

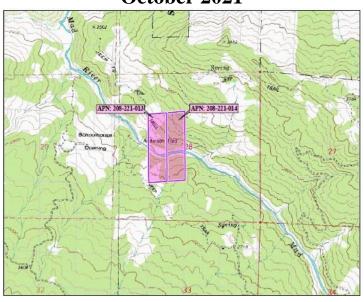
Disturbed Area Stabilization Plan Technical Report Order WQ 2019-0001-DWQ

For APN 208-221-013 and 208-221-014

Located at

Parcels 51 and 52, Timberline Ranch Estates RS, BK 26 Mad River, California

October 2021



Prepared for: Michael Drosihn WDID 1_12CC419588 Parcels 51 and 52 Timberline Ranch Estates RS, BK 26 Mad River, CA

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I. INTRODUCTION AND PROJECT SUMMARY

This plan meets the requirements of the State Water Resources Control Board ORDER WQ 2019-0001-DWQ, Technical Report Guidance, which states:

Tier 1 or Tier 2 Dischargers classified as high risk shall submit and implement a Disturbed Area Stabilization Plan (Plan). (Note that high risk site classification is a temporary condition that exists until the Discharger stabilizes the disturbed area located within the setbacks. Once the area is stabilized and the Regional Water Board approves the work, the Discharger can petition the Regional Water Board to reclassify the site as either low or moderate risk, depending upon the site conditions.) The Plan shall be prepared under the supervision of a qualified professional as described in the Provisions section of the General Order. The report shall be approved by the Regional Water Board Executive Officer prior to implementation.

The Plan shall describe how best practical treatment and control (BPTC) measures listed in Attachment A will be implemented to achieve the goal of stabilizing the disturbed area to minimize the discharge of sediment off-site and complying with the setback requirements. Site specific factors (e.g., percent slope, precipitation amounts, soil type, vegetation status, etc.) shall be considered in determining the appropriate level of water quality protection. The Plan shall include an implementation schedule; if the work cannot be completed by the onset of winter period (see Attachment A for definition of "winter period"), the Discharger shall contact the Regional Water Board to establish a compliance schedule. Interim soil stabilization BPTC measures shall be performed as soon as practicable. Interim measures are those that can be implemented immediately following site development.

Certain activities within the setbacks that are authorized by a California Department of Fish and Wildlife Lake or Streambed Alteration Agreement, an Army Corps section 404 permit, a Regional Water Board section 401 water quality certification, or waste discharge requirements issued by a Regional Water Board or the State Water Board may be performed within the setbacks contained in the General Order and do not trigger a high risk Discharger classification.

This report constitutes Pacific Watershed Associate's (PWA) Disturbed Area Stabilization Plan (DASP) for Humboldt County APNs 208-221-013 and 208-221-014, located at Parcels 51 and 52, Timberline Ranch Estates RS, BK 26, Mad River, CA, as shown on Figure 1. These properties are located approximately 8.0 miles northwest of Mad River, Humboldt County, CA, and hereinafter are referred to as the "Project Site." The Site Maps (Figures 2A and 2B) for this DASP are modified from a Site Management Plan (SMP) and Section 401 Water Quality Certification application (Section 401).

The Project Site cultivator ("Discharger") has transferred enrollment of APN 208-221-014 from the North Coast Regional Water Quality Control Board Order R1-2015-0023 to the State Water Resources Control Board (SWRCB) Cannabis Cultivation Policy Order WQ 2019-0001-DWQ, General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for

Discharges of Waste Associated with Cannabis Cultivation Activities (General Order). After APN 208-221-014 was transferred to the General Order, APN 208-221-013 was added to the existing enrollment for APN 014.

Based on the total disturbance area, slopes of disturbed areas, and associated facilities within riparian setbacks, this Project Site falls within **Tier 2 High Risk classification** of the SWRCB General Order. Properties that fall into Tier 1 or 2 High Risk level of the General Order are required to develop a DASP. This DASP has been developed for the Discharger based on site inspections made by PWA on the Project Site with input from North Coast Regional Water Quality Control Board (NCRWQCB) staff. PWA's recommendations for any remediation or corrective actions are a result of water quality requirements under the General Order, including Best Practicable Treatment or Control (BPTCs) designed to meet those requirements. This DASP documents the findings of subsequent site visits and inspections, with the most recent conducted on July 20, 2021, by PWA Project Geologists Michelle Robinson and Jack Skeahan, when a reconnaissance level investigation of the Project Site was conducted, and the conditions noted.

II. CERTIFICATIONS, LIMITATIONS AND CONDITIONS

This DASP has been reviewed by California Licensed Professional Geologist at PWA and all information herein, including treatment recommendations, are based on observations, data, and information collected by PWA staff.

This DASP has been prepared to: 1) provide specific BPTC measures to be utilized on the Project Site to minimize potential threats to water quality; 2) provide itemized remedial actions to be taken on the Project Site to correct existing or potential water quality threats or impacts and meet the general waste discharge requirements of the General Order; and 3) provide a schedule for the implementation of the itemized remedial actions. The analysis and recommendations submitted in this DASP are based on PWA's evaluation of the Project Site and activities which fall under the General Order.

In this DASP, we have described the recent and current conditions of the Project Site and any water resource and water quality risk factors we observed during our site inspections. PWA is not responsible for problems or issues we did not observe on our site inspections, or for changes that have naturally occurred or been made to the Project Site after our site review. The interpretations and conclusions presented in this DASP are based on reconnaissance level site investigations of inherently limited scope. Observations are qualitative, or semi-quantitative, and confined to surface expressions of limited extent and artificial exposures of subsurface materials. Interpretations of problematic geologic, geomorphic or hydrologic features such as unstable hillslopes, erosional processes and water quality threats are based on the information available at the time of our inspection and on the nature and distribution of existing features we observed on the Project Site.

We have also included a schedule of itemized remedial actions that are based on these observations. The remedial actions provided in this DASP have been developed from professional

opinions derived in accordance with current standards of professional practice and are valid as of the date of the most recent or most applicable field inspection. No other warranty, expressed or implied, is made. Furthermore, to ensure proper applicability to existing conditions, the information and remedial actions contained in this report shall be regularly reevaluated and it is the responsibility of the landowner, discharger, and/or lessee operating under the General Order to ensure that no remedial actions or recommendations are inappropriately applied to conditions on the Project Site that have changed since the recommendations were developed.

If site conditions have changed for any reason, the Project Site should be reevaluated and the DASP and associated recommendations revised and updated as required. These conditions include any changes in land management activities or Project Site conditions that have occurred since our site visit (regardless of what they are, how they occurred, or who performed them). Similarly, if the landowner/lessee uses portions of this Project Site not identified or covered under the current DASP, this DASP will need to be updated with the new information, including possible additions or changes to the recommended remedial or corrective actions and BPTCs.

The person, persons, business or other entity listed as the enrollee under the General Order is responsible for complying with all the requirements and related recommendations thereunder, regardless of who is operating or cultivating on that Project Site. If the enrollee is not the sole landowner and fails to comply with the Order and its requirements, the landowner or remaining landowners will automatically assume responsibility for the requirements therein, including all related penalties or actions brought by the SWRCB and/or NCRWQCB.

If at any time in the future the properties comprising the Project Site are to transfer ownership, it is the responsibility of the current owner(s), or their representative(s), to ensure that the information and recommendations contained herein are called to the attention of any future owner or agent for the properties. Unless this DASP is modified by the SWRCB or NCRWQCB, the findings and recommendations contained in this DASP shall be utilized as a tool while implementing the DASP remedial actions. Necessary steps shall be taken to see that contractor(s) and subcontractor(s) carry out such recommendations in the field in accordance with the most current DASP and BPTC standards.

PWA is responsible for the data, interpretations and recommendations developed by PWA, but is not responsible for the interpretation by others of that information, for implementation of corrective actions by others, or for additional or modified work arising out of those plans, interpretations, and recommendations. PWA assumes no liability for the performance of other workers or suppliers while following PWA's recommendations in the DASP, unless PWA is under contract to perform or oversee those activities. Additionally, PWA is not responsible for changes in applicable or appropriate standards beyond our control, such as those arising from changes in legislation or regulations, or the broadening of knowledge which may invalidate or alter any of our findings or recommended actions.

Any DASP review or construction management services that may be needed or identified in the recommendation sections of this DASP are separate tasks from the preparation of this DASP and

are not a part of the agreement under which this DASP was prepared. If requested, additional PWA field inspections, surveys, DASP revisions/updates, project layout, design, permitting, construction oversight/management, or other related services arising from tasks described and recommended in the DASP may be performed under separate agreements requiring advance notice and contracting.

PWA's services consist of professional opinions and recommendations made in accordance with generally accepted principles and practices. No warranty, expressed or implied, or merchantability or fitness, is made or intended in connection with our work, by the proposal for consulting or other services, or by the furnishing of oral or written reports or findings. This DASP, as written or as modified in writing, takes precedence over all other communication. If the client desires assurances against project failures, they shall obtain appropriate insurance through their own insurance broker or guarantor.

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Plan finalized on date: 10/01/2021

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III. DISTURBED AREA STABILIZATION PLAN

1.0 SITE DESCRIPTION

1.1 Site Description

Describe the site (e.g. topography, vegetation, elevation, historic precipitation patterns, soil types, surface waterbodies, etc.).

The Project Site is located on Parcels 51 and 52, Timberline Ranch Estates RS, BK 26, (Humboldt County APNs 208-221-013 and 208-221-014) near Mad River, CA (Section 28, T2N, R5E, Humboldt Base Meridian, on the Blake Mountain U. S. Geological Survey 7.5-minute quadrangle) on two contiguous 40-acre parcels located within the Bear Creek-Mad River watershed (HUC 12 180101020302). The Project Site is in a mid-slope setting on the southwest slope of a northwest to southeast trending mountain ridgeline, located approximately 8.0 miles northwest of Mad River, CA (Figure 1). Elevation of the Project Site ranges from approximately 2,170 feet to 2,730 feet, with steep to moderate slopes that average 33%. Mean annual precipitation recorded between 1980 to 2020 ranged from 26.57 inches in 2013 to 120.35 inches in 1983, with an average of 66.05 inches and a mean annual temperature of 53 degrees Fahrenheit (Prism, 2021).

