

WAC 197-11-960: 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.

A. Background

1. Name of proposed project, if applicable:

NE Old Cascade Highway, Miller River East and West
Roadway and Drainage Improvement Projects #1129595 and #1129596

2. Name of applicant/lead agency:

King County Department of Transportation, Road Services Division (RSD)

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

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201 South Jackson Street
Seattle, WA 98104-3856

Project website address: <https://www.kingcounty.gov/depts/transportation/roads/old-cascade-highway.aspx>

4. Date checklist prepared: September 2018

5. Agency requesting checklist: King County Department of Transportation, Road Services Division (RSD)

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

Project construction is dependent on acquisition of permits, approvals, and property easements that are anticipated to be completed in 2019/2020. Some work will be constructed by a Contractor and some work will be completed by King County RSD crews to minimize the duration of construction. Timing for work within critical areas will be limited to what's allowed per the project's permit and approval conditions. Mitigation planting for unavoidable impacts to site vegetation will generally occur in the fall or winter following construction.

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

There are no future plans for additions, expansion or further activity related to or connected with this proposal.

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

Environmental information prepared for this project includes the following:

- King County. *Biological Assessment NE Old Cascade Highway/Miller River East and West, Roadway and Drainage Improvements, King County, Washington.* May 2018.

- SWCA. *Cultural Resources Assessment for the Old Cascade Highway Repairs Project, King County, Washington*. March 7, 2018.
- King County. (Geotechnical Investigation) *NE Old Cascade Highway Drainage Improvements Revised Report Culvert Replacements East of Miller River Bridge Project Number 1130189, King County, Washington*. August 21, 2017.
- King County. (Geotechnical Investigation) *NE Old Cascade Highway Drainage Improvements Culvert Replacements West of Miller River Bridge Project Number 1130188, King County, Washington*. January 3, 2017.
- King County. *Cultural Resources Screening*. May 13, 2013.
- King County. *Draft Miller River Bridge West Approach Roadway Washout – M690005 Type, Size, and Location (TSL) Feasibility Report*. September 15, 2011.

Other environmental information that is anticipated to be prepared for this project includes the following:

- State Environmental Policy Act (SEPA) Notice of Action Taken
- King County Surface Water Design Manual Drainage Report
- King County Critical Areas Report
- Permits, approvals, and reviews listed in Section A.10.

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.

Regulatory submittals submitted, but pending governmental approval, or other proposals directly affecting the property covered by this proposed project include the following:

- Federal Emergency Management Agency (FEMA), National Environmental Policy Act (NEPA) Documented Categorical Exclusion
- United States Fish and Wildlife Service (USFWS), Endangered Species Act (ESA) Section 7, Formal Consultation, Biological Opinion and Incidental Take Statement
- National Oceanic and Atmospheric Administration (NOAA) Fisheries, Magnuson-Stevens Fisheries Conservation and Management Act, Essential Fish Habitat (EFH) Informal Consultation, Concurrence of Short-Term Adverse Effect

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

The following permits, approvals, reviews, and file documentation are anticipated for the project:

Federal

- Federal Emergency Management Agency (FEMA)
 - National Environmental Policy Act (NEPA) Documented Categorical Exclusion
 - Letter of FEMA Floodplain Map Revision (LOMR)
- United States Fish and Wildlife Service (USFWS), Endangered Species Act (ESA) Section 7, Formal Consultation, Biological Opinion and Incidental Take Statement
- National Oceanic and Atmospheric Administration (NOAA) Fisheries, Magnuson-Stevens Fisheries Conservation and Management Act, Essential Fish Habitat (EFH) Informal Consultation, Concurrence of Short-Term Adverse Effect
- National Marine Fisheries Service (NMFS), Endangered Species Act (ESA) Section 4(d), Compliance with the Regional Road Maintenance Program Guidelines (RRMPG)
- United States Army Corps of Engineers (USACE), Section 404 of the Clean Water Act Permit
- United States Department of Agriculture (USDA) Forest Service, Temporary Construction Easement

Federal/State: National Historic Preservation Act Section 106 Concurrence by the Washington State Department of Historic Preservation

State

- State Environmental Policy Act (SEPA) Determination of Nonsignificance and Notice of Action Taken
- Washington State Department of Fish and Wildlife (WDFW), Hydraulic Project Approval
- Washington State Department of Ecology, National Pollutant Discharge Elimination System (NPDES) Construction Stormwater General Permit

Local

- King County Department of Permitting and Environmental Review
 - Clearing and Grading Permit
 - Shoreline Substantial Development Permit
 - Flood Hazard Certificate
- King County Department of Natural Resources and Parks
 - Temporary Construction Easements
 - Special Use Permits

11. Give 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.)

The U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) proposes to fund the King County Department of Transportation, Road Services Division (RSD) for infrastructure preservation work on NE Old Cascade Highway and West Cascade Highway, west of the City of Skykomish. This funding is available from FEMA's Public Assistance (PA) grant program. The total project cost is estimated to be \$4.5 million.

The project will provide roadway preservation repairs and drainage improvements to approximately three miles of NE Old Cascade Highway and West Cascade Highway that were impacted by storms in 2011. The storms created flooding and changed the course of the East Fork Miller River within the South Fork Skykomish drainage basin. The flooding washed out approximately 160 linear feet of NE Old Cascade Highway, including the western approach to Miller River Bridge #999W, resulting in closing the historic landmarked bridge to vehicular traffic. This project does not impact the historic Miller River Bridge #999W.

Since 2011, project stakeholders underwent a lengthy public process to determine the feasibility of a variety of responses to this loss of infrastructure. RSD proposes a number of activities that are necessary to maintain the safe use and preserve the remaining sole access segments of NE Old Cascade Highway and West Old Cascade Highway, as follows:

- Construct a new cul-de-sac on the west side of the Miller River on NE Old Cascade Highway at Miller River Road NE
- Construct a new hammerhead turnaround area on the east side of the Miller River on West Old Cascade Highway
- Remove the short span Cascade Highway Bridge #999X over a tributary stream to the South Fork Skykomish River
- Remove roadway debris from the Type F (fish-bearing) East Fork Miller River, remove 1,156 linear feet asphalt/concrete roadway, and provide native planting on the eastbound lane
- Replace Culvert #1 conveying floodwater
- Replace Culverts #2, #3, and #4 conveying stormwater
- Replace Culvert #5 at a Type N (non-fish bearing) stream

- Removal of a fish-passage barrier by replacement of Culvert #6 at a Type F (fish-bearing) stream
- Stabilize a steep slope/slide area
- Maintain approximately 3,300 linear feet of roadside ditches
- Repair, chip-and-seal approximately three miles of the remaining roadway

12. 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.

The project is located on NE Old Cascade Highway and West Old Cascade Highway, west and east of Miller River Bridge #999W that is west of the City of Skykomish, Washington, in unincorporated King County. The site is located in Township 26 north, Range 11 east, and Sections 21, 27 SE, 27 SW, 27 NW, 28 E, and 34 WM (Willamette meridian) and can be found on the Thomas Brother's Guide map, pages 514 and 515. The project's vicinity map is enclosed with Plan Sheet 1.

B. Environmental Elements

1. Earth

a. **General description of the site (circle one):** flat, rolling, hilly, steep slopes, mountainous, other _____

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

The steepest slopes on the site are at stream and river crossings; these slopes are approximately 45 percent or steeper slopes.

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.**

According to the Washington Geological Survey online mapping and available subsurface data, the predominant surficial geological units within the project site are *Quaternary alluvium (Qa)*. These soils are a combination of silt, sand, and gravel deposited in streambeds and alluvial fans. These soils may include alpine drift, peat, lacustrine, landslide, lahar, and rare loess deposits. Blue clay deposits were exposed at the landslide repair site and observed as suspended colloidal sediment in the water column of some streams in the project area. No agricultural soils were mapped or observed on site.

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

According to King County iMap accessed in 2018, portions of the site are mapped within the following geological critical areas:

- Channel migration hazard zone
- Potential landslide hazard areas (2016) and 50-foot-wide buffer
- Potential steep slope hazard areas

The active slide area and scour observed at stream and river crossings are indicators of unstable soils in terms of erosion within the project area.

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.

The table below describes the purpose, type, total area, and approximate quantities and total affected area of filling, excavation, and grading proposed for the project. The excavated material that is not suitable for reuse on site will be hauled off site and appropriately disposed of. King County’s Materials Lab will confirm that all fill is from approved sources.

Purpose of Ground Disturbance	Square Feet (s.f.)	Cubic Yards (c.y.)	
	Grading Area	Excavation/Cut	Fill
Construct a new cul-de-sac on the west side of the Miller River on NE Old Cascade Highway at Miller River Road NE	315	5	13
Construct new a new hammerhead turnaround area on the east side of the Miller River on West Old Cascade Highway	902	30	32
Remove the short span Cascade Highway Bridge #999X over a tributary stream to the South Fork Skykomish River	1,250	211	55
Remove roadway debris from the Type F (fish-bearing) East Fork Miller River, remove 1,156 linear feet asphalt/concrete roadway, and provide native planting on the eastbound lane	28,400	710	350
Replace Culvert #1 conveying floodwater	4,522	910	840
Replace Culvert #2 conveying stormwater	1,197	111	108
Replace Culvert #3 conveying stormwater	1,107	126	123
Replace Culvert #4 conveying stormwater	673	72	71
Replace Culvert #5 at a Type N (non-fish bearing) stream	2,977	607	596
Removal of a fish passage barrier by replacement of Culvert #6 at a Type F (fish-bearing) stream	10,789	5,650	4,900
Stabilize a steep slope/slide area	7,678	766	126
Maintain approximately 3,300 linear feet roadside ditches	29,700	153	0
Repair, chip-and-seal the remaining roadway	NA	NA	NA
Totals	89,510	9,351	7,241
	Approximately 2 acres		

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

Erosion could occur as a result of vegetation removal and ground-disturbing activities during construction and depending on seasonal weather. Appropriate temporary and permanent erosion and sedimentation control Best Management Practices (BMPs) and stormwater controls will be implemented to minimize potential erosion. Please see B.1.h for proposed measures to reduce and control erosion.

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

The existing impervious surface at the project site is approximately 8.83 acres (385,000 square feet). After construction, the approximate impervious surface will be 8.56 acres (373,000 square feet). This is approximately one percent reduction in impervious surfaces.

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

Construction: Existing vegetation will be preserved to the extent practicable. During construction, affected areas will be isolated from other wetted areas, incoming surface flows will be bypassed around the work zone, and temporary erosion and sedimentation controls (TESC), and BMPs required in the King County Surface Water Design Manual (SWDM) will be implemented. The BMPs include, but are not limited to the use of mulch, silt barriers, containment systems, settling tanks, interim stormwater controls, cover measures (e.g., seeding, straw, or fabric blankets), and reseeding areas that are temporarily disturbed by construction.

Operation: Permanent native plants will be installed at project completion. All exposed surfaces will be stabilized. Roadways, culverts, and ditches will be monitored and maintained.

2. Air

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.

Greenhouse Gas Emissions: Construction, operations, and maintenance of the roadway will result in greenhouse gas (GHG) emissions that contribute to global warming and related climate-change concerns. Life-cycle GHG emissions for the project include embodied, operational, and construction emissions that are defined as follows:

- Embodied emissions are the emissions released during the extraction, processing, and transportation of the materials used in construction.
- Construction emissions are released during project construction and primarily come from fuel burned in the equipment used to build the project elements, such as bulldozers, pavers, and rollers. Emissions are also released during chip-and-seal paving.
- Operational and maintenance emissions are released by vehicles at the site and during vehicular roadway travel.

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

No off-site sources of emissions or odors have been identified that may affect this proposal.

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

During construction, operation, and maintenance for the roadway, mitigation measures for project impacts to air quality and GHG emissions could include, but are not limited to, the following:

- Spraying water, when necessary, during construction operations to reduce emissions of fugitive dust.
- Covering dirt, gravel, and debris piles as needed to reduce fugitive dust and wind-blown debris.
- Covering open-bodied trucks in accordance with RCW 46.61.655, wetting materials in trucks or providing adequate space from the top of the material to the top of the truck to reduce fugitive dust emissions.
- Sweeping public roadways, when necessary, to remove mud and dirt deposits.
- Using biodiesel or ultra-low-sulfur diesel fuels for vehicles and equipment to reduce diesel exhaust emissions.
- Conservation and reuse of construction materials on site, to reduce exhaust emissions and traffic delays.
- Enforcing King County's no-idling policy for county vehicles.

3. Water

a. Surface Water:

- 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.**

Basin: The project is located within two sub-basins of Water Resource Inventory Area (WRIA) 07 - Snohomish watershed. The two sub-basins within the watershed are:

- The South Fork Skykomish River sub-basin
- The Miller River sub-basin

Rivers/Streams: The project is located within with the vicinity of several waterbodies, as follows:

- South Fork Skykomish River is a King County Type F (fish-bearing) stream within the project area. Part of the project is partially within the 100-year floodplain of this water body.
- East Fork Miller River is a King County Type F waterbody located within the project area that flows to the South Fork Skykomish River.
- Unnamed Type F and Type N (non-fish bearing) tributaries to the South Fork Skykomish and Miller Rivers are within the project vicinity.
- Money Creek via the seasonal floodplain connection to the South Fork Skykomish River.

The water bodies in the project vicinity eventually flow to the Skykomish River, which flows to the Snohomish River, and then to Port Gardner Bay on Possession Sound (part of Puget Sound) adjacent to the City of Everett.

Wetlands: Potential riparian wetlands were observed in the vicinity of the Type F culvert replacement and the short span bridge removal. These wetlands will be delineated and rated by King County Environmental Scientists for inclusion in the Critical Areas Memorandum.

- 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.**

Work will occur within and adjacent to the waters as noted in 3.a.1. See attached plans.

- 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.**

Removal of short-span Bridge #999X, including its abutments and approaches, will also remove approximately 211 cubic yards of roadway fill and in-stream rip-rap. RSD will restore the streambed at this location by installing approximately 55 cubic yards of imported streambed gravels from a permitted upland pit following removal of the bridge.

Depending on accessibility at the time of construction, RSD will remove 20 to 50 cubic yards of roadway debris (e.g., asphalt, concrete, and miscellaneous roadway materials) from the East Fork of Miller River where the road was washed out west of Miller River Bridge #999W.

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

In-flowing surface water will be diverted around the work area during construction to maintain inputs into downstream aquatic areas. Turbid water, generated by construction activities, will be withdrawn from the work area

for treatment until water quality meets the criteria for discharge downstream, or it will be dispersed in upland vegetated areas. No long-term or permanent surface water withdrawals are required for the project.

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

The project is within a mapped Federal Emergency Management Agency (FEMA) 100-year floodplain.

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 waste materials will be discharged to surface waters. BMPs will be implemented following the King County and Washington State Department of Ecology stormwater manual guidance.

b. Groundwater:

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 general description, purpose, and approximate quantities if known.

Groundwater will not be withdrawn from a well for drinking water for this project. To minimize impacts to water quality, RSD will install temporary shallow groundwater well points as part of dewatering work areas at Culvert #5, Culvert #6, and Bridge #999X. These well points will locally depress the groundwater elevation during excavation so less water is within the work area; this facilitates the dewatering process and minimizes additional sediment-laden water that would otherwise require treatment. Well points are typically comprised of 12- to 24-inch-diameter perforated pipe extending one to three feet below the excavation area. When excavation is complete, the shallow wells are filled by roadway fill material or streambed gravel depending on their location. RSD directs the initial sediment-laden flush from dewatering wells to an upland vegetated area to filter out sediment. Water that meets water-quality standards can be released to downstream within the surface flow bypass.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: 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.

No waste material will be discharged into the ground from septic tanks or other sources.

c. Water runoff (including stormwater):

1) Describe the source of runoff (including stormwater) 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.

The source of runoff is precipitation. Stormwater presently discharges as sheet flow from the impervious roadway surface to the existing ditches and fill prisms. The existing flow pattern will be unchanged by the proposed activity.

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

It is unlikely, but possible, that fuel or paving materials spills could occur from construction machinery. King County and Washington Department of Ecology spill prevention BMPs will be followed to avoid such spills. The Contractor and King County crews are required to implement a Spill Prevention Control and Countermeasures Plan for the project prior to beginning construction.

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

Successful implementation of this proposal will reduce the frequency of roadway flooding. The replacement of culverts and ditch maintenance will help convey water that could seasonally overtop the pavement. This work will not change the general existing drainage patterns.

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

Some work areas will be dewatered prior to construction to minimize impacts to ground, surface, and stormwater. RSD will intercept surface water upstream of a cofferdam and pump the water around the work area, as required. Sediment-laden water that does not meet water-quality standards will be discharged to a vegetated upland infiltration area, and if needed, to a Baker tank and hauled off site.

4. Plants

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

Check the types of vegetation found on the site:

deciduous tree

evergreen tree

shrubs

grass

pasture

crop or grain

orchards, vineyards or other permanent crops

wet soil plants

other types of vegetation: weeds

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

Approximately 0.87 acre (37,800 square feet) of native vegetation will be removed or altered for this project. After construction, approximately 1.15 acre (50,100 square feet) of native vegetation will be planted for the project.

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

According to the July 2018 Washington State Department of Natural Resources, Natural Heritage Program data, there are no special status plant species known to occur in the project area.

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

During construction, existing native vegetation within the project area will be temporarily disturbed or removed. These areas will be replanted with native species and cover measures to ensure stabilization during the first growing season after construction is complete. The project also proposes to restore previously paved areas by removing paving and fill and providing amended soils and native planting.

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

Common Name	Scientific Name	King County Noxious Weed Class
Japanese knotweed	<i>Fallopia japonica</i>	Non-regulated, Class B Noxious Weed
Bohemian knotweed	<i>Polygonum bohemica</i>	Non-regulated, Class B Noxious Weed
Spotted knapweed	<i>Centaurea stoebe</i>	Non-regulated, Class B Noxious Weed
Tansy ragwort	<i>Senecio jacobaea</i>	Non-regulated, Class B Noxious Weed
Orange hawkweed	<i>Hieracium aurantiacum</i>	Non-regulated, Class B Noxious Weed
Himalayan blackberry	<i>Rubus armeniacus</i>	Non-regulated, Class C Noxious Weed
Reed canary grass	<i>Phalaris arundinacea</i>	Non-regulated, Class C Noxious Weed

5. Animals

a. List any birds and other animals which 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: crows, northern spotted owls, marbled murrelet
mammals: deer, bear, elk, beaver, coyote, other: raccoons, squirrels
fish: bass, salmon, trout, herring, shellfish, other: amphibians

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

The Washington State Department of Fish and Wildlife (WDFW) Priority Habitat Species Maps (PHS) (accessed September 2018) identified the following fish species possibly within the project vicinity: bull trout, Chinook salmon, coho salmon, chum salmon, pink salmon, cutthroat trout, rainbow trout, and Dolly Varden trout. Bull trout, Chinook salmon, and steelhead trout are federally threatened fish species. PHS data also identified Northern Spotted Owl and Harlequin ducks as possibly within the project vicinity; the Northern Spotted Owl is a federally threatened species. The U.S. Fish and Wildlife Service (USFWS) species list identifies gray wolf (endangered), marbled murrelet (threatened), and Oregon spotted frog (threatened) as potentially occurring in King County.

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

The project area is not a mapped wildlife species corridor; however, fish utilize the waterbodies within the project area to migrate.

The project site is within the Pacific Flyway, which is a major north-south route of travel for migratory birds, extending from Alaska to Patagonia. Every year, migratory birds travel some or all of this distance both in spring and in fall, following food sources, heading to breeding grounds, or travelling to overwintering sites. Migrating and nesting birds within the project area will be protected as required under the Migratory Bird Treaty Act.

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

Proposed measures to preserve or enhance wildlife include, but are not limited to:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
 - The project was sited to have the minimal footprint possible. Clearing limits will be marked on site to preserve existing vegetation outside of the project limits.
 - The project will be constructed in compliance with regulations and permit conditions for allowable work windows.

- Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts. The project minimizes impacts by implementing the following:
 - Appropriate BMPs for TESC required by the King County SWDM.
 - Groundwater BMPs: If groundwater is within work areas during construction it will be discharged to a vegetated upland area to infiltrate. This will prevent turbid water from discharging outside of the project limits.
 - A Fugitive Dust Control Plan
 - A Fish Exclusion and Stream Diversion Plan. This plan will employ stream flow bypasses around the work area to protect water quality and fish life to achieve the desired compaction within associated structural fills.
 - A Spill Prevention, Control, and Countermeasures Plan
 - Staging and stockpiling on existing paved areas
 - Following WDFW prescribed work windows for in-water species
 - Monitoring
 - Ensuring TESC BMPs are properly functioning and maintained during construction
 - Monitoring water quality downstream from work areas
- Rectifying
 - Restoring disturbed streambed
 - Retaining cut trees on site for habitat
 - Restoring temporarily disturbed vegetation and providing cover measure for disturbed areas to minimize erosion.
 - Monitoring restoration areas after construction to ensure vegetation survival, structural stability, and properly sorted streambed material.
 - Restoration of fish passage by replacement of barrier culvert with a stream simulation design culvert.
 - Removal of abandoned paved areas within the Miller River floodplain and installation of native buffer vegetation.
 - Removal of abandoned short-span bridge, its channel-restricting abutments, and in-stream riprap and installation of native vegetation.

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

Bullfrogs (*Rana catesbeiana*) are an invasive animal species suspected to be on or near the site.

6. Energy and Natural Resources

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.

Gas, diesel, or other fossil fuels will be utilized by heavy equipment during project construction.

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

The project will not affect the potential use of solar energy by adjacent properties.

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:

Measures to reduce energy use during construction will be encouraged (e.g., efficient scheduling, material transport and staging).

7. Environmental Health

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

The accidental leakage of petroleum products (e.g., gasoline, diesel fuel, hydraulic fluid, anti-freeze, grease, etc.) from construction equipment could occur but is not likely. These substances can be toxic to nearby aquatic systems, and to humans upon prolonged skin contact, and can pose a fire hazard. King County inspectors will monitor the site during construction and spill kits will be on site.

During construction, community health could be affected by dust and vehicle exhaust. Construction activities will intermittently generate particulate matter and odors, and construction equipment will generate diesel engine exhaust. Any air-quality impacts associated with construction activities will be most noticeable at sensitive land uses, such as schools or parks, near the construction site; however, there are not any sensitive land uses near the construction site, so these impacts are unlikely. In addition, air-quality impacts will be short term, occurring only while construction is in progress; however, they will at times diminish the air quality in the project corridor. BMPs will be employed to reduce fugitive dust, odors, and exhaust emissions.

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

There are no known or possible contaminants at the site from present or past uses.

2) 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.

There are no existing hazardous chemicals/conditions at the project site that might affect project development and design.

3) 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.

During construction, petroleum products will be used on site to power construction equipment and as a component of asphalt pavement.

During operations, fuel at the existing gas station and orphan waste removed from the right-of-way will be stored temporarily in a facility designed for such materials.

4) Describe special emergency services that might be required.

The need for special emergency services is not anticipated.

5) Proposed measures to reduce or control environmental health hazards, if any:

The project will implement a Spill Prevention, Control and Countermeasures (SPCC) plan that provides BMPs that will be used during construction to minimize the potential for hazardous spills from fuels and materials used on site. Spill kits will be available on site to be used in the rare event of a spill. Worker health and safety will be addressed as required by Washington State and federal regulations. Waste material, generated from construction, will be properly managed and disposed of at permitted facilities.

Contractor crews will be required to submit a Fugitive Dust Control Plan to King County for approval. The plan

will provide BMPs that will be used to minimize the amount of particulate matter (i.e., dust) generated during construction.

b. Noise

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

Existing noise in the area emanates from the Burlington Northern Santa Fe (BNSF) trains and surrounding rural residential parcels and light traffic along the rural roadway. The existing noise levels in the area will not increase due to completion of the proposed project.

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.

On a short-term basis, noise will be generated from the construction equipment (e.g., truck traffic hauling materials to and from the site: backhoe, bulldozer, mounted impact hammer, and asphalt-paving operations). On a long-term basis, there will be no increase in noise.

According to King County Code 12.94.020, Part B-1, the following sounds are exempt from the provisions of the noise ordinance: "Sounds created by construction equipment, including special construction vehicles, and emanating from temporary construction sites, if the receiving property is located in a rural or residential district of King County."

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

Standard mufflers will be used on all construction equipment. The construction crew will work during hours in accordance with the requirements of King County Code and permit conditions.

8. Land and Shoreline Use

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.

The present use for the site is as King County roadway infrastructure. NE Old Cascade Highway and West Old Cascade Highway are sole access, two-lane principal arterials. The surrounding neighborhood is residential and forest land. The project will not affect the present land uses on nearby or adjacent properties.

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 as a result 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?

Agricultural areas or forestlands of long-term commercial significance within the project area will not be converted to other uses as a result of this proposal.

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?

The proposal will not affect or be affected by surrounding working farm or forest land.

c. Describe any structures on the site.

On-site structures within the transportation and utility corridor provided by NE Old Cascade Highway and West Old Cascade Highway include Miller River Bridge #999W, Cascade Highway Bridge #999X (short span), overhead and buried communication utilities, roadway fill prism, paved traveled roadway surface, guardrails, ditches, and culverts.

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

The short span Cascade Highway Bridge #999X will be demolished for the project and six culverts will be replaced.

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

King County's public road rights-of-way are not subject to zoning. The project area is adjacent to areas zoned as Rural Area 5 (RA 5) with one dwelling unit per five acres, Rural Area 10 (RA 10) with 10 dwelling unit per five acres, and zoned as Forest land.

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

According to the *King County Comprehensive Plan* (2017), the project location is in an area designated as Rural and Forest Area.

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

Parts of the project area are located in King County Shoreline Master Program areas designated as Conservancy and Forest Shorelines.

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

The following critical areas were identified by the County:

- Type F Aquatic Areas (streams and rivers) with a minimum of 165-foot-wide critical area buffers
- Type N Aquatic Area stream with a minimum of 65-foot-wide critical area buffer
- 100-year FEMA Floodplain
- Channel Migration Hazard Area
- Potential Landslide Hazard Areas (2016) with corresponding 50-foot-wide critical area buffers
- Potential Steep Slope Hazard Areas

Part of the project is also within a wellhead protection area.

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

No people will reside or work in the completed project.

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

No people will be displaced by the project.

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

No measures will be implemented to avoid or reduce displaced people because no one will be displaced.

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

This project is listed in the *King County Transportation Needs Report* (2016) and complies with the *King County Comprehensive Plan* (2017). The proposed project is consistent with existing and projected land uses in the areas that are potentially affected by the project. The project requires land use permits from the King County Department of Permitting and Environmental Review to further ensure the project is compatible with existing and projected land uses and plans.

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:

This project proposes roadway preservation and drainage improvements that are compatible with existing and future agricultural or forest land activities.

9. Housing

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

No housing units are being provided by the project.

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

No housing units are being eliminated by the project.

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

Protective measures for housing impacts are not needed because housing will not be impacted.

10. Aesthetics

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

No above-ground structures are proposed for this project.

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

No views in the immediate vicinity of the project will be altered or obstructed.

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

No aesthetic impacts are anticipated. The completed project will appear as a newly resurfaced roadway typical of routine pavement maintenance.

11. Light and Glare

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

The project will not produce light or glare.

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

The finished project will not produce any additional light or glare that will be a safety hazard or interfere with views.

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

No off-site sources of light or glare have been identified that will affect the proposed project.

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

No light and glare impacts are proposed, so no measures are needed to prevent or minimize light and glare impacts.

12. Recreation

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

Within the immediate vicinity of the project, informal activities include hiking, biking, fishing, rafting/kayaking, and camping. Money Creek Campground is a formal recreational opportunity located on the northwest end of the project.

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

No existing recreational uses will be displaced.

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

No measures are necessary to reduce or control impacts on recreation.

13. Historic and Cultural Preservation

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 located on or near the site? If so, specifically describe.

The Miller River Bridge #999W was designated a King County Landmark in 1999. This bridge was determined eligible for the National Register of Historic Places (NRHP) in 2007. This bridge is adjacent to, but not within the project's Area of Potential Effects (APE) and will not be altered by the current project. This segment of the NE Old Cascade Highway is a King County Scenic and Heritage Corridor, Determined Not Eligible for the NRHP in 2018. Historic archaeological site 45-KI-1375 is adjacent to the project APE and was Determined Not Eligible for the NRHP in 2018.

