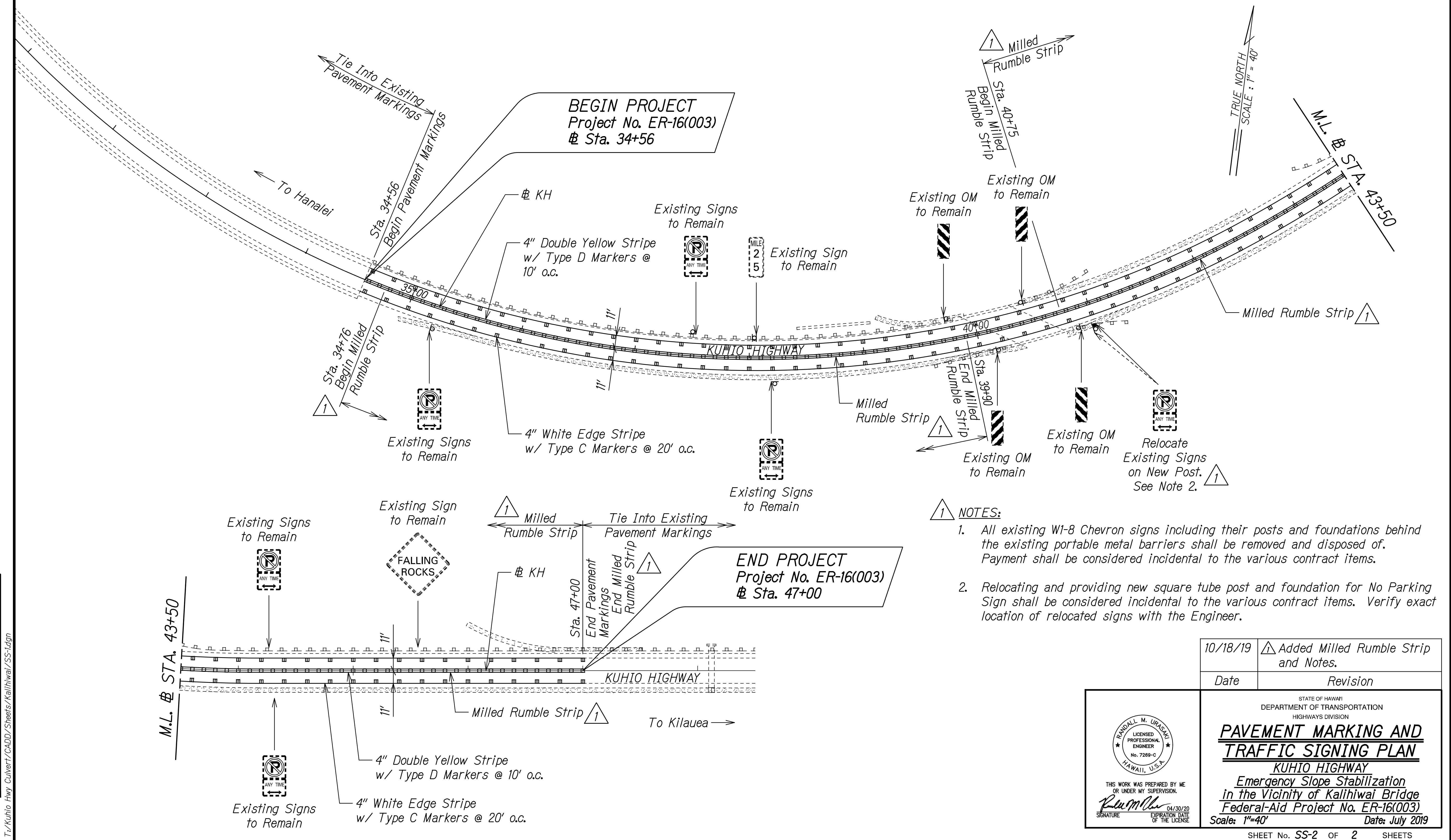



FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-16(003)	2020	ADD. 13	48




FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-16(003)	2020	ADD. 14	48

GENERAL NOTES FOR TRAFFIC CONTROL PLAN

1. Only Traffic Control Plans for major construction activities are shown. The Contractor shall develop his own Traffic Control Plans in accordance with Section 645 of the Special Provisions for activities to complete work not covered by the Traffic Control Plans. The Contractor shall submit the Traffic Control Plans to the Engineer for approval. Payment shall be made under pay item 645.1000 - Traffic Control.
2. The Contractor shall make minor adjustments to fit field conditions with approval of the Engineer.
3. Cones or delineators shall be extended to a point where they are visible to approaching traffic.
4. Traffic control devices shall be installed such that the sign or device farthest from the work area shall be placed first. The others shall then be placed progressively toward the work area.
5. Flaggers and/or police officers shall be in sight of each other or in direct communications at all times.
6. Sign spacings (L), taper lengths (T), and spacings of cones or delineators shall be as shown in Table 645-I of Section 645 in the Specifications, unless otherwise noted on HDOT's Traffic Control Plans.
7. All traffic lanes shall be minimum of 10 feet wide.
8. All signs shall be promptly removed or covered whenever the message is not applicable or not in use.
9. The backs of all signs for traffic control shall be appropriately covered to preclude the display of inapplicable sign messages (i.e., when signs have messages on both faces).
10. At the end of each day's work or as soon as the work is completed, the Contractor shall remove all traffic control devices no longer needed to permit free and safe passage of public traffic. Removal shall be in the reverse order of installation.
11. Existing conflicting pavement markings shall be removed and temporary pavement markings shall be installed before traffic patterns are changed.
12. The locations of pavement markings, signs, and delineators used in the Traffic Control shall be as shown on the plans, Contractor's approved Traffic Control Plans, and/or as determined in the field by the Engineer.
13. Damage to signs, temporary pavement markers, and delineators caused by the public or Contractor's negligence shall be repaired or replaced by the Contractor at the Contractor's expense.

