Technical Memorandum

Making Conservation a California Way of Life

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Subject: **MARIN STATE ROUTE 1 DRAINAGE RESTORATION PROJECT**

1 INTRODUCTION

This Section 4(f) Evaluation document has been prepared in tandem with the Marin State Route 1 (SR 1) Drainage Restoration Project (Project) Draft Initial Study – Mitigated Negative Declaration. This technical memorandum provides the documentation to support determinations required to comply with the provisions of 23 United States Code (U.S.C.) 138 and 49 U.S.C. 303, hereafter referred to as Section 4(f). This evaluation has been prepared in accordance with the legislation established under the United States Department of Transportation Act of 1966 (23 U.S.C. 138; 49 U.S.C. 303). Additional guidance was obtained from Federal Highway Administration (FHWA) Technical Advisory T6640.8A (FHWA 1987) and the revised FHWA Section 4(f) Policy Paper (FHWA 2012).

1.1 SECTION 4(F) OVERVIEW

Section 4(f), codified in federal law in 49 U.S.C. 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites." Section 4(f) protected resources include publicly owned parks; recreational areas of national, state or local significance; publicly owned school playgrounds, wildlife, or waterfowl refuges; or lands from a historic site of national, state, or local significance.

Section 4(f) specifies that the Secretary of Transportation may approve a transportation program or project requiring the use of publicly owned park land, recreation area, or wildlife and waterfowl refuge of national, state, or local

significance, or land of a historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if the following are true:

- There is no prudent and feasible alternative to using that land.
- The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

If historic sites are involved, then coordination with the State Historic Preservation Officer (SHPO) is also needed.

1.2 SECTION 4(F) USE DEFINITIONS

When a proposed project is adjacent to or on a property protected under Section 4(f), the impacts of the proposed project must be evaluated. Section 4(f) defines the impact level by types of "use." These uses occur when any of the conditions discussed in the following sections are met.

Permanent/Direct Use

A permanent use of a Section 4(f) resource occurs when property is permanently incorporated into a transportation facility. Permanent use may occur as a result of partial or full acquisition or a permanent easement that allows permanent access onto the property for maintenance or other transportation related purposes.

Constructive Use

A constructive use of a Section 4(f) resource occurs when a transportation project does not permanently incorporate land from the resource, but the project's proximity results in impacts so severe that the protected activities, features, or attributes that qualify the property for protection under Section 4(f) are substantially impaired. Substantial impairment occurs only if the protected activities, features, or attributes of the resource are substantially diminished.

Temporary Occupancy

A temporary use of a Section 4(f) resource results when Section 4(f) property is required for project construction-related activities, the property is not permanently incorporated into a transportation facility, and the activity is not considered adverse by the agency with jurisdiction in terms of the preservation purpose of Section 4(f).

Temporary impacts to a Section 4(f) property may trigger the application of Section 4(f). 23 *Code of Federal Regulations* (CFR) 774.13(d) defines the following five temporary occupation exception criteria that must be met to determine that a temporary occupancy does not rise to the level of permanent/direct or constructive use for the purposes of Section 4(f):

- The duration is temporary (that is, the occupancy is shorter than the time needed for construction of the project and there is no change in ownership of the property).
- The scope of work is minor (that is, the nature and magnitude of the changes to the Section 4(f) properties are minimal).
- There are no anticipated permanent adverse physical impacts or permanent interference with the protected activities, features, or attributes of the property.
- The property is restored to the same or better condition that existed prior to the project.
- There is documented agreement from the appropriate federal, state, or local officials having jurisdiction over the property regarding the previously listed conditions.

<u>*De minimis* Impact Determinations</u>

When impacts to a Section 4(f) property are minor, as agreed to by the agency with jurisdiction over that property, Section 4(f) regulations can be satisfied through a *de minimis* determination.

De minimis impact is defined in 23 CFR 774.17 as follows:

- For parks, recreational areas, and wildlife and waterfowl refuges, a *de minimis* impact is one that would not adversely affect the activities, features, or attributes qualifying the property for protection under Section 4(f).
- For historical sites, *de minimis* impact means that Caltrans has determined that, in accordance with 36 CFR 800, no historical property is affected by the project or the project would have no adverse effect on the property in question. The SHPO and Advisory Council on Historic Preservation, if involved, must be notified that Caltrans intends to enter a *de minimis* finding for properties where the project results in a finding of no adverse effect.
- The officials with jurisdiction must concur in writing with a *de minimis* determination. For recreational or refuge properties, concurrence from the officials having jurisdiction over the properties is required. For historical sites, concurrence from the SHPO is required.

2 PROJECT DESCRIPTION

The Marin State Route 1 Drainage Restoration Project proposes to restore and upgrade existing drainage on SR 1 in Marin County. Caltrans proposes to restore 51 existing drainage systems and perform maintenance work on 5 additional drainage systems along 32 miles of SR 1, from the community of Stinson Beach to the nearby community of Tomales, in Marin County, extending from Post Mile [PM] 13.05 to PM 45.10 (Figure 1).

2.1 PURPOSE AND NEED

The purpose of the Project is to restore and upgrade drainage systems within the Project area. The Project is needed because Caltrans field investigations identified drainage deficiencies within the Project area at various culverts. Identified culverts have lost serviceability due to age or deterioration and need cleaning or improvements to regain their full capacity. If the Project is not constructed, existing pavement within the Project area may begin to deteriorate due to the lack of adequate drainage, which could lead to failure of the highway.

2.2 EXISTING FACILITIES

SR 1 within the Project limits serves as a critical connection for the small and relatively isolated communities along its route. Like the rest of this coastal highway, SR 1 in Marin County is known for its scenic views and natural features and passes through or near a variety of federal and State of California (State) parklands and recreational areas frequented by tourists. For most of the route in Marin County, SR 1 is a two-lane rural conventional highway.

SR 1 in the Project vicinity provides access to several state parks, county public parks, national parks, fishing areas, a preserve, and an ecological resource area. The highway is part of the Pacific Coast Bicycle Route and either runs parallel to or is part of the California Coastal Trail. There is limited, but daily, bus service on SR 1. The Annual Average Daily Traffic in the vicinity of the Project limits is 5,200 vehicles (as of 2017).

Within the Project area, SR 1 is a two-lane undivided highway bordered by rural residential and agricultural land uses. Travel lanes are approximately 12 feet wide, with narrow shoulders ranging from less than 1 foot in width to approximately 3 feet, and no designated pedestrian or bicycle facilities.

2.3 DRAINAGE RESTORATION COMPONENTS

Table 2-1 presents the scope of the Project's drainage work at each culvert location, existing and proposed culvert types, headwalls, flared-end sections, and drainage inlet and/or rock slope protection work as applicable. The majority of the proposed improvement strategies at each site would require culvert replacements, although a small number of locations would require culvert restoration only.

At Locations 40 and 41, the existing culverts would be abandoned and backfilled. Ditches on the inlet side of the culverts would be regraded and water diverted to Location 40A, where there is an existing culvert that would be replaced with a larger size. Figure 2 identifies work that would occur at each of the proposed drainage system locations.

Table 2-1. SR 1 Proposed Drainage Systems

Location	PM	Existing Culvert	Proposed Restoration Strategy	Additional Drainage Features	Approximate Excavation Depth (feet)
1	13.05	Portion 18-inch CMP and portion 18-inch RCP	Replace with 18-inch PP	Install drainage inlet Install flared-end section	7
2	13.15	12-inch CMP	Replace with 18-inch APC	Install flared-end section Remove and replace headwall	4
3	13.20	12-inch VCP	Replace with 18-inch CSP	Install flared-end section Remove headwall Install drainage inlet	5
4	13.27	12-inch VCP	Replace with 18-inch CSP	Install flared-end section Remove headwall Install drainage inlet	4
5	13.79	18-inch CMP	Replace with 18-inch APC	Install flared-end section	5
6	13.82	18-inch CMP	Replace with 18-inch PP	Install flared-end section Install drainage inlet	6
7	13.91	24-inch RCP	Replace with 24-inch PP	Install flared-end section Install drainage inlet	6
8	14.67	12-inch CSP	Replace with 18-inch APC	Reset RSP	5
9	14.72	12-inch RCP	Replace with 18-inch PP	Install flared-end section Install drainage inlet	5
10	14.77	12-inch CSP	Replace with 18-inch PP	Install flared-end section Install drainage inlet	5
11	14.86	10-foot by 4-foot RCB	Clean Only	None	0