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.

There are no recorded sites, landmarks or other evidence of historic use located within the project APE.

A professional study conducted at the site to identify resources was prepared by SWCA, titled, *Cultural Resources Assessment for the Old Cascade Highway Repairs Project, King County, Washington*. This document was submitted to FEMA on March 7, 2018.

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 archaeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

The project began with an initial project screening in the King County Cultural Resource Protection Project (CRPP) and Department of Archaeology and Historic Preservation (DAHP) Washington Information System for Architectural and Archaeological Records Data (WISAARD) databases. These geographic information system (GIS)-based databases utilize historic maps, ethno-historic accounts, and professional site records. An archaeological survey was conducted by SWCA after consultation with the potentially affected Tribes (i.e., Muckleshoot Indian Tribe, Snoqualmie Tribe, and the Tulalip Tribes) and DAHP. DAHP concurred with the No Effect Determination on April 5, 2018.

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.

No resources eligible for the NRHP are located within the project APE and no mitigation or permits are required for the proposed work.

There is always a remote possibility that as-yet unidentified archaeological resources may be discovered during construction. Construction site inspectors, or other designated personnel, will monitor the site for indications of possible resources discovered during construction.

If resources are identified during construction, then work in the vicinity of the identified resources will cease and the RSD Archaeologist, WSDOT, the Washington State Department of Archaeology and Historic Preservation, the King County Historic Preservation Program, and other appropriate agencies will be notified immediately. Work will not be allowed to resume at the site in the vicinity of the identified resources until appropriate archaeological investigations are complete.

14. Transportation

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.

U.S. Highway 2 provides the primary access to the project areas on NE Old Cascade Highway and West Old Cascade Highway. West of the Miller River, roadway travelers from U.S. Highway 2 take NE Cascade Highway southwest over the Skykomish River Bridge #999Z over the South Fork Skykomish River to the project area. East of the Miller River, roadway travelers from U.S. Highway 2 take 5th Street North and travel south through the City of Skykomish, then head west along Old Cascade Highway for about a quarter mile to the city limits; the project area begins where the roadway becomes West Old Cascade Highway.

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?

NE Old Cascade Highway and West Old Cascade Highway are not presently served by public community transit. The approximate distance to the nearest stop from the eastern end of the project is in the City of Skykomish about a third of a mile away from the nearest end of the project.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

The completed project will not include parking spaces, nor eliminate any existing parking spaces.

d. 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).

The project proposes improvements to the roadway by providing formal areas for vehicles to turn around at dead ends. Replacing culverts and maintaining ditches that convey storm and flood water will reduce the potential for roadway flooding. No work to other thoroughfares private or otherwise is to be undertaken.

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

The project will not use water, rail, or air transportation; however, the project is in the immediate vicinity of rail and air transportation, as follows:

- BNSF Railway Company: BNSF is the largest freight railroad network in North America; approximately 24 trains pass through the vicinity of the project each day.
- Skykomish State Airport: this airport is located on the east side of the City of Skykomish at parcel #252611-9011, 74235 NE Old Cascade Highway; it is outside the project limits, but within the vicinity.

f. 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?

The completed project will not generate additional vehicular trips.

g. 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.

The proposal will not interfere with, affect, or be affected by the movement of agricultural and forest products on roads in the area.

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

Notifications will be provided by the King County Public Communications Team in advance of temporary one-lane road closures. Temporary traffic-control devices such as signs, barricades, and flaggers will be implemented to reduce impacts to the traveling public. Sole access points will allow for at least one lane to remain open during construction for the travelling public. The Temporary Traffic Control Plan enclosed with this Environmental Checklist applies to Culvert #1, Culvert #2, Culvert #6, the slide stabilization area, and the construction of the cul-de-sac.

15. Public Services

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.

No increased needs for public services are anticipated as a result of the proposed project.

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

Because there will be no direct impacts on public services, no proposed measures will be needed.

16. Utilities

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

No utilities are proposed for the project; however, it's possible that some utility poles might need to be moved to complete the project.

Project Plan Sheets Attached:

Sheet 1:	Vicinity Map
Sheets 5:	Overall Plan
Sheet 24:	Cul-de-sac Plan
Sheet 26:	Hammerhead Plan
Sheet 28:	Bridge #999X Removal and Restoration Planting Plan
Sheets 30-32:	Pavement Removal Plans
Sheets 33-34:	Culvert #1 Plans
Sheets 36-37:	Culvert #2 Plans
Sheets 38-39:	Culvert #3 Plans
Sheets 40-41:	Culvert #4 Plans
Sheets 42-43:	Culvert #5 Plans
Sheets 44-45:	Culvert #6 Plans
Sheets 48-54:	Site Restoration Planting Plans
Sheet 58:	Temporary Traffic Control Plan

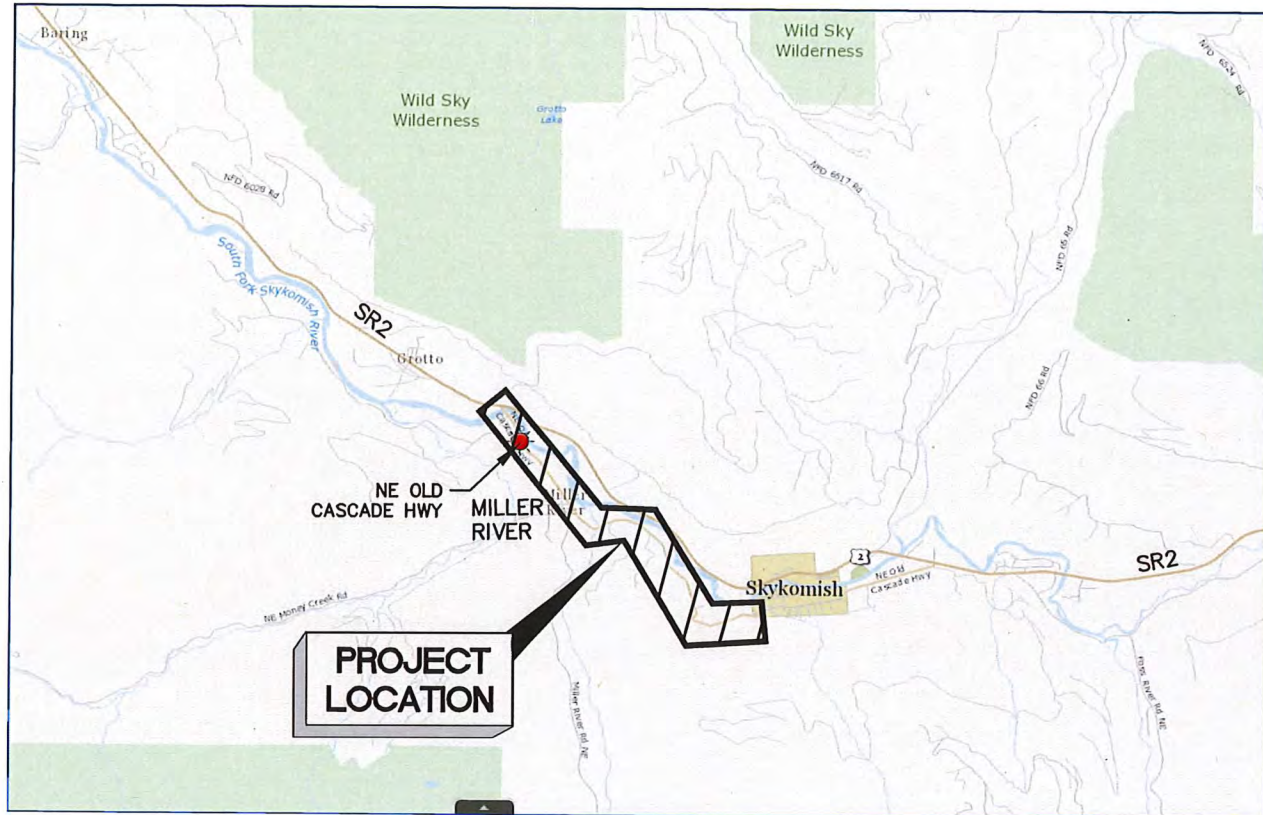
C. Signature

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.

Signature:  _____

Date: 9/26/18

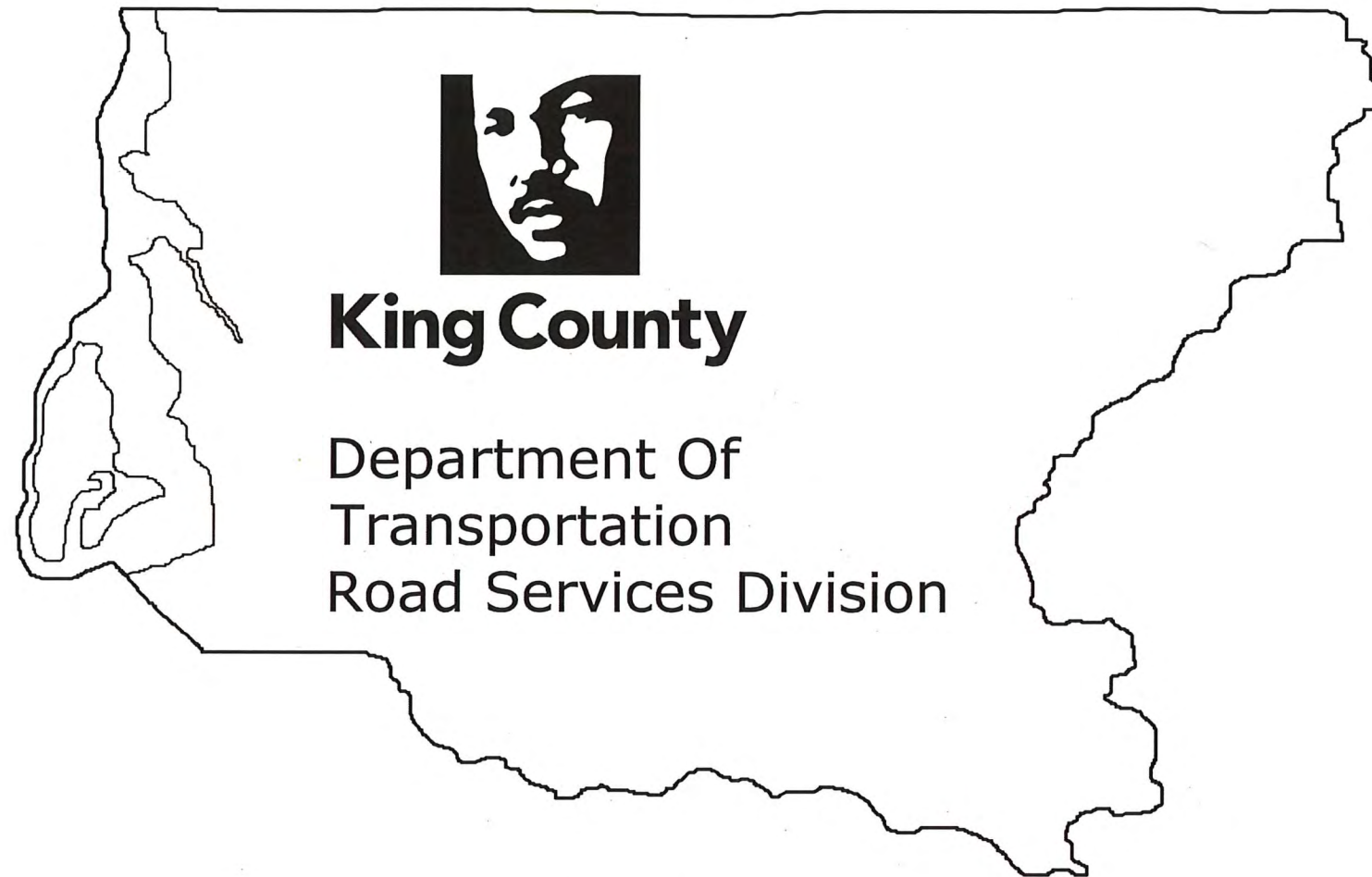
Name of Signee: JoAnn Kosai-Eng
Position/title: Assistant Maintenance Section Manager
Road Services Division, Maintenance Section



VICINITY MAP

NTS

SEC 16, 21, 27, 28 - T26N - R11E
 THOMAS GUIDE 514 - 4F, 4G, 5F, 5G, 6G, 6H, 6J, 7J; 515 - 7A



NE OLD CASCADE HIGHWAY MILLER RIVER EAST + WEST ROADWAY AND DRAINAGE IMPROVEMENT

DESIGN PLAN

* SHEET INDEX ON SHEET 2/58



Know what's below.
 Call before you dig.

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

SURVEY JOB NO:	16081	06/2017			
CHECKED:	T. CRAY	06/2017			
CAD ENTERED:	J. WANG	05/2018			
DESIGNED:	J. WANG	05/2018			
CHECKED:	J. LYOU	05/2018			
SUPERVISOR:	J. CASSIDY	05/2018			
	NUM.	REVISION	BY	DATE	



THIS PLAN SET IS APPROVED FOR CONSTRUCTION.

COUNTY ROAD ENGINEER

FED. AID No. _____
 PROJECT No. 1129595 & 1129596
 MAINTENANCE DIVISION No. 6

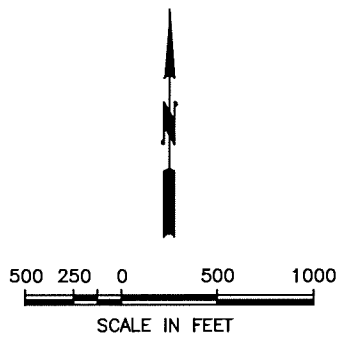
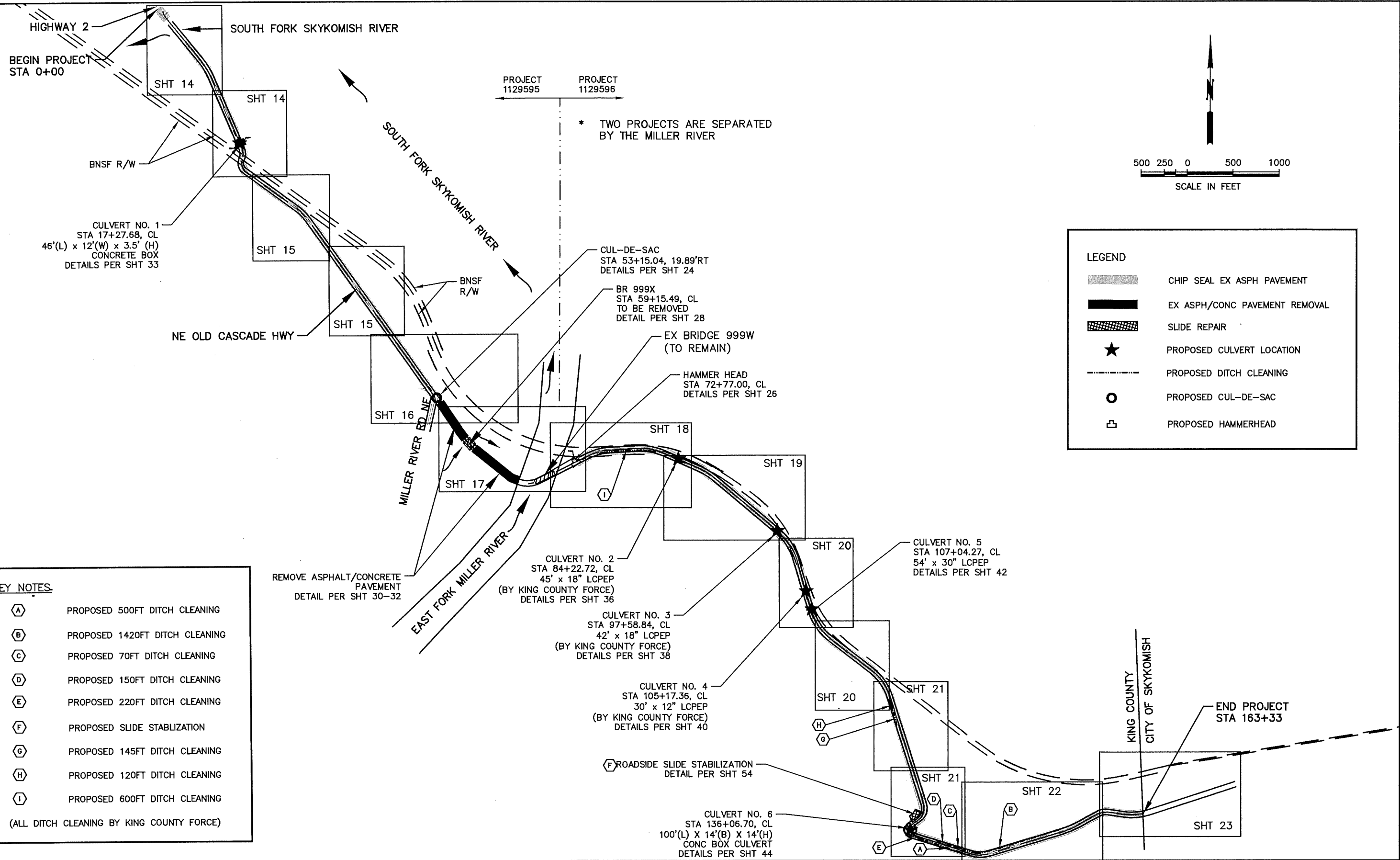
KING COUNTY DEPT. OF TRANSPORTATION
 HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
 MILLER RIVER EAST & WEST
 ROADWAY AND DRAINAGE IMPROVEMENT
COVER SHEET



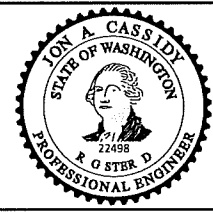
King County

SHEET
 1
 OF
 58
 SHEETS

320-26(1)



SURVEY JOB NO:	16081	06/2017		
CHECKED:	T. CRAY	06/2017		
CAD ENTERED:	J. WANG	05/2018		
DESIGNED:	J. WANG	05/2018		
CHECKED:	J. LYOU	05/2018		
SUPERVISOR:	J. CASSIDY	05/2018		
NUM.	REVISION	BY	DATE	



FED. AID No. _____

PROJECT No. 1129595 & 1129596

MAINTENANCE DIVISION No. 6

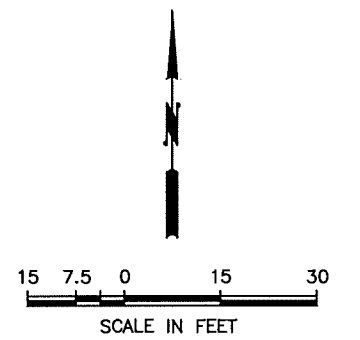
KING COUNTY DEPT. OF TRANSPORTATION
 HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
 MILLER RIVER EAST & WEST
 ROADWAY AND DRAINAGE IMPROVEMENT
OVERALL PLAN

SHEET 5 OF 58 SHEETS

320-26(5)

SE 1/4 SEC. 21, T. 26 N., R. 11 E., W.M.

NE 130TH ST



LEGEND

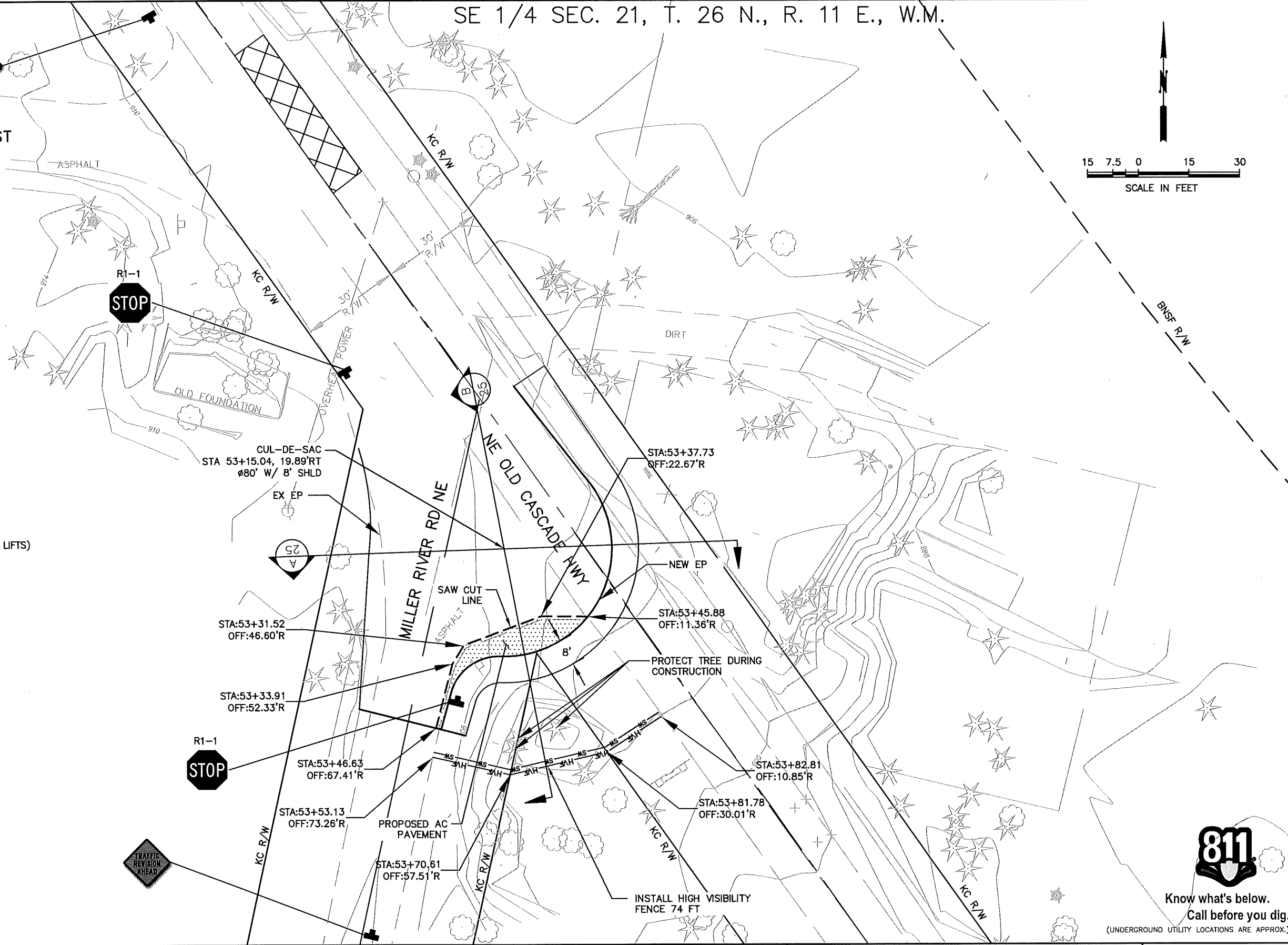
- HIGH-VISIBILITY FENCE
- CLEARING & GRUBBING LIMIT
- SUGGESTED STAGING AREA
- STRAW WATTLE
- PROPOSED AC PAVEMENT

CONSTRUCTION NOTES:

1. TEMPORARY TRAFFIC CONTROL PER SHEET 58.
2. ALL STAGE AREA SHALL BE ON PAVED SURFACE.
3. PROPOSED AC PAVEMENT STRUCTURE:
 0.40' HMA CL 1/2 INCH PG64-22 (PLACE IN TWO LIFTS)
 0.70' CRUSHED SURFACING BASE COURSE (CSBC)
4. CHIP SEAL NEW AC PAVEMENT.

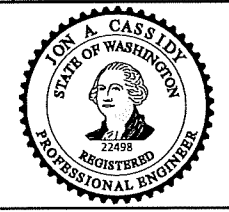
- * NEW PLUS REPLACED AC PAVEMENT: 316 SF
- ** REMOVAL EXISTING AC PAVEMENT: 487 SF

QUANTITY TABLE	
TOTAL CUT (CY)	5
TOTAL FILL (CY)	13
NET (CY)	8 (FILL)



811 Know what's below. Call before you dig. (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

SURVEY JOB NO:	16081	06/2017			
CHECKED:	T. CRAY	06/2017			
CAD ENTERED:	J. WANG	05/2018			
DESIGNED:	J. WANG	05/2018			
CHECKED:	J. LYOU	05/2018			
SUPERVISOR:	J. CASSIDY	05/2018			
NUM.	REVISION	BY	DATE		

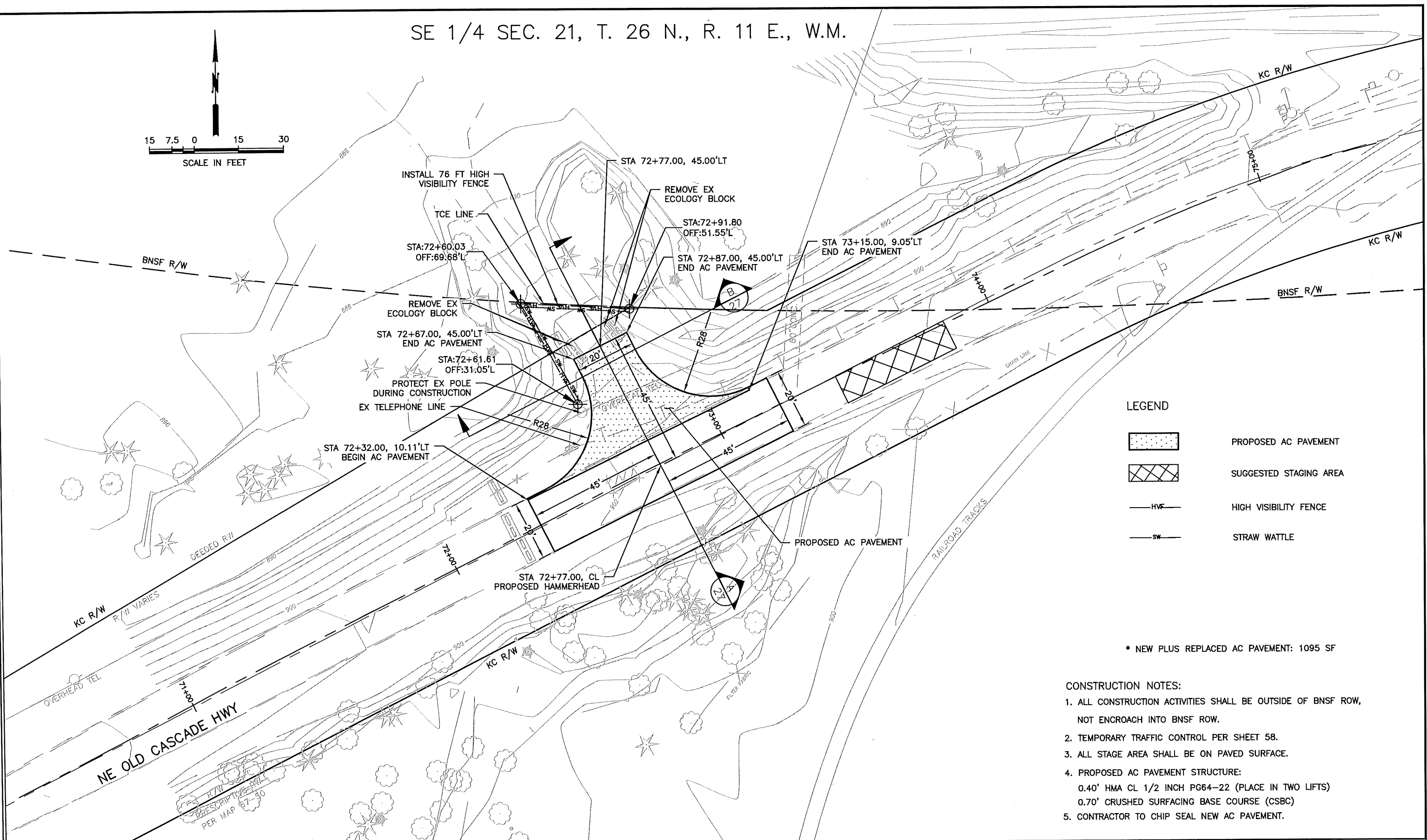
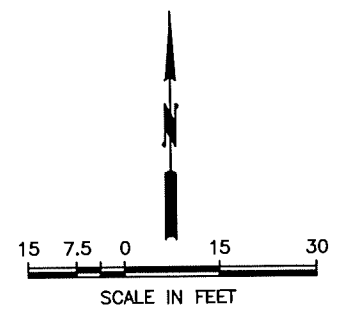


FED. AID No. _____
 PROJECT No. 1129595
 MAINTENANCE DIVISION No. 6

KING COUNTY DEPT. OF TRANSPORTATION
 HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
 MILLER RIVER EAST & WEST
 ROADWAY AND DRAINAGE IMPROVEMENT
CUL-DE-SAC - PROPOSED PLAN

SHEET 24 OF 58 SHEETS
320-26(24)

SE 1/4 SEC. 21, T. 26 N., R. 11 E., W.M.



