



File No. EA2024-111

CITY OF RICHLAND
Determination of Non-Significance

Description of Proposal: Construct a reinforced concrete box culvert underneath an existing BNSF rail line. Box culvert outside dimensions are 10-ft tall x 14-ft wide.

Proponent: American Rock Products
Wade Blagg
11919 Harris Rd
Pasco, WA 99301

Location of Proposal: Project location is located at the very north end of 2800 Stevens Drive (parcel # 122081000002001) at the existing American Rock pit area and the very south end of parcel # 122081000001001.

Lead Agency: City of Richland

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

() There is no comment for the DNS.

(X) This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for fourteen days from the date of issuance.

() This DNS is issued after using the optional DNS process in WAC 197-11-355. There is no further comment period on the DNS.

Responsible Official: Mike Stevens

Position/Title: Planning Manager

Address: 625 Swift Blvd., MS #35, Richland, WA 99352

Date: April 2, 2024

Comments Due: April 17, 2024

Signature _____

SEPA ENVIRONMENTAL CHECKLIST

Purpose of checklist

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization, or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. **You may use “not applicable” or “does not apply” only when you can explain why it does not apply and not when the answer is unknown.** You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to **all parts of your proposal**, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for lead agencies

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B, plus the [Supplemental Sheet for Nonproject Actions \(Part D\)](#). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in “Part B: Environmental Elements” that do not contribute meaningfully to the analysis of the proposal.

A. Background [Find help answering background questions](#)

1. Name of proposed project, if applicable:

American Rock Box Culvert Rail Crossing

2. Name of applicant:

Wade Blagg, General Manager, American Rock

3. Address and phone number of applicant and contact person:

American Rock Products Ph: 509-547-2380
11919 Harris Rd
Pasco, WA 99301

4. Date checklist prepared:

3-12-24

5. Agency requesting checklist:

City of Richland

6. Proposed timing or schedule (including phasing, if applicable):

Spring 2024-Winter 2024

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

None

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

None

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None

10. List any government approvals or permits that will be needed for your proposal, if known.

Building Permit

- 12. Give a brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)**

Construct a reinforced concrete box culvert underneath an existing BNSF rail line. Box culvert outside dimensions are 10-ft tall x 14-ft wide.

- 13. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.**

Project location is located at the very north end of 2800 Stevens Drive (parcel # 122081000002001) at the existing American Rock pit area and the very south end of parcel # 122081000001001.

B. Environmental Elements

1. Earth [Find help answering earth questions](#)

a. General description of the site:

The site is generally flat and is undeveloped with minimal vegetation.

Circle or highlight one: Flat, rolling, hilly, steep slopes, mountainous, other:

b. What is the steepest slope on the site (approximate percent slope)?

2-3%

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them, and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

Gravelly soils

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

No

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

Project area is approximately 0.5 acres. Approximately 7,600 CY of earthwork will be excavated to perform the work.

f. Could erosion occur because of clearing, construction, or use? If so, generally describe.

Erosion caused by wind may cause airborne dust to occur during construction activities.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

10% of the project area

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any.

Best management practices will be used to reduce and control erosion. Local and state laws will be followed.

2. Air [Find help answering air questions](#)

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Dust and machinery exhaust from construction activities.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No

c. Proposed measures to reduce or control emissions or other impacts to air, if any.

Dust control would be enacted during construction activities. Construction machinery and vehicles are required to satisfy current State emissions requirements.

3. Water [Find help answering water questions](#)

a. Surface Water: [Find help answering surface water questions](#)

1. Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

No

2. Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

No

3. Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None

4. Will the proposal require surface water withdrawals or diversions? Give a general description, purpose, and approximate quantities if known.

No

5. Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

No

6. Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No

b. Ground Water: [Find help answering ground water questions](#)

1. Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give a general description, purpose, and approximate quantities if known.

No

2. Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (domestic sewage; industrial, containing the following chemicals...; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

None anticipated.

c. Water Runoff (including stormwater):

1. Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Stormwater runoff to be directed to existing ground surface

2. Could waste materials enter ground or surface waters? If so, generally describe.

None anticipated

3. Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

No

4. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any.

None

4. Plants [Find help answering plants questions](#)

a. Check the types of vegetation found on the site:

- deciduous tree: alder, maple, aspen, other
- evergreen tree: fir, cedar, pine, other
- shrubs
- grass
- pasture
- crop or grain
- orchards, vineyards, or other permanent crops.
- wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
- water plants: water lily, eelgrass, milfoil, other
- other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

Existing vegetation will be removed for overall project development.

c. List threatened and endangered species known to be on or near the site.

None known.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any.

Disturbed areas will be hydro-seeded with native dry-land grasses.

e. List all noxious weeds and invasive species known to be on or near the site.

None known.

5. Animals [Find help answering animal questions](#)

a. List any birds and other animals that have been observed on or near the site or are known to be on or near the site.

Examples include:

- Birds: hawk, heron, eagle, songbirds, other:
- Mammals: deer, bear, elk, beaver, other:
- Fish: bass, salmon, trout, herring, shellfish, other:

b. List any threatened and endangered species known to be on or near the site.

None known.

c. Is the site part of a migration route? If so, explain.

Pacific Flyway Migration

d. Proposed measures to preserve or enhance wildlife, if any.

None

e. List any invasive animal species known to be on or near the site.

None known.

6. Energy and Natural Resources [Find help answering energy and natural resource questions](#)

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

None

- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No

- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any.

None

7. Environmental Health [Find help with answering environmental health questions](#)

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur because of this proposal? If so, describe.

1. Describe any known or possible contamination at the site from present or past uses.

None known

- a. Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

None known

- b. Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

None known

- c. Describe special emergency services that might be required.

None known

- d. Proposed measures to reduce or control environmental health hazards, if any.

None

b. Noise

1. What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

Existing vehicular and train traffic

2. What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site)?

Short term – construction noise generally 6 am to 8 pm

Long term – vehicular generally 6 am to 10pm

3. Proposed measures to reduce or control noise impacts, if any.

None

8. Land and Shoreline Use [Find help answering land and shoreline use questions](#)

- a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

Active area for mining gravels

- b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses because of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

No

1. Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how?

No

- c. Describe any structures on the site.

None

- d. Will any structures be demolished? If so, what?

No

- e. What is the current zoning classification of the site?

I-M

- f. What is the current comprehensive plan designation of the site?

Industrial

g. If applicable, what is the current shoreline master program designation of the site?

Not applicable

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

No

i. Approximately how many people would reside or work in the completed project?

None

j. Approximately how many people would the completed project displace?

None

k. Proposed measures to avoid or reduce displacement impacts, if any.

None

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any.

By complying with Richland zoning code requirements.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any.

None

9. Housing [Find help answering housing questions](#)

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

None

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

None

c. Proposed measures to reduce or control housing impacts, if any.

None

10. Aesthetics [Find help answering aesthetics questions](#)

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

Not applicable

- b. What views in the immediate vicinity would be altered or obstructed?

None

- c. Proposed measures to reduce or control aesthetic impacts, if any.

None

11. Light and Glare [Find help answering light and glare questions](#)

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None

- b. Could light or glare from the finished project be a safety hazard or interfere with views?

No

- c. What existing off-site sources of light or glare may affect your proposal?

None

- d. Proposed measures to reduce or control light and glare impacts, if any.

None

12. Recreation [Find help answering recreation questions](#)

- a. What designated and informal recreational opportunities are in the immediate vicinity?

None

- b. Would the proposed project displace any existing recreational uses? If so, describe.

No

- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any.

None

13. Historic and Cultural Preservation [Find help answering historic and cultural preservation questions](#)

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.

No

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

No

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

Area is an active mining pit and has been previously disturbed with no findings.

- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

If applicable, Inadvertent Discovery Plan during construction activities.

14. Transportation [Find help with answering transportation questions](#)

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

Logan and Hagen Road

- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

None

- c. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle, or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

No

- d. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

Will occur in the vicinity of rail.

- e. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

None

f. Will the proposal interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

No

g. Proposed measures to reduce or control transportation impacts, if any.

None

15. Public Services [Find help answering public service questions](#)

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

None

b. Proposed measures to reduce or control direct impacts on public services, if any.

None

16. Utilities [Find help answering utilities questions](#)

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other:

Electricity, natural gas, water, telephone, sanitary sewer

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

None

C. Signature [Find help about who should sign](#)

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

X 
SEPA Responsible Official

Type name of signer: Darral Moore, J-U-B Engineers, Inc.

Position and agency/organization: Project Manager, J-U-B Engineers, Inc.

Date submitted: 3/12/2024

D. Supplemental sheet for nonproject actions [Find help for the nonproject actions worksheet](#)

IT IS NOT REQUIRED to use this section for project actions.

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

- **Proposed measures to avoid or reduce such increases are:**

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

- **Proposed measures to protect or conserve plants, animals, fish, or marine life are:**

3. How would the proposal be likely to deplete energy or natural resources?

- **Proposed measures to protect or conserve energy and natural resources are:**

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection, such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

- **Proposed measures to protect such resources or to avoid or reduce impacts are:**

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

- **Proposed measures to avoid or reduce shoreline and land use impacts are:**

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

- **Proposed measures to reduce or respond to such demand(s) are:**

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

AMERICAN ROCK PRODUCTS RAIL CROSSING RICHLAND, WA

JUB PROJECT NO. 30-23-046

DEVELOPMENT CONTACTS

LAND OWNER
PORT OF BENTON
3250 PORT OF BENTON BLVD.
RICHLAND, WA 99354
(509) 375-3060

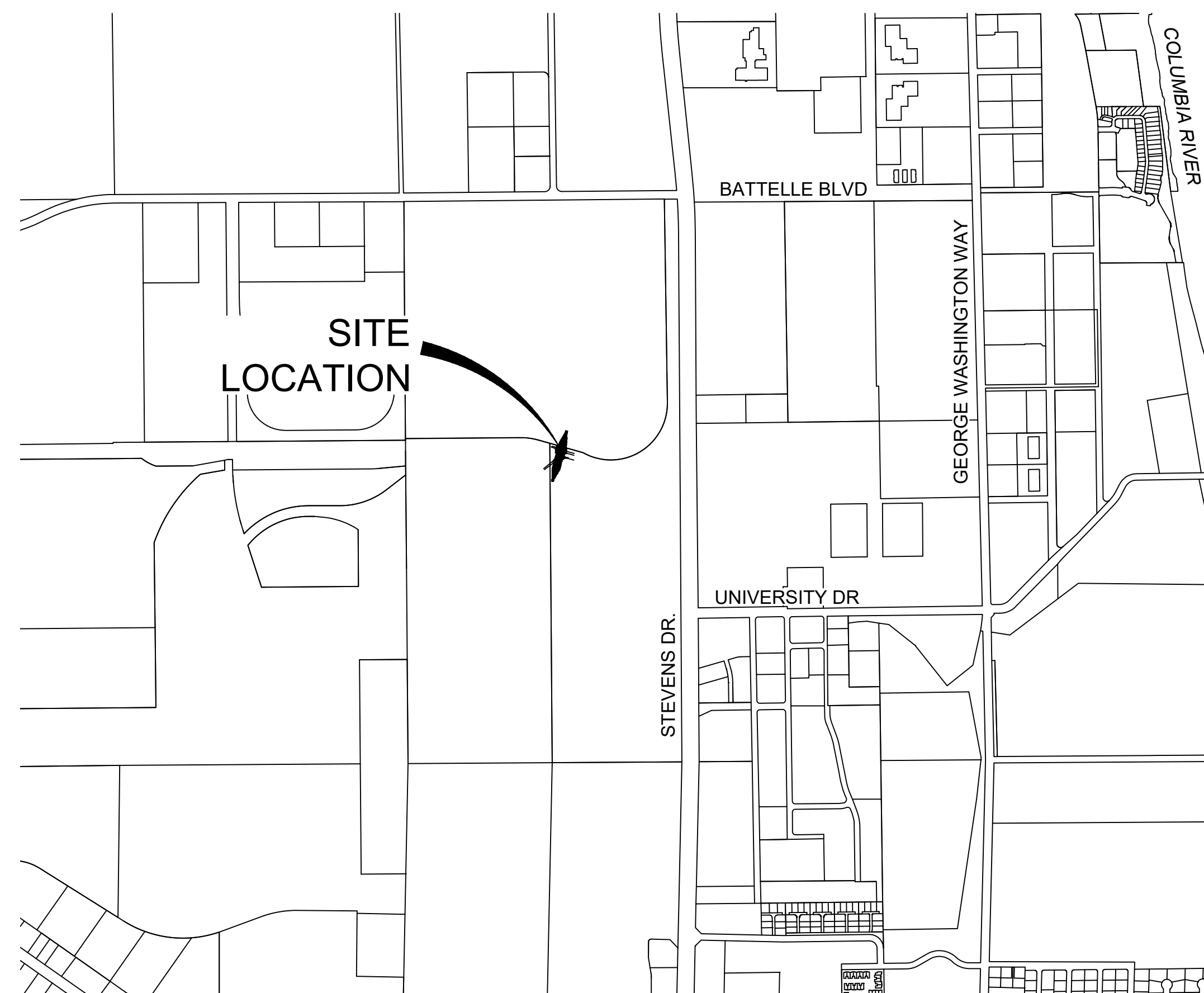
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VICINITY MAP

CIVIL SHEET INDEX

Sheet Number	Sheet Title
CIVIL	
C-001	COVER SHEET
C-002	NOTES & LEGEND
C-100	PLAN & PROFILE
C-101	SURFACE RESTORATION PLAN
C-500	DETAILS
STRUCTURAL	
S-101	SITUATION & LAYOUT
S-102	GENERAL NOTES, DESIGN AND QUANTITIES
S-103	STRUCTURAL DETAILS
S-104	WINGWALL DETAILS
S-105	GUARDRAIL AND MISCELLANEOUS DETAILS

SURVEY NOTES

BASIS OF BEARING

THE BASIS OF BEARINGS FOR THIS PROJECT IS A LOCAL SITE PROJECTION ORIGINATING FROM THE 1991 ADJUSTMENT OF THE NORTH AMERICAN DATUM OF 1983 (NAD 83/91), WASHINGTON STATE PLANE COORDINATE SYSTEM, SOUTH ZONE (4602) BASED UPON STATIC GPS OBSERVATIONS TO CITY OF RICHLAND PROVIDED GPS CONTROL POINTS NO. 1025, 1026 AND 1028. STATIC GPS DATA FILES WERE PROCESSED USING TRIMBLE BUSINESS SUITE (TBC) VERSION 5.2. DATA WAS PROJECTED TO GROUND AT THE CITY OF RICHLAND GPS CONTROL POINT NO. 1025. LOCAL LATITUDE: N46°20'37.66120", LOCAL LONGITUDE: W119°17'37.39428" USING A COMBINED SCALE FACTOR OF 1.0000912641. ALL BEARINGS ARE GRID, ALL DISTANCES ARE GROUND EXPRESSED IN US SURVEY FEET.

VERTICAL DATUM

VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) BASED UPON STATIC GPS OBSERVATIONS TO CITY OF RICHLAND PROVIDED GPS CONTROL POINTS NO. 1025, 1026 AND 1028 PROCESSED USING TRIMBLE BUSINESS SUITE (TBC) VERSION 5.2. THE PROJECT BENCHMARK IS CITY OF RICHLAND GPS CONTROL POINT NO. 1025, A BRASS CAP MARKING THE NORTH-QUARTER CORNER OF SECTION 22, T10N, R28E, W.M. ELEVATION BEING 379.06 FEET.

UTILITY LOCATES

THERE WAS NO UTILITY LOCATE REQUEST FOR THIS PROJECT.

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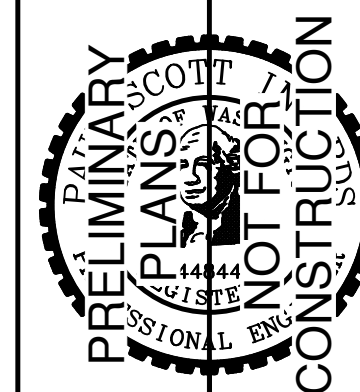
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MARKING OF UNDERGROUND MEMBER
UTILITIES



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NO.	REVISION	DESCRIPTION	BY	DATE

AMERICAN ROCK PRODUCTS RAIL CROSSING
RICHLAND, WA

COVER SHEET

FILE: 30-23-046_C-001

JUB PROJ. #: 30-23-008

DRAWN BY: ---

DESIGN BY: KR

CHECKED BY: ---

AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

LAST UPDATED: 2/27/2024

SHEET NUMBER:

C-001

GENERAL NOTES

- 1. ALL EXCESS MATERIALS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT LOCATIONS PROVIDED BY THE CONTRACTOR. DISPOSAL SITES SHALL BE IN COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.

