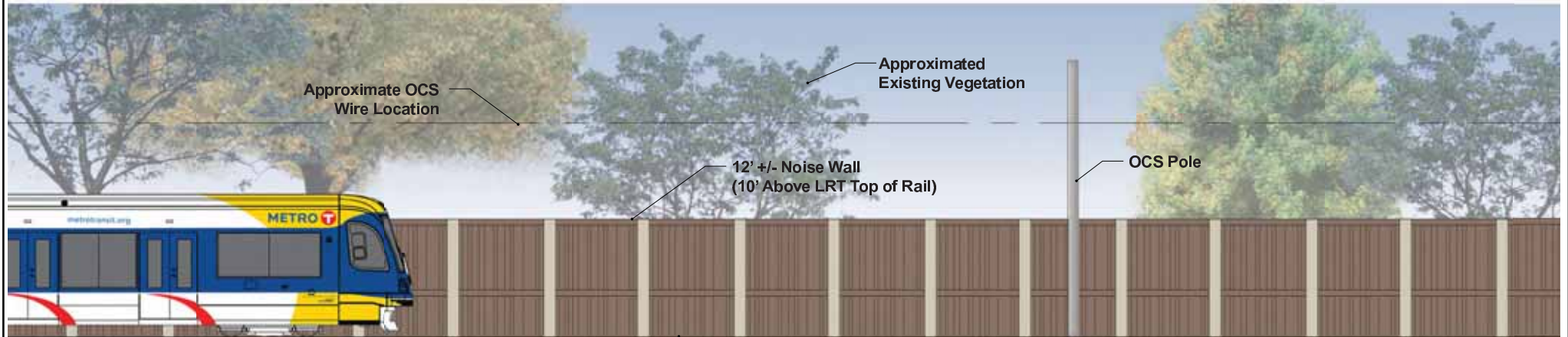
miller dunwiddie

DRAFT-WORK IN PROCESS



View A-A (Looking West from West Broadway Ave.)

Note:
Adjacent buildings are not illustrated in this view



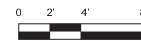
View B-B (Looking East from LRT Track)

Note:
Adjacent buildings are not illustrated in this view



BLUE LINE LRT EXTENSION
CITY OF CRYSTAL
WALLS (RAIL CORRIDOR NORTH OF BYRON AVE.)

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03/23/2017



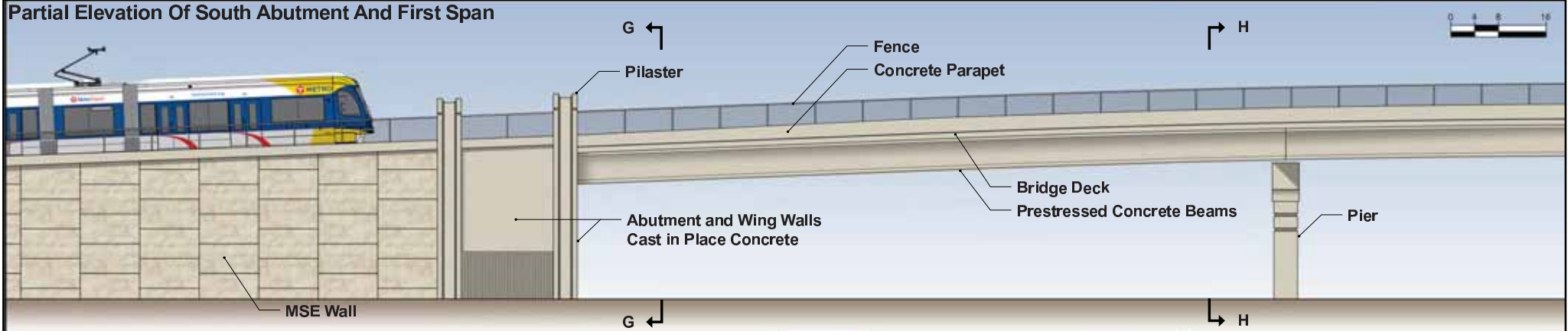
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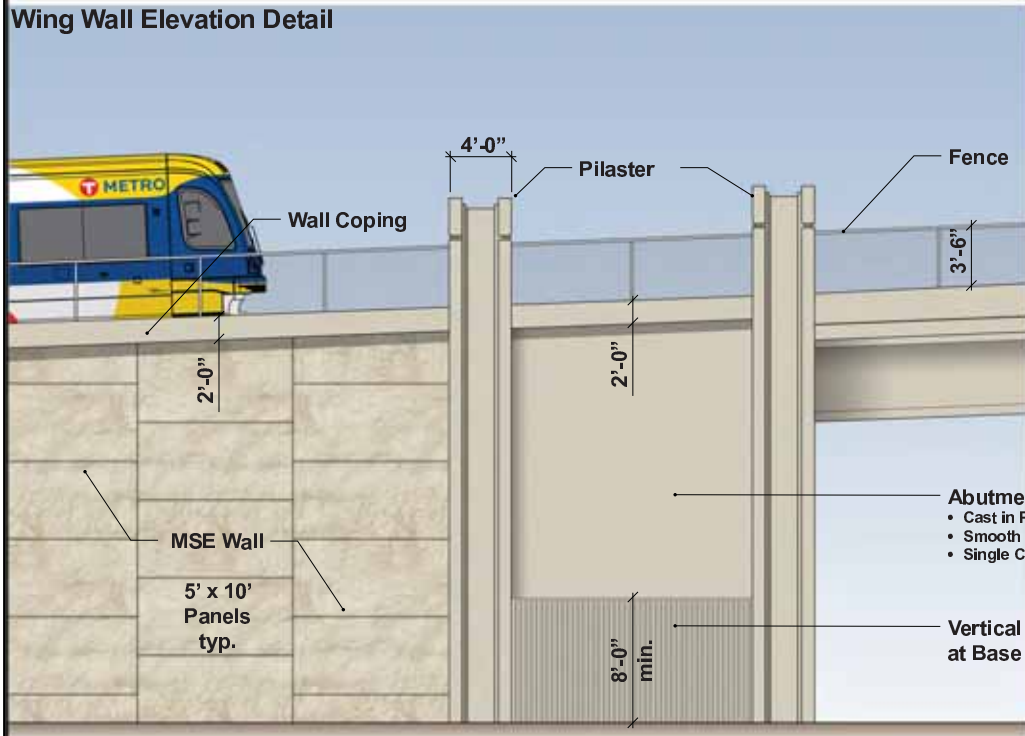
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DRAFT-WORK IN PROCESS

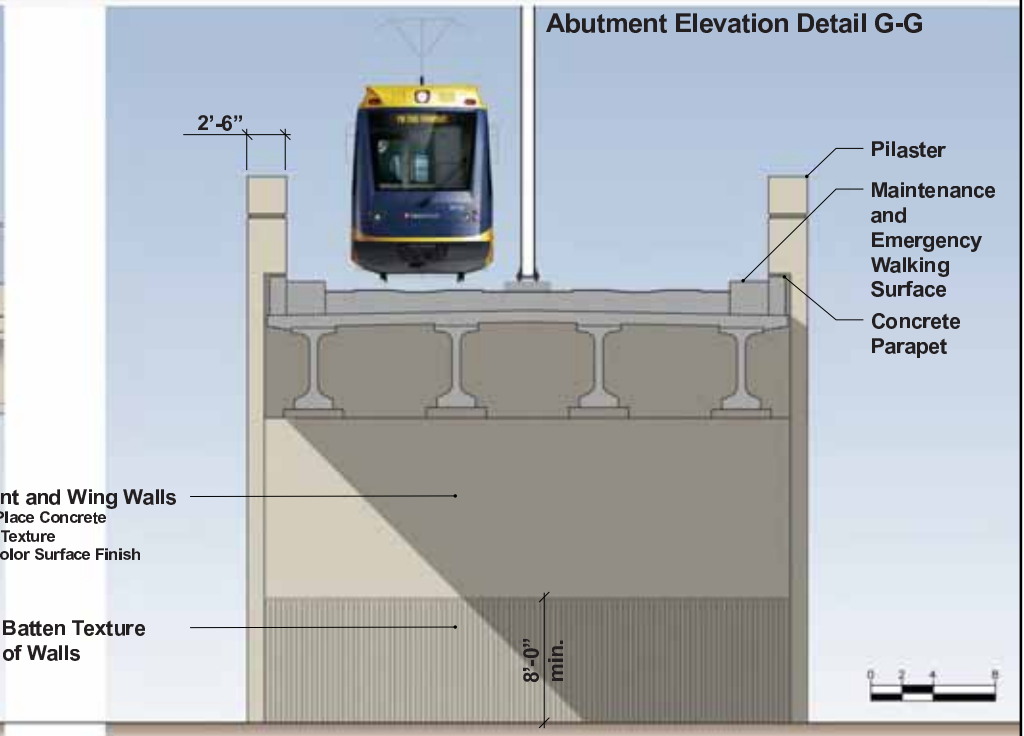
Partial Elevation Of South Abutment And First Span