LEGEND

	PROPOSED AC PAVEMENT
	SUGGESTED STAGING AREA
	HIGH VISIBILITY FENCE
	STRAW WATTLE

* NEW PLUS REPLACED AC PAVEMENT: 1095 SF

- CONSTRUCTION NOTES:
1. ALL CONSTRUCTION ACTIVITIES SHALL BE OUTSIDE OF BNSF ROW, NOT ENCROACH INTO BNSF ROW.
 2. TEMPORARY TRAFFIC CONTROL PER SHEET 58.
 3. ALL STAGE AREA SHALL BE ON PAVED SURFACE.
 4. PROPOSED AC PAVEMENT STRUCTURE:
0.40' HMA CL 1/2 INCH PG64-22 (PLACE IN TWO LIFTS)
0.70' CRUSHED SURFACING BASE COURSE (CSBC)
 5. CONTRACTOR TO CHIP SEAL NEW AC PAVEMENT.

SURVEY JOB NO:	16081	08/2017
CHECKED:	T. CRAY	08/2017
CAD ENTERED:	J. WANG	05/2018
DESIGNED:	J. WANG	05/2018
CHECKED:	J. LYOU	05/2018
SUPERVISOR:	J. CASSIDY	05/2018

NUM.	REVISION	BY	DATE



FED. AID No.	—
PROJECT No.	1129596
MAINTENANCE DIVISION No.	6

KING COUNTY DEPT. OF TRANSPORTATION
 HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
 MILLER RIVER EAST & WEST
 ROADWAY AND DRAINAGE IMPROVEMENT
HAMMERHEAD - PROPOSED PLAN

King County

SHEET 26 OF 58 SHEETS

320-26(26)

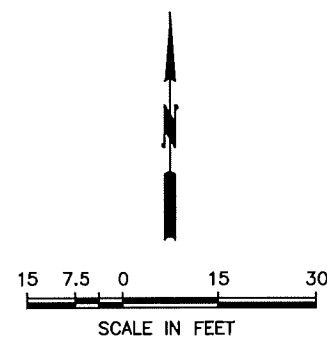
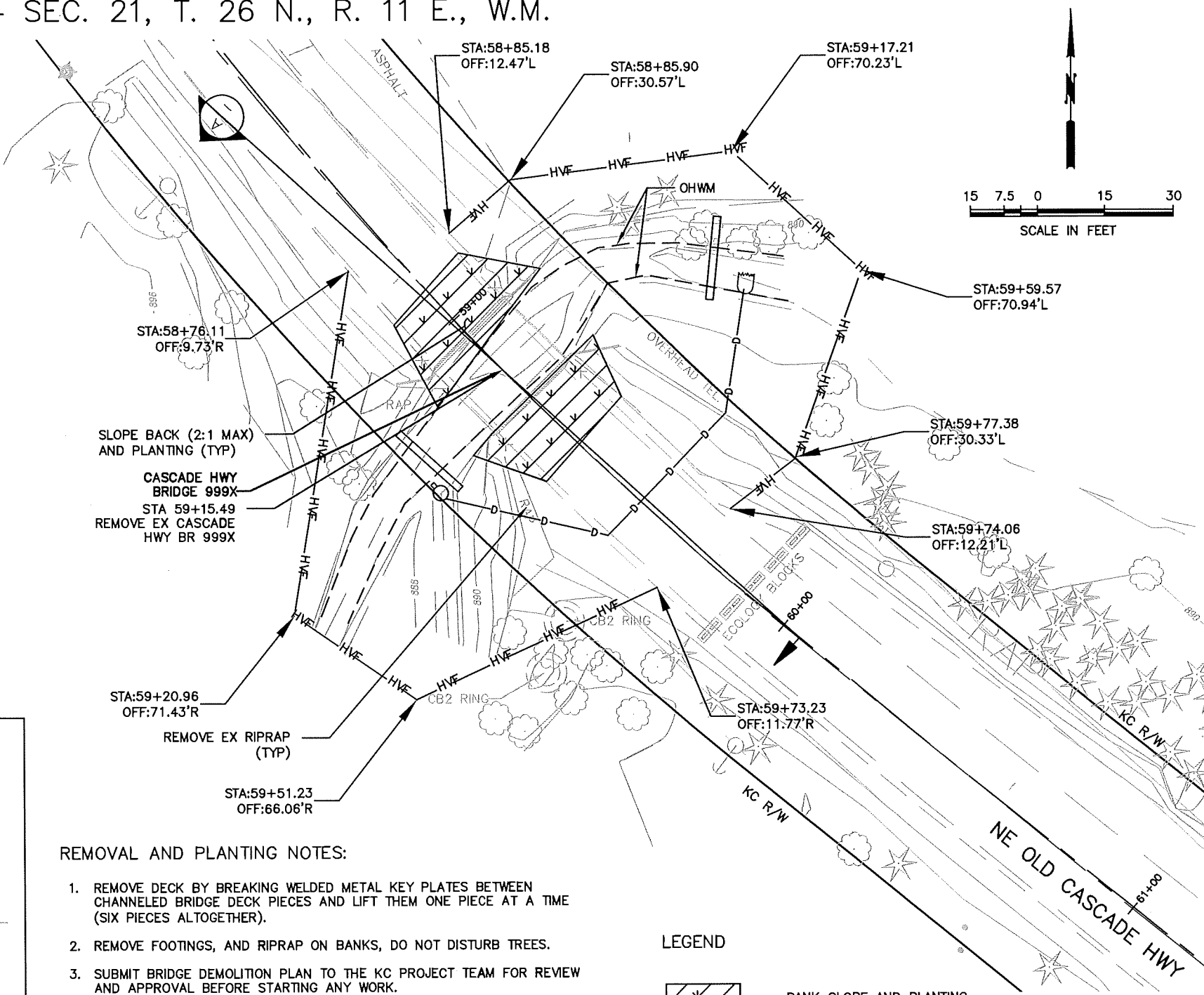
SE 1/4 SEC. 21, T. 26 N., R. 11 E., W.M.

QUANTITY TABLE	
TOTAL CUT (CY)	211*
TOTAL FILL (CY)	55
NET (CY)	150 (CUT)

* BELOW OHWM EXCAVATION - 0 CY

NOTES:

- NO EXISTING TREES WILL BE IMPACTED DURING CONSTRUCTION.
- WESTERN RED CEDAR AND ALDER TREES ONLY PLANTED ON EAST TRAVEL LANE BANK, AND NEED BE APPROVED BY THE ON-SITE KCRSD ENVIRONMENTAL SCIENTIST.



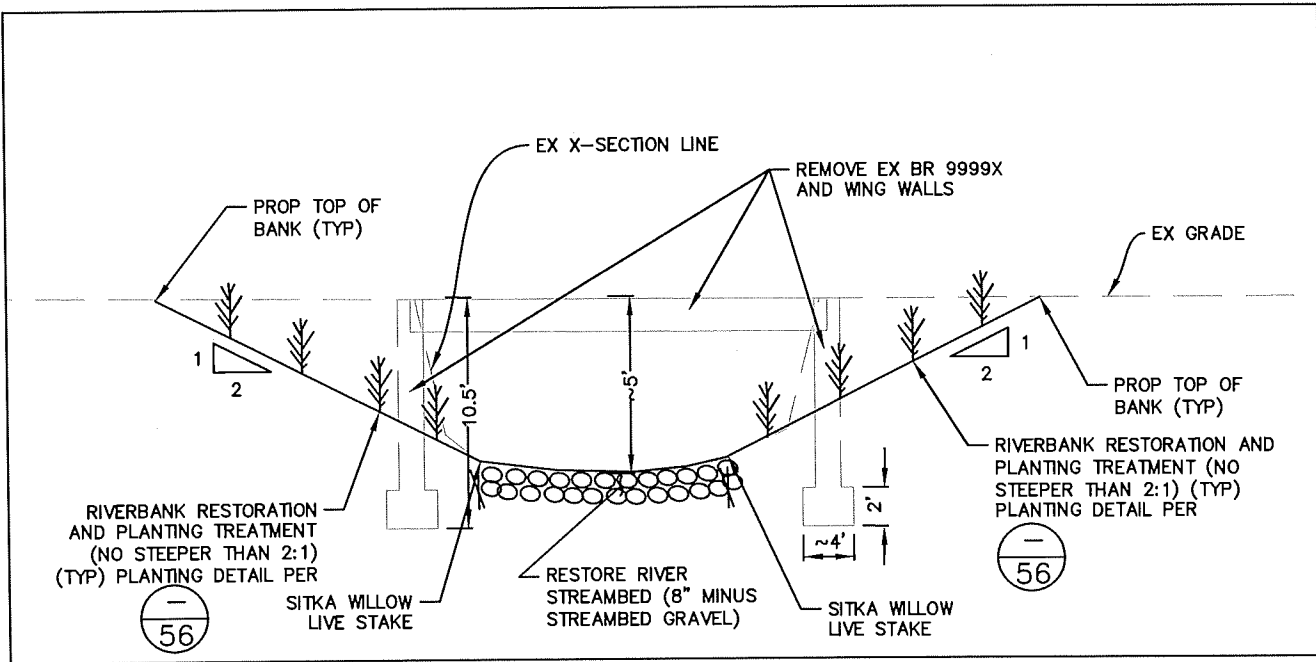
BRIDGE REMOVAL RESTORATION PLANTING SCHEDULE:			
QTY	COMMON NAME	BOTANICAL NAME	SPECIFICATIONS
40	SALMON BERRY	RUBUS SPECTABILIS	MIN. 12" - 18" HT. & 12" SPREAD, MIN. 2 GAL. CONT. FULL & DENSE. PLANT @ TOE OF SLOPE IN MASS 5' O.C.
60	SWORD FERN	POLYSTITCHUM MUNIUM	MIN. 9" HT. & 12" SPREAD, MIN. 2 GAL. CONT. FULL & DENSE. PLANT IN MASS 3' O.C.
60	SITKA WILLOW	SALIX SITCHENSIS	@ 24" CENTERS

REMOVAL AND PLANTING NOTES:

- REMOVE DECK BY BREAKING WELDED METAL KEY PLATES BETWEEN CHanneled BRIDGE DECK PIECES AND LIFT THEM ONE PIECE AT A TIME (SIX PIECES ALTOGETHER).
- REMOVE FOOTINGS, AND RIPRAP ON BANKS, DO NOT DISTURB TREES.
- SUBMIT BRIDGE DEMOLITION PLAN TO THE KC PROJECT TEAM FOR REVIEW AND APPROVAL BEFORE STARTING ANY WORK.
- STRUCTURAL ELEMENTS FROM BRIDGE 999X WILL BE REMOVED INTACT AND TRUCKED OFF SITE FOR DEMOLITION/DISPOSAL.
- CONTRACTOR TO RESTORE AND STABILIZE THE RIVERBANK AT NO STEEPER THAN 2:1 SLOPE AFTER THE BRIDGE AND RIPRAP REMOVAL.
- PLANTINGS WILL TAKE PLACE DURING THE PLANT DORMANCY PERIOD (NOVEMBER 1ST TO MARCH 1ST) OR AS DIRECTED BY THE KCRSD ENVIRONMENTAL SCIENTIST.
- ALL PLANTS SHALL BE NURSERY GROWN A MINIMUM OF ONE YEAR, AND SHALL BE SUPPLIED BY COMMERCIAL NURSERIES THAT SPECIALIZE IN NATIVE PLANTS OF THE PACIFIC NORTHWEST. PLANT SUBSTITUTIONS WILL BE PRE-APPROVED BY THE KCRSD ENVIRONMENTAL SCIENTIST.

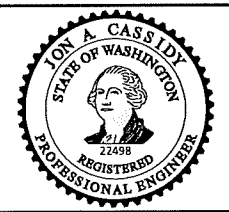
LEGEND

- BANK SLOPE AND PLANTING
- TEMPORARY DIVERSION
- TEMPORARY BYPASS PIPE
- PLASTIC SHEETING
- BYPASS PUMP



Know what's below. Call before you dig. (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

SURVEY JOB NO:	16081	06/2017
CHECKED:	T. CRAY	06/2017
CAD ENTERED:	J. WANG	05/2018
DESIGNED:	J. WANG	05/2018
CHECKED:	J. LYOU	05/2018
SUPERVISOR:	J. CASSIDY	05/2018
NUM.	REVISION	BY DATE

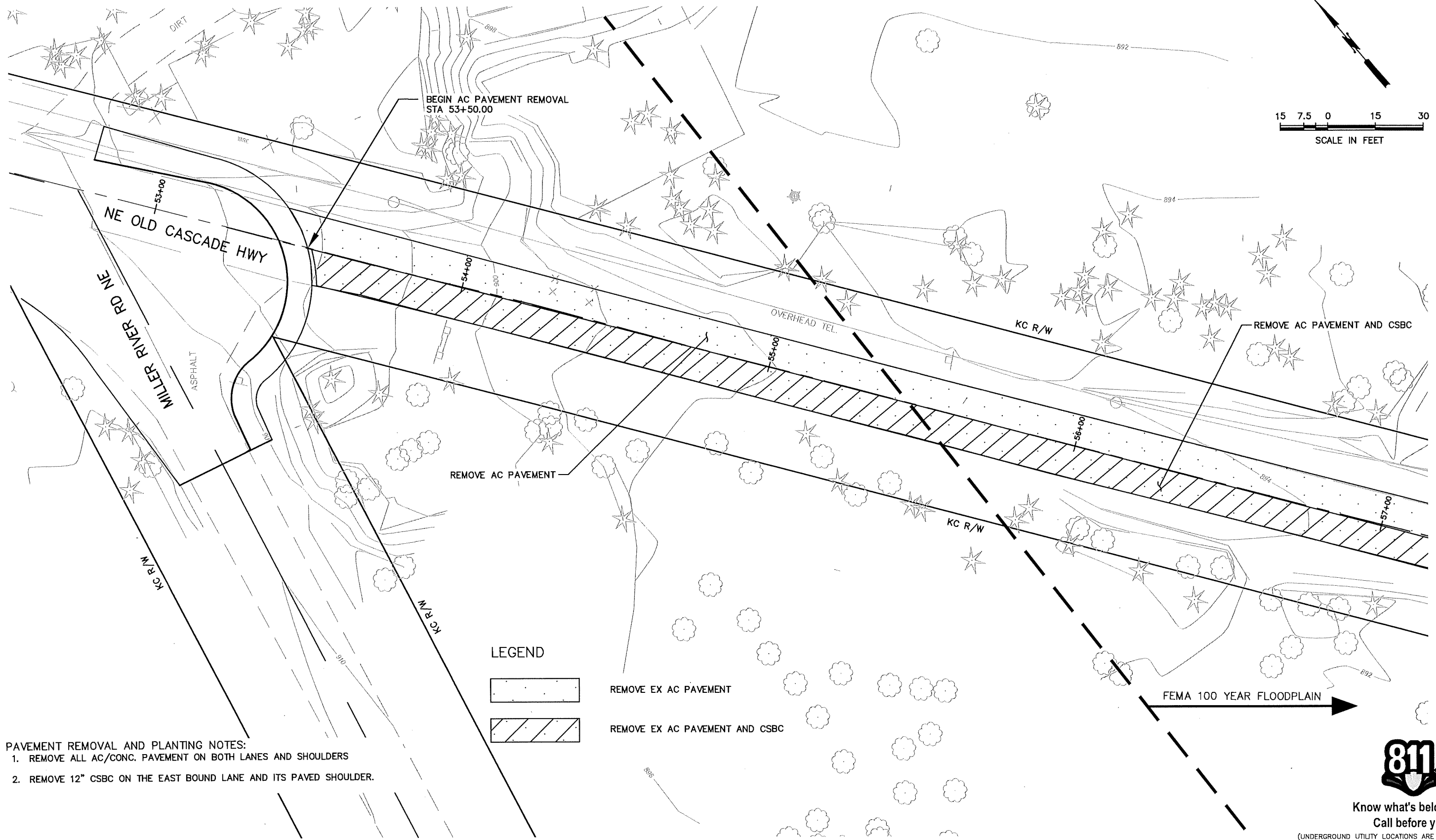
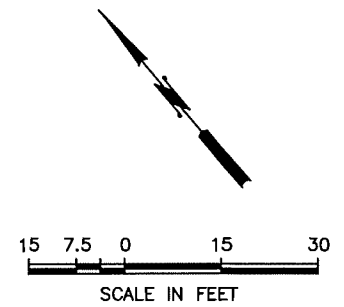


FED. AID No.	-
PROJECT No.	1129595
MAINTENANCE DIVISION No.	6

KING COUNTY DEPT. OF TRANSPORTATION
 HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
 MILLER RIVER EAST & WEST
 ROADWAY AND DRAINAGE IMPROVEMENT
BRIDGE 999X REMOVAL AND RESTORATION PLANTING PLAN

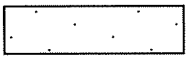
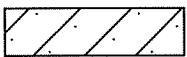
SHEET 28 OF 58 SHEETS
320-26(28)

SE 1/4 SEC. 21, T. 26 N., R. 11 E., W.M.



PAVEMENT REMOVAL AND PLANTING NOTES:
 1. REMOVE ALL AC/CONC. PAVEMENT ON BOTH LANES AND SHOULDERS
 2. REMOVE 12" CSBC ON THE EAST BOUND LANE AND ITS PAVED SHOULDER.

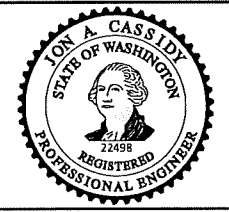
LEGEND

	REMOVE EX AC PAVEMENT
	REMOVE EX AC PAVEMENT AND CSBC




Know what's below.
 Call before you dig.
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

SURVEY JOB NO:	16081	06/2017			
CHECKED:	T. CRAY	06/2017			
CAD ENTERED:	J. WANG	05/2018			
DESIGNED:	J. WANG	05/2018			
CHECKED:	J. LYOU	05/2018			
SUPERVISOR:	J. CASSIDY	05/2018			
	NUM.	REVISION	BY	DATE	



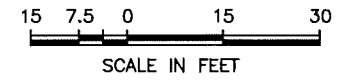
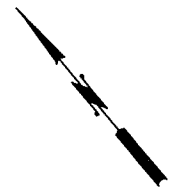
FED. AID No. _____
 PROJECT No. 1129595
 MAINTENANCE DIVISION No. 6

KING COUNTY DEPT. OF TRANSPORTATION
 HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
 MILLER RIVER EAST & WEST
 ROADWAY AND DRAINAGE IMPROVEMENT
MILLER RIVER RD TO MILLER RIVER PAVEMENT REMOVAL PLAN

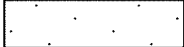
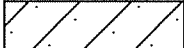


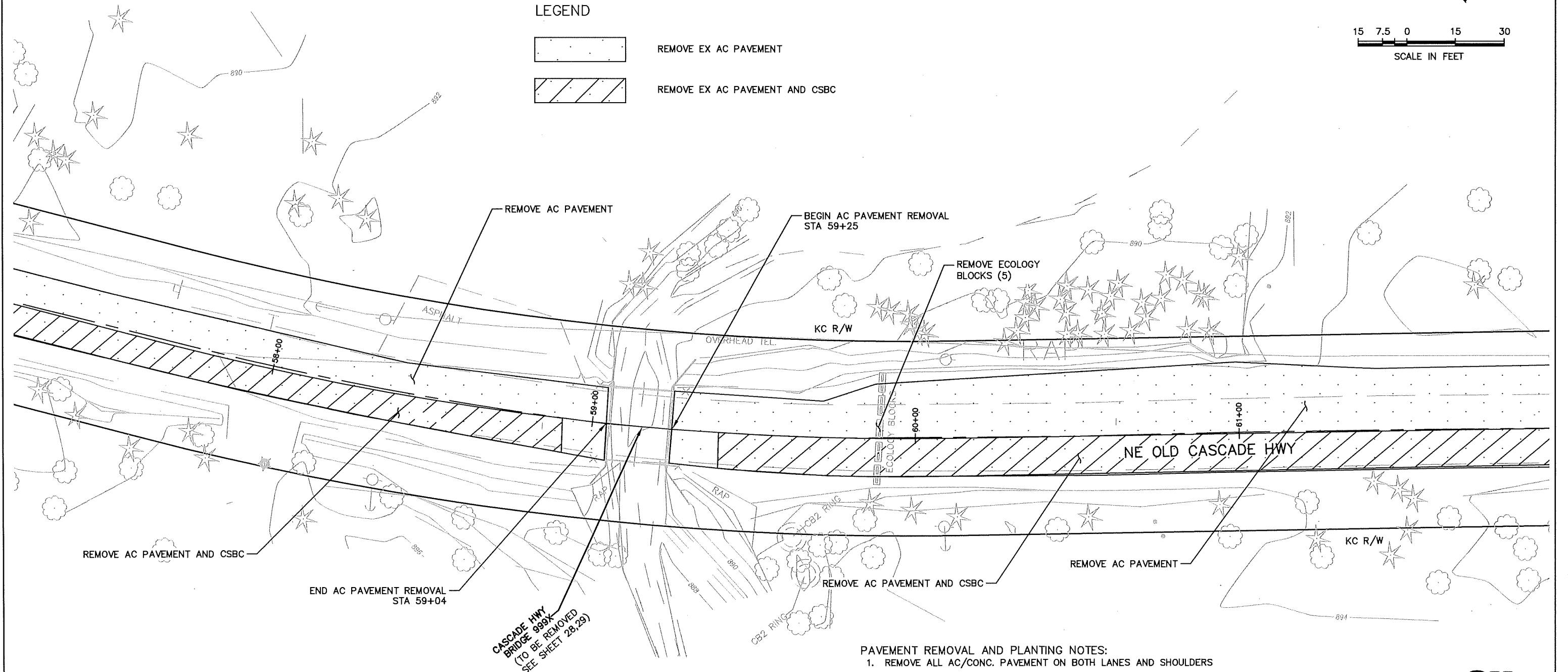
SHEET 30 OF 58 SHEETS
320-26(30)

SE 1/4 SEC. 21, T. 26 N., R. 11 E., W.M.



LEGEND

-  REMOVE EX AC PAVEMENT
-  REMOVE EX AC PAVEMENT AND CSBC



- PAVEMENT REMOVAL AND PLANTING NOTES:
1. REMOVE ALL AC/CONC. PAVEMENT ON BOTH LANES AND SHOULDERS
 2. REMOVE 12" CSBC ON THE EAST BOUND LANE AND ITS PAVED SHOULDER.



Know what's below.
Call before you dig.
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

SURVEY JOB NO:	16081	06/2017			
CHECKED:	T. CRAY	06/2017			
CAD ENTERED:	J. WANG	05/2018			
DESIGNED:	J. WANG	05/2018			
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SUPERVISOR:	J. CASSIDY	05/2018			
NUM.	REVISION	BY	DATE		




FED. AID No. _____

PROJECT No. 1129595

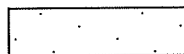
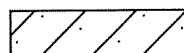
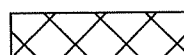
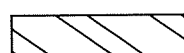
MAINTENANCE DIVISION No. 6

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
MILLER RIVER EAST & WEST
ROADWAY AND DRAINAGE IMPROVEMENT
MILLER RIVER RD TO MILLER RIVER PAVEMENT REMOVAL PLAN


SHEET 31 OF 58 SHEETS
320-26(31)

SE 1/4 SEC. 21, T. 26 N., R. 11 E., W.M.

LEGEND

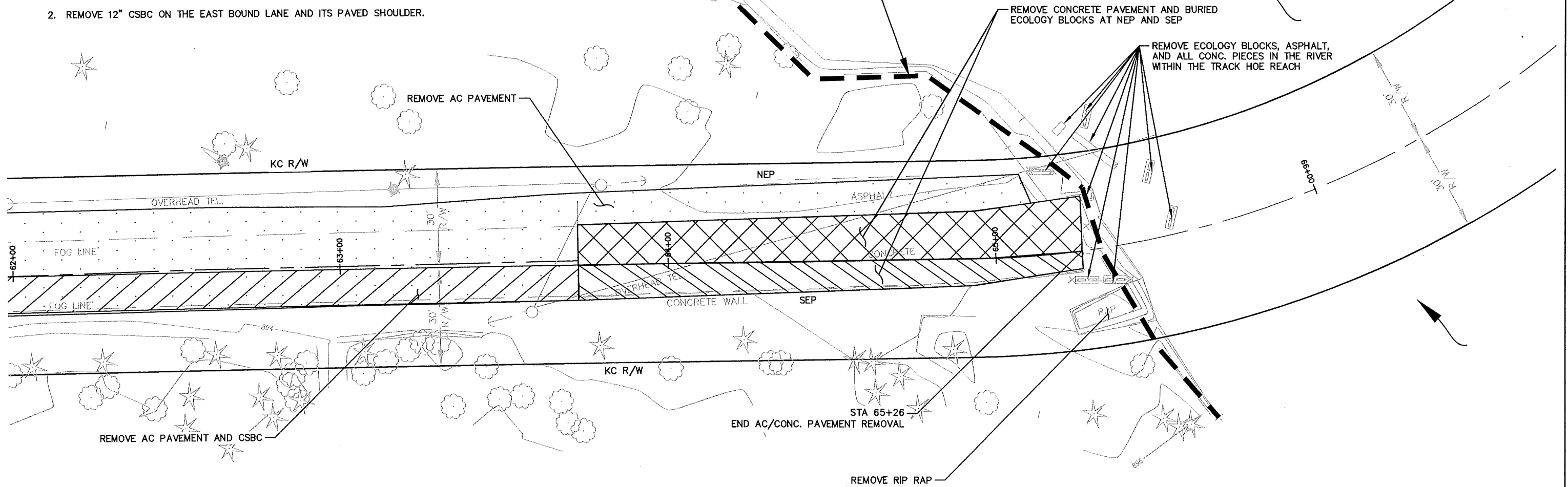
-  REMOVE EX AC PAVEMENT
-  REMOVE EX AC PAVEMENT AND CSBC
-  REMOVE EX CONC. PAVEMENT
-  REMOVE EX CONC. PAVEMENT AND CSBC

QUANTITY W/I FLOODPLAIN TABLE	
TOTAL REMOVAL (CY)	710*
TOTAL FILL (CY)	350
NET (CY)	360 (REMOVAL)

* BELOW OHWM PAVEMENT DEBRIS REMOVAL - 10 CY

PAVEMENT REMOVAL AND PLANTING NOTES:

1. REMOVE ALL AC/CONC. PAVEMENT ON BOTH LANES AND SHOULDERS
2. REMOVE 12" CSBC ON THE EAST BOUND LANE AND ITS PAVED SHOULDER.



SURVEY JOB No.:	16081	06/2017			
CHECKED:	T. CRAY	06/2017			
CAD ENTERED:	J. WANG	05/2018			
DESIGNED:	J. WANG	05/2018			
CHECKED:	J. LYOU	05/2018			
SUPERVISOR:	J. CASSIDY	05/2018			
NUM.	REVISION	BY	DATE		




FED. AID No. _____

PROJECT No. 1129595

MAINTENANCE DIVISION No. 6

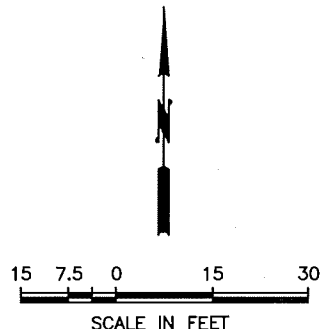
KING COUNTY DEPT. OF TRANSPORTATION
 HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
 MILLER RIVER EAST & WEST
 ROADWAY AND DRAINAGE IMPROVEMENT
MILLER RIVER RD TO MILLER RIVER PAVEMENT REMOVAL PLAN



SHEET 32 OF 58 SHEETS

320-26(32)

NW 1/4 SEC. 21, T. 26 N., R. 11 E., W.M.