TESC NOTES

- 1. THE TEMPORARY EROSION CONTROL SYSTEM SHALL BE INSTALLED PRIOR TO ALL OTHER CONSTRUCTION.
- 2. ALL CLEARING LIMITS AND/OR EASEMENTS SETBACKS, SENSITIVE CRITICAL AREAS AND THEIR BUFFERS, SIGNIFICANT TREES AND DRAINAGE COURSES SHALL BE CLEARLY STAKED AND MARKED AS SHOWN ON PLANS.

CLEARING/GRUBBING NOTES

- 1. CONTRACTOR SHALL PLACE TEMPORARY EROSION AND SEDIMENT CONTROLS PRIOR TO BEGINNING CLEARING AND GRUBBING.
- 2. VERIFY LIMITS OF SITE CLEARING PRIOR TO START OF WORK.
- 3. PROTECT AND MAINTAIN BENCHMARKS AND SURVEY CONTROL POINTS FROM DISTURBANCE DURING CONSTRUCTION.

EARTHWORK NOTES

- 1. PERFORM WORK IN ACCORDANCE WITH ASTM AND AASHTO PROCEDURE STANDARDS.
- 2. PRIOR TO THE START OF GRADING, ALL EXISTING ORIGINAL MATERIAL, DEBRIS, RUBBLE, ASPHALT PAVEMENT, ETC., SHALL BE REMOVED FROM THE SITE TO THE SATISFACTION OF THE OWNER AND OWNER'S REPRESENTATIVE.

GENERAL UTILITY NOTES

- 1. ALL WORK AND MATERIALS SHALL BE IN COMPLETE ACCORDANCE WITH THE LATEST REVISION OF CITY STANDARDS AND SPECIFICATIONS, WSDOT STANDARD SPECS, AND ALL OTHER GOVERNING AGENCY'S STANDARDS.
- 2. THE CONTRACTOR SHALL OBTAIN AND HAVE AVAILABLE COPIES OF THE APPLICABLE GOVERNING AGENCY STANDARDS AT THE JOB SITE DURING THE RELATED CONSTRUCTION OPERATIONS.

TRENCHING/BACKFILL/COMPACTION NOTES

- 1. BACKFILL MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF RICHLAND STANDARD SPECIFICATIONS AND IN ACCORDANCE WITH THE GEOTECHNICAL REPORT RECOMMENDATIONS AS PREPARED BY GEOPROFESSIONAL INNOVATION, INC. DATED OCTOBER 6, 2023.
- 2. ACCEPTABLE MATERIALS EXCAVATED FROM THE TRENCH SHALL BE IN ACCORDANCE WITH SECTION 7-08.3(3) OF THE WSDOT STANDARD SPECIFICATIONS.

STORM DRAINAGE PIPING NOTES

- 1. INSTALL PIPE, FITTINGS AND ACCESORIES IN ACCORDANCE WITH SECTION 7-08 OF THE WSDOT STANDARD SPECIFICATIONS AND THE CITY OF RICHLAND STANDARD SPECIFICATIONS. WHERE SPECIFICATIONS CONFLICT, CITY OF RICHLAND STANDARD SPECIFICATIONS SHALL PREVAIL.
- 2. STORM PIPE: PVC PLASTIC PIPE ANSI/ASTM D3034, SDR 35 OR CPE PER WSDOT STD SPEC 7-01.2. FITTINGS SHALL BE SAME MATERIAL.

SITE LAYOUT NOTES

- 1. ALL DIMENSIONS SHOWN ON THESE PLANS AND ANY EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION. ANY DISCREPANCY SHALL WARRANT IMMEDIATE ATTENTION OF ENGINEER TO RESOLVE ALL PROBLEMS PRIOR TO PROCEEDING WITH CONSTRUCTION.
- 2. ALL SIGNAGE AND STRIPING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD AND THE STATE SIGN FABRICATION MANUAL.

CEMENT CONCRETE NOTES

- 1. PROVIDE 3/4" MASTIC EXPANSION JOINT WHEN CONCRETE PAVEMENT MEETS CURB OR FACE OF BUILDING. MASTIC SHALL EXTEND THE FULL DEPTH OF THE CONCRETE PAVEMENT.
- 2. CONCRETE PAVEMENT AND SIDEWALK SHALL HAVE A SMOOTH LIGHT BROOM FINISH.
- 3. ALL JOINT PATTERNS SHALL CLOSELY FOLLOW THE PLAN LAYOUT.

MATERIAL TESTING

- 1. CONTRACTOR SHALL PROVIDE MATERIAL TESTING BY A CERTIFIED TESTING LABORATORY. MATERIAL TEST REPORTS SHALL INCLUDE CLASSIFICATION IN ACCORDANCE WITH ASTM D2487 OF EACH SOIL MATERIAL PROPOSED FOR FILL AND BACKFILL AND LABORATORY COMPACTION CURVE ACCORDING TO ASTM D1557 FOR EACH SOIL MATERIAL PROPOSED FOR FILL AND BACKFILL.
- 2. CONTRACTOR SHALL ADHERE TO THE TESTING AND INSPECTION REQUIREMENTS AS NOTED IN THE CITY PERMIT.

RAIL NOTES

- 1. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 2 WEEKS NOTICE TO THE PORT OF BENTON PRIOR TO STARTING WORK.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRACK SAFETY. THE TRACK SAFETY INSPECTOR WILL BE RESPONSIBLE FOR TAKING TRACK OUT OF SERVICE AND TO CONTINUE TO UPDATE THE RAILROADS ON TRACK CONDITIONS.

LINE LEGEND

Table with 3 columns: LINE DESCRIPTION, PROPOSED LINE, EXISTING LINE. Includes symbols for OVERHEAD POWER, UNDERGROUND POWER, OVERHEAD TELEPHONE, UNDERGROUND TELEPHONE, NATURAL GAS, STORM DRAIN, ROOF DRAIN, SANITARY SEWER, INDUSTRIAL SEWER, WATER, IRRIGATION, PROPERTY LINE, RIGHT OF WAY, PERMANENT EASEMENT, FENCE, ROAD CENTERLINE, ROAD ASPHALT, ROAD GRAVEL.

SYMBOL LEGEND

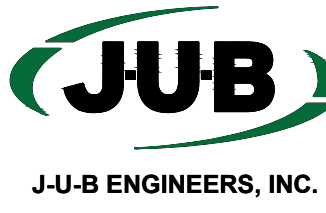
Table with 6 columns: SYMBOL DESCRIPTION, EXISTING, PROPOSED, SYMBOL DESCRIPTION, EXISTING, PROPOSED. Includes symbols for BOLLARD, FLAGPOLE, MAIL BOX, SIGN, TREE (SHRUB), TREE (CONIFEROUS), TREE (DECIDUOUS), TELE. PEDESTAL, GUY WIRE, MANHOLE, VALVE, VAULT, FIRE HYDRANT, WATER METER, IRRIGATION VALVE BOX, CLEANOUT, CATCH BASIN, ELEC. TRANS., POWER POLE, LUMINAIRE, CAP.



Know what's below. Call before you dig.

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Plot Date: 3/1/2024 9:56 AM. Plotted By: Paul Inwards. Date Created: 1/12/2024. JUB.COM\CENTRAL\CURRENT\SWAMERICANROCK\PRODUCTS\PROJECTS\23-046 -AMERICANROCK\RAILCROSSING\DESIGN\CAD\SHEET\30-23-046_C-002.DWG

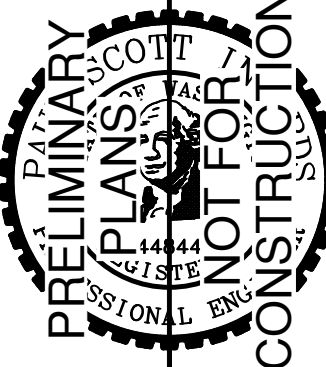


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AMERICAN ROCK PRODUCTS RAIL CROSSING RICHLAND, WA

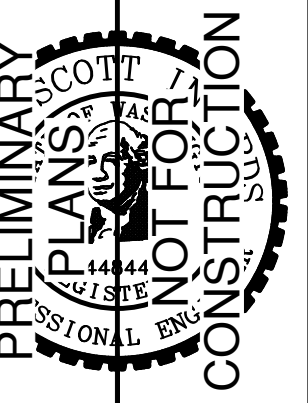
NOTES & LEGEND

FILE: 30-23-046_C-002 JUB PROJ #: 30-23-006 DRAWN BY: --- DESIGN BY: KR CHECKED BY: ---

AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY. LAST UPDATED: 2/27/2024

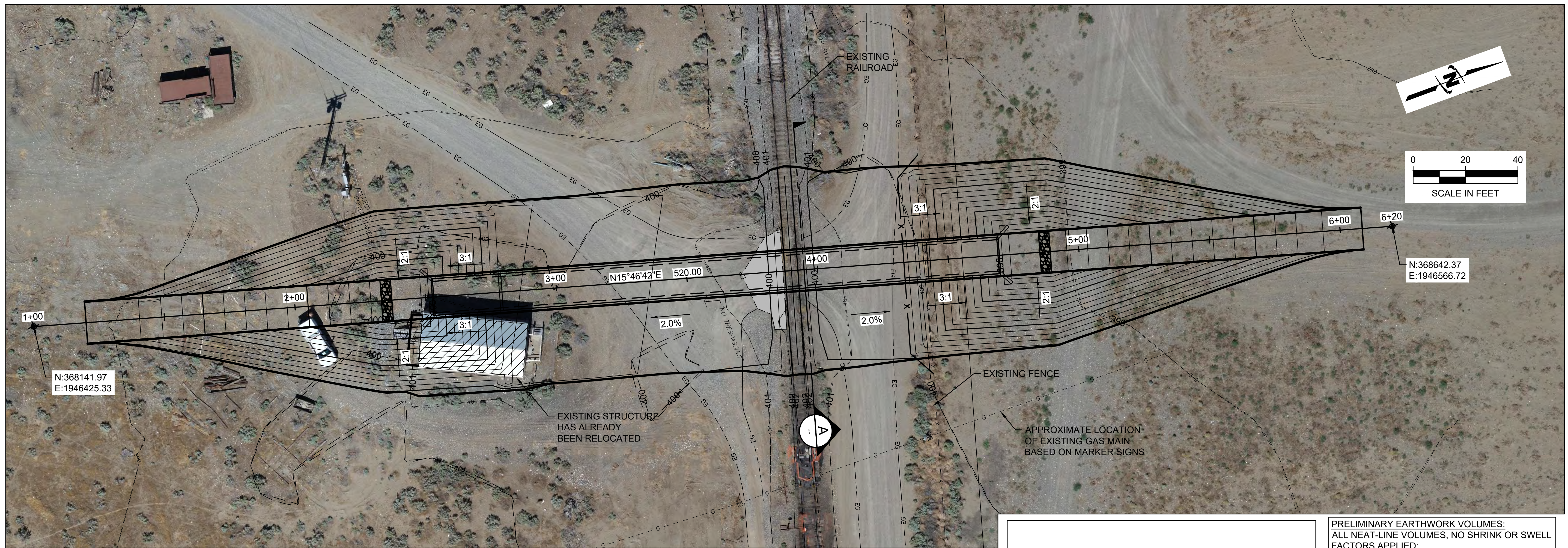
SHEET NUMBER:

C-002



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NO.	REVISION	DESCRIPTION	BY	APPR.	DATE

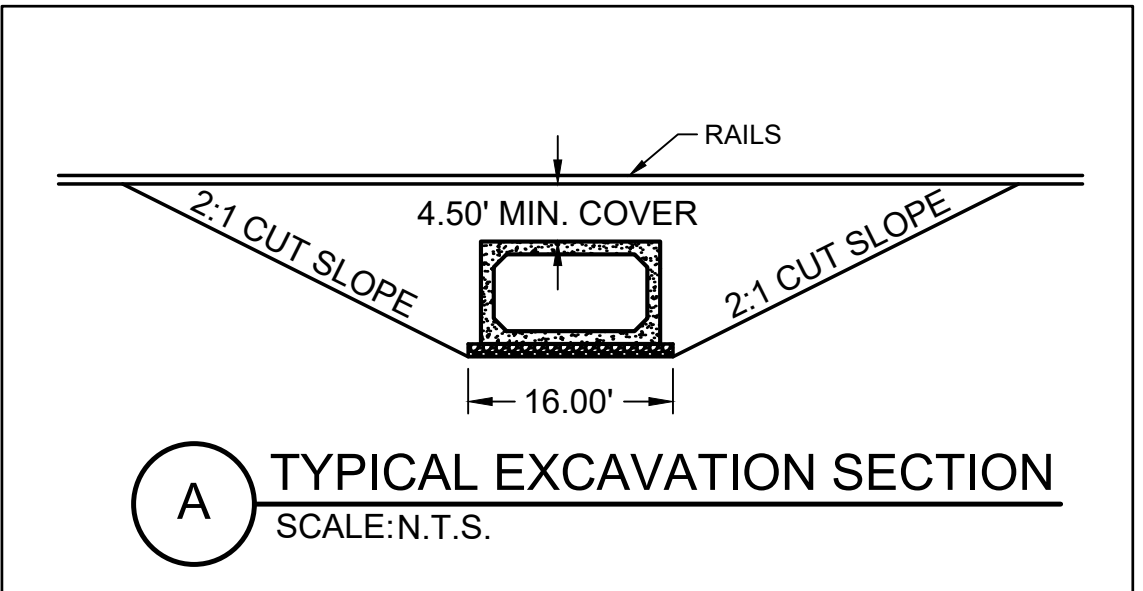


- CONSTRUCTION NOTES:**
- CONTRACTOR SHALL REMOVE THE EXISTING RAIL LINES TO ACCOMMODATE THE INSTALLATION OF THE BOX CULVERT.
 - CONTRACTOR SHALL REPLACE THE EXISTING RAIL LINES WITH NEW 115 LB RAIL LINES AND ASSOCIATED JOINT BARS, TIE PLATES, TIES, AND SPIKES. NEW RAIL MATERIALS SHALL BE SUPPLIED BY THE PORT OF BENTON. CONTRACTOR SHALL OBTAIN MATERIALS FROM THE PORT.
 - RAIL LINES SHALL BE INSTALLED IN ACCORDANCE WITH UNION PACIFIC STANDARDS AND SPECIFICATIONS.
 - ANY WORK WITHIN 25' OF THE RAIL TRACKS REQUIRES TRACK SAFETY / FLAGGER ON SITE.



