

**RESTORATION AND REVEGETATION PLAN**  
**FINAL DRAFT**

**Zayo Prineville to Reno Fiber Optic Line for  
Modoc, Lassen, and Sierra Counties**



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USDI Bureau of Land Management  
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# 1 INTRODUCTION

This Revegetation and Restoration Plan (RRP) has been prepared for the California portion of the Prineville to Reno Fiber Optic Project (Project) that extends 193.9 miles across portions of Modoc, Lassen, and Sierra counties in California. The California Public Utilities Commission (CPUC) is the California Environmental Quality Act Lead Agency responsible for review and approval of this RRP.

This RRP covers the environmental setting, native habitat located along the area of direct disturbance, and Zayo's commitment to restore the project area to pre-construction conditions. Seed mixes and seeding methods will ultimately be dictated by the Caltrans encroachment permit and requirements under the NPDES Stormwater Construction General Permit.

Stantec, on behalf of Zayo Group, LLC (Zayo or Applicant), prepared this RRP to comply with the following mitigation measures:

- **BIO-5: Site Stabilization.** Ground disturbance and vegetation clearing shall be limited to the minimum extent practicable. Open excavations shall be backfilled and recompact after installation of the conduit with native soils. At locations where the excavated material is not adequate to use for backfilling, construction crews shall remove it from the project workspaces and dispose of it at a suitable location within the Project Area. In areas where backfill material must be imported (e.g., areas where excavated material has high rock content), the Applicant shall obtain soils from weed-free, commercially available sources. After completion of project activities, all temporarily disturbed work areas shall be restored to their pre-construction contours, and areas of exposed soils in natural habitats shall either be stabilized or re-seeded with native seed mixes appropriate to the habitat type.
- **BIO-6: Restoration. A CDFW-approved** biologist(s) with expertise in northern California ecosystems and native plant revegetation techniques shall prepare and implement a Revegetation and Restoration Plan (RRP) for review and approval by the CPUC, California Department of Transportation (Caltrans), CDFW, the Bureau of Land Management (BLM), and United States Forest Service (USFS), with detailed specifications for restoring all disturbed native habitat. The restoration location(s) could be offsite or onsite as approved by the resource agencies. Native habitat disturbed by the Project shall be restored on-site on a 1:1 basis, with the exception of impacts on wetlands, riparian habitat, and waters, which shall be restored at a minimum of a 2:1 basis and also in accordance with any required project permits. The RRP shall specify the location of the restoration site(s), plants and seed mixes that shall be used for restoration, plant container sizes and appropriate planting methods, and maintenance requirements, including irrigation needs and design plans that shall show the specific plant species and planting locations. The RRP shall include required performance standards, timing of implementation, methods for controlling invasive species, monitoring methods, monitoring frequency and duration, contingency plans if restoration is not successful, and provisions for long-term conservation of mitigation site(s). Review and approval of the RRP shall be completed prior to commencement of construction activities. Implementation of the RRP shall commence within



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one year of the conclusion of construction. Annual monitoring reports shall be prepared by the Applicant and submitted to CPUC, Caltrans, CDFW, the BLM, and USFS.

- **BIO-7: Invasive Species.** To prevent the introduction and spread of invasive plants during construction, the Applicant and construction contractor shall ensure that all construction equipment and vehicles are cleaned inside and out prior to arrival onsite. Incoming vehicles and wheeled or tracked equipment shall be inspected by a biological monitor prior to deployment onsite. If invasive plants are observed within a work area, vehicles, equipment, and personnel clothing and boots shall be swept or cleaned prior to deployment to a different construction site. If application of herbicides is needed to control designated noxious weeds, only CDFW-approved weed control contractors would apply herbicides in adherence with all State and manufacturer's guidelines. Integrate invasive species management methods and protocols developed by USFS, where applicable.
- **BIO-9: Protection of Botanical Resources.** Pre-construction surveys for special status plant species shall be conducted by a CDFW-approved biologist within the ADI of the fiber optic line. The locations of the special status plants identified during previous surveys and the pre-construction survey shall be marked as additional avoidance areas where possible both in the field using flagging, staking, fencing, or similar devices; and on construction plans. Special status plant species populations shall be avoided using directional drilling under populations where feasible.

## 2 OBJECTIVES

This RRP address the revegetation and restoration of all work areas where dry waterways are trenched or vegetation removal is necessary for bore pit construction, plowing, and/or trenching operations, and/or optical inline amplifier (ILA) location construction, or to allow equipment access on narrow roads; these areas (the ADI) will be revegetated and restored to near pre-construction conditions. Areas of the ADI constructed within constructed shoulders or other unvegetated substrate within Caltrans and County rights-of-way (ROWs) will not be revegetated but restored to original grade and compacted to achieve pre-construction conditions.

Along most of the route, conduit to house the new fiber optic cable will be buried 36 to 42 inches deep using a combination of plowing and trenching construction techniques. Horizontal directional drilling (HDD) will be used to cross under water bodies and roads, and where necessary to avoid existing infrastructure or biological or cultural resources. For some water- or road-crossing locations, the conduit may be affixed to the side or underside of bridges. Ancillary equipment will be installed at three small buildings that will serve as ILA sites. Fiberglass vaults will be installed flush to the ground along the Project alignment to provide maintenance access and at splice locations. Construction staging areas will be located within the right-of-way adjacent to the Project alignment, and materials storage yards will be located at existing industrial or commercial space in Alturas, Madeline, Termo, and Standish. All construction activities will be conducted in compliance with Caltrans requirements and county longitudinal utility encroachment permit procedures.



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Revegetation and restoration will promote soil stability and native vegetative habitats, minimizing the potential encroachment of invasive plant species and erosion. Monitoring and maintenance of impact areas will be conducted until the final field performance standards are achieved (Table 3, Section 10) to promote stabilization, regeneration of desired species, and accessibility.

Communication between Zayo, CPUC, and the various land management agencies will rely much on development and implementation of the project webmap. The webmap has been developed such that locations of resources to be avoided and means of avoidance are depicted. The webmap will be a foundational tool to be used in the two-week look-ahead meetings. The webmap can be updated as needed in the event of newly encountered resources and changes in project plans. Therefore, any maps associated with this RRP or other project documents are secondary to the project webmap.

Stantec intends to deploy two versions of the webmap. The primary working version will be accessible to Stantec, CPUC and its agents, and resource agency personnel. Other project-related personnel will be able to access a version of the webmap in which all features requiring avoidance are labeled as “environmentally sensitive areas” (ESAs). These features will be devoid of all attributional data. The purpose of the stripped-down version of the webmap is to maintain the confidentiality of known cultural resources site in the project corridor.

### 3 ENVIRONMENTAL SETTING

Disturbance will be restricted to the construction corridor, or ADI, which has unvegetated, sparsely vegetated, and well-vegetated habitats, generally progressing in that sequence from edge of pavement to edge of right-of-way fence lines. The Biological Resources Study Area (Study Area) considered during Project development comprises 6,011 acres including the entire Caltrans right-of-way along United States Route 395 (US 395) and the Lassen County ROWs along County Route A3 and Cummings Road, plus ancillary facilities, staging areas, and materials storage yards outside of these ROWs. The Caltrans and Lassen County ROWs vary in width from 20 to 250 feet measured from the edge of pavement to the edge of the right-of-way boundaries. The Study Area includes both private and public lands. Public lands include land owned by Bureau of Indian Affairs, BLM, United States Fish and Wildlife Service (USFWS), CDFW, and California State Lands Commission. The portion of the new fiber optic line that will run along Standish Buntingville Road (Lassen County Road A3) and Cummings Road is within land owned by Lassen County. Private lands in the Study Area occur within the jurisdictions of Modoc, Lassen, and Sierra counties.

Detailed descriptions of the environmental setting are available in the Proponent’s Environmental Assessment – Zayo Prineville to Reno Fiber Optic Project (Stantec 2020).



### 3.1 Vegetation Communities

A total of 61 natural vegetation communities occur in the Study Area (Table 1) (Stantec 2020). The Western juniper woodland alliance occurs throughout the Study Area and is the most common type of tree-dominated vegetation community observed. The big sagebrush alliance is the most common shrubland vegetation community throughout the Study Area. Cheatgrass grassland alliance occurs throughout the Study Area, especially in disturbed roadside areas, and is the most common herbaceous community observed. Descriptions of each natural vegetation community are contained within the Biological Resource Technical Report (Stantec 2020).

Stantec biologists encountered several natural communities in the Study Area that are not currently described in A Manual of California Vegetation because the Study Area occurs in an area currently being classified or that remains unclassified (Stantec 2020). As a result, Stantec designated several new alliance and association types not currently provided in A Manual of California Vegetation. These natural vegetation communities occurring in the ADI are included in Table 1.

“Construction Running Line and Polygons Including 5-Foot Buffer” (first column in Table 1) refers to the habitats bordering the running line with a 5-foot buffer on each side of the running line, plus a five-foot buffer around polygon features. “Anthropogenic Areas of Little or No Vegetation” refers to bare ground or ruderal habitat (typically dominated by non-native early colonizer grasses and forbs), primarily located alongside or near the road shoulder.