The property ecology is dominated by a canopy composed of *Pseudotsuga menziesii* (Douglas fir), Notholithocarpus densiflorus (tanoak), Quercus sp. (oak), Umbellularia californica (California bay), and Arbutus menziesii (madrone). Intermixed throughout the canopy are annual grassland/flower field composed mostly of non-native/invasive grasses. Invasive grass species known in the area include Aria caryophyllea (silvery hairgrass), Bromus hordeaceus (soft chess), Bromus madritendid ssp. rubens (foxtail brome), Elymus caput-medusae (medusa head), and Polypogon maritimus (Mediterranean beard grass). Native species known in the area include Agrostis exarate (bentgrass), Bromus vulgaris (common brome), and Festuca occidentalis (western fescue). Many sensitive vegetation alliances have been documented surrounding the area revolving around specific Quercus species. These sensitive alliances support rare vegetation such as *Hemizonia congesta* ssp. tracvi (Tracv's tarplant) and *Coptis* laciniata (Oregon goldthread), both of which have been documented within 500 feet of the property according to the California Department of Fish and Wildlife's California Natural Diversity Database (CNDDB). The local ecology is characteristic of highly disturbed ecosystems and common vegetation alliances that may or may not be present dependent upon the current level of disturbance

The geology underlying the Project Site is identified by the U.S. Geological Survey (Fraticelli et al., 2012) as mélange matrix (ctmm) of the Franciscan Complex Central belt and is Upper Jurassic to Lower Cretaceous in age. The mélange matrix unit is described as "Chiefly sheared argillite and lithic sandstone or graywacke with some interbedded green tuff. Includes scattered high-grade blueschist, eclogite, and amphibolite blocks" (Fraticelli et al., 2012). Based on examination of the cut slopes,

fill material, and outcrops in the vicinity of the Project Site, rocks underlying the Project Site consist of sheared metasandstone and shale. The earthen materials are comprised of fine to very coarse, angular and sub-angular sandstone with minor shale.

For the purposes of this DASP the soil description provided below only includes the specific impacted riparian areas addressed in this plan (see Figures 2A and 2B for the DASP-specific areas). For the entire Project Site there are four distinct soil complexes listed. Although the other soil complexes do not apply to the DASP-specific areas in this Plan, if required, descriptions of these additional soil complexes can be provided upon request or can be found by using the Web Soil Survey link provided below in the references section of this plan.

According to the United States Department of Agriculture, Natural Resources Conservation Service, and Web Soil Survey, the Project Site is mapped as the Pasturerock-Coyoterock-Maneze complex, with 15-50 percent slopes. This soil complex parent material is described as colluvium derived from sandstone and mudstone. The Pasturerock-Coyoterock-Maneze complex is classified as moderately well-drained to well-drained with a depth to water table of between 28 inches (Coyoterock unit) to more than 80 inches (Pasturerock unit).

Three unnamed Class III streams flow through the Project Site from northeast to southwest. The three streams are tributaries to the Mad River which flows from the east to the west-northwest near the middle of the Project Site. The Mad River is a perennial watercourse that provides habitat for salmonids. There is one spring for surface water diversion on the Project Site (Point of Diversion #1 (POD #1)/Spring #1-014 on APN 208-221-014; Figure 2B) that is currently used for domestic purposes. Irrigation water comes from a groundwater well on an adjacent parcel to the north of the Project Site.

Roads in use on the Project Site are native surfaced and currently maintained with existing water bars. Permanent road drainage features and road shaping, such as rolling dips, ditch relief culverts (DRCs), and outsloping of the road surface, are proposed to be implemented prior to the end of the 2021 dry season to hydrologically disconnect road surface runoff from nearby watercourses.

There are seven stream crossings (SC) on the Project Site (SC #1-013 – SC #5-013 on APN 208-221-013, and SC #1-014 and SC #2-014 on APN 208-221-014) that are proposed to be upgraded as per final Lake and Streambed Alteration Agreement (LSAA) Notification No. 1600-2020-0127-R1 for APN 208-221-014 and LSAA Notification Permit Application No. 15842 for APN 208-221-013, which are currently awaiting execution by the California Department of Fish and Wildlife (CDFW). A Water Quality Certification Notice of Applicability (NOA), WDID No. 1B21158CHUM, has been issued by the NCRWQB for a Section 401 Water Quality Certification application.

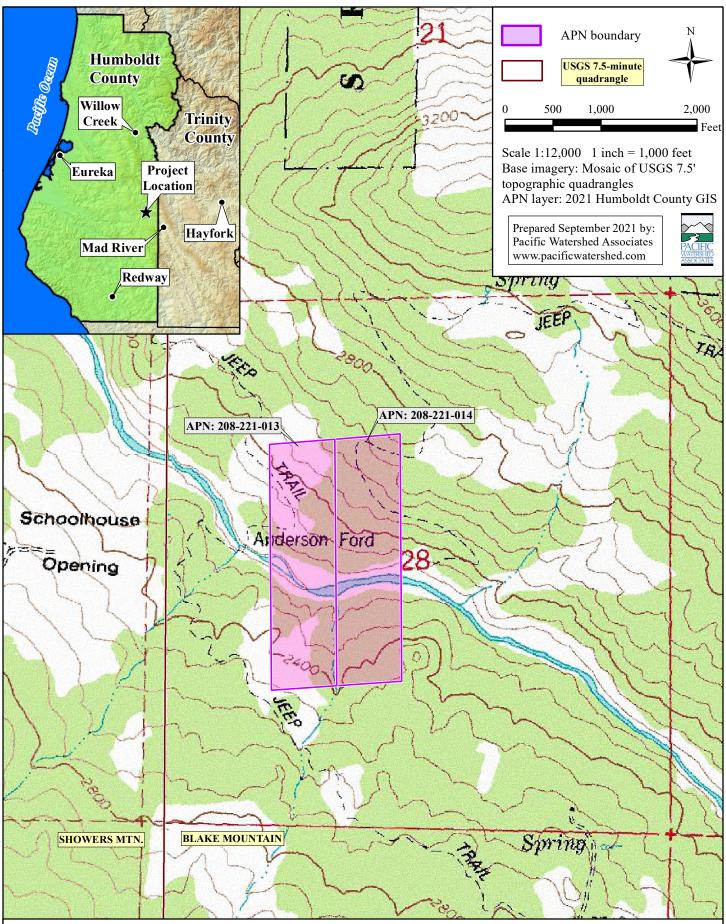


Figure 1. Location Map for Drosihn Disturbed Area Stabilization Plan, APN 208-221-013 and 208-221-014, located at Parcel 51 and 52, Timberline Ridge Estates RS BK 26, Mad River, Humboldt County, California.

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1.2 Site Map

Figures 2A and 2B show the locations of all water bodies, riparian setback(s), all disturbed areas within the riparian setback(s), and proposed treatment recommendations for the purpose of this DASP. Other map points/areas that are on the site map, but are not pertinent to this plan, are not discussed or listed in this report. Points such as gates, additional stream crossings, road drainage features, water tanks, petroleum storage locations, structures, sheds, additional BPTCs, etc. are discussed in the SMP associated with this Project Site.

1.3 Disturbances

Describe how the area was disturbed (e.g., previously existing condition, timber harvest, grading activities, etc.) and the level of disturbance.

Based on a cursory assessment of available Google Earth aerial imagery it appears development of the Project Site first occurred between 2005 and 2009 for cannabis cultivation, which included the construction of multiple graded pads and likely reoccupation and use of an existing ranch or timber harvest road network. There are three locations on the Project Site where cultivation-related disturbances have occurred within the riparian setback from streams. These locations include the downstream portion of SC #5-013, which also consists of the northeast portion of the graded pad at Cultivation Area #1 (CA #1; Figure 2A), the southwest portion of the graded pad at Cultivation Area #3 (CA #3; Figure 2A), and the south-southeast portion of CA A located downstream of SC #2-014 (Figure 2B).

Stream Crossing #5-013/Cultivation Area #1 (APN 013): The road alignment at SC #5-013 was originally reoccupied as an access route and the graded pad at CA #1 was either reoccupied or constructed for cannabis cultivation between 2015 and 2016, based on Google Earth aerial imagery. The northwest edge of the graded pad at CA #1 was expanded between 2005 and 2009 which included realignment (diversion) of the stream channel that previously flowed adjacent SC #5-013. The realigned stream was directed to the west-northwest upslope of SC #5-013 and joined the existing stream flowing through SC #4-013 then through SC #1-013. It appears that multiple trees and shrubs were removed during construction and/or expansion of the graded pad at CA #1 to facilitate the cultivation of cannabis in this location. Cultivation activities have ceased at this location since the end of 2018; however, cultivation-related infrastructure (i.e., raised beds, greenhouse frames, potting soil, etc.) and construction materials remain in place within the riparian setback of the original stream alignment. A portion of the potting soil and cultivation-related waste material was removed from the riparian setback area. Future cultivation activities are proposed at CA #1 outside of the riparian setbacks following stream channel restoration to be compliant with requirements of the General Order.

<u>Cultivation Area #3 (APN 013):</u> A portion of the graded pad at CA #3 is located within the 50-foot riparian setback of the Class III stream flowing below SC #2-013 (Figure 2A). This graded pad was expanded into the riparian setback during grading activities

between 2019 and 2020. Cultivation activities have ceased at this location since the end of 2018; however, cultivation-related infrastructure (i.e., raised beds, greenhouse frames, potting soil, a shipping container, etc.) and a small amount of construction materials remain in place within the riparian setback of the stream alignment. Future cultivation activities are proposed at CA #3 outside of the riparian setbacks following restoration grading activities to be compliant with requirements of the General Order.

