



Addendum No. 1
December 6, 2022

Shared Use Path on SR270 to Stadium Way
Pullman, WA

Project No.9705-2018
Washington State University
Facilities Services, Capital

**Addendum No. 1
December 6, 2022**

**Shared Use Path on SR270 to Stadium Way
Washington State University
Pullman, WA**

New Bid Date: December 21, 2022

1. This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated November 5, 2022.
2. Please acknowledge receipt of this addendum on the Form of Proposal.

This Addendum consists of Forty total pages including the following Attachments:

Pre-Bid Meeting 11/30/2022: Meeting Minutes
Pre-Bid Meeting 11/30/2022: List of Attendees
Geotechnical Summary Report; GeoProfessional Innovation
C-001: Erosion & Sediment Control Plan
C-002: Demo Plan
C-003: Demo Plan
C-004: Demo Plan
Exhibit Add1 - Existing Storm Drain Information
Section 32 31 13 - Chain Link Fences and Gates
Plan: City of Pullman Wire Notes (Comment f. of Pre-Bid Meeting Minutes)
Plan: WSDOT L20.10-03 e (Comment g. of Pre-Bid Meeting Minutes)

Changes to prior Addenda:
N/A

Changes to Bidding Requirements:

1-1. SECTION 00 11 13 – Advertisement for Bids

- Item 1. Replace “Bids will be received prior to 2:00 p.m. Tuesday, December 13, 2022; either by email to contracts@wsu.edu or in hard copy at McCluskey Services Building, 2425 East Grimes Way, Pullman, WA, 99164. Proposals will then be publicly opened and read aloud at 2:30 p.m. via Zoom <https://wsu.zoom.us/j/91059041036?pwd=MHh4b3RnWWlrcmhrL3ZDTi9tM3BxZz09&from=addon>; or Phone 253-215-8782 and entering Meeting ID 910 5904 1036. Attendance in person is not allowed.”

Make read

“Bids will be received prior to 2:00 p.m. Wednesday, December 21, 2022; either by email to contracts@wsu.edu or in hard copy at McCluskey Services Building, 2425 East Grimes Way, Pullman, WA, 99164. Proposals will then be publicly opened and read aloud at 2:30 p.m. via Zoom

<https://wsu.zoom.us/j/91059041036?pwd=MHh4b3RnWWlrcmhrL3ZDTi9tM3BxZz09&from=addon> ; or Phone 253-215-8782 and entering Meeting ID 910 5904 1036. Attendance in person is not allowed.”

Changes to Specifications:

SP 1-1. SECTION 00 72 00 – General Conditions

Item 1. Insert: Attachment B Geotechnical Summary Report.

SP 1-2 SECTION 32 31 13 - Chain Link Fences and Gates

Item 1. Replace Section in its entirety.

Questions and Clarifications:

QCS 1-1 *Note: since the Bid Date has been moved to December 21, 2022 the timeline for Questions, Clarifications and Substitutions is accordingly adjusted.*

*Item 1. Question: What is the diameter and length of the concrete pole base for the pedestrian light fixtures?
Answer: Concrete pole base will be 6'-0" high and 24" diameter.
The bury depth will be 5'-0" with a 12" reveal above grade.*

*Item 2. Question: Will the contractor intercept an existing empty electrical conduit in the sidewalk for the route to the control panel?
Answer: See note 04 on drawing E-101.*

*Item 3. Question: What is the depth of the storm drain lines below the new Path in the area of the WSU Gateway?
Answer: See attached exhibit “ADD1 EXISTING STORM DRAIN INFORMATION” for the best known Invert Elevations for the existing storm drain lines in the vicinity of the WSU Gateway. Note that Contractor is responsible to verify all information regarding existing infrastructure.*

Changes to Drawings:

DWG 1-1. Drawing C-001 – Erosion & Sediment Control Plan

Item 1. Remove and replace entire drawing.

DWG 1-2. Drawing C-002 – DEMO PLAN (STA. 1+00 TO 4+40)

Item 1. Remove and replace entire drawing.

DWG 1-3. Drawing C-003 – Demo Plan (STA. 4+40 TO 14+20)

Item 1. Remove and replace entire drawing.

DWG 1-4. Drawing C-004 – Demo Plan (STA. 14+20 TO END)

Item 1. Remove and replace entire drawing.

END OF ADDENDUM No. 1

PRE-BID MEETING

WSU Project: Shared Use Path on SR270 to Stadium Way

Facility: Campus sidewalks

Meeting Date: Nov. 30, 2022 @ 9:30am

Project No: 9705-2018

Physical Address: Between Bishop Blvd &
Stadium Way

Recorded by: TBA

Location: McClusky 173 and Online

1. Introductions:

- a. WSU Project Manager: [Cynthia Arbour \(carbours@wsu.edu, 509-335-7010\)](mailto:carbours@wsu.edu)
- b. WSU Construction Manager: [Jason Harper \(jaharper@wsu.edu\)](mailto:jaharper@wsu.edu)
- c. WSU Occupant/Customer: WSU, City of Pullman, WSDOT
- d. Design Team: [Angela Taylor, Keller Associates \(Electrical, Civil Engineer\)](mailto:ataylor@kellerassociates.com)
ataylor@kellerassociates.com, [Bernardo-Wills \(Landscape Architect\)](#)
- e. Attendance at the pre-bid meeting is mandatory.
- f. The Owner's meeting minutes will be routed to project plan holders as part of the first addendum.
- g. Send all questions regarding this project to the WSU Project Manager, with copy to the Engineer:
 - i. All questions must be received no later than [Dec. 6th by 5:00 PM.](#)
 - ii. All requests for substitutions must be received by [Dec. 6th by 5:00 PM.](#)
- h. Addenda will be forwarded to all plan holders. Addenda will be issued no later than [Dec 8th](#).
- i. This is an active campus. There are students, faculty and visitors who either will not be aware of construction or will be distracted. Contractors must routinely work around the pedestrian population on campus as well as control noise and other construction related activities to minimize the effect on the campus. WSU is committed to a completely accessible campus. This means that when construction activities interfere with accessible pathways, that the General Contractor is responsible for putting in place temporary facilities (ramps, pathways, etc.,) to assure that all pathways are available. WSU is a tobacco-free campus.

2. Project Description:

Scope of work: [Install a concrete paved path that alternates between 10ft and 12ft wide with 2ft gravel shoulders approximately 1,600 LF from the intersection of SR270 and Bishop Blvd westward to Stadium Way. Install new landscaping and irrigation along path, and pedestrian lights along 400 LF of path. Construction start anticipated to be May 2023. Contract time shall be 90 days from Notice to Proceed to Substantial Completion. Proposals MUST be based on this contract time.](#)

- a. Alternates: [Install 3" asphalt pavement in lieu of concrete pavement..](#)
- b. Unit Prices: [None](#)
- c. Allowances: [None](#)
- d. Owner-Furnished materials: [None](#)
- e. Expected work by Owner: [None](#)

PRE-BID MEETING

- f. Location: [SR270 from Bishop Boulevard to Stadium Way](#).
 - g. Access & Haul Routes: Vehicular traffic must be maintained along SR270, Stadium Way and Bishop Blvd for the duration of the project. Individual lanes may be shut down if necessary to complete the work as long as appropriate traffic control and access is maintained. A traffic control plan will need to be prepared and approved prior to the start of work.
 - h. Occupied Area: Alternative paths for pedestrians and bicyclists must be provided for the duration of the project.
 - i. Existing Hazards: None known to be present on site.
 - j. Schedule Constraints: No onsite work will begin prior to WSU Commencement on May 6, 2023.
 - k. Parking. Contractor parking will be coordinated with WSU and the City of Pullman in advance of the start of work.
3. Estimated Base Bid, not including taxes, is approximately: [\\$550,000 - \\$600,000](#)
4. Expected Notice to Proceed date: [May 8, 2023](#).
5. Estimated project duration after Notice to Proceed: [Substantial Completion must be completed within 90 days from Notice to Proceed](#).
6. Bidders should review the complete version of the bid instructions in the Contract Documents and in any forthcoming addenda. Especially note the following:
 - a. Bids shall be made upon the form of proposal in the Contract Documents.
 - b. All information requested on the bid form shall be filled out completely and entirely to include:
 - i. Base Bid amount – [Part A Required](#)
 - ii. Alternate amount(s) as required – [Alternate 1 required](#).
 - iii. Unit Price amount(s) as required – [None](#)
 - iv. Acknowledgement of each addendum received – [Required](#)
 - c. The bid shall include a bid security bond.
 - d. Bid proposal format can be found in Section 00 42 13 Form of the Proposal. Bids can be emailed to Contracts@wsu.edu or a hardcopy may be delivered to McCluskey Services Building, 2425 East Grimes Way, Pullman WA 99164.
 - e. The bidder is responsible for getting the bid prior to the bid date and time in the Contract Documents. **Part A of the bid form must be received prior to 2:00 pm on December 13, 2022.**
 - f. Bids shall be opened and read aloud **via Zoom at 2:30pm on December 13, 2022**. Attendance in person is not allowed.
 - g. Bidder Responsibility Mandatory Criteria: It is the intent of the Owner to award a contract to the low responsible bidder. Prior to awarding a contract, the apparent responsive low bidder must submit documentation demonstrating compliance as per

PRE-BID MEETING

Section 00 21 13, Part 1.17 – Low Responsible Bidder. Be prepared to submit the required documentation within 48 hours of receipt of request.

7. Summary of Construction Administration Requirements:
 - a. For complete project administrative requirements refer to Division 1 and the Agreement between Owner and Contractor and addenda.
 - b. Prior to starting work; the contractor will be required to submit a schedule of values and a construction progress schedule for review and approval.
 - c. Regular progress meetings will be conducted during the course of the project.
Meetings are anticipated to occur bi-weekly.
 - d. Material information and/or shop drawings shall be submitted to the Owner for approval. The construction progress schedule shall include time for the submittal review and distribution process.
 - e. O&M Manuals and Record drawings shall be submitted prior to Substantial Completion and the final application for payment and shall be identified as activities on the construction progress schedule.
8. A job-site visit may be scheduled during the course of the meeting.
9. Discussion/Remarks/Concerns:
 - a. Question: Who will be responsible for construction staking? WSU or Contractor?
Answer: Contractor. See Section 01 71 23 Field Engineering.
 - b. Question: Who provides third party testing?
Answer: WSU. See Section 01 45 23 Testing Laboratory Services.
 - c. Question: How much rock removal will be required in the project?
Answer: Rock removal is incidental to the project. WSU recommends that the contractor visit the project site and the drawings to review the rock removal that will be required near the Stephenson Complex driveway entrance, and the geotechnical report that will be included in the first addendum.
 - d. Question: Concrete costs have been changing more rapidly than has been typical in the past. What if the concrete costs are significantly higher when the work begins in May 2023?
Answer: Bidders shall price the work using the best known information.
 - e. Question: Is the relocation of the Avista gas line part of Contractor responsibility?
Answer: WSU will work with Avista to move the gas line.

PRE-BID MEETING

- f. Comment: Contractor shall maintain signal wires and pull-boxes along SR270. Pull-boxes will be adjusted to grade as needed. See attached drawing provided by City of Pullman
- g. Comment: New fencing shown on project drawings shall be per WSDOT Standard Plan L-20.10-03e. See attached WSDOT drawing and revised specifications.

End of Meeting

PRE-BID MEETING

ATTENDANCE RECORD

Project Title:	Shared Use Path on SR270 to Stadium Way		No:	9705-2018
Meeting Location:	McCluskey 173, Zoom		Date:	Nov. 30, 2022
Name and Company	Address	Phone and Fax	Email	
Cynthia Arbour WSU - FS Capital	PO Box 641150 Pullman, WA 99164-1150	P: 509-335-7010	carbours@wsu.edu	
GARY DAVIS MOTLEY MOTLEY KENNY AILOR	6901 SR 270 Pullman WA 99163		KENNY @ MOTLEY MOTLEY .com	
Joe French Quality Contractors Deary Id	P.O. Box 164 208 596 1892		joe@quality- contractors.com	
Angela Taylor Keller Associates	733 5th St. Ste A Pullman, WA 99163	208-669- 0232	ataylor@ kellerassociates.com	
John Forney Germer Const.			jforney@germerconstruction.com	
Clayton Forsmann Pullman			clayton.forsmann@pullman-wa.gov	
John Shaheen			Shaheen@wsu.edu	

Jason Harper



November 12, 2021
File: PU21153A

Ms. Angela Taylor, P.E.
Keller Associates, Inc.
733 5th Street, Suite A
Clarkston, Washington 99403
ataylor@kellerassociates.com

RE: **Geotechnical Summary**
SR-270 Shared-Use Path
Pullman, Washington

Hello, Angela.

GeoProfessional Innovation Corporation (GPI) is grateful to assist with your evaluation of the proposed shared-use path expected to replace the current sidewalk along the north side of SR-270 between Bishop Boulevard and Stadium Way in Pullman, Washington. This document summarizes our site observations and geotechnical opinions for your consideration in progressing project design documents. For reference, we include preliminary drawings prepared by Keller Associates, Inc. (Keller) illustrating the planned pathway improvements. Also, we include photographs to illustrate the existing site and rock cut conditions along the planned alignment in Appendix A.

PROJECT UNDERSTANDING

Washington State University (WSU) plans to replace approximately 1,200-feet of the existing 6-foot-wide sidewalk (see Photograph 1 in Appendix A) with a 12-foot-wide shared-use path. The new path will initiate at the intersection of SR-270 and Bishop Boulevard, and traverse westward towards the WSU campus. The new path will then diverge from the current sidewalk alignment along SR-270 and traverse approximately 300-feet through the recently improved landscape area immediately southwest of the Stephenson Residential Hall Complex on the WSU campus. The new path will connect with the existing sidewalk along the east side of Stadium Way.

Much of the current sidewalk alignment parallels an exposed basalt rock cut face (see Photograph 1 in Appendix A), constructed as a part of the initial SR-270 alignment construction. The new pathway construction is not expected to impact or alter the existing rock cut face, but the new pathway extents may be slightly closer to the rock face by 1- to 2-feet along portions of the alignment. This is due to the widening primarily being extended into the existing SR-270 alignment, south of the existing sidewalk. This widening will replace the existing asphalt paved bicycle path south of the existing sidewalk.

GEOTECHNICAL OBSERVATIONS

The purpose of GPI's evaluation was to observe the current conditions of the rock cut face throughout the proposed improvement alignment and provide opinions to reduce the risk of potential falling rock particles being deposited on the pathway surface and impacting pedestrian traffic. GPI's geotechnical engineers traversed the planned pathway alignment on November 1, 2021 to observe and document surface conditions along the existing rock cut face and adjacent ground surface.