**Table 1. Natural Vegetation Communities in the Area of Direct Impact**

Construction Running Line and Polygons Including 5-Foot Buffer	County	Land Ownership Agency	Vegetation Habitat Type	Area of Direct Impact (ADI) Acres
Inside 10 ft Buffer	Lassen	BLM	<i>Agropyron cristatum</i> Herbaceous Grassland	0.03
			Anthropogenic Areas of Little or No Vegetation	12.61
			<i>Artemisia arbuscula</i> / <i>Bromus</i> spp. – <i>Elymus caput-medusae</i>	0.19
			<i>Artemisia arbuscula</i> / <i>Poa secunda</i> Shrubland	1.17
			<i>Artemisia tridentata</i> – <i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland	3.27
			<i>Artemisia tridentata</i> Shrubland	3.39
			<i>Bromus tectorum</i> Grassland	0.32
			<i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland	1.05
			<i>Ericameria nauseosa</i> Shrubland	0.04
			<i>Juncus arcticus</i> ssp. <i>balticus</i> Marsh	0.29
			<i>Juniperus occidentalis</i> – ( <i>Pinus jeffreyi</i> – <i>Pinus ponderosa</i> ) / <i>Cercocarpus ledifolius</i>	0.31



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Construction Running Line and Polygons Including 5-Foot Buffer	County	Land Ownership Agency	Vegetation Habitat Type	Area of Direct Impact (ADI) Acres
			<i>Juniperus occidentalis</i> / <i>Artemisia arbuscula</i> – <i>Purshia tridentata</i> / <i>Festuca idahoensis</i> Woodland	0.24
			<i>Juniperus occidentalis</i> / <i>Artemisia arbuscula</i> / <i>Poa secunda</i> Woodland	0.77
			<i>Juniperus occidentalis</i> / <i>Artemisia tridentata</i> – <i>Purshia tridentata</i> Woodland	1.33
			<i>Juniperus occidentalis</i> Woodland	>0.01
			Perennial Stream Channel (Open Water)	0.03
			<i>Pseudoroegneria spicata</i> – <i>Poa secunda</i> Grassland	0.04
			<i>Purshia tridentata</i> – <i>Artemisia tridentata</i> Shrubland	1.56
			<i>Sarcobatus vermiculatus</i> – <i>Artemisia tridentata</i> Shrubland	1.86
			<i>Schoenoplectus acutus</i> Marsh	>0.01
			Western North American Sparsely Vegetated Rivershore	0.03
		State	Anthropogenic Areas of Little or No Vegetation	2.29
			<i>Artemisia tridentata</i> – <i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland	1.31
			<i>Artemisia tridentata</i> / <i>Bromus tectorum</i> Shrubland	0.07
			<i>Artemisia tridentata</i> Shrubland	0.32
			<i>Bromus tectorum</i> Grassland	0.62
			<i>Juniperus occidentalis</i> / <i>Artemisia tridentata</i> – <i>Purshia tridentata</i> Woodland	0.11
			Perennial Stream Channel (Open Water)	0.01
			<i>Purshia tridentata</i> – <i>Artemisia tridentata</i> Shrubland	0.41
		Private/ Undefined	<i>Sarcobatus vermiculatus</i> – <i>Artemisia tridentata</i> Shrubland	0.13
			<i>Agropyron cristatum</i> Herbaceous Grassland	0.02
			<i>Alopecurus pratensis</i> Meadow	0.29
			Anthropogenic Areas of Little or No Vegetation	37.88
			<i>Artemisia arbuscula</i> / <i>Bromus</i> spp. – <i>Elymus caput-medusae</i>	0.09
			<i>Artemisia arbuscula</i> / <i>Poa secunda</i> Shrubland	0.10
			<i>Artemisia tridentata</i> – <i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland	4.44
			<i>Artemisia tridentata</i> / <i>Bromus tectorum</i> Shrubland	2.42
		<i>Artemisia tridentata</i> Shrubland	15.58	
		<i>Artemisia tridentata</i> ssp. <i>vaseyana</i> Shrubland	0.18	



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			<i>Bromus tectorum</i> – <i>Agropyron cristatum</i> Grassland	0.05
			<i>Bromus tectorum</i> – <i>Taeniatherum caput-medusae</i>	1.29
			<i>Bromus tectorum</i> Grassland	7.68
			<i>Danthonia unispicata</i> – <i>Poa secunda</i> Meadow	0.21
			<i>Elymus cinereus</i> Grassland	0.83
			<i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland	3.85
			<i>Ericameria nauseosa</i> Shrubland	0.02
			<i>Juncus arcticus</i> ssp. <i>balticus</i> Marsh	0.60
			<i>Juniperus occidentalis</i> – ( <i>Pinus jeffreyi</i> – <i>Pinus ponderosa</i> ) / <i>Cercocarpus ledifolius</i>	0.01
			<i>Juniperus occidentalis</i> / <i>Artemisia arbuscula</i> – <i>Purshia tridentata</i> / <i>Festuca idahoensis</i> Woodland	0.16
			<i>Juniperus occidentalis</i> / <i>Artemisia arbuscula</i> / <i>Poa secunda</i> Woodland	0.39
			<i>Juniperus occidentalis</i> / <i>Artemisia tridentata</i> – <i>Purshia tridentata</i> Woodland	2.91
			<i>Juniperus occidentalis</i> Woodland	0.82
			Perennial Stream Channel (Open Water)	0.04
			<i>Pinus jeffreyi</i> / <i>Purshia tridentata</i> Forest	0.77
			Planted Trees and Shrubs	0.03
			<i>Purshia tridentata</i> – <i>Artemisia tridentata</i> Shrubland	2.29
			<i>Rosa woodsii</i> Wet Shrubland	0.22
			<i>Salix exigua</i> / <i>Juncus balticus</i> Shrubland	0.19
			<i>Salix exigua</i> Shrubland	0.98
			<i>Sarcobatus vermiculatus</i> – <i>Artemisia tridentata</i> Shrubland	2.18
			<i>Sarcobatus vermiculatus</i> Shrubland	0.15
			<i>Taraxia tanacetifolia</i> – <i>Iva axillaris</i> Patch	0.03
			Western North American Sparsely Vegetated Rivershore	0.07
	Modoc	BIA	<i>Alopecurus pratensis</i> Meadow	0.10
			Anthropogenic Areas of Little or No Vegetation	3.75
			<i>Artemisia arbuscula</i> / <i>Bromus</i> spp. – <i>Elymus caput-medusae</i>	0.15
			<i>Artemisia tridentata</i> – <i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland	0.48
			<i>Artemisia tridentata</i> / <i>Bromus tectorum</i> Shrubland	0.10



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			<i>Bromus tectorum</i> – <i>Taeniatherum caput-medusae</i>	0.06
			<i>Bromus tectorum</i> Grassland	1.16
			<i>Carex sheldonii</i> – <i>Leymus cinereus</i>	0.18
			<i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland	0.19
			<i>Juniperus occidentalis</i> / <i>Artemisia arbuscula</i> / <i>Poa secunda</i> Woodland	0.15
			<i>Juniperus occidentalis</i> / <i>Artemisia tridentata</i> – <i>Purshia tridentata</i> Woodland	0.12
			<i>Juniperus occidentalis</i> Woodland	0.97
			Perennial Stream Channel (Open Water)	0.02
			<i>Populus tremuloides</i> / <i>Symphoricarpos rotundifolius</i> Grove	0.10
			<i>Purshia tridentata</i> – <i>Artemisia tridentata</i> / <i>Bromus tectorum</i> Shrubland	0.02
			<i>Purshia tridentata</i> – <i>Artemisia tridentata</i> Shrubland	0.62
			BLM	<i>Alopecurus pratensis</i> Meadow
		Anthropogenic Areas of Little or No Vegetation		1.50
		<i>Artemisia arbuscula</i> / <i>Bromus</i> spp. – <i>Elymus caput-medusae</i>		0.01
		<i>Artemisia tridentata</i> – <i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland		0.31
		<i>Bromus tectorum</i> – <i>Taeniatherum caput-medusae</i>		0.00
		<i>Bromus tectorum</i> Grassland		0.13
		<i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland		0.01
		<i>Juniperus occidentalis</i> / <i>Poa secunda</i> – <i>Elymus elymoides</i> Woodland		0.01
		USFWS	<i>Alopecurus pratensis</i> Meadow	0.03
			Anthropogenic Areas of Little or No Vegetation	0.06
		State	Anthropogenic Areas of Little or No Vegetation	0.33
			<i>Artemisia tridentata</i> / <i>Bromus tectorum</i> Shrubland	0.05
			<i>Juniperus occidentalis</i> / <i>Artemisia tridentata</i> – <i>Purshia tridentata</i> Woodland	0.48
			<i>Purshia tridentata</i> – <i>Artemisia tridentata</i> Shrubland	0.09
		Private/ Undefined	Agriculture	0.22
			<i>Alopecurus pratensis</i> Meadow	6.77
			Anthropogenic Areas of Little or No Vegetation	29.19