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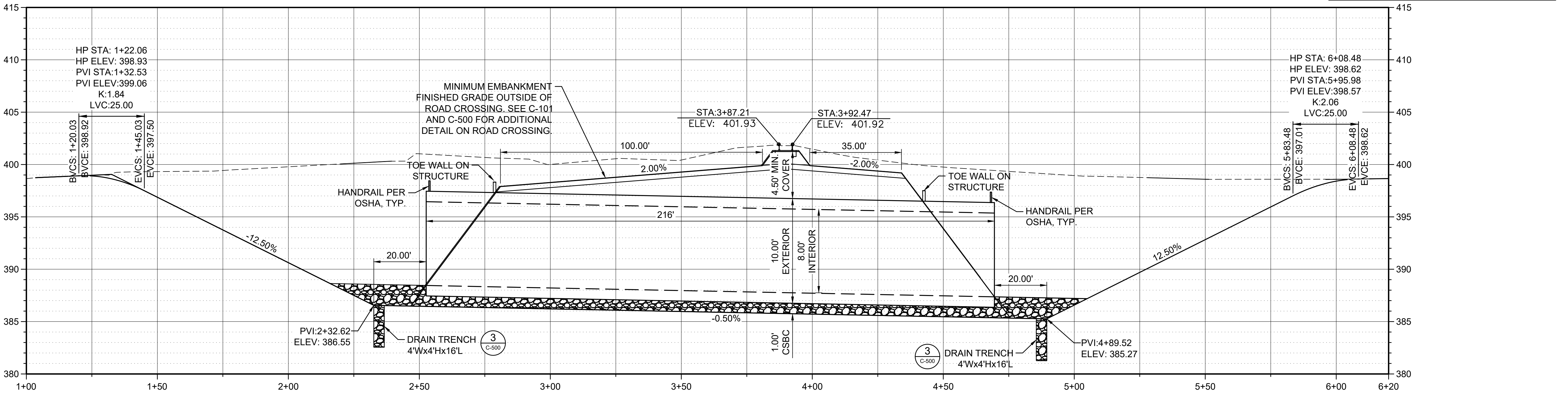


PRELIMINARY EARTHWORK VOLUMES:
ALL NEAT-LINE VOLUMES, NO SHRINK OR SWELL FACTORS APPLIED:

INITIAL EXCAVATION TO SUBGRADE (EG TO SUBGRADE):
7,695 CY

RAILROAD EMBANKMENT REBUILD (SUBGRADE TO FG MINUS STRUCTURE):
3,682 CY (INCLUDES RAILBED BALLAST AND OTHER LAYERS)

(PRELIMINARY QUANTITIES FOR PERMITTING PURPOSES ONLY. CONTRACTOR TO INDEPENDENTLY VERIFY FOR BIDDING AND CONSTRUCTION.)



**AMERICAN ROCK PRODUCTS RAIL CROSSING
RICHLAND, WA**

FILE: 30-23-046 C-100
JUB PROJ. #: 30-23-008
DRAWN BY: ---
DESIGN BY: KR
CHECKED BY: ---

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY
LAST UPDATED: 3/1/2024

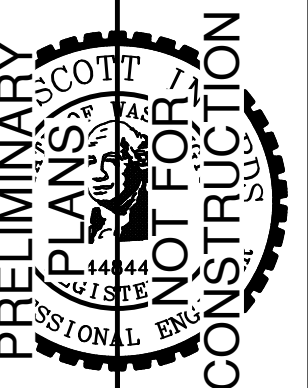
SHEET NUMBER:
C-100

Plot Date: 3/1/2024 9:57 AM Plotted By: Paul Inwards
Date Created: 3/1/2024 JUB: COMCENTRAL\CLIENT\SWAMERICANROCKPRODUCTS\PROJECTS\30-23-046 AMERICANROCKRAILCROSSING\DESIGN\CAD\SH02-24-06 C-100.DWG



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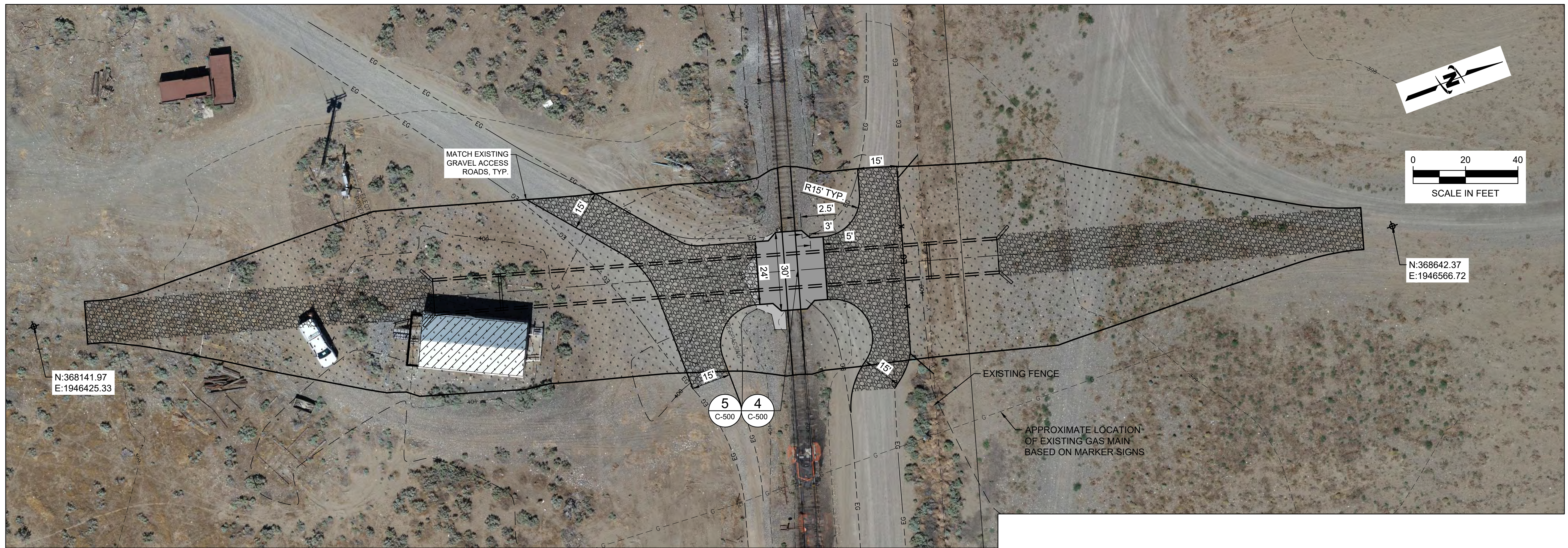
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NO.	REVISION	DESCRIPTION	BY	APP.	DATE

AMERICAN ROCK PRODUCTS RAIL CROSSING
RICHLAND, WA
SURFACE RESTORATION PLAN

FILE: 30-23-046_C-100
JUB PROJ. #: 30-23-006
DRAWN BY: ---
DESIGN BY: KR
CHECKED BY: ---
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY
LAST UPDATED: 3/1/2024
SHEET NUMBER:
C-101



- CONSTRUCTION NOTES:**
- CONTRACTOR SHALL REMOVE THE EXISTING RAIL LINES TO ACCOMMODATE THE INSTALLATION OF THE BOX CULVERT.
 - CONTRACTOR SHALL REPLACE THE EXISTING RAIL LINES WITH NEW 115 LB RAIL LINES AND ASSOCIATED JOINT BARS, TIE PLATES, TIES, AND SPIKES. NEW RAIL MATERIALS SHALL BE SUPPLIED BY THE PORT OF BENTON. CONTRACTOR SHALL OBTAIN MATERIALS FROM THE PORT.
 - RAIL LINES SHALL BE INSTALLED IN ACCORDANCE WITH UNION PACIFIC STANDARDS AND SPECIFICATIONS.
 - ANY WORK WITHIN 25' OF THE RAIL TRACKS REQUIRES TRACK SAFETY / FLAGGER ON SITE.

HATCH LEGEND - SURFACE TREATMENTS

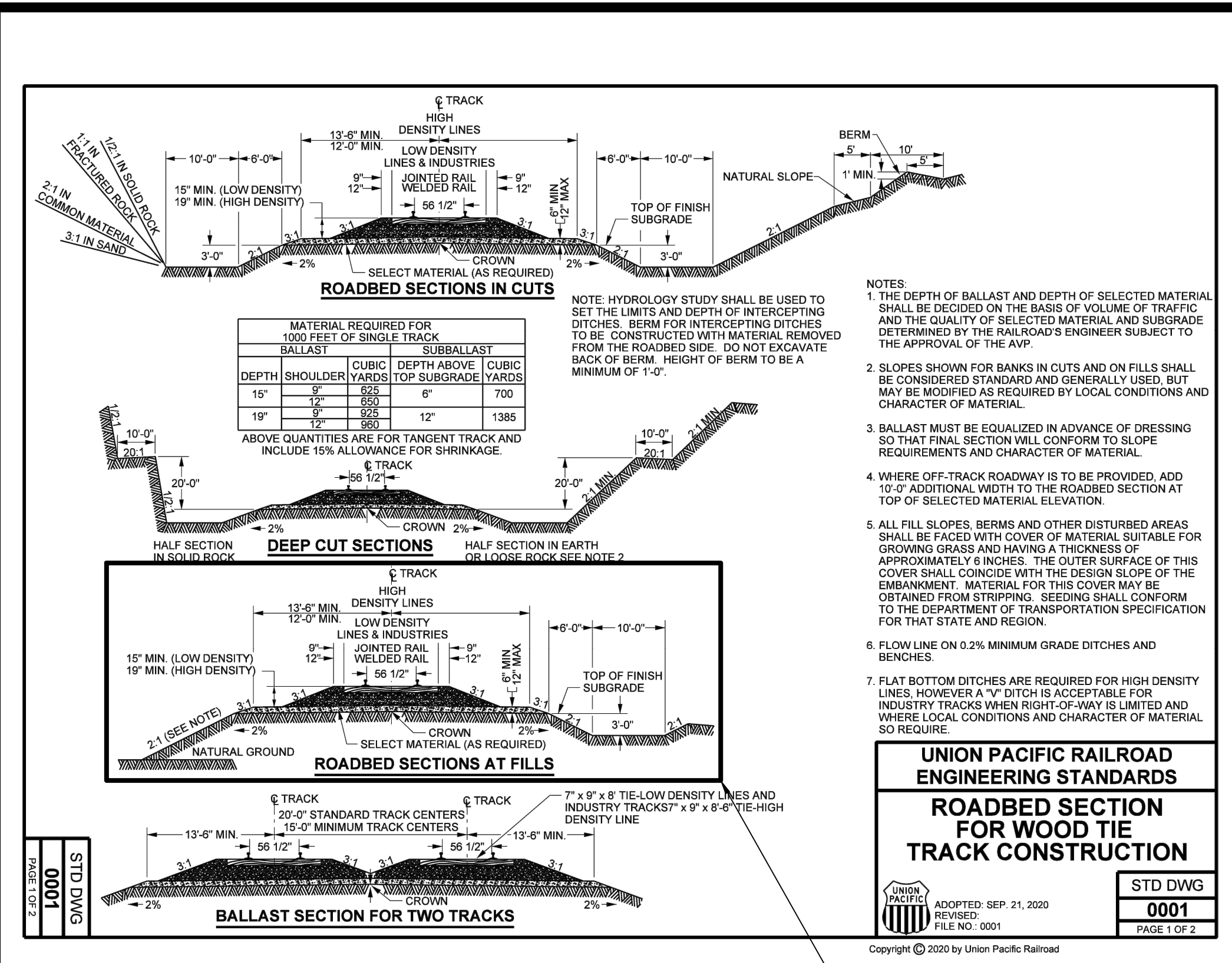
- HOT MIX ASPHALT, 4" MIN. PER UPRR CROSSING DETAILS
- MAINTENANCE ROCK, 4" MIN. PER WSDOT SPEC 9-03.9(4)
- NATIVE DRYLAND SEED MIX HYDROSEED WITH TACKIFIER



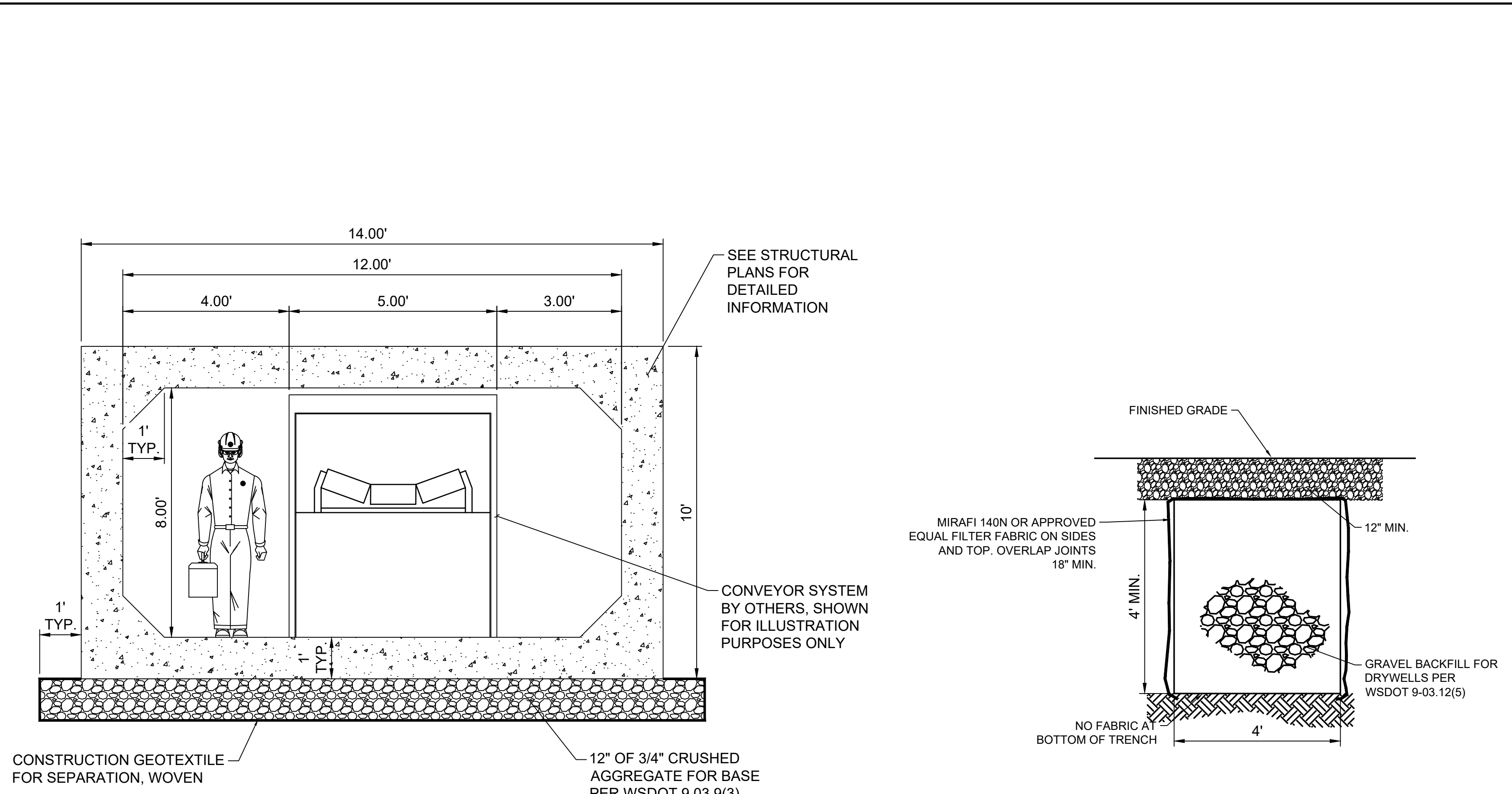
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Plot Date: 3/1/2024 9:57 AM Plotted By: Paul Inwards
Date Created: 3/1/2024 JUB: C:\CENTRAL\CLIENTS\AMERICANROCK\PRODUCTS\PROJECTS\30-23-046 AMERICANROCKRAILCROSSING\DESIGN\CAD\SHETS\30-23-046_C-100.DWG