EX TREE IMPACTED SUMMARY		
NAME	DIMENSION (INCH)	QUANTITY
CEDAR	8	1
	20	1
ALDER	16	2
	20	1
MAPLE	10	1
	20	1
FIR	12	1
SNAG	12	1

- LEGEND**
- X EXISTING TREE IMPACTED
 - HAND BRUSHING LIMIT
 - [Hatched Box] SUGGESTED STAGING AREA
 - H.V.F. HIGH VISIBILITY FENCE
 - SW STRAW WATTLES
 - EXCAVATION AND CLEARING LIMIT
 - # WING WALL NUMBER

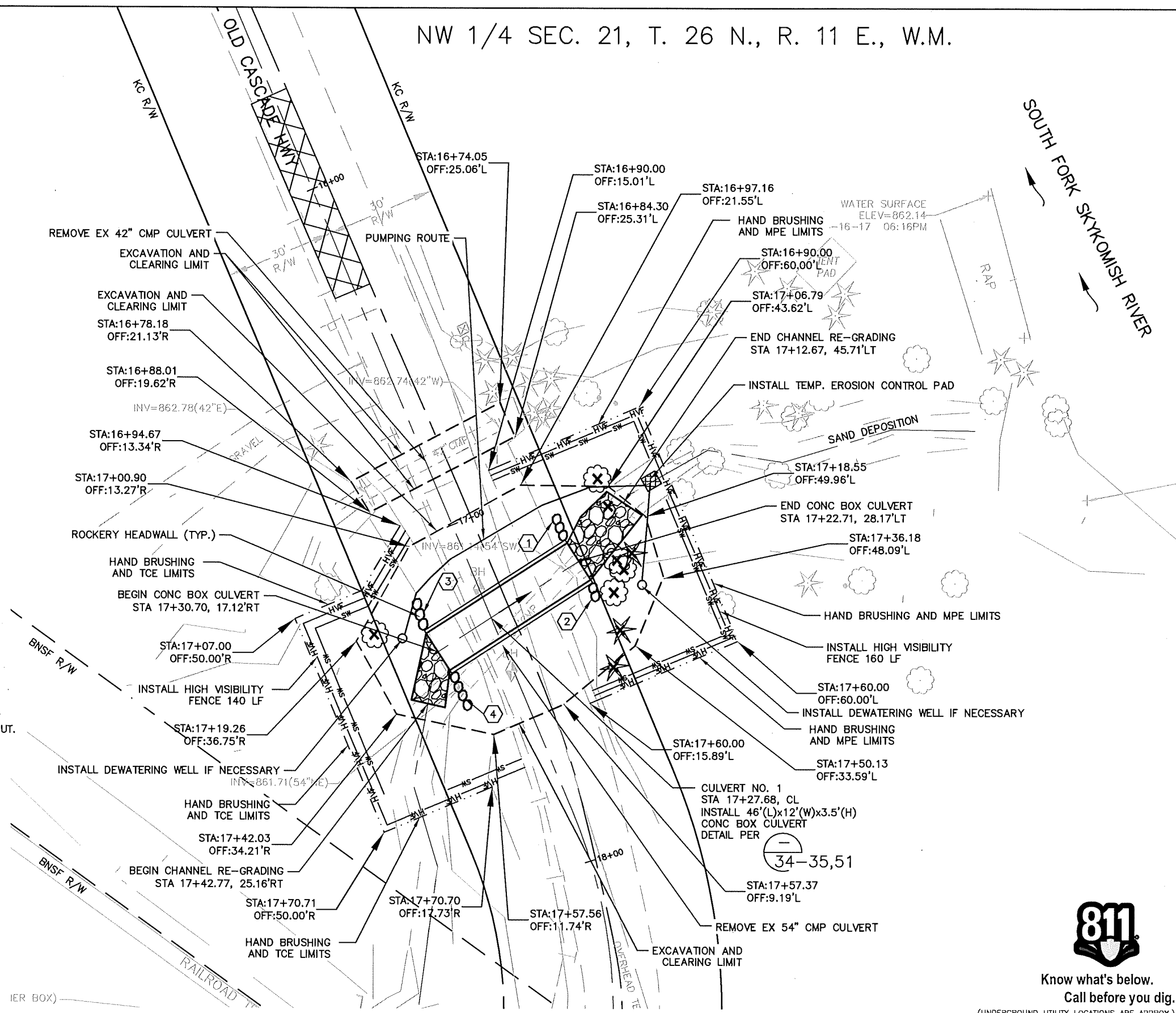
CONSTRUCTION NOTES:

- INSTALL TESC MEASURES BEFORE ANY GROUND EXCAVATION. REFER TO STANDARD TESC PLAN NOTES AND DETAILS ON SHEET 57.
- CONTRACTOR TO RESTORE ASPHALT PAVEMENT AND PAVEMENT MARKING AFTER CULVERT INSTALLATION.
PAVEMENT STRUCTURE:
0.40' HMA CL. 1/2 INCH PG64-22 (PLACE IN TWO LIFTS)
0.70' CRUSHED SURFACING BASE COURSE (CSBC)
- CONTRACTOR TO CHIP SEAL AC PAVEMENT AFTER PAVEMENT RESTORATION.
- SITE RESTORATION PLANTING PER SHEET 51.
- TEMPORARY CONSTRUCTION TRAFFIC CONTROL PER SHEET 58.
- ALL STAGING AREA SHALL BE ON PAVED SURFACE OR THE EXISTING SHOULDER AREA.
- HAND BRUSHING LIMITS AND TREES SCHEDULED FOR REMOVAL SHALL BE MARKED IN THE FIELD AND THESE LIMITS APPROVED BY THE KING COUNTY'S ENVIRONMENTAL SCIENTIST PRIOR TO ANY AND ALL CLEARING OPERATIONS. ONLY TREES SPECIFICALLY MARKED FOR REMOVAL SHALL BE CUT.
- MECHANIZED GRUBBING OF VEGETATION IS NOT PERMITTED OUTSIDE OF THE EXCAVATION AREAS. LIMITED HAND BRUSHING IS PERMITTED TO PROVIDE WALKING ACCESS.
- PUMP GROUNDWATER TO ADJACENT HIGHER GROUND TO ALLOW PERCOLATION INTO ADJACENT GROUND.
- TURBID WATER SHALL NOT BE RELEASED TO ADJACENT NATURAL WATERS.

ENVIRONMENTAL NOTES:

- THIS AREA CONTAINS SILT/SAND DEPOSITION AND NO OHWM IS PRESENT AT FLOODPLAIN EQUALIZATION CULVERT FOR MONEY CREEK AND SOUTH FORK SNOQUALMIE RIVER.

QUANTITY W/I FLOODPLAIN TABLE	
TOTAL CUT (CY)	910
TOTAL FILL (CY)	840
NET (CY)	70 (CUT)



Know what's below.
Call before you dig.
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

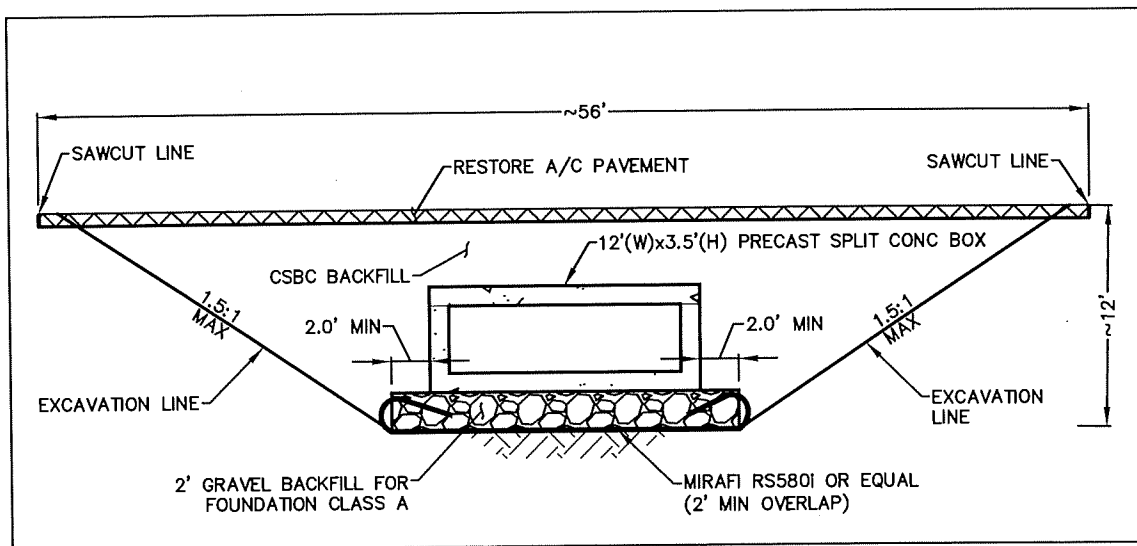
SURVEY JOB NO:	16081	06/2017			
CHECKED:	T. CRAY	06/2017			
CAD ENTERED:	J. WANG	05/2018			
DESIGNED:	J. WANG	05/2018			
CHECKED:	J. LYOU	05/2018			
SUPERVISOR:	J. CASSIDY	05/2018			
NUM.	REVISION	BY	DATE		



FED. AID No. ---
PROJECT No. 1129595
MAINTENANCE DIVISION No. 6

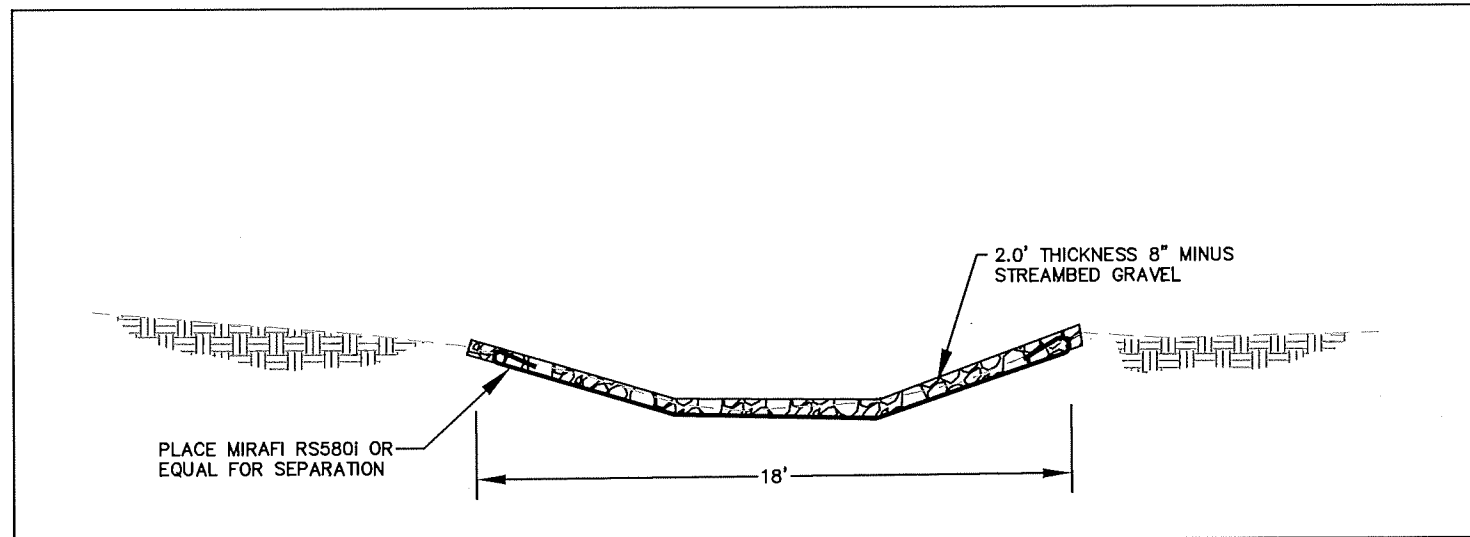
KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
MILLER RIVER EAST & WEST
ROADWAY AND DRAINAGE IMPROVEMENT
CULVERT NO. 1 - PROPOSED PLAN

SHEET 33 OF 58 SHEETS
King County
320-26(33)



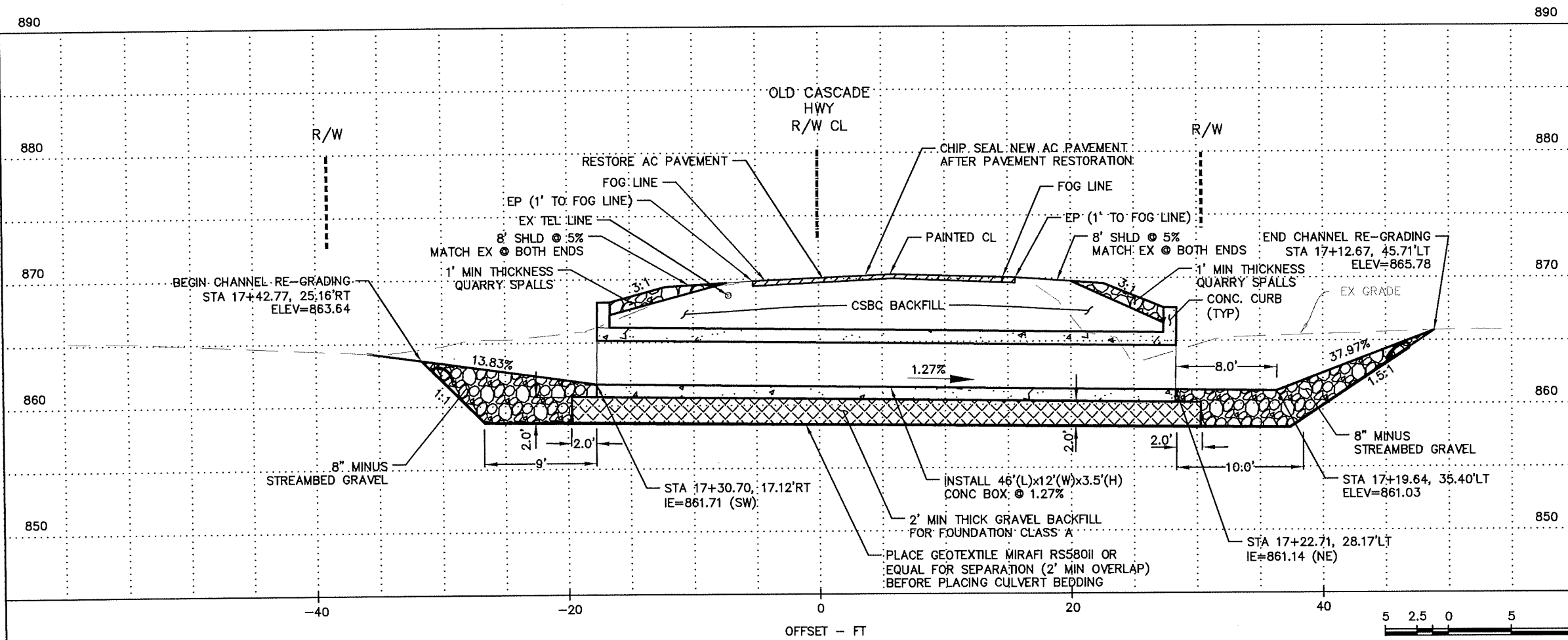
TYPICAL CROSS SECTION

NTB



CHANNEL RE-GRADING DETAIL

NTB



CULVERT NO. 1 PROFILE

SURVEY JOB NO:	16081	06/2017
CHECKED:	T. GRAY	06/2017
CAD ENTERED:	J. WANG	05/2018
DESIGNED:	J. WANG	05/2018
CHECKED:	J. LYOU	05/2018
SUPERVISOR:	J. CASSIDY	05/2018

NUM.	REVISION	BY	DATE



FEO. AID No. _____

PROJECT No. 1129595

MAINTENANCE DIVISION No. 6

KING COUNTY DEPT. OF TRANSPORTATION
 HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
 MILLER RIVER EAST & WEST
 ROADWAY AND DRAINAGE IMPROVEMENT
CULVERT NO. 1 - PROFILE AND DETAILS

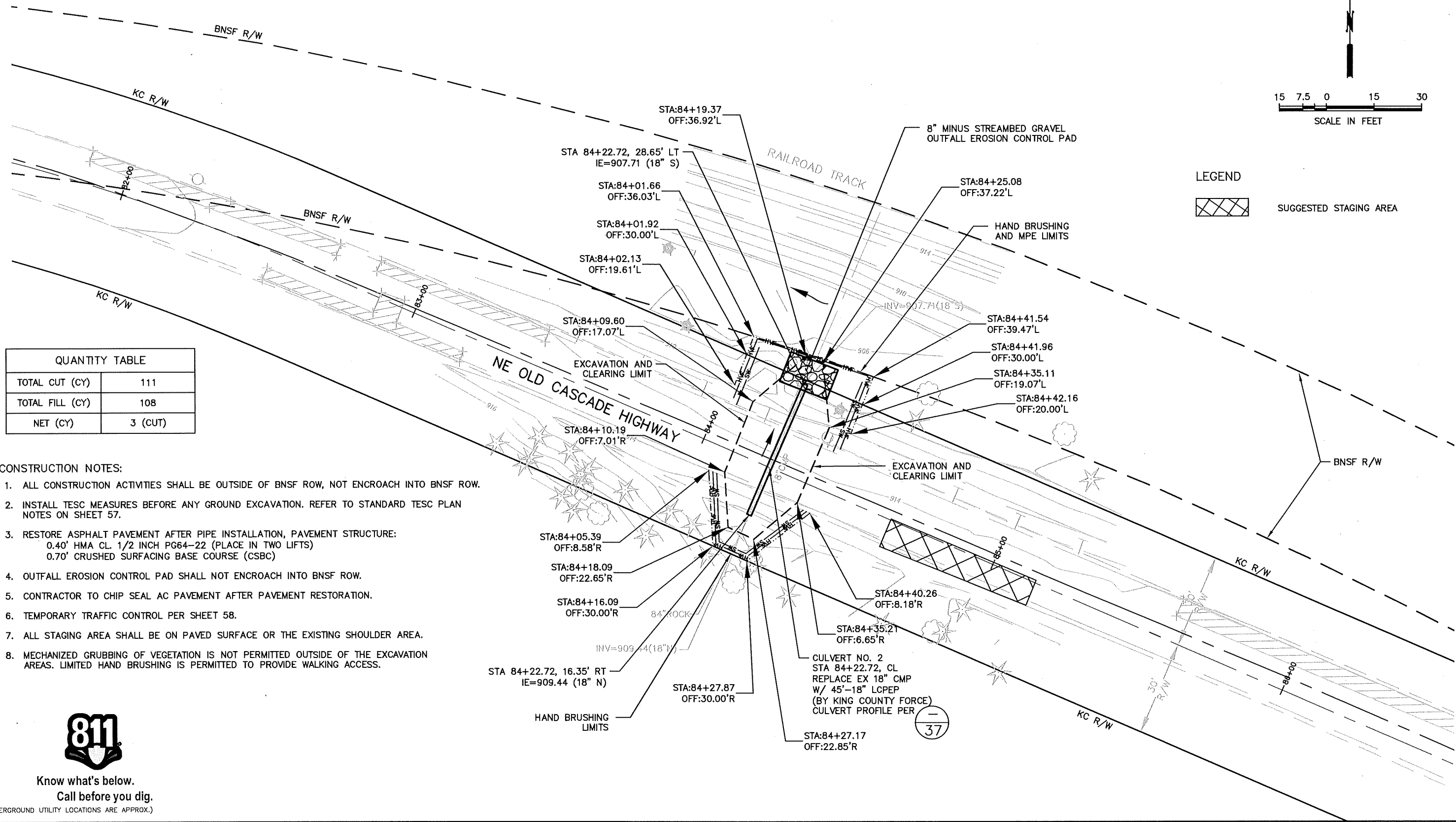
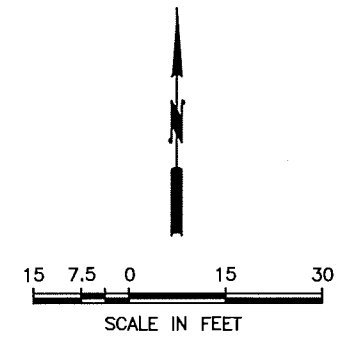
Know what's below.
 Call before you dig.
 (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

King County

SHEET 34 OF 58 SHEETS

320-26(34)

SW 1/4 SEC. 22, T. 26 N., R. 11 E., W.M.



LEGEND

SUGGESTED STAGING AREA

QUANTITY TABLE	
TOTAL CUT (CY)	111
TOTAL FILL (CY)	108
NET (CY)	3 (CUT)

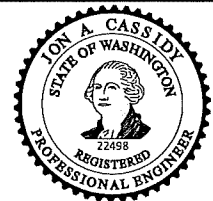
- CONSTRUCTION NOTES:**
1. ALL CONSTRUCTION ACTIVITIES SHALL BE OUTSIDE OF BNSF ROW, NOT ENCROACH INTO BNSF ROW.
 2. INSTALL TESC MEASURES BEFORE ANY GROUND EXCAVATION. REFER TO STANDARD TESC PLAN NOTES ON SHEET 57.
 3. RESTORE ASPHALT PAVEMENT AFTER PIPE INSTALLATION, PAVEMENT STRUCTURE:
0.40' HMA CL. 1/2 INCH PG64-22 (PLACE IN TWO LIFTS)
0.70' CRUSHED SURFACING BASE COURSE (CSBC)
 4. OUTFALL EROSION CONTROL PAD SHALL NOT ENCROACH INTO BNSF ROW.
 5. CONTRACTOR TO CHIP SEAL AC PAVEMENT AFTER PAVEMENT RESTORATION.
 6. TEMPORARY TRAFFIC CONTROL PER SHEET 58.
 7. ALL STAGING AREA SHALL BE ON PAVED SURFACE OR THE EXISTING SHOULDER AREA.
 8. MECHANIZED GRUBBING OF VEGETATION IS NOT PERMITTED OUTSIDE OF THE EXCAVATION AREAS. LIMITED HAND BRUSHING IS PERMITTED TO PROVIDE WALKING ACCESS.



Know what's below.
Call before you dig.

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

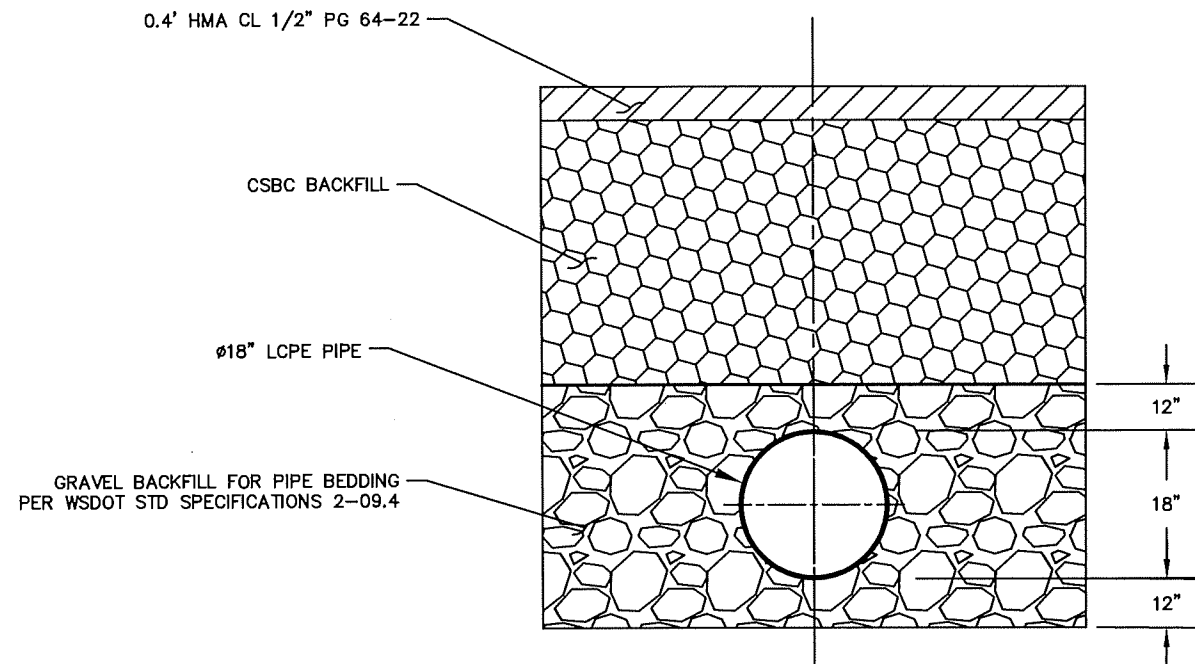
SURVEY JOB NO:	16081	06/2017			
CHECKED:	T. CRAY	08/2017			
CAD ENTERED:	J. WANG	05/2018			
DESIGNED:	J. WANG	05/2018			
CHECKED:	J. LYOU	05/2018			
SUPERVISOR:	J. CASSIDY	05/2018			
NUM.	REVISION	BY	DATE		



FED. AID No.	-
PROJECT No.	1129596
MAINTENANCE DIVISION No.	6

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
MILLER RIVER EAST & WEST
ROADWAY AND DRAINAGE IMPROVEMENT
CULVERT NO. 2 - PROPOSED PLAN

SHEET 36 OF 58 SHEETS
320-26(36)

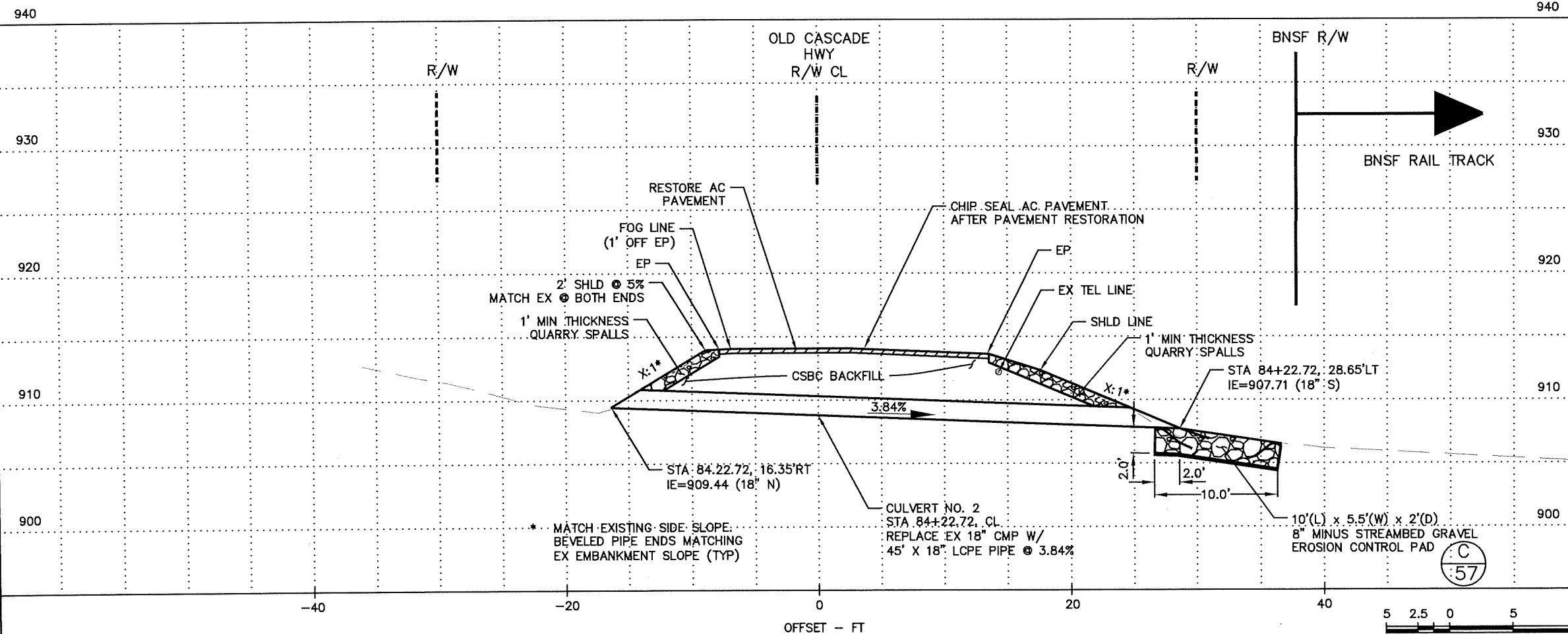


TYPICAL CROSS SECTION

NTB

CONSTRUCTION NOTES:

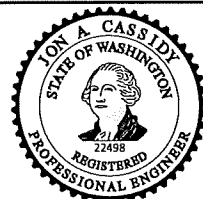
1. OUTFALL EROSION CONTROL PAD SHALL NOT ENCR OACH INTO BNSF ROW.
2. BEVELED PIPE ENDS MATCHING EXISTING SIDE SLOPE.
3. CONTRACTOR TO CHIP SEAL PROPOSED AC PAVEMENT AFTER PAVEMENT RESTORATION.