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			<i>Artemisia arbuscula</i> / <i>Bromus</i> spp. – <i>Elymus caput-medusae</i>	0.23
			<i>Artemisia arbuscula</i> / <i>Poa secunda</i> Shrubland	0.69
			<i>Artemisia tridentata</i> – <i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland	2.40
			<i>Artemisia tridentata</i> / <i>Bromus tectorum</i> Shrubland	0.00
			<i>Artemisia tridentata</i> Shrubland	1.27
			<i>Artemisia tridentata</i> ssp. <i>vaseyana</i> Shrubland	0.69
			<i>Bromus tectorum</i> – <i>Taeniatherum caput-medusae</i>	0.15
			<i>Bromus tectorum</i> Grassland	2.35
			<i>Elymus cinereus</i> Grassland	0.06
			<i>Elymus glaucus</i> – <i>Medicago sativa</i> Grassland	1.95
			<i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland	1.39
			<i>Ericameria nauseosa</i> Shrubland	0.06
			<i>Juncus arcticus</i> ssp. <i>balticus</i> Marsh	0.47
			<i>Juniperus occidentalis</i> - <i>Pinus jeffreyi</i> / ( <i>Purshia tridentata</i> )	0.09
			<i>Juniperus occidentalis</i> / <i>Artemisia arbuscula</i> / <i>Poa secunda</i> Woodland	0.17
			<i>Juniperus occidentalis</i> / <i>Artemisia tridentata</i> – <i>Purshia tridentata</i> Woodland	0.61
			<i>Juniperus occidentalis</i> Woodland	0.26
			Perennial Stream Channel (Open Water)	0.08
			<i>Phalaris arundinacea</i> Sward	0.00
			Planted Trees and Shrubs	0.13
			<i>Prunus subcordata</i> / <i>Elymus cinereus</i> Shrubland	0.00
			<i>Purshia tridentata</i> – <i>Artemisia arbuscula</i> Shrubland	0.13
			<i>Purshia tridentata</i> – <i>Artemisia tridentata</i> / <i>Bromus tectorum</i> Shrubland	0.10
			<i>Purshia tridentata</i> – <i>Artemisia tridentata</i> Shrubland	2.68
			<i>Rosa woodsii</i> Wet Shrubland	0.25
			<i>Salix exigua</i> / <i>Juncus balticus</i> Shrubland	0.33
			<i>Salix exigua</i> Shrubland	0.20
			<i>Salix lucida</i> – <i>Rosa woodsii</i> / <i>Mixed Herbs</i> Shrubland	0.03
			<i>Sarcobatus vermiculatus</i> – <i>Artemisia tridentata</i> Shrubland	0.14



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			Western North American Sparsely Vegetated Rivershore	0.01
	Sierra	State	<i>Agropyron cristatum</i> Herbaceous Grassland	0.17
			Anthropogenic Areas of Little or No Vegetation	0.01
			<i>Artemisia tridentata</i> Shrubland	0.00
			<i>Bromus tectorum</i> Grassland	0.00
		Private/ Undefined	<i>Agropyron cristatum</i> Herbaceous Grassland	0.63
			Anthropogenic Areas of Little or No Vegetation	0.15
			<i>Artemisia tridentata</i> – <i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland	0.10
<b>Area Inside 5-Foot Buffer Total</b>				186.27
<b>Anthropogenic Areas of Little or No Vegetation Inside 5-Foot Buffer Total</b>				87.76
Outside 10ft Buffer	Lassen	BLM	<i>Artemisia arbuscula</i> / <i>Bromus</i> spp. – <i>Elymus caput-medusae</i>	1.02
			<i>Artemisia arbuscula</i> / <i>Poa secunda</i> Shrubland	7.85
			<i>Artemisia tridentata</i> – <i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland	6.77
			<i>Artemisia tridentata</i> / <i>Bromus tectorum</i> Shrubland	0.05
			<i>Artemisia tridentata</i> Shrubland	8.67
			<i>Bromus tectorum</i> Grassland	2.67
			<i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland	3.27
			<i>Ericameria nauseosa</i> Shrubland	1.16
			<i>Juncus arcticus</i> ssp. <i>balticus</i> Marsh	0.24
			<i>Juniperus occidentalis</i> – ( <i>Pinus jeffreyi</i> – <i>Pinus ponderosa</i> ) / <i>Cercocarpus ledifolius</i>	0.37
			<i>Juniperus occidentalis</i> / <i>Artemisia arbuscula</i> – <i>Purshia tridentata</i> / <i>Festuca idahoensis</i> Woodland	0.74
			<i>Juniperus occidentalis</i> / <i>Artemisia arbuscula</i> / <i>Poa secunda</i> Woodland	5.85
			<i>Juniperus occidentalis</i> / <i>Artemisia tridentata</i> – <i>Purshia tridentata</i> Woodland	8.76
			Perennial Stream Channel (Open Water)	0.02
			<i>Pseudoroegneria spicata</i> – <i>Poa secunda</i> Grassland	0.18
			<i>Purshia tridentata</i> – <i>Artemisia tridentata</i> – <i>Tetradymia canescens</i> Shrubland	0.12
<i>Purshia tridentata</i> – <i>Artemisia tridentata</i> Shrubland	4.78			
<i>Sarcobatus vermiculatus</i> – <i>Artemisia tridentata</i> Shrubland	0.50			



**RESTORATION AND REVEGETATION PLAN**

Zayo Prineville to Reno Fiber Optic Line for Modoc, Lassen, and Sierra Counties

Construction Running Line and Polygons Including 5-Foot Buffer	County	Land Ownership Agency	Vegetation Habitat Type	Area of Direct Impact (ADI) Acres
			<i>Schoenoplectus acutus</i> Marsh	0.02
			Western North American Sparsely Vegetated Rivershore	0.03
		State	<i>Artemisia tridentata</i> – <i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland	0.76
			<i>Artemisia tridentata</i> / <i>Bromus tectorum</i> Shrubland	1.29
			<i>Artemisia tridentata</i> Shrubland	3.85
			<i>Bromus tectorum</i> Grassland	2.89
			<i>Juniperus occidentalis</i> / <i>Artemisia tridentata</i> – <i>Purshia tridentata</i> Woodland	0.14
			Perennial Stream Channel (Open Water)	0.00
			<i>Purshia tridentata</i> – <i>Artemisia tridentata</i> Shrubland	1.01
			<i>Salix exigua</i> Shrubland	0.15
			<i>Sarcobatus vermiculatus</i> – <i>Artemisia tridentata</i> Shrubland	0.05
			Private/ Undefined	<i>Agropyron cristatum</i> Herbaceous Grassland
		<i>Alopecurus pratensis</i> Meadow		1.05
		<i>Artemisia arbuscula</i> / <i>Bromus</i> spp. – <i>Elymus caput-medusae</i>		1.22
		<i>Artemisia arbuscula</i> / <i>Poa secunda</i> Shrubland		0.28
		<i>Artemisia tridentata</i> – <i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland		29.96
		<i>Artemisia tridentata</i> / <i>Bromus tectorum</i> Shrubland		5.84
		<i>Artemisia tridentata</i> Shrubland		38.01
		<i>Artemisia tridentata</i> ssp. <i>vaseyana</i> Shrubland		0.16
		<i>Bromus tectorum</i> – <i>Agropyron cristatum</i> Grassland		0.03
		<i>Bromus tectorum</i> – <i>Taeniatherum caput-medusae</i>		4.66
		<i>Bromus tectorum</i> Grassland		17.22
		<i>Danthonia unispicata</i> – <i>Poa secunda</i> Meadow		0.13
		<i>Elymus cinereus</i> Grassland		1.34
		<i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland		5.74
		<i>Ericameria nauseosa</i> Shrubland		0.15
		<i>Juncus arcticus</i> ssp. <i>balticus</i> Marsh		0.99
		<i>Juniperus occidentalis</i> / <i>Artemisia arbuscula</i> – <i>Purshia tridentata</i> / <i>Festuca idahoensis</i> Woodland		0.05
<i>Juniperus occidentalis</i> / <i>Artemisia arbuscula</i> / <i>Poa secunda</i> Woodland	0.77			