Location	PM	Existing Culvert	Proposed Restoration Strategy	Additional Drainage Features	Approximate Excavation Depth (feet)
12	15.05	18-inch CMP	Replace with 18-inch PP	Install flared-end section Install headwall	5
13	15.32	18-inch CSP	Replace with 18-inch PP	Install flared-end section Install drainage inlet	4
14	15.84	18-inch RCP	Replace with 18-inch APC	Install flared-end section Remove and replace drainage inlet	6
15	15.88	12-inch CSP	Replace with 18-inch APC	Install flared-end section Remove and replace drainage inlet	5
16	15.97	83-inch by 53-inch oval RCP	Clean Only	None	0
17	16.06	49-inch by 33-inch CMPA	Replace with 36-inch APC	Install flared-end section Install headwall	7
18	16.12	18-inch CMP	Replace with 18-inch PP	Install flared-end section Install headwall	4
19	16.15	21-inch by 15-inch CMPA	Replace with 18-inch PP	Install flared-end section Install headwall	4
20	16.19	21-inch by 15-inch CMPA	Replace with 18-inch APC	Remove headwall Install drainage inlet Reset RSP	4
21	16.61	18-inch RCP	Replace with 18-inch APC	Install flared-end section Remove and replace drainage inlet	5

Location	PM	Existing Culvert	Proposed Restoration Strategy	Additional Drainage Features	Approximate Excavation Depth (feet)
22	16.67	18-inch RCP	Replace with 18-inch APC	Install flared-end section Remove and replace drainage inlet	4
23	17.81	24-inch RCP	Replace with 24-inch APC	Install flared-end section	44
24	18.94	18-inch RCP	Replace with 18-inch APC	Install flared-end section Remove and replace RSP	7
25	19.12	12-inch CMP	Replace with 18-inch APC	Install flared-end section	5
26	20.19	18-inch CMP	Replace with 18-inch APC	Install flared-end section Remove and replace headwall	5
27	20.48	18-inch CMP	Replace with 18-inch APC	Install flared-end section Remove and replace headwall	4
28	23.40	18-inch CMP	Replace with 18-inch APC	Install flared-end section Remove and replace headwall	8
29	27.64	18-inch CMP	Replace with 18-inch PP	Install flared-end section	4
30	27.92	8-foot by 2-foot, 8-inch RCB	Clean Only	None	0
31	27.94	24-inch CMP	Clean Only	None	0
32	28.35	12-inch CMP and 17-inch by 13-inch CMPA	Replace with Two 18-inch PP	Install flared-end sections Remove and replace headwalls	4
33	29.85	Tomasini Canyon Bridge	Clean Only	None	0

Location	PM	Existing Culvert	Proposed Restoration Strategy	Additional Drainage Features	Approximate Excavation Depth (feet)
34	35.42	18-inch CMP	Replace with 18-inch APC	Install flared-end sections	7
35	36.31	18-inch CMP	Replace with 18-inch APC	Install flared-end sections	5
36	36.45	18-inch CMP	Replace with 18-inch APC	Install flared-end sections Reset RSP	6
37	36.64	18-inch CMP	Replace with 18-inch APC	Remove and replace headwall	4
38	37.65	30-inch CMP	Replace with 30-inch APC	Install flared-end sections Reset RSP	9
39	37.99	18-inch CMP	Replace with 18-inch APC	Install flared-end section Remove and replace drainage Inlet Reset RSP	7
40	38.20	12-inch CMP	Abandon culvert and divert to Location 40A	None	0
40A	38.28	18-inch CSP	Replace with 30-inch APC	Remove and replace headwall	5
41	38.27	18-inch CSP	Abandon culvert and divert to Location 40A	None	0
42	38.37	18-inch CMP	Replace with 18-inch PP	Install flared-end section Install headwall	6
43	39.30	8-foot by 4-foot RCB	Clean Only	None	0
44	42.84	18-inch CMP	Replace portion with 18-inch APC	Install flared-end section	7
45	43.42	18-inch RCP	Replace with 18-inch APC	Install flared-end sections	4
46	44.01	18-inch PP	Clean Only	None	0

Location	PM	Existing Culvert	Proposed Restoration Strategy	Additional Drainage Features	Approximate Excavation Depth (feet)
47	44.85	12-inch CMP	Replace with 18-inch PP	Install flared-end section Install headwall	4
48	44.92	18-inch CMP	Replace with 18-inch APC	Install flared-end sections	5
49	45.05	12-inch CMP	Replace with 18-inch PP	Install flared-end section Install drainage inlet	4
50	45.10	18-inch CMP	Replace with 18-inch PP	Install flared-end section Install drainage inlet	4

Notes:

APC = arched pipe culvert

CMP = corrugated metal pipe

CMPA = corrugated metal pipe arch

CSP = corrugated steel pipe

PP = polypropylene pipe

RCB = reinforced concrete box

RCP = reinforced concrete pipe

VCP = vitrified clay pipe

2.4 MAINTENANCE CULVERTS

The Project proposes to clean sediment out of five culvert inlets, outlets and roadside ditches along SR 1 at PMs 14.31, 14.86, 15.97, 16.09, and 16.47. The maintenance culvert site at PM 14.86 includes Location 11, and the maintenance culvert at PM 15.97 includes Location 16. Clean-out work at these sites would include sediment and vegetation removal from inlet and outlet areas and roadside ditches. Table 2-2 includes the approximate amount of sediment that would be removed at each maintenance culvert site (Figure 2). Sediment would be temporarily stored near Winnebago Point prior to disposal at an approved location (such as a landfill). Work at the maintenance culverts would occur within Caltrans right of way (ROW).

Table 2-2. Maintenance Culverts

Culvert	Inlet sediment Removal (cubic yards)	Outlet Sediment Removal (cubic yards)	Roadside Ditch Sediment Removal (cubic yards)	Total Cubic Yards of Sediment Removal
Maintenance Culvert PM 14.31	15	15	120	150
Maintenance Culvert PM 14.86 (Location 11)	40	40	15	95
Maintenance Culvert PM 15.97 (Location 16)	15	15	120	150
Maintenance Culvert PM 16.09	15	15	0	30
Maintenance Culvert PM 16.47	35	35	3.5	73.5

Incidental work includes the following:

- Removal and construction of headwalls, flared end sections, and drainage inlets
- Resetting and installation of rock slope protection
- Construction of concrete gutters and aprons
- Re-grading of ditches/swales adjacent to the culvert

The Project would maintain all existing highway nonstandard features, such as shoulder width, cross slope, sight distance, and super-elevation, because improvements of nonstandard design features are not within the Project's

scope. The proposed design features for the Project would be consistent with the Marin State Route 1 Repair Guidelines (Caltrans 2015).

3 DESCRIPTION OF SECTION 4(F) RESOURCES

As part of this Section 4(f) evaluation, a 0.5-mile radius was developed around the Project activity locations to determine if any Section 4(f) resources are located within the Project vicinity and if the proposed Project would use these properties. Seven 4(f) resources are located within the following 0.5-mile radii: Bolinas Lagoon, Golden Gate National Recreation Area (GGNRA), Olema Valley Dairy Ranches Historic District, J. Shields & Sons Livery Stable (historic building), Point Reyes National Seashore, Tomales Bay Open Space District, and Keys Creek Fishing Area (Figure 3).

The Project would require use of approximately 15 permanent drainage easements (PDEs) for a total of approximately 0.11 acre (4,700 square feet), as well as 49 temporary construction easements (TCEs) for a total of approximately 0.58 acre (25,190 square feet). PDEs and TCEs would be needed to conduct construction-related activities and maintain Project components outside the Caltrans ROW.

Table 3-1 lists the Project locations where construction activities require PDEs and TCEs within 0.5 mile of a park or historic resource, and whether the work location would use the applicable Section 4(f) properties (Figure 2).