Cultivation Area A (APN 014): A portion of the graded pad at CA A is located within the 50-foot riparian setback of the stream flowing below SC #2-014 (Figure 2B). This graded pad was constructed between 2005 and 2009 based on Google Earth aerial imagery and the southern portion of the graded pad was expanded between 2015 and 2016. It appears that multiple trees and shrubs were removed during construction and/or expansion of the graded pad at CA A to facilitate the cultivation of cannabis in this location. Cultivation activities have ceased at this location since the end of 2018; however, cultivation-related infrastructure (i.e., raised beds, greenhouse frames, potting soil, a shipping container, etc.) and a small amount of construction materials remain in place within the riparian setback of the stream alignment. A portion of the potting soil and cultivation-related waste material immediately adjacent to the stream channel was removed from the riparian setback area as part of recent site cleanup activities. Straw mulch and erosion control seed was applied to the graded pad surface and outboard fillslope within the riparian setback prior to the onset of the 2020 wet season as part of an Interim Erosion Control Plan (IECP) developed by PWA. Fiber rolls were also installed along the outboard edge of the graded pad within the riparian setback as part of the IECP implementation in conjunction with straw mulch and erosion control seed application. Future cultivation activities are proposed at CA A outside of the riparian setbacks following restoration grading activities to be compliant with requirements of the General Order.

1.4 Native Vegetation

Describe the native vegetation that typically exists in the disturbed area.

Vegetation existing within the disturbed areas predominantly consists of non-native annual agricultural grasses.

2.0 EROSION PREVENTION AND SEDIMENT CONTROL BPTC MEASURES

2.1 BPTC Measures Description, Location, and Schedule

The description shall address physical BPTC measures, (e.g., placement of straw mulch, plastic covers, slope stabilization, soil binders, culvert outfall armoring, placement of /silt fences, fiber rolls, or settling ponds/areas, etc.) and biological BPTC measures (vegetation preservation/replacement, vegetated outfalls, hydro seeding, etc.).

Table 1 describes erosion prevention and sediment control BPTC measures that have been or will be implemented to prevent or limit erosion and capture sediment that has been eroded. It includes an implementation schedule for BPTC measures that have not yet been implemented. The erosion prevention and sediment control BPTC measures are identified on the site maps, Figures 2A and 2B. Also refer to Table 2, below, for the revegetation species palette and spacing recommendations. Previously disturbed areas will be replanted with appropriate native species at recommended spacing intervals following implementation of the restoration work in addition to short-term erosion and sediment control BPTC measures.

Table 1. Erosion Prevention and Sediment Control BPTC Measures: Schedule, Location, Description and Status

Schedule Map Point Summary of Corrective Actions/Recommendations Complete Date							
	Location						
BPTC – Best Practicable Treatment or Control EC – Erosion Control							
CA – Cultivation Area SC – Stream Crossing IBD – Inboard Ditch <p> – Proposed</p>							
<u>Disturbed Areas Within Setbacks</u>							
Complete by 10/15/2021 Then monitor/maintain annually 1/1/ - 12/31	<p>BPTC/EC; CA #1/ SC #5-013</p>	 Disassemble and remove all cultivation-related infrastructure and materials (i.e., raised beds, greenhouse frames, potting soil, waste, etc.) and construction materials within the 50-foot riparian setback of the proposed stream realignment at CA #1. Either properly store and repurpose these materials onsite outside of all riparian setbacks, or properly dispose of these materials at an approved waste disposal facility. Decommission and restore the channel segment at CA #1, located downstream of SC #5-013, and the channel segment upstream of SC #5-013 following design recommendations provided in the PWA Grading Plan for APN 208-221-013. Excavate existing fill material down to the natural streambed, establish a 4-foot-wide stream channel through these segments and lay back the streamside hillslopes to 2:1 slope angles (26.5 degrees) or to stable native ground. Spoil excavated fill material in 4-6-inch lifts with proper compaction at locations where there is no threat to surface waters. Construct a berm along the entire length of the northwest edge of CA #1 after pad decommissioning and stream restoration is completed to prevent surface runoff and any fine-grained sediment from delivering to the nearby watercourse. The berm should be of sufficient height and width to intercept and convey concentrated surface runoff away from the restored stream channel downslope of SC #5-013. In conjunction with the decommissioning and restoration of the stream channel and graded pad downslope of SC #5-013 a short length of new access road will be constructed. This access road will be constructed to the left (southeast) of SC #5-013 and the restored stream channel at CA #1 to provide an alternate access route to CA #1. Access to CA #1 was provided by Access Road #4 which will be rendered unusable due to decommissioning treatments. The new access road will be constructed with a 					

Table 1. Erosion Prevention and Sediment Control BPTC Measures: Schedule, Location, Description and Status

Map Point Summary of Corrective Actions/Recommendations		Completion				
Schedule or			Date			
	Location					
BPTC – Best Practicable Treatment or Control EC – Erosion Control						
CA - Cultivation Area SC - Stream Crossing IBD - Inboard Ditch <p> - Proposed</p>						
Disturbed Areas Within Setbacks						
		drivable road gradient, 2:1 inboard and outboard fillslopes (26.5 degrees) and be adequately compacted to prevent fill failures. The new access road surface will be outsloped without an inboard ditch to drain any surface runoff to the left (southeast) and away from the stream channel at SC #5-013. Excavated fill material from graded pad decommissioning and stream restoration will be used to construct the new road approach. 5) Apply straw mulch and native erosion control seed to the bare soil areas outside of the re-established stream channel, any bare soil areas resulting from cultivation-related infrastructure or construction material removal, any other bare soil areas within the riparian setbacks, inboard and outboard fillslopes of the new access road, the newly constructed berm at the northwest edge of CA #1, and bare soil areas at spoil locations. 6) Plant the restored streamside hillslopes, outside of the reestablished stream channel, with the native vegetation species listed below at the recommended spacing intervals provided by the qualified biologist/botanist. 7) Perform regular monitoring of the erosion and sediment control measures to ensure effectiveness and that no sediment from the treated areas is being generated or mobilized. Reapply or implement new erosion or sediment control measures as needed to protect water quality. 8) Perform regular monitoring of the replanted native species to ensure adequate survival percentage and that these species are				
		establishing as required. Replant these areas as needed to maintain adequate survivability percentage and coverage. Regular irrigation of the revegetated areas may be needed during the dry season to ensure species survival and riparian restoration is successful. 1) Disassemble and remove all cultivation-related infrastructure and materials (i.e., raised beds, greenhouse frames, potting soil, waste,				
Complete by 10/15/2021 Then monitor/maintain annually 1/1/ - 12/31	<p>BPTC/EC; CA #3</p>	 etc.) and construction materials within the 50-foot riparian setback of the adjacent Class III stream. Either properly store and repurpose these materials onsite outside of all riparian setbacks, or properly dispose of these materials at an approved waste disposal facility. 2) Implement restoration grading at the southwest portion of the graded pad at CA #3 within the 50-foot riparian setback following design recommendations provided in the PWA Grading Plan for APN 208-221-013. Lay back the outboard fillslope of the graded pad to stable angles with proper compaction. Spoil excavated fill material in 4-6-inch lifts with proper compaction at locations where there is no threat to surface waters. 				

Table 1. Erosion Prevention and Sediment Control BPTC Measures: Schedule, Location, Description and Status

	Map Point	Summary of Corrective Actions/Recommendations Compl			
Schedule or		·	Date		
	Location				
	BPTC – B	est Practicable Treatment or Control EC – Erosion Control			
CA – Cultivation Area SC – Stream Crossing IBD – Inboard Ditch <p> – Proposed</p>					
<u>Disturbed Areas Within Setbacks</u>					
		 Apply straw mulch and native erosion control seed to the bare soil areas outside of the re-established stream channel, any bare soil areas resulting from cultivation-related infrastructure or construction material removal, and any other bare soil areas within the riparian setbacks. Plant the restored streamside hillslopes with the native vegetation species listed below at the recommended spacing intervals provided by the qualified biologist/botanist. Perform regular monitoring of the replanted native species to ensure adequate survival percentage and that these species are establishing as required. Replant these areas as needed to maintain adequate survivability percentage and coverage. Regular irrigation of the revegetated areas may be needed during the dry season to ensure species survival and riparian restoration is successful. 			
Complete by 10/15/2021 Then monitor/maintain annually 1/1/ - 12/31 Complete by 4P> BPTC/EC; CA A		 Disassemble and remove all cultivation-related infrastructure and materials (i.e., raised beds, greenhouse frames, potting soil, waste, etc.) and construction materials within the 50-foot riparian setback of the adjacent Class III stream. Either properly store and repurpose these materials onsite outside of all riparian setbacks, or properly dispose of these materials at an approved waste disposal facility. Relocate the shipping container outside of the 50-foot riparian setback. Implement restoration grading at the southern portion of the graded pad at CA A within the 50-foot riparian setback following design recommendations provided in the PWA Grading Plan for APN 208-221-014. Lay back the outboard fillslope of the graded pad to stable angles with proper compaction. Spoil excavated fill material in 4-6-inch lifts with proper compaction at locations where there is no threat to surface waters. Construct a berm on the southern outboard edge of the graded pad (refer to Figure 2B for the location, length, and alignment of the berm) to prevent surface runoff and any fine-grained sediment from delivering to the nearby watercourse. The berm should be of sufficient height and width to intercept and convey concentrated surface runoff toward the western corner of the graded pad. Install a sediment basin in the western end of IBD #3 at the outlet of the outboard berm mentioned above (refer to Figure 2B for the location of the sediment basin). Apply straw mulch and native erosion control seed to the bare soil areas on the reconstructed graded pad outboard fillslope and pad surface, any bare soil areas resulting from cultivation-related infrastructure or construction material removal, any other bare soil 			