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Construction Running Line and Polygons Including 5-Foot Buffer	County	Land Ownership Agency	Vegetation Habitat Type	Area of Direct Impact (ADI) Acres	
			<i>Juniperus occidentalis</i> / <i>Artemisia arbuscula</i> / <i>Stipa thurberiana</i> Woodland	0.10	
			<i>Juniperus occidentalis</i> / <i>Artemisia tridentata</i> – <i>Purshia tridentata</i> Woodland	4.38	
			<i>Juniperus occidentalis</i> Woodland	1.12	
			Perennial Stream Channel (Open Water)	0.01	
			<i>Pinus jeffreyi</i> / <i>Purshia tridentata</i> Forest	0.37	
			Planted Trees and Shrubs	0.06	
			<i>Purshia tridentata</i> – <i>Artemisia tridentata</i> Shrubland	5.90	
			<i>Rosa woodsii</i> Wet Shrubland	0.14	
			<i>Salix exigua</i> / <i>Juncus balticus</i> Shrubland	0.01	
			<i>Salix exigua</i> Shrubland	5.22	
			<i>Sarcobatus vermiculatus</i> – <i>Artemisia tridentata</i> Shrubland	0.66	
			Western North American Sparsely Vegetated Rivershore	0.08	
				Modoc	BIA
	<i>Artemisia arbuscula</i> / <i>Bromus</i> spp. – <i>Elymus caput-medusae</i>	1.57			
	<i>Artemisia tridentata</i> – <i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland	1.46			
	<i>Artemisia tridentata</i> / <i>Bromus tectorum</i> Shrubland	0.10			
	<i>Bromus tectorum</i> – <i>Taeniatherum caput-medusae</i>	0.03			
	<i>Bromus tectorum</i> Grassland	0.80			
	<i>Carex sheldonii</i> – <i>Leymus cinereus</i>	0.62			
	<i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland	0.10			
	<i>Juniperus occidentalis</i> / <i>Artemisia arbuscula</i> / <i>Poa secunda</i> Woodland	0.14			
	<i>Juniperus occidentalis</i> / <i>Artemisia tridentata</i> – <i>Purshia tridentata</i> Woodland	0.58			
	<i>Juniperus occidentalis</i> Woodland	0.54			
	Perennial Stream Channel (Open Water)	0.01			
	<i>Populus tremuloides</i> / <i>Symphoricarpos rotundifolius</i> Grove	0.09			
<i>Purshia tridentata</i> – <i>Artemisia tridentata</i> Shrubland	1.26				
		BLM	<i>Alopecurus pratensis</i> Meadow	0.15	
			<i>Artemisia tridentata</i> – <i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland	3.40	



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Construction Running Line and Polygons Including 5-Foot Buffer	County	Land Ownership Agency	Vegetation Habitat Type	Area of Direct Impact (ADI) Acres
			<i>Artemisia tridentata</i> / <i>Bromus tectorum</i> Shrubland	1.59
			<i>Artemisia tridentata</i> Shrubland	0.03
			<i>Artemisia tridentata</i> ssp. <i>wyomingensis</i> – <i>Peraphyllum ramosissimum</i> Shrubland	0.13
			<i>Artemisia tridentata</i> ssp. <i>wyomingensis</i> / <i>Stipa thurberiana</i> – <i>Poa secunda</i> Shrubland	1.52
			<i>Bromus tectorum</i> – <i>Taeniatherum caput-medusae</i>	1.92
			<i>Bromus tectorum</i> Grassland	0.65
			<i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland	0.28
			Western North American Sparsely Vegetated Rivershore	0.01
		USFWS	<i>Alopecurus pratensis</i> Meadow	2.44
		State	<i>Artemisia tridentata</i> / <i>Bromus tectorum</i> Shrubland	0.05
			<i>Juniperus occidentalis</i> / <i>Artemisia tridentata</i> – <i>Purshia tridentata</i> Woodland	0.36
			<i>Purshia tridentata</i> – <i>Artemisia tridentata</i> Shrubland	0.02
		Private/ Undefined	Agriculture	0.25
			<i>Alopecurus pratensis</i> Meadow	13.15
			<i>Artemisia arbuscula</i> / <i>Bromus</i> spp. – <i>Elymus caput-medusae</i>	0.34
			<i>Artemisia arbuscula</i> / <i>Poa secunda</i> Shrubland	5.44
			<i>Artemisia tridentata</i> – <i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland	10.21
			<i>Artemisia tridentata</i> / <i>Bromus tectorum</i> Shrubland	0.88
			<i>Artemisia tridentata</i> Shrubland	3.84
			<i>Artemisia tridentata</i> ssp. <i>vaseyana</i> Shrubland	0.87
			<i>Artemisia tridentata</i> ssp. <i>wyomingensis</i> – <i>Peraphyllum ramosissimum</i> Shrubland	0.14
			<i>Artemisia tridentata</i> ssp. <i>wyomingensis</i> / <i>Stipa thurberiana</i> – <i>Poa secunda</i> Shrubland	1.09
			<i>Bromus tectorum</i> – <i>Taeniatherum caput-medusae</i>	0.50
			<i>Bromus tectorum</i> Grassland	8.45
			<i>Elymus cinereus</i> – <i>Alopecurus geniculatus</i> Grassland	0.59
			<i>Elymus cinereus</i> Grassland	0.02
			<i>Elymus glaucus</i> – <i>Medicago sativa</i> Grassland	7.71
		<i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland	2.25	
		<i>Ericameria nauseosa</i> Shrubland	0.05	



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Construction Running Line and Polygons Including 5-Foot Buffer	County	Land Ownership Agency	Vegetation Habitat Type	Area of Direct Impact (ADI) Acres
			<i>Juncus arcticus</i> ssp. <i>balticus</i> Marsh	0.45
			<i>Juniperus occidentalis</i> – <i>Pinus jeffreyi</i> / ( <i>Purshia tridentata</i> )	0.05
			<i>Juniperus occidentalis</i> / <i>Artemisia arbuscula</i> / <i>Poa secunda</i> Woodland	0.36
			<i>Juniperus occidentalis</i> / <i>Artemisia tridentata</i> – <i>Purshia tridentata</i> Woodland	0.33
			<i>Juniperus occidentalis</i> Woodland	0.54
			<i>Perennial Stream Channel</i> (Open Water)	0.08
			Planted Trees and Shrubs	0.07
			<i>Populus trichocarpa</i> Forest	0.06
			<i>Purshia tridentata</i> – <i>Artemisia arbuscula</i> Shrubland	0.00
			<i>Purshia tridentata</i> – <i>Artemisia tridentata</i> / <i>Bromus tectorum</i> Shrubland	0.09
			<i>Purshia tridentata</i> – <i>Artemisia tridentata</i> Shrubland	3.12
			<i>Rosa woodsii</i> Wet Shrubland	0.11
			<i>Salix exigua</i> / <i>Juncus balticus</i> Shrubland	0.09
			<i>Salix exigua</i> Shrubland	0.09
			<i>Salix lucida</i> – <i>Rosa woodsii</i> / <i>Mixed Herbs</i> Shrubland	0.13
			<i>Sarcobatus vermiculatus</i> – <i>Artemisia tridentata</i> Shrubland	1.61
			Western North American Sparsely Vegetated Rivershore	0.03
			Sierra	State
	<i>Artemisia tridentata</i> Shrubland	3.31		
	<i>Bromus tectorum</i> Grassland	0.04		
	<i>Purshia tridentata</i> – <i>Artemisia tridentata</i> Shrubland	0.64		
	Private/ Undefined	<i>Agropyron cristatum</i> Herbaceous Grassland		2.24
		<i>Artemisia tridentata</i> – <i>Ericameria nauseosa</i> / <i>Bromus tectorum</i> Shrubland		0.04
		<i>Artemisia tridentata</i> Shrubland	0.05	
	<b>Outside 10-Foot Corridor Total</b>			
<b>Grand Total</b>				<b>464.77</b>
<b>Total Anthropogenic Areas of Little or No Vegetation</b>				<b>87.76</b>



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### 3.2 Special-Status Plants

Botanical surveys were performed within 5,538 acres of the 6,011-acre Study Area by walking meandering transects (Stantec 2020). The botanical surveys were performed in accordance with the Protocols for Surveying and Evaluating Impacts to Special-Status Native Plant Populations and Sensitive natural communities (Stantec 2020) and Survey Protocols Required for NEPA/ESA Compliance for BLM special-status species (Stantec 2020) for BLM lands. The botanical survey area excluded 473 acres of the Study Area that were inaccessible due to fencing or unsafe conditions.

HDD construction under some populations of special-status plant species are proposed and listed in Appendix A. Zayo's goal is to further avoid special-status plant populations during construction by conducting pre-construction surveys. Due to the limited availability of seed banks and limited expected success in restoring these special-status plant species populations, impacts on these species will be mitigated through a combination of avoiding known populations, (previously identified during surveys between May 2019 and August 2020), and with pre-construction surveys.

*If special-status plant populations are inadvertently impacted, CPUC, CALTRANS, and CDFW will be notified within one week of impacts. Federal, state, and county agencies will also be contacted if the impacts occur on their lands.*

## 4 SCHEDULE

The schedule below assumes notice-to-proceed in mid-November 2023. Dates will be dependent on seasonal variation, particularly the timing seeding following of first-of-year rainfall events. Monitoring of disturbed sites will conclude once success criteria are met.