Table 3-1. Section 4(f) Resources Located within 0.5-mile Radius of the Proposed Project and Preliminary Section 4(f) Impact Determination

Location	Section 4(f) Resource and Agency with Jurisdiction	Post Mile (PM)	Type of Resource	Nature of Proposed Construction Activities	TCE/PDE Dimension of Use and Square Footage	Anticipated Section 4(f) Impact
1	Bolinas Lagoon - Marin County Parks	13.05 (SB)	Public park and preserve	Replace culvert with 18-inch PP	TCE 10 X 20 200 square feet	*De minimis*
3	Bolinas Lagoon – Marin County Parks	13.2 (SB)	Public park and preserve	Replace culvert with 18-inch CSP	TCE 25 X 20 500 square feet	*De minimis*
6	GGNRA – NPS	13.82 (SB)	National recreation area	Replace culvert with 18-inch PP	TCE 20 X 20 400 square feet	*De minimis*
7	GGNRA – NPS	13.91 (SB/NB)	National recreation area	Replace culvert with 24-inch PP	TCE 30 X 44 33 X 30 2,310 square feet PDE 20 X 20 400 square feet	TCE: *De minimis* PDE: *De minimis*
8	GGNRA – NPS	14.67 (SB)	National recreation area	Replace culvert with 18-inch APC	TCE 20 X 10 200 square feet	*De minimis*
10	GGNRA – NPS	14.77 (SB)	National recreation area	Replace culvert with 18-inch PP	TCE 10 X 20 200 square feet	*De Minimis*
14	Bolinas Lagoon – Marin County Parks	15.9 (SB)	Public park and preserve	Replace culvert with 18-inch APC	TCE 10 X 20 200 square feet PDE 10 X 20 200 square feet	TCE: *De Minimis* PDE: *De minimis*

Location	Section 4(f) Resource and Agency with Jurisdiction	Post Mile (PM)	Type of Resource	Nature of Proposed Construction Activities	TCE/PDE Dimension of Use and Square Footage	Anticipated Section 4(f) Impact
15	Bolinas Lagoon – Marin County Parks	15.88 (SB)	Public park and preserve	Replace culvert with 18-inch APC	TCE 10 X 20 200 square feet PDE 10 X 20 200 square feet	TCE: *De Minimis* PDE: *De minimis*
17	Bolinas Lagoon – Marin County Parks	16.06 (SB/NB)	Public park and preserve	Replace culvert with 36-inch APC	TCE 30 X 40 37 X 30 2,310 square feet	*De Minimis*
23	GGNRA and Olema Valley Dairy Ranches Historic District – NPS and SHPO	17.81 (SB/NB)	National recreation area and Historic District	Replace culvert with 24-inch APC	TCE 30 X 40 34 X 30 2,220 square feet	*De Minimis*
24	GGNRA and Olema Valley Dairy Ranches Historic District – NPS and SHPO	18.94 (NB)	National recreation area and Historic District	Replace culvert with 18-inch APC	TCE 20 X 13 260 square feet PDE 20 X 13 260 square feet	TCE: *De Minimis* PDE: *De minimis*

Location	Section 4(f) Resource and Agency with Jurisdiction	Post Mile (PM)	Type of Resource	Nature of Proposed Construction Activities	TCE/PDE Dimension of Use and Square Footage	Anticipated Section 4(f) Impact
26	GGNRA, Point Reyes National Seashore and Olema Valley Dairy Ranches Historic District – NPS and SHPO	20.19 (SB/NB)	National recreation area and Historic District	Replace culvert with 18-inch APC	TCE 20 X 25 20 X 10 700 square feet PDE 20 X 25 20 X 10 700 square feet	TCE: *De Minimis* PDE: *De minimis*
28	GGNRA and Olema Valley Dairy Ranches Historic District – NPS and SHPO	23.4 (NB)	National recreation area and Historic District	Replace culvert with 18-inch APC	TCE 22 X 20 25 X 10 690 square feet PDE 22 X 20 40 square feet	TCE: *De Minimis* PDE: *De minimis*
29	GGNRA and Olema Valley Dairy Ranches Historic District – NPS and SHPO	27.64 (NB)	National recreation area and Historic District	Replace culvert with 18-inch PP	TCE 20 X 18 360 square feet	*De Minimis*
30	GGNRA, Point Reyes National Seashore and Olema Valley Dairy Ranches Historic District – NPS and SHPO	27.92 (SB/NB)	National Recreation Area and Historic District	Clean culvert only	TCE 95 X 10 103 X 10 1,980 square feet	*De Minimis*

Location	Section 4(f) Resource and Agency with Jurisdiction	Post Mile (PM)	Type of Resource	Nature of Proposed Construction Activities	TCE/PDE Dimension of Use and Square Footage	Anticipated Section 4(f) Impact
31	GGNRA, Point Reyes National Seashore and Olema Valley Dairy Ranches Historic District – NPS and SHPO	27.94 (SB/NB)	National recreation area and Historic District	Clean culvert only	TCE 41 X 10 87 X 10 1,280	*De Minimis*
32	Point Reyes National Seashore - NPS	28.35 (SB/SB)	National recreation area	Replace culverts with two 18-inch PPs	TCE 24 X 20 480 square feet	*De Minimis*
36	GGNRA - NPS	36.5 (SB)	National recreation area	Replace culvert with 18-inch APC	TCE 20 X 25 20 X 10 500 square feet	*De Minimis*
40	J. Shields & Sons Livery Stable - SHPO	38.20 (SB)	Historic resource	Abandon culvert	TCE 589 square feet	*De minimis*
43	Tomales Bay State Park – California Department of Parks and Recreation	39.3 (SB)	State park	Clean culvert only	TCE 135 X 10 1,350 S.F	*No Impact*
45	Keys Creek Fishing Area – California Department of Fish and Wildlife	43.42 (SB)	Public park and fishing area	Replace culvert with 18-inch APC	TCE 20 X 20 400 square feet PDE 20 X 20 400 square feet	TCE: *No Impact* PDE: *No Impact*

Notes:
NB = northbound
NPS = National Park Service
SB = southbound

3.1 PARK/RECREATION RESOURCES

3.1.1 Bolinas Lagoon Preserve – Marin County Open Space District/Parks

Bolinas Lagoon Preserve is an Audubon Important Bird Area, a State and National Treasure, and one of only seven Ramsar Wetlands of International Importance in the western United States. The Preserve, managed by Marin County Parks and within the Marin County Open Space District jurisdiction, provides recreation opportunities through trails, wildlife watching, fishing, and kayaking (MCP 2021).

3.1.2 Golden Gate National Recreation Area – National Park Service

GGNRA is a public park managed by the NPS in Marin, San Francisco, and San Mateo counties. GGNRA spreads across 80,000 acres, featuring 37 distinct park sites, more than 130 miles of trails, and 1,200 historic structures (NPS 2023b).

3.1.3 Point Reyes National Seashore – National Park Service

Point Reyes National Seashore is a public park managed by the NPS. The park offers a rich cultural history, with Coastal Miwok settlements dating back 5,000 years, public beaches, camping, coastal trails nestled within redwood forests, and thriving biological diversity on the protected Point Reyes Peninsula (NPS 2023a). Tule elk breeding displays and the picturesque Point Reyes Lighthouse remain popular park features.

3.1.4 Tomales Bay State Park – California Department of Parks and Recreation

Tomales Bay State Park is a day-use park with multiple gently sloping, surf-free beaches; the beaches are protected from winds by Inverness Ridge, the backbone of the Point Reyes Peninsula (California Department of Parks and Recreation 2023). Picnicking, swimming, clamming and boating are popular activities in the park. Tomales Bay State Park includes the following three distinct use areas:

- Located in Inverness, Heart's Desire is the heart of Tomales Bay State Park, with the Ranger Station, beach, picnic area and hiking trails to other beaches.
- Shell Beach is at the end of Camino Del Mar in Inverness, offering two small beaches with access to the Johnstone trail which connects to Heart's Desire.
- Millerton Point, north of Point Reyes Station, features Alan Sieroty Beach along with a loop trail.

3.1.5 Keys Creek Fishing Area – California Department of Fish and Wildlife

Keys Creek Fishing Area is a small public park operated by the California Department of Fish and Wildlife (CDFW), located on SR 1 south of the Town of Tomales. The park has short trails, giving the public access to Walker Creek for steelhead and salmon fishing (CDFW n.d.).

3.2 HISTORIC RESOURCES

3.2.1 J. Shields & Sons Livery Stable - SHPO

The J. Shields & Sons Livery Stables was constructed circa 1902 as a part of the early development of the town of Marshall and as the sole known livery stable. The building was constructed adjacent to the North Shore Hotel/Marshall Hotel (also run by the Shields family) and the J. Shields & Sons General Store. The building was erected at a distinct time in the Tomales Bay regional transportation history. The livery stable operated as an intermediary to the railroad (Marshall Depot constructed in 1875-1876) and the arrival of the automobile and highway by the 1920s and 30s. The livery stables and general store also contributed to the agricultural trends taking place in the wider Tomales Bay area at the turn of the century. Ultimately, these agricultural trends fueled the development and growth of the region, which today remains a highly regarded regional and statewide hub for dairy, shellfish, and other agricultural products. Thus, the J. Shields & Sons Livery Stables property appears significant on a local level under National Register of Historic Places (NRHP) Criterion A and California Register of Historical Resources (CRHR) Criterion 1. The resource boundary is limited to the footprint of the building (Caltrans 2023).