Table 1. Erosion Prevention and Sediment Control BPTC Measures: Schedule, Location, Description and Status

	Map Point	Summary of Corrective Actions/Recommendations	Completion	
Schedule	or		Date	
	Location			
		est Practicable Treatment or Control EC – Erosion Control		
CA –	Cultivation A	area SC – Stream Crossing IBD – Inboard Ditch <p> – Propose</p>	d	
		Disturbed Areas Within Setbacks		
		areas within the riparian setbacks, and bare soil areas at spoil		
		locations.		
		6) Plant the disturbed areas within the 50-foot riparian setback,		
	outside of the existing stream channel, with the native vegetation			
species listed below at the recommended spacing intervals				
provided by the qualified biologist/botanist.				
7) Perform regular monitoring of the erosion and sediment control				
	measures to ensure effectiveness and that no sediment from the			
		treated areas is being generated or mobilized. Reapply or		
		implement new erosion or sediment control measures as needed to		
		protect water quality.		
		8) Perform regular monitoring of the replanted native species to		
		ensure adequate survival percentage and that these species are		
		establishing as required. Replant these areas as needed to maintain		
		adequate survivability percentage and coverage. Regular irrigation		
		of the revegetated areas may be needed during the dry season to		
		ensure species survival and riparian restoration is successful.		

Please be aware that this implementation schedule needs to be approved by the North Coast Regional Water Control Board Executive Officer prior to implementation. Implementation may also be contingent upon authorization from all relevant regulatory agencies (e.g. Humboldt County Planning and Building Department).

<u>Materials</u>: All recommended plant species to be established at each site are specific to the *Pseudotsuga menziesii* (Douglas-fir) –*Notholithocarpus densiflorus* (tanoak) natural community identified throughout the property (Tables 2 and 3). All plants should be sourced locally or onsite if feasible under the direction of a qualified biologist.

Table 2. Recommended Species to be Planted				
Genus	Species	Common Name	Planting Density (ft. apart)	Habit
Polystichum	munitum	western swordfern	6	fern
Achillea	millefolium	yarrow	2	forb
Baccharis	pilularis	coyote brush	6	shrub
Lupinus	bicolor	annual lupine	3	shrub
Symphoricarpos	albus	common snowberry	6	shrub
Vaccinium	ovatum	evergreen huckleberry	6	shrub
Vaccinium	parvifolium	red huckleberry	6	shrub

Acer	macrophyllum	big leaf maple	10	tree
Arbutus	menziesii	pacific madrone	10	tree
Pseudotsuga	menziesii	Douglas-fir	12	tree
Quercus	kelloggii	California black oak	10	tree
Sequoia	sempervirens	coast redwood	10	tree
Umbellularia	californica	California laurel	10	tree

The native seeds identified for use on disturbed areas in the Project Site are listed in Table 3, below. The first three species can be found as the "Little Three Native Perennial Blend," which can be sourced from LeBallister's Seed and Fertilizer at www.leballisters.com.

Table 3. Native Grass Seed Mix				
Genus	Species	Common Name	Application Rate	
Festuca	rubra	molate fescue		
Festuca	idahoensis	Idaho fescue		
Festuca	occidentalis	Mokelumne fescue	1.5 lbs per 1,000 sq ft	
Bromus	carinatus	California brome	(~ 45 lbs/acre)	
Elymus	glaucus	blue wildrye		
Hordeum	brachyantherum	meadow barley		

Invasive species will be removed prior to initial planting efforts. This is required to ensure the survivability of native species and planted individuals. A qualified biologist will need to survey the area pre-implementation to document the invasive species present and then provide an invasive species removal plan.

<u>Preparation and Implementation</u>: All sites to be remediated (Figures 2A and 2B) will follow the same general preparation steps and a qualified biologist is required onsite to assess conditions at the start of implementation to adjust the site preparation procedures as needed. The main goal for vegetation restoration along the excavated stream channel and graded pad is to close the tree canopy and reestablish the riparian corridor, as this will help to reduce the amount and spread of invasive grasses. Recommended implementation measures outlined in "An introduction to using native plants in restoration projects" (Dorner, 2002) should be followed during preparation and implementation.

Remove all invasive species from the excavated stream channel banks at SC #5-013/CA #1 (Figure 2A) and the riparian area surrounding the graded pad at CA A (Figure 2B), and as otherwise found within designated restoration areas during removal activities.

- If and where needed, contour or roughen the soil surface within the restoration areas with micro-topography to support infiltration of precipitation and surface runoff, aid in seed germination, and provide habitat for small wildlife. Ideally, the soil surface should have 6-18 inches of height variability throughout the restoration area.
- See Table 2 for recommended woody species and Table 3 for recommended native grass species and their associated planting densities. Plant the banks of the excavated stream channel between SC #5-013/CA #1 and the riparian areas surrounding the graded pad at CA A and CA #3 with site-appropriate plants as determined by the surrounding ecosystem and recommendations by a qualified biologist/botanist.
- Seed areas when atmospheric moisture is readily available, usually spring or late fall
- Seed will be broadcast mechanically, or by hand, where and when appropriate.
- Plant areas with woody species during the winter months when the buds are dormant
- Fill all interstitial space after placing the plant in its excavated hole with a slurry made up of excess potting soil already onsite or native material.
- Stabilize and seed excess potting soil at the designated restoration site locations. This can be done by stockpiling soil and then seeding and mulching with weed free rice straw at 2,500 lbs/acre (1-inch thick or greater), or alternatively, working the potting soil into the native soil where designated areas are regraded.
- Temporary fencing and/or vexar seedling protection tubes will be utilized to protect plants from wildlife disturbance where appropriate.
- Site topography, soil moisture, and expected surface water retention will be evaluated by the qualified biologist/botanist to determine if future irrigation plans are needed.
- Special attention will be paid to stream banks after implementation of stream
 crossing treatments to ensure success rates are being met and may be staked with
 willow cuttings and/or embedded with fascines/mats to ensure structural stability.
 Additionally, this will aid in erosion and sediment control as well as revegetation.

3.0 MAINTENANCE ACTIVITIES – EROSION PREVENTION & SEDIMENT CONTROL

3.1 Monitoring and Maintenance of BPTC Measures

Describe how the erosion prevention and sediment control BPTC measures will be monitored and maintained to protect water quality.

<u>Erosion and Sediment Control BPTC Measures:</u> Implemented erosion and sediment control BPTC measures will be monitored on a regular basis to ensure effectiveness and that minimal erosion is occurring, or fine-grained sediment is being generated at the treated disturbed area locations. Monitoring will be conducted following significant

storm events as defined in the General Order throughout the wet season as necessary to verify that water quality is protected, and erosion and sediment control measures are in place and functioning properly. During the monitoring events, if any BPTC is observed to not be functioning as intended or needs maintenance or replacement, the conditions of the BPTC and treated area will be documented, and adaptive management measures will be implemented as soon as possible to ensure protection of water quality.

Specifically, periodic inspections should include visual inspection of the treated sites, including any management measures/practices, to ensure they are being implemented correctly and are functioning as expected. Inspections include photographic documentation of any controllable sediment discharge sites, as identified on the site map, and a visual inspection of those locations on the site where pollutants or wastes, if uncontained, could be transported into receiving waters, and those locations where runoff from roads or developed areas drains into or towards surface water.

At a minimum, sites shall be inspected at the following times to ensure timely identification of changed site conditions and to determine whether implementation of additional management measures is necessary to prevent or minimize discharges of waste or pollutants to surface water:

- 1) Before and after any significant alteration or upgrade to a given stream crossing, road segment, or other controllable sediment discharge site. Inspection should include photographic documentation, if possible.
- 2) Prior to October 15 to evaluate site preparedness for storm events and stormwater runoff.
- 3) Following the accumulation of 3 inches cumulative precipitation (starting September 1st) or by December 15th, whichever is sooner.
- 4) Following storm events that produce 0.5 inches in 24 hours or 1 inch within seven consecutive days of precipitation (Cannabis Cultivation Policy: Attachment A). Precipitation data can be obtained from the National Weather Service by entering the site zip code at http://www.srh.noaa.gov/forecast; Pick the nearest or most relevant zip code and then select the 3-day history that will also show precipitation totals.

Revegetation Monitoring and Success BPTC Measures: Implemented

Evaluation of site conditions and plant health is necessary to identify and correct problems as they arise and to ensure successful vegetation establishment in the treated areas. Approximately 120 days post-planting (i.e., the plant establishment period), a qualified biologist/botanist will return to the site to document seed germination, health of native vegetation, invasive species establishment, wildlife disturbance, and irrigation effectiveness. Permanent photo point locations will also be established for future photo documentation and visual monitoring of revegetation success. After the initial 120-day plant establishment monitoring, a qualified biologist will conduct annual vegetation monitoring until planted species reach an 85% survival rate. If needed, the biologist will modify the restoration plan to include annual vegetation reestablishment and additional monitoring to achieve the 85% establishment survival rate for planted

species. Vegetation monitoring will follow the field survey methods described in "Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities" (CDFW, 2018).

Reporting: Annual reports will be prepared each year for a minimum of three (3) years or until the 85% native vegetation establishment success rate is met. The annual report will summarize maintenance activities, site conditions, photo documentation, compare monitoring results with the surrounding habitat, and make recommendations for additional remedial actions, if and where needed.

3.2 Captured Sediment

Describe how any captured sediment will be either stabilized in place, excavated and stabilized on-site, or removed from the site.