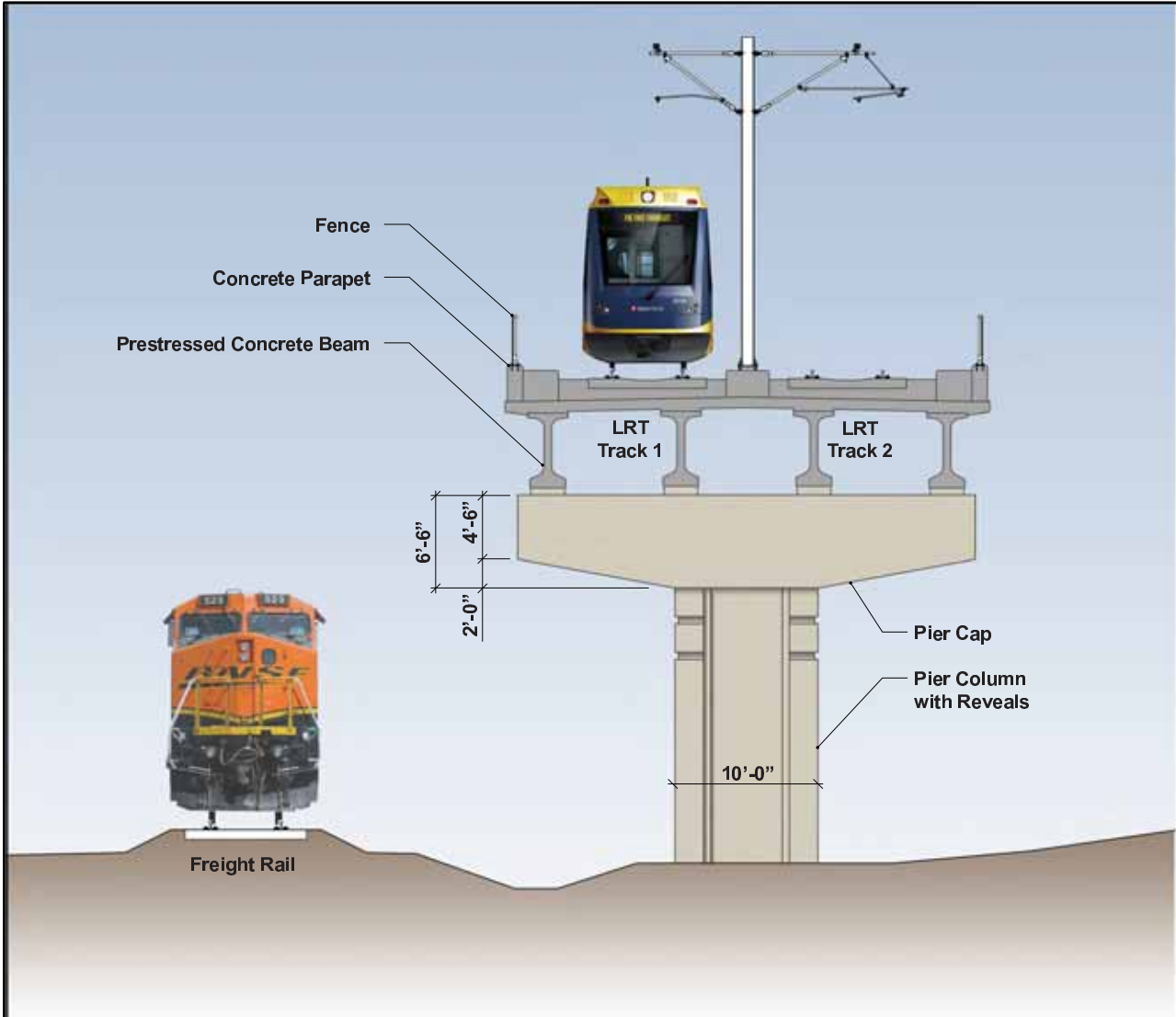


Wing Wall Elevation Detail

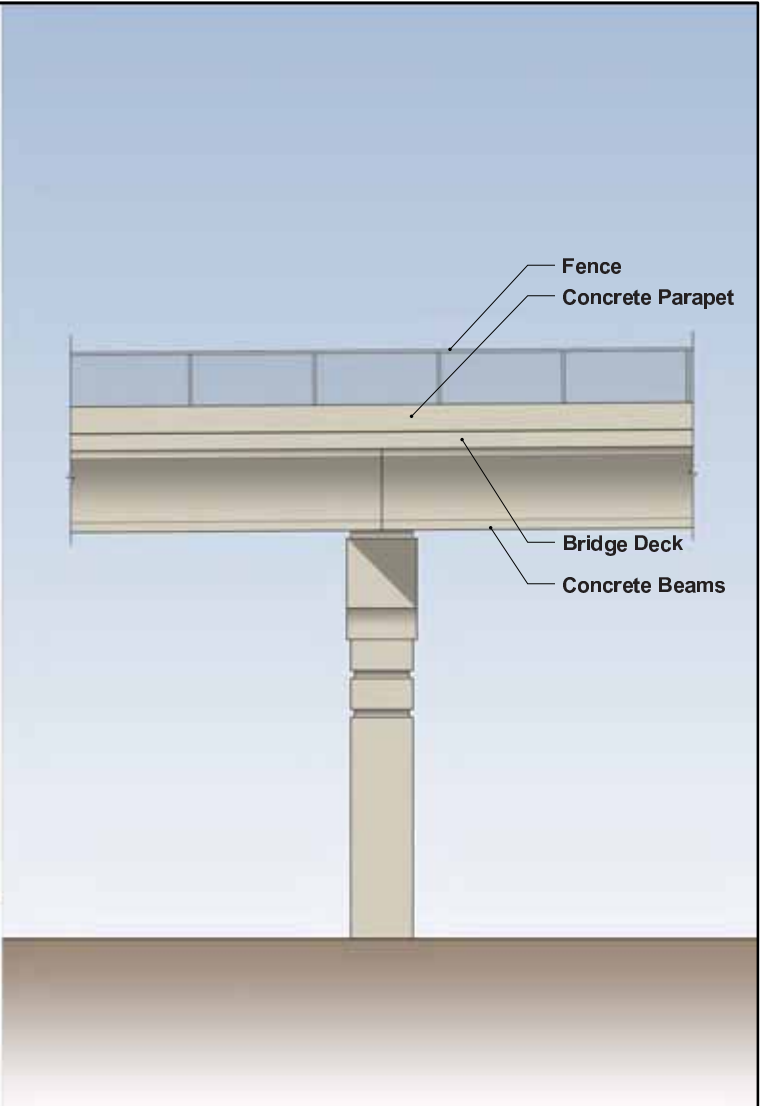


Abutment Elevation Detail G-G





Pier Elevation Detail H-H

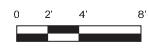


Pier Elevation Detail



BLUE LINE LRT EXTENSION
 CITY OF CRYSTAL
 LRT BRIDGE OVER CP RAIL - PIER FORM

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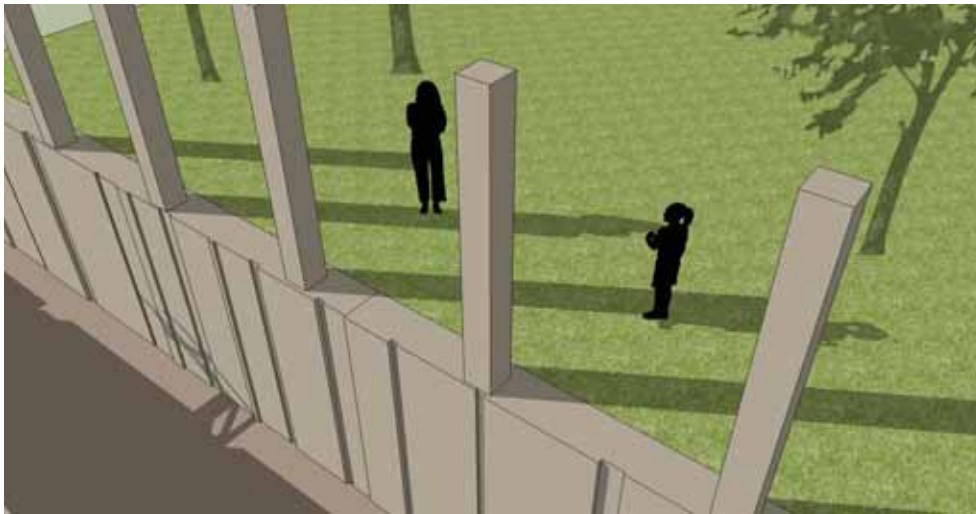
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View from the LRT Side



View from the Residential Property Side



Detail View (Posts Only)



Detail View



BLUE LINE LRT EXTENSION

NOISE WALLS - CONCEPT B

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ARCHITECTS

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METRO Blue Line LRT Extension (BLRT)

5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

March 14, 2017

Subject: Design of planned noise walls along the METRO Blue Line Extension

You are receiving this letter because your property is adjacent to the planned METRO Blue Line Extension and near a wall that will be built to mitigate noise impacts. Images showing the preliminary design images for these noise barriers are on the back side of this letter. These images show the general scale of the barriers in relation to people and light rail vehicles. Please note that design is ongoing and that colors, materials and overall design are not final.

Background

A noise barrier, in this case a noise wall, is required to mitigate a potential moderate or severe noise impact. These impacts were identified through the environmental analysis that was completed for the METRO Blue Line Extension. Since it has been determined that a noise barrier is required, property owners can not approve or decline the construction of the wall. Following are a few details about the noise walls:

- The height is calculated based on the distance away from the source of the noise (usually either the train wheels or the tracks); **the height cannot be altered for aesthetic purposes.**
- The materials (e.g. wood, concrete) must be solid and absorb and reflect sound.
- They must be constructed where identified in order to fulfill specific federal environmental mitigation commitments.
- They are designed to be as close to the source of the noise as possible.
- In most cases, they will be constructed on the railway-side of the property line.

Next Steps

Engineering is scheduled to be complete by spring 2018. Over the next year or so, the engineering staff will finalize the design plans and review with the city and county staff. As the design of noise barriers and other project elements is refined, project office staff will contact property owners throughout 2017 to discuss impacts to their properties.

More Information

More information about the project is available at www.BlueLineExt.org and the potential noise impacts are documented in the project's Final Environmental Impact Statement Chapter 5.6 also online at <http://metro council.org/blrt/feis>. If you have any questions about the project or the planned noise walls, please contact David Davies at 612-373-5336, or david.davies@metrotransit.org.

Attachment 4: Mailer sent March 14 to properties adjacent to noisewall south of Corvallis

Blue Line LRT Extension

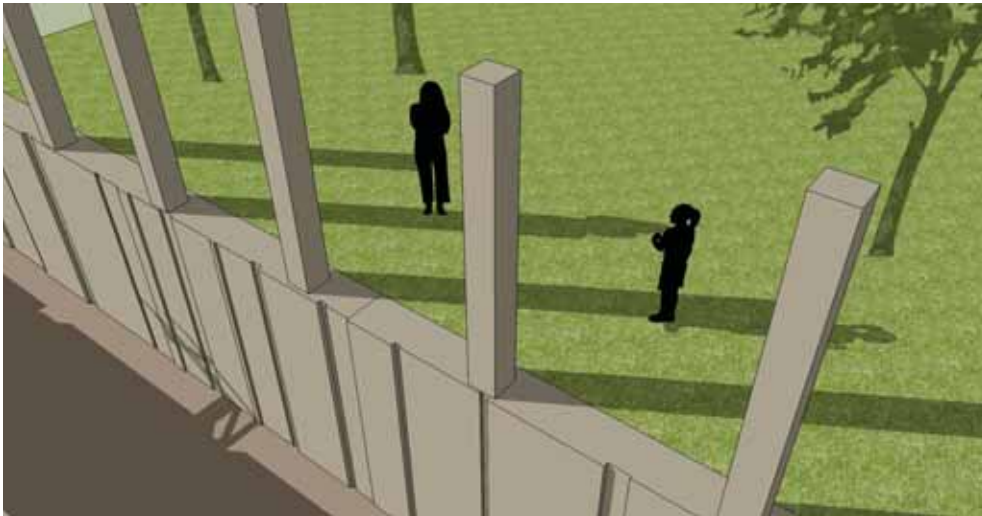
NOISE WALLS



View from the LRT Side



View from the Residential Property Side



Detail View (Posts Only)



Detail View

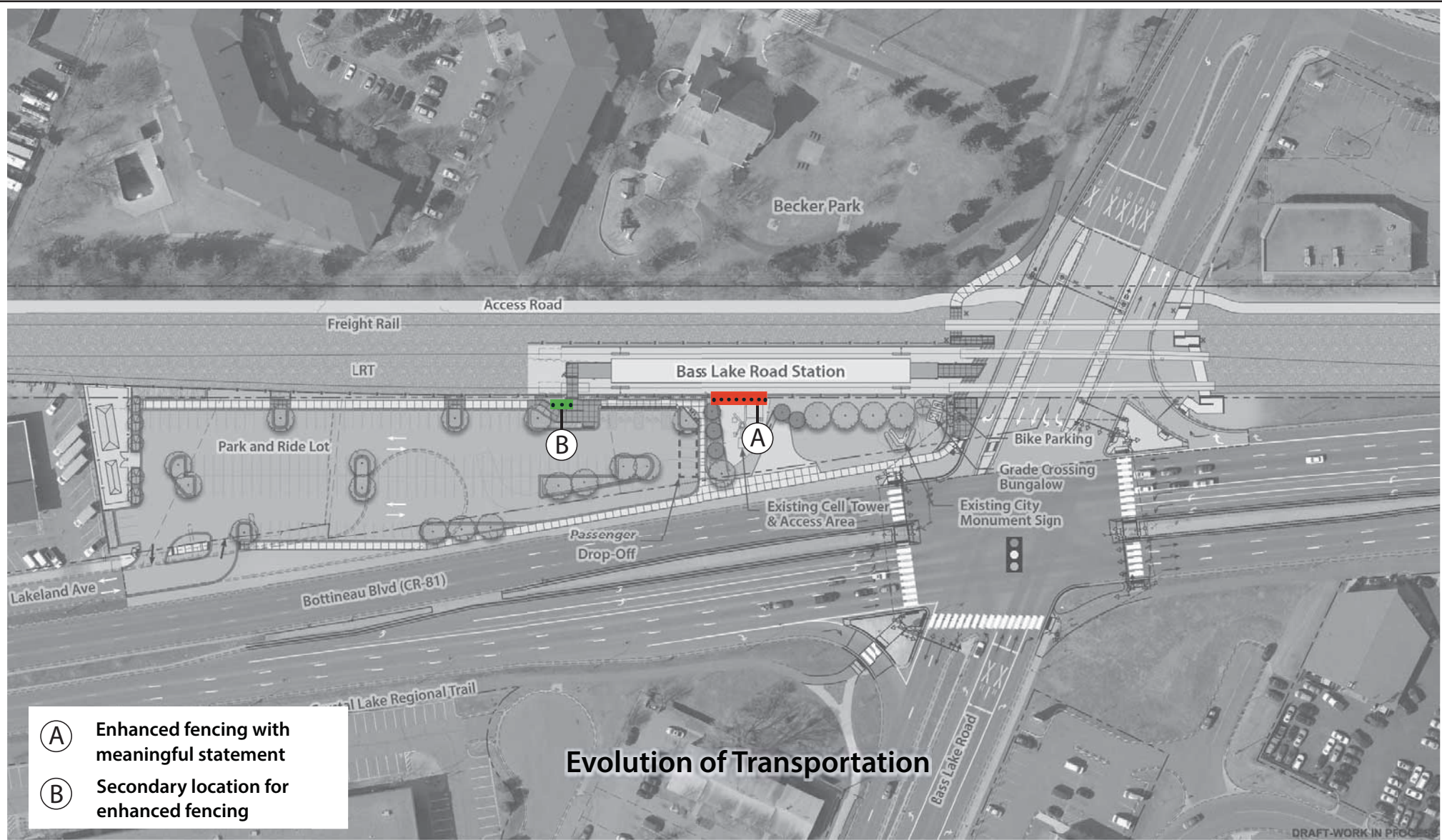
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WORK IN PROCESS