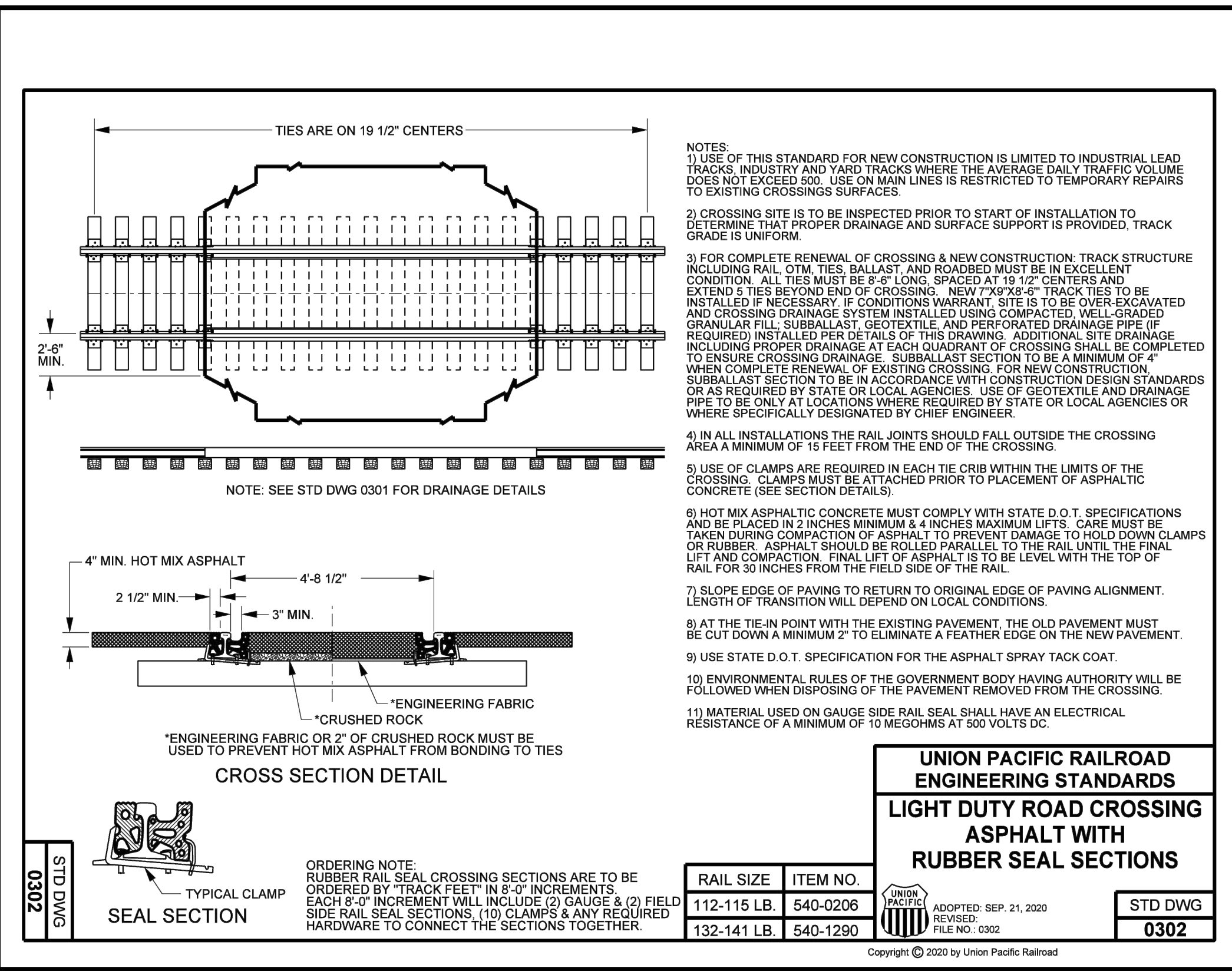


1 UPRR TYPICAL RAILROAD EMBANKMENT SECTION
SCALE: N.T.S.

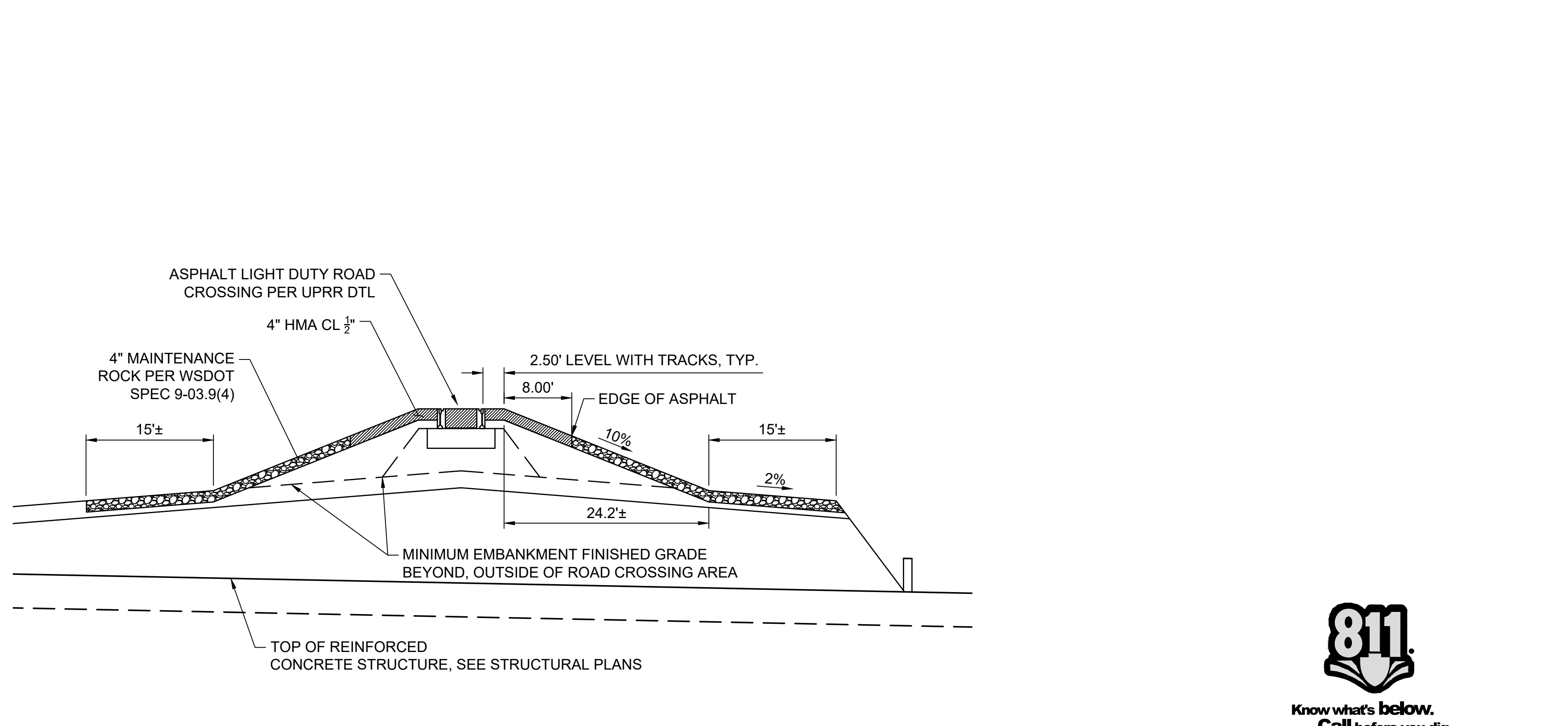


2 UNDERCROSSING STRUCTURE TYPICAL SECTION
SCALE: N.T.S.

3 DRAIN TRENCH
SCALE: N.T.S.



4 UPRR TYPICAL ROAD CROSSING DETAILS
SCALE: N.T.S.



5 ROAD CROSSING TYPICAL SECTION
SCALE: N.T.S.

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PRELIMINARY PLANS NOT FOR CONSTRUCTION

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NO.	DESCRIPTION	DATE

AMERICAN ROCK PRODUCTS RAIL CROSSING RICHLAND, WA

DETAILS

FILE: 30-23-046-C-500
 JUB PROJ. #: 30-23-006
 DRAWN BY: ...
 DESIGN BY: KR
 CHECKED BY: ...

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 LAST UPDATED: 3/1/2024
 SHEET NUMBER: C-500

811
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Plot Date: 3/1/2024 9:57 AM Plotted By: Paul Inwards
 Date Created: 2/27/2024 JUB COMMENT: CLIENT SWAMERICAN ROCK PRODUCTS PROJECTS: 30-23-046 AMERICAN ROCK RAIL CROSSING RICHLAND, WA SHEET: 30-23-046 C-500.DWG



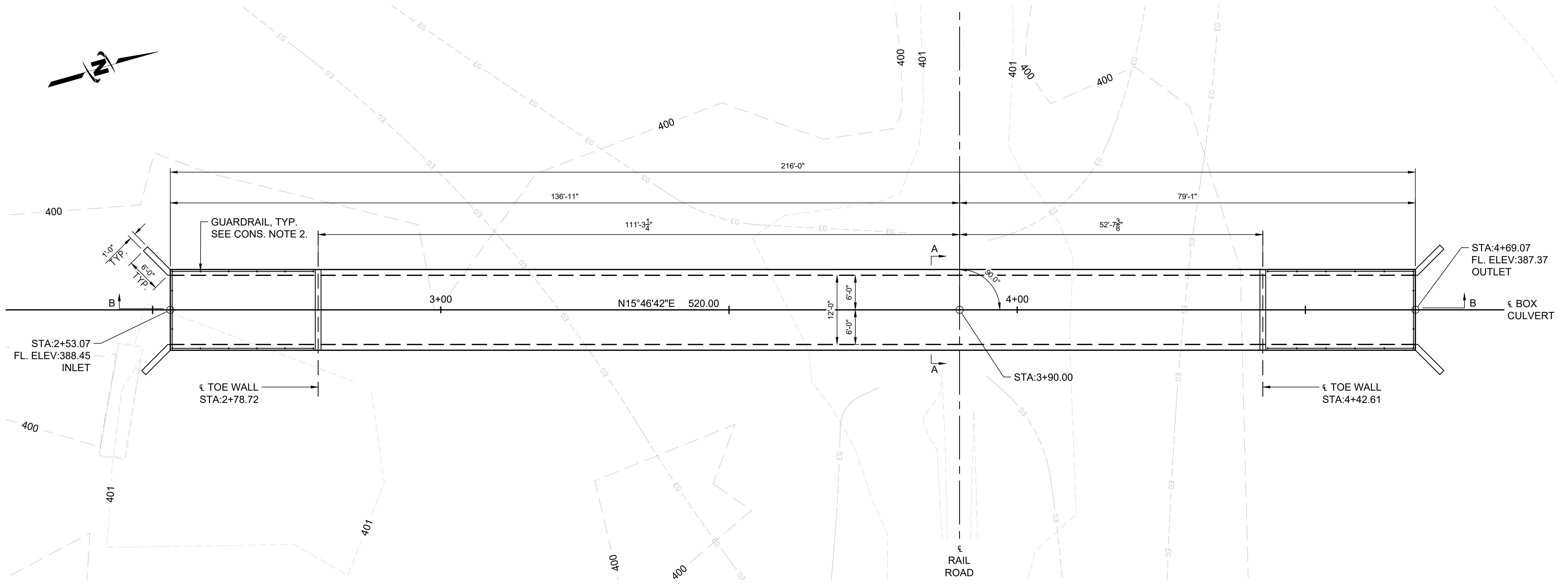
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NO.	REVISION	DESCRIPTION	BY	DATE

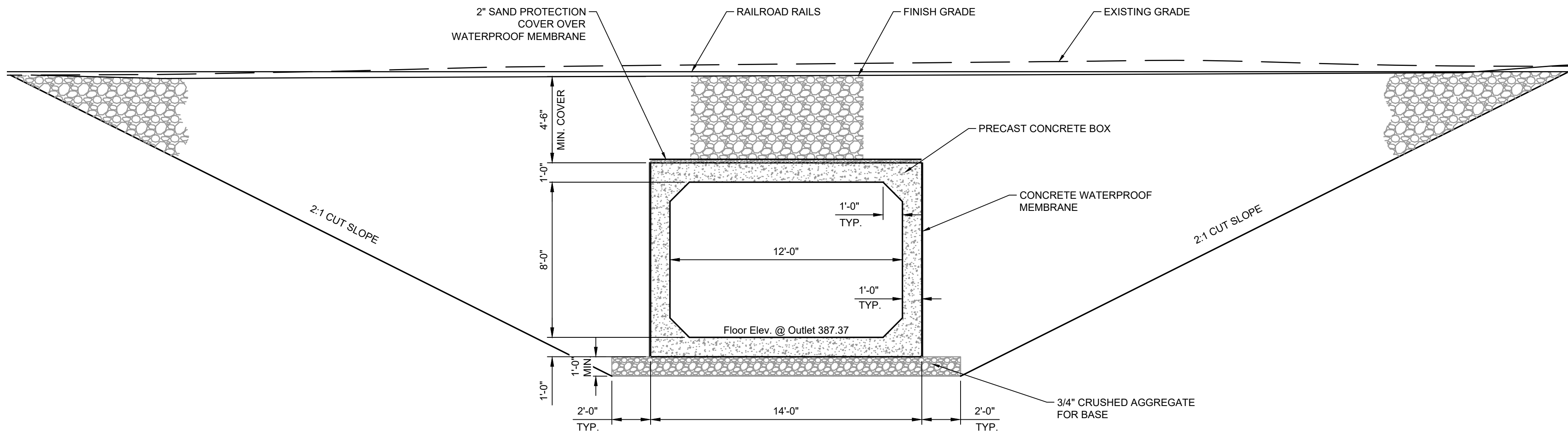
AMERICAN ROCK PRODUCTS RAIL CROSSING
 RICHLAND, WA
 BOX CULVERT
 SITUATION & LAYOUT

FILE:	30-23-046_S-101
JUB PROJ. #:	30-23-046
DRAWN BY:	EM
DESIGN BY:	KR
CHECKED BY:	AJC

AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY
 LAST UPDATED: 2/7/2024
 SHEET NUMBER:
S-101



SITUATION & LAYOUT
 SCALE: 1" = 10'



SECTION A-A
 SCALE: 3" = 1'-0"

NOTES

- CONSTRUCTION SPECIFICATIONS**
 MATERIALS, CONSTRUCTION AND WORKMANSHIP SHALL BE PERFORMED IN ACCORDANCE WITH WSDOT "STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION" 2024 EDITION. ANY EXCEPTIONS ARE NOTED IN THE SPECIAL PROVISIONS OR CONSTRUCTION DRAWINGS.
- MATERIALS**
 ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI. PRECAST BOX UNITS TO HAVE A MINIMUM CONCRETE COMPRESSIVE STRESS OF 5000 PSI. REINFORCING STEEL SHALL CONFORM TO ASTM A615 - GRADE 60.
- CONSTRUCTION**
 1. CONSTRUCTION JOINTS ARE PERMITTED ONLY WHERE SHOWN ON THE PLANS OR AS APPROVED BY THE ENGINEER. BACKFILL OF THE STRUCTURE SHALL NOT BE MORE THAN 2 FEET DIFFERENCE IN ELEVATION FROM ONE SIDE OF THE STRUCTURE TO THE OTHER.
 2. BOX CULVERT FABRICATOR TO COORDINATE RAIL BOLT LOCATION WITH GUARDRAIL FABRICATOR.
- PLAN DIMENSIONS AND ELEVATIONS**
 ALL EXPOSED CORNER OF POURED CONCRETE SHALL HAVE A 1 1/2" CHAMFER.
 REINFORCING STEEL DIMENSIONS ARE MEASURED FROM CENTERLINE OF BAR UNLESS OTHERWISE NOTED.
 PROVIDE 2" CONCRETE COVER MEASURING FROM THE FACE OF THE CONCRETE TO THE FACE OF ANY REINFORCING BAR, UNLESS SHOWN OTHERWISE ON THE DRAWINGS.
 REINFORCING STEEL SPLICING LENGTHS SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATIONS.
- INCIDENTAL ITEMS**
 ALL ITEMS SHOWN OR NOTED ON THE PLANS WHICH ARE NOT SPECIFICALLY BID ITEMS ARE CONSIDERED INCIDENTAL. THE COST OF FURNISHING AND INSTALLING INCIDENTAL ITEMS WILL NOT BE PAID SEPARATELY.
- DESIGN SPECIFICATIONS**
 STRUCTURE DESIGNED IN ACCORDANCE WITH THE AASHTO "LRFD BRIDGE DESIGN SPECIFICATIONS," 9TH EDITION, 2020.
 CONTRACTOR IS RESPONSIBLE FOR DESIGN OF PRECAST BOX UNITS PER DESIGN CRITERIA SHOWN ON S-102. PRECAST UNITS TO BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF WASHINGTON. PRECAST BOX UNITS TO BE DESIGNED PER AREMA CODE AND SHALL BE DESIGNED TO CARRY CONSTRUCTION LOADINGS WITH A MINIMUM FILL COVER OF 4.5 FEET ON TOP OF THE UNITS.
- WATERPROOF MEMBRANE EXTENTS**
 WATERPROOF MEMBRANE TO COVER TOP AND SIDES OF ENTIRE REINFORCED CONCRETE BOX LENGTH FROM HEADWALL TO HEADWALL AS SHOWN.