The existing rock cut face appears to maintain an approximate 0.3H:1V (horizontal to vertical) inclination, with an approximately 3H:1V soil slope atop the rock cut, referencing Keller's plan sheets C-101 through C-103 (see photograph 2). The exposed rock conditions at the existing cut face appear to exhibit a wide array of weathering and fracturing conditions. Portions of the exposed basalt rock face exhibit heavy fracturing, while other areas exhibit isolated massive zones (see Photographs 3 and 4).

From GPI's visual observations along the planned alignment, the existing rock cut has maintained its overall stability with respect to deep-seated failures and large mass wasting events for many years. However, from the numerous rock fragments present in the ditch adjacent the existing sidewalk, and larger piles of rock debris adjacent the rock cut face, it is evident that periodic shallow surface failures occur as loose rock fragments and small rock masses spall from the cut face (see Photographs 5 and 6). These are likely instigated by freeze thaw conditions and exacerbated by seasonal seeps emanating from the rock cut surface (see Photograph 7). GPI notes that water action from seasonal seeps has also resulted in soil migration in isolated areas along the rockface alignment (see Photograph 8).

Areas exhibiting more fractures and weathering will be subject to increased rockfall potential. However, our visual observations did not identify consistent jointing or fracture patterns indicative large block or sliding wedge-type failures. Our opinion is the primary failure mechanism along the existing rock cut face are rock fall and surface erosion.

GEOTECHNICAL CONSIDERATIONS

The existing rock slope face has performed reasonably well and we expect that it will continue to perform in a similar manner, provided the planned pathway improvements do not alter the existing site grades, drainage patterns, or cut face conditions. Provided no excavation or slope disturbing activities impact the existing rock cut, we do not expect increased slope instability risks.

We expect that periodic spalling will continue to deposit rock fragments adjacent to and onto the new pathway. The existing ditch north of the sidewalk between station 9+00 to approximately 12+90 acts as a catchment area, precluding the majority of rockfall from accessing the existing sidewalk (see Photograph 9). However, between station 4+50 to 9+00 (see Photograph 10), and from approximately station 12+90 to 15+00 (see Photograph 11), no ditch exists adjacent the existing sidewalk, and rockfall regularly accesses the sidewalk surface after spalling from the cut face.

Due to existing alignment configurations, we do not anticipate new path construction will facilitate excavating a ditch along the pathway between 4+50 to 9+00 as a rockfall catchment or to provide drainage. Therefore, if the risk associated with periodic rockfall accessing the new pathway is not acceptable, a barrier must be installed to prevent rockfall. This can be accomplished via a range of methods. Some of these methods are briefly described below. GPI has not obtained cost estimates, or performed design analyses for any of these methods. However, qualitatively, our opinion is these methods are listed in order of increasing cost and effectiveness in terms of rockfall protection along the planned pathway alignment.

- **Do nothing.**
Provided the current risk of rock fragments entering the pathway is acceptable to WSU and other project stakeholders, doing nothing to reduce rockfall potential is the lowest cost alternative. If no action is taken to reduce rockfall risks, rock fragments will continue to periodically access the new pathway surface, in similar fashion to that which occurs currently.
- **Install a fence along the pathway edge.**
Installing a steel fence (chain-link, or similar type) along the pathway edge as a barrier can reduce the risk of rock fragments entering the pathway surface, and reduce maintenance required to remove rocks from the pathway surface. This method carries relatively low cost and requires some design effort. We anticipate a fence can provide reasonable rockfall protection along the planned pathway alignment, without requiring significant changes to the pathway alignment. Although, this method may not meet WSU's aesthetic requirements.
- **Construct a wall at the pathway edge.**
Constructing a cast-in-place concrete, or segmental block wall along the pathway edge as a barrier can reduce the risk of rock fragments entering the pathway surface, and reduce maintenance required to remove rocks from the pathway surface. This method carries moderate cost and requires some design effort. Primarily, this method may require realignment of the planned pathway, due to space constraints between the existing rock cut face and planned pathway alignment.
- **Install rockfall netting on the exposed rock cut face.**
Installing rockfall netting atop the exposed rock cut face comprising steel mesh can preclude rock fragments from access the pathway, and reduce maintenance required to remove rocks from the pathway surface. This method carries moderate cost and requires significant design effort, but may not provide aesthetic improvements desired by WSU.
- **Construct a sculptured shotcrete facing on the exposed rock cut face.**
Applying a sculptured shotcrete facing to the exposed rock cut face can bind loose rock particles to the surrounding cut surface, reducing or precluding rockfall potential. This can also improve aesthetics along the pathway and primary entrance to WSU campus off of SR-270. This method will also reduce maintenance required to remove rock fragments from the ditchline and pathway surface. This method carries significant cost and requires substantial design effort.

Regardless of the method selected, any rock fall protection measures must be designed for the anticipated size and velocity of falling particles along this alignment. GPI can aid with establishing requirements for such rockfall barriers if desired.

EVALUATION LIMITATIONS

Our evaluation is based on visual observations only and qualitative assessment of the existing rock face conditions. Our scope of services did not include subsurface exploration or detailed geotechnical analysis of rock slope stability. Rather, GPI's opinions are based on our surface observations, our understanding of the planned construction, and our experience with basalt rock cut slope performance in the area. Additionally, our services do not include civil or structural design, retaining wall design, global slope stability evaluation, site drainage, dewatering design, shoring design, concrete slab section design, environmental site assessment, hazardous substance evaluation, cost estimating, project scheduling or any other services not explicitly discussed in our scope of services, dated June 24, 2021.

There are inherent risks whenever soil, geologic, or hydrogeologic conditions are involved with construction. Our observations and recommendations are based on exposed surface conditions along the planned pathway alignment. However, conditions may change below the ground surface, or where conditions are concealed by vegetation, debris, or existing improvements. Therefore, extrapolating surface observations to subsurface conditions has obvious risks which must be considered by the project team. This acknowledgement is in lieu of all express or implied warranties.

Thank you for the opportunity to assist you with this project. If you have any questions regarding our services, please contact us at 509-339-2000.

Sincerely,
GPI



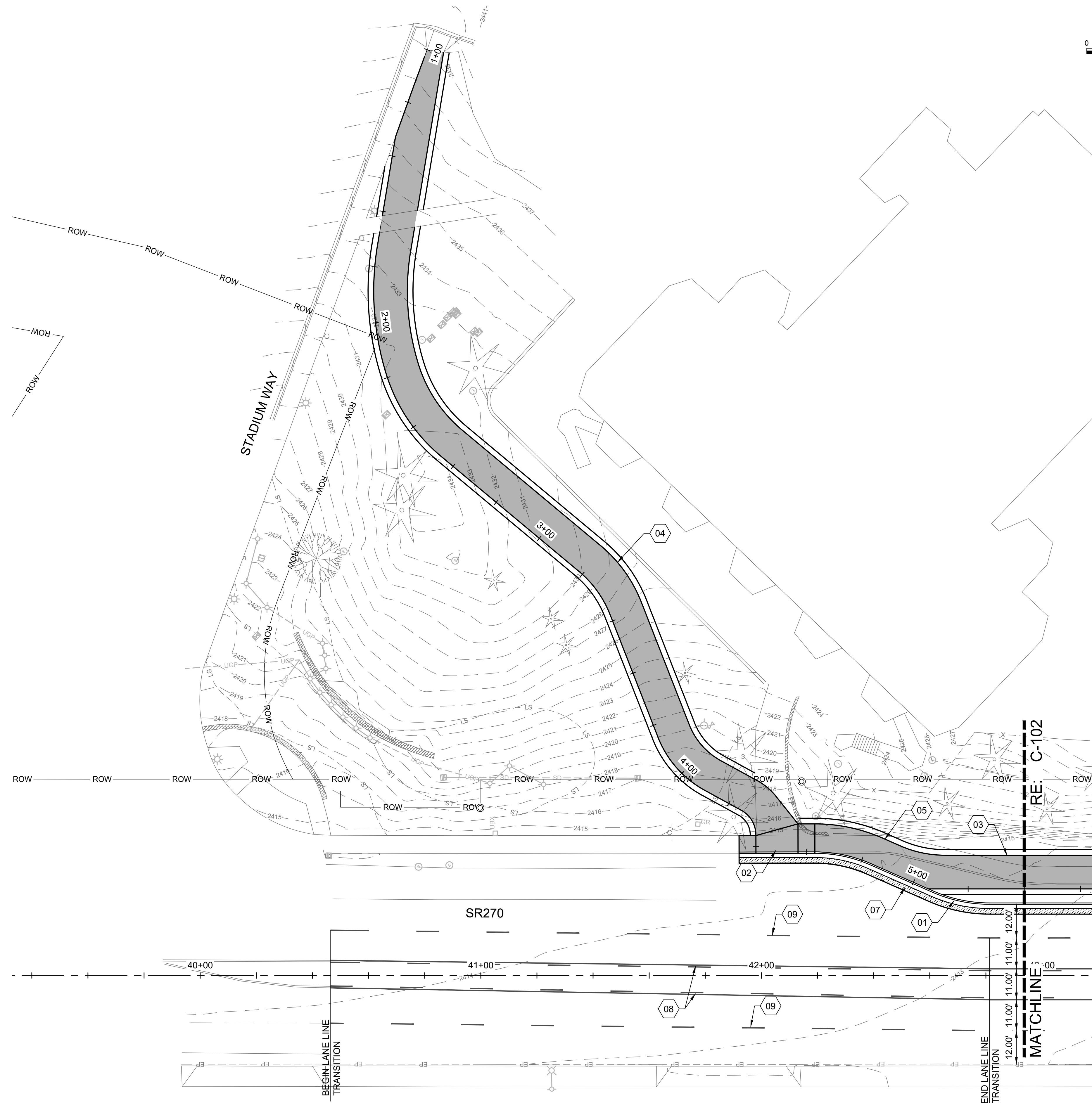
Amanda Carlson, E.I.
Staff Engineer



Andy Abrams, P.E.
Senior Engineer

AJA/sb

Attachments: Sheets C-101 through C-103 by Keller Associates, Inc.
Appendix A – Photographs



GENERAL NOTES

- A. RETAIN & PROTECT EXISTING UTILITIES, PRIOR TO CONSTRUCTION CONTRACTOR TO POT-HOLE, IN A NON-DESTRUCTIVE MANNER, EXISTING UTILITIES TO VERIFY LOCATION & DEPTH.
- B. RETAIN & PROTECT EXISTING LANDSCAPING, TREES & ROOT SYSTEMS.
- C. FURNISH MATERIALS WHERE INSTALL, PLACE, OR CONSTRUCT IS REQUIRED, UNLESS NOTED OTHERWISE.
- D. REFER TO WSDOT STANDARD PLANS FOR MARKING STANDARDS.

KEYED NOTES

- | | |
|----|---|
| 01 | CONSTRUCT CURB & GUTTER; RE: CITY OF PULLMAN STD DWG 5/C-502 |
| 02 | CONSTRUCT CONCRETE DRIVEWAY; RE: A1/C-501 |
| 03 | CONSTRUCT TYPICAL CONCRETE PATHWAY SECTION; RE: A2/C-501 |
| 04 | CONSTRUCT CONCRETE PATHWAY SECTION 1; RE: B1/C-501 |
| 05 | CONSTRUCT CONCRETE PATHWAY SECTION 2; RE: B3/C-501 |
| 07 | CONSTRUCT ASPHALT PATCH; RE: C1/501 |
| 08 | PLACE 4" YELLOW - NO PASS LINE & TWO-WAY LEFT-TURN CENTERLINE |
| 09 | PLACE 4" WHITE - CENTERLINE & LANE LINE (10' LINE WITH 30' GAP) |

DESIGN FIRM:



733 5th Street #A
Clarkston, WA 99403
(509) 295-6095

CONSULTANTS:

PROVISIONAL STAMP:



Facilities Services	PH 509-335-5571
2425 E. Grimes Way	FAX 509-335-9304
Pullman, Wa. 99164-1150	

SR270 MULTI-USE PATHWAY

IMPROVEMENTS

X

[illegible]

CAD DWG FILE: HZCNTRL PLAN.dwg

DESIGN BY: A. TAYLOR

DRAWN BY: I. CRANE	CHECKED BY: A. TAYLOR
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PROJECT No. 221162

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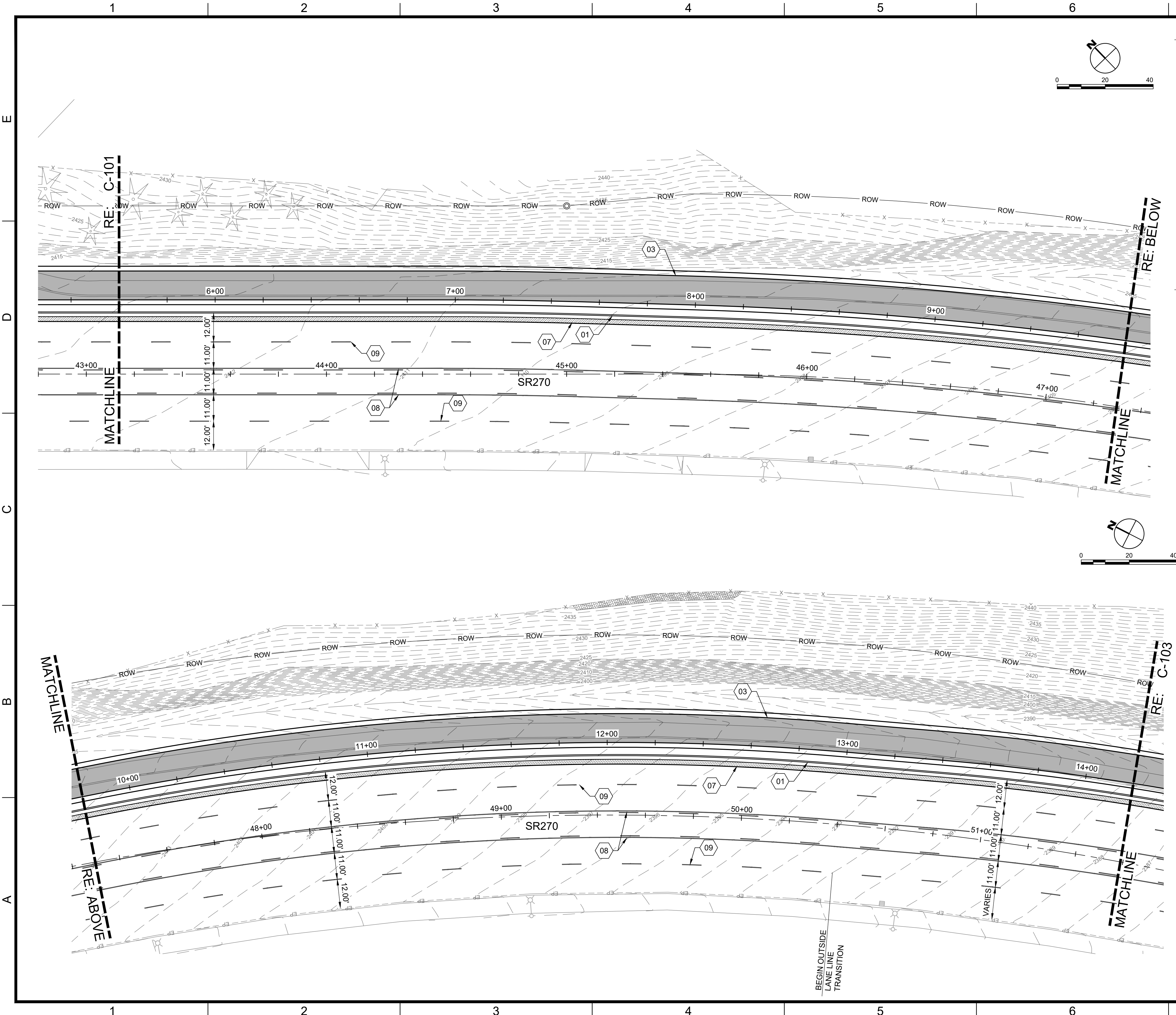
SHEET TITLE