3.2.2 Olema Valley Dairy Ranches Historic District – SHPO

The Olema Valley Dairy Ranches Historic District was listed on the NRHP on April 9, 2018, and is located in a portion of West Marin County's grassy rolling hills and coastal scrub, where cows have grazed since the 1850s, along with ranches and dairy farms. The 14,127-acre Olema Valley Dairy Ranches Historic District, located in the Point Reyes National Seashore and GGNRA and administered by the NPS, lies between Bolinas and Point Reyes Station. The Olema Valley Dairy Ranches includes 19 properties operated by tenants or families beginning in 1856. The ranching history in the Olema Valley runs deep; by the 1870s, these ranches catapulted Marin County to the forefront of California's butter and cheese production. The Olema Valley Dairy Ranches Historic District reflects more than a century of change and modernization in the dairy industry, including the evolution from original, wood-frame, milking barns to concrete, Grade A, sanitary barns of the 1940s (NPS 2018).

4 IMPACTS ON SECTION 4(F) PARKS AND HISTORIC RESOURCES

4.1 PARK/RECREATION RESOURCES

4.1.1 Bolinas Lagoon Preserve

Impact: The proposed Project would require two TCEs at Locations 1 and 3 for the replacement of culverts (Table 3-1 and Figure 2). These TCEs are located on open space areas, where no public use of the preserve exists. In addition, two PDEs would be required at Locations 14 and 15. No visibility of these areas is available from recreational portions (like hiking trails) of the Bolinas Lagoon Preserve. Therefore, no recreational amenities are located in the impacted area and there would be no reduction in recreational uses.

Project construction activities would not impact the Bolinas Lagoon Preserve. Vehicle and pedestrian access to the park and surrounding trails and preserve would still be available during construction.

Preliminary Use Determination: *De minimis*. Although portions of the Preserve would be required for two TCEs on this protected resource, which constitutes a temporary use under Section 4(f), and be required for one PDE from this resource, which is a permanent/direct use under Section 4(f), the conclusion of this evaluation is a preliminary determination of *de minimis* impact for the proposed Project. The attributes and features of Bolinas Lagoon Preserve, such as picnicking and recreation, that qualify it for Section 4(f) protection would not be adversely impacted.

4.1.2 Golden Gate National Recreation Area

Impact: The proposed Project would require 11 TCEs at Locations 7, 8, 10, 23, 24, 25, 28, 29, 30, 32, and 36 for the replacement of culverts (Table 3-1 and Figure 2). These TCEs are located on open space areas where no public use of GGNRA exists. In addition, two PDEs would be required at Locations 6 and 7. No visibility of these areas are available from recreational portions (like hiking trails) of GGNRA. Therefore, no recreational amenities are in the impacted area and there would be no reduction in recreational uses.

Project construction activities would not impact GGNRA. Vehicle and pedestrian access to the park and surrounding recreation and trails would still be available during construction.

Preliminary Use Determination: *De minimis*. Although GGNRA property would be temporarily required for one TCE from this resource, which is a constructive use under Section 4(f), and be required for a PDE from this resource, which is a

permanent/direct use under Section 4(f), the evaluation concludes with a preliminary determination of *de minimis* impact for the proposed Project at these 12 locations. The attributes and featured uses of GGNRA, such as hiking, wildlife viewing, and picnicking, that qualify it for protection under Section 4(f) would not be adversely impacted.

4.1.3 Point Reyes National Seashore

Impact: The proposed Project would require four TCEs at Locations 26, 30, 31, and 32 for the replacement of culverts (Table 3-1 and Figure 2). These TCEs are located on open space areas, where no public use of the park exists. No visibility of this area is available from recreational portions (like hiking trails) of the Point Reyes National Seashore. Therefore, no recreational amenities are located in the impacted area and there would be no reduction in recreational uses.

Project construction activities would not impact Point Reyes National Seashore. Vehicle and pedestrian access to the park and surrounding recreation and trails would still be available during construction.

Preliminary Use Determination: *De minimis*. Although Point Reyes National Seashore property would be temporarily required for TCEs from this resource, which is a constructive use under Section 4(f), the evaluation concludes with a preliminary determination of *de minimis* impact for the proposed Project at these locations. The attributes and features of Point Reyes National Seashore, such as hiking, wildlife viewing, and picnicking, that qualify Point Reyes National Seashore for protection under Section 4(f) would not be adversely impacted; the Project would not affect park accessibility, impact visual resources, cause substantial noise, or impact recreational functions or activities of the Point Reyes National Seashore.

4.1.4 Tomales Bay State Park

Impact: Project construction activities would not impact Tomales Bay State Park. Vehicle and pedestrian access to the park, its beaches and surrounding recreation and trails would still be available during construction.

Preliminary Use Determination: *No Impact*. The attributes and features of Tomales State Park, such as picnicking, beach access, and recreation, that qualify it for Section 4(f) protection would have no impact.

4.1.5 Keys Creek Fishing Area

Impact: The Project's construction activities at PM 43.42 would not require any use of CDFW land and would not impact Keys Creek Fishing Area access. Public access to the park would still be available during construction.

Preliminary Use Determination: *No Impact*. The conclusion of this evaluation is a preliminary determination of no impact to Keys Creek Fishing Area from the proposed Project. The attributes and features of Keys Creek Fishing Area, such as fishing and recreation, that qualify it for Section 4(f) protection, would not be adversely impacted.

4.2 HISTORIC RESOURCES

4.2.1 J. Shields & Sons Livery Stable

Impact: The Project construction activities at PM 38.20 include abandonment of the culvert that runs underneath the property. Project work includes accessing the culvert underneath the building to seal the culvert and would not physically change the attributes or features of the historic property (defined as the building itself). No physical changes to the property would occur.

Preliminary Use Determination: *De minimis.* The attributes and features of the J. Shields & Sons Livery Stable that qualify it for Section 4(f) protection would not be physically altered by the project and therefore there is no adverse impact and a *de minimis* determination is appropriate.

4.2.2 Olema Valley Dairy Ranches Historic District

Impact: Project construction activities from PM 17.81 to 27.94 (Locations 23, 24, 26, 28, 29, 30, and 31) would temporarily impact the Olema Valley Dairy Ranches Historic District. Ground disturbance from construction activities would require TCEs totaling 6,290 square feet across the seven culvert locations. In addition, four PDEs would be required at Locations 24, 26 (two PDEs at this location), and 28. Vehicle and pedestrian access to the park and surrounding neighborhood would still be available during construction.

Preliminary Use Determination: *De minimis*. Although portions of the NPS property would be required for multiple TCEs on this protected resource, which constitutes a temporary use under Section 4(f), and be required for a PDE from this resource, the conclusion of this evaluation is a preliminary determination of *de minimis* impact for the proposed Project. The attributes and features of the Olema Valley Dairy Ranches Historic District, such as historic buildings and land use, that qualify it for Section 4(f) protection would not be adversely impacted.

4.3 CONCLUSION

In conclusion, implementation of the proposed Project includes small encroachments onto portions of park lands, preserves and historic properties protected under Section 4(f), which constitute a use of the property. This use of Section 4(f) property would not result in any impacts to recreational attributes or historic features of these Section 4(f) resources. The proposed Project would preserve the structural integrity of SR 1 within the Project corridor. In addition, the proposed Project would help maintain safe, uninterrupted access and connectivity for the public's continued use of the public parks and Section 4(f) resources evaluated in this document.

5 MEASURES TO MINIMIZE HARM TO SECTION 4(F) RESOURCES

Advanced planning was conducted and appropriate measures have been incorporated into the proposed Project to minimize impacts to the Section 4(f) resources discussed in this document. The replacement of culverts on SR 1 in this coastal section of West Marin was designed to avoid any adverse impacts to the recreational facilities and parks in the Project vicinity.

The following Project features (PFs) and avoidance and minimization measures (AMMs) have been incorporated into the proposed Project (Table 5-1).

Table 5-1. Project Features and Avoidance and Minimization Measures

Resource Area	Project PF and AMM Reference	Project Feature and Avoidance and/or Minimization Measure
Aesthetics	**AMM-AES-1**	**Minimize Vegetation Impacts:** Minimize impacts to vegetation to the greatest extent possible. Vegetation to remain would be protected from construction-related activities by temporary fencing when vegetation is close to construction work or staging areas.
Aesthetics	**AMM-AES-2**	**Selection of Staging Areas:** Ensure that the establishment of staging areas would not require the removal of any nonnative vegetation except weeds or cause the compaction of any tree roots.
Aesthetics	**AMM-AES-3**	**Temporary Fencing:** Use temporary fencing to protect the roots and canopies of nearby trees.
Aesthetics	**AMM-AES-4**	**Tree Pruning:** Where the pruning of trees is required to accommodate construction operations, pruning must be under the supervision of a licensed arborist.