14. 

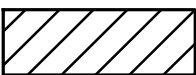
15. Work zone limits shown for each traffic control phase encompass all work items to be completed in that particular phase. The length of the work zone may be reduced to accommodate the Contractor's actual work zone for that time period, provided it has been accepted by the Engineer, and all tangents, tapers, and buffer lengths are maintained.





16. The Contractor will be restricted to the following lane closure hours:
One lane closure, 8:30 am to 3:00 pm. See Special Provisions Section 645 for other restrictions.


17. The Contractor shall develop his own traffic control for installation and removal of the Temporary Rockfall Protection Fence.


LEGEND:

- 

Work Area
- 

Traffic Cones
- 


Flagman
- 


Sign
- 

Direction of Traffic

SURVEY PLOTTED BY	DATE
DRAWN BY	
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10/18/19	 Deleted Note 14. Revised Note 16.
Date	Revision



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.
R. M. Urasaki 04/30/20
SIGNATURE EXPIRATION DATE
OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION


TRAFFIC CONTROL NOTES

KUHIO HIGHWAY
Emergency Slope Stabilization
in the Vicinity of Kalihiwai Bridge
Federal-Aid Project No. ER-16(003)
Scale: None Date: July 2019

GENERAL ROCKFALL NOTES

1. The scope of work for this project consists of tree removals, slope scaling, and draped wire mesh or anchored wire mesh installation.
2. The draped wire mesh system generally includes a uniform triple twisted hexagonal mesh of zinc-coated steel wire with PVC coating or diamond-shaped mesh of zinc/aluminum-coated steel wire along with the necessary hardware to complete the system installation.
3. The Contractor shall take field measurements to verify the field conditions and compare such field measurements and conditions with the design drawings before commencing with the work.
4. The Contractor shall verify dimensions, locations, elevations, etc. indicated for verification and inform the Engineer in writing of any differences prior to installation of the draped wire mesh and/or anchor wire mesh.
5. The Contractor shall use all means necessary to protect adjacent structures and work to remain. In the event of any damage to existing work to remain, the Contractor shall immediately notify the Engineer of the situation. The Contractor shall make repairs or replacement acceptable to the Engineer.
6. The Contractor shall be responsible for providing a safe working environment on the project site meeting all applicable federal, state, and local requirements while executing the work contained in the Contract Documents.
7. All construction lines, grades, and survey monument stakeout, where required, shall be performed by a licensed surveyor. The established survey stakeouts must be protected for location reference during the construction period.
8. The Engineer shall be informed of the disposal site location for the project prior to commencement of work. The disposal site shall be approved by the Engineer.
9. The Contractor shall be responsible for protecting the highway pavements, walls, guardrails, and all other appurtenances from damage resulting from the Contractor's activities. The highway shall be protected from damage by laying protection mats over the pavement surface and/or other methods with prior approval from the Engineer. The Contractor shall be solely responsible for repairing any damage resulting from the slope scaling or other construction activities.
10. The Contractor shall protect the traffic on the highway and public from any rockfall hazards at all times during the construction period.
11. A pre-construction condition survey of the existing highway, walls, guardrails, and all other appurtenances shall be conducted by the Contractor prior to commencement of the slope scaling activities. A copy of the pre-construction condition survey shall be submitted to the Engineer for information only.
12. The Contractor shall provide the Engineer with a minimum of 48 hours of advance notice to schedule a field review of the slope face after cutting and removal of all vegetation at the project site and before commencing slope scaling activities. Slope scaling activities shall commence only after the field review of the slope face by the Engineer.