HORIZONTAL
CONTROL PLAN
STA. 1+00 TO 4+40

C-101

SHEET	X	OF	XX	SHEETS
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FILE: J:\221162\WSU SR270 Pathway\c_DESN_CAD\3_DESIGN\PLANS\HZNTRL PLAN.dwg PLOT DATE: September 9, 2021, 10:44 AM ORIGINAL PAPER SIZE: 22" x 34"



GENERAL NOTES

- RETAIN & PROTECT EXISTING UTILITIES, PRIOR TO CONSTRUCTION CONTRACTOR TO POT-HOLE, IN A NON-DESTRUCTIVE MANNER, EXISTING UTILITIES TO VERIFY LOCATION & DEPTH.
- RETAIN & PROTECT EXISTING LANDSCAPING, TREES & ROOT SYSTEMS.
- FURNISH MATERIALS WHERE INSTALL, PLACE, OR CONSTRUCT IS REQUIRED, UNLESS NOTED OTHERWISE.

KEYED NOTES

- CONSTRUCT CURB & GUTTER; RE: CITY OF PULLMAN STD DWG 5/C-502
- CONSTRUCT TYPICAL CONCRETE PATHWAY SECTION; RE: A2/C-501
- CONSTRUCT ASPHALT PATCH; RE: C1/501
- PLACE 4" YELLOW - NO PASS LINE & TWO-WAY LEFT-TURN CENTERLINE
- PLACE 4" WHITE - CENTERLINE & LANE LINE (10' LINE WITH 30' GAP)

DESIGN FIRM:

KELLER ASSOCIATES
733 5th Street #A
Clarkston, WA 99403
(509) 295-6095

CONSULTANTS:

PROVISIONAL STAMP:



Facilities Services PH 509-335-5571
2425 E. Grimes Way FAX 509-335-9304
Pullman, Wa. 99164-1150

SR270 MULTI-USE PATHWAY

IMPROVEMENTS

X

MARK	DATE	DESCRIPTION
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CAD DWG FILE: HZNTRL PLAN.dwg

DESIGN BY: A. TAYLOR

DRAWN BY: I. CRANE

CHECKED BY: A. TAYLOR

PROJECT No. 221162

FILE No. X

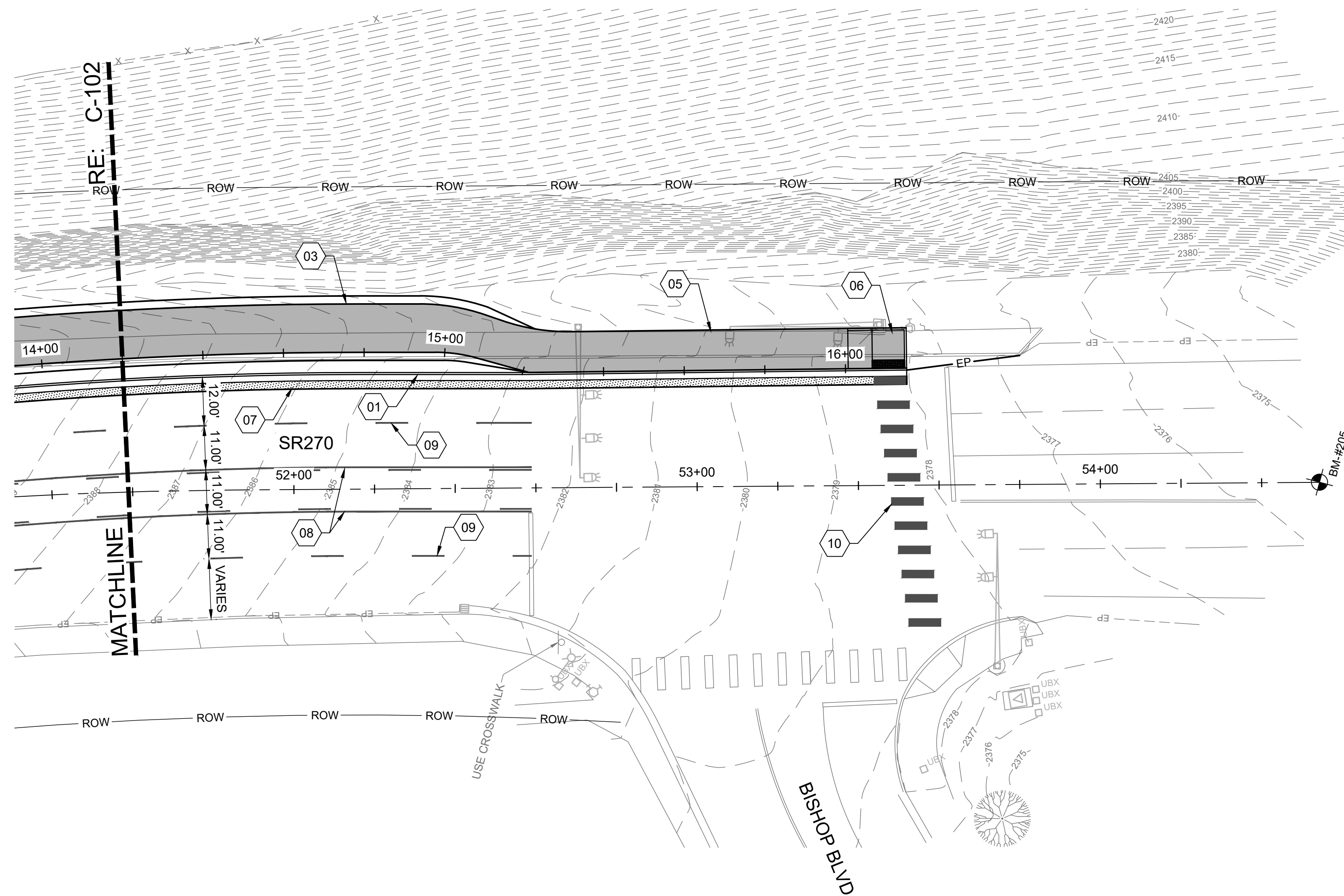
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SHEET TITLE

HORIZONTAL
CONTROL PLAN
STA. 4+40 TO 14+20

C-102

SHEET X OF XX SHEETS



GENERAL NOTES

- A. RETAIN & PROTECT EXISTING UTILITIES, PRIOR TO CONSTRUCTION CONTRACTOR TO POT-HOLE, IN A NON-DESTRUCTIVE MANNER, EXISTING UTILITIES TO VERIFY LOCATION & DEPTH.
- B. RETAIN & PROTECT EXISTING LANDSCAPING, TREES & ROOT SYSTEMS.
- C. FURNISH MATERIALS WHERE INSTALL, PLACE, OR CONSTRUCT IS REQUIRED, UNLESS NOTED OTHERWISE.

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| 01 | CONSTRUCT CURB & GUTTER; RE: CITY
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| 03 | CONSTRUCT TYPICAL CONCRETE
PATHWAY SECTION; RE: A2/C-501 |
| 05 | CONSTRUCT CONCRETE PATHWAY
SECTION 2; RE: B3/C-501 |
| 06 | CONSTRUCT PEDESTRIAN RAMP; RE:
XX/XX |
| 07 | CONSTRUCT ASPHALT PATCH; RE:
C1/501 |
| 08 | PLACE 4" YELLOW - NO PASS LINE &
TWO-WAY LEFT-TURN CENTERLINE |
| 09 | PLACE 4" WHITE - CENTERLINE & LANE
LINE (10' LINE WITH 30' GAP) |
| 10 | PLACE 24" x 8' SOLID WHITE LINE; RE:
WSDOT STD. PLAN M-15.10-01 |

DESIGN FIRM:

D. KELLER
ASSOCIATES

733 5th Street #A
Clarkston, WA 99403
(509) 295-6095

CONSULTANTS:

PROVISIONAL STAMP:

WASHINGTON STATE
UNIVERSITY

Facilities Services	PH 509-335-5571
2425 E. Grimes Way	FAX 509-335-9304
Pullman, Wa. 99164-1150	

SR270 MULTI-USE PATHWAY

IMPROVEMENTS

X

MARK	DATE	DESCRIPTION

CAD DWG FILE: HZCNTRL PLAN.dwg	
DESIGN BY: A. TAYLOR	
DRAWN BY: I. CRANE	CHECKED BY: A. TAYLOR
PROJECT No. 221162	FILE No. X
COPYRIGHT: WASHINGTON STATE UNIVERSITY	

SHEET TITLE

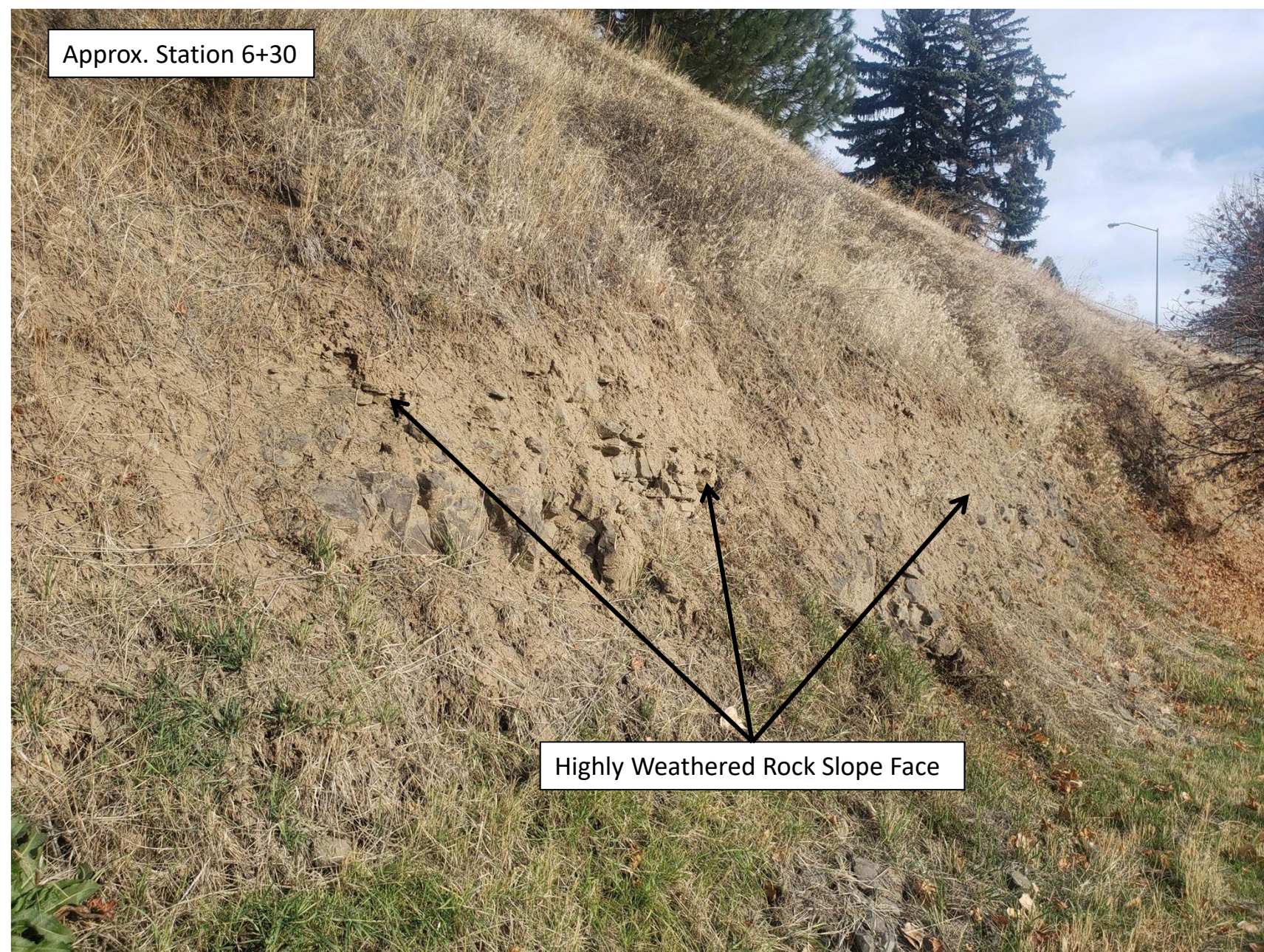
HORIZONTAL
CONTROL PLAN
STA. 14+20 TO END