Attachment 5: Site plan for Bass Lake Road station and park & ride

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- (A) Enhanced fencing with meaningful statement
- (B) Secondary location for enhanced fencing

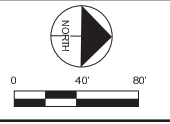
Evolution of Transportation

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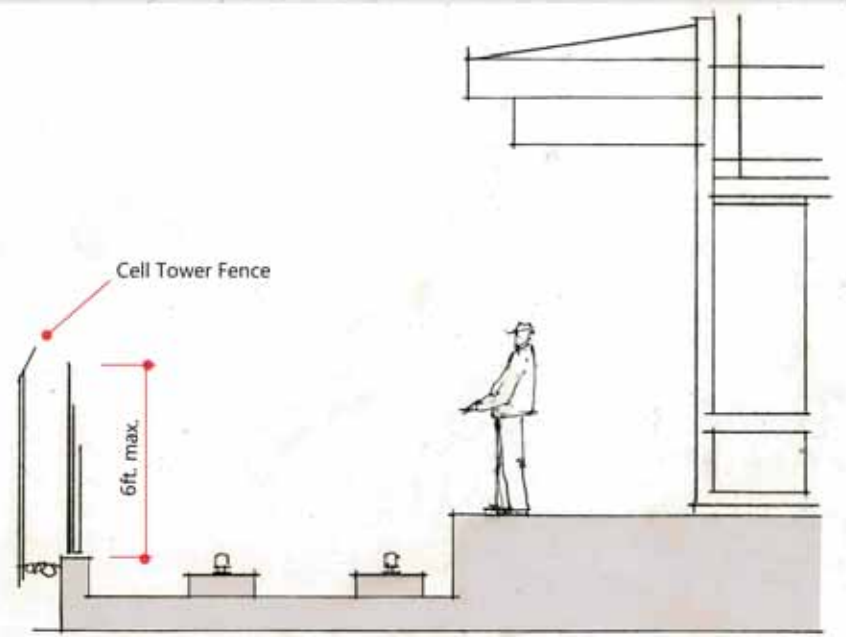
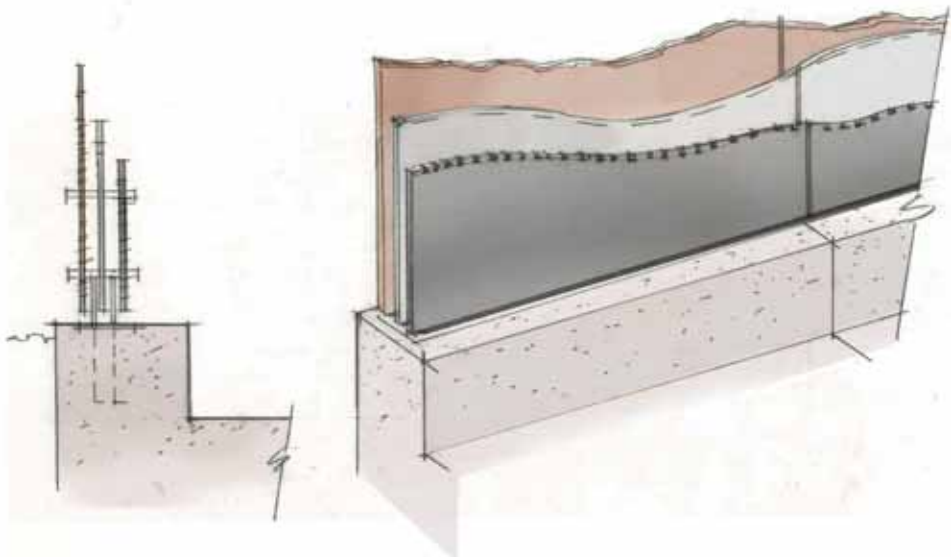
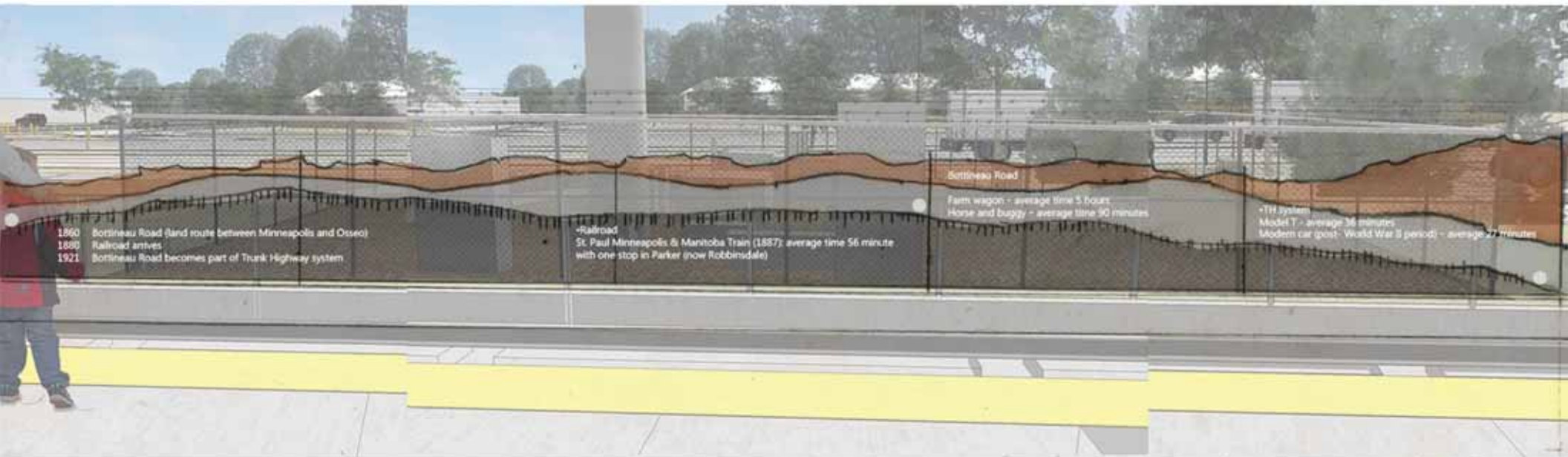


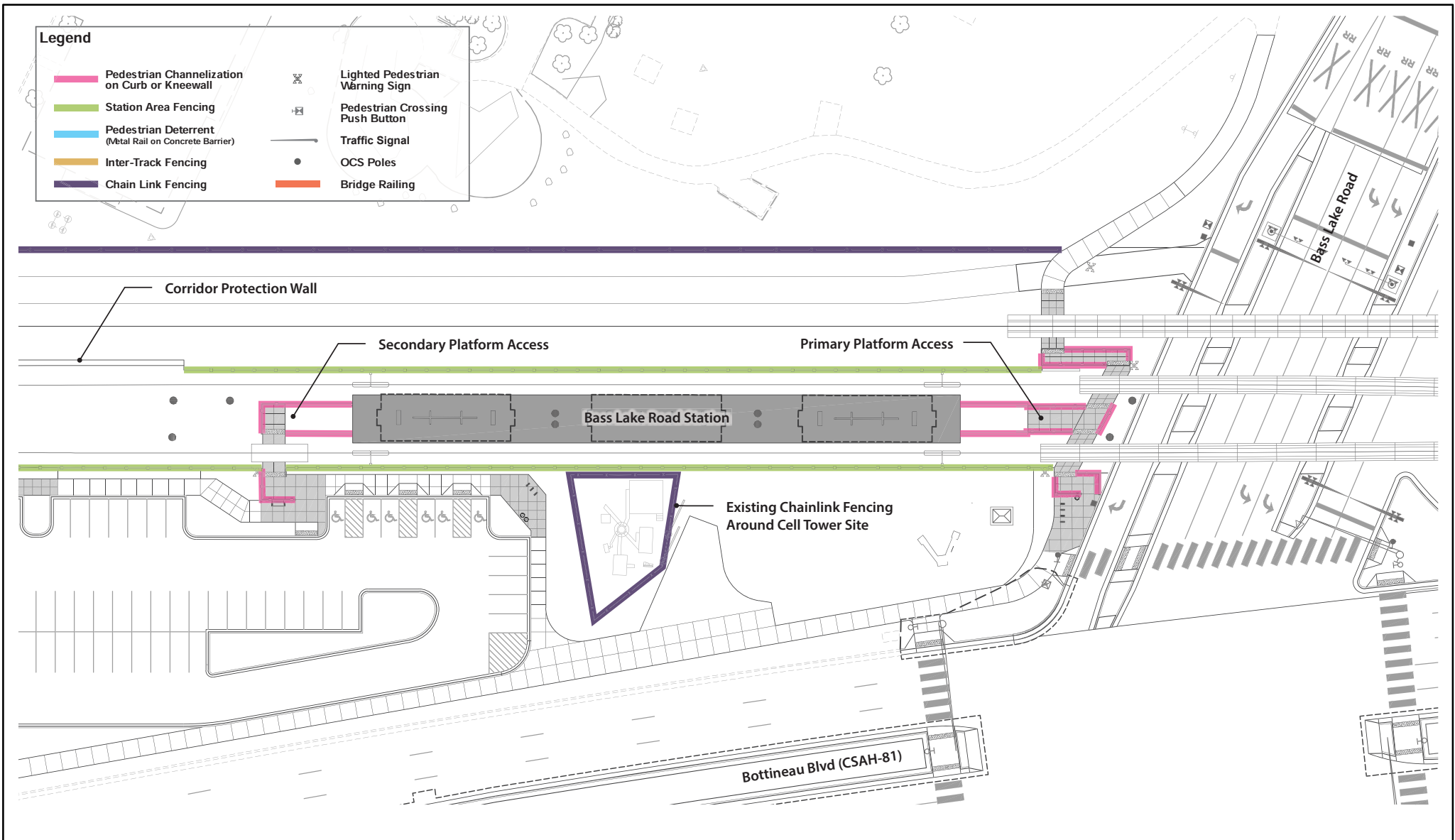
BLUE LINE LRT EXTENSION
 CITY OF CRYSTAL
 BASS LAKE ROAD STATION
 INTERPRETIVE ELEMENTS CONCEPT PLAN