Plot Date: 2/7/2024 1:06 PM. Plotted By: Kevin Ramirez
 Date Created: 2/7/2024 JUB: COMCENTRAL/CULVERT/SW/AMERICANROCKPRODUCTS/PROJECTS/30-23-046 AMERICANROCKRAILCROSSING/DESIGN/CAD/SHEET/30-23-046_S-101.DWG

GENERAL NOTES

- ALL EXCESS MATERIALS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT LOCATIONS PROVIDED BY THE CONTRACTOR. DISPOSAL SITES SHALL BE IN COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.
- AT COMPLETION OF PROJECT, CONTRACTOR SHALL NOTIFY OWNER AND/OR OWNER'S REPRESENTATIVE FOR FINAL PUNCHLIST WALKTHROUGH. FINAL PUNCHLIST ITEMS SHALL BE COMPLETED NO LATER THAN 3 WEEKS AFTER FINAL PUNCHLIST WALKTHROUGH.
- PRIOR TO FINAL PROJECT ACCEPTANCE, THE CONTRACTOR SHALL CLEAN ALL UNDERGROUND STRUCTURES INCLUDING BUT NOT LIMITED TO MANHOLES, CATCH BASINS, SEWER PIPE AND STORM DRAINAGE. UNDERGROUND STRUCTURES SHALL BE CLEANED TO REMOVE ALL DEBRIS AND/OR SEDIMENT.
- CONTRACTOR SHALL USE "REQUEST FOR INFORMATION" PROCEDURE FOR REQUESTING INFORMATION. RFI SHALL BE SUBMITTED TO THE OWNER AND/OR OWNER'S REPRESENTATIVE. NO PLAN CHANGES AND/OR CHANGE ORDERS WILL BE ACCEPTED UNLESS THEY ARE CLEARLY DOCUMENTED.
- CONTRACTOR SHALL SUBMIT SUBMITTALS AND SHOP DRAWINGS TO OWNER AND/OR OWNER'S REPRESENTATIVE FOR APPROVAL OF ALL MATERIALS PRIOR TO INSTALLATION. CONTRACTOR SHALL PROVIDE ADEQUATE TIME TO ALLOW FOR REVIEW/APPROVAL OF SUBMITTALS AND SHOP DRAWINGS.
- CONTRACTOR SHALL PROVIDE ALL MEANS, METHODS, LABOR AND MATERIALS NECESSARY TO CONSTRUCT THIS PROJECT IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.
- CONTRACTOR SHALL PROVIDE ALL CONSTRUCTION STAKING FOR VERTICAL AND HORIZONTAL CONTROL. ALL CONSTRUCTION STAKING SHALL BE COMPLETED UNDER THE SUPERVISION OF A P.L.S. LICENSED IN THE STATE.
- WHERE SPECIFICATIONS CONFLICT, THE STRICTER SHALL OVERRULE.
- THE CONTRACTOR AND ALL SUB-CONTRACTORS SHALL BE LICENSED BY THE STATE OF WASHINGTON AND BONDED TO DO WORK IN THE PUBLIC RIGHT-OF-WAY.
- THE CONTRACTOR AND ALL SUB-CONTRACTORS SHALL HAVE A CURRENT CITY OF RICHLAND BUSINESS LICENSE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CONSTRUCTION DEFICIENCIES FOR A PERIOD OF 1-YEAR FROM THE DATE OF ACCEPTANCE BY THE CITY OF RICHLAND AND THE OWNER.
- ANY CHANGES OR MODIFICATIONS TO THE PROJECT PLANS SHALL FIRST BE APPROVED BY THE ENGINEER OF RECORD AND CITY ENGINEER OR HIS REPRESENTATIVE.

CLEARING/GRUBBING NOTES

- CONTRACTOR SHALL PLACE TEMPORARY EROSION AND SEDIMENT CONTROLS PRIOR BEGINNING CLEARING AND GRUBBING.
- VERIFY LIMITS OF SITE CLEARING PRIOR TO START OF WORK.
- PROTECT AND MAINTAIN BENCHMARKS AND SURVEY CONTROL POINTS FROM DISTURBANCE DURING CONSTRUCTION.
- LOCATE, IDENTIFY, DISCONNECT AND SEAL OR CAP OFF UTILITIES INDICATED TO BE REMOVED. DO NOT INTERRUPT EXISTING UTILITY SERVICES UNLESS PERMITTED TO DO SO BY THE GOVERNING JURISDICTION AND/OR UTILITY COMPANY.
- REMOVE OBSTRUCTIONS, TREES, SHRUBS, GRASS OR OTHER VEGETATION TO PERMIT INSTALLATION OF NEW CONSTRUCTION.
- REMOVE UNSUITABLE MATERIALS THAT ARE OBSTRUCTING CONSTRUCTION ACTIVITIES AND HAVE NO GENERAL USE IN CONSTRUCTION ACTIVITIES.
- IF ANY UNKNOWN SUBSURFACE STRUCTURES ARE ENCOUNTERED DURING CONSTRUCTION, THEY SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE OWNER'S ENGINEER PRIOR TO PROCEEDING.
- THE CONTRACTOR SHALL PROTECT ADJACENT PROPERTIES, PUBLIC AND PRIVATE, AT ALL TIMES DURING CONSTRUCTION.
- FILL DEPRESSIONS CAUSED BY CLEARING/GRUBBING OPERATIONS WITH SATISFACTORY SOIL MATERIALS AS NOTED IN THE GEOTECHNICAL REPORT AS PREPARED BY GEOPROFESSIONAL INNOVATION CORPORATION, DATED 10/06/2023.
- STRIP SATISFACTORY TOPSOILS TO WHATEVER DEPTHS ARE ENCOUNTERED IN A MANNER TO PREVENT INTERMINGLING WITH UNDERLYING SUBSOILS OR OTHER WASTE MATERIALS.
- STOCKPILE TOPSOILS ON-SITE FOR RE-USE. REMOVE EXCESS TOPSOILS FROM SITE IF NOT NEEDED FOR CONSTRUCTION ACTIVITIES.
- REMOVE SURPLUS SOIL MATERIALS, UNSUITABLE TOPSOIL, OBSTRUCTIONS, AND WASTE MATERIALS AND LEGALLY DISPOSE OF THEM OFF-SITE.
- UPON COMPLETION OF SITE WORK, CLEAN THE ENTIRE SITE WORK AREA. REMOVE ALL EXCESS EXCAVATED SOIL MATERIALS, ROCKS, BOULDERS, LOGS, TREES, PIPES OR DEBRIS OF ANY TYPE AND DISPOSE FROM THE SITE.

SITE LAYOUT NOTES

- ALL DIMENSIONS SHOWN ON THESE PLANS AND ANY EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION. ANY DISCREPANCY SHALL WARRANT IMMEDIATE ATTENTION OF ENGINEER TO RESOLVE ALL PROBLEMS PRIOR TO PROCEEDING WITH CONSTRUCTION.
- ALL SIGNAGE AND STRIPING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD AND THE STATE SIGN FABRICATION MANUAL.
- CONCRETE MIX FOR CURBS AND SIDEWALKS SHALL BE IN ACCORDANCE WITH THE CITY OF RICHLAND STANDARD SPECIFICATIONS.
- PAINT FOR PAVEMENT MARKINGS SHALL BE EITHER LOW VOC SOLVENT BASED OR LOW VOC WATERBORNE MEETING THE REQUIREMENTS OF SECTION 9-34 OF THE WSDOT STANDARD SPECIFICATIONS.

TRENCHING/BACKFILL/COMPACTION NOTES

- BACKFILL MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF RICHLAND STANDARD SPECIFICATIONS AND IN ACCORDANCE WITH THE GEOTECHNICAL REPORT RECOMMENDATIONS AS PREPARED BY GEOPROFESSIONAL INNOVATION CORPORATION DATED 10/06/2023.
- ACCEPTABLE MATERIALS EXCAVATED FROM THE TRENCH SHALL BE IN ACCORDANCE WITH SECTION 7-08.3(3) OF THE WSDOT STANDARD SPECIFICATIONS. MATERIAL EXCEEDING THE OPTIMUM MOISTURE CONTENT SHALL BE CONSIDERED AS UNACCEPTABLE FOR BACKFILL WITHIN THE PIPE TRENCH ZONE.
- CONTRACTOR SHALL IMPORT BACKFILL MATERIAL AS NEEDED TO CONSTRUCT THE IMPROVEMENTS.
- LAY PIPES TO LINES AND GRADES INDICATED ON THE DRAWINGS. NOTIFY THE ENGINEER OF RECORD OF ANY DISCREPANCIES.
- TRENCH EXCAVATION SHALL BE IN ACCORDANCE WITH SECTION 7-08.3(1)A OF THE WSDOT STANDARD SPECIFICATIONS.
- SHORING SHALL BE IN ACCORDANCE WITH SECTION 7-08.3.(1)B OF THE WSDOT STANDARD SPECIFICATIONS.
- SHORING AND TRENCH SAFETY SYSTEMS SHALL MEET THE REQUIREMENTS OF WASHINGTON STATE INDUSTRIAL SAFETY AND HEALTH ACT, CHAPTER 49.17 RCW.
- TRENCH BACKFILL SHALL BE IN ACCORDANCE WITH SECTION 7-08.3(3) OF THE WSDOT STANDARD SPECIFICATIONS.
- REMOVE SURPLUS MATERIALS FROM THE SITE.
- PROTECT OPEN TRENCH TO PREVENT DANGER TO THE PUBLIC.
- PROVIDE ROCK EXCAVATION AS NEEDED TO CONSTRUCT UNDERGROUND UTILITY IMPROVEMENTS.

EARTHWORK NOTES

- PERFORM WORK IN ACCORDANCE WITH ASTM AND AASHTO PROCEDURE STANDARDS.
- PRIOR TO THE START OF GRADING, ALL EXISTING ORIGINAL MATERIAL, DEBRIS, RUBBLE, ASPHALT PAVEMENT, ETC., SHALL BE REMOVED FROM THE SITE TO THE SATISFACTION OF THE OWNER AND OWNER'S REPRESENTATIVE.
- IF ANY UNKNOWN SUBSURFACE STRUCTURES ARE ENCOUNTERED DURING CONSTRUCTION, THEY SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE OWNER'S ENGINEER PRIOR TO PROCEEDING.
- THE CONTRACTOR SHALL PROTECT ADJACENT PROPERTIES, PUBLIC AND PRIVATE, AT ALL TIMES DURING CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING AND/OR EXPORTING ALL MATERIAL AS REQUIRED TO PROPERLY GRADE THIS SITE TO THE FINISHED ELEVATIONS SHOWN HEREON IN ACCORDANCE WITH THE APPROVED PLANS AND THE GEOTECHNICAL REPORT RECOMMENDATIONS PREPARED BY GEOPROFESSIONAL INNOVATION CORPORATION, DATED 10/06/2023.
- ALL FILL SHALL BE TESTED AND APPROVED BY THE GEOTECHNICAL ENGINEER OF RECORD PRIOR TO PLACEMENT.
- ALL FILL MATERIAL SHALL BE PLACED IN LIFTS AND COMPACTED AS RECOMMENDED BY THE GEOTECHNICAL ENGINEERING EVALUATION AS PREPARED BY GEOPROFESSIONAL INNOVATION CORPORATION, DATED 10/06/2023.
- ALL FILL MATERIAL PLACED ABOVE EXISTING GROUND SURFACE SHALL BE COMPACTED TO A MINIMUM OF 95% OF MAX. DRY DENSITY PER ASTM D1557.
- ALL EXCAVATION SHALL BE CONSIDERED UNCLASSIFIED.
- THE CONTRACTOR SHALL BE REQUIRED TO CALL 811 A MINIMUM OF TWO BUSINESS DAYS PRIOR TO COMMENCING ANY EXCAVATION ACTIVITIES TO DETERMINE FIELD LOCATIONS OF ALL UNDERGROUND UTILITIES.
- CONTRACTOR SHALL PROVIDE MATERIAL TESTING AND FREQUENCY OF TESTING IN ACCORDANCE WITH THE GEOTECHNICAL REPORT AS PREPARED BY GEOPROFESSIONAL INNOVATION CORPORATION, DATED 10/06/2023.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OFF-SITE CLEANUP OF ANY DISCHARGE OF CONSTRUCTION RELATED STORMWATER AND SILT LADEN MATERIAL.
- CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE TEMPORARY CONSTRUCTION WATER FOR DUST CONTROL AND FOR COMPACTION PURPOSES.
- ALL DISTURBED AREAS SHALL BE HYDRO-SEEDED WITH A DRYLAND GRASS SEED MIX WITH TACKIFIER. CONTRACTOR SHALL BE RESPONSIBLE TO RE-ESTABLISH VEGETATION ON ALL DISTURBED AREAS. CONTRACTOR SHALL PROVIDE TEMPORARY WATER AS NECESSARY TO PROVIDE SEED GERMINATION. TACKIFIER SHALL BE IN ACCORDANCE WITH WSDOT STND SPECIFICATION 9-14.4(7).

CONCRETE NOTES

- PROVIDE $\frac{3}{8}$ " MASTIC EXPANSION JOINT WHEN CONCRETE PAVEMENT MEETS CURB. MASTIC SHALL EXTEND THE FULL DEPTH OF THE CONCRETE PAVEMENT.
- PROVIDE $\frac{3}{8}$ " MASTIC EXPANSION JOINT WHEN CONCRETE PAVEMENT MEETS FACE OF BUILDING. MASTIC SHALL EXTEND THE FULL DEPTH OF THE CONCRETE PAVEMENT.
- CONCRETE PAVEMENT SHALL HAVE A SMOOTH LIGHT BROOM FINISH.
- ALL JOINT PATTERNS SHALL CLOSELY FOLLOW THE PLAN LAYOUT.
- CEMENT CONCRETE PAVEMENT SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE ACI 301 AND WSDOT STANDARD SPECIFICATIONS SECTION 5-05.
- CONCRETE SHALL HAVE A 2 TO 4-INCH SLUMP BEFORE ADDING HIGH-RANGE WATER REDUCING ADMIXTURE OR PLASTICIZING ADMIXTURE, \pm 1-INCH
- 6.5 SACK MINIMUM SACK CONTENT
- MAXIMUM WATER/CEMENT RATIO: 0.45 (NON-AIR ENTRAINED)
- AIR-ENTRAINED: 6.5%, \pm 1.5% AT POINT OF DELIVERY FOR 1-1/2 INCH NOMINAL MAX. AGGREGATE SIZE. 6%, \pm 1.5% AT POINT OF DELIVERY FOR 1 TO $\frac{3}{4}$ " NOMINAL MAX. AGGREGATE SIZE.
- USE OF ACCELERATING ADMIXTURES IN COLD WEATHER IS NOT ALLOWED UNLESS AUTHORIZED BY ENGINEER IN WRITING.
- USE OF RETARDING ADMIXTURES IN HOT WEATHER IS NOT ALLOWED UNLESS AUTHORIZED BY ENGINEER IN WRITING.
- CONTRACTOR SHALL APPLY CURING COMPOUND TO THE ENTIRE SURFACE AREA PER SECTION 5-05.3(13)A OF THE WSDOT STANDARD SPECIFICATIONS.

MATERIAL TESTING

- CONTRACTOR SHALL PROVIDE MATERIAL TESTING BY A CERTIFIED TESTING LABORATORY. MATERIAL TEST REPORTS SHALL INCLUDE CLASSIFICATION IN ACCORDANCE WITH ASTM D2487 OF EACH SOIL MATERIAL PROPOSED FOR FILL AND BACKFILL AND LABORATORY COMPACTION CURVE ACCORDING TO ASTM D1557 FOR EACH SOIL MATERIAL PROPOSED FOR FILL AND BACKFILL.
- CONTRACTOR SHALL ADHERE TO THE TESTING AND INSPECTION REQUIREMENTS AS NOTED IN THE CITY PERMIT.
- CONTRACTOR SHALL PROVIDE COMPACTION TESTING IN ACCORDANCE WITH ASTM D 1557, D2167, D2922 AND D 3017. FREQUENCY OF TESTING SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT RECOMMENDATIONS AS PREPARED BY GEOPROFESSIONAL INNOVATION CORPORATION, DATED 10/06/2023.
- WHEN COMPACTION TEST FAILS, CONTRACTOR SHALL REMOVE WORK, REPLACE AND RETEST AT NO ADDITIONAL COST TO OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE COMPACTION TESTING REQUIREMENTS.