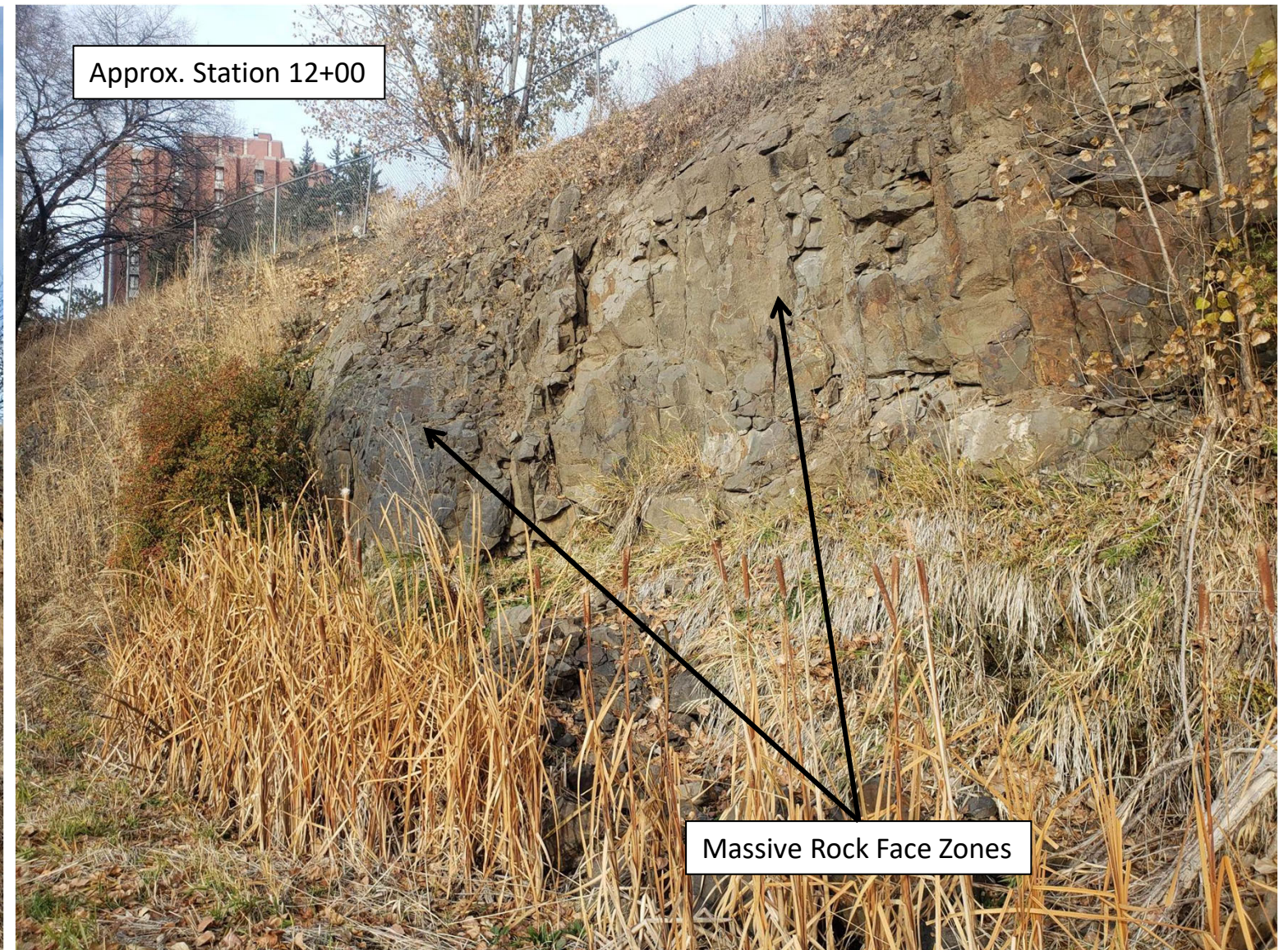
C-103

SHEET	X	OF	XX	SHEETS
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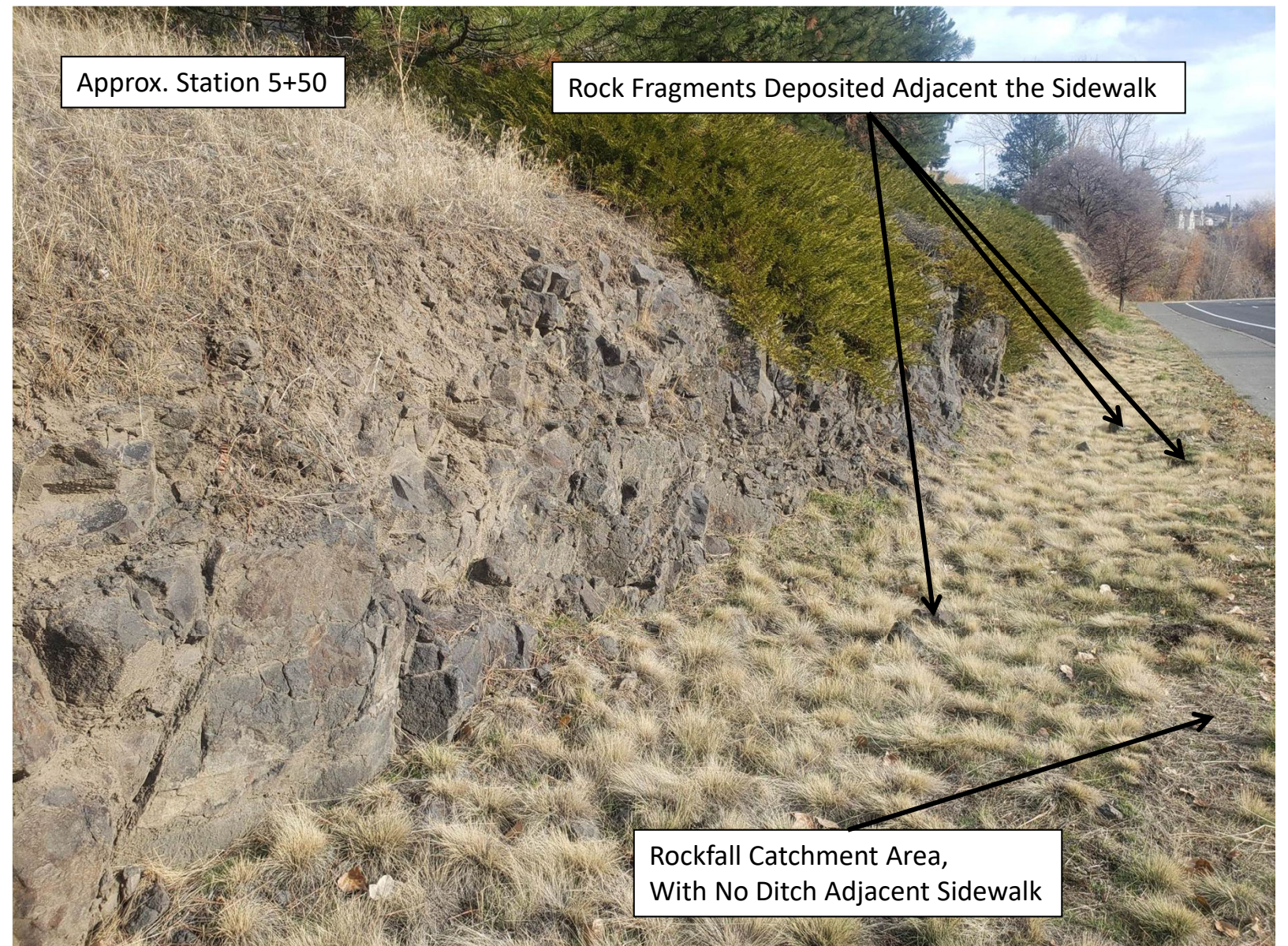