Rev 0
 06/06/2017



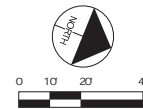
Attachment 6: Historic mitigation required due to shift of freight rail line





BLUE LINE LRT EXTENSION
 CITY OF CRYSTAL
 BASS LAKE ROAD STATION
 STATION SITE FENCING PLAN

Rev 0
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Attachment 7: Station fencing plan and renderings



Station Fence A - 4'

Pedestrian Channelization - 3'

Chain Link Fence



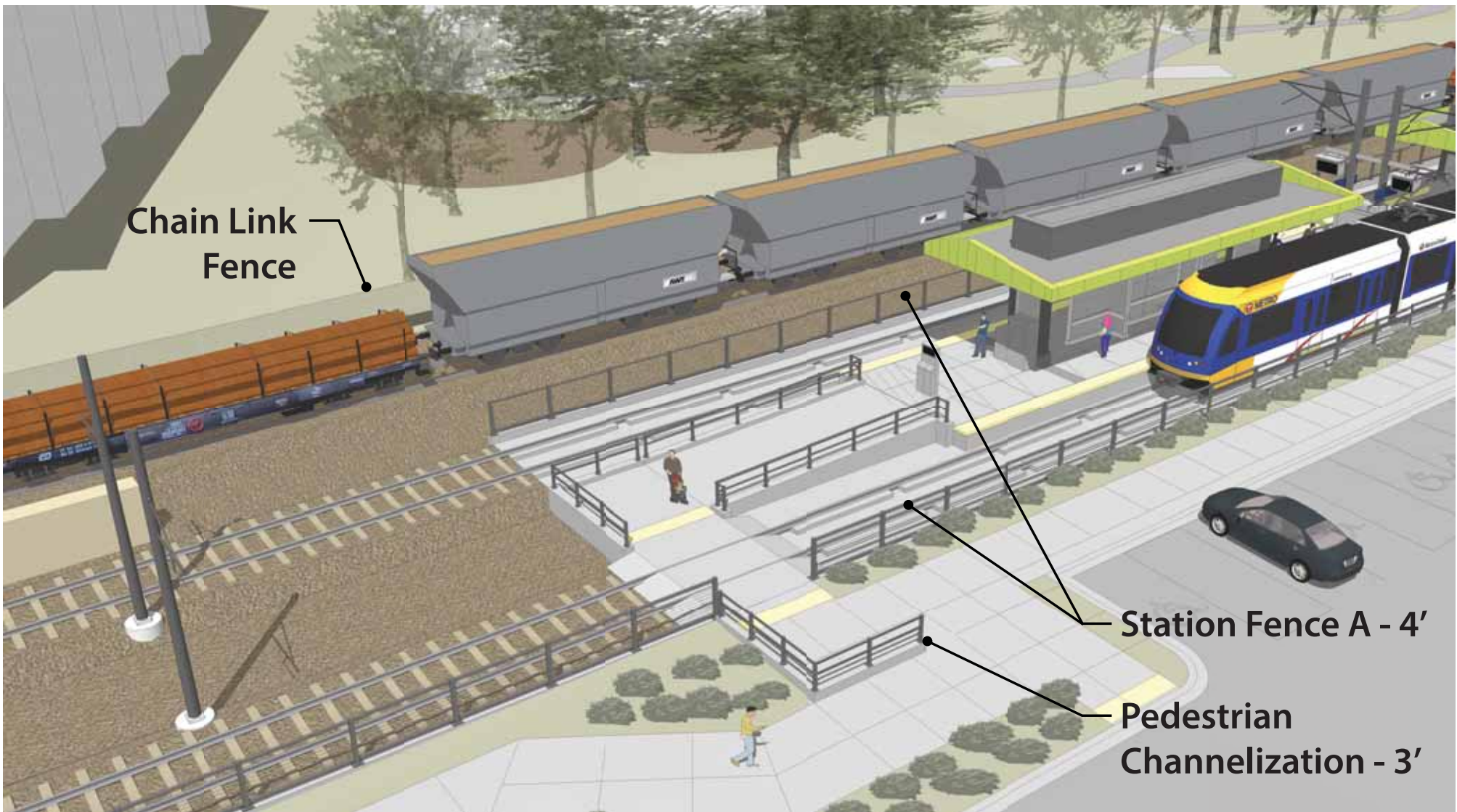
BLUE LINE LRT EXTENSION
 CITY OF CRYSTAL
 CONCEPT A - PRIMARY ACCESS VIEWS

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Chain Link Fence



Station Fence A - 4'

Pedestrian Channelization - 3'



BLUE LINE LRT EXTENSION
CITY OF CRYSTAL
CONCEPT A - SECONDARY ACCESS VIEWS

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03/31/2017



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FENCE TYPES - LEGEND



STATION AREA FENCE



CHAIN LINK FENCE
(AT-GRADE OR TPSS)



PEDESTRIAN CHANNELIZATION
ON CURB OR KNEEWALL



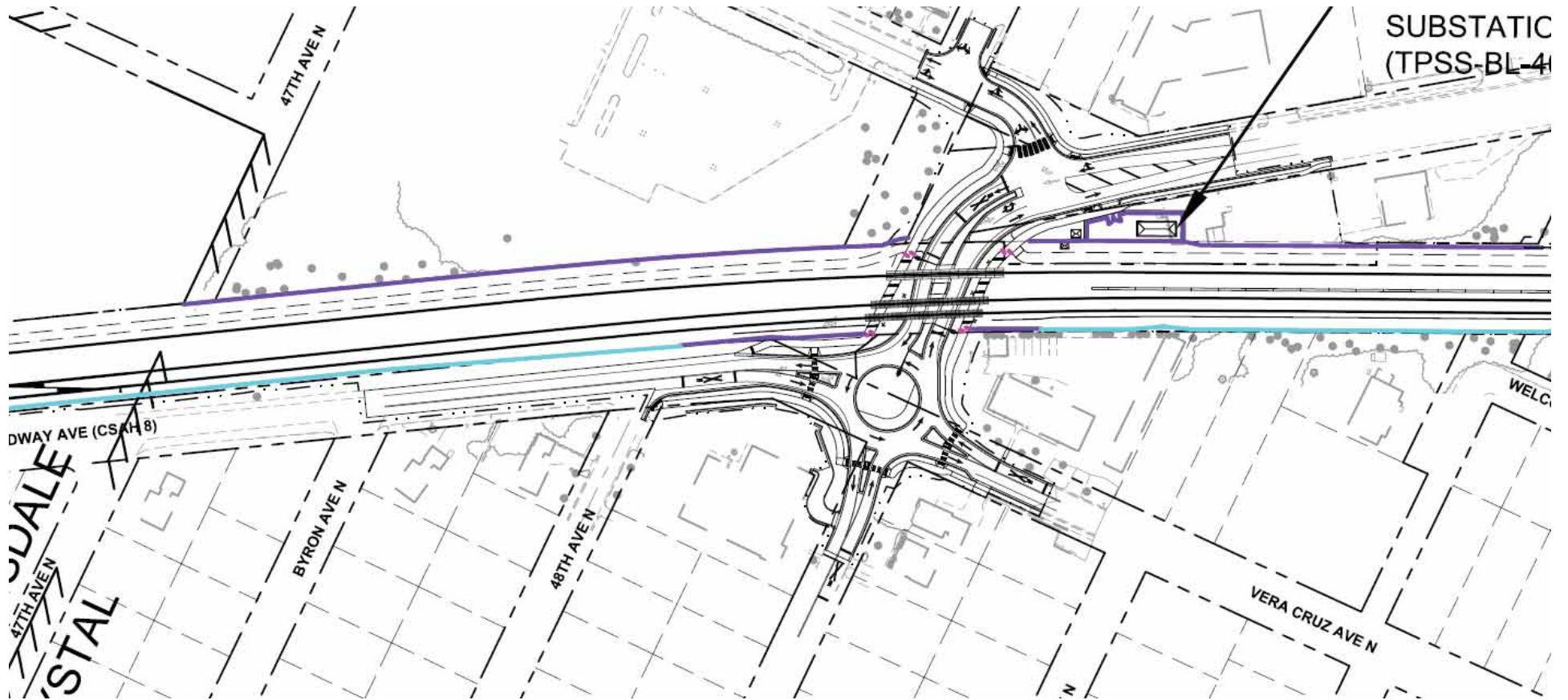
CHAIN LINK FENCE
(RETAINING WALL OR BRIDGE)



COMPOSITE FENCE
(AT-GRADE OR TPSS)



NOISE WALL



Attachment 8: Fencing types throughout Crystal segment

FENCE TYPES - LEGEND



STATION AREA FENCE



CHAIN LINK FENCE
(AT-GRADE OR TPSS)



PEDESTRIAN CHANNELIZATION
ON CURB OR KNEEWALL



CHAIN LINK FENCE
(RETAINING WALL OR BRIDGE)

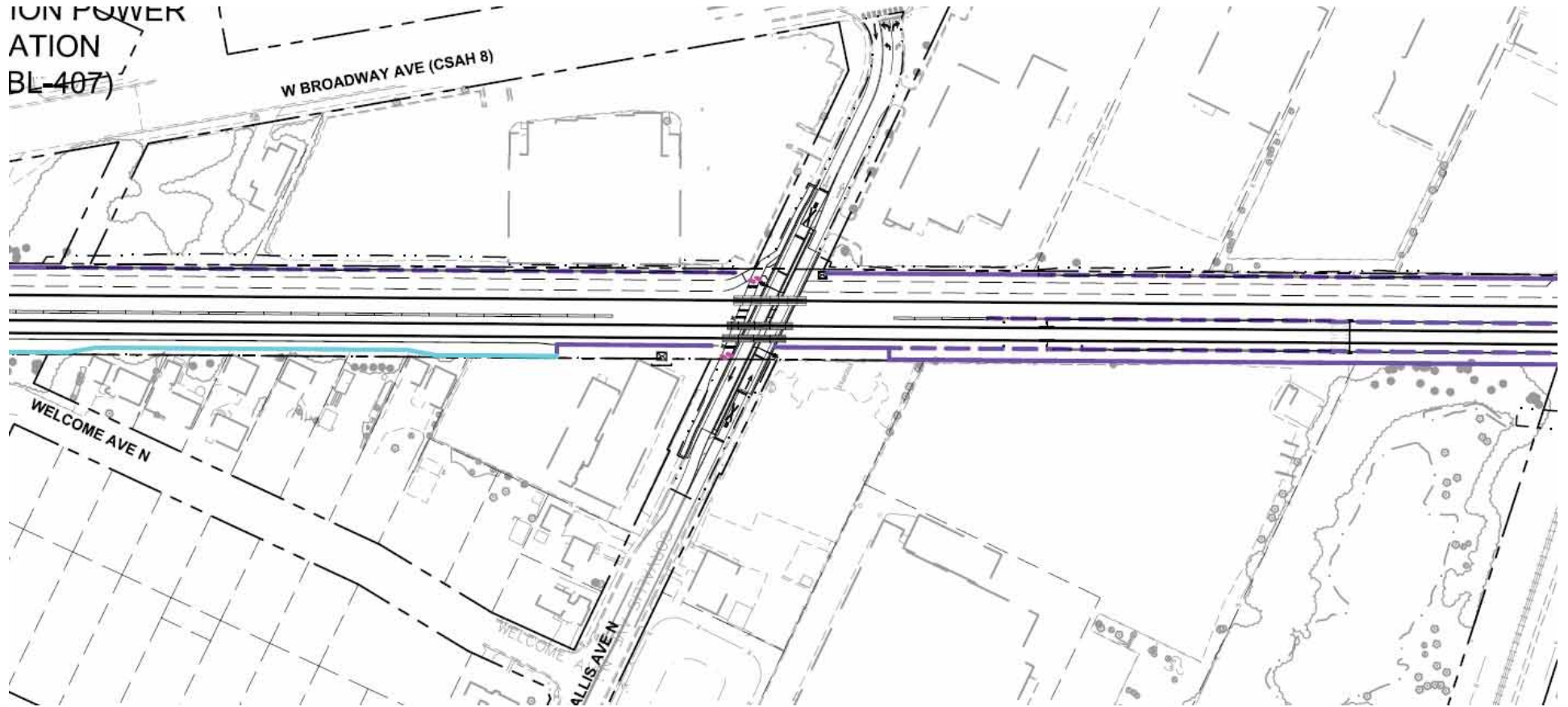


COMPOSITE FENCE
(AT-GRADE OR TPSS)