Resource Area	Project PF and AMM Reference	Project Feature and Avoidance and/or Minimization Measure
Aesthetics	**AMM-AES-5**	**Construction Material Storage:** Construction materials and equipment would be stored in a staging area beyond direct view of the motoring public and residential properties to the greatest extent feasible.
Aesthetics	**AMM-AES-6**	**Minimizing Lighting Impacts:** For any night work, limit construction lighting to the Project footprint and use directional lighting and shielding to minimize light trespass to areas outside the Project footprint.
Aesthetics	**AMM-AES-7**	**Reseeding Disturbed Areas:** Apply erosion control seeding and similar measures to all areas of disturbance where they are beyond paved areas.
Aesthetics	**AMM-AES-8**	**Selection of Materials:** In conjunction with the Office of Landscape Architecture, select materials and Project components appropriate for the visual character of the location and to maintain corridor consistency.
Air Quality	**PF-AQ-1**	**Dust Control Measures:** Implement dust control measures to minimize airborne dust and soil particles generated from construction-related activities, including watering or applying dust palliative to disturbed areas, preventing and promptly removing trackouts on SR 1 affected by construction traffic, and covering soils or materials or providing adequate freeboard (space from the top of the material to the top of the truck) during transport.
Air Quality	**PF-AQ-2**	**Construction Vehicles and Equipment:** Maintain and tune the construction vehicles and equipment in accordance with manufacturer's specifications.
Air Quality	**PF-AQ-3**	**Limit Idling:** Limit idling times either by shutting construction-related equipment off when not in use or reducing the maximum idling time to 5 minutes.
Energy	**PF-ENERGY-1**	**Recycle Waste and Materials:** Recycle nonhazardous waste and excess construction materials offsite to reduce disposal, if feasible.
Noise	**AMM-NOISE-1**	**Nighttime Construction.** Construction noise levels are not to exceed 86 dBA L_{max} at 50 feet from the Project footprint from 9 p.m. to 6 a.m. per 2018 Caltrans Standard Specifications, Section 14-8.02.

Resource Area	Project PF and AMM Reference	Project Feature and Avoidance and/or Minimization Measure
Noise	**AMM-NOISE-2**	**Construction Noise Levels:** The following measures would be implemented to reduce noise levels during construction where feasible. The Contract Specifications would include a Special Provision requiring Noise Monitoring and Noise Control Measures. Measures would include a temporary noise barrier and other methods, as follows: • Provide public outreach or a communication plan for residents, businesses, and others to get accurate project information. • Locate staging and storage areas away from residential areas. • Consider reducing impact of detours. • Use quieter alternative construction-related equipment. • Prevent idling of construction-related equipment near sensitive receptors. • Equip an internal combustion engine with the manufacturer-recommended muffler. Do not operate an internal combustion engine within the Project footprint without the appropriate muffler. • If feasible, use solar or electricity as a power source instead of diesel generators.
Transportation	**PF-TRANS-1**	**Traffic Management Plan:** A TMP would be prepared prior to the beginning of construction and in consultation with the appropriate agencies to avoid or minimize potential impacts to transportation. The TMP would identify traffic delays and alternate detour routes for emergency and medical vehicles associated with essential public services during full closure of SR 1 or one-way alternating traffic control and would provide notifications and instructions for rapid response or evacuation in the event of an emergency. The TMP would aid in coordinating and providing further safety measures for those accessing SR 1 within the Project limits during construction and would provide priority to emergency vehicles during traffic control.

6 COORDINATION

Caltrans will continue to coordinate with the agencies of jurisdiction, Marin County Parks and NPS, regarding the preliminary *de minimis* findings made in this document, as well as all advanced Project designs with respect to the affected

parks in Marin County. Prior to finalizing the *de minimis* impact finding made in this document, Caltrans will prepare a public notice and provide the public an opportunity to review and comment on the preliminary *de minimis* impact finding during a 30-day public review period.

Possible methods of public involvement include, but are not limited to, newspaper advertisements, notices posted on bulletin boards, and project websites.

The Draft Initial Study with Proposed Mitigated Negative Declaration will be circulated to the public for 30 days beginning on July 20, 2023, and ending on August 20, 2023. In addition, the Draft environmental document will be electronically accessible on the Caltrans website:https://dot.ca.gov/caltrans-near-me/district-4/d4-popular-links/d4-environmental-docs.

Caltrans District 4, Office of Cultural Resource Studies technical studies were conducted by Caltrans Professionally Qualified Staff and carried out in a manner consistent with Caltrans responsibilities under the January 2014 *First Amended Programmatic Agreement Among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal Aid Highway Program in California*.

SHPO's response to the eligibility determination and concurrence for the J. Shields & Sons Livery Stable historic resource was received by Caltrans on July 11, 2023.

7 LIST OF TECHNICAL STUDIES AND REFERENCES

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NAME
Title
Area

Date

APPROVED Signatures vary by subject and delegation.

NAME
Title
Area

Date

Location 48
PM 44.92

Location 47
PM 44.85

Location 50
PM 45.10

Location 49
PM 45.05

Location 45
PM 43.42

Location 46
PM 44.01

Location 44
PM 42.84

Location 41
PM 38.27

Location 43
PM 39.30

Location 39
PM 37.99

Location 42
PM 38.37

Location 38
PM 37.65

Location 40
PM 38.20

Location 35
PM 36.31

Location 37
PM 36.64

Location 34
PM 35.42

Location 36
PM 36.45

Location 33
PM 29.85

Location 32
PM 28.35

Location 31
PM 27.94

Location 30
PM 27.92

Location 29
PM 27.64

Location 28
PM 23.40

Location 24
PM 18.94

Location 23
PM 17.81

Location 18
PM 16.12

Location 17
PM 16.06

Location 15
PM 15.88

Location 13
PM 15.32

Location 12
PM 15.05

Location 11
PM 14.86

Location 10
PM 14.77

Location 9
PM 14.72

Location 7
PM 13.91

Location 6
PM 13.82

Location 5
PM 13.79

Location 1
PM 13.05

Location 4
PM 13.27

Location 3
PM 13.20

Location 2
PM 13.15

Location 27
PM 20.48

Location 26
PM 20.19

Location 25
PM 19.12

Location 22
PM 16.67

Location 21
PM 16.61

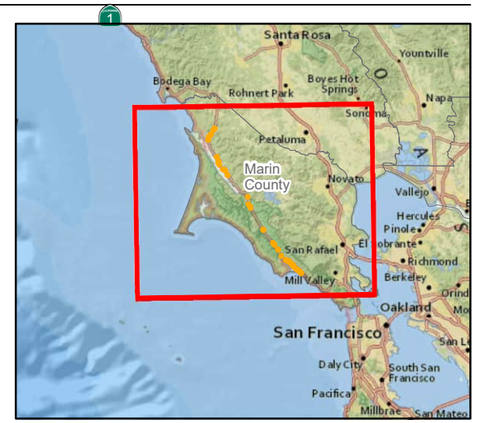
Location 20
PM 16.19

Location 19
PM 16.15

Location 16
PM 15.97

Location 14
PM 15.84

Location 8
PM 14.67



LEGEND

Project Footprint (3.45 acres)