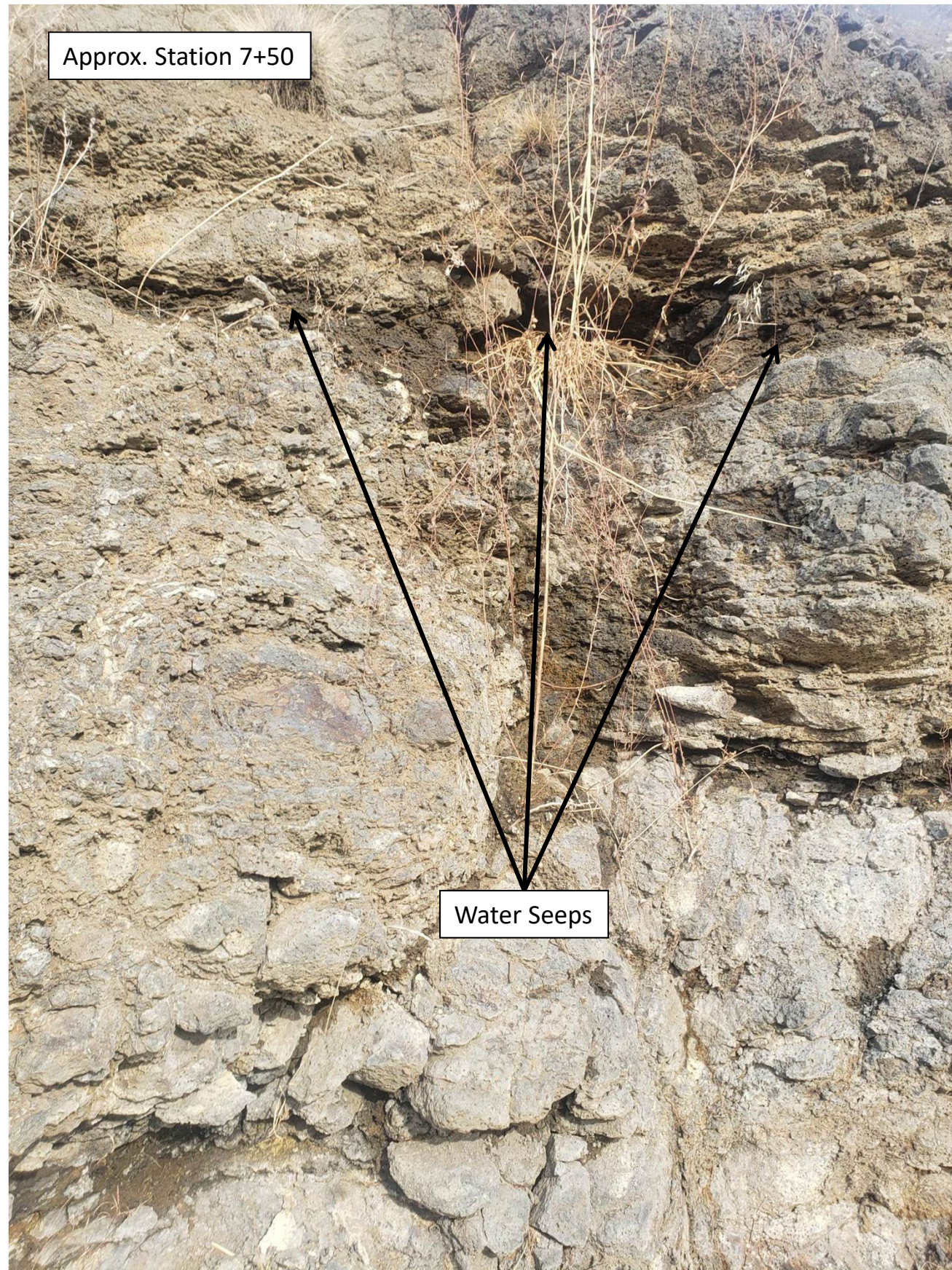














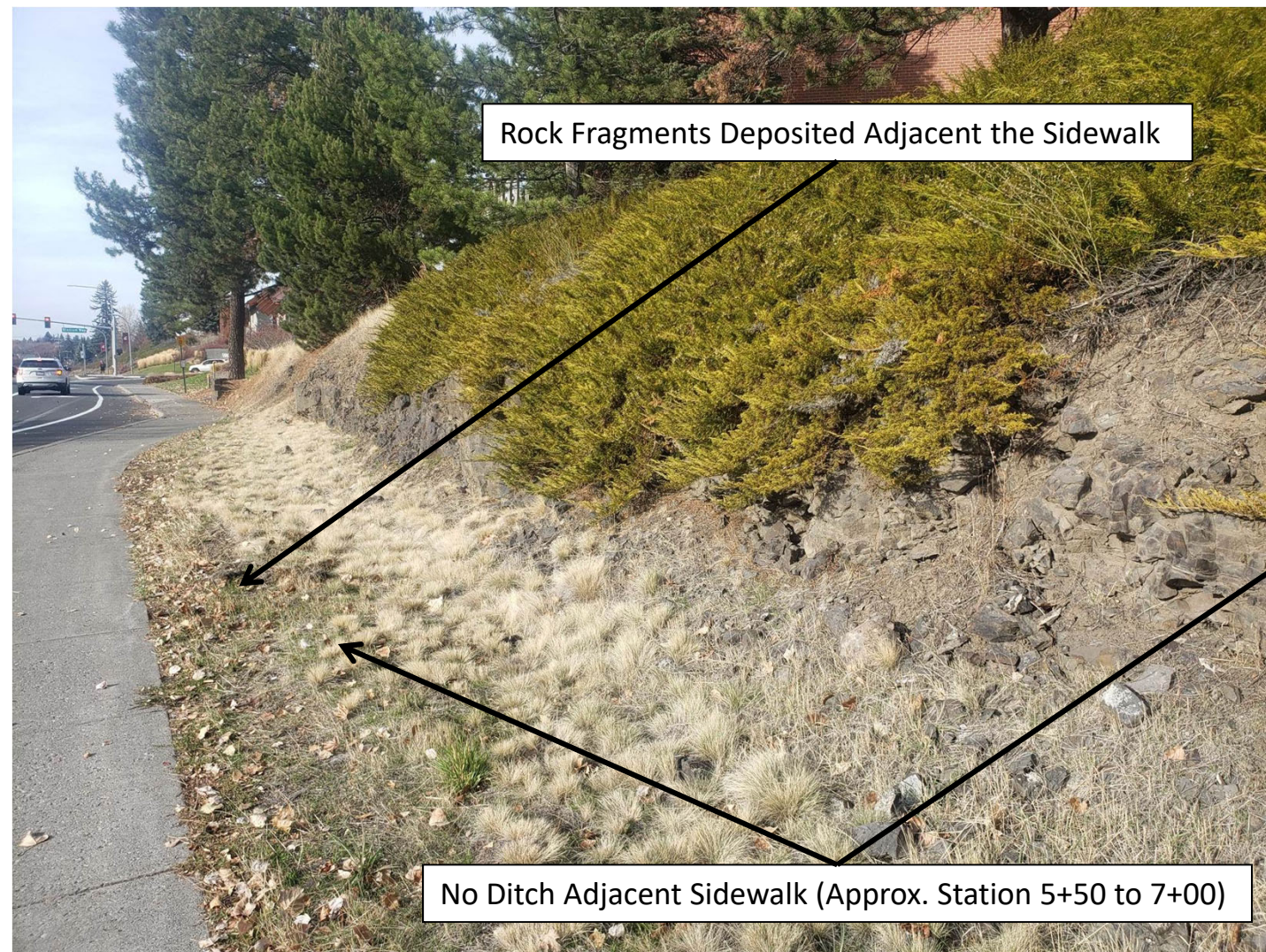


Approx. Station 10+50



Approx. Station 11+00

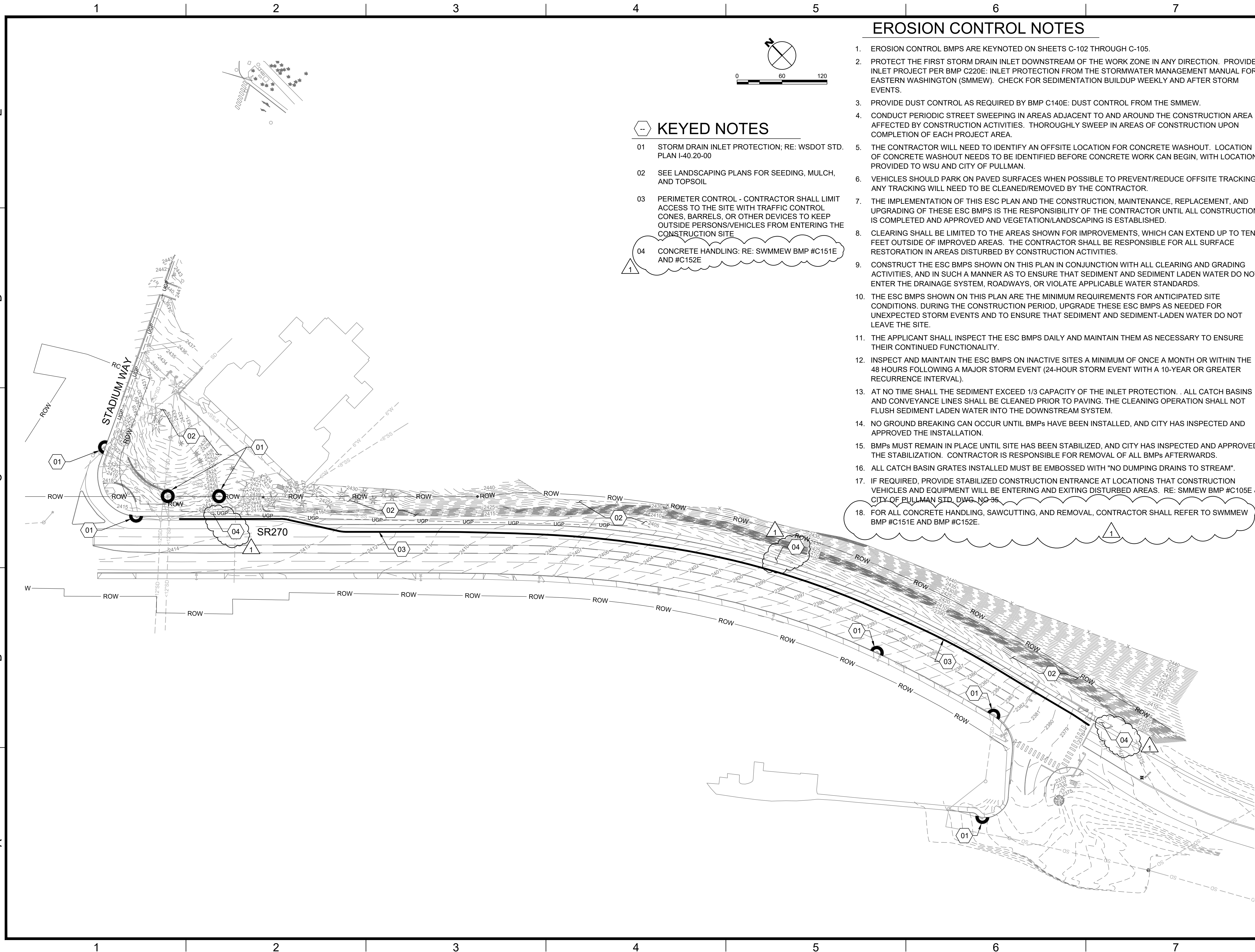
Ditch Space Capturing Rockfall Particles (Approx. Station 10+00 to 11+00)





Rock Fragments Deposited Adjacent the Sidewalk

No Ditch Adjacent Sidewalk (Approx. Station 15+00 to 16+00)



1. EROSION CONTROL BMPs ARE KEYNOTED ON SHEETS C-102 THROUGH C-105.
2. PROTECT THE FIRST STORM DRAIN INLET DOWNSTREAM OF THE WORK ZONE IN ANY DIRECTION. PROVIDE INLET PROJECT PER BMP C220E: INLET PROTECTION FROM THE STORMWATER MANAGEMENT MANUAL FOR EASTERN WASHINGTON (SMMEW). CHECK FOR SEDIMENTATION BUILDUP WEEKLY AND AFTER STORM EVENTS.
3. PROVIDE DUST CONTROL AS REQUIRED BY BMP C140E: DUST CONTROL FROM THE SMMEW.
4. CONDUCT PERIODIC STREET SWEEPING IN AREAS ADJACENT TO AND AROUND THE CONSTRUCTION AREA AFFECTED BY CONSTRUCTION ACTIVITIES. THOROUGHLY SWEEP IN AREAS OF CONSTRUCTION UPON COMPLETION OF EACH PROJECT AREA.
5. THE CONTRACTOR WILL NEED TO IDENTIFY AN OFFSITE LOCATION FOR CONCRETE WASHOUT. LOCATION OF CONCRETE WASHOUT NEEDS TO BE IDENTIFIED BEFORE CONCRETE WORK CAN BEGIN, WITH LOCATION PROVIDED TO WSU AND CITY OF PULLMAN.
6. VEHICLES SHOULD PARK ON PAVED SURFACES WHEN POSSIBLE TO PREVENT/REDUCE OFFSITE TRACKING. ANY TRACKING WILL NEED TO BE CLEANED/REMOVED BY THE CONTRACTOR.
7. THE IMPLEMENTATION OF THIS ESC PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC BMPs IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.
8. CLEARING SHALL BE LIMITED TO THE AREAS SHOWN FOR IMPROVEMENTS, WHICH CAN EXTEND UP TO TEN FEET OUTSIDE OF IMPROVED AREAS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SURFACE RESTORATION IN AREAS DISTURBED BY CONSTRUCTION ACTIVITIES.
9. CONSTRUCT THE ESC BMPs SHOWN ON THIS PLAN IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS.
10. THE ESC BMPs SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, UPGRADE THESE ESC BMPs AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DO NOT LEAVE THE SITE.
11. THE APPLICANT SHALL INSPECT THE ESC BMPs DAILY AND MAINTAIN THEM AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONALITY.
12. INSPECT AND MAINTAIN THE ESC BMPs ON INACTIVE SITES A MINIMUM OF ONCE A MONTH OR WITHIN THE 48 HOURS FOLLOWING A MAJOR STORM EVENT (24-HOUR STORM EVENT WITH A 10-YEAR OR GREATER RECURRENCE INTERVAL).
13. AT NO TIME SHALL THE SEDIMENT EXCEED 1/3 CAPACITY OF THE INLET PROTECTION. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.
14. NO GROUND BREAKING CAN OCCUR UNTIL BMPs HAVE BEEN INSTALLED, AND CITY HAS INSPECTED AND APPROVED THE INSTALLATION.
15. BMPs MUST REMAIN IN PLACE UNTIL SITE HAS BEEN STABILIZED, AND CITY HAS INSPECTED AND APPROVED THE STABILIZATION. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL BMPs AFTERWARDS.
16. ALL CATCH BASIN GRATES INSTALLED MUST BE EMBOSSED WITH "NO DUMPING DRAINS TO STREAM".
17. IF REQUIRED, PROVIDE STABILIZED CONSTRUCTION ENTRANCE AT LOCATIONS THAT CONSTRUCTION VEHICLES AND EQUIPMENT WILL BE ENTERING AND EXITING DISTURBED AREAS. RE: SMMEW BMP #C105E & CITY OF PULLMAN STD. DWG. NO. 35.
18. FOR ALL CONCRETE HANDLING, SAWCUTTING, AND REMOVAL, CONTRACTOR SHALL REFER TO SMMEW BMP #C151E AND BMP #C152E.

- 01 STORM DRAIN INLET PROTECTION; RE: WSDOT STD. PLAN I-40.20-00
- 02 SEE LANDSCAPING PLANS FOR SEEDING, MULCH, AND TOPSOIL
- 03 PERIMETER CONTROL - CONTRACTOR SHALL LIMIT ACCESS TO THE SITE WITH TRAFFIC CONTROL CONES, BARRELS, OR OTHER DEVICES TO KEEP OUTSIDE PERSONS/VEHICLES FROM ENTERING THE CONSTRUCTION SITE
- 04 CONCRETE HANDLING: RE: SWMMEW BMP #C151E AND #C152E



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11/30/2022

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Pullman, Wa. 99164-1150

SIDEWALKS

SHARED USE PATH ON SR270 TO STADIUM
WAY

708D

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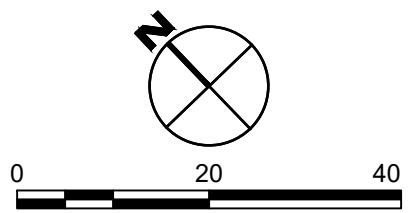
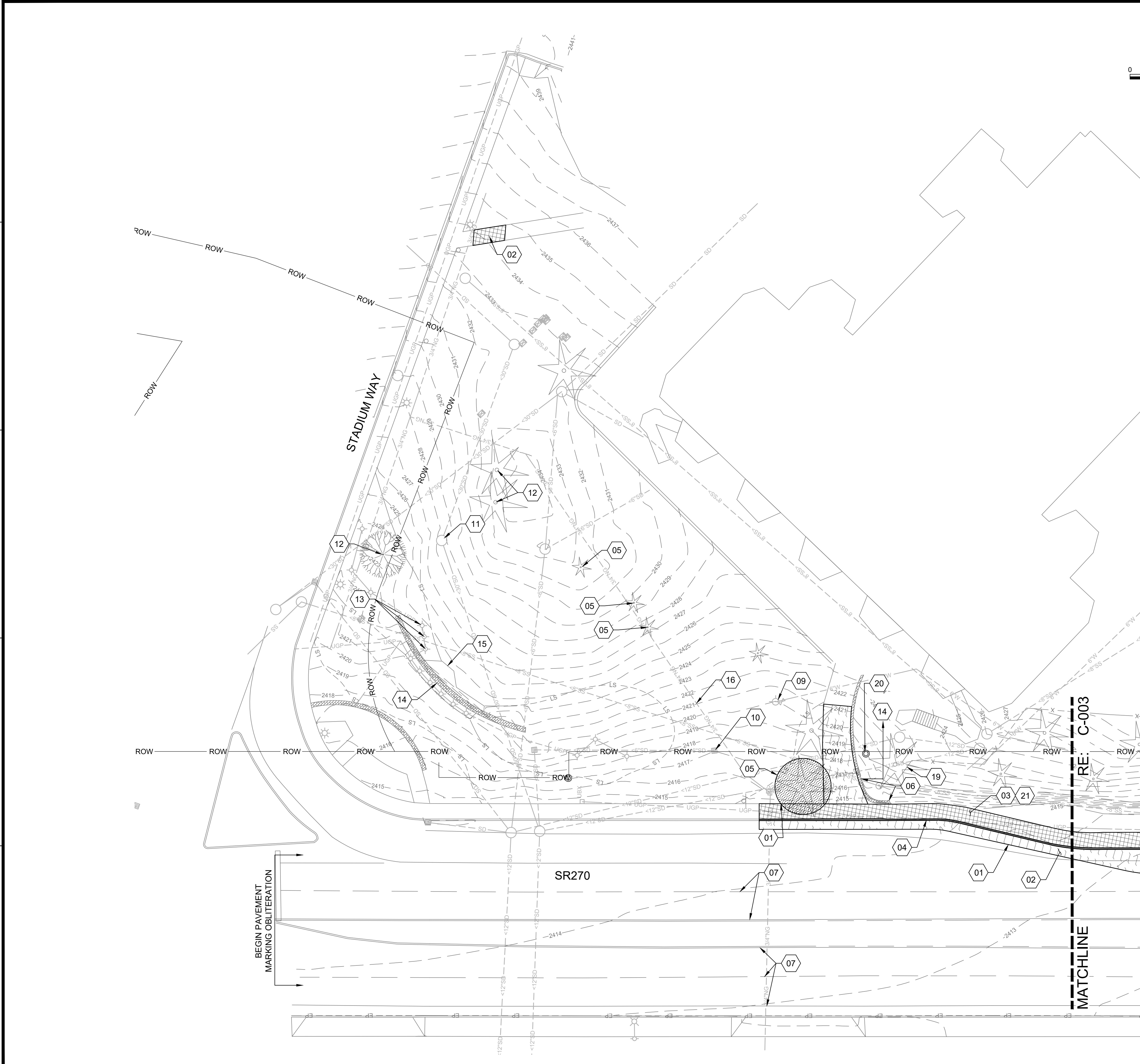
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DESIGN BY: A. TAYLOR	
DRAWN BY: I. CRANE	CHECKED BY: A. TAYLOR
PROJECT No. 9705-2018	FILE No. 708D-174
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EROSION & SEDIMENT CONTROL PLAN

C-001

SHEET 4 OF 28 SHEETS

FILE: J:\221162\WSU SR270 Pathway\c_DESN\CAD3_DESIGN\PLANS-1\DEMO PLAN.dwg PLOT DATE: September 9, 2021, 10:44 AM ORIGINAL PAPER SIZE: 22" x 34"



GENERAL NOTES

- A. ALL DEMOLITION AND CONSTRUCTION DEBRIS TO BE DISPOSED OF IN ACCORDANCE WITH SPECIFICATIONS.
- B. RETAIN & PROTECT ALL ABOVE GROUND AND BELOW GROUND UTILITIES. PRIOR TO CONSTRUCTION CONTRACTOR TO POT-HOLE, IN A NON-DESTRUCTIVE MANNER, EXISTING UTILITIES TO VERIFY LOCATION & DEPTH.
- C. RETAIN & PROTECT TREES & VEGETATION NOT SPECIFICALLY CALLED OUT FOR REMOVAL