NOISE WALL

ION POWER
ATION
BL-407)



FENCE TYPES - LEGEND



STATION AREA FENCE



PEDESTRIAN CHANNELIZATION ON CURB OR KNEEWALL



COMPOSITE FENCE (AT-GRADE OR TPSS)



CHAIN LINK FENCE (AT-GRADE OR TPSS)



CHAIN LINK FENCE (RETAINING WALL OR BRIDGE)



NOISE WALL



FENCE TYPES - LEGEND



STATION AREA FENCE



CHAIN LINK FENCE
(AT-GRADE OR TPSS)



PEDESTRIAN CHANNELIZATION
ON CURB OR KNEEWALL



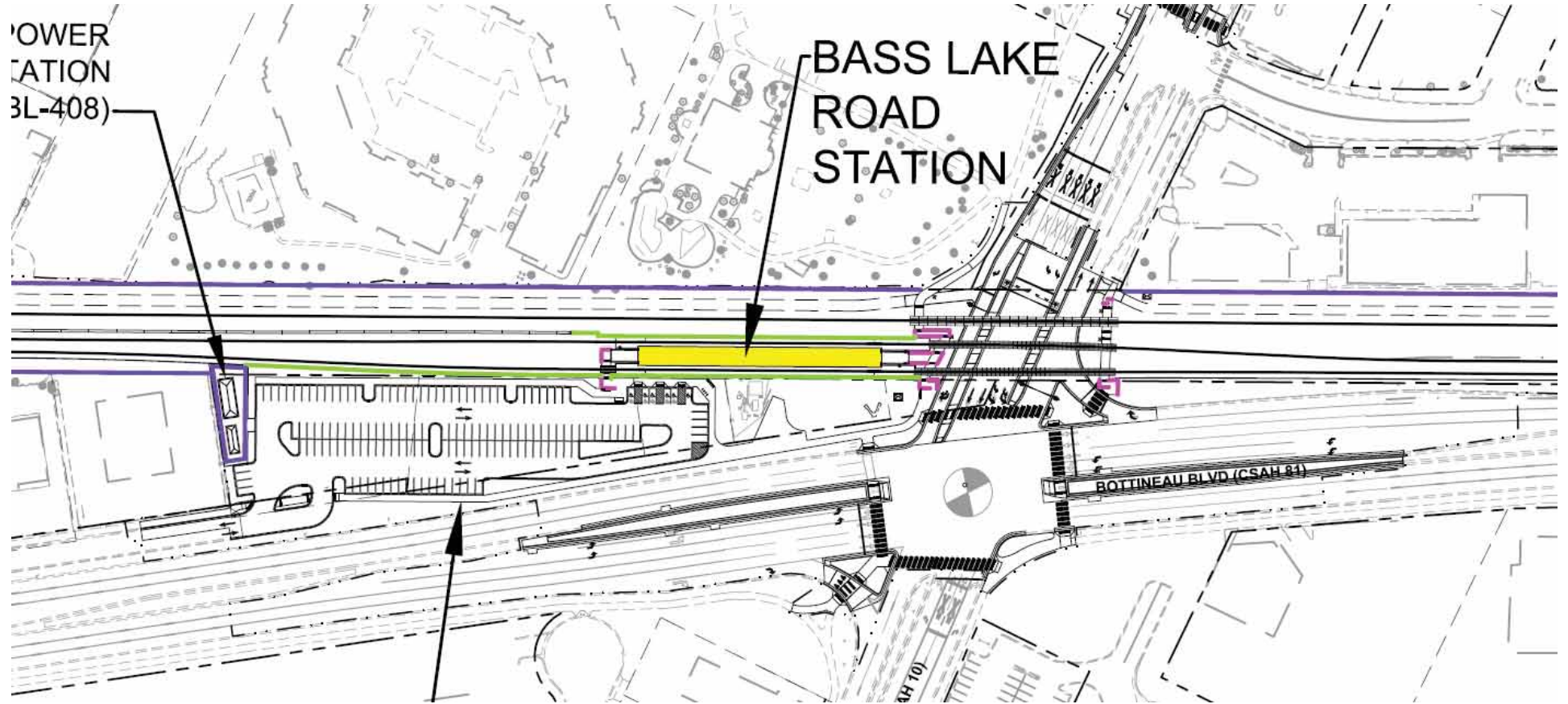
CHAIN LINK FENCE
(RETAINING WALL OR BRIDGE)



COMPOSITE FENCE
(AT-GRADE OR TPSS)



NOISE WALL



FENCE TYPES - LEGEND



STATION AREA FENCE



CHAIN LINK FENCE
(AT-GRADE OR TPSS)



PEDESTRIAN CHANNELIZATION
ON CURB OR KNEEWALL



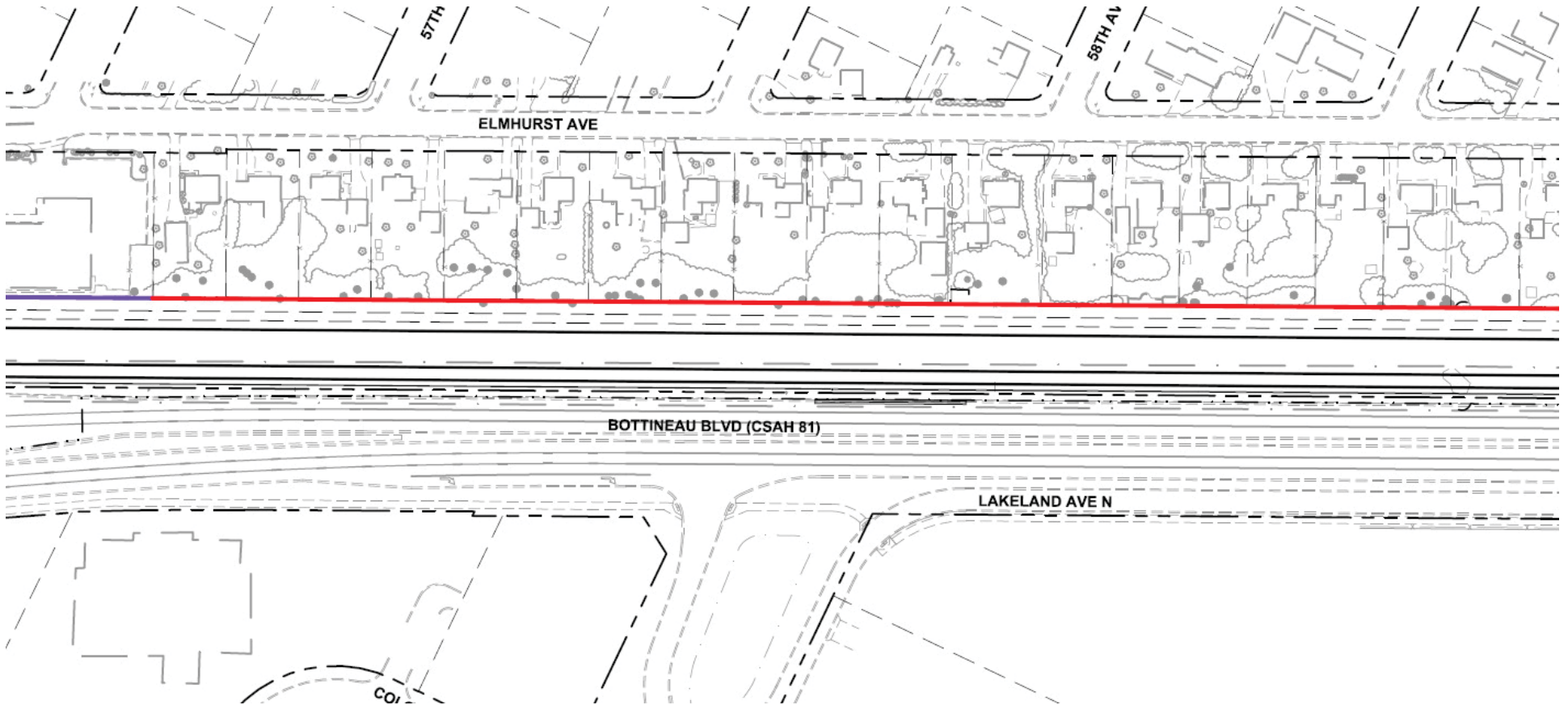
CHAIN LINK FENCE
(RETAINING WALL OR BRIDGE)



COMPOSITE FENCE
(AT-GRADE OR TPSS)



NOISE WALL



FENCE TYPES - LEGEND



STATION AREA FENCE



PEDESTRIAN CHANNELIZATION ON CURB OR KNEEWALL



COMPOSITE FENCE (AT-GRADE OR TPSS)



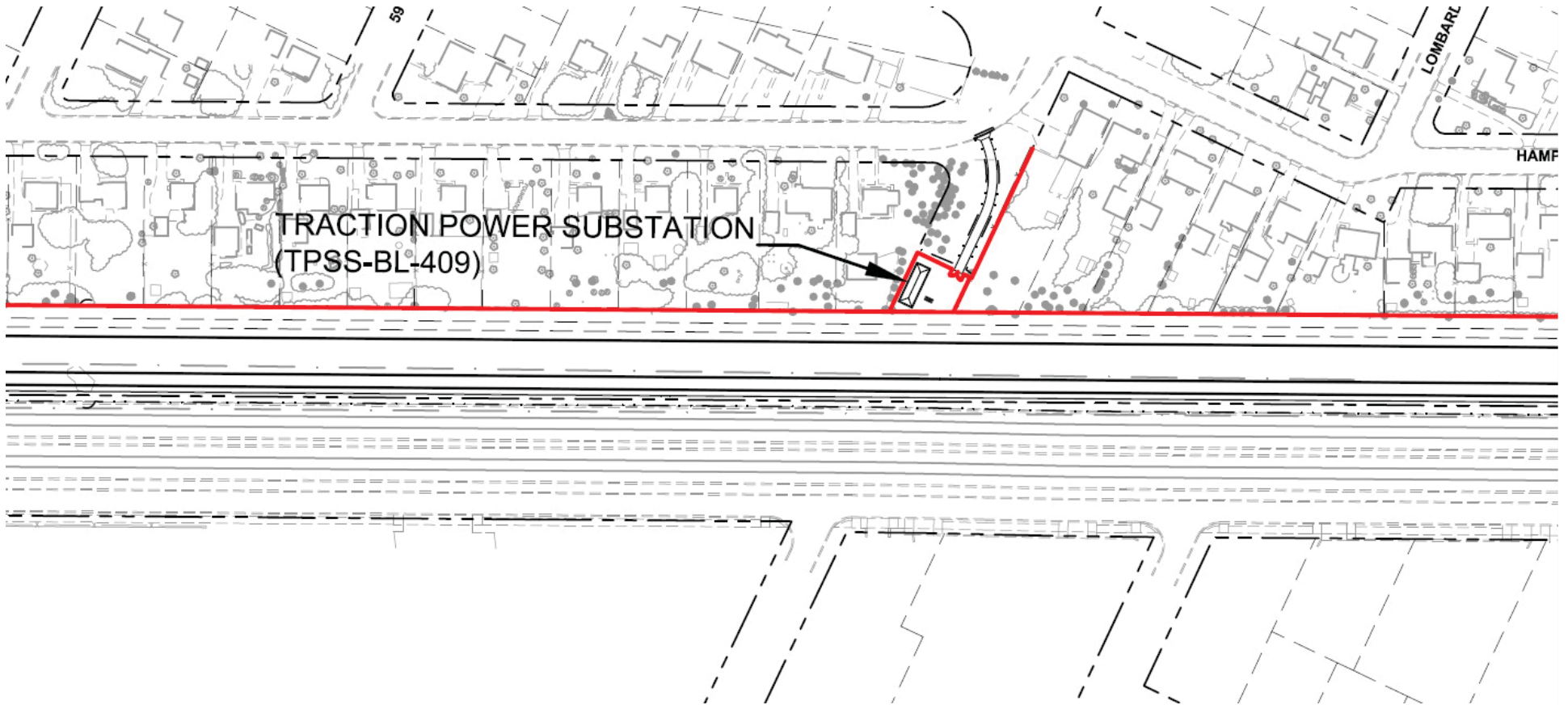
CHAIN LINK FENCE (AT-GRADE OR TPSS)