DESIGN SPECIFICATIONS

STRUCTURE DESIGNED IN ACCORDANCE WITH "AASHTO LRFD BRIDGE DESIGN SPECIFICATION" 9th EDITION, AND AREMA MANUAL FOR RAILWAY ENGINEERING 2020 EDITION.

STRUCTURAL CONCRETE ALL LOCATIONS UNLESS SHOWN OTHERWISE.	F _c = 4,000 psi
REINFORCING STEEL ALL LOCATIONS UNLESS SHOWN OTHERWISE.	F _y = 60,000 psi
PRECAST BOX UNIT DESIGN CRITERIA LIVE LOAD	COOPER E-80
MINIMUM SOIL COVER	SOIL COVER = 4.5 ft
SOIL DENSITY	γ _{SOIL} = 125 pcf
EARTH PRESSURES:	AT REST = 40 pcf ACTIVE = 60 pcf PASSIVE = 360 pcf
ALLOWABLE BEARING PRESSURE	P _{ALLOWABLE} = 4,500 psi

SUMMARY OF QUANTITIES

ITEM NO.	TOTAL QUANTITY	UNIT	ITEM
1	7,695	CY	STRUCTURE EXCAVATION
2	3,682	CY	STRUCTURE BACKFILL
3	7.5	CY	CONCRETE - WINGWALLS
4	TBD	LB	REINFORCING STEEL
5	146.7	CY	$\frac{3}{4}$ " CRUSHED AGGREGATE BASE



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NO.	REVISION	DESCRIPTION	BY	DATE

REUSE OF DRAWINGS
JUB SHALL RETAIN ALL COMMON LAW, STATUTORY, COPYRIGHT, AND OTHER RIGHTS IN THESE PLANS. NO PART OF THESE PLANS SHALL BE REUSED WITHOUT JUB'S PRIOR WRITTEN CONSENT. ANY REUSE WITHOUT WRITTEN CONSENT BY J-U-B WILL BE AT CLIENT'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO J-U-B.

AMERICAN ROCK PRODUCTS RAIL CROSSING
RICHLAND, WA

BOX CULVERT
GENERAL NOTES, DESIGN AND QUANTITIES

FILE: 30-23-046 S-102
JUB PROJ. #: 30-23-046
DRAWN BY: EM
DESIGN BY: KR
CHECKED BY: AJC

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY
LAST UPDATED: 2/7/2024

SHEET NUMBER:

S-102



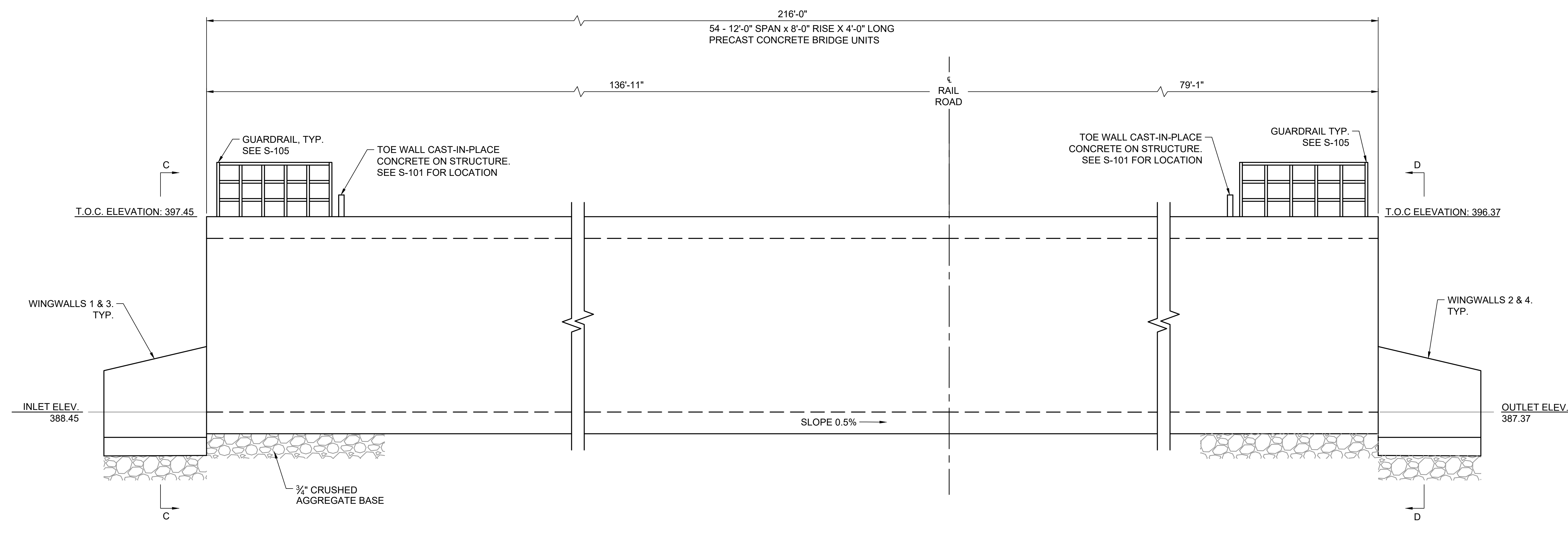
REUSE OF DRAWINGS
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NO.	REVISION	DESCRIPTION	BY	DATE

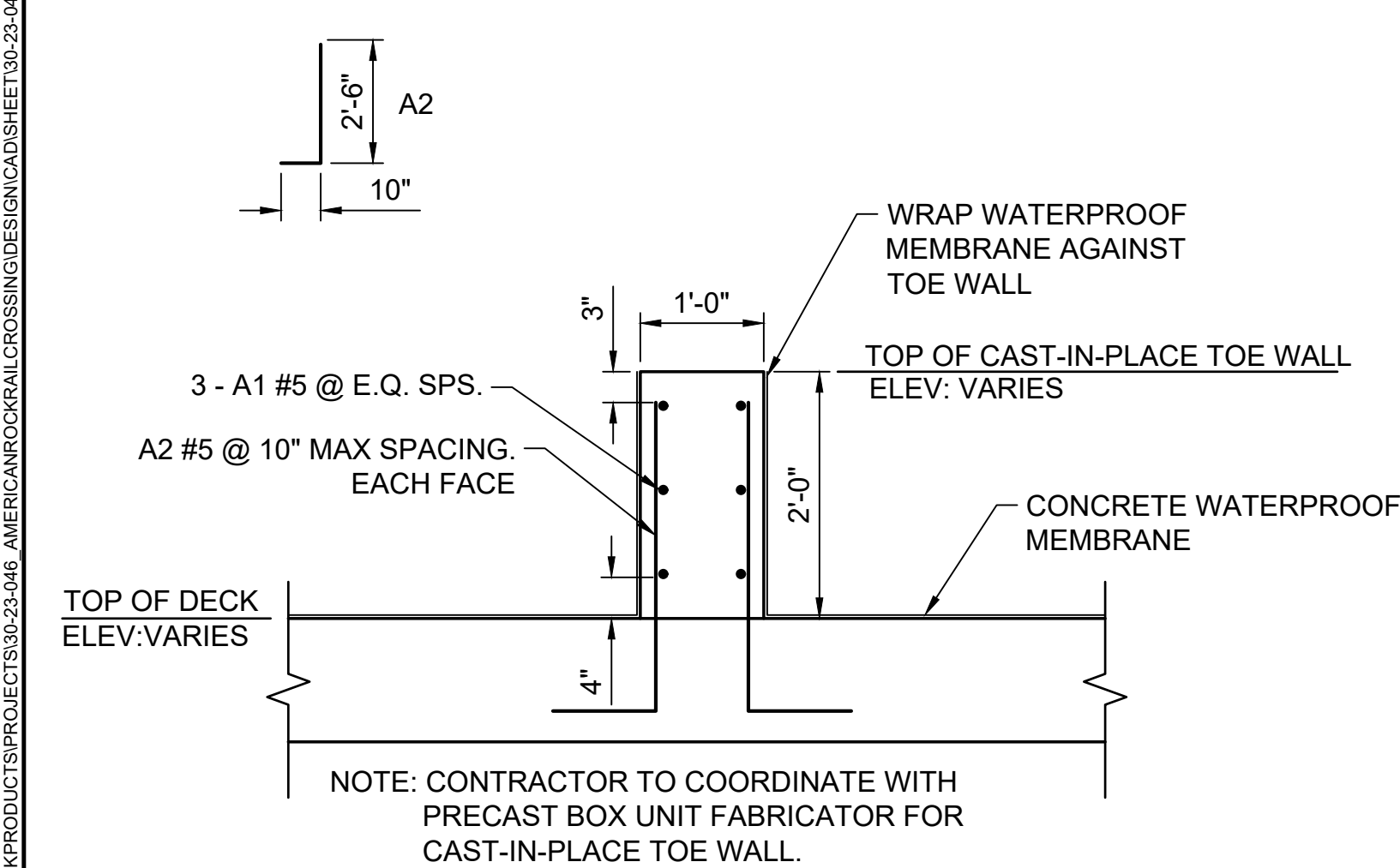
AMERICAN ROCK PRODUCTS RAIL CROSSING
 RICHLAND, WA
 BOX CULVERT
 STRUCTURAL DETAILS

FILE: 30-23-046 S-103
 JUB PROJ. #: 30-23-046
 DRAWN BY: EM
 DESIGN BY: JR
 CHECKED BY: AJC
 AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY
 LAST UPDATED: 2/7/2024

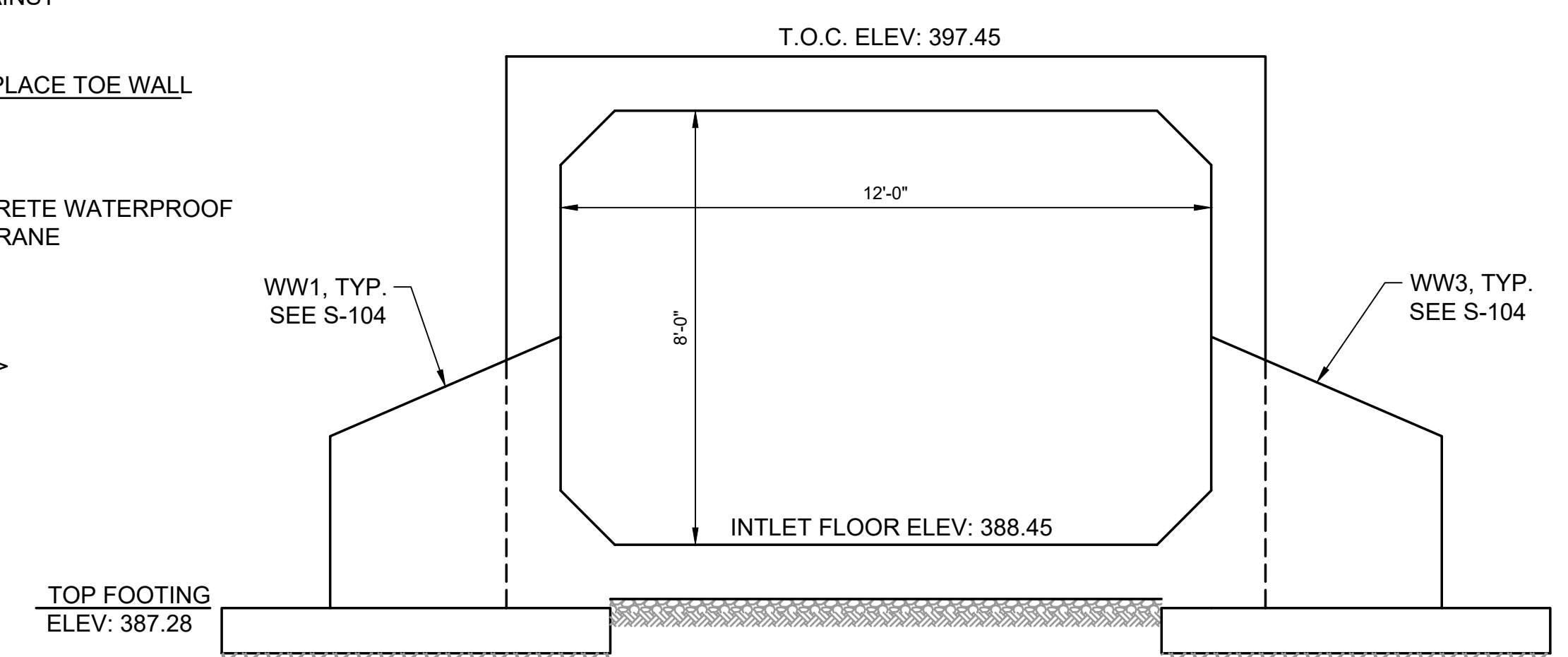
SHEET NUMBER:
S-103



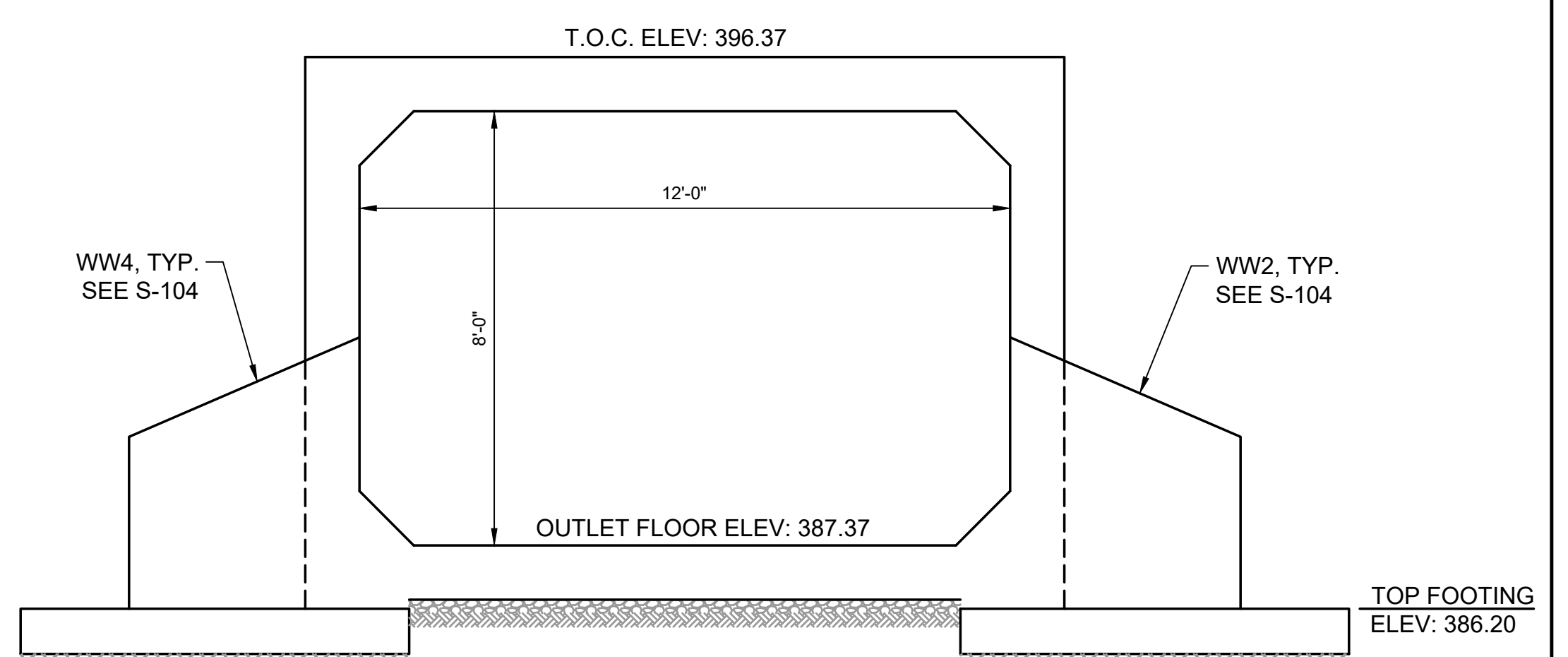
SECTION B-B
 SCALE: 1" = 15'



TOE WALL DETAIL
 SCALE: 1 1/2" = 1'-0"



SECTION C-C
 SCALE: 1" = 30'



SECTION D-D
 SCALE: 1" = 30'