Any captured sediment generated from the disturbed areas described above is not expected to occur in large quantities and will be stabilized onsite using appropriate BPTC measures. If any captured sediment from the disturbed areas poses a threat to water quality at the captured location, this material will be excavated and removed from that location and stabilized outside of the riparian setback area at a location where there is no threat to water quality. If captured sediment does not pose a threat to water quality at the captured location, this material will be stabilized in place. Recommended stabilization measures for captured sediment include, but may not be limited to, application of straw mulch and native erosion control seed and installation of fiber rolls or silt fences.

4.0 LONG-TERM STABILIZATION MEASURES

4.1 Revegetation

Describe any revegetation activities designed to provide long term stabilization, that will occur either at the beginning or end of the precipitation season.

Revegetation activities for long-term stabilization are proposed for the treated areas described above to restore these areas to pre-disturbance conditions as much as possible. Appropriate native vegetation will be replanted at these sites following restoration activities based on the recommendations of a qualified biologist/botanist. A revegetation palette and spacing recommendations are included in Tables 2 and 3. Application of native erosion control seed to the disturbed areas will be applied and monitored after relocation activities are complete and before the wet season. If revegetation from application of the native erosion control seed is deemed to be insufficient, a qualified biologist/botanist should be consulted to determine which local plant types can be planted within the disturbed area to enhance revegetation and restoration of the impacted areas within the riparian setbacks.

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5.0 COMPLIANCE WITH GENERAL ORDER SCHEDULE LIMITS

5.1 Compliance

If the Discharger will not be able to achieve compliance by the onset of the next winter period (e.g., stabilization work will continue into the winter period or will continue the following year), the Discharger shall include a compliance schedule and scope of work for approval by the Regional Water Quality Control Board Executive Officer and for use in preparing an enforcement order.

Removal of cultivation materials and implementation of erosion control and winterization BPTCs will be completed by the onset of the 2021 winter period. Stream crossing and legacy road decommissioning will be completed no later than October 15th, 2021, as per LSAA Notification No. 1600-2020-0127-R1 and HUM15842-R1C. Applicable BPTC measures will be implemented prior to the wet season and monitored and maintained through the wet season to ensure effectiveness and protection of water quality.

IV. REFERENCES

- Fraticelli, L,A, Albers, J.P., Irwin, W.P., Blake, M.C., Jr., and Wentworth, C.M., 2012, Digital geologic map of the Redding 1° x 2° quadrangle, Shasta, Tehama, Humboldt, and Trinity Counties, California: U.S. Geological Survey Open-File Report 2012-1228, scale 1:250,000 [http://pubs.usgs.gov/of/2012/1228].
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- California Department of Fish and Wildlife (CDFW), 2018, Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (March 2018). Retrieved from https://wildlife.ca.gov/Conservation/Survey-Protocols
- Dorner, Jeanette, 2002, *An introduction to using native plants in restoration projects* (November 2002). Center for Urban Horticulture, University of Washington. Retrieved from
 - https://www.fs.fed.us/wildflowers/Native Plant Materials/documents/intronatplant.pdf

Disturbed Area Stabilization Plan - Order WQ 2019-0001-DWQ Humboldt County APNs 208-221-013 and 208-221-014 WDID: 1 12CC419588

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V. LEGALLY RESPONSIBLE PERSON CERTIFICATION/SIGNATURES

This Disturbed Area Stabilization Plan has been prepared by Pacific Watershed Associates.

"I have read and understand this Disturbed Area Stabilization Plan, including Section II — Certifications, Conditions and Limitations. I agree to comply with the requirements of the State Water Resources Control Board (SWRCB) Cannabis Cultivation Policy Order WQ 2019-0001-DWQ, General Waste Discharge Requirements and Waiver of Waste Discharge Requirements for Discharges of Waste Associated with Cannabis Cultivation Activities (General Order), including the recommendations and actions listed in this Disturbed Area Stabilization Plan."

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Name of Legally Responsible Person (LRP): _	Michael Drosin
Title (owner, lessee, operator, etc.):	Lessee
Signature: Date:	0/4/21

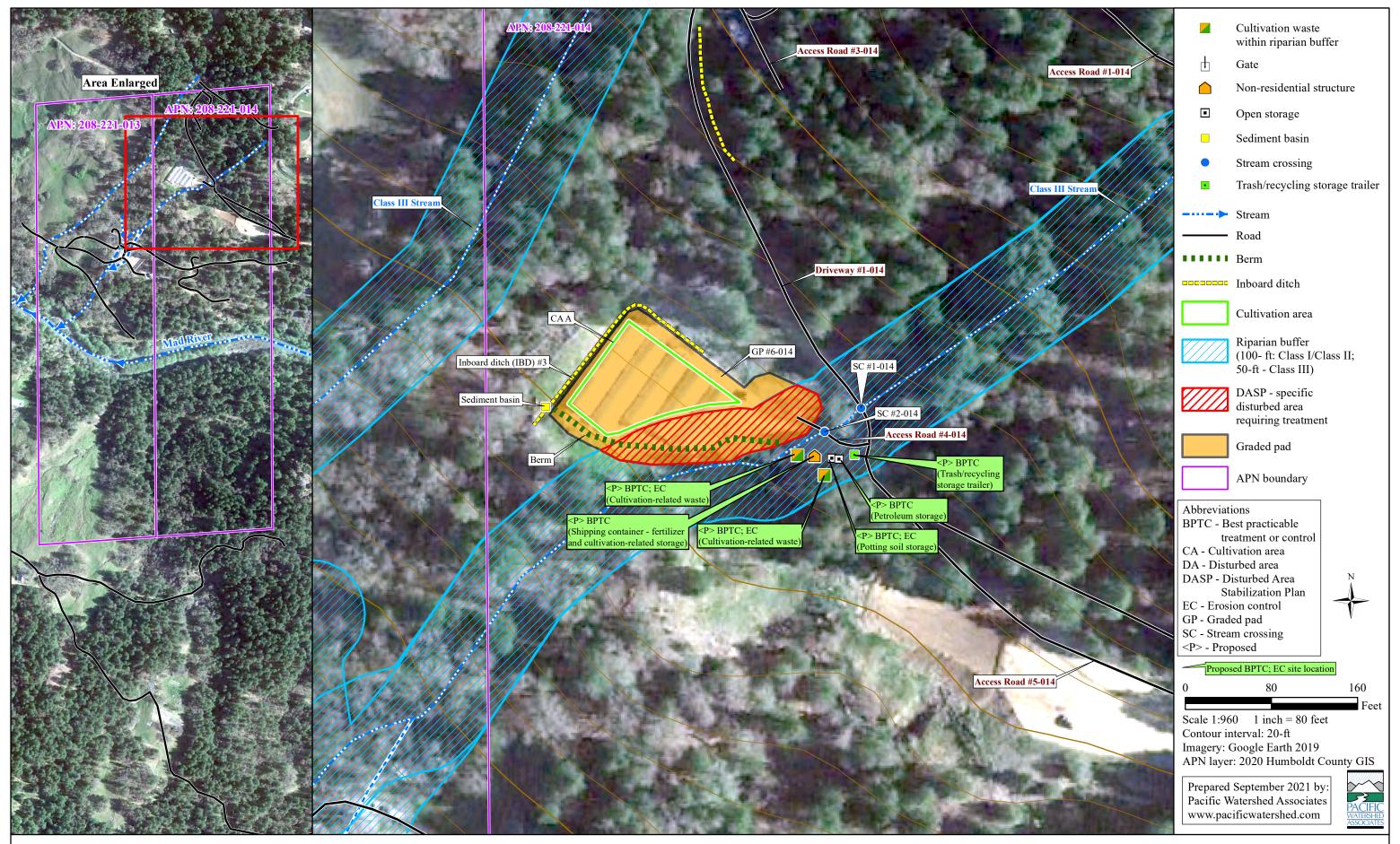


Figure 2B. Site Map for Drosihn Disturbed Area Stabilization Plan, APN 208-221-013 and 208-221-014, located at Parcel 51 and 52, Timberline Ridge Estates RS BK 26, Mad River, Humboldt County, California.