CULVERT NO. 2 PROFILE

SURVEY JOB NO:	16081	06/2017
CHECKED:	T. CRAY	06/2017
CAD ENTERED:	J. WANG	05/2018
DESIGNED:	J. WANG	05/2018
CHECKED:	J. LYOU	05/2018
SUPERVISOR:	J. CASSIDY	05/2018

NUM.	REVISION	BY	DATE



FED. AID No. _____

PROJECT No. 1129596

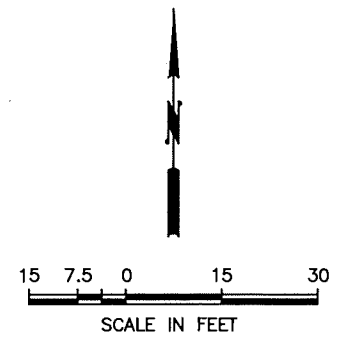
MAINTENANCE DIVISION No. 6

KING COUNTY DEPT. OF TRANSPORTATION
 HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
 MILLER RIVER EAST & WEST
 ROADWAY AND DRAINAGE IMPROVEMENT
CULVERT NO. 2 - PROFILE AND DETAILS

811
 Know what's below.
 Call before you dig.
 (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

SHEET 37 OF 58 SHEETS
320-26(37)

SW 1/4 SEC. 22, T. 26 N., R. 11 E., W.M.

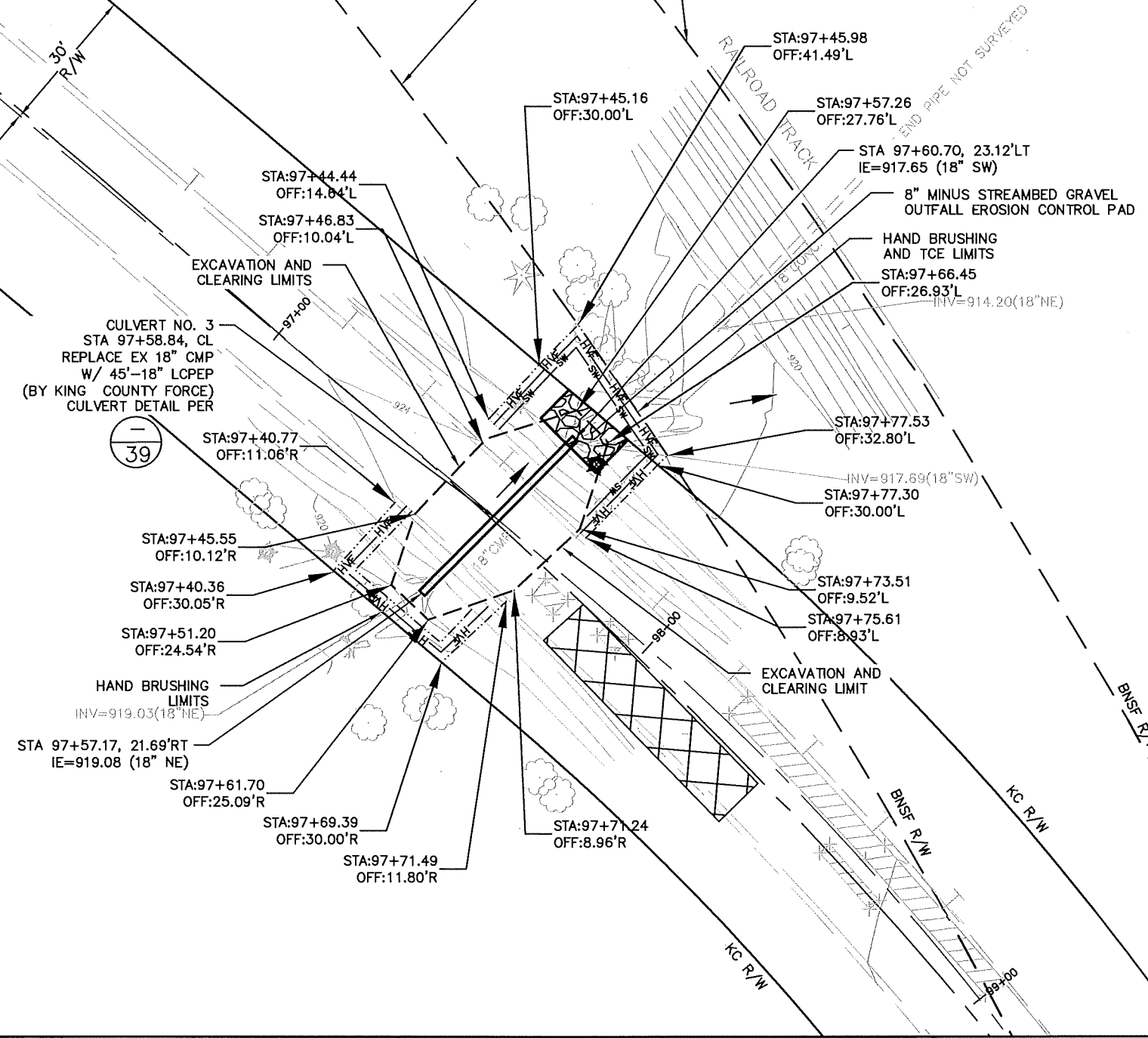


LEGEND
 SUGGESTED STAGING AREA

CONSTRUCTION NOTES:

1. ALL CONSTRUCTION ACTIVITIES SHALL BE OUTSIDE OF BNSF ROW, NOT ENCROACH INTO BNSF ROW.
2. INSTALL TESC MEASURES BEFORE ANY GROUND EXCAVATION. REFER TO STANDARD TESC PLAN NOTES ON SHEET 57.
3. RESTORE ASPHALT PAVEMENT AFTER PIPE INSTALLATION, PAVEMENT STRUCTURE:
 0.40' HMA CL. 1/2 INCH PG64-22 (PLACE IN TWO LIFTS)
 0.70' CRUSHED SURFACING BASE COURSE (CSBC)
4. CONTRACTOR TO CHIP SEAL AC PAVEMENT AFTER PAVEMENT RESTORATION.
5. OUTFALL EROSION CONTROL PAD SHALL KEEP WITHIN KC ROW.
6. TEMPORARY TRAFFIC CONTROL PER SHEET 58.
7. ALL STAGING AREA SHALL BE ON PAVED SURFACE OR THE EXISTING SHOULDER AREA.
8. MECHANIZED GRUBBING OF VEGETATION IS NOT PERMITTED OUTSIDE OF THE EXCAVATION AREAS. LIMITED HAND BRUSHING IS PERMITTED TO PROVIDE WALKING ACCESS.

QUANTITY TABLE	
TOTAL CUT (CY)	126
TOTAL FILL (CY)	123
NET (CY)	3 (CUT)



Know what's below.
 Call before you dig.
 (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

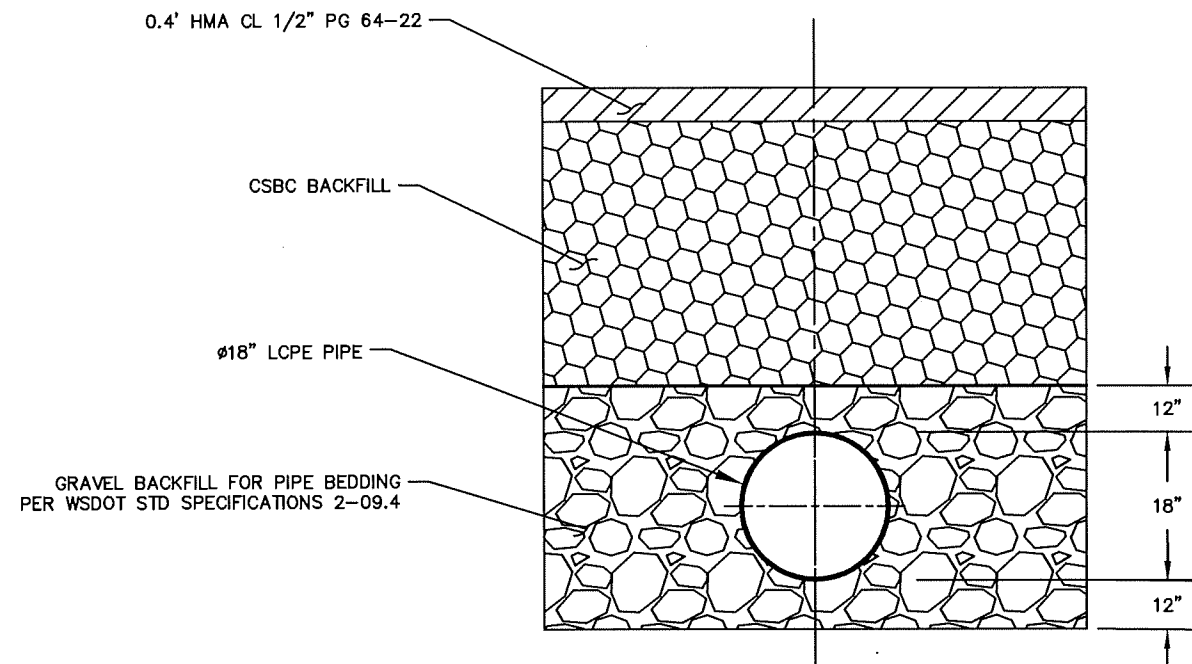
SURVEY JOB NO:	16081	06/2017			
CHECKED:	T. CRAY	06/2017			
CAD ENTERED:	J. WANG	05/2018			
DESIGNED:	J. WANG	05/2018			
CHECKED:	J. LYOU	05/2018			
SUPERVISOR:	J. CASSIDY	05/2018			
NUM.	REVISION	BY	DATE		



FED. AID No. _____
 PROJECT No. 1129596
 MAINTENANCE DIVISION No. 6

KING COUNTY DEPT. OF TRANSPORTATION
 HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
 MILLER RIVER EAST & WEST
 ROADWAY AND DRAINAGE IMPROVEMENT
CULVERT NO. 3 - PROPOSED PLAN

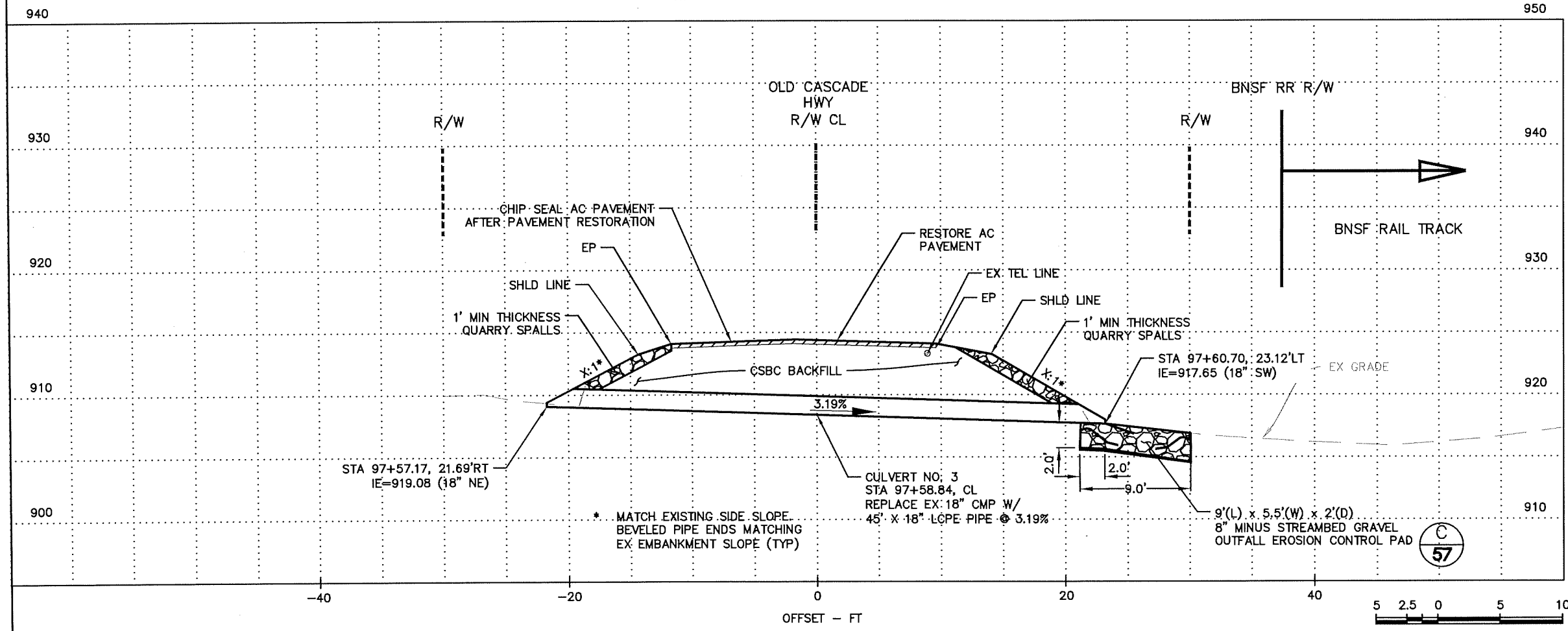
SHEET
 38
 OF
 58
 SHEETS
320-26(38)



TYPICAL CROSS SECTION
NTB

CONSTRUCTION NOTES:

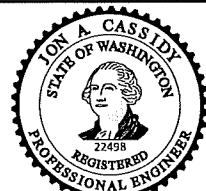
1. OUTFALL EROSION CONTROL PAD SHALL KEEP WITHIN KC ROW.
2. BEVELED PIPE ENDS MATCHING EXISTING SIDE SLOPE.
3. CONTRACTOR TO CHIP SEAL PROPOSED AC PAVEMENT AFTER PAVEMENT RESTORATION.



CULVERT NO. 3 PROFILE

SURVEY JOB NO:	16081	06/2017
CHECKED:	T. CRAY	08/2017
CAD ENTERED:	J. WANG	05/2018
DESIGNED:	J. WANG	05/2018
CHECKED:	J. LYOU	05/2018
SUPERVISOR:	J. CASSIDY	05/2018

NUM.	REVISION	BY	DATE



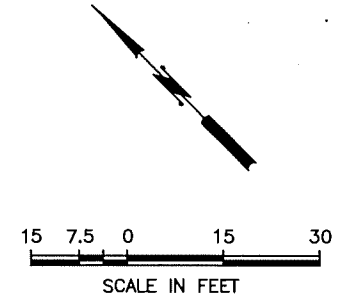
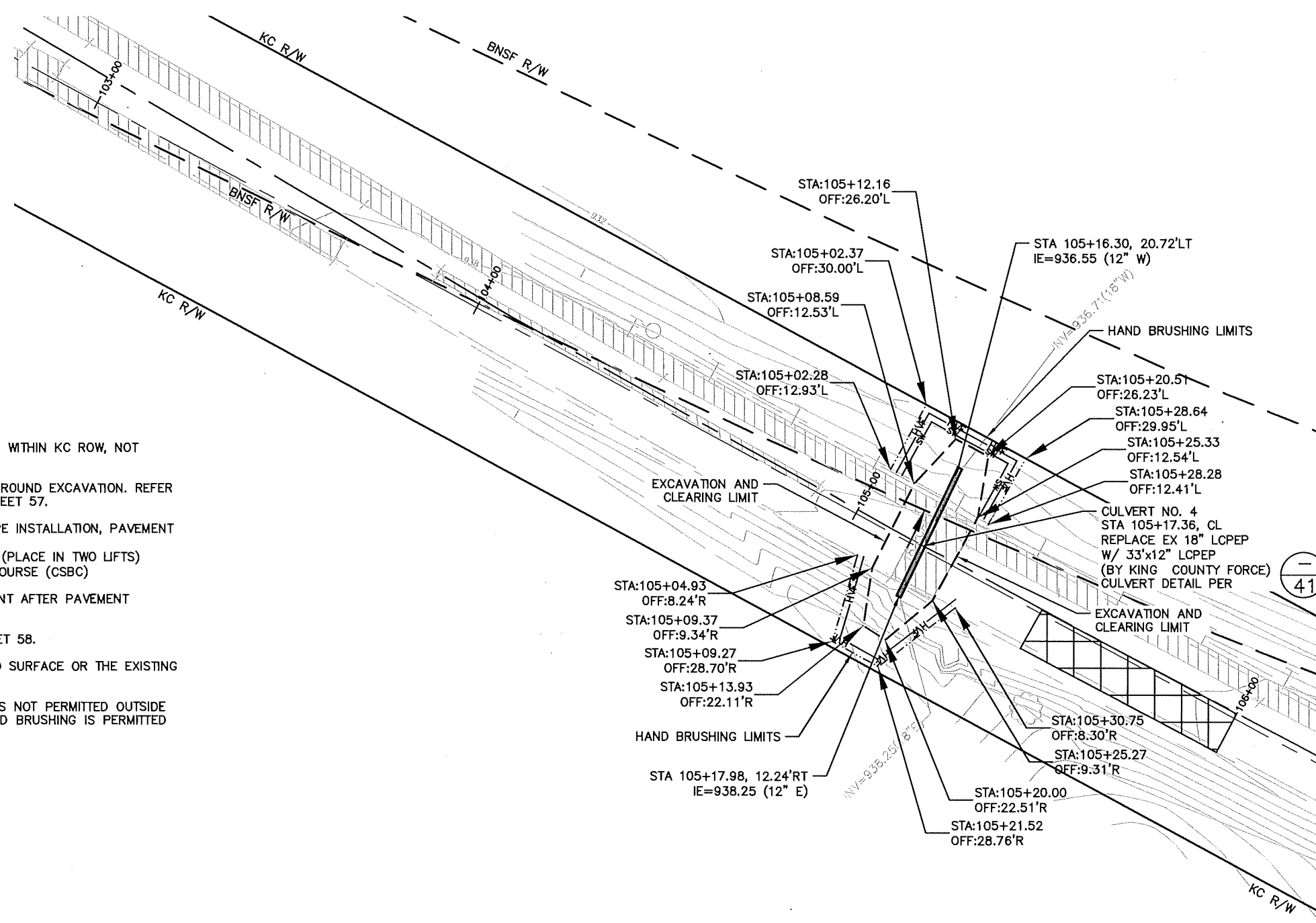
FED. AID No. _____

PROJECT No. 1129596

MAINTENANCE DIVISION No. 6

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
MILLER RIVER EAST & WEST
ROADWAY AND DRAINAGE IMPROVEMENT
CULVERT NO. 3 - PROFILE AND DETAILS

SHEET 39 OF 58 SHEETS
320-26(39)



LEGEND
 SUGGESTED STAGING AREA

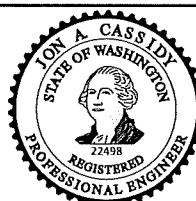
QUANTITY TABLE	
TOTAL CUT (CY)	72
TOTAL FILL (CY)	71
NET (CY)	1 (CUT)

CONSTRUCTION NOTES:

1. ALL CONSTRUCTION ACTIVITIES SHALL BE WITHIN KC ROW, NOT ENCROACH INTO BNSF ROW.
2. INSTALL TESC MEASURES BEFORE ANY GROUND EXCAVATION. REFER TO STANDARD TESC PLAN NOTES ON SHEET 57.
3. RESTORE ASPHALT PAVEMENT AFTER PIPE INSTALLATION, PAVEMENT STRUCTURE:
 0.40' HMA CL. 1/2 INCH PG64-22 (PLACE IN TWO LIFTS)
 0.70' CRUSHED SURFACING BASE COURSE (CSBC)
4. CONTRACTOR TO CHIP SEAL AC PAVEMENT AFTER PAVEMENT RESTORATION.
5. TEMPORARY TRAFFIC CONTROL PER SHEET 58.
6. ALL STAGING AREA SHALL BE ON PAVED SURFACE OR THE EXISTING SHOULDER AREA.
7. MECHANIZED GRUBBING OF VEGETATION IS NOT PERMITTED OUTSIDE OF THE EXCAVATION AREAS. LIMITED HAND BRUSHING IS PERMITTED TO PROVIDE WALKING ACCESS.

SW 1/4 SEC. 22, T. 26 N., R. 11 E., W.M.

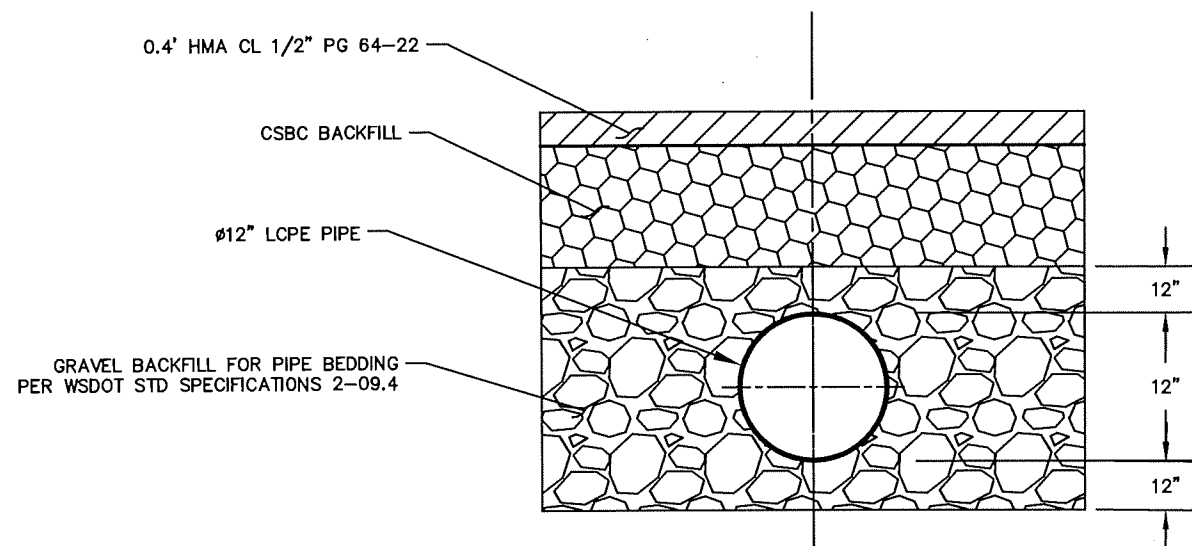
SURVEY JOB NO:	16081	06/2017		
CHECKED:	T. CRAY	06/2017		
CAD ENTERED:	J. WANG	05/2018		
DESIGNED:	J. WANG	05/2018		
CHECKED:	J. LYU	05/2018		
SUPERVISOR:	J. CASSIDY	05/2018		
NUM.	REVISION	BY	DATE	



FED. AID No. _____
 PROJECT No. 1129596
 MAINTENANCE DIVISION No. 6

KING COUNTY DEPT. OF TRANSPORTATION
 HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
 MILLER RIVER EAST & WEST
 ROADWAY AND DRAINAGE IMPROVEMENT
CULVERT NO. 4 - PROPOSED PLAN

SHEET 40 OF 58 SHEETS
320-26(40)

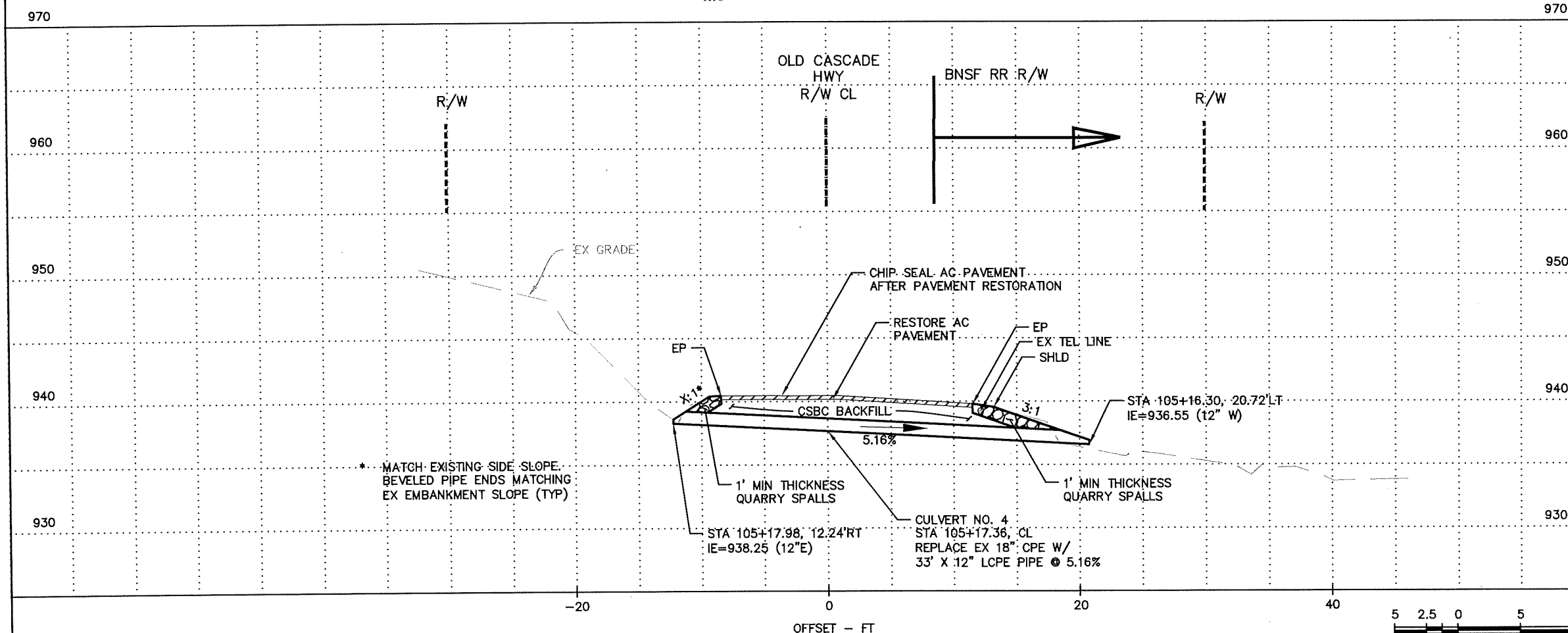


TYPICAL CROSS SECTION

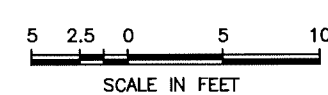
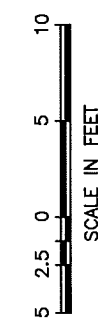
NT8

CONSTRUCTION NOTES:

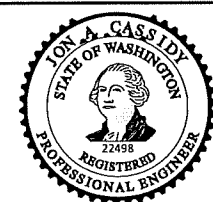
- CONTRACTOR TO CHIP SEAL PROPOSED AC PAVEMENT AFTER PAVEMENT RESTORATION.