<b>Fall 2023</b>	Pre-construction surveys reviewed and construction begins.
<b>Fall 2023</b>	Species lists for seed mixes approved by agencies and seed mixes ordered from California native seed companies.
<b>Fall/Winter 2023</b>	Seed mix and mulch applied to completed construction sites. (Ideal planting months are October and November after the first Fall rain.)
<b>Spring/Summer 2024</b>	First year monitoring and maintenance of sites planted in 2023. Pre-construction surveys and construction continue.
<b>Fall/Winter 2024</b>	Seed mix and mulch applied to completed 2024 construction sites.
<b>Spring/Summer 2025</b>	First year monitoring of sites planted in 2024, second year monitoring of sites planted in 2023.
<b>Spring/Summer 2026</b>	Second year monitoring sites planted in 2024, third year monitoring sites planted in 2023 (if necessary)
<b>Spring/Summer 2026</b>	Third year monitoring sites planted in 2024 (if necessary).



## **5 PRE-CONSTRUCTION VEGETATION SURVEYS AND DOCUMENTATION**

Portions of the ADI suitable for restoration will be identified based on the amount of native vegetation present before construction, the area's proximity to rare plants or sensitive habitats, and the presence of noxious weeds in the immediate vicinity. Land management agencies will receive annual reports summarizing the restoration efforts for each applicable impact area, and the suitability of the disturbed sites for restoration.

Portions of the ADI denuded of vegetation because of roadside maintenance or other regular disturbance, the emphasis will be on stabilizing the impact footprint and implementing erosion-control mitigations, rather than establishing native habitat.

A qualified biologist or botanist will survey each impact area and an adjacent/comparable reference location (if native vegetation is present in the impact area and requires restoration) following the CDFW-California Native Plant Society (CNPS) Protocol for Combined Vegetation Rapid Assessment (CDFW-CNPS 2022). This method will provide standardized data collection that is applicable to future monitoring and reporting efforts. Resumes of field biologist will be provided to CPUC prior to initiation of surveys.

The following survey data will be collected, quantified, and documented in a Pre-Construction Form with a corresponding photo log. A handheld GPS-equipped tablet will be used to record the following data during pre-construction surveys, maintenance, and monitoring:

- General contours
- Project work area and access route locations (recorded by GPS)
- Extents of vegetation communities and dominant/subdominant species composition
- Special-status plant individual locations (if present)
- Characteristic of special-status plant populations (i.e., size and cover estimates)
- Tree and shrub inventory (if present) with estimated cover of herbaceous species
- Reference photo points, one in each cardinal direction

Photographs of the entire impact area will be taken from fixed photo points with the same orientation to allow a review of restoration progress over time. The location, direction, and magnification of each photo will be documented using GPS to check that the same fixed points are used during each successive survey. The above data collected will inform the following:

- Anticipated restoration acreages and conditions for impact forest, shrubland, and herbaceous/grassland communities (if vegetation is present)
- Topsoil salvage recommendations
- Seed mix for the site type (if seed mixes are recommended)

If sensitive natural communities and/or special-status plant communities are identified in work areas or overland access routes during pre-construction surveys, work areas and overland access routes will be



repositioned where possible within the ADI to avoid adverse impacts to these resources. In areas that cannot be avoided by a minor re-route, the Project biologist will contact the appropriate resource agency to discuss the potential for salvaging affected special-status plants.

## **6 POST-CONSTRUCTION REVEGETATION, RESTORATION, AND REPORTING**

In accordance with Avoidance and Minimization Measure (AMM) BIO-6, native habitat disturbed by the Project will be restored on-site on a 1:1 basis, except for impacts on wetlands, riparian habitat, and waters, which will be restored at a minimum of a 2:1 basis and in accordance with any required Project permits.

The vegetation and site data collected during the pre-construction surveys will be used to establish the foliar cover baseline conditions for each site, using 1-meter square plots. Percent cover of desirable vegetation and percent cover of undesirable invasive species will be quantified by the qualified biologist or botanist to determine the final performance standards. The Vegetation Performance Standards section of this RRP includes specific details on how pre-construction vegetation data will be used to establish revegetation goals.

### **6.1 Seeding**

A seed mix deemed appropriate for revegetation in Caltrans ROW was provided by the Caltrans landscape architect assigned to the project (Appendix B). This seed mix will be used in the running line adjacent to the paved state highway and county roads, regardless of extant vegetation, so as to be consistent with Caltrans' maintenance of its ROW.

Vegetated areas disturbed by Project construction will be revegetated with a native seed mix to stabilize soils and minimize the introduction or spread of invasive plants. Seed will be applied by hand, broadcast seeding, or via hydroseeding procedures. Zayo will work with agency botanists and local native plant nurseries or native seed companies to develop final seeding mixes, ensuring that only native species are used at the desired ratios and appropriate elevations. Baseline species likely to be used that are widespread in the Project area are listed in Appendix B. The species listed in Appendix B may be narrowed down or expanded upon based on agency feedback and seed availability. Palettes used will be based on the vegetation community/native species, including grasses and forbs, that currently occur at the work locations.

Seeding methods include manual seeding for targeting small areas of disturbance and hydroseeding for larger areas. The seed bed should be raked or tilled, or the soil crust broken in some other manner to incorporate the seed into the soil. Generally, seed applications for native grasses will range from 6 to 12 points of pure live seed per acre on level soils. Forbs and nitrogen fixers, such as lupine and lotus, and forbs native to the local restoration areas will be included in the seed mixes. In California the standard is to seed prior to mid-November to maximize first year growth before summer dormancy. After the first rain stabilizes the soil, seed contact with soil surface is much improved.



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All seeded areas will be covered with a mixture of compostable material to 30 to 35 percent cover. If straw is used in the compostable material, it will be certified as weed-free. On slopes steeper than 45 degrees, a slurry of purely compostable materials may be used to stabilize the soil, facilitate seed germination, and prevent weed invasion. Use of a tackifier—an adhesive for mulch—is preferred when hydroseeding. If invasive plants are present at the restoration site, hand-weeding will be done prior to manual seeding or hydroseeding.

Seeding with native seed mixes will not guarantee restoration to conditions free of non-native species or invasive and noxious weeds due to the presence of long-established seed banks in the soil.

## 7 EROSION, WATER QUALITY, AND CHANNEL PROTECTION

Construction and excavation activities will be conducted in a manner that will protect on-site and down beneficial uses of water in accordance with the Porter-Cologne Water Quality Control Act, Water Code section 13000, et seq., and the Federal Clean Water Act, 33 USC section 1251, et seq.

A detailed Stormwater Pollution Prevention Plan (SWPPP) has been developed for the Project. The SWPPP details how erosion and sedimentation will be controlled during all phases of construction and restoration through the implementation of control measures including berms, silt fences, and implementation of this RRP. Spoils will be stored away from the banks of waterways or slopes above waterways and will be loaded onto trucks if no level storage space is available.

All exposed or disturbed waterways and vegetated areas within the construction corridor will be returned to pre-existing contours. Unvegetated slopes up to 45 degrees in the excavation area will be stabilized with a combination of seed and mulch. For slopes greater than 45 degrees, a hydraulic mulch slurry containing seed mix will be used to prevent erosion.

Sites requiring treatment to prevent erosion will be monitored for additional erosion and/or soil degradation throughout the monitoring period. If new or additional erosion is observed in the impact areas, the stormwater inspector will identify and install the appropriate sediment-control device and the change will be described in post-construction SWPPP documentation. The SWPPP will remain in effect until all impact areas are sufficiently revegetated and soils have been stabilized.

Post-construction hydrology surveys will be conducted annually at impact areas within 50 feet of the ordinary high water mark of streams. A hydrology survey consists of a visual inspection of a restored site to assess that the potentially impacted watercourse is functioning properly, and the restored channeled bed/bank does not have any visible scour, head cuts, knickpoints, erosional rills or gullies, bank slumping, or sediment deposition.

## 8 SENSITIVE NATURAL COMMUNITIES

Sensitive natural communities with potential to be impacted by the Project are listed below in **Table 2**. If a sensitive natural community is documented in the ADI on a Pre-Construction Form and is unavoidable by



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use of HDD, restoration of the impacted sensitive natural community will focus on the affected native stratum only. Restoration will comprise hydroseeding the disturbed herbaceous understory with an appropriate seed mix. The seed mix will not include non-native, invasive, or noxious weed species. Seeding will be implemented with a native seed mix comprising the sensitive community's species to the greatest extent practicable.