KEYED NOTES

- 01 SAWCUT PAVEMENT, CONCRETE SIDEWALK, OR CURB & GUTTER - LEAVE A CLEAN VERTICAL LINE
- 02 DEMOLISH ASPHALT PAVEMENT
- 03 DEMOLISH CONCRETE SIDEWALK
- 04 DEMOLISH CONCRETE CURBING
- 05 REMOVE TREE AND STUMP OR VEGETATION
- 06 DEMOLISH RETAINING WALL
- 07 OBLITERATE PAVEMENT MARKINGS
- 09 RETAIN & PROTECT FIRE HYDRANT
- 10 ADJUST STORM DRAIN INLET TO GRADE
- 11 ADJUST STORM DRAIN MANHOLE TO GRADE
- 12 RETAIN & PROTECT TREE
- 13 RETAIN & PROTECT LIGHTS
- 14 RETAIN & PROTECT RETAINING WALL
- 15 RETAIN & PROTECT CONCRETE PAD
- 16 AVISTA LOWERING AND RELOCATING GAS LINE / MARKERS. CONTRACTOR SHALL COORDINATE WITH WSU / AVISTA FOR THIS WORK BY AVISTA
- 19 SHORTEN FENCE TO TOP OF NEW ROCK FACE EXTENTS
- 20 CONTRACTOR SHALL PROTECT SURVEY CONTROL (REBAR)
- 21 CONCRETE HANDLING PER SWMM EW BMP#151E AND #152E

LEGEND

- DEMOLISH CURBING
- DEMOLISH ASPHALT PAVEMENT
- DEMOLISH CONCRETE SIDEWALK
- REMOVE TREE AND STUMP OR VEGETATION

DESIGN FIRM:

KELLER ASSOCIATES

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PROVISIONAL STAMP:

ANGELA I. TAYLOR
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
11/30/2022

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Pullman, Wa. 99164-1150

SIDEWALKS

708D

MARK	DATE	DESCRIPTION
1	11/29/22	BMP ADDITIONS, ADDENDUM #1

CAD DWG FILE: DEMO PLAN.dwg

DESIGN BY: A. TAYLOR

DRAWN BY: I. CRANE CHECKED BY: A. TAYLOR

PROJECT No. 9705-2018 FILE No. 708D-174

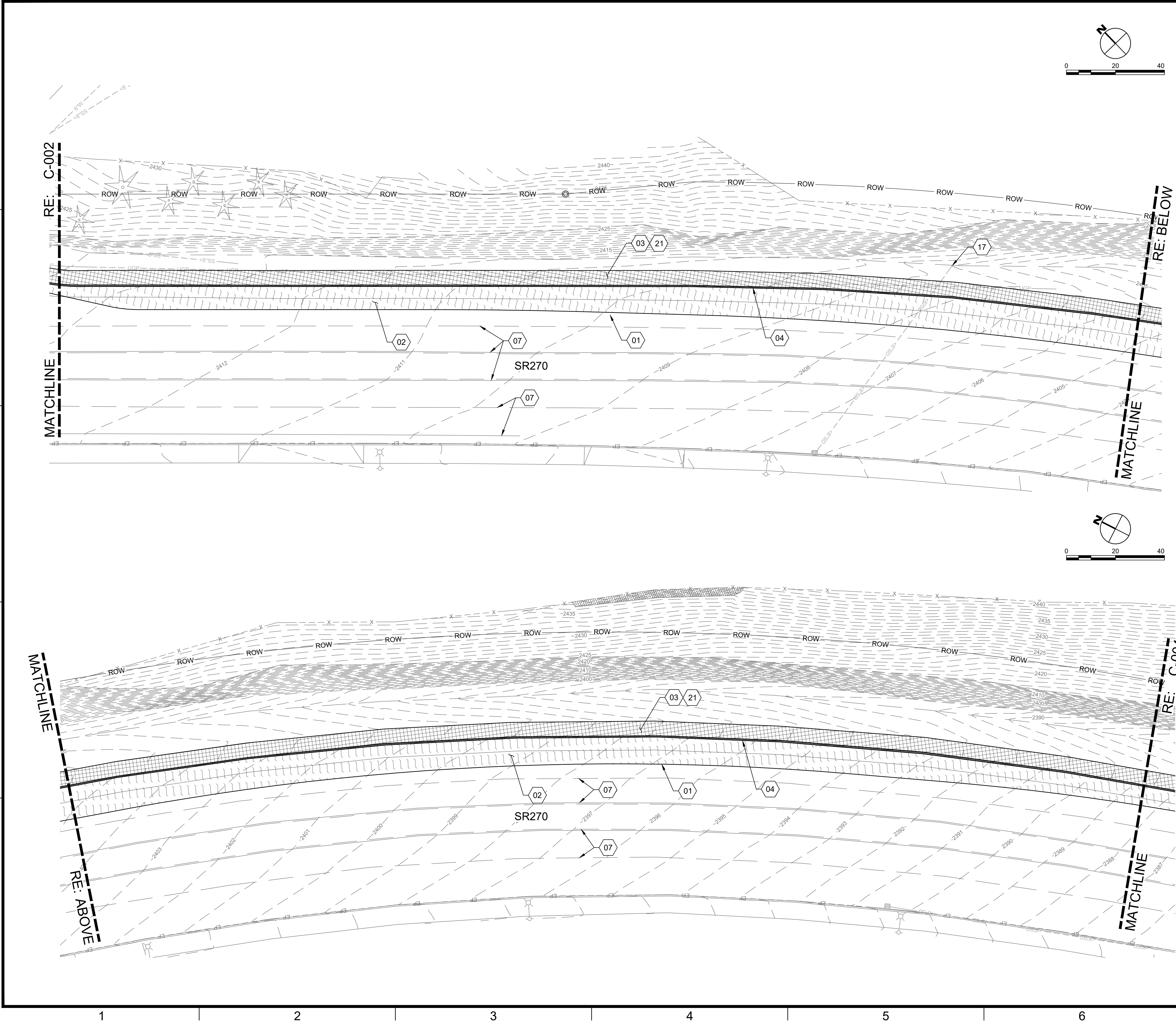
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SHEET TITLE

DEMO PLAN
STA. 1+00 TO 4+40

C-002

SHEET 5 OF 28 SHEETS



GENERAL NOTES

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- B. RETAIN & PROTECT ALL ABOVE GROUND AND BELOW GROUND UTILITIES. PRIOR TO CONSTRUCTION CONTRACTOR TO POT-HOLE, IN A NON-DESTRUCTIVE MANNER, EXISTING UTILITIES TO VERIFY LOCATION & DEPTH.
- C. RETAIN & PROTECT TREES & VEGETATION NOT SPECIFICALLY CALLED OUT FOR REMOVAL

KEYED NOTES

- 01 SAWCUT PAVEMENT, CONCRETE SIDEWALK, OR CURB & GUTTER - LEAVE A CLEAN VERTICAL LINE
- 02 DEMOLISH ASPHALT PAVEMENT
- 03 DEMOLISH CONCRETE SIDEWALK
- 04 DEMOLISH CONCRETE CURBING
- 07 OBLITERATE PAVEMENT MARKINGS
- 17 PROTECT EXISTING 8" STORM DRAIN OUTFALL TO DITCH
- 21 CONCRETE HANDLING PER SWMMEW BMP#151E AND #152E

LEGEND

- DEMOLISH CURBING
- DEMOLISH ASPHALT PAVEMENT
- DEMOLISH CONCRETE SIDEWALK
- REMOVE TREE AND STUMP OR VEGETATION

DESIGN FIRM:

KELLER ASSOCIATES

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SIDEWALKS

SHARED USE PATH ON SR270 TO STADIUM WAY

708D

MARK	DATE	DESCRIPTION
1	11/29/22	BMP ADDITIONS, ADDENDUM #1

CAD DWG FILE: DEMO PLAN.dwg

DESIGN BY: A. TAYLOR

DRAWN BY: I. CRANE CHECKED BY: A. TAYLOR

PROJECT No. 9705-2018 FILE No. 708D-174

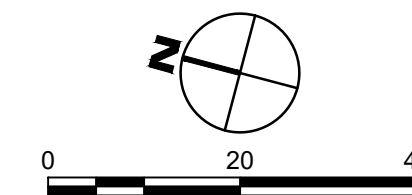
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SHEET TITLE

DEMO PLAN
STA. 4+00 TO 14+20

C-003

SHEET 6 OF 28 SHEETS



- A. ALL DEMOLITION AND CONSTRUCTION DEBRIS TO BE DISPOSED OF IN ACCORDANCE WITH SPECIFICATIONS.
- B. RETAIN & PROTECT ALL ABOVE GROUND AND BELOW GROUND UTILITIES. PRIOR TO CONSTRUCTION CONTRACTOR TO POT-HOLE, IN A NON-DESTRUCTIVE MANNER, EXISTING UTILITIES TO VERIFY LOCATION & DEPTH.
- C. RETAIN & PROTECT TREES & VEGETATION NOT SPECIFICALLY CALLED OUT FOR REMOVAL

01	SAWCUT PAVEMENT, CONCRETE SIDEWALK, OR CURB & GUTTER - LEAVE A CLEAN VERTICAL LINE
02	DEMOLISH ASPHALT PAVEMENT
03	DEMOLISH CONCRETE SIDEWALK
04	DEMOLISH CONCRETE CURBING
07	OBLITERATE PAVEMENT MARKINGS
08	RETAIN & PROTECT TRAFFIC AND PEDESTRIAN SIGNALS
18	REMOVE & RELOCATE TO BACK OF PATH "NO PED XING" SIGN ON BREAK AWAY POST
20	RETAIN & PROTECT STOP BAR
21	CONCRETE HANDLING PER SWMMW BMP #151E AND #152E

	DEMOLISH CURBING
	DEMOLISH ASPHALT PAVEMENT
	DEMOLISH CONCRETE SIDEWALK
	REMOVE TREE AND STUMP OR VEGETATION

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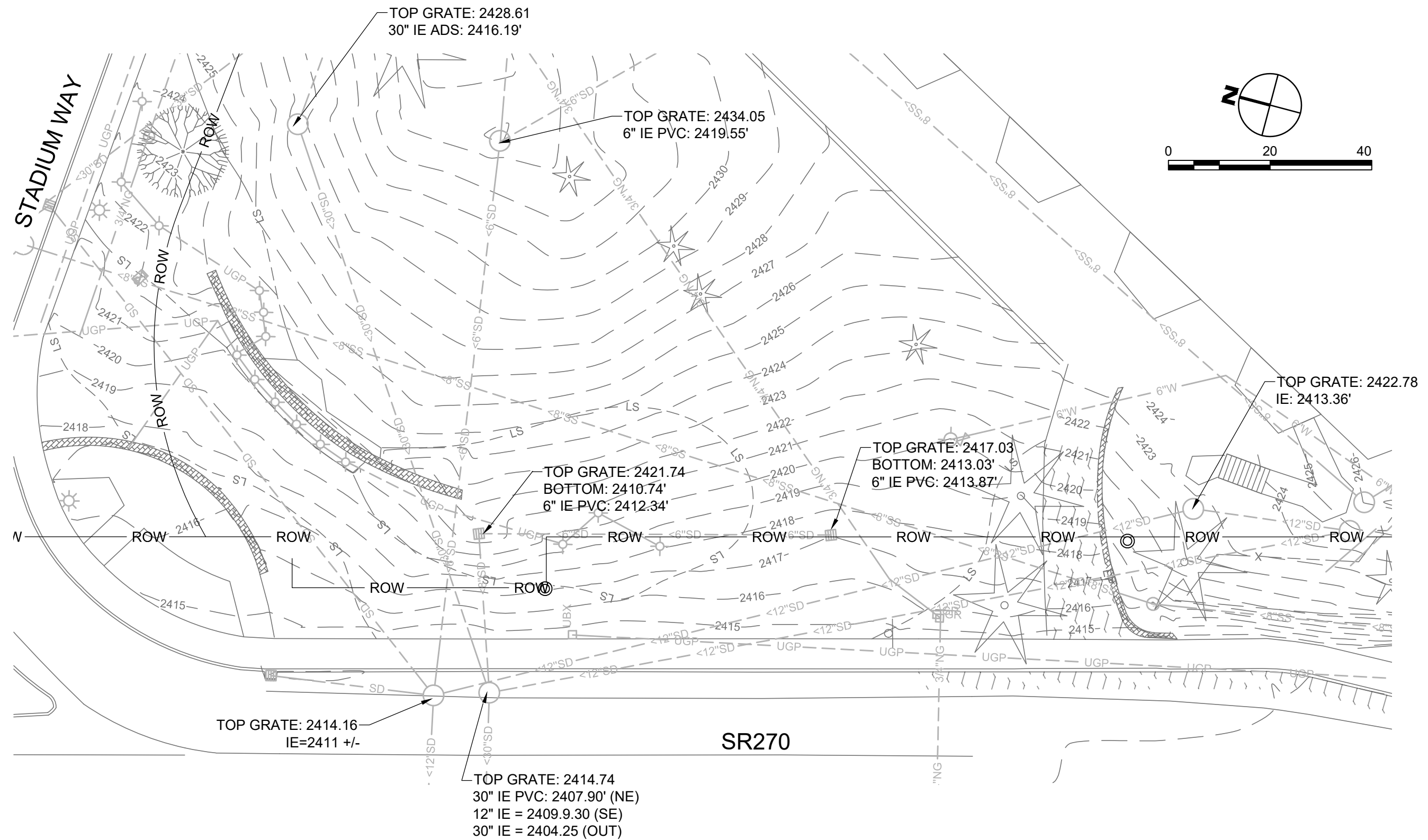
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SHARED USE PATH ON SR270 TO STADIUM
WAY

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DEMO PLAN
STA. 14+20 TO END

SHEET 7 OF 28 SHEETS



SECTION 32 31 13 - CHAIN LINK FENCES AND GATES

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. The Contractor shall provide chain link fencing and appurtenant Work, complete and operable.

1.2 SUBMITTALS

- A. Furnish submittals in accordance with Section 01 33 00 – Submittal Procedures.
- B. Shop drawings of fences and gates with all dimensions, details, and finishes. Drawings must include post foundations.
- C. Product Data: Manufacturer's catalog indicating materials and a letter certifying that all conditions of the specifications have been met.

1.3 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Chain link fencing and gates shall be products of a single manufacturer which has been successfully engaged in the production of such items for a period of at least 5 years.
- B. Installer's Qualifications: Installation of the chain link fence shall be by the manufacturer or by a firm accepted and licensed by the manufacturer.

PART 2 - MATERIALS

2.1 GENERAL

- A. All perimeter fencing and gates shall be 6 feet high. All materials and components shall be new, first quality items specifically manufactured for the intended application. Fencing shall be Chain Link Fence Type 3 per WSDOT Standard Plan L-20.10-03.

2.2 CHAIN LINK FENCE FABRIC

- A. Chain link fence fabric shall be made of steel wire helically wound and interwoven in such a manner as to provide a continuous mesh without knots or ties except in the form of knuckling or twisting the ends of the wire to form the desired selvage of the fabric. The fabric shall be vinyl coated black.
- B. Fence fabric shall be No. 11 gauge steel wire, 2-inch mesh, with top selvages knuckled and bottom selvages twisted and barbed. Fabric shall be galvanized in conformance with ASTM A392, Class 1, with not less than 1.2 ounces zinc per square foot of coated surface.