CULVERT NO. 4 PROFILE



SURVEY JOB NO:	16081	06/2017			
CHECKED:	T. CRAY	06/2017			
CAD ENTERED:	J. WANG	05/2018			
DESIGNED:	J. WANG	05/2018			
CHECKED:	J. LYOU	05/2018			
SUPERVISOR:	J. CASSIDY	05/2018			
	NUM.	REVISION	BY	DATE	



FED. AID No. _____

PROJECT No. 1129596

MAINTENANCE DIVISION No. 6

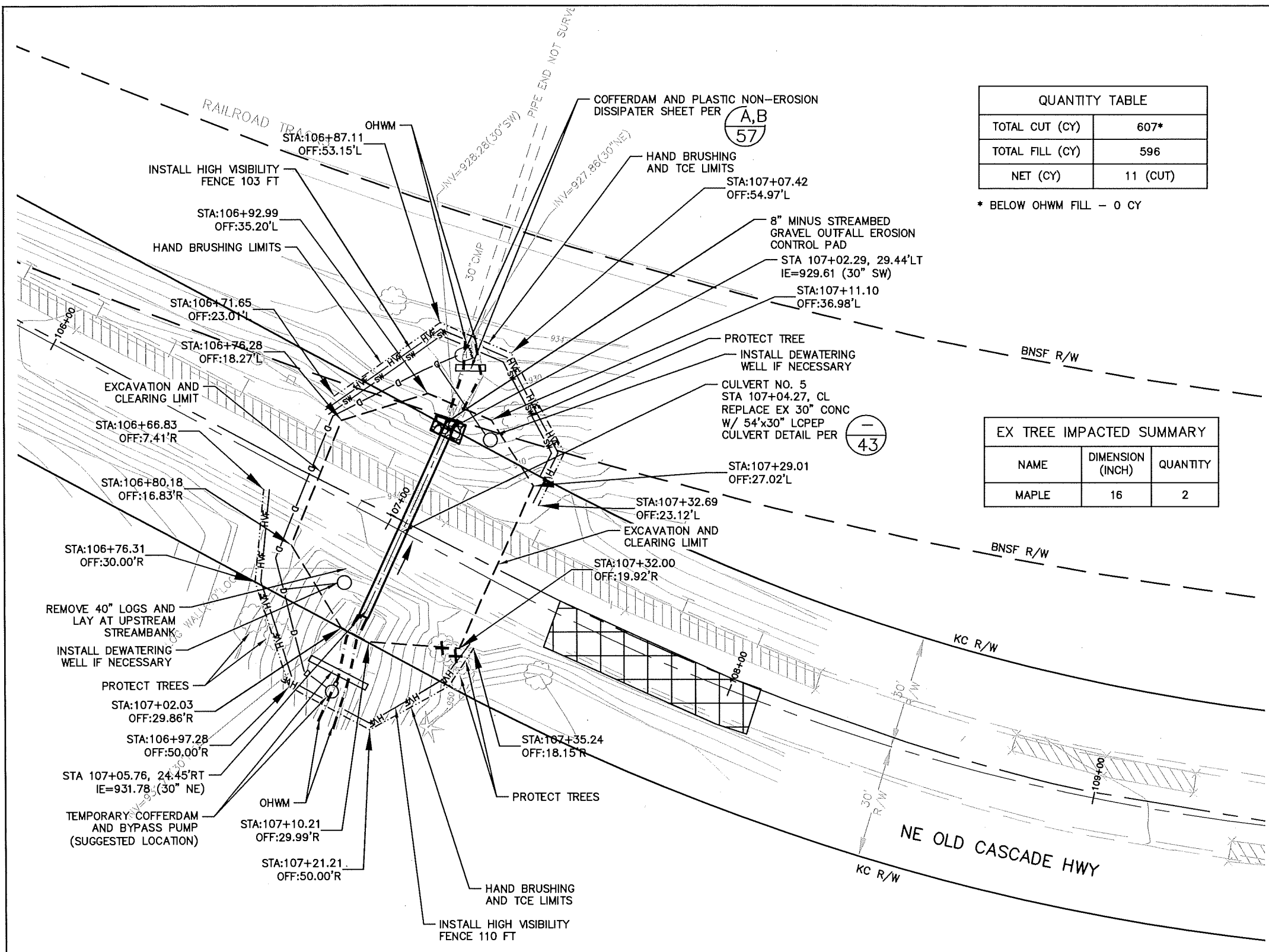
KING COUNTY DEPT. OF TRANSPORTATION
 HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
 MILLER RIVER EAST & WEST
 ROADWAY AND DRAINAGE IMPROVEMENT
CULVERT NO. 4 - PROFILE AND DETAILS

Know what's below.
 Call before you dig.
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

King County

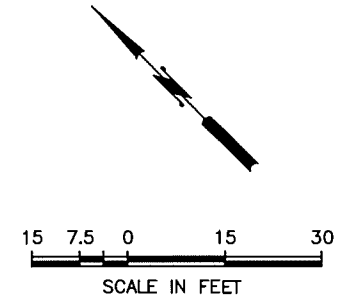
SHEET 41 OF 58 SHEETS

320-26(41)



QUANTITY TABLE	
TOTAL CUT (CY)	607*
TOTAL FILL (CY)	596
NET (CY)	11 (CUT)

* BELOW OHWM FILL - 0 CY



LEGEND

- X EXISTING TREE IMPACTED
- HAND BRUSHING LIMIT
- [Hatched Box] SUGGESTED STAGING AREA
- HVE HIGH VISIBILITY FENCE
- [Dashed Line] TEMPORARY COFFERDAM (SUGGESTED LOCATION)
- [Dashed Line] TEMPORARY BYPASS PIPE (SUGGESTED LOCATION)
- [Dashed Line] PLASTIC SHEET NON-EROSION DISSIPATER (SUGGESTED LOCATION)
- [Circle with X] BYPASS PUMP (SUGGESTED LOCATION)
- SW STRAW WATTLE
- EXCAVATION LIMIT
- OHWM
- [Circle] DEWATERING WELL (IF NECESSARY)

EX TREE IMPACTED SUMMARY		
NAME	DIMENSION (INCH)	QUANTITY
MAPLE	16	2

CONSTRUCTION NOTES:

1. INSTALL TESC MEASURES BEFORE ANY GROUND EXCAVATION. REFER TO STANDARD TESC PLAN NOTES ON SHEET 56.
2. RESTORE ASPHALT PAVEMENT AFTER PIPE INSTALLATION, PAVEMENT STRUCTURE:
0.40' HMA CL. 1/2 INCH PG64-22 (PLACE IN TWO LIFTS)
0.70' CRUSHED SURFACING BASE COURSE (CSBC)
3. OUTFALL EROSION CONTROL PAD SHALL NOT ENCROACH INTO BNSF ROW.
4. CONTRACTOR TO CHIP SEAL AC PAVEMENT AFTER PAVEMENT RESTORATION.
5. TEMPORARY TRAFFIC CONTROL PER SHEET 57.
6. ALL STAGING AREA SHALL BE ON PAVED SURFACE OR THE EXISTING SHOULDER AREA.
7. COFFER DAM SHOULD USE WATER SAUSAGE IF NECESSARY.
8. DEWATERING WELL SHOULD BE INSTALLED IF NECESSARY DURING CONSTRUCTION.
9. CLEARING LIMITS AND TREES SCHEDULED FOR REMOVAL SHALL BE MARKED IN THE FIELD AND THESE LIMITS APPROVED BY THE KING COUNTY'S ENVIRONMENTAL SCIENTIST PRIOR TO ANY AND ALL CLEARING OPERATIONS. ONLY TREES SPECIFICALLY MARKED FOR REMOVAL SHALL BE CUT.
10. MECHANIZED GRUBBING OF VEGETATION IS NOT PERMITTED OUTSIDE OF THE EXCAVATION AREAS. LIMITED HAND BRUSHING IS PERMITTED TO PROVIDE WALKING ACCESS.

SW 1/4 SEC. 22, T. 26 N., R. 11 E., W.M.

SURVEY JOB NO:	16081	06/2017
CHECKED:	T. CRAY	06/2017
CAD ENTERED:	J. WANG	05/2018
DESIGNED:	J. WANG	05/2018
CHECKED:	J. LYOU	05/2018
SUPERVISOR:	J. CASSIDY	05/2018

NUM.	REVISION	BY	DATE



FED. AID No. _____

PROJECT No. 1129596

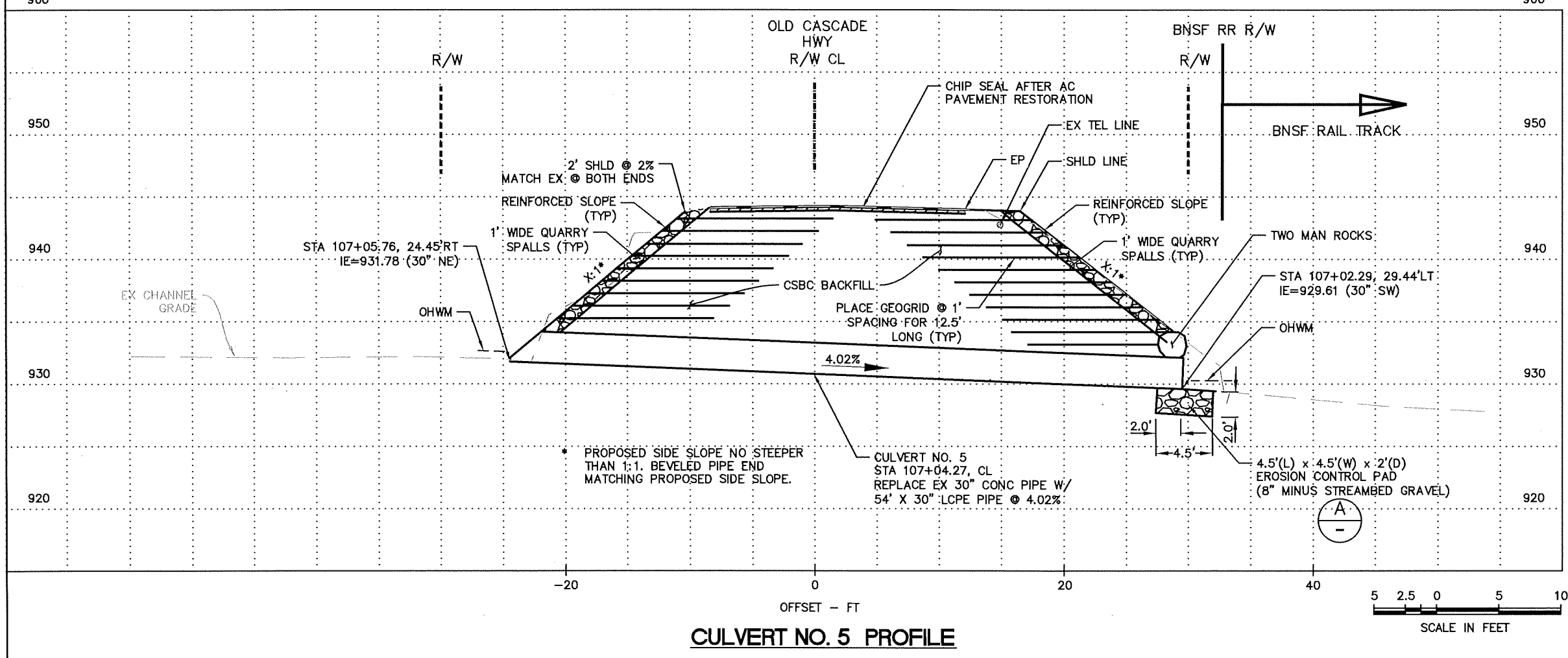
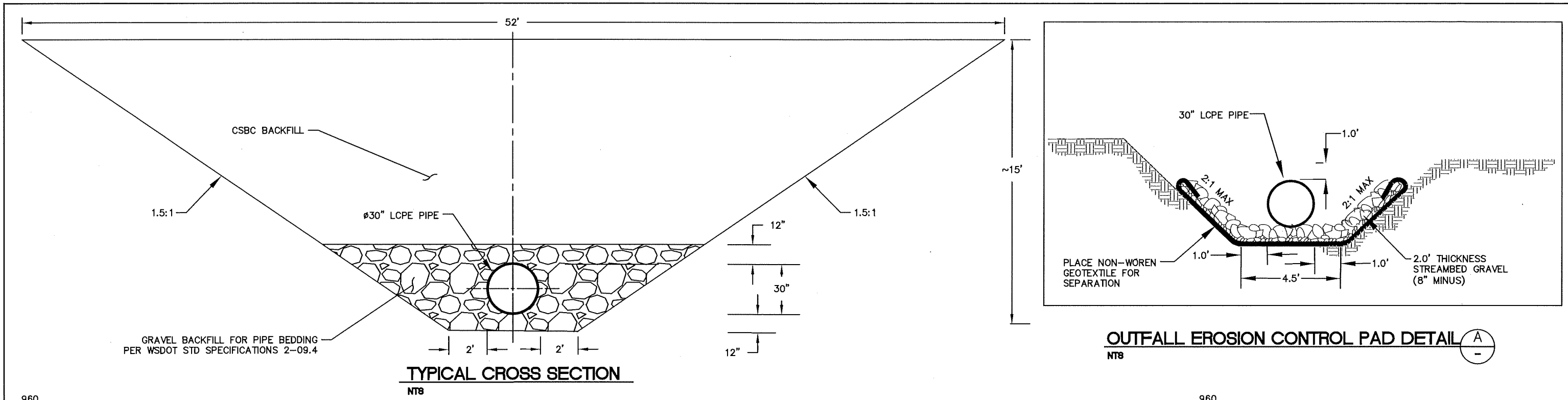
MAINTENANCE DIVISION No. 6

KING COUNTY DEPT. OF TRANSPORTATION
 HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
 MILLER RIVER EAST & WEST
 ROADWAY AND DRAINAGE IMPROVEMENT
CULVERT NO. 5 - PROPOSED PLAN

SHEET 42 OF 58 SHEETS

King County

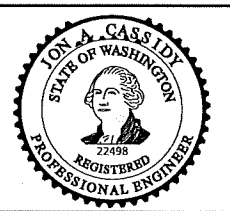
320-26(42)



- CONSTRUCTION NOTES:**
1. OUTFALL EROSION CONTROL PAD SHALL NOT ENCR OACH INTO BNSF ROW.
 2. BEVELED PIPE ENDS MATCHING PROPOSED SIDE SLOPE.
 3. CONTRACTOR TO CHIP SEAL NEW AC PAVEMENT AFTER PAVEMENT RESTORATION.

SURVEY JOB NO:	16081	08/2017
CHECKED:	T. CRAY	08/2017
CAD ENTERED:	J. WANG	05/2018
DESIGNED:	J. WANG	05/2018
CHECKED:	J. LYOU	05/2018
SUPERVISOR:	J. CASSIDY	05/2018

NUM.	REVISION	BY	DATE



FED. AID No. _____

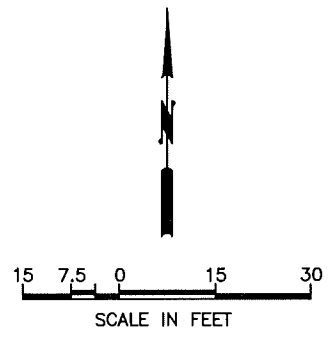
PROJECT No. 1129596

MAINTENANCE DIVISION No. 6

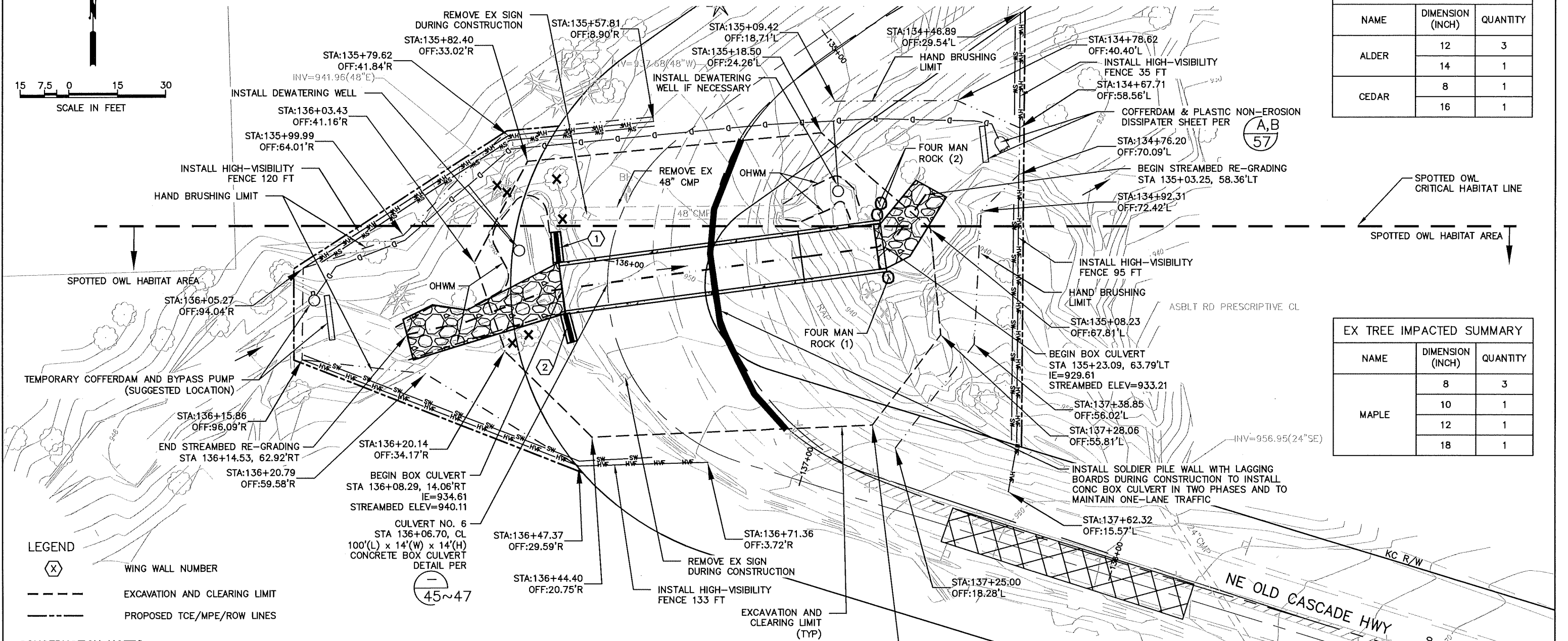
KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
MILLER RIVER EAST & WEST
ROADWAY AND DRAINAGE IMPROVEMENT
CULVERT NO. 5 - PROFILE AND DETAILS

SHEET 43 OF 58 SHEETS
320-26(43)

SE 1/4 SEC. 27, T. 26 N., R. 11 E., W.M.



EX TREE IMPACTED SUMMARY		
NAME	DIMENSION (INCH)	QUANTITY
ALDER	12	3
	14	1
CEDAR	8	1
	16	1



EX TREE IMPACTED SUMMARY		
NAME	DIMENSION (INCH)	QUANTITY
MAPLE	8	3
	10	1
	12	1
	18	1

- LEGEND**
- (X) WING WALL NUMBER
 - EXCAVATION AND CLEARING LIMIT
 - PROPOSED TCE/MPE/ROW LINES

- CONSTRUCTION NOTES:**
- ALL STAGING AREA SHALL BE ON PAVED SURFACE OR THE EXISTING SHOULDER AREA.
 - INSTALL TESC MEASURES BEFORE ANY GROUND EXCAVATION. REFER TO STANDARD TESC PLAN NOTES ON SHEET 57.
 - ON-SITE KC RSD'S ENVIRONMENTAL SCIENTIST WILL DETERMINE SUITABLE RELEASE AREAS DEPENDING ON STREAM CONDITIONS AT THE TIME OF CONSTRUCTION.
 - RESTORE ASPHALT PAVEMENT AFTER PIPE INSTALLATION, PAVEMENT STRUCTURE:
0.40' HMA CL. 1/2 INCH PG64-22 (PLACE IN TWO LIFTS)
0.70' CRUSHED SURFACING BASE COURSE (CSBC)
 - CONTRACTOR TO CHIP SEAL AC PAVEMENT AFTER PAVEMENT RESTORATION.
 - REMOVE EXISTING SIGNS DURING CONSTRUCTION, AND RE-INSTALL THESE SIGNS AFTER CONSTRUCTION COMPLETION.
 - SOLDIER PILE WALL SHALL BE INSTALLED WITH AUGER METHOD.
 - SITE RESTORATION PLANTING PER SHEET 53, AND TEMPORARY TRAFFIC CONTROL PER SHEET 58.
 - PLASTIC NON-EROSION DISSIPATER SHEET SHALL BE APPROVED BY ON SITE KC CESCL.
 - CLEARING LIMITS AND TREES SCHEDULED FOR REMOVAL SHALL BE MARKED IN THE FIELD AND THESE LIMITS SHALL BE APPROVED BY THE KC RSD'S ENVIRONMENTAL SCIENTIST PRIOR TO ANY AND ALL CLEARING OPERATIONS. ONLY TREES SPECIFICALLY MARKED FOR REMOVAL WILL BE CUT.
 - MECHANIZED GRUBBING OF VEGETATION IS NOT PERMITTED OUTSIDE OF THE EXCAVATION AREAS. LIMITED HAND BRUSHING IS PERMITTED TO PROVIDE WALKING ACCESS.

QUANTITY TABLE	
TOTAL CUT (CY)	5650*
TOTAL FILL (CY)	4900
NET (CY)	750 (CUT)

* BELOW OHWM EXCAVATION - 28 CY

SURVEY JOB NO:	16081	06/2017		
CHECKED:	T. CRAY	06/2017		
CAD ENTERED:	J. WANG	05/2018		
DESIGNED:	J. WANG	05/2018		
CHECKED:	J. LYU	05/2018		
SUPERVISOR:	J. CASSIDY	05/2018		
NUM.	REVISION	BY	DATE	



FED. AID No. _____

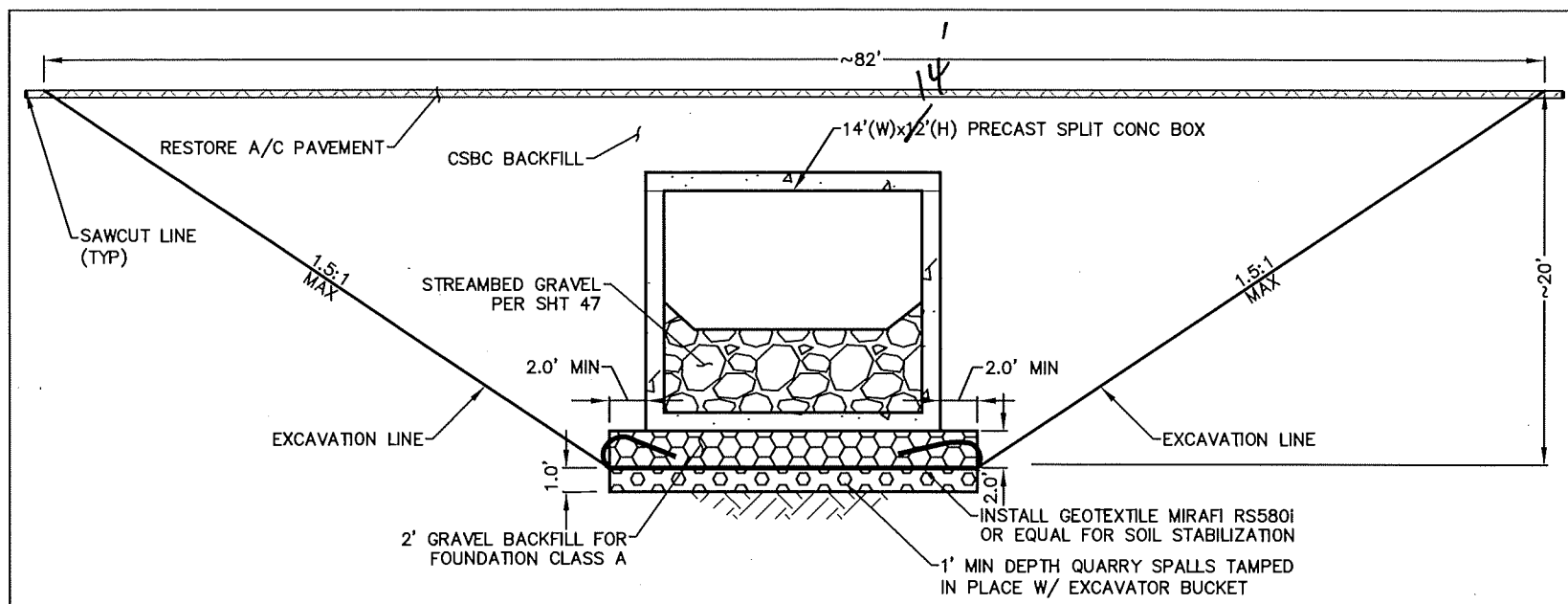
PROJECT No. 1129596

MAINTENANCE DIVISION No. 6

KING COUNTY DEPT. OF TRANSPORTATION
 HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
 MILLER RIVER EAST & WEST
 ROADWAY AND DRAINAGE IMPROVEMENT
CULVERT NO. 6 - PROPOSED PLAN

SHEET 44 OF 58 SHEETS

320-26(44)

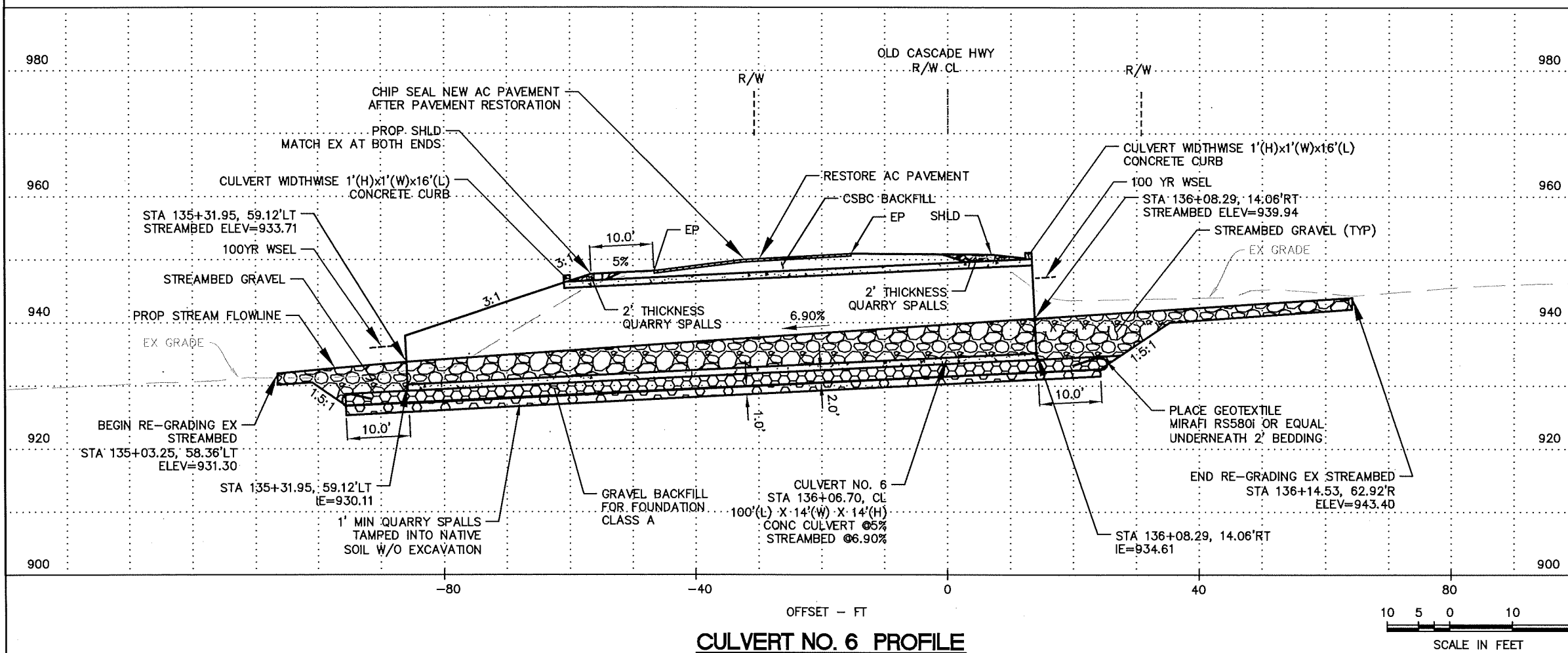


TYPICAL CROSS SECTION

NTB

CONSTRUCTION NOTES:

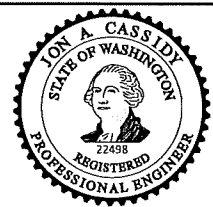
1. CONTRACTOR TO CHIP SEAL NEW AC PAVEMENT AFTER PAVEMENT RESTORATION.
2. STREAMBED PLACEMENT PER THE DIRECTION OF KC ON-SITE ENVIRONMENTAL SCIENTIST OR PROJECT ENGINEERS.