CHAIN LINK FENCE (RETAINING WALL OR BRIDGE)



NOISE WALL



FENCE TYPES - LEGEND



STATION AREA FENCE



CHAIN LINK FENCE
(AT-GRADE OR TPSS)



PEDESTRIAN CHANNELIZATION
ON CURB OR KNEEWALL



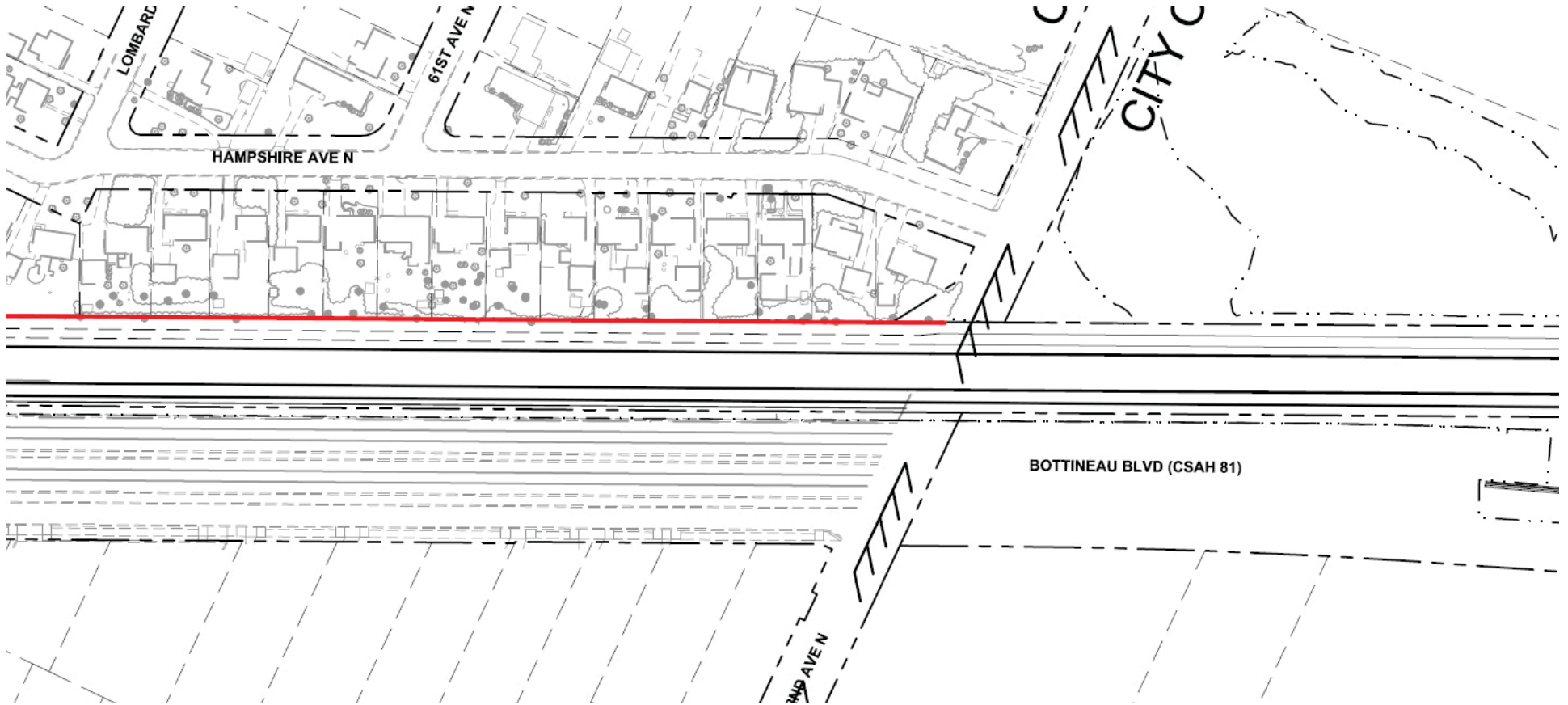
CHAIN LINK FENCE
(RETAINING WALL OR BRIDGE)



COMPOSITE FENCE
(AT-GRADE OR TPSS)



NOISE WALL





METRO Blue Line LRT Extension (BLRT)

5514 West Broadway Avenue, Suite 200, Crystal, MN 55428 www.bluelineext.org

March 24, 2017

Subject: Update on Visual Screening along Corridor between Bass Lake Road and 62nd Ave

Based on public input received at two public meetings, conversations with property owners and surveys, the Metropolitan Council and the City of Crystal are proceeding with the following design of a visual barrier:

Height	8 -10 feet, determined based on height of railroad track bed relative to property line.
Material	Dense composite plastic material. This material will be similar to that which was used to construct the fence around the 63 rd Ave Park and Ride site.
Color	Dark brown.
Location	Within one foot of the property line on property owner's (your) property.
Maintenance	Metro Transit will be responsible for the removal of graffiti on the side facing Hwy 81. Property owners will be responsible for all other aspects of fence maintenance.

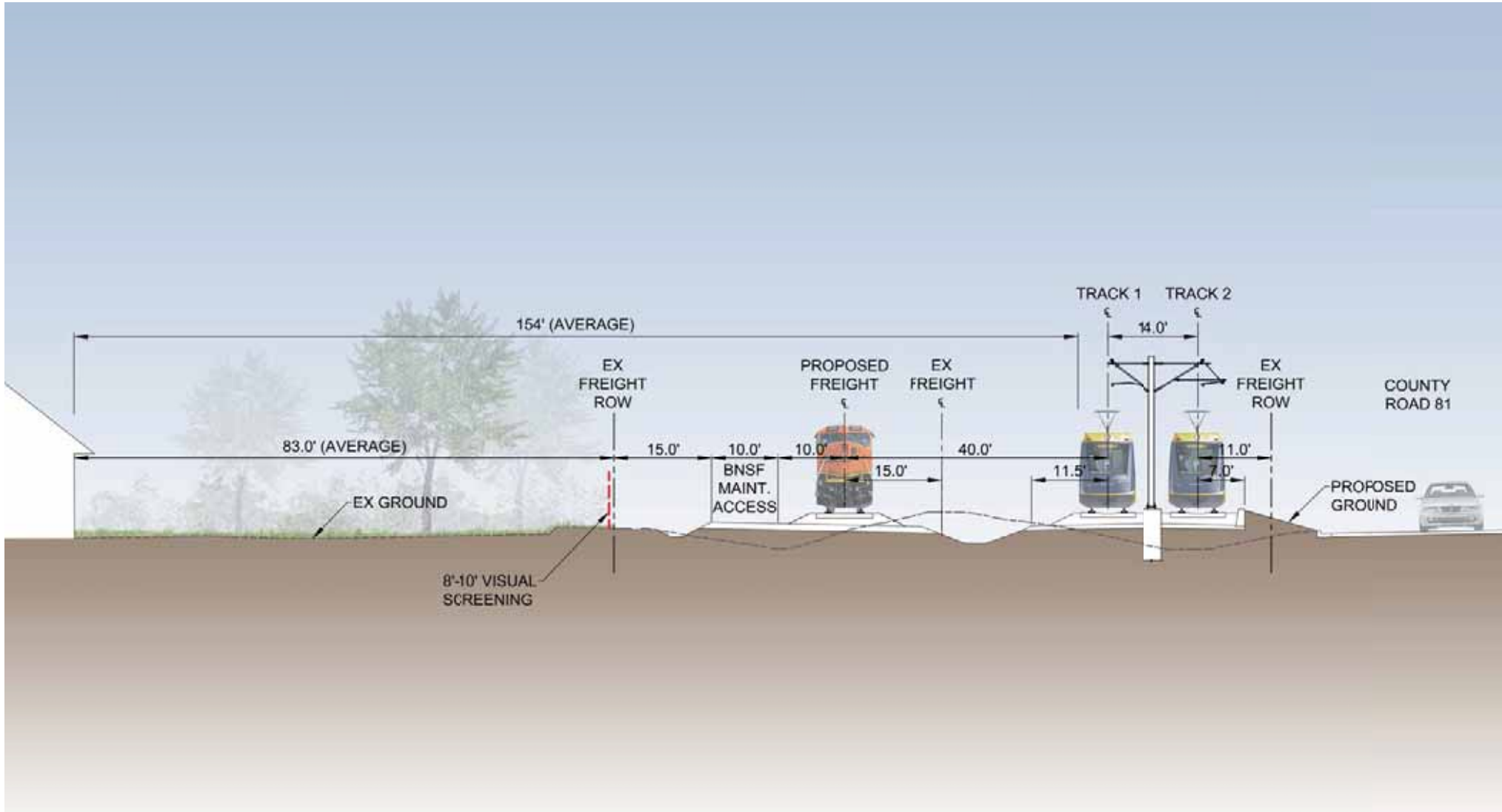
The Metropolitan Council will construct and pay for the installation of this fence as part of the Blue Line Extension project. Construction of the project is expected to begin in 2018; the exact timing of construction of the fence will be determined when the civil construction contractor is hired.

In order to construct the fence, you will need to provide access to your property through a no-fee permit. If you do not grant access; our contractors will not be able to construct the fence and consequently no visual screening will be provided; monetary compensation will not be provided in lieu of the fence. Prior to construction, BPO staff will work with the City of Crystal to inform residents and property owners of upcoming construction timelines and schedules.