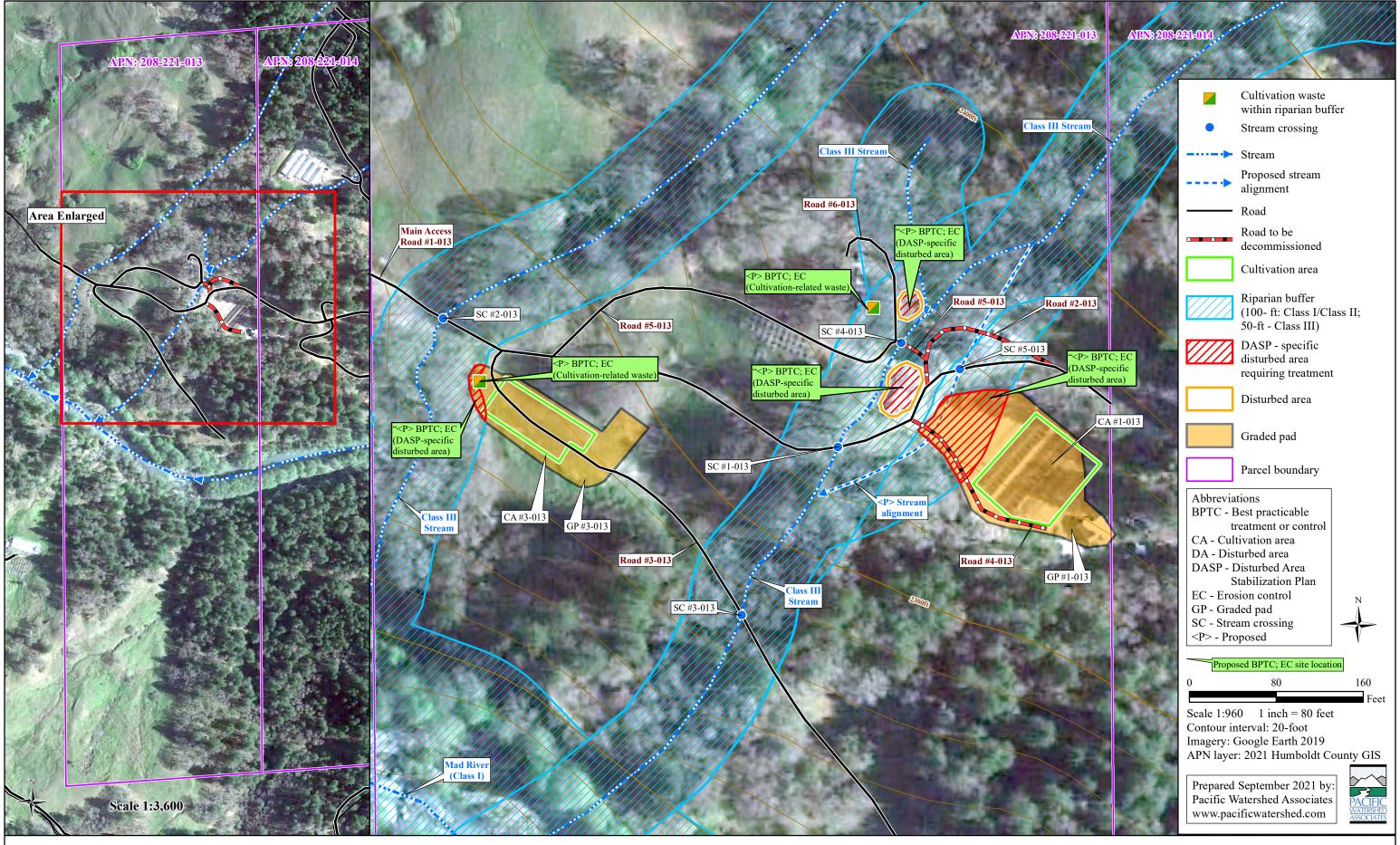


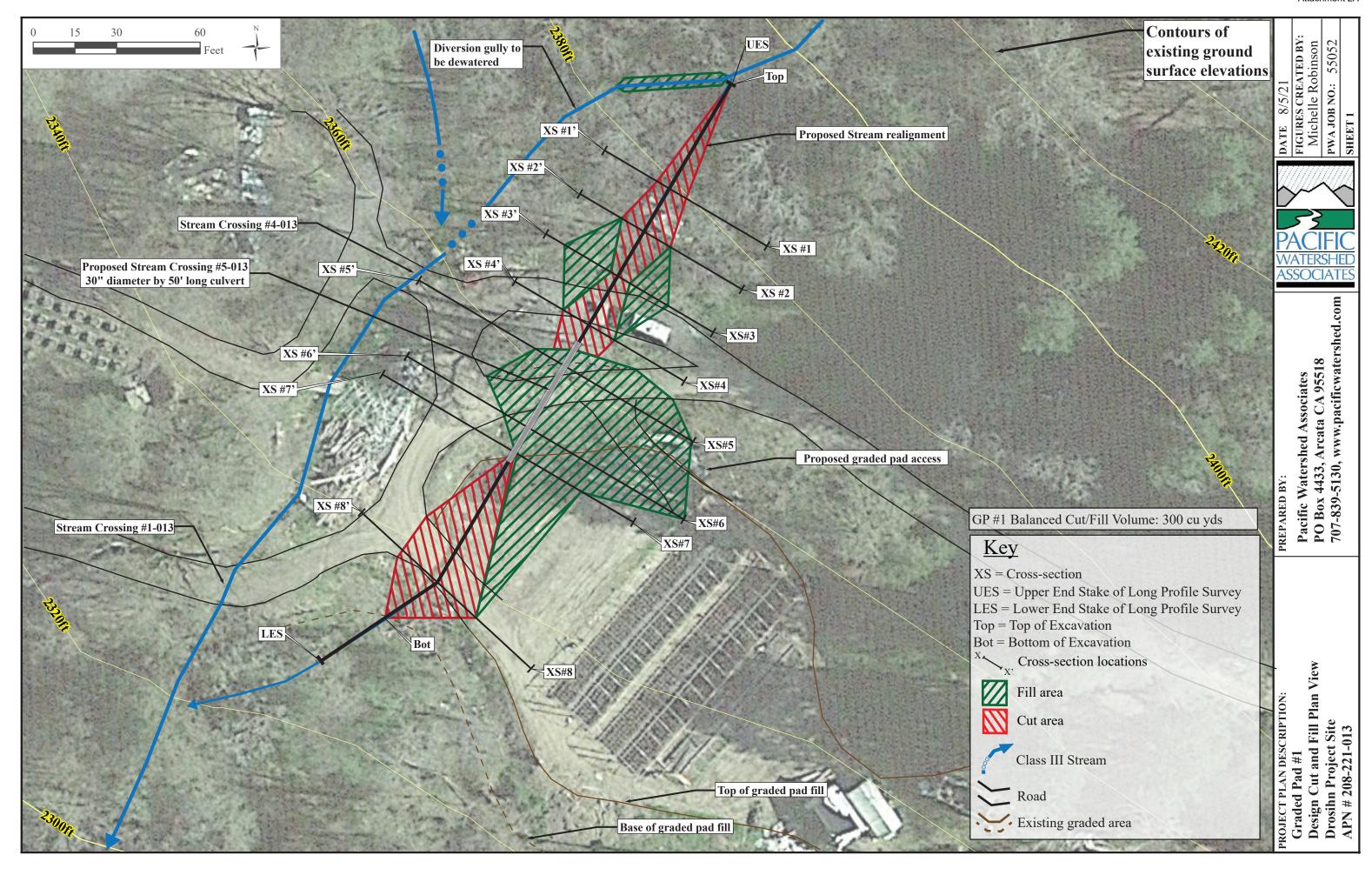
Figure 2A. Site Map for Drosihn Disturbed Area Stabilization Plan, APN 208-221-013 and 208-221-014, located at Parcel 51 and 52, Timberline Ridge Estates RS BK 26, Mad River, Humboldt County, California.