2.3 STEEL FENCE FRAME MEMBERS

- A. Steel pipe produced in accordance with commercial standards. Minimum yield strength of 50,000 psi. Cold formed and welded per ASTM F1043 Group IC. Pipe sections to conform to ASTM A120, Schedule 40 standard weights.
- B. Pipe Section Size
 - 1. End and Corner Post 2-1/2" OD, 5.10 lb/ft
 - 2. Line 2" OD, 1.85 lb/ft
 - 3. Rail and Braces 2" OD, 1.85 lb/ft.

2.4 FITTINGS

- A. Chain link fence fittings per ASTM F 626. All ferrous metal fittings to be galvanized.
- B. Post caps: Steel, cast iron or aluminum alloy; must be weatherproof to prevent moisture intrusion into post. Top with arm to be provided when barbed wire is specified or intermediate or line post tops to have loop for top rail when only rail is specified.
- C. Rail ends: Formed steel or iron, designed to provide secure connection of top rails to terminal post and brace or other rails to terminal and intermediate posts.
- D. Sleeves: Lengths of top rails to be connected using 6" sleeves with a .055 minimum wall thickness that allow for expansion or contraction of the rail.
- E. Tie Wire: 9 gauge galvanized steel or aluminum for attachment of chain link fabric to rails. Hog rings attach fabric to tension wire to be 12-1/2 GA steel.
- F. Fabric bands and brace bands to be pressed steel.
- G. Tension (stretcher) bars to be made of one continuous piece of steel or aluminum, 3/16" x 3/4", in the same height as the fence. Provide one bar, per end or gate post and two bars per corner or pull post.
- H. Tension wire: Galvanized steel wire, 7 gauge core, having a tensile strength of 75,000 psi.
- I. Truss rods & tightened. Rod diameter 3/8".
- J. Nuts, bolts and screws shall be steel, minimum size 3/8-inch diameter, hot-dip galvanized after fabrication.
- K. Galvanized coating damaged during construction of the fencing shall be repaired by application of Galvo-Weld; Galvinox; or equal.

2.5 POST FOUNDATIONS

- A. Class of Concrete in accordance with Washington State Department of Transportation 2022 Standard Specifications Section 6-02.3(2).

PART 3 - EXECUTION

3.1 GENERAL

- A. Inspection: Prior to commencing installation, require Installer to inspect all areas and conditions within which Work of this Section will be performed. Dimensions and clearances shall be verified. Final grading shall be completed and all earth, brush, or other obstructions which interfere with the proper alignment and construction of fencing shall be removed.
- B. Unless otherwise indicated, all posts shall be set in concrete. Gate and related posts, corner posts, and other critical elements shall be provided with concrete foundations which are designed by an engineer to safely accommodate the loads to which they will be subjected.

3.2 INSTALLATION

- A. Excavation: Holes for posts shall be drilled or hand excavated to the diameters and spacing indicated on the plans, in firm, undisturbed or compacted soil. Post foundations shall comply with the following:
 - B. Holes shall be excavated to a diameter not less than 12-inches or not less than 5 times the largest dimension of the item being anchored, whichever is larger.
 - C. Depth for holes shall be not less than 40 inches.
 - D. Setting Posts: Line posts shall be spaced at not more than 10-foot intervals, measured from center to center of the posts, parallel to the ground slope. Posts shall be set plumb and shall be centered in holes, 4-inches above the bottom of the excavation, with posts extending not less than 36-inches below finish grade surface.
 - E. Corner posts shall be installed where changes in the fence lines equal or exceed 30 degrees, measured horizontally.
 - F. Each post shall be properly aligned vertically and its top aligned parallel to the ground slope. Posts shall be maintained in proper position during placement and finishing operations.
 - G. Concrete: Concrete for footings may be placed without forms, providing the ground is firm enough to permit excavation to neat line dimensions. Prior to placing concrete, the earth around the hole shall be thoroughly moistened.
 - H. Encasement concrete for footings shall be placed immediately after mixing in a manner such that there will be no concentration of the large aggregates. The concrete shall be consolidated by tamping or vibrating.
 - I. Concrete footings shall have a neat appearance and shall be extended 2-inches above grade and troweled to a crown to shed water.
 - J. A minimum of 7 days shall elapse after placing the concrete footings before the fence fabric is fastened to the posts.

- K. Bracing: Bracing shall be provided at all ends, corners, gates, and intermediate brace posts. Corner posts and intermediate brace posts shall be braced in both directions. Horizontal brace rails shall be set midway between the top rail and the ground, running from the corner, end, intermediate brace or gate post to the first line post. Diagonal tension members shall connect tautly between posts below horizontal braces.
- L. Braces shall be so installed that posts remain plumb when diagonal rod is under proper tension.
- M. Intermediate Brace Posts: Where straight runs of fencing exceed 500-feet, intermediate brace posts shall be installed, spaced equally between ends or corners; with additional posts provided as required, such that the spacing between intermediate brace posts does not exceed 500-feet. Intermediate brace posts shall be equivalent in size to corner posts and shall be braced with horizontal brace rails and diagonal tension members in both directions.
- N. Top Rails: Top rails shall be run continuously through post caps, bending to radius for curved runs. Expansion couplings shall be provided as recommended by the fencing manufacturer.
- O. Tension Wire: Continuous bottom tension wire shall be stretched tight with turnbuckles at end, gate, intermediate, and corner posts. Tension wire shall be installed on a straight grade between posts, with approximately 2-inches of space between finish grade and bottom selvage, unless otherwise indicated. Tension wire shall be tied to each post with not less than 6 gauge galvanized wire.
- P. Fabric: The chain-link fabric shall be fastened on the secured side of the posts. Fabric shall be stretched and securely fastened to posts. Between posts, top and bottom edges of the fabric shall be fastened to the top rail and bottom tension wire, respectively. Fabric shall be stretched and anchored in such a manner that it remains in tension after the pulling force is released.
- Q. Tie Wires: Tie wire shall be bent to conform to the diameter of the pipe to which it is attached, clasping pipe and fabric firmly with ends twisted at least two full turns. Ends of wire shall be bent back to minimize hazard to persons or clothing.
- R. Fabric shall be tied to line posts with tie wires spaced at 12-inches on center.
- S. Fabric shall be tied to rails and braces with tie wires spaced at 14-inches on center.
- T. Fabric shall be tied to tension wires, with hog rings spaced 18-inches on center.
- U. Stretcher Bars: Fabric shall be fastened to end, corner, intermediate brace, and gate posts with stretcher bars. Bars shall be threaded through or clamped to fabric at 4-inches on center and secured to posts with stretcher bar bands spaced no more than 14-inches on center.
- V. Fasteners: Nuts for tension bands and hardware bolts shall be installed on the side of fence opposite the fabric side. Ends of bolts shall be peened or the threads scored to prevent removal of nuts.

3.3 GROUNDING

- A. Fences crossed by power lines of 600 volts or more shall be grounded at or near the point of crossing and at distances not exceeding 150-feet on each side of the crossing.
- B. Fences, gates and appurtenances enclosing electrical equipment areas, gas yards, or other hazardous areas shall be electrically continuous and grounded.
- C. Ground conductor shall consist of No. 8 AWG solid copper wire. Grounding electrodes shall be 3/4-inch by 10-foot long copper-clad steel rod. Electrodes shall be driven into the earth so that the top of the electrode is at least 6-inches below grade.
 - 1. Where driving is impracticable, electrodes shall be buried a minimum of 12-inches deep and radially from the fence. Top of electrode shall be not less than 2-feet or more than 8-feet from the fence.
- D. Ground conductor shall be clamped to the fence and electrodes with bronze grounding clamps so as to create electrical continuity between fence posts, fence fabric, and ground rods. After installation, the total resistance of fence to ground shall not be greater than 25 ohms.

END OF SECTION 32 31 13

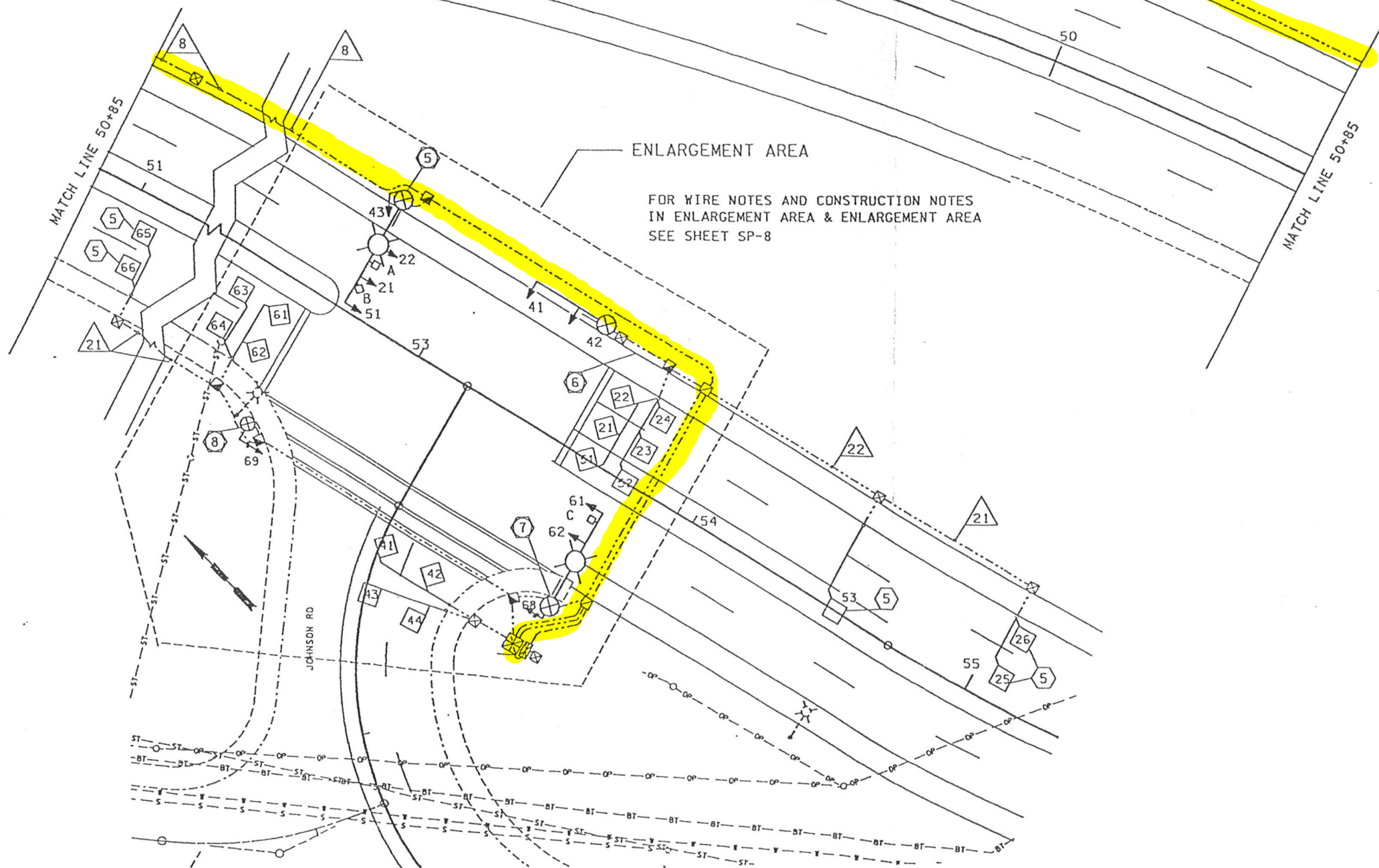
FOR WIRE 1

MATCH LINE STA. 44+80 SEE SHEET

LEGEND

- STREET SIGN
- CONDUIT & CONDUCTOR
- ↑ VEHICLE SIGNAL DISPLAY
- ↑ PED. DISPLAY
- ⊗ PED. PUSH BUTTON
- ⊗ SIGNAL STANDARD, TYPE 1
- ⊗ SIGNAL STANDARD, TYPE 2
- ⊗ SIGNAL STANDARD, TYPE 3
- ⊗ JCT BOX, TYPE 1, J-110
- ⊗ JCT BOX, TYPE 2, J-110
- ⊗ JCT BOX, TYPE 3, J-110
- ⊗ EX. JCT BOX
- ⊗ CONTROLLER CABINET
- ⊗ EX. CONTROLLER CABINET
- ⊗ SERVICE CABINET
- ⊗ EX. CONTROLLER CABINET
- ⊗ EX. LUMINAIRE & METAL POLE
- △ WIRE NOTE
- CONSTRUCTION NOTE
- SIGNAL STD. No. SEE CHART
- EXISTING UTILITY POLE
- FUTURE SOUTH LEG
- EXISTING WATER LINE
- EXISTING STORM SEWER LINE
- EXISTING GAS PIPE LINE
- EXISTING SANITARY SEWER LINE
- EXISTING OVERHEAD POWER LINE
- EXISTING BURIED POWER LINE
- EXISTING BURIED TELEPHONE CABLE
- WSU STEAM TUNNEL

0 20 40
SCALE IN FEET



ENLARGEMENT AREA

FOR WIRE NOTES AND CONSTRUCTION NOTES
IN ENLARGEMENT AREA & ENLARGEMENT AREA
SEE SHEET SP-8

PROGRAM DEVELOPMENT
DIVISION

Washington State
Department of Transportation

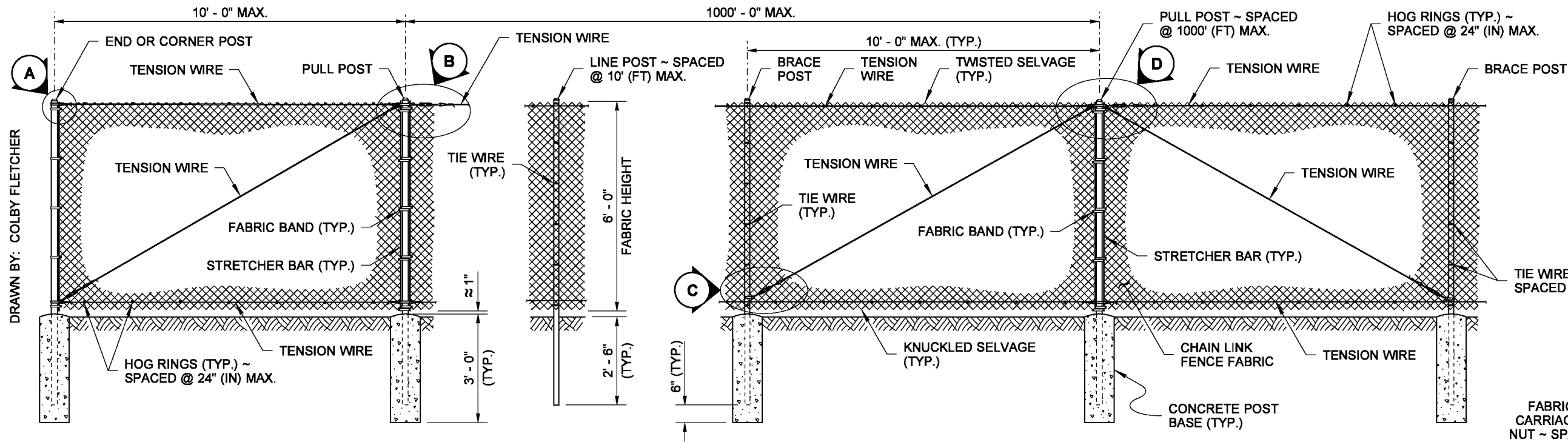
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E.I.T. "R" PART