Plot Date: 2/7/2024 1:07 PM Plotted By: Kevin Ramirez
 Date Created: 2/6/2024 10:02:11 AM Client: SWA/AMERICAN ROCK PRODUCTS PROJECT: 30-23-046 AMERICAN ROCK RAIL CROSSING DESIGN SHEET: 30-23-046 S-103.DWG



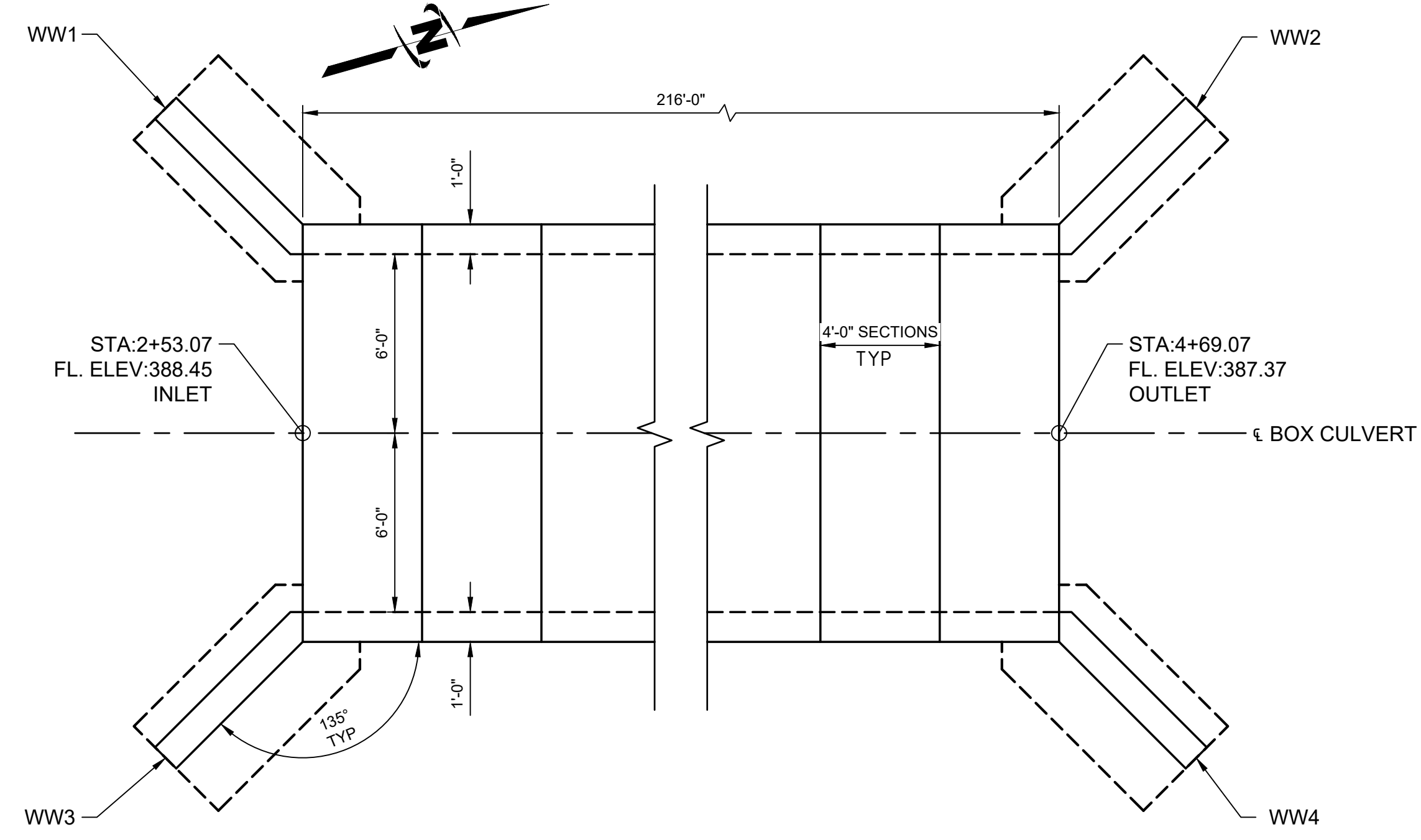
REUSE OF DRAWINGS
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NO.	REVISION	DESCRIPTION	BY	DATE

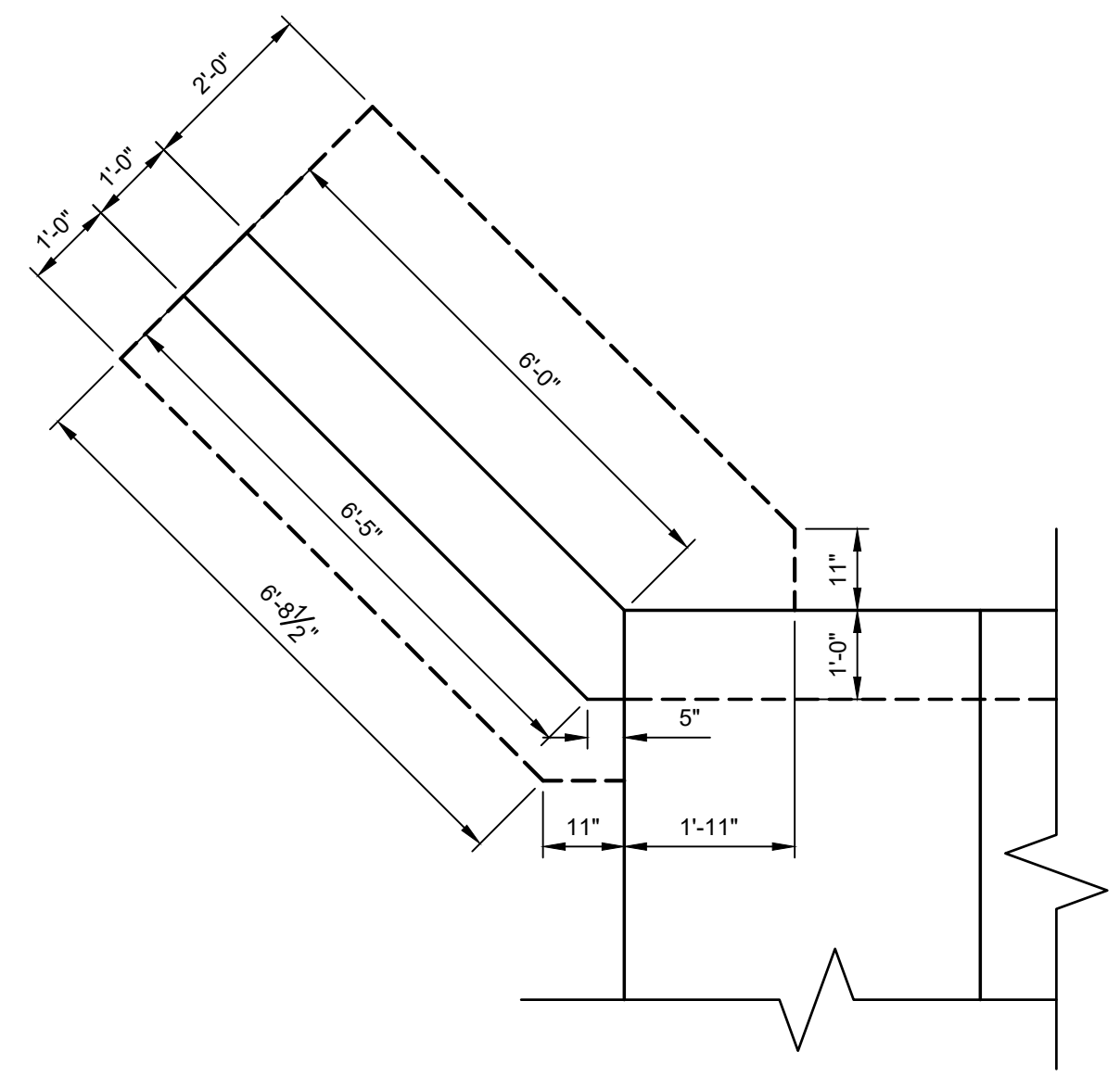
AMERICAN ROCK PRODUCTS RAIL CROSSING
 RICHLAND, WA
 WINGWALL DETAILS

FILE: 30-23-046 S-104
 JUB PROJ. #: 30-23-046
 DRAWN BY: EM
 DESIGN BY: KR
 CHECKED BY: AJC
 AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY
 LAST UPDATED: 2/7/2024

SHEET NUMBER:
S-104

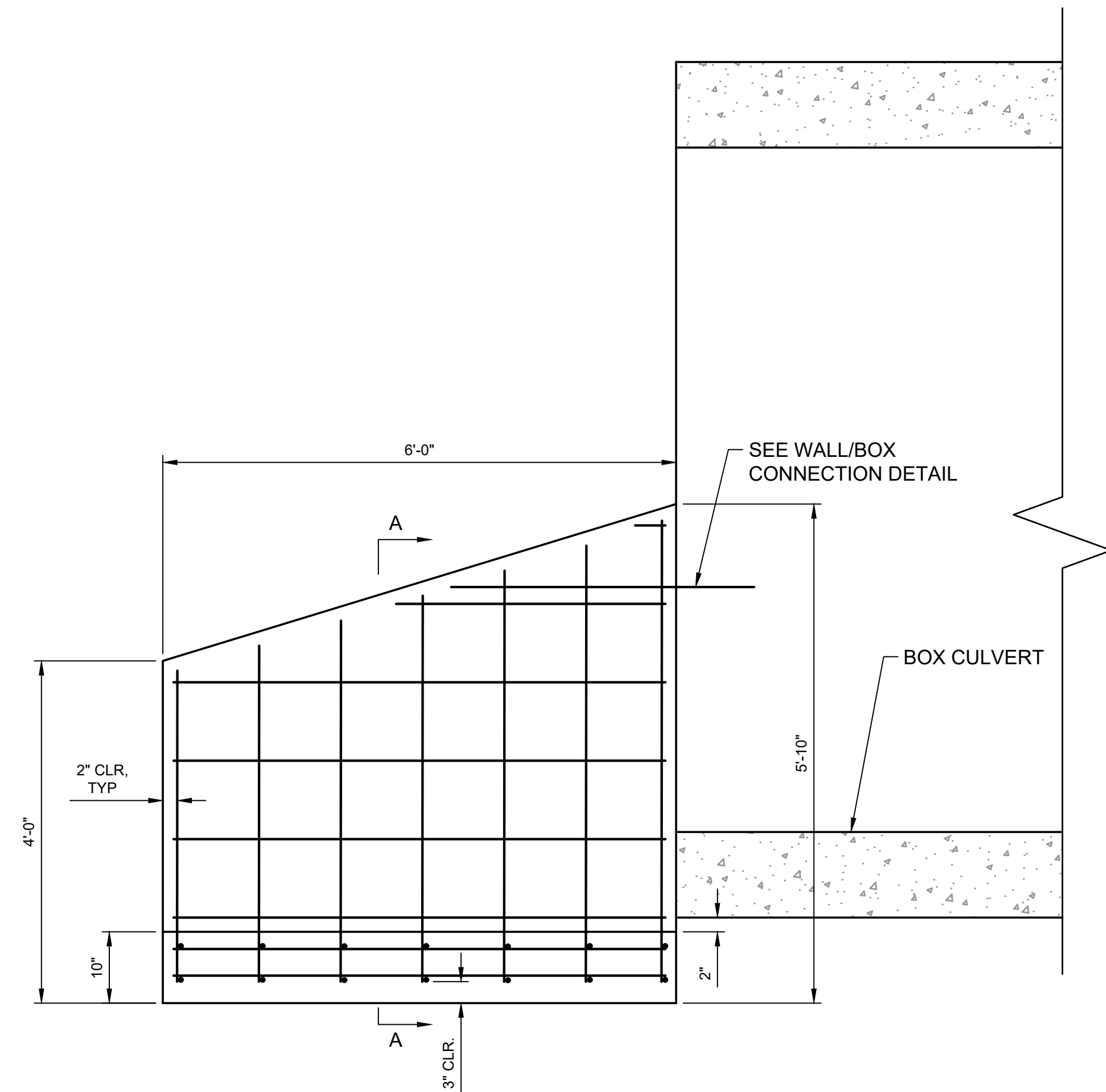


BRIDGE LAYOUT
 SCALE: 1/4"=1'-0"