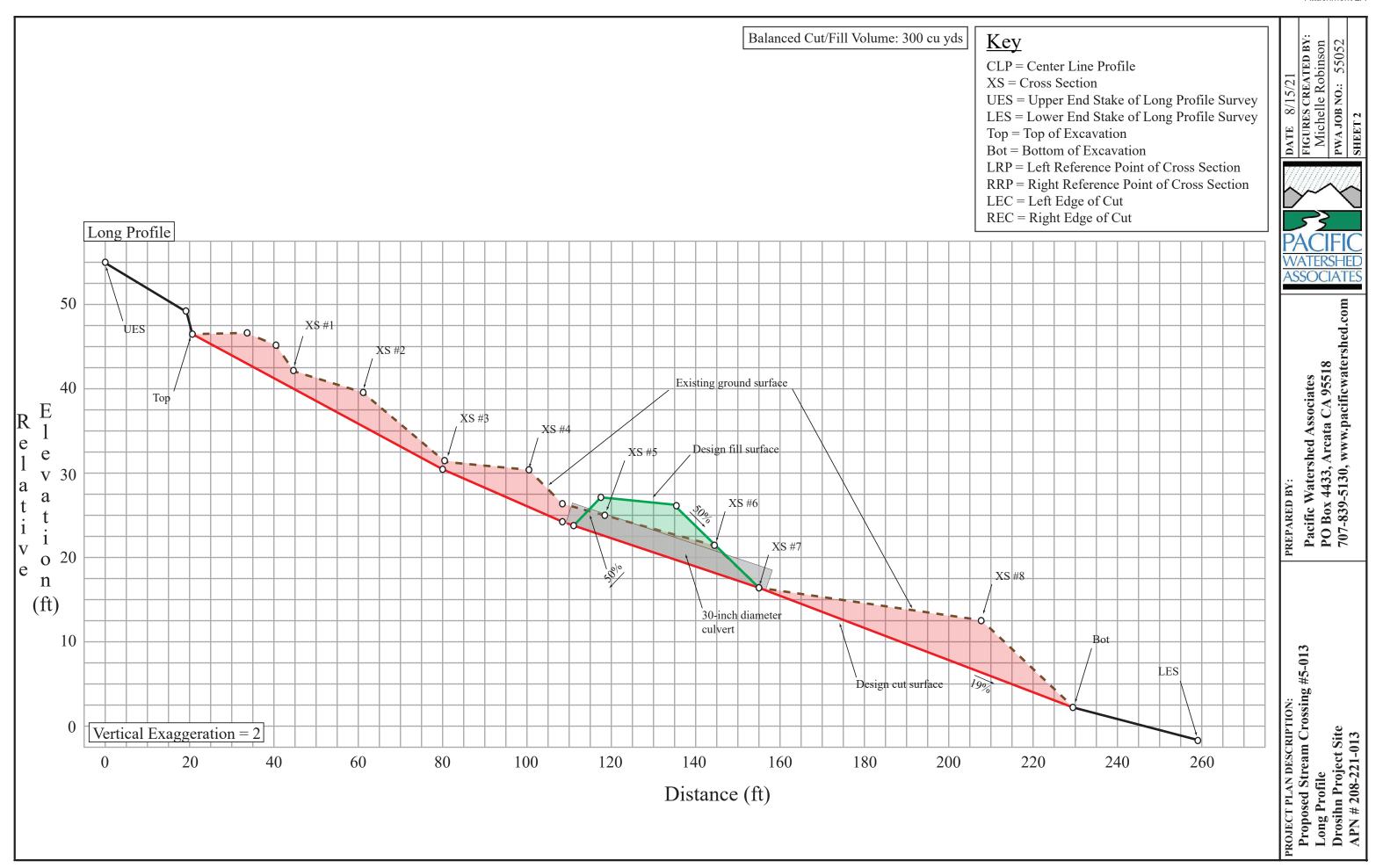
October 2021

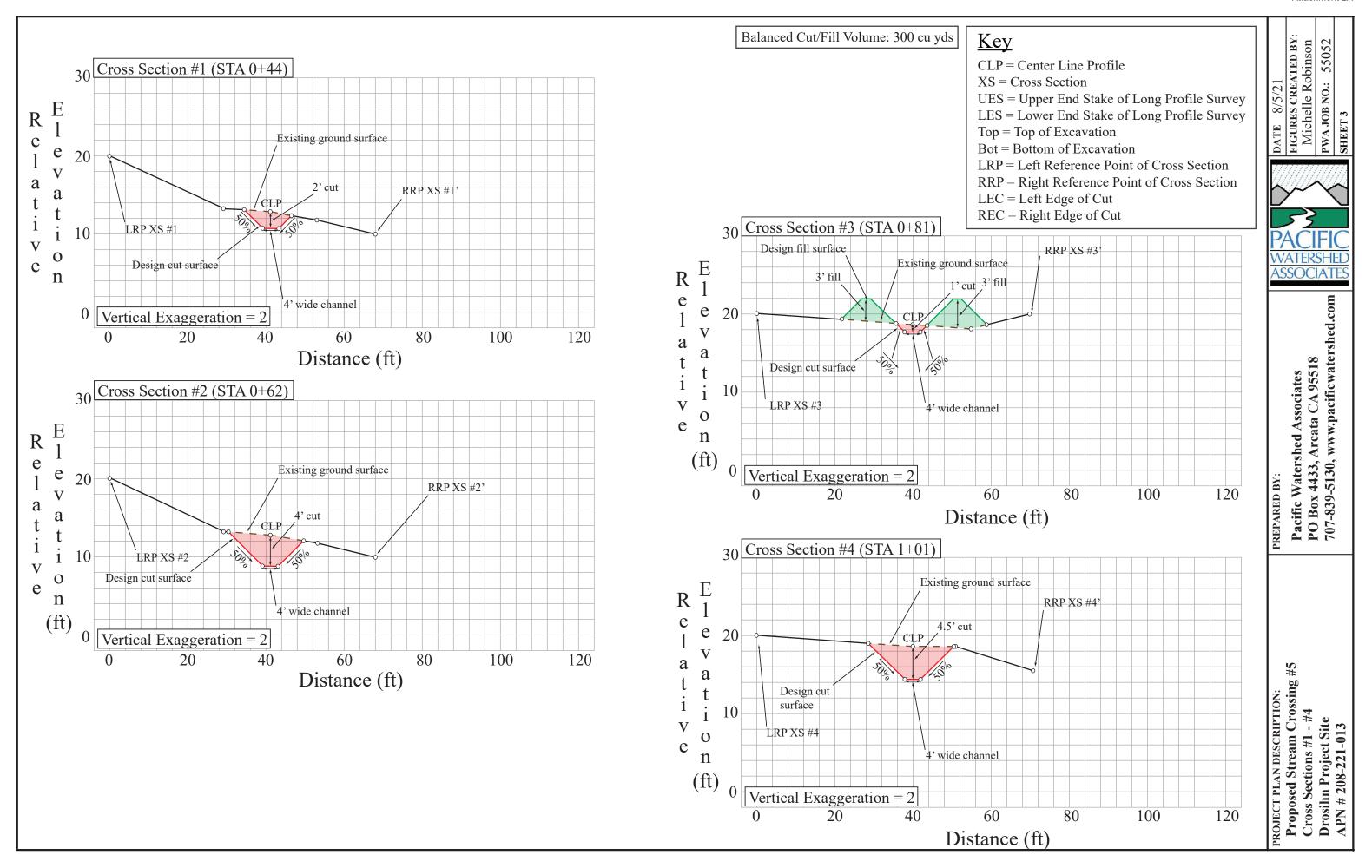
Disturbed Area Stabilization Plan - Order WQ 2019-0001-DWQ Humboldt County APNs 208-221-013 and 208-221-014 WDID: $1_12CC419588$