SP-7

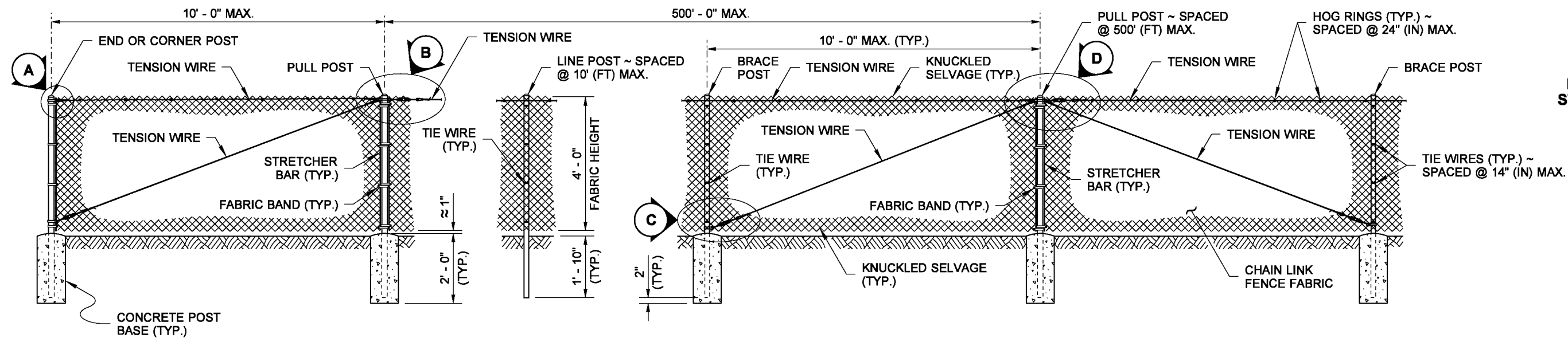
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SIGNED BY D. C. PUTMAN	7/15/91				
REVIEWED BY D. C. PUTMAN	7/15/91				
CHECKED BY W. D. BROWN	7/15/91				

REGION NO.	STATE
10	WASH

FED. AID PROJ. NO.



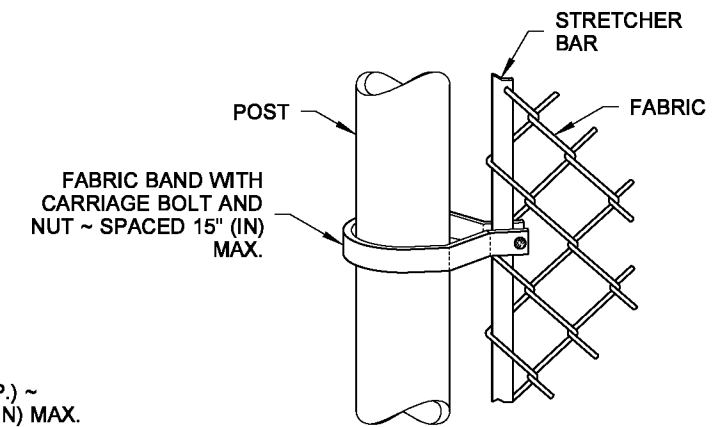
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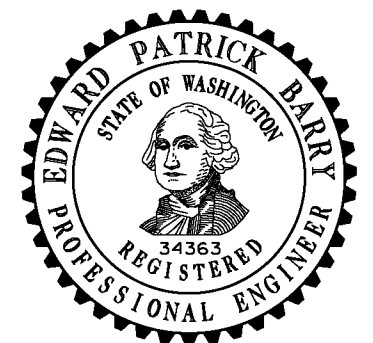
TYPE 4

NOTES

1. All concrete post bases shall be 10" (in) minimum diameter.
2. Along the top and bottom, using Hog Rings, fasten the Chain Link Fence Fabric to the Tension Wire within the limits of the first full fabric weave.
3. Details are illustrative and shall not limit hardware design or post selection of any particular fence type.
4. Fencing shall be used for security and boundary delineation only.



METHOD OF FASTENING STRETCHER BAR TO POST



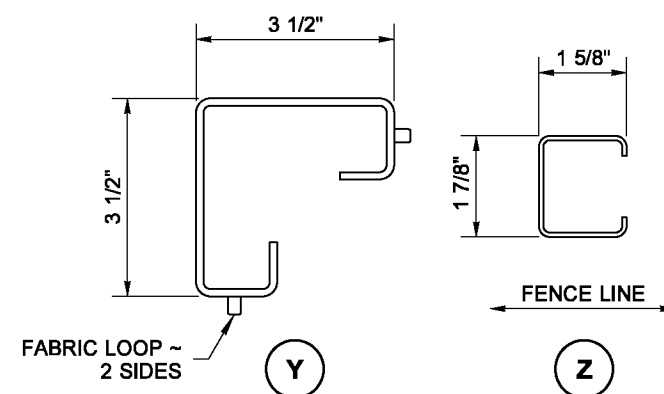
CHAIN LINK FENCE TYPES 3 AND 4 STANDARD PLAN L-20.10-03

SHEET 1 OF 2 SHEETS

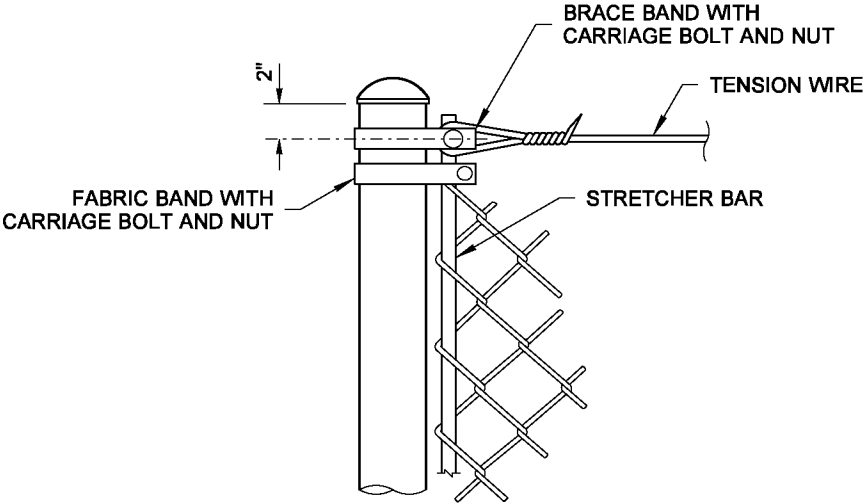
APPROVED FOR PUBLICATION

STATE DESIGN ENGINEER
Washington State Department of Transportation

POST AND RAIL SPECIFICATIONS			
POST	PIPE	ROLL FORMED	
	NOM. SIZE (SCH. 40) I.D.	SECTION	WEIGHT (lb/ft)
END, CORNER, OR PULL POST	2 1/2" DIAM.	(Y)	5.10
LINE OR BRACE POST	2" DIAM.	(Z)	1.85

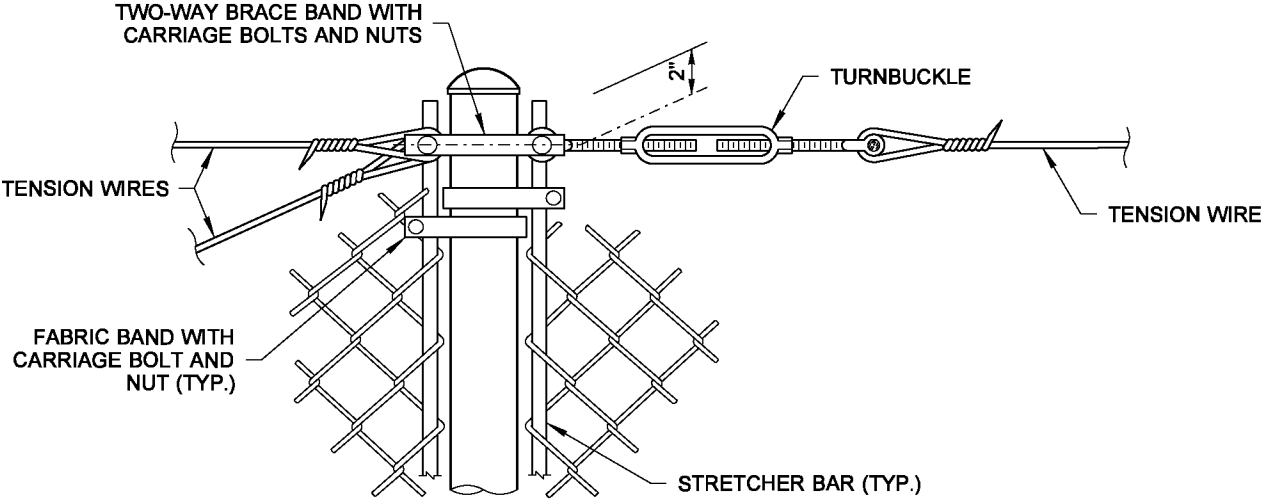


DRAWN BY: COLBY FLETCHER



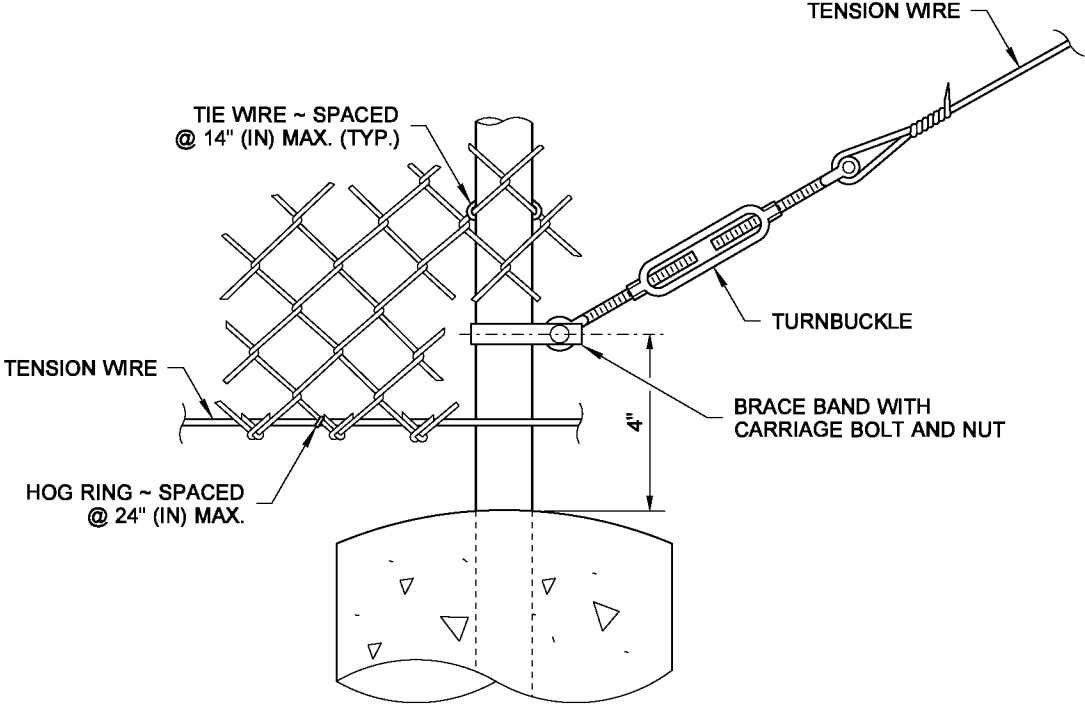
END OR CORNER POST

DETAIL A



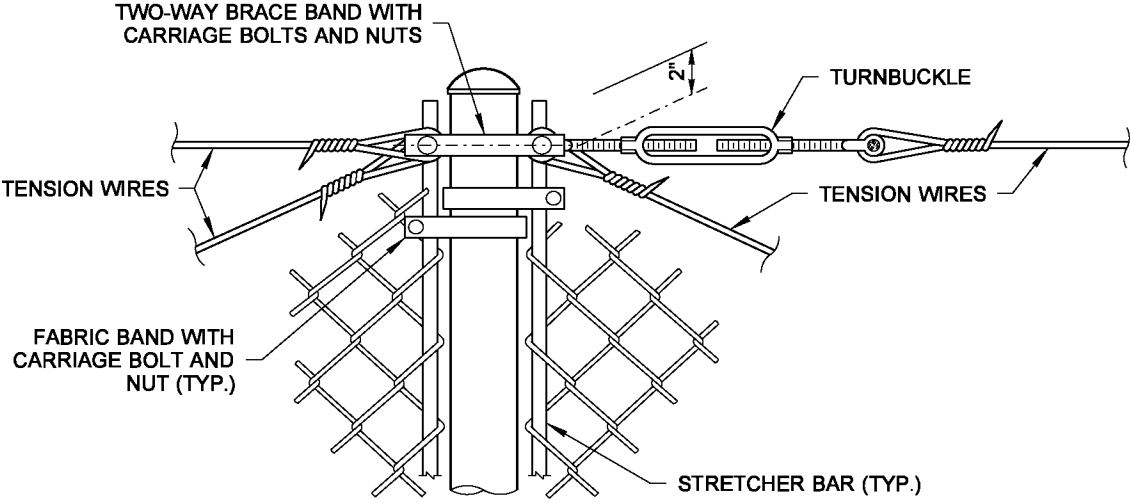
PULL POST (AT END OR CORNER)

DETAIL B



BRACE POST

DETAIL C



PULL POST (WITHIN RUN)

DETAIL D



**CHAIN LINK FENCE
TYPES 3 AND 4**

STANDARD PLAN L-20.10-03

SHEET 2 OF 2 SHEETS

APPROVED FOR PUBLICATION