CULVERT NO. 6 PROFILE

SURVEY JOB NO:	16081	08/2017
CHECKED:	T. CRAY	08/2017
CAD ENTERED:	J. WANG	05/2018
DESIGNED:	J. WANG	05/2018
CHECKED:	J. LYOU	05/2018
SUPERVISOR:	J. CASSIDY	05/2018

NUM.	REVISION	BY	DATE

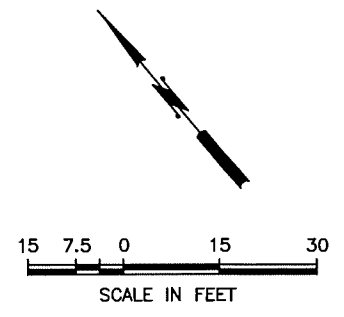
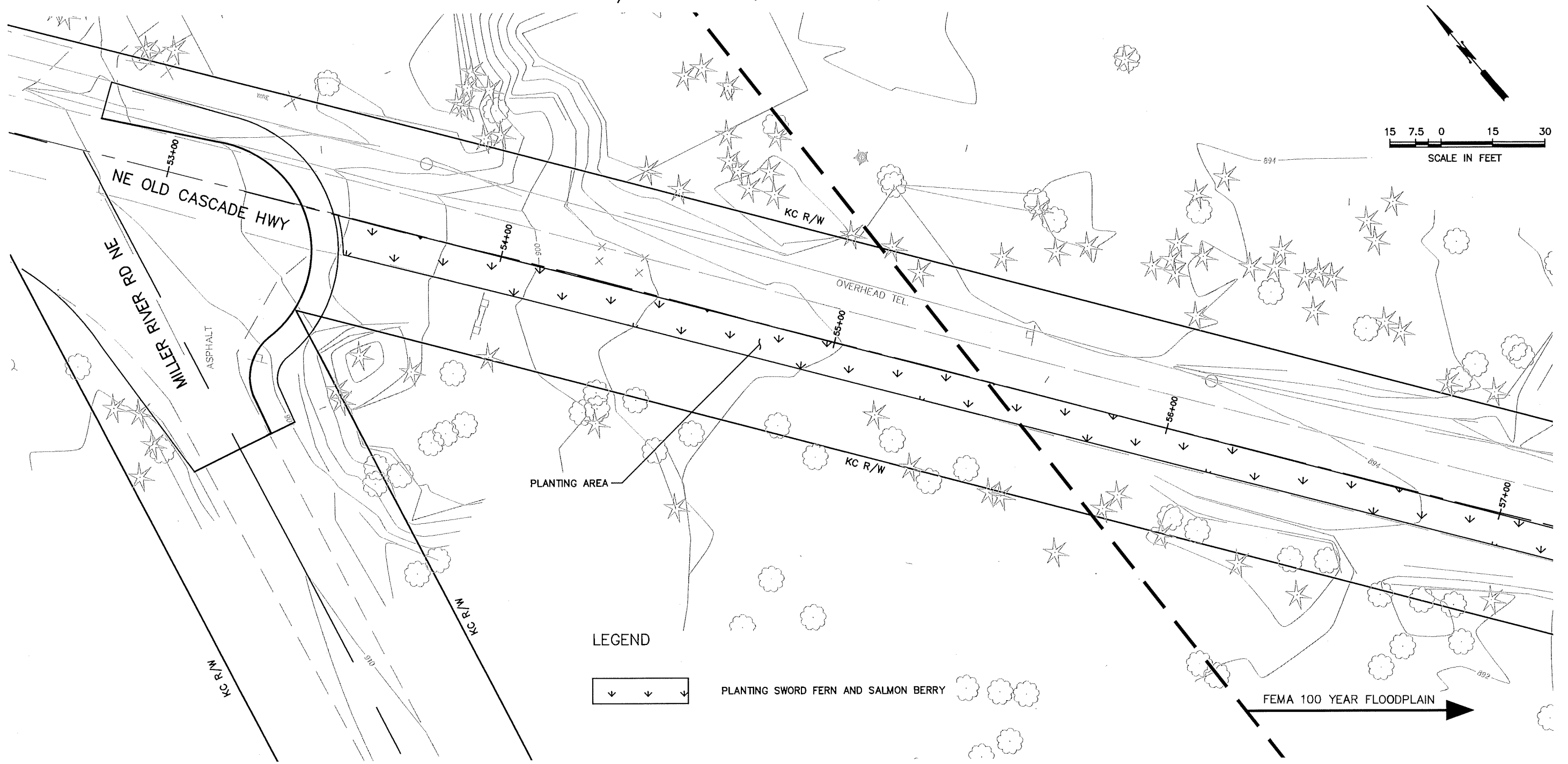


FED. AID No. _____
 PROJECT No. 1129596
 MAINTENANCE DIVISION No. 6

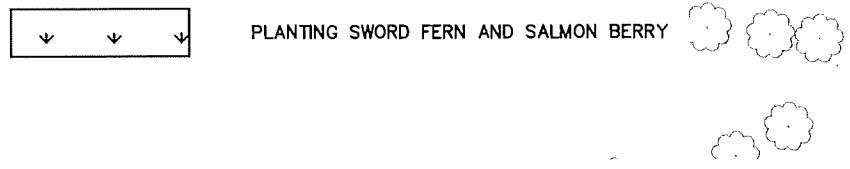
KING COUNTY DEPT. OF TRANSPORTATION
 HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
 MILLER RIVER EAST & WEST
 ROADWAY AND DRAINAGE IMPROVEMENT
CULVERT NO. 6 - PROFILE AND DETAILS - 1

SHEET 45 OF 58 SHEETS
 320-26(45)

SE 1/4 SEC. 21, T. 26 N., R. 11 E., W.M.



LEGEND

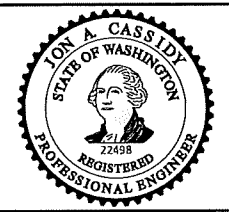


PLANTING NOTES:

1. FOLLOWING REMOVAL OF PAVEMENT AND CSBC, THE AFFECTED AREA SHALL BE SCARIFIED PRIOR TO THE PLACEMENT OF 12" 1:1 TOP SOIL AND PIT RUN SOIL/MIX.
2. PLANT SWORD FERN @ 3' O.C. AND SALMON BERRY @ 5' O.C., OR PER THE DIRECTIONS FROM THE ON SITE KING COUNTY ENVIRONMENTAL SCIENTIST.
3. CONTRACTOR SHALL HAVE ALL MATERIAL INSPECTED AND TREE LAYOUTS APPROVED BY KING COUNTY ENVIRONMENTAL SCIENTIST OR ENGINEER PRIOR TO PLANTING.
4. PLANTING SCHEDULE SHALL BE DIRECTED BY KING COUNTY ENVIRONMENTAL SCIENTIST.
5. A 2" UNIFORM LAYER OF BARK MULCH SHALL BE PLACED OVER ALL CLEARING AND GRUBBING AREA AFTER PLANTING.

PAVEMENT REMOVAL RESTORATION PLANTING SCHEDULE:			
QTY	COMMON NAME	BOTANICAL NAME	SPECIFICATIONS
360	SALMON BERRY	RUBUS SPECTABILIS	MIN. 12" - 18" HT. & 12" SPREAD, MIN, 2 GAL. CONT. FULL & DENSE. PLANT @ TOE OF SLOPE IN MASS 5' O.C.
620	SWORD FERN	POLYSTITCHUM MUNITUM	MIN. 9" HT. & 12" SPREAD, MIN, 2 GAL. CONT. FULL & DENSE. PLANT IN MASS 3' O.C.

SURVEY JOB No:	16081	06/2017			
CHECKED:	T. CRAY	06/2017			
CAD ENTERED:	J. WANG	05/2018			
DESIGNED:	J. WANG	05/2018			
CHECKED:	J. LYOU	05/2018			
SUPERVISOR:	J. CASSIDY	05/2018			
NUM.	REVISION	BY	DATE		

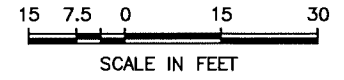
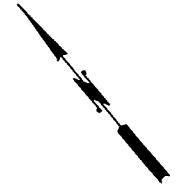


FED. AID No. _____
 PROJECT No. 1129595
 MAINTENANCE DIVISION No. 6

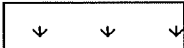
KING COUNTY DEPT. OF TRANSPORTATION
 HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
 MILLER RIVER EAST & WEST
 ROADWAY AND DRAINAGE IMPROVEMENT
 SITE RESTORATION PLANTING PLAN - PAVEMENT REMOVAL 1 OF 3

SHEET 48 OF 58 SHEETS
 320-26(48)

SE 1/4 SEC. 21, T. 26 N., R. 11 E., W.M.

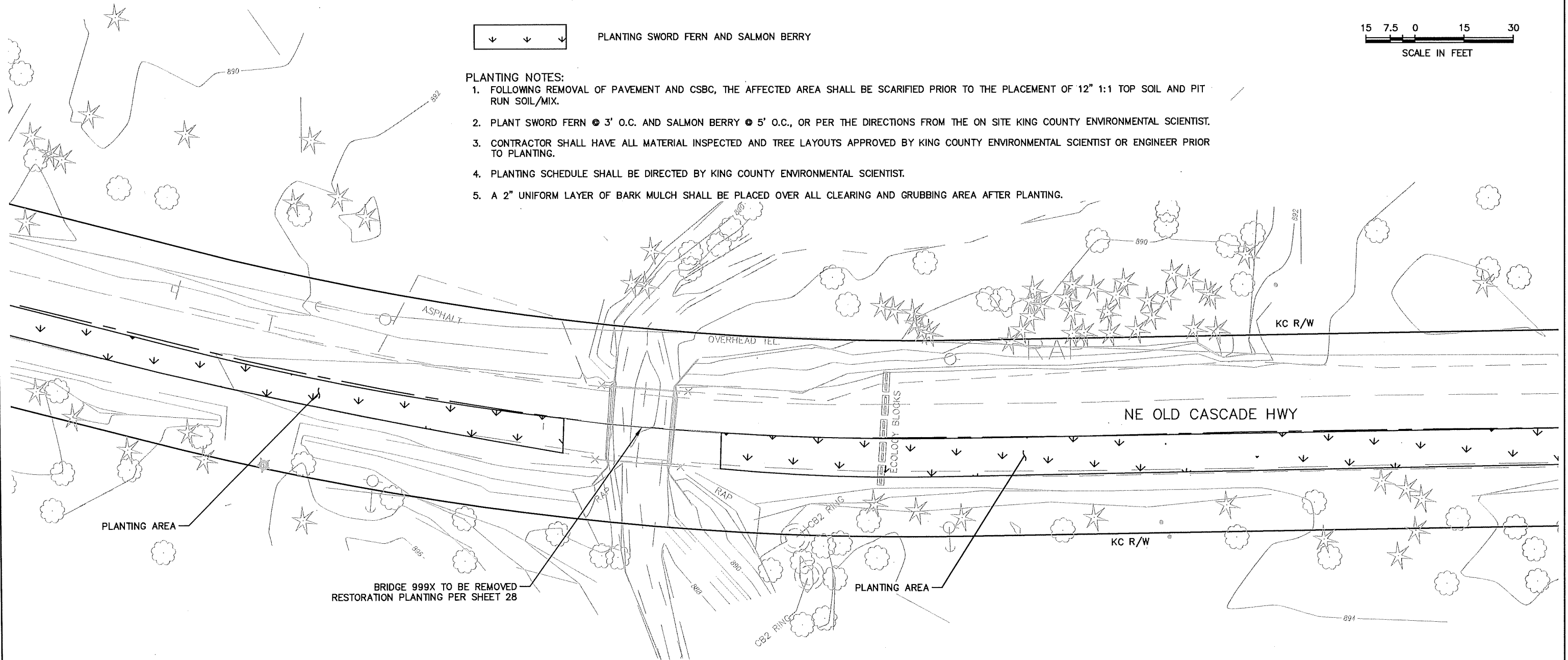


LEGEND

 PLANTING SWORD FERN AND SALMON BERRY

PLANTING NOTES:

1. FOLLOWING REMOVAL OF PAVEMENT AND CSBC, THE AFFECTED AREA SHALL BE SCARIFIED PRIOR TO THE PLACEMENT OF 12" 1:1 TOP SOIL AND PIT RUN SOIL/MIX.
2. PLANT SWORD FERN @ 3' O.C. AND SALMON BERRY @ 5' O.C., OR PER THE DIRECTIONS FROM THE ON SITE KING COUNTY ENVIRONMENTAL SCIENTIST.
3. CONTRACTOR SHALL HAVE ALL MATERIAL INSPECTED AND TREE LAYOUTS APPROVED BY KING COUNTY ENVIRONMENTAL SCIENTIST OR ENGINEER PRIOR TO PLANTING.
4. PLANTING SCHEDULE SHALL BE DIRECTED BY KING COUNTY ENVIRONMENTAL SCIENTIST.
5. A 2" UNIFORM LAYER OF BARK MULCH SHALL BE PLACED OVER ALL CLEARING AND GRUBBING AREA AFTER PLANTING.



Know what's below.
Call before you dig.

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

SURVEY JOB NO:	16081	06/2017			
CHECKED:	T. CRAY	08/2017			
CAD ENTERED:	J. WANG	05/2018			
DESIGNED:	J. WANG	05/2018			
CHECKED:	J. LYOU	05/2018			
SUPERVISOR:	J. CASSIDY	05/2018			
NUM.	REVISION	BY	DATE		



FED. AID No. _____

PROJECT No. 1129595

MAINTENANCE DIVISION No. 6

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
MILLER RIVER EAST & WEST
ROADWAY AND DRAINAGE IMPROVEMENT
SITE RESTORATION PLANTING PLAN - PAVEMENT REMOVAL 2 OF 3



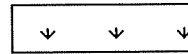
King County

SHEET
49
OF
58
SHEETS

320-26(49)

SE 1/4 SEC. 21, T. 26 N., R. 11 E., W.M.

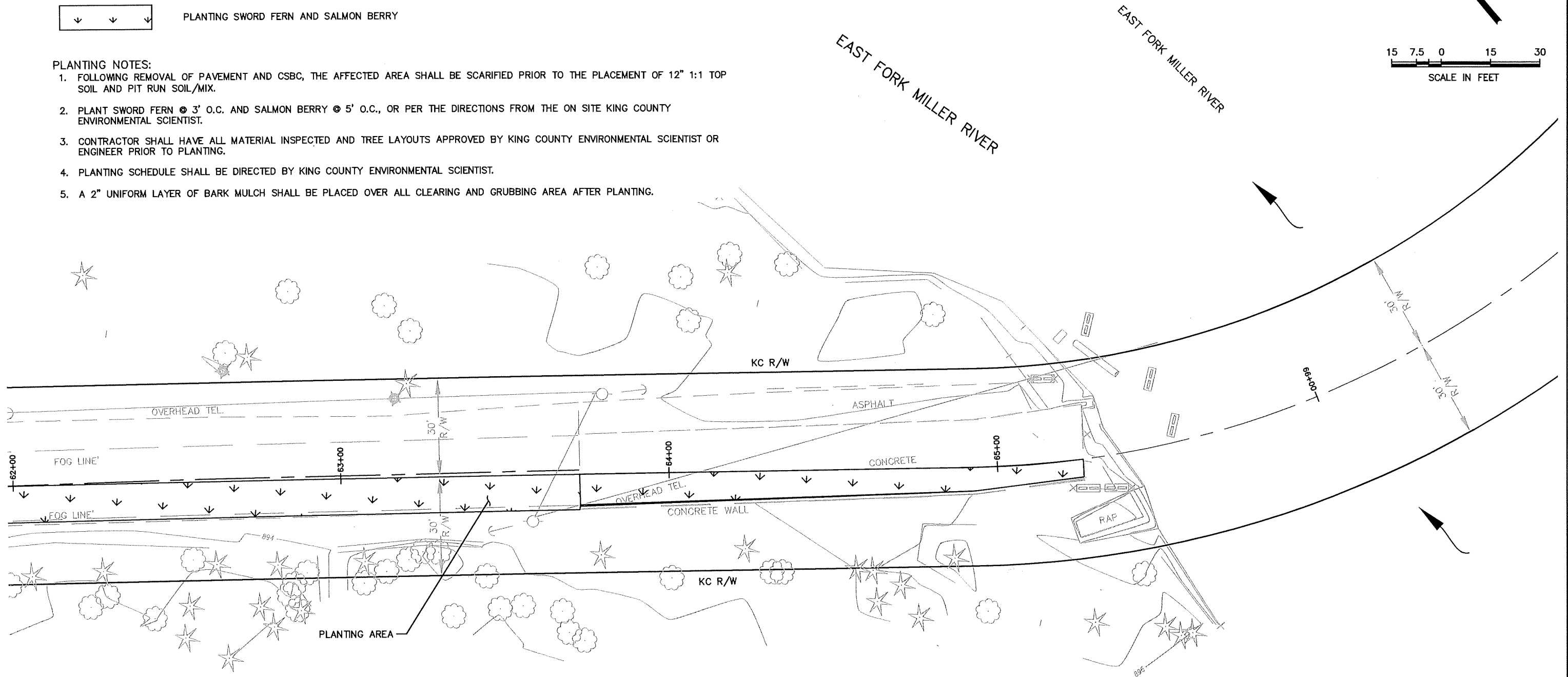
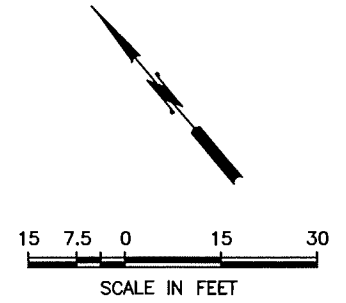
LEGEND



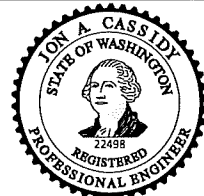
PLANTING SWORD FERN AND SALMON BERRY

PLANTING NOTES:

1. FOLLOWING REMOVAL OF PAVEMENT AND CSBC, THE AFFECTED AREA SHALL BE SCARIFIED PRIOR TO THE PLACEMENT OF 12" 1:1 TOP SOIL AND PIT RUN SOIL/MIX.
2. PLANT SWORD FERN @ 3' O.C. AND SALMON BERRY @ 5' O.C., OR PER THE DIRECTIONS FROM THE ON SITE KING COUNTY ENVIRONMENTAL SCIENTIST.
3. CONTRACTOR SHALL HAVE ALL MATERIAL INSPECTED AND TREE LAYOUTS APPROVED BY KING COUNTY ENVIRONMENTAL SCIENTIST OR ENGINEER PRIOR TO PLANTING.
4. PLANTING SCHEDULE SHALL BE DIRECTED BY KING COUNTY ENVIRONMENTAL SCIENTIST.
5. A 2" UNIFORM LAYER OF BARK MULCH SHALL BE PLACED OVER ALL CLEARING AND GRUBBING AREA AFTER PLANTING.



SURVEY JOB No.:	16081	06/2017			
CHECKED:	T. CRAY	06/2017			
CAD ENTERED:	J. WANG	05/2018			
DESIGNED:	J. WANG	05/2018			
CHECKED:	J. LYOU	05/2018			
SUPERVISOR:	J. CASSIDY	05/2018			
	NUM.	REVISION	BY	DATE	



FED. AID No. _____

PROJECT No. 1129595

MAINTENANCE DIVISION No. 6

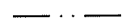
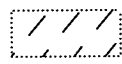

KING COUNTY DEPT. OF TRANSPORTATION
 HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
 MILLER RIVER EAST & WEST
 ROADWAY AND DRAINAGE IMPROVEMENT
 SITE RESTORATION PLANTING PLAN - PAVEMENT REMOVAL 3 OF 3

SHEET 50 OF 58 SHEETS

320-26(50)

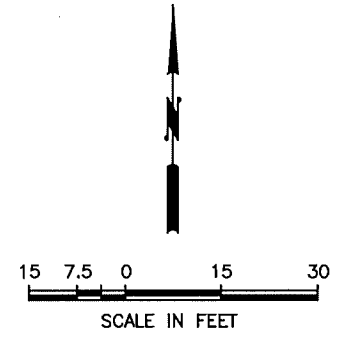
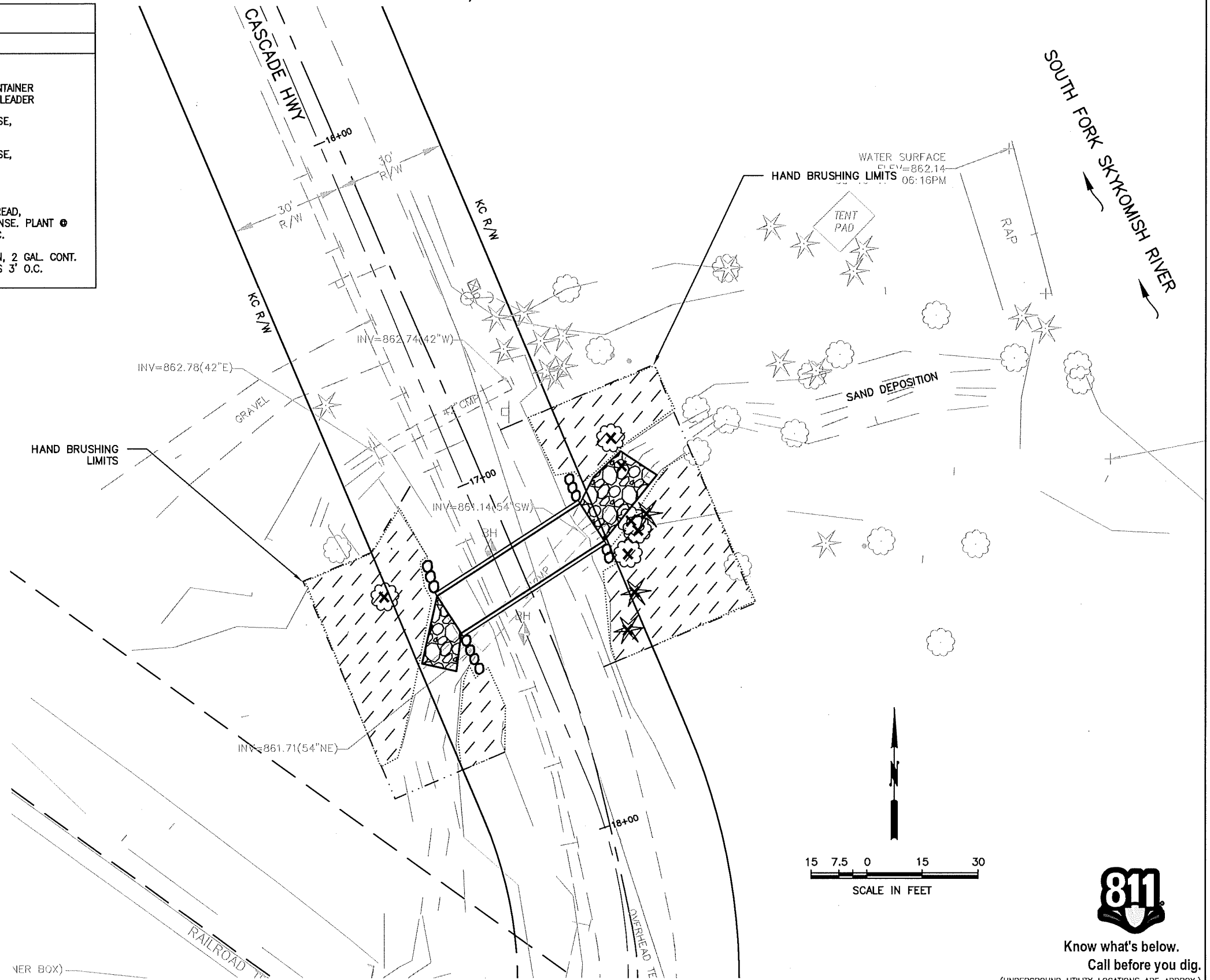
PLANTING SCHEDULE:			
QTY	COMMON NAME	BOTANICAL NAME	SPECIFICATIONS
TREES			
10	BIG LEAF MAPLE	ACER MACROPHYLLUM	1" CALIPER, MIN 3'-4' HT CONTAINER STRAIGHT TRUNK WITH SINGLE LEADER
3	DOUGLAS-FIR	PSEUDOTSUGA MENZIESII	MIN 3'-4' HT B&B FULL, DENSE, AND SYMMETRICAL IN SHAPE
6	WESTERN RED CEDAR	THUJA PLICATA	MIN 3'-4' HT B&B FULL, DENSE, AND SYMMETRICAL IN SHAPE
14	ALDER	ALNUS SPP	-
100	SALMON BERRY	RUBUS SPECTABILIS	MIN. 12" - 18" HT. & 12" SPREAD, MIN. 2 GAL. CONT. FULL & DENSE. PLANT @ TOE OF SLOPE IN MASS 5' O.C.
110	SWORD FERN	POLYSTITCHUM MUNITUM	MIN. 9" HT. & 12" SPREAD, MIN. 2 GAL. CONT. FULL & DENSE. PLANT IN MASS 3' O.C.

LEGEND

-  HAND BRUSHING LIMIT
-  2" BARK MULCH, KEEP MULCH OFF OF STEMS
-  EXISTING TREE IMPACTED

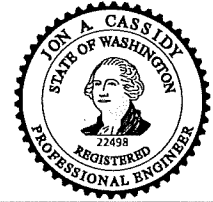
CONSTRUCTION NOTES:

1. THE CLEARING AND GRUBBING AREA SHOWN REFLECTS THE MAXIMUM DISTURBANCE AREA ANTICIPATED AND PERMITTED, ALL PROPOSED TREES SHOULD PLANT WITHIN THIS AREA.
2. TREES PLANTING @ 9' O.C., SALMON BERRY PLANTING @ 5' O.C. AND SWORD FERN PLANTING @ 3' O.C.
3. CONTRACTOR SHALL HAVE ALL MATERIAL INSPECTED AND TREE LAYOUTS APPROVED BY KING COUNTY ECOLOGIST OR ENGINEER PRIOR TO PLANTING.
4. PLANTING SCHEDULE SHALL BE DIRECTED BY KING COUNTY ENVIRONMENTAL SCIENTIST.
5. A 2" UNIFORM LAYER OF BARK MULCH SHALL BE PLACED OVER ALL CLEARING AND GRUBBING AREA AFTER PLANTING.