**Table 2. Sensitive Natural Vegetation Communities**

Alliance	Association	Acres
<b>Forests and Woodlands</b>		
Jeffrey pine forest	<i>Pinus jeffreyi</i> and <i>Purshia tridentate</i>	1.15
Aspen groves	<i>Populus tremuloides</i> and <i>Symphoricarpos rotundifolius</i>	0.16
Black cottonwood forest	<i>Populus trichocarpa</i>	<0.01
<b>Shrublands</b>		
Little sagebrush scrub	<i>Artemisia arbuscula</i> ssp. <i>arbuscula</i> and <i>Poa secunda</i>	15.40
Silver sagebrush scrub	<i>Artemisia cana</i> ssp. <i>bolanderi</i> , <i>Artemisia cana</i> ssp. ssp. <i>viscidula</i> , and <i>Poa secunda</i>	<0.01
Bitterbrush scrub	<i>Purshia tridentata</i> and <i>Artemisia arbuscula</i>	0.13
Bitterbrush scrub	<i>Purshia tridentata</i> , <i>Artemisia tridentata</i> , and <i>Tetradymia canescens</i>	0.12
Bitterbrush scrub	<i>Purshia tridentata</i> , <i>Artemisia tridentata</i> , and <i>Bromus tectorum</i>	0.22
Bitterbrush scrub	<i>Purshia tridentata</i> and <i>Artemisia tridentata</i>	23.30
Bitterbrush scrub	<i>Purshia tridentata</i> and <i>Prunus subcordata</i>	<0.01
Interior rose thickets	<i>Rosa woodsii</i>	0.64
Shining willow groves	<i>Salix lucida</i> , <i>Rosa woodsia</i> , and Mixed Herbs	0.13
Greasewood scrub	<i>Sarcobatus vermiculatus</i> and <i>Artemisia tridentata</i>	7.09
<b>Herbaceous Vegetation</b>		
Sheldon's sedge patch	<i>Carex sheldonii</i> , and <i>Elymus cinereus</i>	0.80
One spike oat grass meadows	<i>Danthonia unispicata</i> and <i>Poa secunda</i>	0.34
Ashy ryegrass meadows	<i>Elymus cinereus</i> and <i>Alopecurus geniculatus</i>	0.59
Ashy ryegrass meadows	<i>Elymus cinereus</i>	2.22
Blue bunch wheat grass meadows	<i>Pseudoroegneria spicata</i> and <i>Poa secunda</i>	0.22
Hardstem bulrush marshes	<i>Schoenoplectus acutus</i>	0.02
American bulrush marsh	<i>Schoenoplectus americanus</i>	<0.01
Needle-and-thread grassland	<i>Stipa comata</i>	0.20
Tansyleaf evening primrose patch	<i>Taraxia tanacetifolia</i> and <i>Iva axillaris</i>	0.03
<b>Total</b>		<b>52.77</b>



## **9 POST-CONSTRUCTION DOCUMENTATION**

When work at a location is completed, a qualified biologist or botanist will promptly document/update data collected in a Post-Construction Form that will reflect actual impact areas and conditions. The entire impact area will be surveyed. In impact areas with more than one vegetation type, each vegetation type will be sampled separately. The following data will be collected:

- General contours, as restored.
- Absolute cover of vegetation compared to bare ground.
- Dominant plant species (greater than or equal to 20 percent cover) and relative percent cover of each dominant species.
- Invasive and noxious weed species (California Invasive Plant Council [Cal-IPC]-rated moderate- or high-listed species; noxious weeds listed by California Department of Food and Agriculture [CDFA], California Code of Regulations [CCR] 4500, or United States Department of Agriculture [USDA] and United States Department of Interior [USDI]) listed in **Appendix C**, and relative percent cover, if present.
- Presence or absence of native species other than dominants.
- Reference photos of revegetated and restored sites, one in each cardinal direction, labeled by GPS.
- Reference photos of disturbed channels depicting upstream, downstream, and both banks, labeled by GPS.

The Post-Construction Forms will be submitted to CPUC and CALTRANS, as well as federal, state, and county land management agencies where applicable.

## **10 ANNUAL MONITORING, MAINTENANCE, AND REPORTING**

Post-construction monitoring and maintenance of impact areas will occur according to the annual monitoring protocol for three years after seeding or sooner if the relevant agencies concur that no further monitoring actions are necessary. If restoration sites do not meet annual performance standards, minor maintenance (e.g., hand pulling of weeds, additional seeding applications) may be performed after annual monitoring. Any control of invasive weeds beyond minor hand pulling will be performed in accordance with the Integrated Pest Management Plan (IPMP) of the site's jurisdiction. The following subsections describe the performance standards, protocols, and reporting procedures to be used for annual monitoring of impact areas.



## 10.1 Annual Monitoring Protocol

Monitoring surveys to assess vegetation conditions and progress toward performance standards will be conducted on an annual basis until performance standards are achieved, or sooner if agency botanists concur that no further monitoring or corrective actions are necessary. An Annual Monitoring Form capturing the same information on the Pre-Construction and Post-Construction forms will be completed. Annual monitoring at each impact area should occur once annually between April and June at most locations to capture the highest number of blooming species. Biologists will survey impact areas following the same protocol used for pre-construction vegetation surveys.

The subset of unimpacted areas that were surveyed pre-construction will continue to be monitored annually for comparison to restoration sites to determine whether broader regional changes are affecting restoration outcomes. Reference sites will be located far enough away from the construction corridor so as not to be influenced by construction disturbance (e.g., on the opposite side of State Route 395 in similar habitat).

**The subsections below summarize the annual and final performance standards that will be applied to vegetation, sensitive natural communities, and hydrologic channels. The performance standards for these resources are also summarized at the end of this section in Table 3. Vegetation performance standards annual and final performance standards (i.e., success criteria) for restoration of vegetated areas will be measured using two criteria: (1) total percent cover of desirable vegetation, and (2) total percent cover of invasive plants. Performance standards for both vegetation cover and invasive plants are set relative to baseline conditions established during pre-construction surveys. For example, if pre-construction percent cover of total vegetation in a work area was documented as 50 percent cover, the performance standard for restoration will be 80 percent of the original 50 percent ( $0.80 \times 0.50 = 0.40$ ), or 40 percent total vegetation cover.**

**Table 3. Summary of Annual and Final Performance Standards**

Resource	Annual Performance Standard	Final Performance Standard
Vegetation	Minimum 30 percent vegetation cover during Year 1 of monitoring. Minimum of 60 percent vegetation cover during Year 2 of monitoring.	Minimum 80 percent vegetation cover relative to baseline conditions, consisting of a native species composition consistent with pre-construction conditions.
Invasive Plants	No increase in percent cover of plants listed as high in Cal-IPC. No more than 5 percent increase in percent cover of invasive grasses listed as moderate in Cal-IPC. No increases in the percent cover of invasive forbs listed as moderate in Cal-IPC. Invasive plant species ranked as high or moderate that were not present in pre-construction surveys, or not listed in Appendix B, will not be present in revegetated areas.	Invasive plant cover in restored areas at the conclusion of monitoring period will be less than or equal to invasive plant cover of neighboring undisturbed areas. Percent increases is relative to baseline condition established at reference plots.
Sensitive Communities	Minimum 30 percent vegetation cover during Year 1 of monitoring.	Provide 1:1 replacement for sensitive natural communities relative to baseline conditions.



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Resource	Annual Performance Standard	Final Performance Standard
	Minimum of 60 percent vegetation cover during Year 2 of monitoring.	Percentages are relative to baseline condition established at reference plots.
Hydrologic Channels	Impacted watercourse inspections will be performed to check the following: The channel is functioning properly Restored channel bed/bank does not have any visible scour, head cuts, knickpoints, erosional rills or gullies, bank slumping, or sediment deposition	Match post-construction runoff to pre-construction runoff for the 85th percentile storm event.

### 10.1.1 PERCENT COVER AND VIGOR

Using the same metric defined above, a minimum of 30 percent vegetation cover will be expected during Year 1 of annual monitoring, and a minimum of 60 percent vegetation cover will be expected during Year 2 annual monitoring, relative to baseline conditions. Additionally, annual monitoring will estimate the health and vigor of seedlings by employing a visual/qualitative assessment. Plant growth and/or foliage volume will be evaluated at regular intervals following planting. Healthy seedling will display vertical growth and or accumulated biomass that will support healthy adult plants by Year 2 of monitoring. Monitors will evaluate seed germination success and annual growth/maturity and will note any conditions that have hindered plant health or vigor, such as drought or competition with invasive species.

In restored areas that are free of invasive plants, a minimum of 80 percent vegetation cover relative to baseline conditions, consisting of a native species composition consistent with the pre-construction vegetation conditions, is required to meet the final performance standard for revegetation.

Perennial vegetation must sufficiently cover bare soil to prevent soil erosion. If plants are not healthy and vigorous, or the 80 percent standard is not being met, or should evidence of erosion become noticeable, the Adaptive Management and Corrective Action section of this RRP will be implemented. The maintenance operator will develop corrective actions designed to reduce erosion, stabilize soils, and locations with inadequate revegetation cover may be reseeded and/or mulched.

### 10.1.2 INVASIVE PLANTS

Percent cover of invasive plants will be determined compared to baseline conditions. For example, if 10 percent of the total vegetation in a work area was occupied by invasive plants listed as moderate in the Cal-IPC, the performance standard for restoration will be less than 5 percent increase in invasive plants from the original 10 percent (i.e., invasive plants must account for less than 15 percent of total cover).

At the conclusion of the monitoring period, percent cover of plant listed as high in the Cal-IPC (**Appendix C**) in revegetated areas will be less than or equal to the invasive plant cover of neighboring, undisturbed areas. Revegetated areas will have no more than a 5 percent increase of percent cover of invasive grasses listed as moderate in Cal-IPC. Control of invasive plants in the revegetated areas will largely rely on native plant seeding and mulching controls, with hand-pulling where practicable. Invasive plants removed to achieve the success criterion thresholds will be bagged and disposed of offsite. Any additional chemical or mechanical controls will comply with the IPMP of the restoration site's jurisdiction.