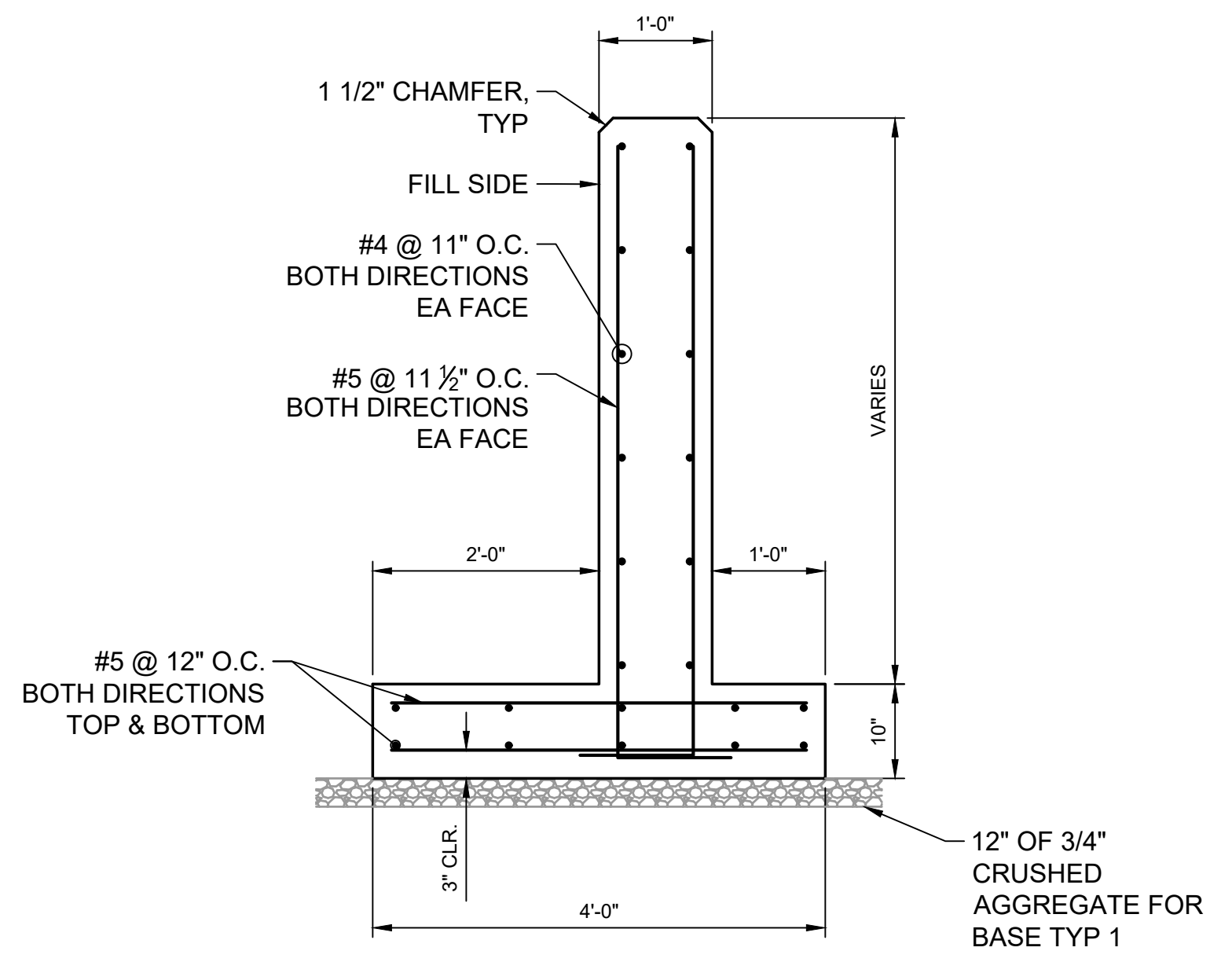


NOTE:
 SIMILAR DETAIL FOR WINGWALLS NOT SHOWN

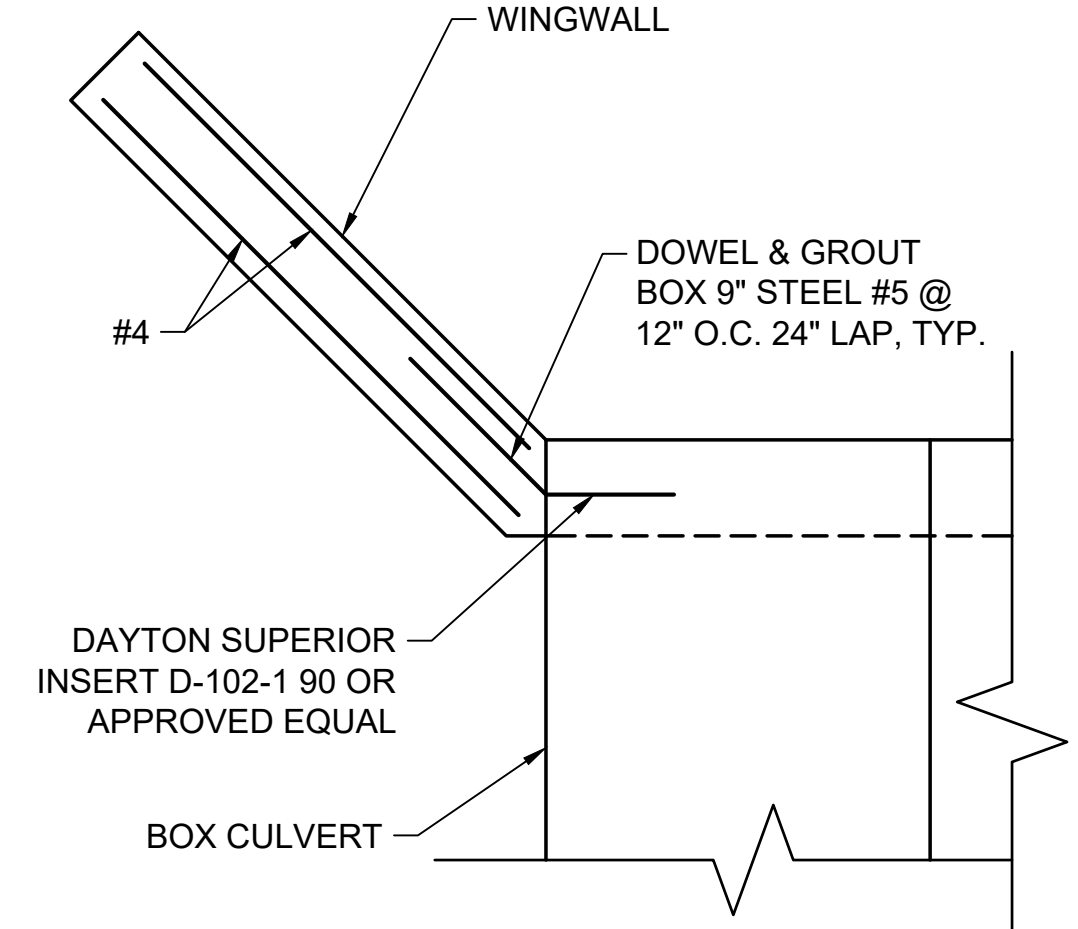
WINGWALL LAYOUT (TYP)
 SCALE: 1/2"=1'-0"



TYPICAL WING WALL ELEVATION
 SCALE: 3/4"=1'-0"



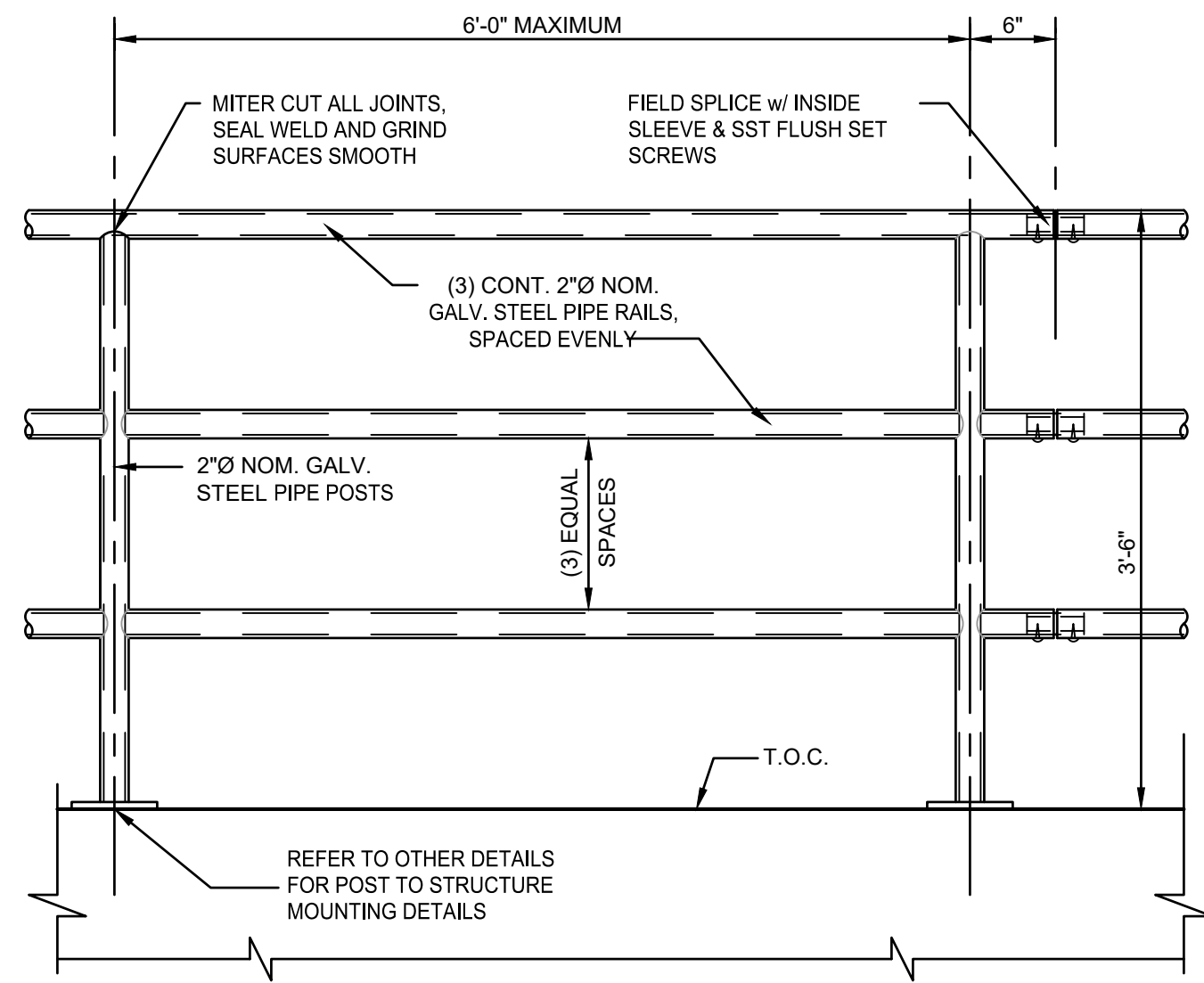
SECTION A-A
 SCALE: 3/4"=1'-0"



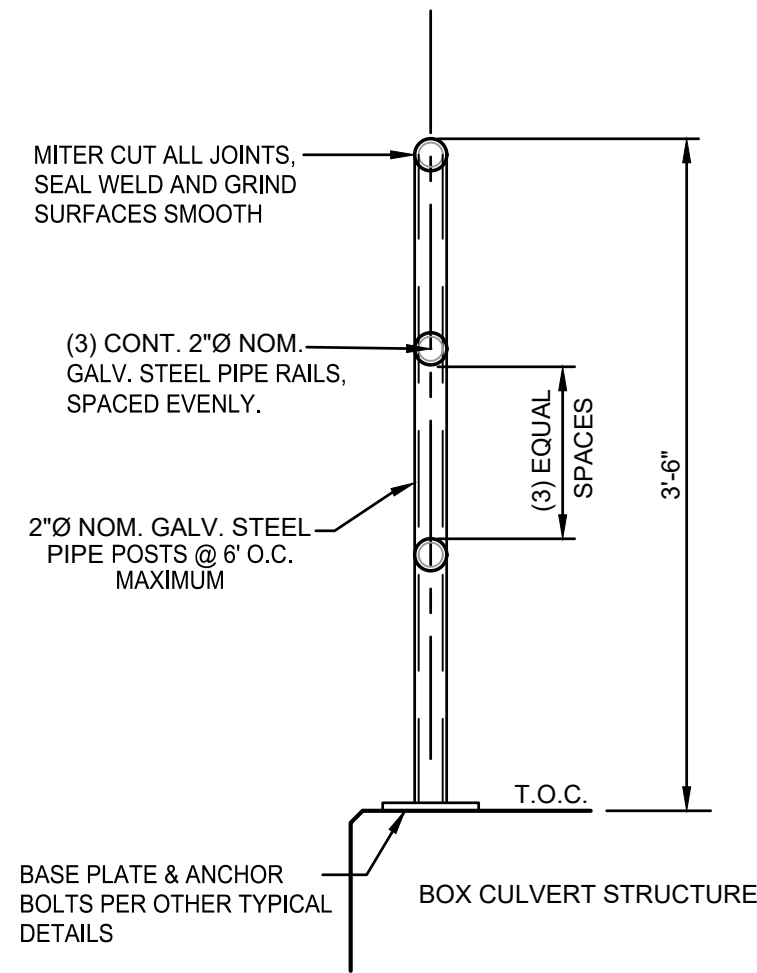
NOTE:
 - WALL CONNECTION REQUIRED IN (4) PLACES
 - WALL CONNECTION TO BE COORDINATED WITH PRECAST BOX UNIT MANUFACTURER

WALL/BOX CONNECTION
 SCALE: 3/4"=1'-0"

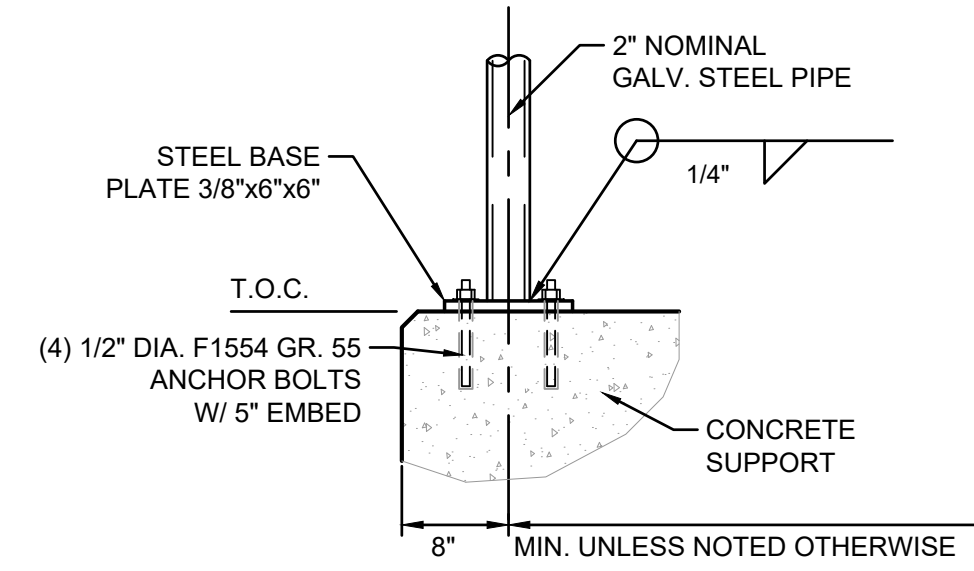
Plot Date: 2/6/2024 8:24 AM, Plotted By: Kevin Ramirez, Date Created: 2/7/2024, JUB: COM/CENTRAL/CULVERT/SW/AMERICANROCKPRODUCTS/PROJECTS/30-23-046 AMERICANROCKRAILCROSSING/DESIGN/CAD/SHEET/30-23-046 S-104.DWG



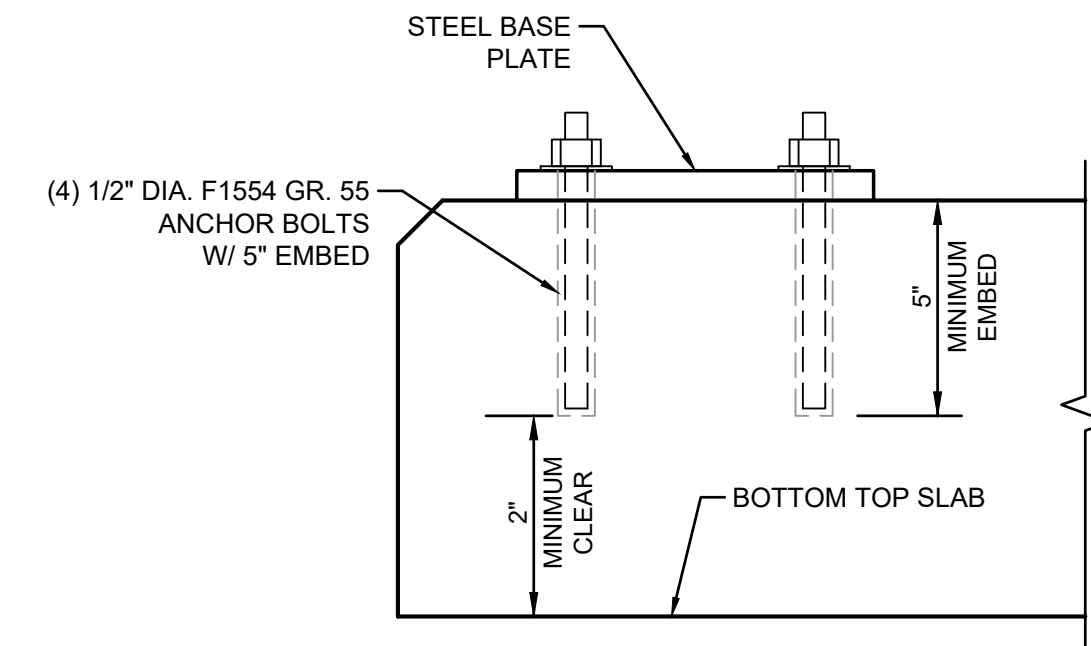
TYPICAL GALV. STEEL GUARDRAIL DETAIL
SCALE:NTS



TYPICAL GALV. STEEL GUARDRAIL DETAIL
SCALE:NTS



TYPICAL GALV. STEEL GUARDRAIL DETAIL
SCALE:NTS



TYPICAL ANCHOR BOLT DETAIL
SCALE:NTS

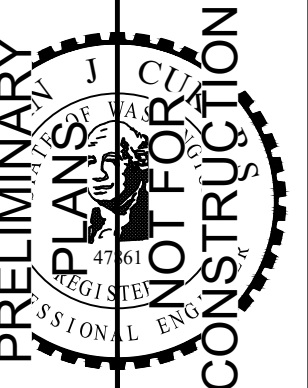
NOTES

1. PROVIDE STRUCTURAL STEEL PLATES AND SLEEVES THAT CONFORM WITH ASTM A709 GRADE 36.
2. PROVIDE STRUCTURAL STEEL TUBING THAT CONFORMS WITH ASTM A500 GRADE B OR ASTM A501.
3. PROVIDE BOLT, NUTS, AND WASHERS THAT CONFORMS WITH ASTM A307.
4. GUARDRAIL TO BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153.
5. GALVANIZE ANCHOR BOLTS, NUTS, AND WASHERS IN ACCORDANCE WITH ASTM A153.
6. ANCHOR BOLTS TO BE CAST INTO PRECAST BOX UNITS. CONTRACTOR TO COORDINATE AND VERIFY PLACEMENT OF ANCHOR BOLTS WITH PRECAST BOX UNIT MANUFACTURER.



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NO.	REVISION	DESCRIPTION	BY	DATE

AMERICAN ROCK PRODUCTS RAIL CROSSING
RICHLAND, WA

GUARDRAIL AND MISCELLANEOUS DETAILS

FILE: 30-23-046 S-105
JUB PROJ. #: 30-23-046
DRAWN BY: EM
DESIGN BY: KR
CHECKED BY: AJC
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SHEET NUMBER:
S-105