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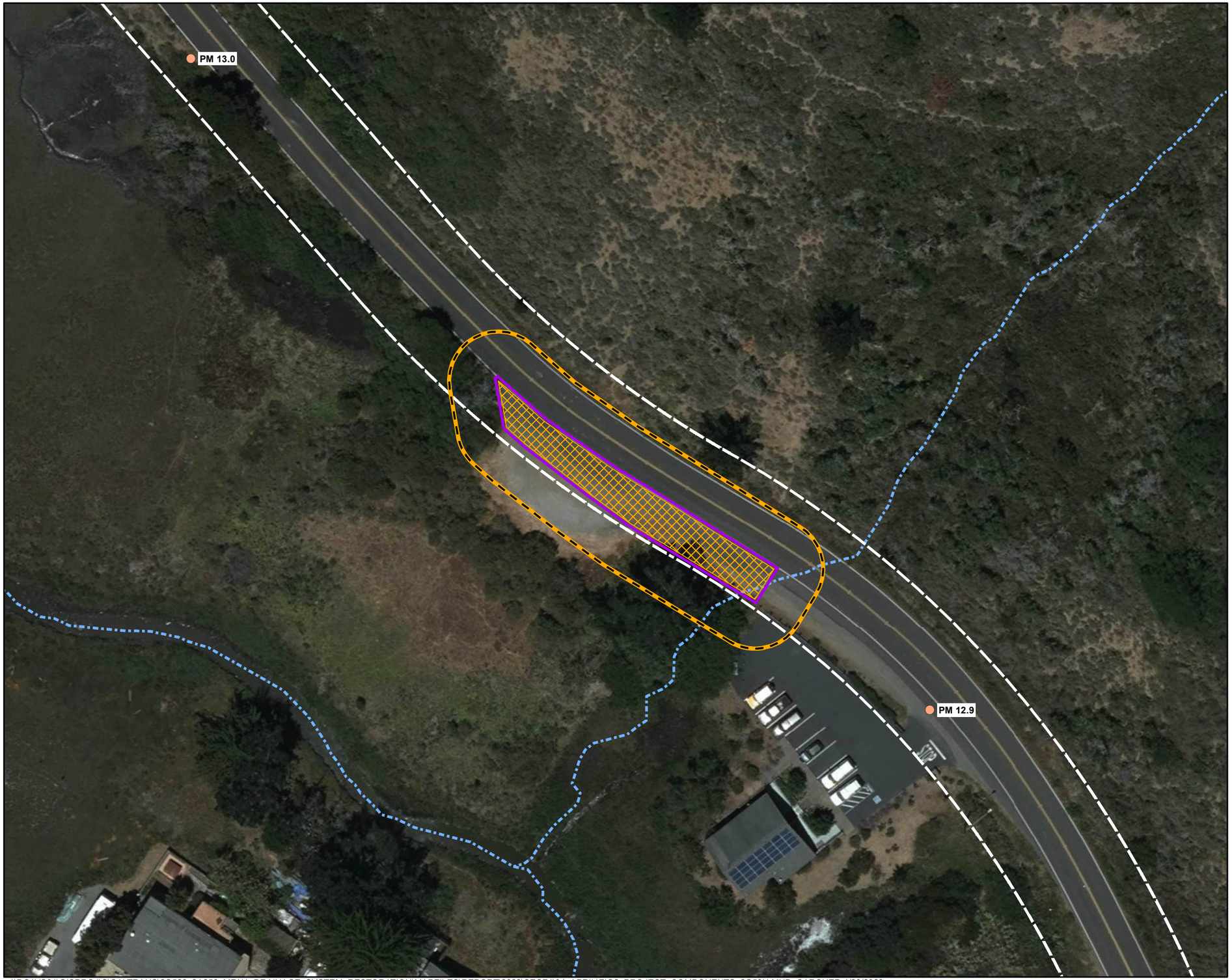
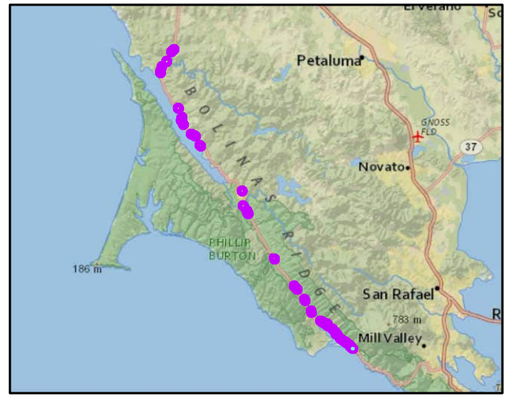
Miles

Caltrans

Figure 1
Regional Vicinity
Marin 1 Drainage System Restoration Project
EA 04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California





LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

N

0 50 100
Feet

Caltrans

Figure 2
Map 01 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

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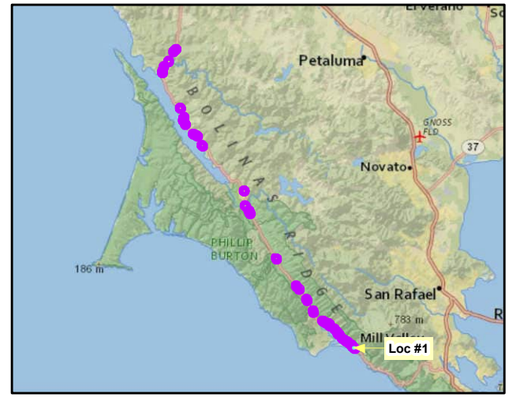
PM 13.1

Location 1
PM 13.05

CW-13.05
(34 lf)

PM 13.0



LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culverted Waters
- Temporary Construction Easement (Total = 0.548 acre)

Source:
1. Imagery: ESRI, Maxar March 2021

N

0 50 100
Feet

Figure 2
Map 02 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

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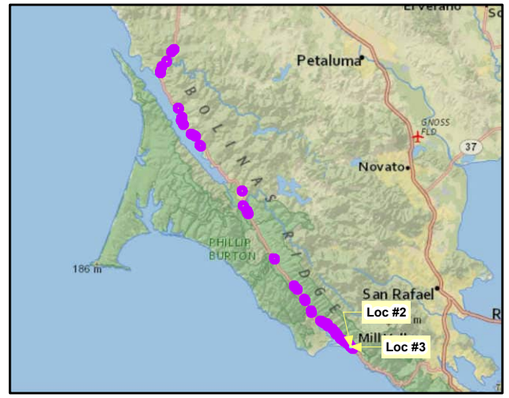

LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culvert
- Culverted Waters
- Temporary Construction Easement (Total = 0.548 acre)
- Culvert Expansion

Source:
1. Imagery: ESRI, Maxar March 2021

N

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Feet

Figure 2
Map 03 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

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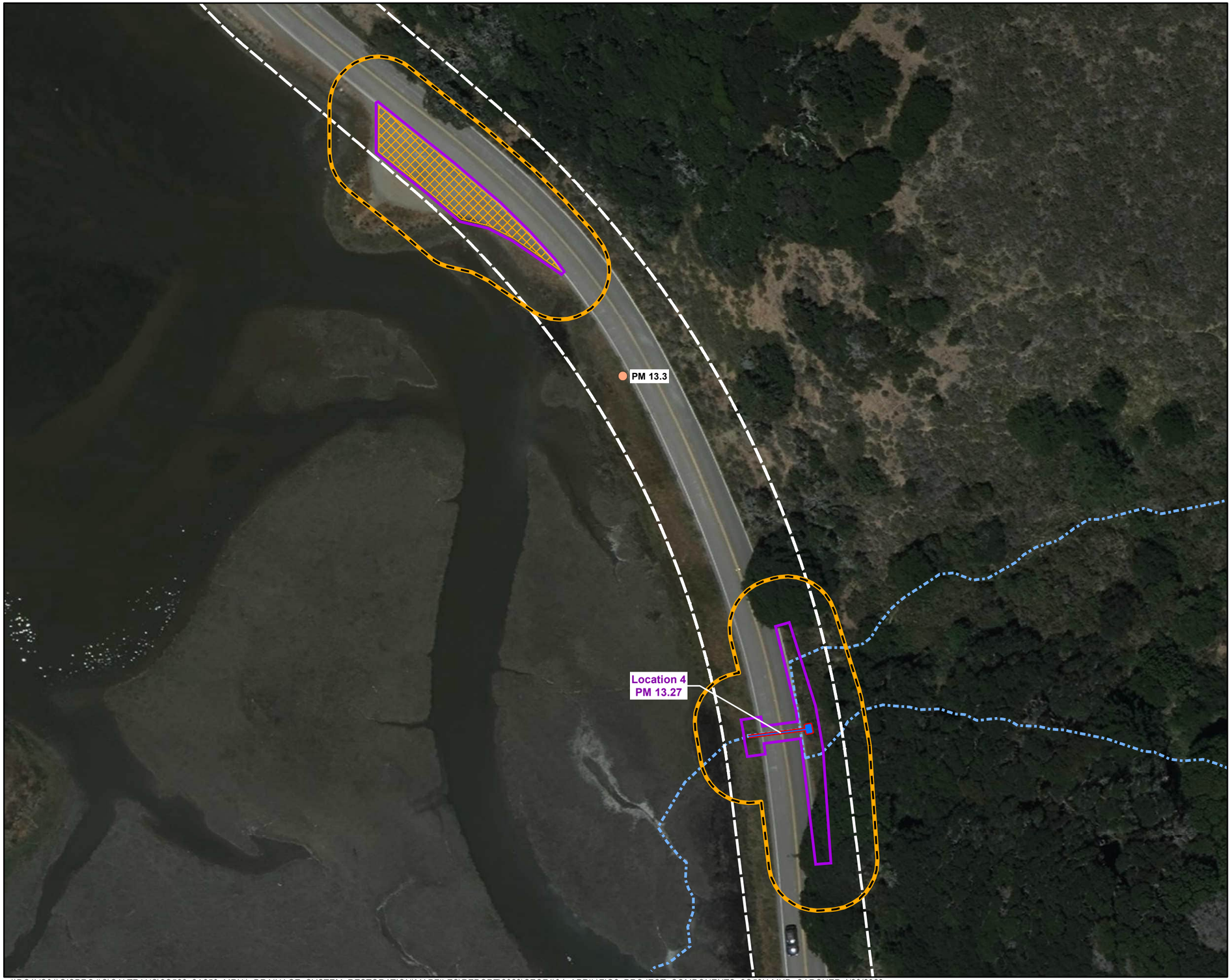