Know what's below.
Call before you dig.
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

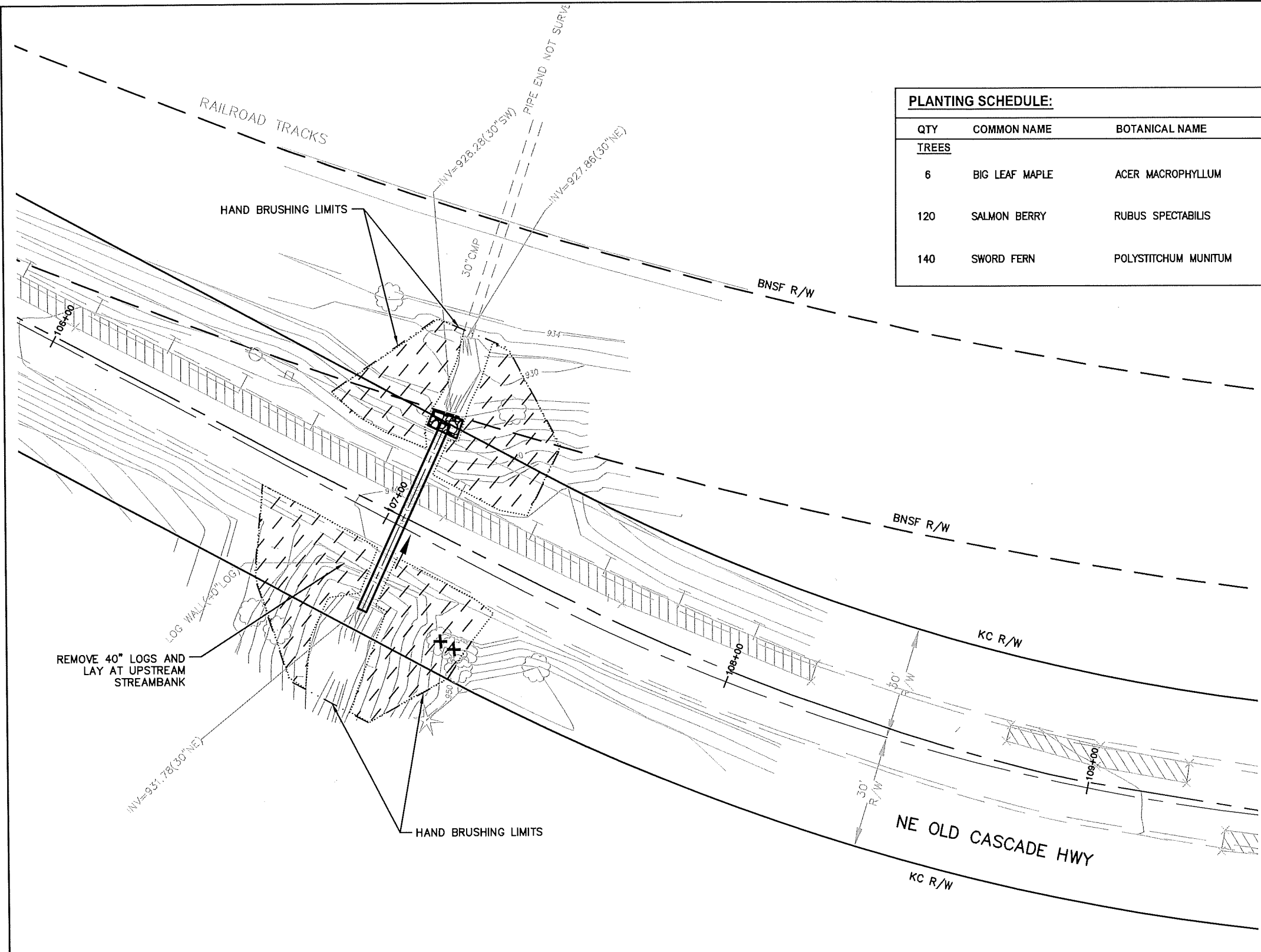
SURVEY JOB NO:	16081	06/2017			
CHECKED:	T. CRAY	06/2017			
CAD ENTERED:	J. WANG	05/2018			
DESIGNED:	J. WANG	05/2018			
CHECKED:	J. LYOU	05/2018			
SUPERVISOR:	J. CASSIDY	05/2018			
NUM.	REVISION	BY	DATE		



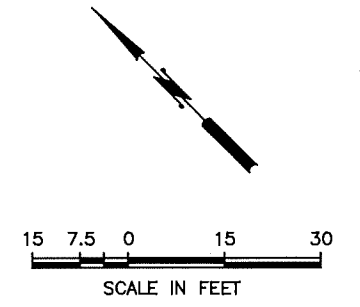
FED. AID No. _____
PROJECT No. 1129596
MAINTENANCE DIVISION No. 6

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
MILLER RIVER EAST & WEST
ROADWAY AND DRAINAGE IMPROVEMENT
SITE RESTORATION PLANTING PLAN - CULVERT NO. 1

 SHEET 51 OF 58 SHEETS
320-26(51)



PLANTING SCHEDULE:			
QTY	COMMON NAME	BOTANICAL NAME	SPECIFICATIONS
TREES			
6	BIG LEAF MAPLE	ACER MACROPHYLLUM	1" CALIPER, MIN 3'-4' HT CONTAINER STRAIGHT TRUNK WITH SINGLE LEADER
120	SALMON BERRY	RUBUS SPECTABILIS	MIN. 12" - 18" HT. & 12" SPREAD, MIN. 2 GAL. CONT. FULL & DENSE. PLANT @ TOE OF SLOPE IN MASS 5' O.C.
140	SWORD FERN	POLYSTITCHUM MUNITUM	MIN. 9" HT. & 12" SPREAD, MIN. 2 GAL. CONT. FULL & DENSE. PLANT IN MASS 3' O.C.



LEGEND

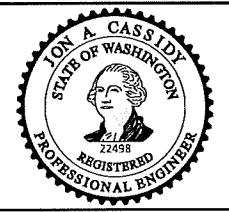
- HAND BRUSHING LIMIT
- 2" BARK MULCH, KEEP MULCH OFF OF STEMS
- EXISTING TREE IMPACTED

CONSTRUCTION NOTES:

1. THE CLEARING AND GRUBBING AREA SHOWN REFLECTS THE MAXIMUM DISTURBANCE AREA ANTICIPATED AND PERMITTED, ALL PROPOSED TREES SHOULD PLANT WITHIN THIS AREA.
2. TREES PLANTING @ 9' O.C., SALMON BERRY PLANTING @ 5' O.C. AND SWORD FERN PLANTING @ 3' O.C.
3. CONTRACTOR SHALL HAVE ALL MATERIAL INSPECTED AND TREE LAYOUTS APPROVED BY KING COUNTY ENVIRONMENTAL SCIENTIST OR ENGINEER PRIOR TO PLANTING.
4. PLANTING SCHEDULE SHALL BE DIRECTED BY KING COUNTY ENVIRONMENTAL SCIENTIST.
5. A 2" UNIFORM LAYER OF BARK MULCH SHALL BE PLACED OVER ALL CLEARING AND GRUBBING AREA AFTER PLANTING.

SW 1/4 SEC. 22, T. 26 N., R. 11 E., W.M.

SURVEY JOB No:	16081	08/2017			
CHECKED:	T. CRAY	06/2017			
CAD ENTERED:	J. WANG	05/2018			
DESIGNED:	J. WANG	05/2018			
CHECKED:	J. LYOU	05/2018			
SUPERVISOR:	J. CASSIDY	05/2018			
NUM.	REVISION	BY	DATE		



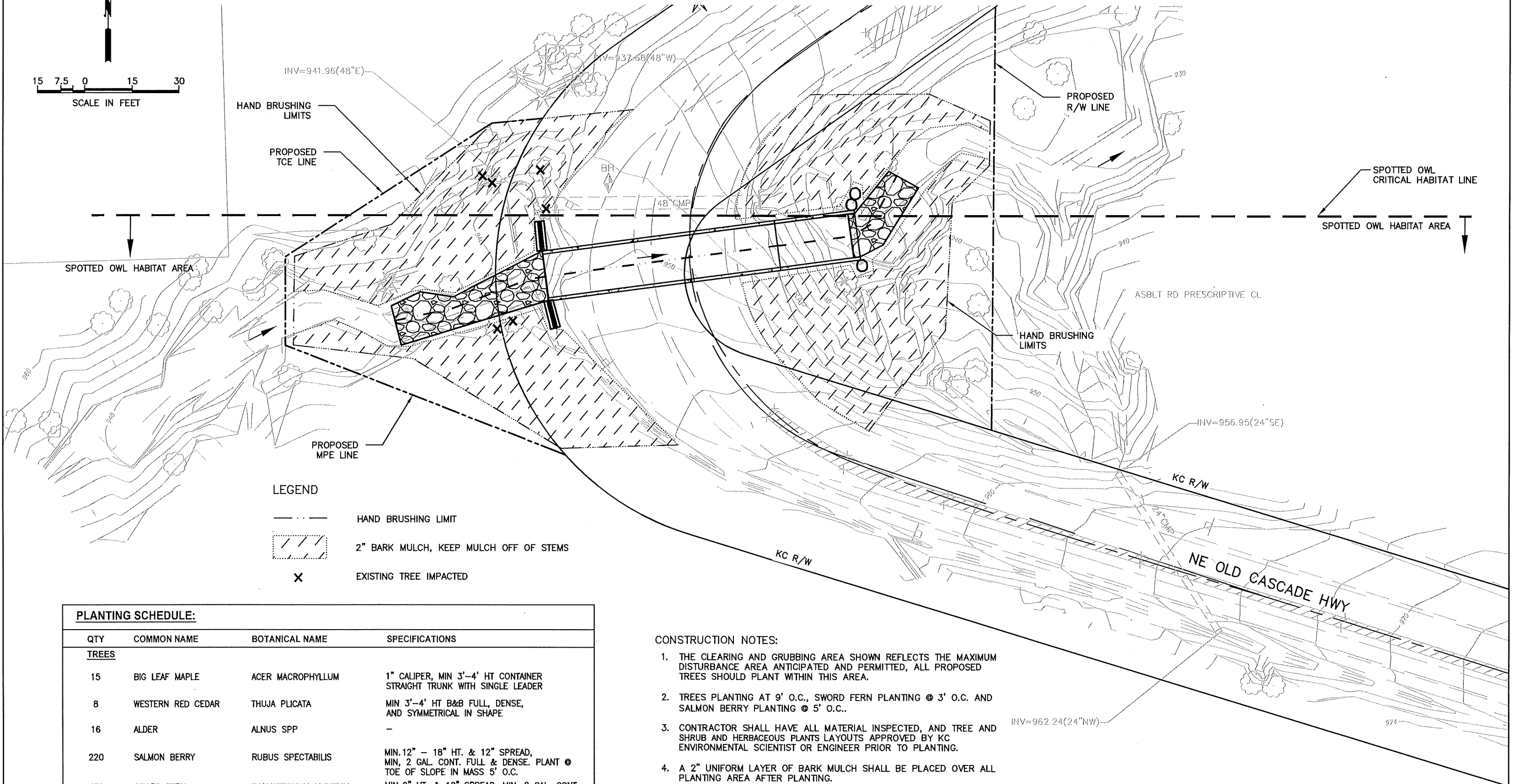
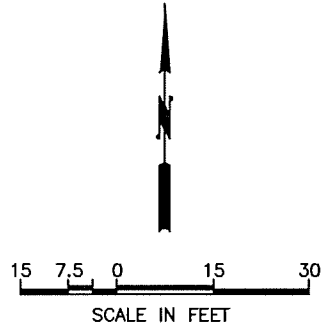
FED. AID No.	-
PROJECT No.	1129596
MAINTENANCE DIVISION No.	6

KING COUNTY DEPT. OF TRANSPORTATION
 HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
 MILLER RIVER EAST & WEST
 ROADWAY AND DRAINAGE IMPROVEMENT
SITE RESTORATION PLANTING PLAN - CULVERT NO. 5

SHEET
52
OF
58
SHEETS

320-26(52)

SE 1/4 SEC. 27, T. 26 N., R. 11 E., W.M.



LEGEND

- HAND BRUSHING LIMIT
- 2" BARK MULCH, KEEP MULCH OFF OF STEMS
- EXISTING TREE IMPACTED

PLANTING SCHEDULE:

QTY	COMMON NAME	BOTANICAL NAME	SPECIFICATIONS
TREES			
15	BIG LEAF MAPLE	ACER MACROPHYLLUM	1" CALIPER, MIN 3'-4' HT CONTAINER STRAIGHT TRUNK WITH SINGLE LEADER
8	WESTERN RED CEDAR	THUJA PLICATA	MIN 3'-4' HT B&B FULL, DENSE, AND SYMMETRICAL IN SHAPE
16	ALDER	ALNUS SPP	-
220	SALMON BERRY	RUBUS SPECTABILIS	MIN. 12" - 18" HT. & 12" SPREAD, MIN, 2 GAL. CONT. FULL & DENSE. PLANT @ TOE OF SLOPE IN MASS 5' O.C.
430	SWORD FERN	POLYSTITCHUM MUNITUM	MIN. 9" HT. & 12" SPREAD, MIN, 2 GAL. CONT. FULL & DENSE. PLANT IN MASS 3' O.C.

- CONSTRUCTION NOTES:**
1. THE CLEARING AND GRUBBING AREA SHOWN REFLECTS THE MAXIMUM DISTURBANCE AREA ANTICIPATED AND PERMITTED, ALL PROPOSED TREES SHOULD PLANT WITHIN THIS AREA.
 2. TREES PLANTING AT 9' O.C., SWORD FERN PLANTING @ 3' O.C. AND SALMON BERRY PLANTING @ 5' O.C..
 3. CONTRACTOR SHALL HAVE ALL MATERIAL INSPECTED, AND TREE AND SHRUB AND HERBACEOUS PLANTS LAYOUTS APPROVED BY KC ENVIRONMENTAL SCIENTIST OR ENGINEER PRIOR TO PLANTING.
 4. A 2" UNIFORM LAYER OF BARK MULCH SHALL BE PLACED OVER ALL PLANTING AREA AFTER PLANTING.

SURVEY JOB NO:	16081	06/2017			
CHECKED:	T. CRAY	06/2017			
CAD ENTERED:	J. WANG	05/2018			
DESIGNED:	J. WANG	05/2018			
CHECKED:	J. LYU	05/2018			
SUPERVISOR:	J. CASSIDY	05/2018			
NUM.	REVISION	BY	DATE		



FED. AID No. _____

PROJECT No. 1129596

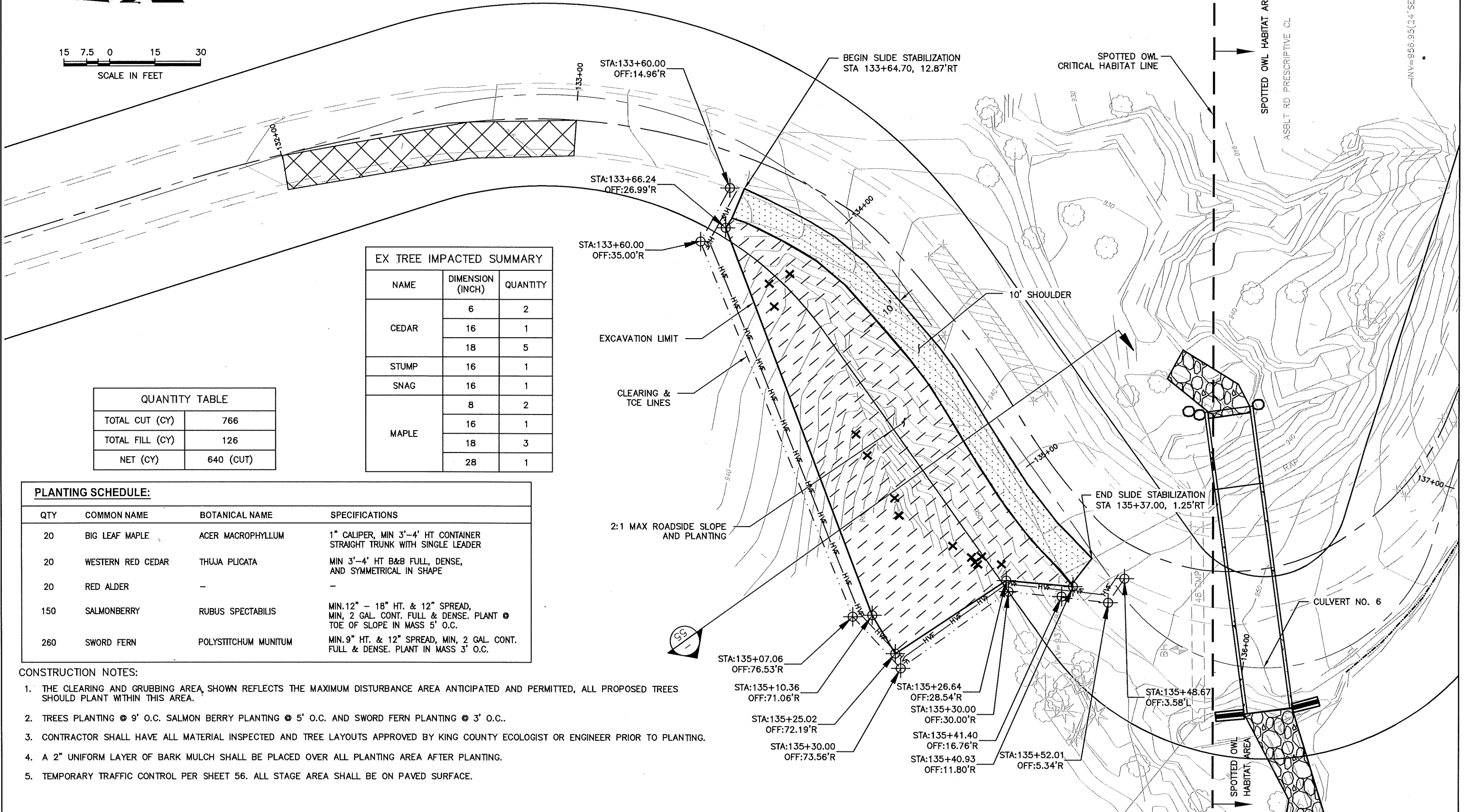
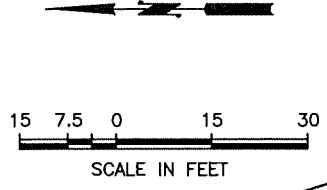
MAINTENANCE DIVISION No. 6

KING COUNTY DEPT. OF TRANSPORTATION
 HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
 MILLER RIVER EAST & WEST
 ROADWAY AND DRAINAGE IMPROVEMENT
SITE RESTORATION PLANTING PLAN - CULVERT NO. 6

SHEET
53
OF
58
SHEETS

320-26(53)

SE 1/4 SEC. 27, T. 26 N., R. 11 E., W.M.



EX TREE IMPACTED SUMMARY		
NAME	DIMENSION (INCH)	QUANTITY
CEDAR	6	2
	16	1
	18	5
STUMP	16	1
SNAG	16	1
MAPLE	8	2
	16	1
	18	3
	28	1

QUANTITY TABLE	
TOTAL CUT (CY)	766
TOTAL FILL (CY)	126
NET (CY)	640 (CUT)

PLANTING SCHEDULE:			
QTY	COMMON NAME	BOTANICAL NAME	SPECIFICATIONS
20	BIG LEAF MAPLE	ACER MACROPHYLLUM	1" CALIPER, MIN 3'-4' HT CONTAINER STRAIGHT TRUNK WITH SINGLE LEADER
20	WESTERN RED CEDAR	THUJA PLICATA	MIN 3'-4' HT B&B FULL, DENSE, AND SYMMETRICAL IN SHAPE
20	RED ALDER	-	-
150	SALMONBERRY	RUBUS SPECTABILIS	MIN. 12" - 18" HT. & 12" SPREAD, MIN, 2 GAL. CONT. FULL & DENSE. PLANT @ TOE OF SLOPE IN MASS 5' O.C.
260	SWORD FERN	POLYSTITCHUM MUNITUM	MIN. 9" HT. & 12" SPREAD, MIN, 2 GAL. CONT. FULL & DENSE. PLANT IN MASS 3' O.C.

- CONSTRUCTION NOTES:**
1. THE CLEARING AND GRUBBING AREA, SHOWN REFLECTS THE MAXIMUM DISTURBANCE AREA ANTICIPATED AND PERMITTED, ALL PROPOSED TREES SHOULD PLANT WITHIN THIS AREA.
 2. TREES PLANTING @ 9' O.C. SALMON BERRY PLANTING @ 5' O.C. AND SWORD FERN PLANTING @ 3' O.C..
 3. CONTRACTOR SHALL HAVE ALL MATERIAL INSPECTED AND TREE LAYOUTS APPROVED BY KING COUNTY ECOLOGIST OR ENGINEER PRIOR TO PLANTING.
 4. A 2" UNIFORM LAYER OF BARK MULCH SHALL BE PLACED OVER ALL PLANTING AREA AFTER PLANTING.
 5. TEMPORARY TRAFFIC CONTROL PER SHEET 56. ALL STAGE AREA SHALL BE ON PAVED SURFACE.

SURVEY JOB NO:	16081	06/2017			
CHECKED:	T. GRAY	06/2017			
CAD ENTERED:	J. WANG	05/2018			
DESIGNED:	J. WANG	05/2018			
CHECKED:	J. LYOU	05/2018			
SUPERVISOR:	J. CASSIDY	05/2018			
NUM.	REVISION	BY	DATE		

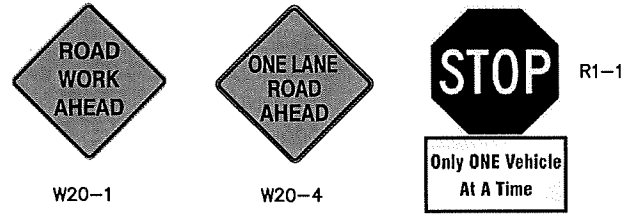
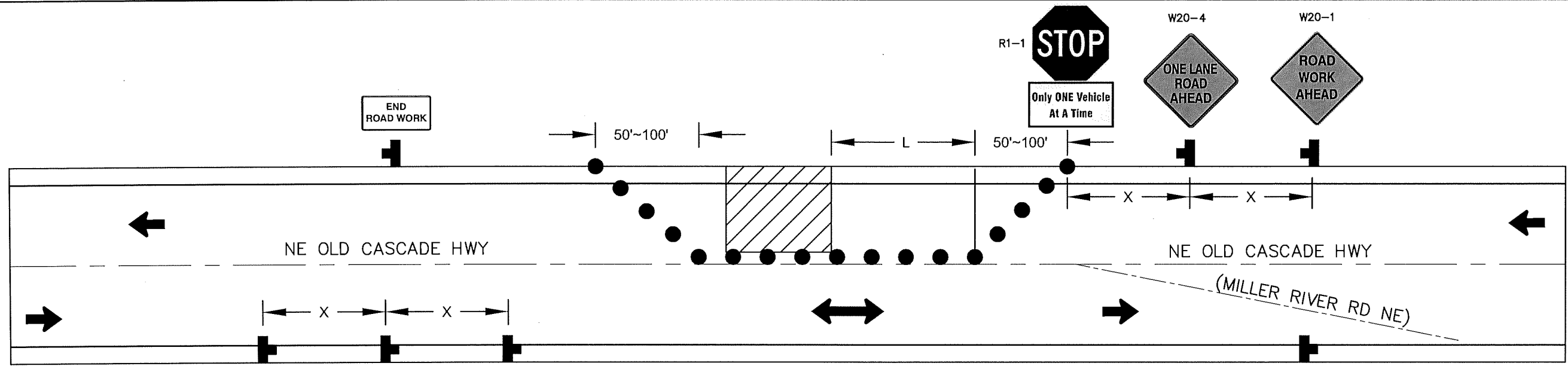


FED. AID No. _____

PROJECT No. 1129596

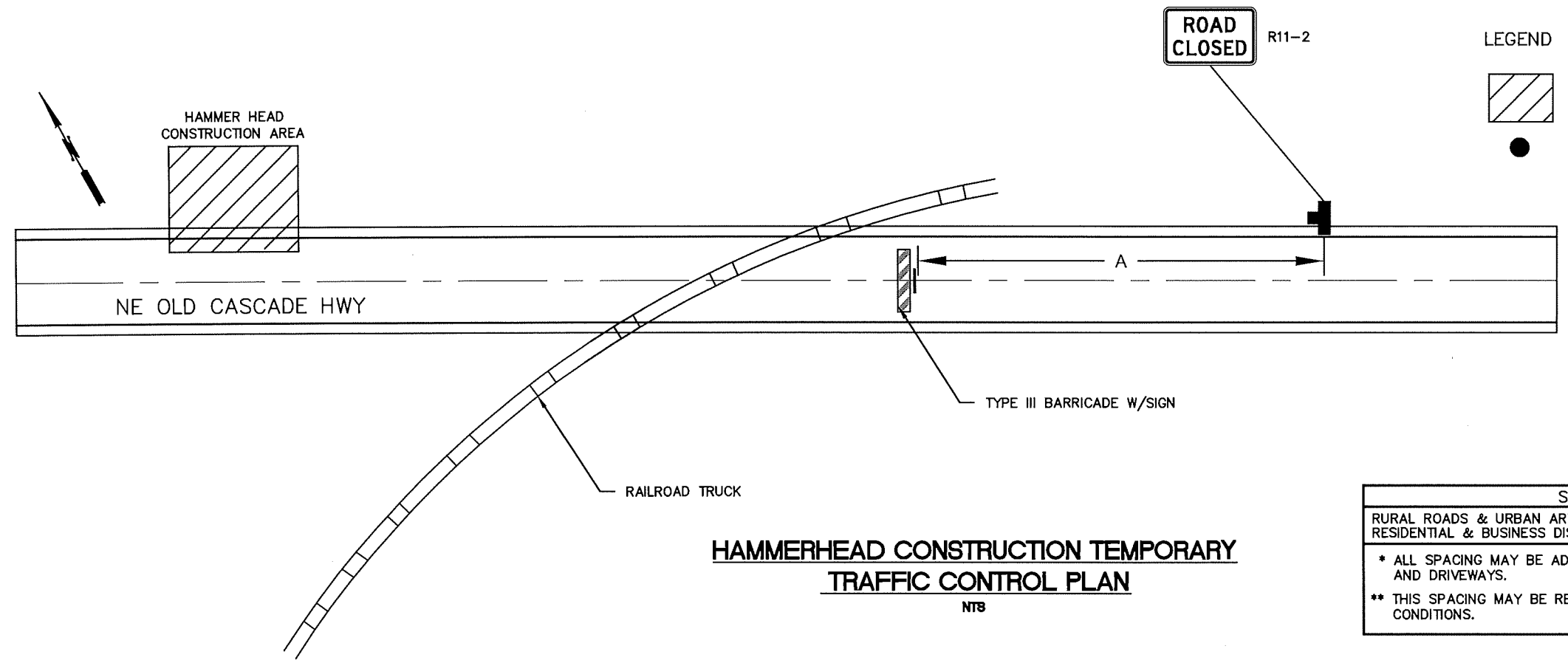
MAINTENANCE DIVISION No. 6

KING COUNTY DEPT. OF TRANSPORTATION
 HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
 MILLER RIVER EAST & WEST
 ROADWAY AND DRAINAGE IMPROVEMENT
ROADSIDE SLIDE STABILIZATION AND RESTORATION PLANTING PLAN

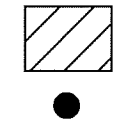


TEMPORARY TRAFFIC CONTROL PLAN*
NT8

- * 1. THIS TEMPORARY TRAFFIC CONTROL PLAN APPLIES TO CULVERT NO. 2 TO NO. 6, SLIDE STABILIZATION AND CUL-DE-SAC.
- 2. THIS LANE CLOSURE TRAFFIC CONTROL ALSO APPLIES TO CULVERT NO. 1 EXCEPT THE NORTH BOUND FLAGGER STATION SHOULD BE PLACED NEAR STA 20+00, THE SOUTH SIDE OUT OF BNSF RAILROAD.



LEGEND



CONSTRUCTION AREA
CHANNELIZATION DEVICES (DRUM), SPACING PER "MUTCD"

BUFFER SPACE LENGTH = L	
SPEED (MPH)	DISTANCE (FT)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820

SIGN SPACING = X *		
RURAL ROADS & URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS	25/30 MPH	200' **
* ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERSECTIONS AND DRIVEWAYS.		
** THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.		

HAMMERHEAD CONSTRUCTION TEMPORARY TRAFFIC CONTROL PLAN
NT8

SURVEY JOB NO:	16081	06/2017			
CHECKED:	T. CRAY	06/2017			
CAD ENTERED:	J. WANG	05/2018			
DESIGNED:	J. WANG	05/2018			
CHECKED:	J. LYOU	05/2018			
SUPERVISOR:	J. CASSIDY	05/2018			
NUM.	REVISION	BY	DATE		



FED. AID No. _____
PROJECT No. 1129595 & 1129596
MAINTENANCE DIVISION No. 6

KING COUNTY DEPT. OF TRANSPORTATION
HAROLD TANIGUCHI, DIRECTOR
NE OLD CASCADE HIGHWAY
MILLER RIVER EAST & WEST
ROADWAY AND DRAINAGE IMPROVEMENT
TEMPORARY TRAFFIC CONTROL AND DETAILS

SHEET 58 OF 58 SHEETS
320-26(58)