For more information on this issue, please contact David Davies at BPO, david.davies@metrotransit.org, or 612-373-5336

Resources and previous meeting materials regarding this issue can be found at <https://metrocouncil.org/Transportation/Projects/Current-Projects/METRO-Blue-Line-Extension/Meetings-and-Materials/LRT-Visual-Screening.aspx>

Attachment 9: Mailer sent March 24 to properties adjacent to visual screening fence



Typical BLRT rail corridor section

DRAFT
WORK IN PROCESS





View looking north from West Broadway Ave toward proposed TPSS site BL407



View looking north down existing freight rail



View looking south from proposed TPSS site BL407

SITE CONTEXT

- Site located in an existing commercial area adjacent to West Broadway Ave

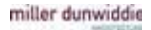
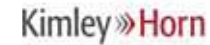
DESIGN APPROACH

- Orient site parallel to tracks and as far south as possible to accommodate proposed BMP
- Allow space for maintenance vehicles to access the site
- Provide a transparent enclosure to complement adjacent proposed fences

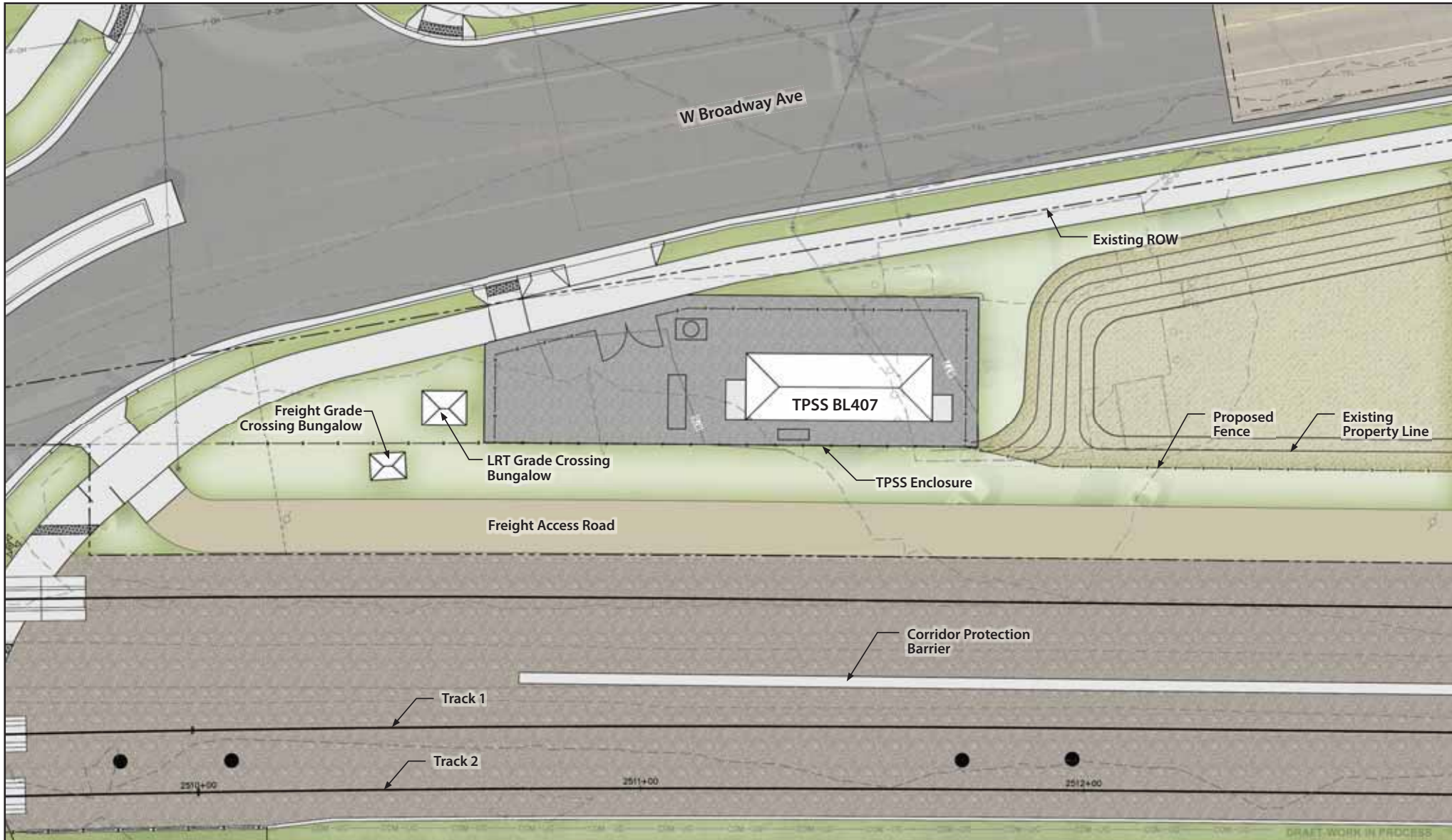


BLUE LINE LRT EXTENSION
 CITY OF CRYSTAL
 TPSS BL407 - STEVE O'S
 SITE CONTEXT AND DESIGN APPROACH

Rev 0
 03/28/2017



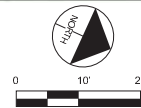
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BLUE LINE LRT EXTENSION

CITY OF CRYSTAL
 TPSS BL407 - STEVE O'S
 PROPOSED SITE PLAN

Rev 0
 03/28/2017

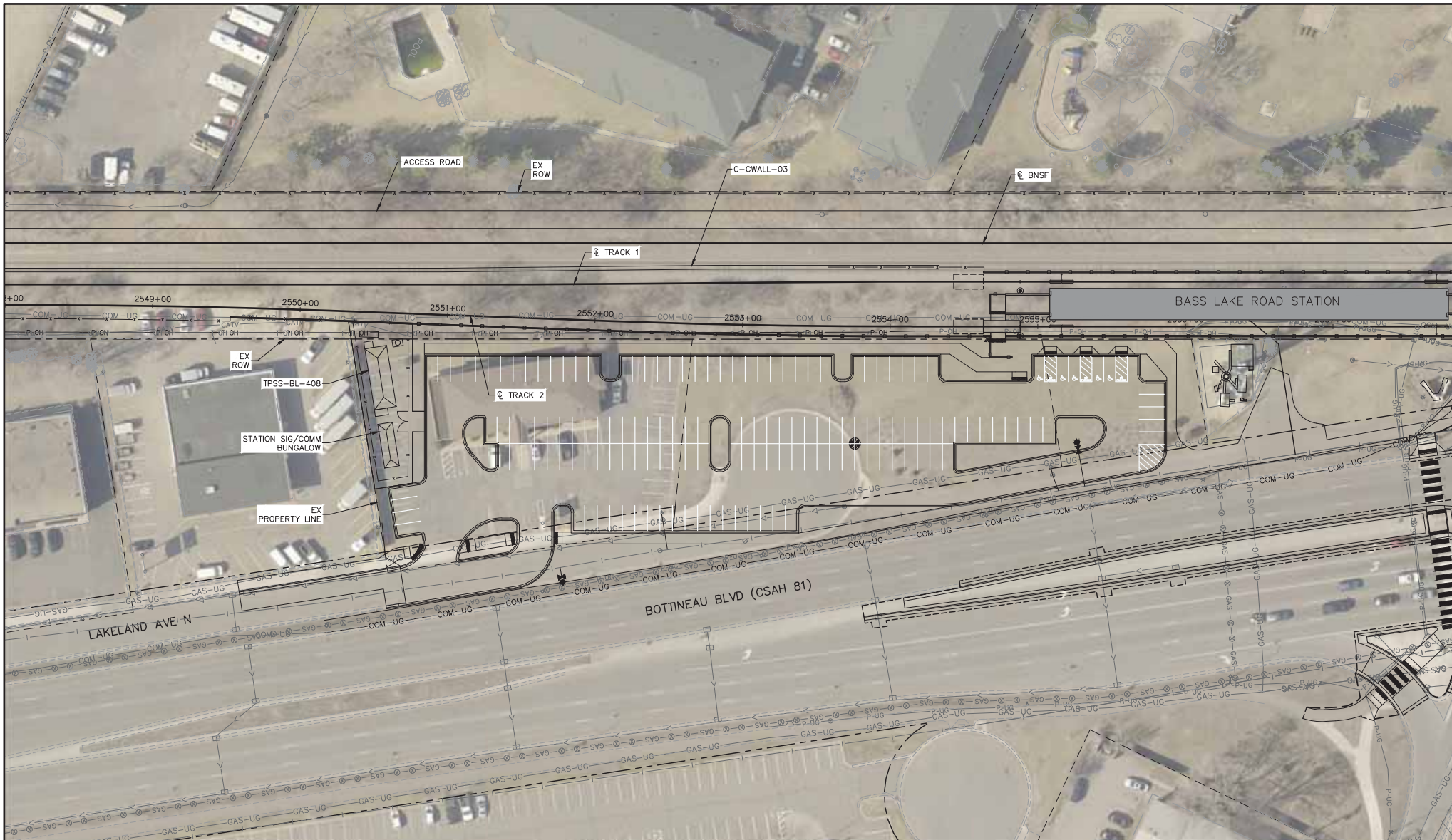


Kimley»Horn

SRE
 Consulting Group, Inc.

miller dunwiddie

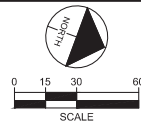
Apr. 05 2017 10:11 am C:\Users\j\OneDrive\Documents\Projects\TPSS-LOCATION-EXBT.dwg By: V-Fecknik



BLUE LINE LRT EXTENSION

CITY OF CRYSTAL
 TRACTION POWER SUBSTATION
 TPSS-BL-408 SITE LOCATION

4/5/2017



Kimley Horn





View looking west toward proposed TPSS site BL408



View looking south toward proposed TPSS site BL408



Existing rail corridor and cell tower



Existing cell tower fence and equipment

SITE CONTEXT

- Site located in existing commercial area off of Lakeland Ave N, near the CSAH 81 and Bass Lake Road intersection

DESIGN APPROACH

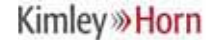
- Integrate site into proposed park-and-ride
- Orient site as far south as possible to keep away from proposed Bass Lake Road station platform and accommodate as many park-and-ride stalls as possible
- Maintain a landscape buffer on the north side of the site for landscape screening
- Provide a transparent enclosure to complement adjacent existing and proposed fences



BLUE LINE LRT EXTENSION

CITY OF CRYSTAL
 TPSS BL408 - BASS LAKE ROAD STATION
 SITE CONTEXT AND DESIGN APPROACH

Rev 0
 03/28/2017

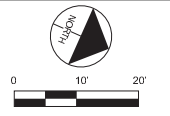


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BLUE LINE LRT EXTENSION
 CITY OF CRYSTAL
 TPSS BL408 - BASS LAKE ROAD STATION
 PROPOSED SITE PLAN

Rev 0
 03/28/2017



METROPOLITAN COUNCIL logo on the left. To the right are logos for Kimley»Horn, SRE Consulting Group, Inc., and miller dunwiddie.