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### **10.1.3 SENSITIVE NATURAL COMMUNITIES**

Success criteria for impacted sensitive natural communities will follow the performance standards for other vegetation communities, focusing on the affective native stratum only, and relative to documented pre-constriction conditions. This will provide a 1:1 replacement for sensitive natural communities relative to baseline conditions.

### **10.1.4 HYDROLOGIC CHANNELS**

The post-construction stormwater performance standard for channel restoration is based on the State Water Resources Control Board's fact sheet associated with the General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (SWRCB 2013). The General Permit fact sheet specifically addresses water quality and channel protection events. The performance standard aims to match post-construction runoff to pre-construction runoff for the 85th percentile storm event, which reduces the risk of impact to the receiving water's channel morphology and provides some protection of water quality.

## **11 STOCHASTIC EVENTS**

Zayo will not be responsible for meeting the success criteria at revegetation and restoration sites that are disturbed by stochastic events such as fire, landslides, droughts, floods, unseasonable extreme temperatures, etc., as well as actions of landowners and other agents. Disturbance of revegetation and restoration sites will be documented during annual monitoring. Because revegetation success is heavily contingent upon sufficient rainfall, the approving agencies may recommend that the performance standards or success criteria be modified or that the monitoring period be extended if rainfall conditions are unfavorable.

## **12 ANNUAL MONITORING REPORT**

Annual monitoring reports will be prepared and submitted to the required agencies as dictated by permit requirements. The reports will provide determinations of revegetation and restoration suitability for each impact areas, summarize revegetation and restoration for each applicable impact area, provide data on annual performance standards and success criteria, and detail any corrective actions necessary to close out sites. Information and data in each Annual Monitoring Report will include pre-construction, post-construction, and annual monitoring forms for each impact areas, initial seeding data, maintenance activities, additional surveying and monitoring data, and status of revegetated/restored sites.

Once the final success criteria have been achieved for a given impact area, annual monitoring will not be further conducted in that area and data collection at that area will not be included in subsequent annual monitoring reports after revegetation/restoration is listed as complete and the site is closed out.



## **13 ADAPTIVE MANAGEMENT AND CORRECTIVE ACTION**

In the event of significant changes to the Project, this RRP will be revised as necessary. The development and implementation of additional protection measures or corrective actions may be required. If fires, droughts, floods, extreme heat, or other stochastic events/unanticipated circumstances impact revegetation and restoration efforts, the impacted site will revegetate in parallel with the damage sustained by the surrounding vegetation community.

Adaptive management will use monitoring data on a site-specific basis to assess whether revegetation/restoration activities are on track to meet performance criteria. If revegetated areas do not meet the annual performance standards, Zayo will attempt to expediently ascertain and address the source of the problem. Sites not meeting the performance standards, and corrective actions taken, will be documented in the Annual Monitoring Report. Additional seeding, removal of invasive plant species, and additional application of weed-control measures may be implemented as corrective actions. Implementation of supplemental actions will be based on the general revegetation recruitment trend, site-specific conditions, and climatic factors. Consideration of supplemental actions will be based on the causal factors contributing to mortality, slow growth, or poor recruitment, as best can be determined.

The Annual Monitoring Report will include failures to meet the year's performance standard benchmarks summarized in **Table 3**, likely causal factors of the shortfalls, and prescribed corrective actions.



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## **Appendix A SPECIAL-STATUS PLANT SPECIES LOCATIONS**

Maps removed.

Refer to Project Webmap, which will include previously discovered special-status plant locations and any new/expanded locations identified in pre-construction surveys,

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**Appendix B BASELINE SPECIES FOR REVEGETATION SEED MIXES**

<b>SPECIES</b>	<b>GERMINATION RATE</b>	<b>LBS PURE LIVE SEED/ACRE</b>
<i>Asclepias fascicularis</i> Narrow Leaf Milkweed	50	5
<i>Elymus glaucus</i> Blue Wildrye	60	11
<i>Elymus triticoides</i> Creeping Wildrye	80	10
<i>Festuca idahoensis</i> Idaho Fescue	60	8
<i>Festuca microstachys</i> Three Weeks Fescue	70	10
<i>Muhlenbergia rigens</i> Deer Grass	60	2
<i>Stipa pulchra</i> Purple Needle Grass	70	10

Source: Logan Moore  
Landscape Associate  
Caltrans - North Region  
1657 Riverside Ave MS 87  
Redding, CA 96003  
(530) 759-3477

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## Appendix C Invasive and Noxious Weed Species

MODOC PLATEAU	
SPECIES	COMMON NAME
<b>CAL-IPC RATING: HIGH</b>	
<i>Aegilops triuncialis</i>	barb goatgrass
<i>Arundo donax</i>	giant reed
<i>Eichhornia crassipes</i>	water hyacinth
<i>Genista monspessulana</i>	French broom
<i>Hedera helix</i> and <i>H. canariensis</i>	English ivy, Algerian ivy
<i>Ludwigia hexapetala</i> and <i>L. peploides</i>	Uruguay and creeping water-primrose
<i>Myriophyllum aquaticum</i>	parrotfeather
<i>Cortaderia selloana</i>	pampasgrass
<i>Bromus madritensis</i> ssp. <i>rubens</i>	red brome
<i>Bromus tectorum</i>	downy brome, cheatgrass
<i>Centaurea stoebe</i> ssp. <i>micranthos</i> (= <i>Centaurea maculosa</i> )	spotted knapweed
<i>Centaurea solstitialis</i>	yellow starthistle
<i>Cytisus scoparius</i>	Scotch broom
<i>Euphorbia virgata</i> (= <i>Euphorbia esula</i> )	leafy spurge
<i>Lepidium latifolium</i>	perennial pepperweed
<i>Lythrum salicaria</i>	purple loosestrife
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil
<i>Onopordum acanthium</i>	Scotch thistle
<i>Rubus armeniacus</i> (= <i>Rubus discolor</i> )	Himalayan blackberry
<i>Spartium junceum</i>	Spanish broom
<i>Elymus caput-medusae</i> (= <i>Taeniatherum caput-medusae</i> )	medusahead
<i>Tamarix parviflora</i>	smallflower tamarisk
<i>Tamarix ramosissima</i>	saltcedar, tamarisk
<b>CAL-IPC RATING: MODERATE</b>	
<i>Anthoxanthum odoratum</i>	sweet vernalgrass
<i>Brachypodium distachyon</i>	annual false-brome, false-brome
<i>Carthamus lanatus</i>	woolly distaff thistle
<i>Centaurea jacea</i> notho ssp. <i>pratensis</i> (= <i>Centaurea debeauxii</i> )	meadow knapweed
<i>Centaurea melitensis</i>	Malta starthistle, tocalote
<i>Cynosurus echinatus</i>	hedghegog dogtailgrass



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MODOC PLATEAU	
SPECIES	COMMON NAME
<i>Dittrichia graveolens</i>	stinkwort
<i>Ficus carica</i>	edible fig
<i>Foeniculum vulgare</i>	fennel
<i>Glyceria declinata</i>	waxy mannagrass
<i>Holcus lanatus</i>	common velvet grass
<i>Ilex aquifolium</i>	English holly
<i>Linaria vulgaris</i>	yellow toadflax, butter and eggs
<i>Mentha pulegium</i>	pennyroyal
<i>Phalaris aquatica</i>	hardinggrass
<i>Tanacetum vulgare</i>	common tansy
<i>Torilis arvensis</i>	hedgearsley
<i>Vinca major</i>	big periwinkle
<i>Elaeagnus angustifolia</i>	Russian olive
<i>Acroptilon repens</i>	Russian knapweed
<i>Ailanthus altissima</i>	tree-of-heaven
<i>Avena barbata</i> and <i>A. fatua</i>	(slender) wild oat
<i>Brassica nigra</i>	black mustard
<i>Bromus diandrus</i>	rippgut brome
<i>Lepidium chalepense</i> (= <i>Cardaria chalepensis</i> and <i>C. draba</i> )	Lepidium chalepensis and L. draba
<i>Carduus nutans</i>	musk thistle
<i>Centaurea calcitrapa</i>	purple starthistle
<i>Centaurea diffusa</i>	diffuse knapweed
<i>Centaurea virgata</i> ssp. <i>squarrosa</i>	squarrose knapweed
<i>Chondrilla juncea</i>	rush skeletonweed
<i>Cirsium arvense</i>	Canada thistle
<i>Cirsium vulgare</i>	bull thistle
<i>Conium maculatum</i>	poison-hemlock
<i>Cynodon dactylon</i>	bermudagrass
<i>Cynoglossum officinale</i>	houndstongue
<i>Dipsacus fullonum</i> and <i>D. sativus</i>	common and Fuller's teasel
<i>Festuca arundinacea</i>	tall fescue
<i>Geranium dissectum</i>	cutleaf geranium
<i>Halogeton glomeratus</i>	halogeton
<i>Hirschfeldia incana</i>	shortpod mustard, summer mustard
<i>Hordeum marinum</i>	Mediterranean barley