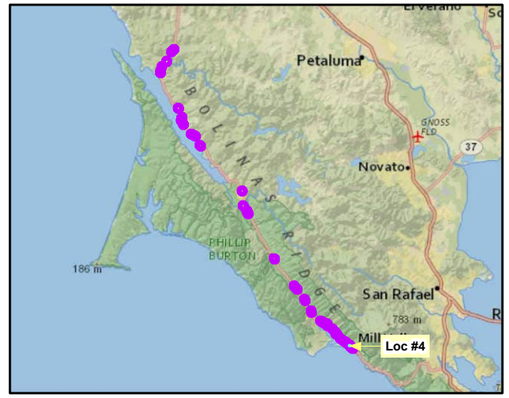

LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culvert
- Staging Area
- Culvert Expansion

Source:
1. Imagery: ESRI, Maxar March 2021

N

0 50 100
Feet

Figure 2
Map 04 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

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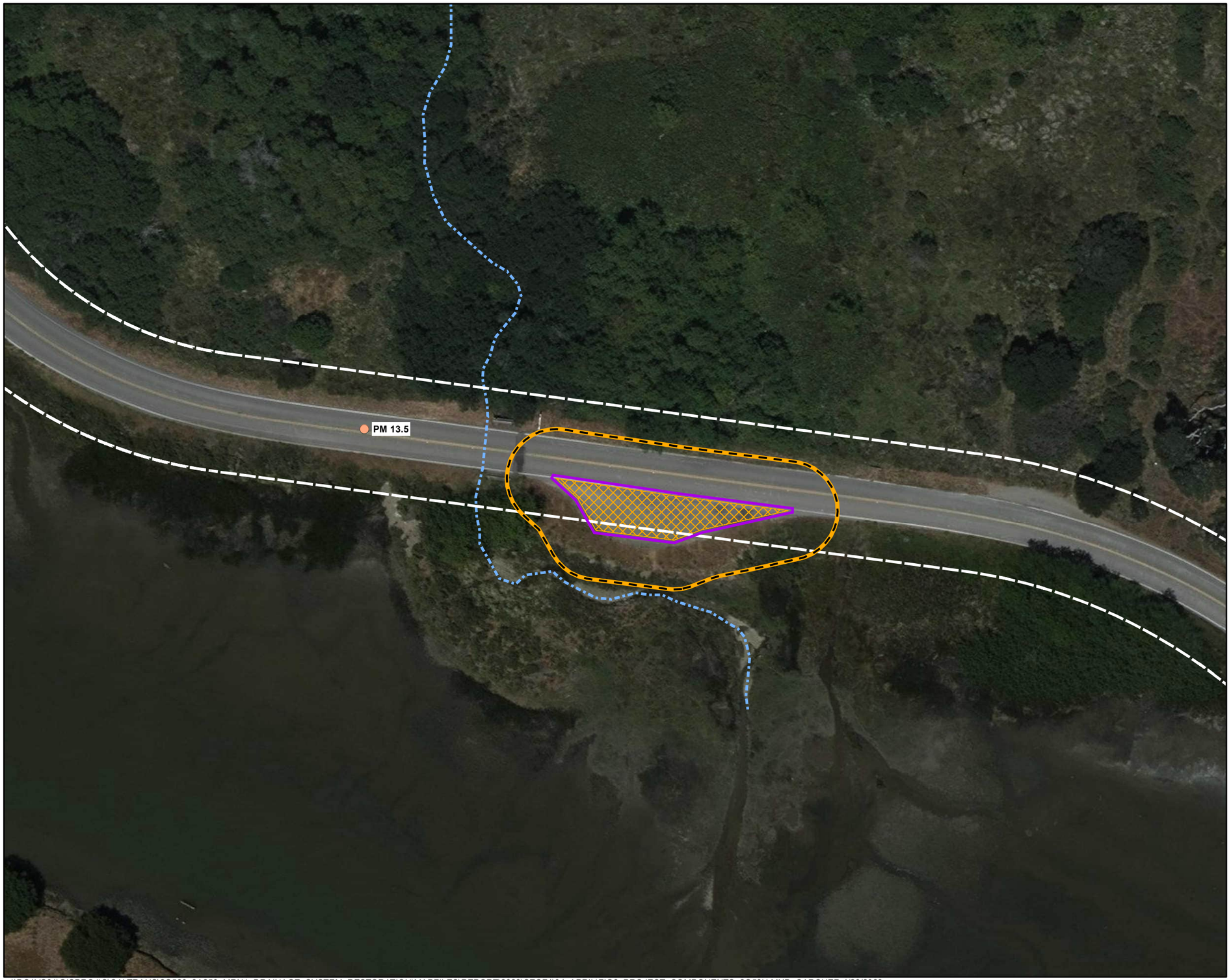

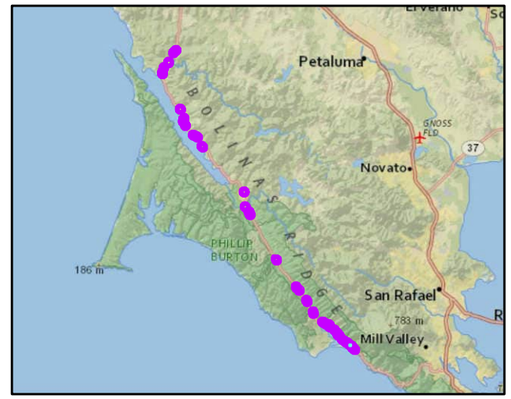

LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

N

0 50 100
Feet

Figure 2
Map 05 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

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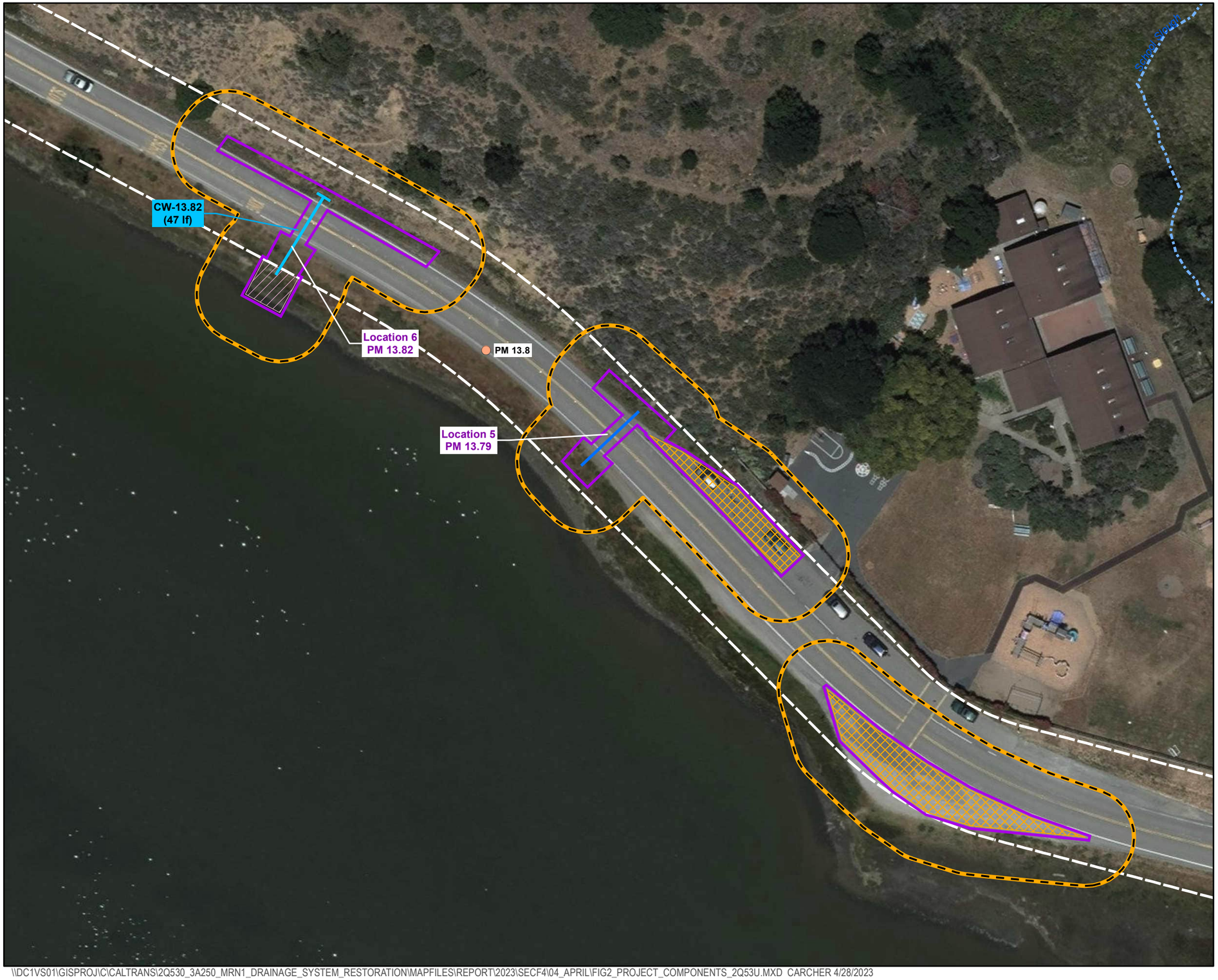