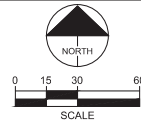
DRAFT WORK IN PROGRESS

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BLUE LINE LRT EXTENSION
 CITY OF CRYSTAL
 TRACTION POWER SUBSTATION
 TPSS-BL-409 SITE LOCATION

4/5/2017



Kimley Horn

WSP PARSONS BRINCKERHOFF



View looking toward the northeast corner of proposed TPSS site BL409



View looking toward the southeast corner of proposed TPSS site BL409



View looking toward the north property line and adjacent residential property



Existing stand of evergreen trees

SITE CONTEXT

- Located in a residential neighborhood adjacent to the existing freight rail corridor
- Existing vegetation screens site from rail corridor and adjacent residential property
- Existing overhead power lines run east/west along site

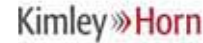
DESIGN APPROACH

- Set back site from Elmhurst Ave as far east as possible
- Orient access drive to the north to provide large contiguous green space
- Protect existing stand of evergreen trees
- Provide opaque screening around site and extend beyond site to screen from residential properties while allowing limited views into the site

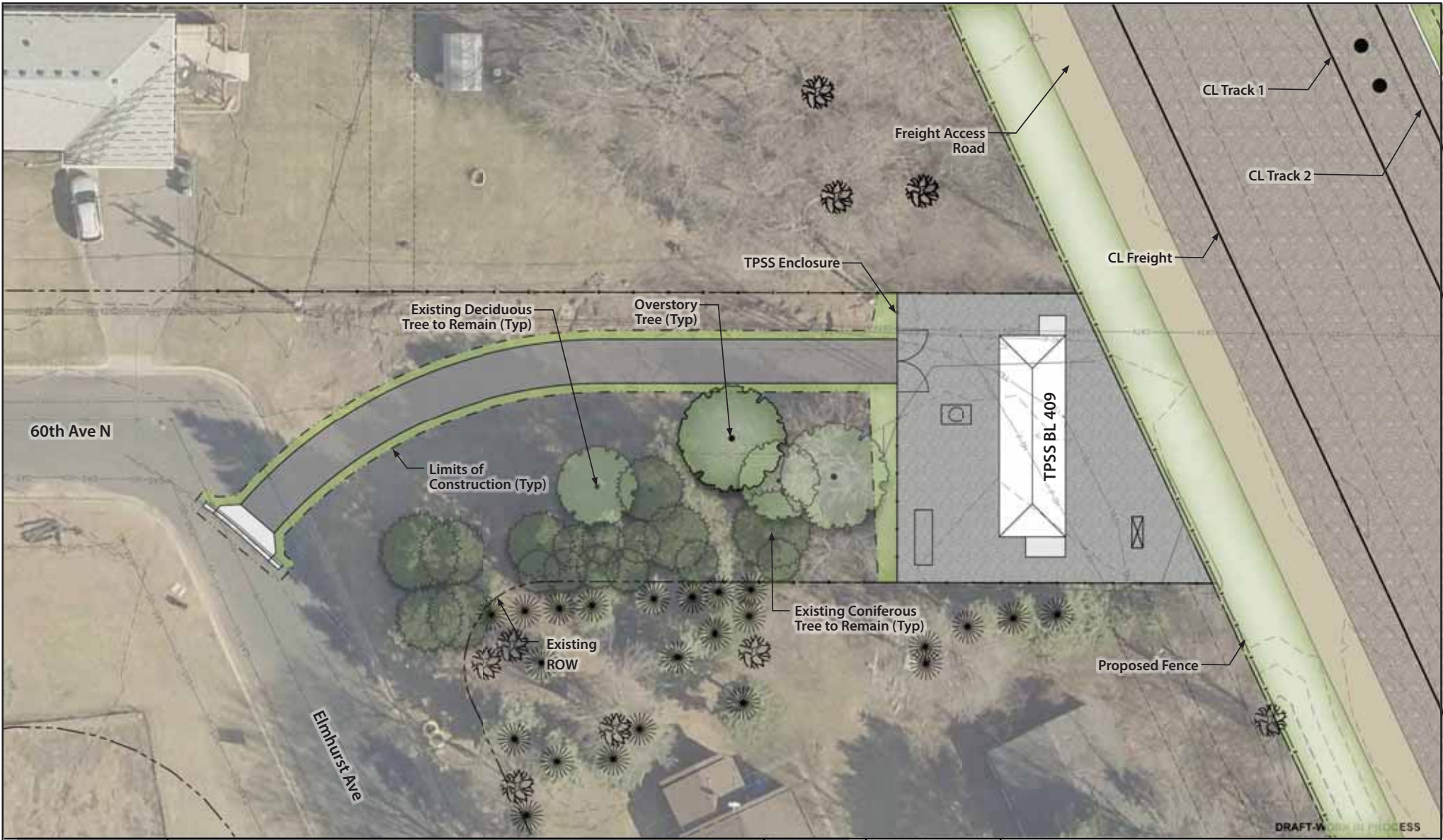


BLUE LINE LRT EXTENSION
 CITY OF CRYSTAL
 TPSS BL409 - 60TH AVE
 SITE CONTEXT AND DESIGN APPROACH

Rev 0
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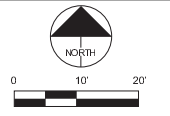


DRAFT - FOR REVIEW PROCESS



BLUE LINE LRT EXTENSION
 CITY OF CRYSTAL
 TPSS BL409 - 60TH AVE
 PROPOSED SITE PLAN

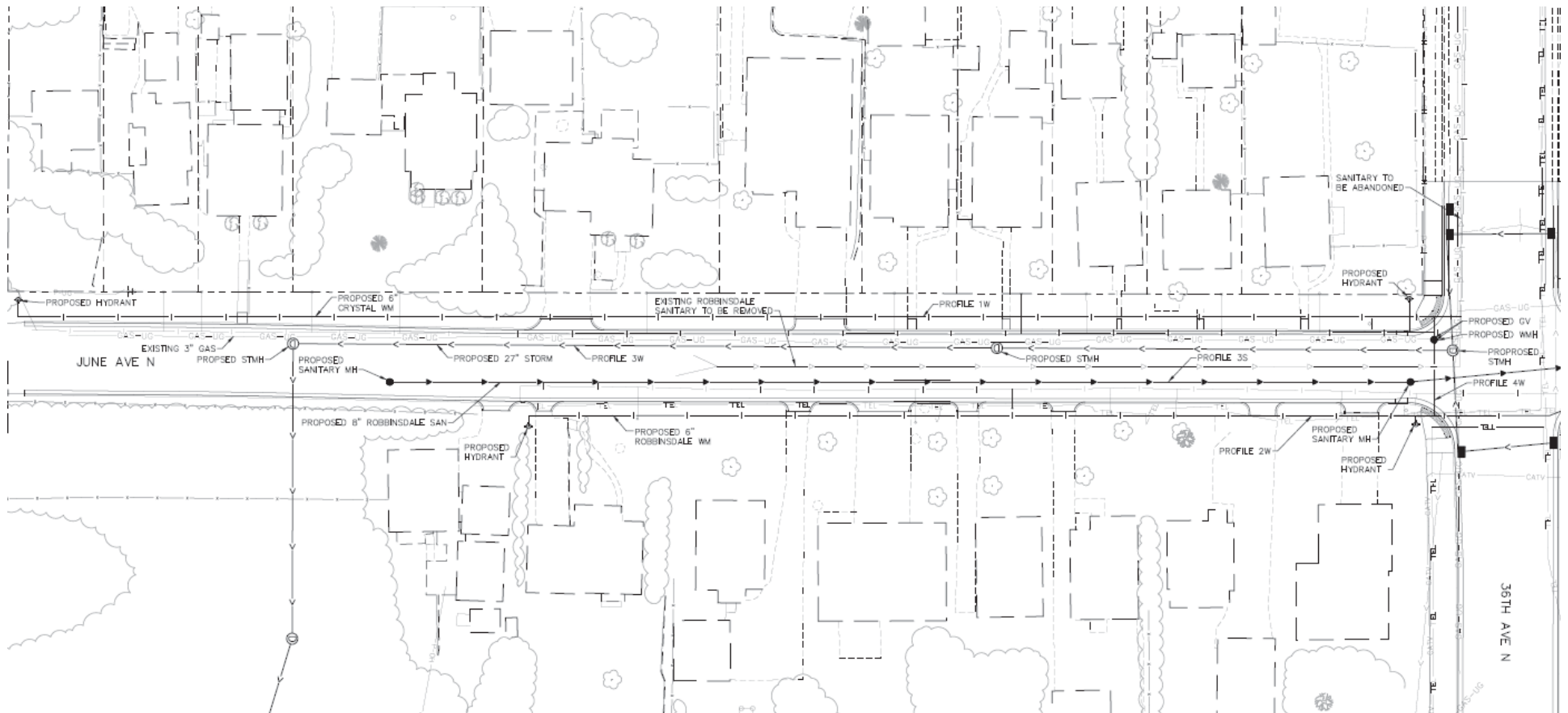
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Reconstruction of June Avenue south of 36th

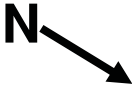


(Crystal only paying for new water pipe in boulevard on west side of street)

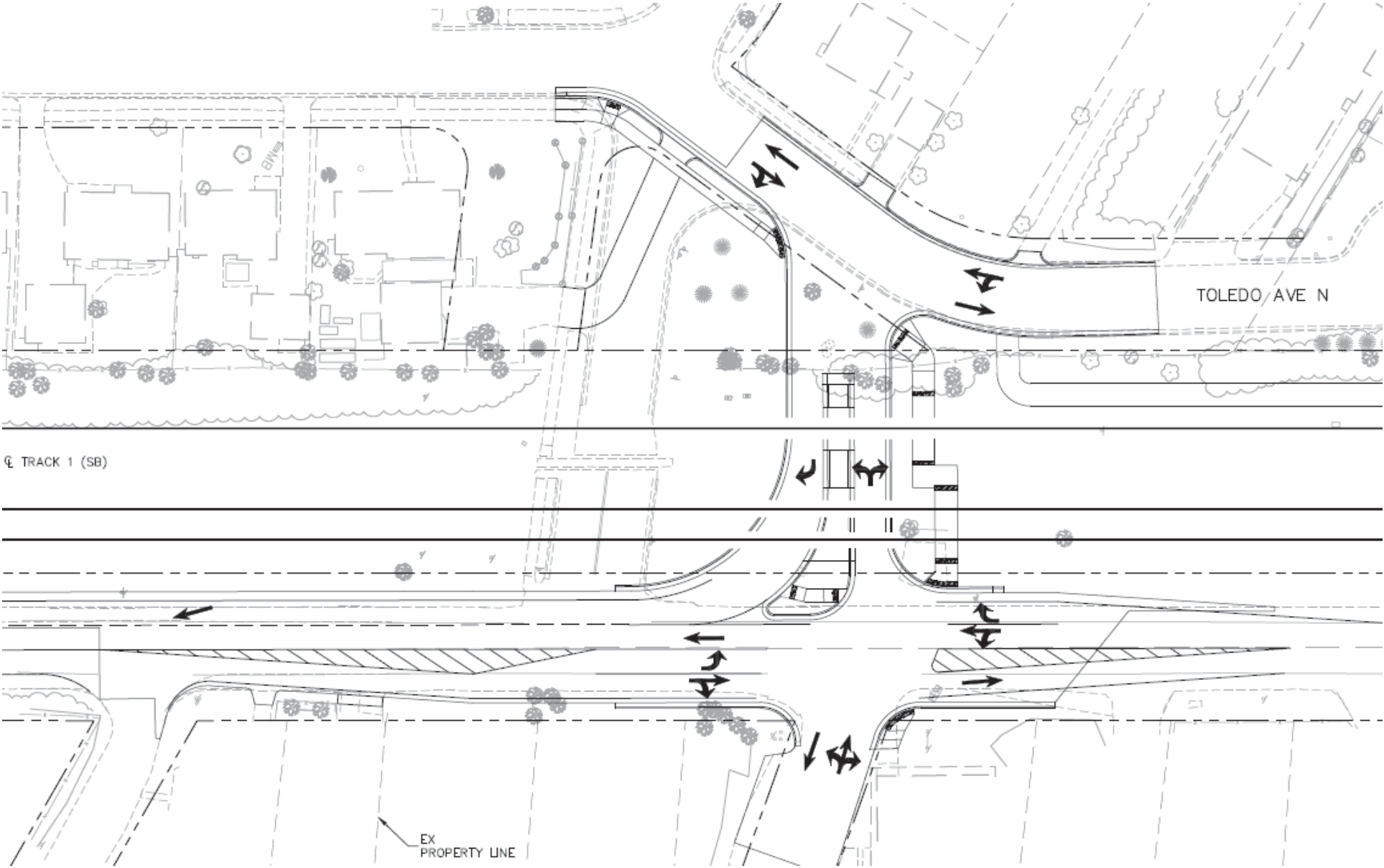


Attachment 11: June Avenue south of 36th

45th Avenue at West Broadway in Robbinsdale



(Left turns from EB 45th to NB W Bdwy would be prohibited)



Attachment 12: 45th Avenue crossing (Robbinsdale)