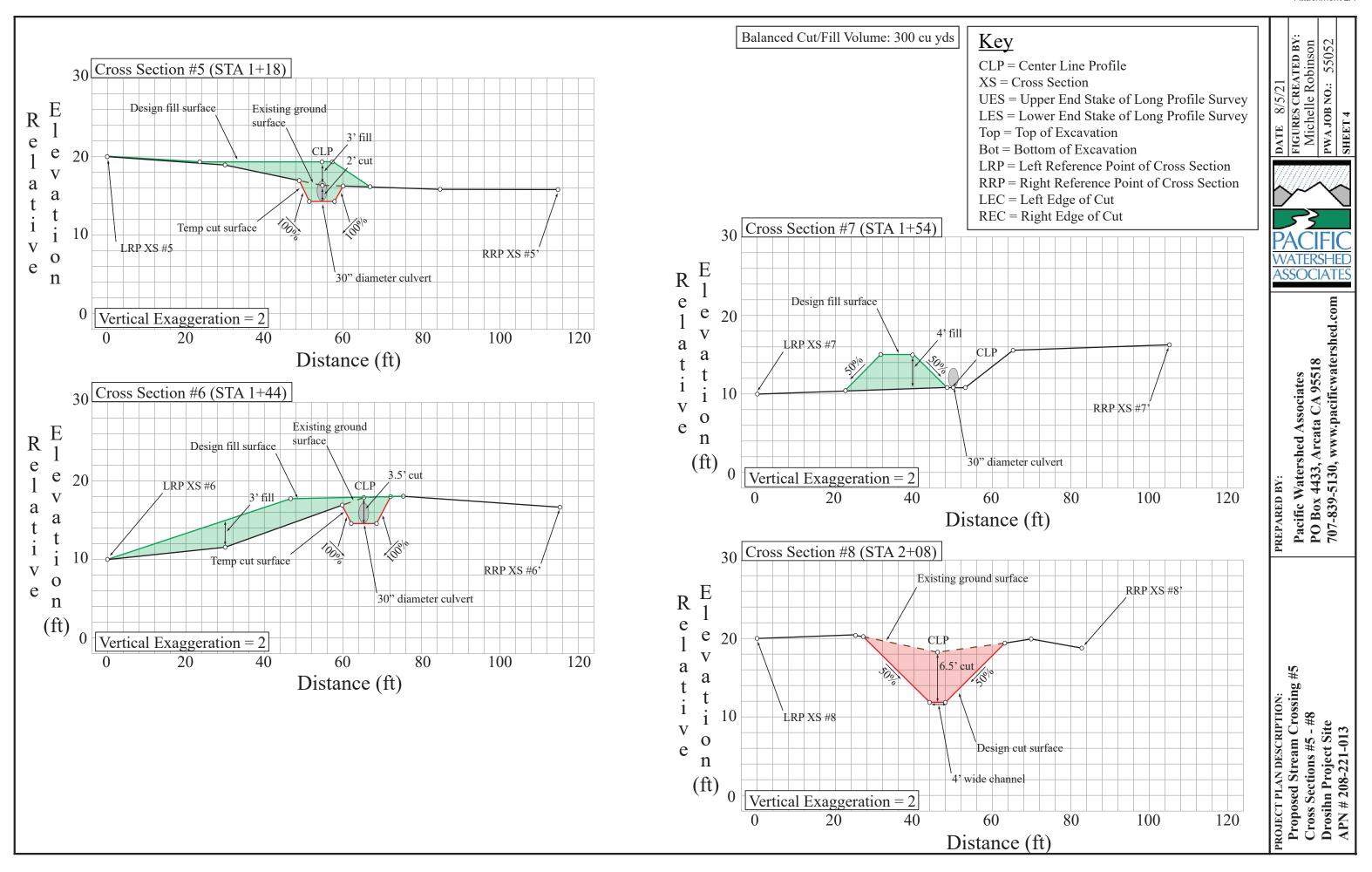
ATTACHMENT A

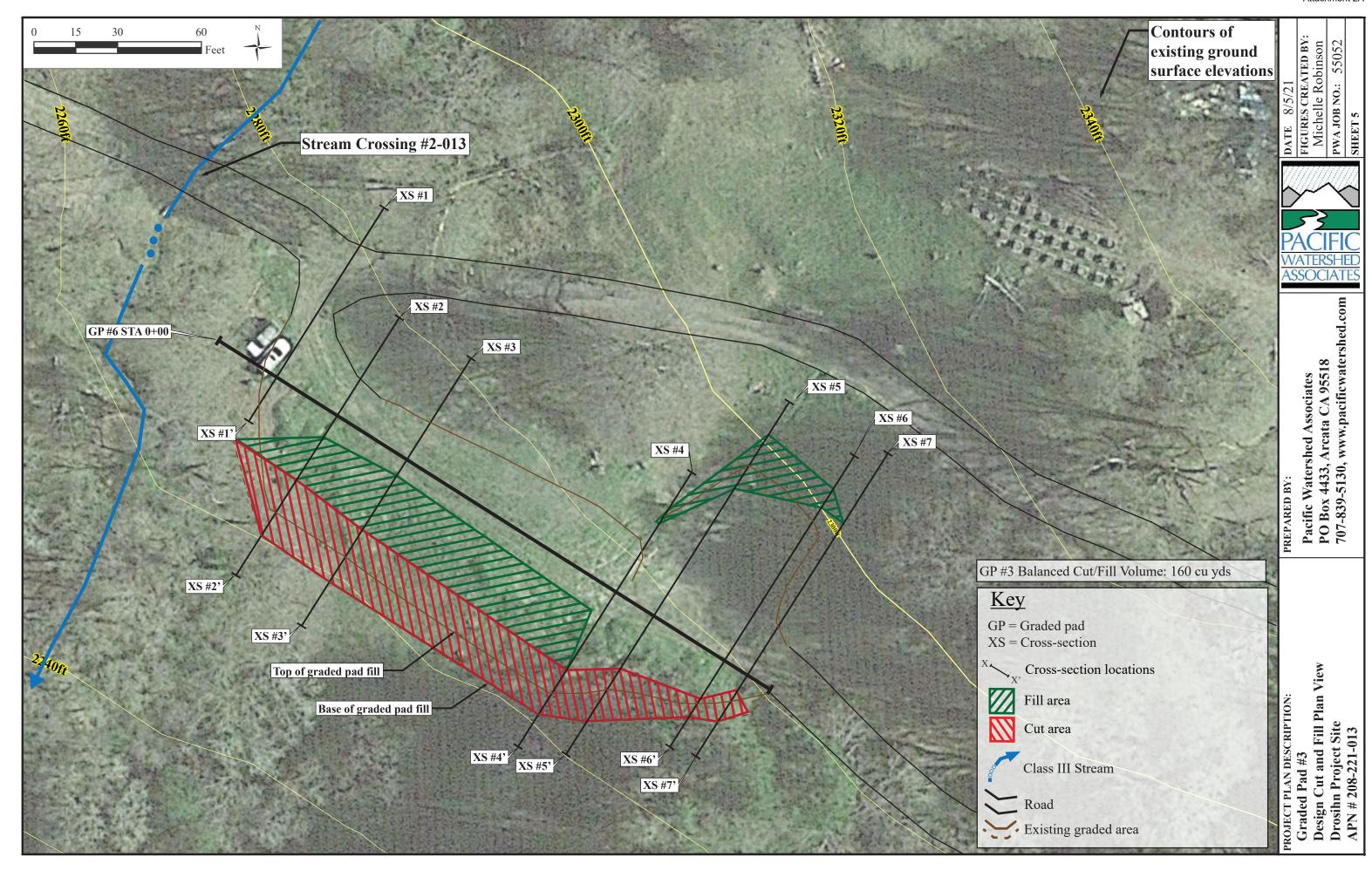
Excerpts from PWA Grading Plan for APN #208-221-013

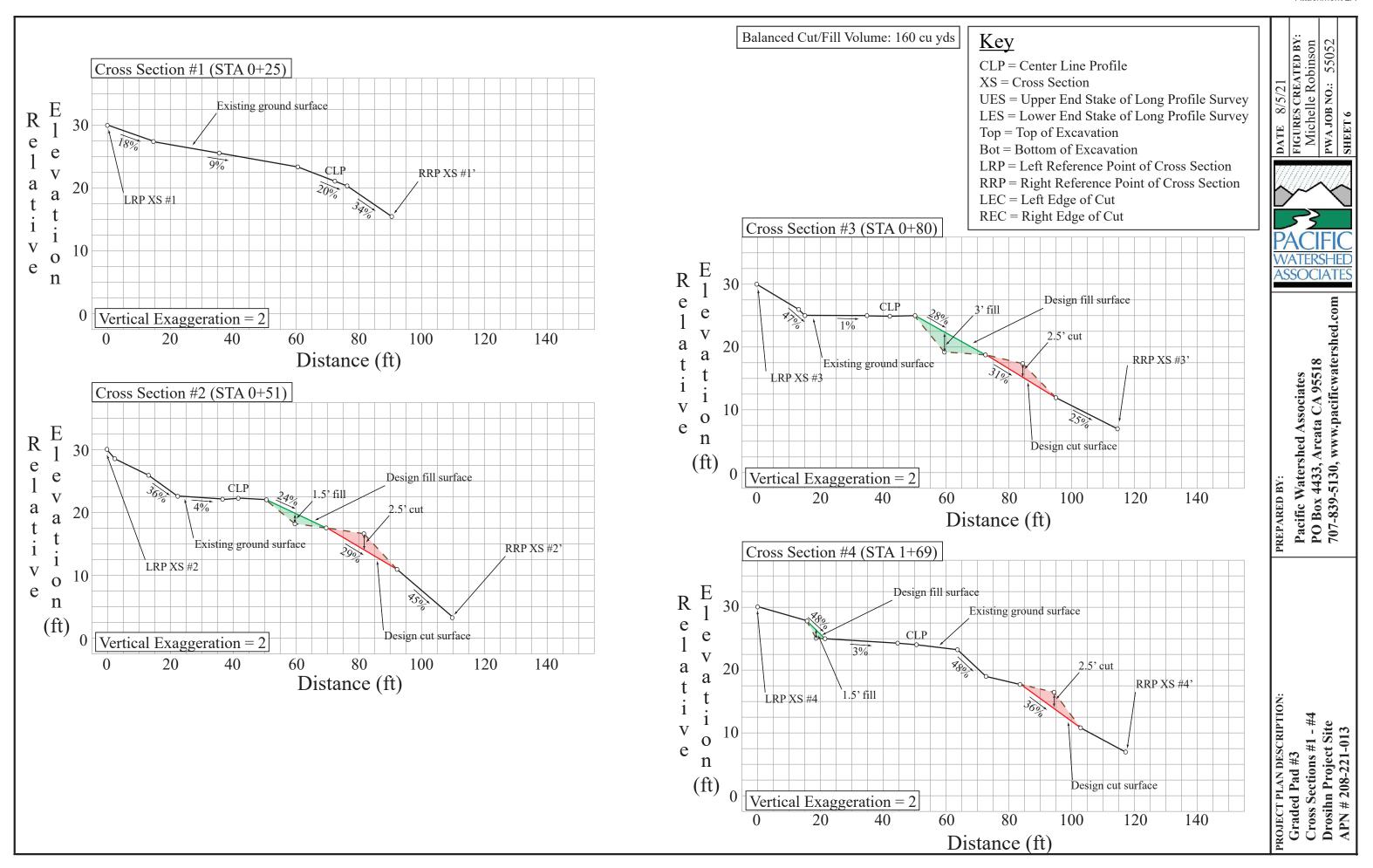


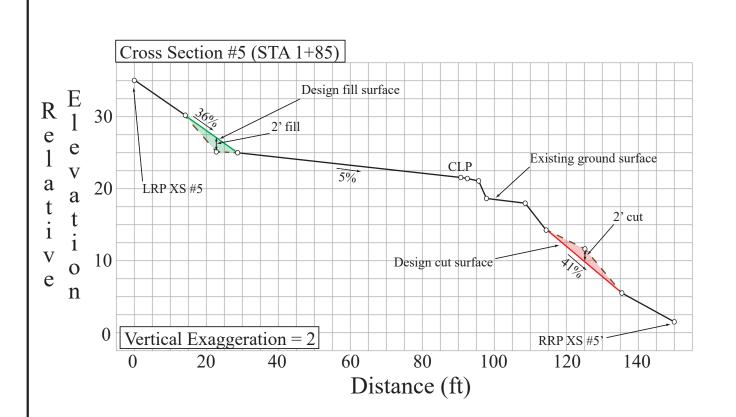


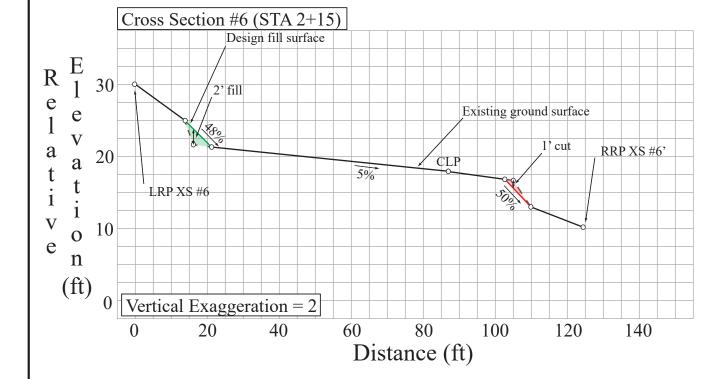












Balanced Cut/Fill Volume: 160 cu yds

<u>Key</u>

CLP = Center Line Profile

XS = Cross Section

UES = Upper End Stake of Long Profile Survey

LES = Lower End Stake of Long Profile Survey

Top = Top of Excavation

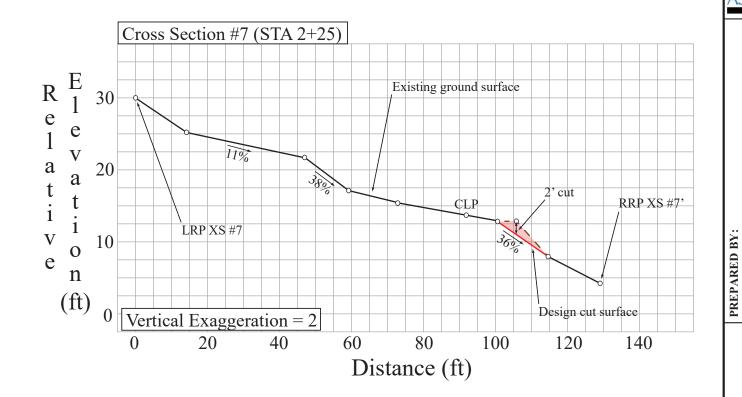
Bot = Bottom of Excavation

LRP = Left Reference Point of Cross Section

RRP = Right Reference Point of Cross Section

LEC = Left Edge of Cut

REC = Right Edge of Cut



PATE 8/5/21
FIGURES CREATED BY:
Michelle Robinson
PWA JOB NO.: 55052
SHEET 7

Pacific Watershed Associates PO Box 4433, Arcata CA 95518 707-839-5130, www.pacificwatershed.com

PROJECT PLAN DESCRIPTION:
Graded Pad #3
Cross Sections #5 - #7
Drosihn Project Site

October 2021

Disturbed Area Stabilization Plan - Order WQ 2019-0001-DWQ Humboldt County APNs 208-221-013 and 208-221-014 WDID: $1_12CC419588$

ATTACHMENT B

Excerpts from PWA Grading Plan for APN #208-221-014