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<b>MODOC PLATEAU</b>	
<b>SPECIES</b>	<b>COMMON NAME</b>
<i>Hordeum murinum</i>	hare barley
<i>Hypericum perforatum</i>	common St. John's wort, klamathweed
<i>Hypochaeris radicata</i>	rough catsear, hairy dandelion
<i>Isatis tinctoria</i>	dyer's woad
<i>Kochia scoparia</i>	kochia
<i>Leucanthemum vulgare</i>	ox-eye daisy
<i>Linaria dalmatica</i> ssp. <i>dalmatica</i> (= <i>Linaria genistifolia</i> ssp. <i>dalmatica</i> )	Dalmatian toadflax
<i>Festuca perennis</i> (= <i>Lolium multiflorum</i> )	Italian ryegrass
<i>Potamogeton crispus</i>	curlyleaf pondweed
<i>Rumex acetosella</i>	red sorrel, sheep sorrel
<i>Festuca myuros</i> (= <i>Vulpia myuros</i> )	rattail fescue

<b>NORTHWEST BASIN AND RANGE</b>	
<b>SPECIES</b>	<b>COMMON NAME</b>
<b>CAL-IPC RATING: HIGH</b>	
<i>Aegilops triuncialis</i>	barb goatgrass
<i>Eichhornia crassipes</i>	water hyacinth
<i>Genista monspessulana</i>	French broom
<i>Hedera helix</i> and <i>H. canariensis</i>	English ivy, Algerian ivy
<i>Limnobium spongia</i>	South American spongeplant
<i>Ludwigia hexapetala</i> and <i>L. peploides</i>	Uruguay and creeping water-primrose
<i>Lythrum salicaria</i>	purple loosestrife
<i>Myriophyllum aquaticum</i>	parrotfeather
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil
<i>Rubus armeniacus</i> (= <i>Rubus discolor</i> )	Himalayan blackberry
<i>Tamarix parviflora</i>	smallflower tamarisk
<i>Cortaderia selloana</i>	pampasgrass
<i>Euphorbia virgata</i> (= <i>Euphorbia esula</i> )	leafy spurge
<i>Myriophyllum spicatum</i>	Eurasian watermilfoil
<i>Tamarix parviflora</i>	smallflower tamarisk
<i>Tamarix ramosissima</i>	saltcedar, tamarisk
<i>Bromus madritensis</i> ssp. <i>rubens</i>	red brome
<i>Bromus tectorum</i>	downy brome, cheatgrass
<i>Centaurea stoebe</i> ssp. <i>micranthos</i> (= <i>Centaurea maculosa</i> )	spotted knapweed



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<b>NORTHWEST BASIN AND RANGE</b>	
<b>SPECIES</b>	<b>COMMON NAME</b>
<i>Centaurea solstitialis</i>	yellow starthistle
<i>Cytisus scoparius</i>	Scotch broom
<i>Lepidium latifolium</i>	perennial pepperweed
<i>Onopordum acanthium</i>	Scotch thistle
<i>Spartium junceum</i>	Spanish broom
<i>Elymus caput-medusae</i> (= <i>Taeniatherum caput-medusae</i> )	medusahead
<b>CAL-IPC RATING: MODERATE</b>	
<i>Bassia hyssopifolia</i>	fivehook bassia
<i>Brassica rapa</i>	birdsrape mustard, field mustard
<i>Briza maxima</i>	big quakinggrass, rattlesnakegrass
<i>Crupina vulgaris</i>	common crupina, bearded creeper
<i>Digitalis purpurea</i>	foxglove
<i>Hypochaeris glabra</i>	smooth catsear
<i>Lythrum hyssopifolium</i>	hyssop loosestrife
<i>Medicago polymorpha</i>	California burclover
<i>Myosotis latifolia</i>	common forget-me-not
<i>Pyracantha angustifolia, crenulata, seratus, etc.</i>	pyracantha, firethorn
<i>Ranunculus repens</i>	creeping buttercup
<i>Raphanus sativus</i>	radish
<i>Silybum marianum</i>	blessed milkthistle
<i>Sinapis arvensis</i>	wild mustard, charlock
<i>Trifolium hirtum</i>	rose clover
<i>Briza maxima</i>	big quakinggrass, rattlesnakegrass
<i>Hypochaeris glabra</i>	smooth catsear
<i>Agrostis stolonifera</i>	creeping bentgrass
<i>Bromus hordeaceus</i>	soft brome
<i>Bromus japonicus</i>	Japanese brome, Japanese chess
<i>Lepidium appelianum</i> (= <i>Cardaria pubescens</i> )	hairy whitetop
<i>Dactylis glomerata</i>	orchardgrass
<i>Descurainia sophia</i>	flixweed, tansy mustard
<i>Erodium cicutarium</i>	redstem filaree
<i>Marrubium vulgare</i>	white horehound
<i>Plantago lanceolata</i>	buckhorn plantain, English plantain
<i>Poa pratensis</i>	Kentucky bluegrass
<i>Polypogon monspeliensis</i>	rabbitfoot polypogon



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NORTHWEST BASIN AND RANGE	
SPECIES	COMMON NAME
<i>Robinia pseudoacacia</i>	black locust
<i>Rumex crispus</i>	curly dock
<i>Salsola paulsenii</i>	barbwire Russian thistle
<i>Salsola tragus</i>	Russian thistle
<i>Salvia aethiopsis</i>	Mediterranean sage
<i>Saponaria officinalis</i>	bouncingbet
<i>Tribulus terrestris</i>	puncture vine
<i>Verbascum thapsus</i>	common mullein, woolly mullein
<i>Anthoxanthum odoratum</i>	sweet vernalgrass
<i>Avena barbata</i> and <i>A. fatua</i>	(slender) wild oat
<i>Brassica nigra</i>	black mustard
<i>Centaurea calcitrapa</i>	purple starthistle
<i>Centaurea virgata</i> ssp. <i>squarrosa</i>	squarrose knapweed
<i>Cynodon dactylon</i>	bermudagrass
<i>Cynoglossum officinale</i>	houndstongue
<i>Cynosurus echinatus</i>	hedgehog dogtailgrass
<i>Dittrichia graveolens</i>	stinkwort
<i>Elaeagnus angustifolia</i>	Russian olive
<i>Foeniculum vulgare</i>	fennel
<i>Geranium dissectum</i>	cutleaf geranium
<i>Glyceria declinata</i>	waxy mannagrass
<i>Hirschfeldia incana</i>	shortpod mustard, summer mustard
<i>Holcus lanatus</i>	common velvet grass
<i>Hypochaeris radicata</i>	rough catsear, hairy dandelion
<i>Linaria vulgaris</i>	yellow toadflax, butter and eggs
<i>Phalaris aquatica</i>	hardinggrass
<i>Fallopia japonica</i> (= <i>Polygonum cuspidatum</i> )	Japanese knotweed
<i>Potamogeton crispus</i>	curlyleaf pondweed
<i>Tanacetum vulgare</i>	common tansy
<i>Torilis arvensis</i>	hedgearsley
<i>Vinca major</i>	big periwinkle
<i>Acroptilon repens</i>	Russian knapweed
<i>Ailanthus altissima</i>	tree-of-heaven
<i>Bromus diandrus</i>	ripgut brome
<i>Lepidium chalepense</i> (= <i>Cardaria chalepensis</i> and <i>C. draba</i> )	lens-podded whitetop



**RESTORATION AND REVEGETATION PLAN**

Zayo Prineville to Reno Fiber Optic Line for Modoc, Lassen, and Sierra Counties

<b>NORTHWEST BASIN AND RANGE</b>	
<b>SPECIES</b>	<b>COMMON NAME</b>
<i>Carduus nutans</i>	musk thistle
<i>Centaurea diffusa</i>	diffuse knapweed
<i>Chondrilla juncea</i>	rush skeletonweed
<i>Cirsium arvense</i>	Canada thistle
<i>Cirsium vulgare</i>	bull thistle
<i>Conium maculatum</i>	poison-hemlock
<i>Dipsacus fullonum</i> and <i>D. sativus</i>	common and Fuller's teasel
<i>Festuca arundinacea</i>	tall fescue
<i>Halogeton glomeratus</i>	halogeton
<i>Hordeum marinum</i>	Mediterranean barley
<i>Hordeum murinum</i>	hare barley
<i>Hypericum perforatum</i>	common St. John's wort, Klamathweed
<i>Isatis tinctoria</i>	dyer's woad
<i>Kochia scoparia</i>	kochia
<i>Leucanthemum vulgare</i>	ox-eye daisy
<i>Linaria dalmatica</i> ssp. <i>dalmatica</i> (= <i>Linaria genistifolia</i> ssp. <i>dalmatica</i> )	Dalmatian toadflax
<i>Festuca perennis</i> (= <i>Lolium multiflorum</i> )	Italian ryegrass
<i>Rumex acetosella</i>	red sorrel, sheep sorrel
<i>Festuca myuros</i> (= <i>Vulpia myuros</i> )	rattail fescue