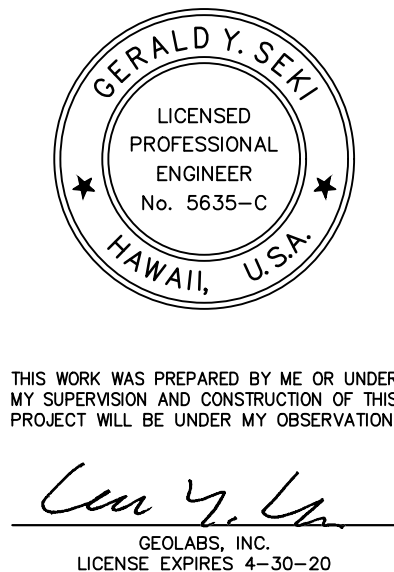
SLOPE SCALING NOTES

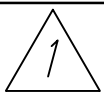
1. Slope scaling activity for the project including removing debris from the highway during and at the end of each slope scaling shift will be limited to the times provided on the traffic control plans.
2. The minimum slope scaling crew shall consist of one scaling supervisor and three (3) slope scalers. Two additional slope scalers may be utilized under the supervision of the same scaling supervisor.
3. The Contractor shall determine the number of slope scalers to be employed on this project based on the extent of the slope scaling to be performed and the maximum duration of 2 weeks specified for slope scaling. The Engineer must approve the number of additional slope scalers proposed for the project in addition to the minimum scaling crew specified.
4. The Contractor shall not commence slope scaling work until acceptance of the Contractor's qualifications and work plan is obtained from the Engineer in writing.
5. Cut and remove all growing and dead vegetation materials (branches, trunks, and stumps) from the slope face and crest of slope (brow) extending back 10 feet from top of slope or top of bank. Removal shall include all overhanging roots including loose entrained soils and rocks along the top of the slope (brow) to develop a clean, uniform and rounded crest of slope free of over hanging material and loose, broken, or unstable soil/rock materials.
6. Cut and remove all draped vegetation materials to provide unimpeded access to the slope face and exposure of the slope face. Draped branches shall be cut back 10 feet from the top of slope or top of bank. Cut and remove all visible surface root growth from slope face including surface root webbing and protruding root materials.
7. Cutting and removal of all vegetation from the slope face and within 10 feet of the top of slope shall be completed before initiating the slope scaling activities.
8.  The Contractor shall erect a movable temporary rockfall barrier (minimum 120 feet long by 15 feet 6 inches high) within the active scaling to contain the rocks and debris generated from the slope scaling work from going over to the open travel lane. The movable temporary rockfall barrier shall be fabricated from a ring net, cable net system, or other systems at the option of the Contractor's design engineer capable of handling 74 foot-tons of impact energy.
9. Appropriate communication equipment will be required to enable the Engineer to communicate with the scaling supervisor and/or slope scalers for safety considerations.

10. Slope scaling work shall begin only after the highway protection measures, as described in the work plan, are in place at the beginning of the slope scaling work. The Contractor shall protect the public from any rockfall hazards at all times.
11. Start all slope scaling at the top of the slope and proceed down slope in preset lateral distance increments. Removing loose rock and other debris as the work progresses. All material on the slope face that is loose, hanging or creates a safety hazard to the public must be removed or stabilized, to the Engineer's satisfaction, during or on completion of the section of slope.
12. The Contractor shall exercise extra care in the slope scaling and shall avoid over-steepening the slope face that may cause instability of the slope face. If during the slope scaling work, the Contractor encounters unstable slope conditions that may constitute a potential slope stability issue, immediately notify the Engineer.
13. Slope scalers may use climbing ropes and high-angle climbing techniques or a cherry picker basket suspended by crane or man-lift to access the slope.
14. Scaling should be performed by manual labor using tools such as scaling bars and saws to pick, pry, peel, or abrade the loose unstable materials from the slope face.
15. Mechanized equipment such as a backhoe may be used to carefully knock loose or peel back the larger separated slabs of saprolitic materials where clearly slope fracture and slope face separation planes are encountered, when accepted by the Engineer.
16. Backhoe shall not be used to remove brow overhangs and root network from the top of slope brow area. Backhoe shall not be used to excavate the slope face consisting of undisturbed, fracture-free and stable earth materials.
17. Remove existing loose rocks and masses of saprolitic materials from the slope face to produce a clean, uniform, smooth slope face free of major protrusions and overhangs composed of broken fractured and/or loose earth materials.
18. Slabs of saprolitic material separating from the slope face and pierced by invasive levering tree roots shall be completely removed to expose underlying firm stable earth material that is free of tree root penetration.
19. The Contractor shall sweep the highway clean of all debris at the end of each slope scaling shift.

ORIGINAL PLAN	SURVEY PLANNED BY	DATE
	DESIGNED BY	
	TRACED BY	
	DESIGNED BY	
NOTE BOOK	QUANTITIES BY	
	CHECKED BY	
No.		

DRAWING NAME: I:\DRAWING\COMPLETED\716731-00\KUHIO BRIDGE\SLOPE\GENERAL ROCKFALL NOTES.DWG PLOT TIME: 10-23-19, 3:18 PM



10/18/19	 Revised Note 8.
DATE	REVISION
<div>STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION</div> <div><u>GENERAL ROCKFALL NOTES - 1</u></div> <div><u>KUHIO HIGHWAY</u> <u>Emergency Slope Stabilization</u> <u>in the Vicinity of Kalihiwai Bridge</u> <u>Federal-Aid Project No. ER-16(003)</u></div> <div>Scale: As NotedDate: July 2019</div> <div>SHEET No. G-0.1 OF 2 SHEETS</div>	