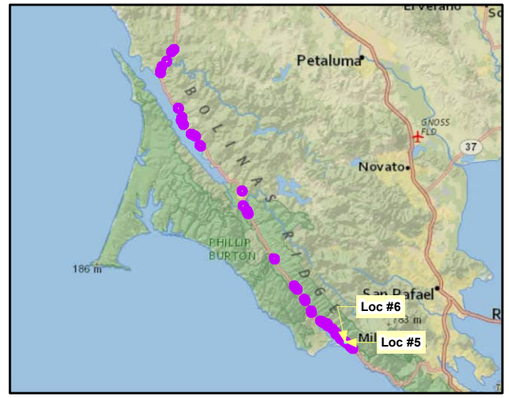

LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culvert
- Culverted Waters
- Temporary Construction Easement and Drainage Easement (Total = 0.068 acre)
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

N

0 50 100
Feet

Figure 2
Map 06 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

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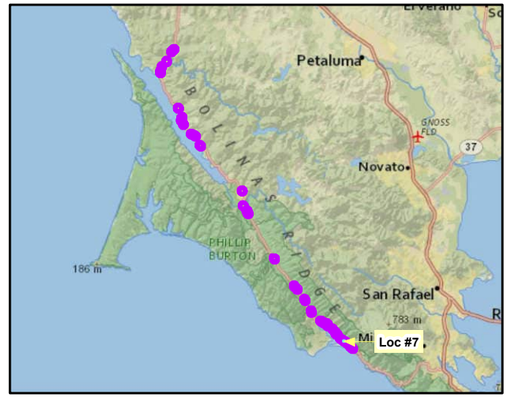

LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culverted Waters
- Drainage Easement (Total = 0.091 acre)
- Temporary Construction Easement (Total = 0.548 acre)

Source:
1. Imagery: ESRI, Maxar March 2021

N

0 50 100
Feet

Figure 2
Map 07 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

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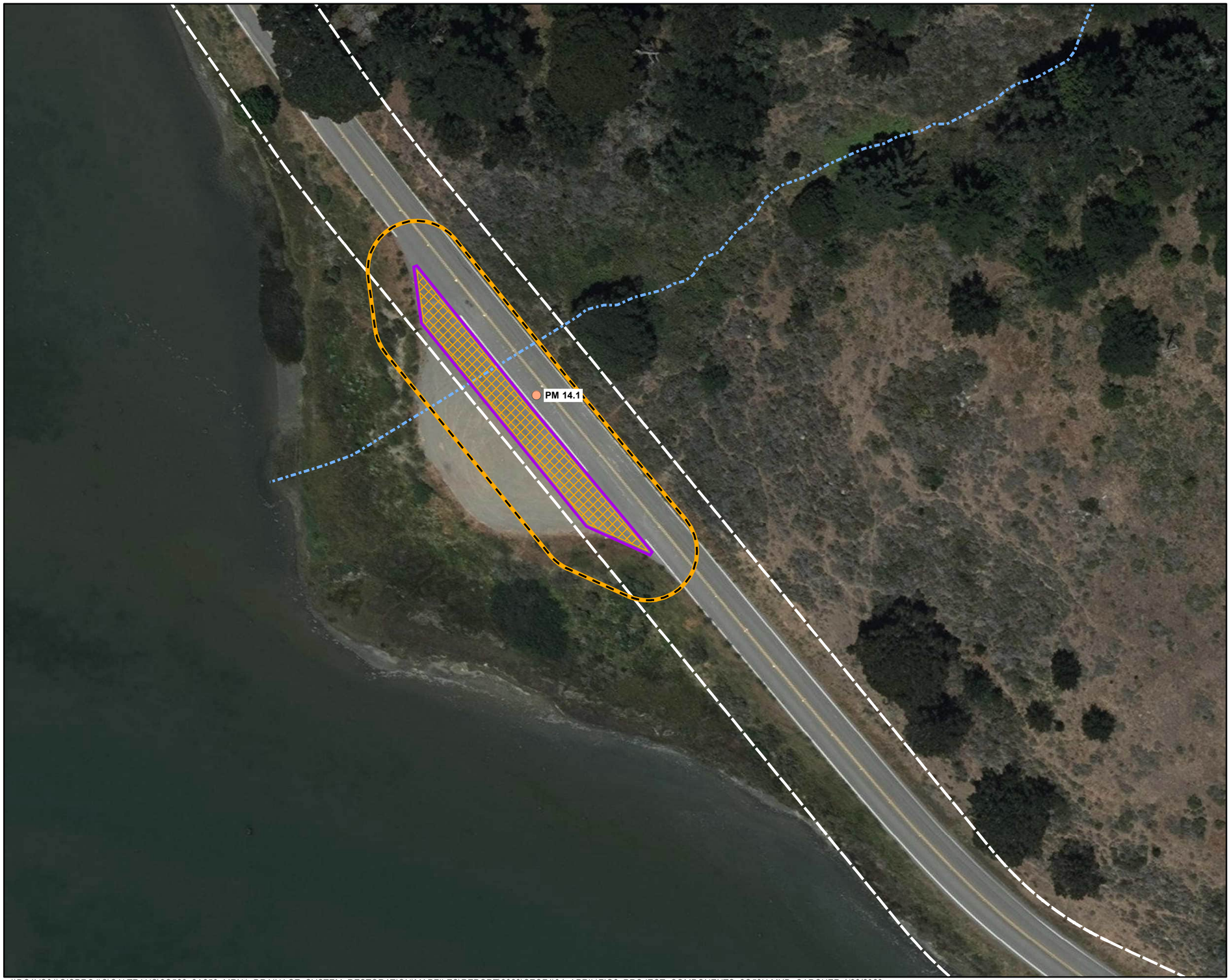

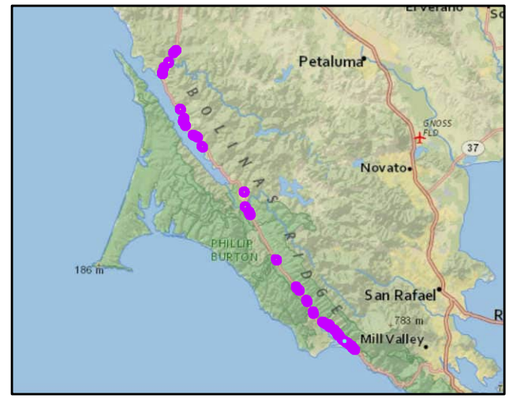

LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

N

0 50 100
Feet

Caltrans

Figure 2
Map 08 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

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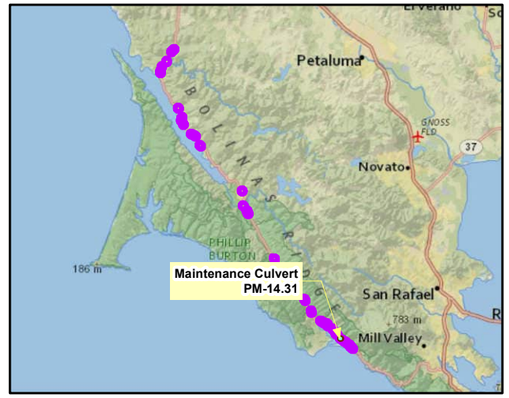

LEGEND

- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Maintenance Culvert
- Maintenance Culvert Work Areas

Source:
1. Imagery: ESRI, Maxar March 2021

N

0 50 100
Feet

Figure 2
Map 09 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

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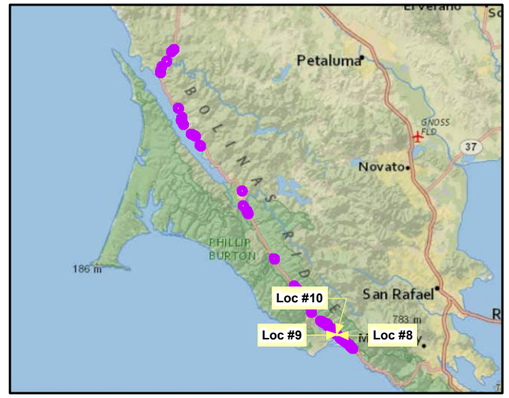


LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Culvert
- Temporary Construction Easement (Total = 0.548 acre)
- Culvert Expansion

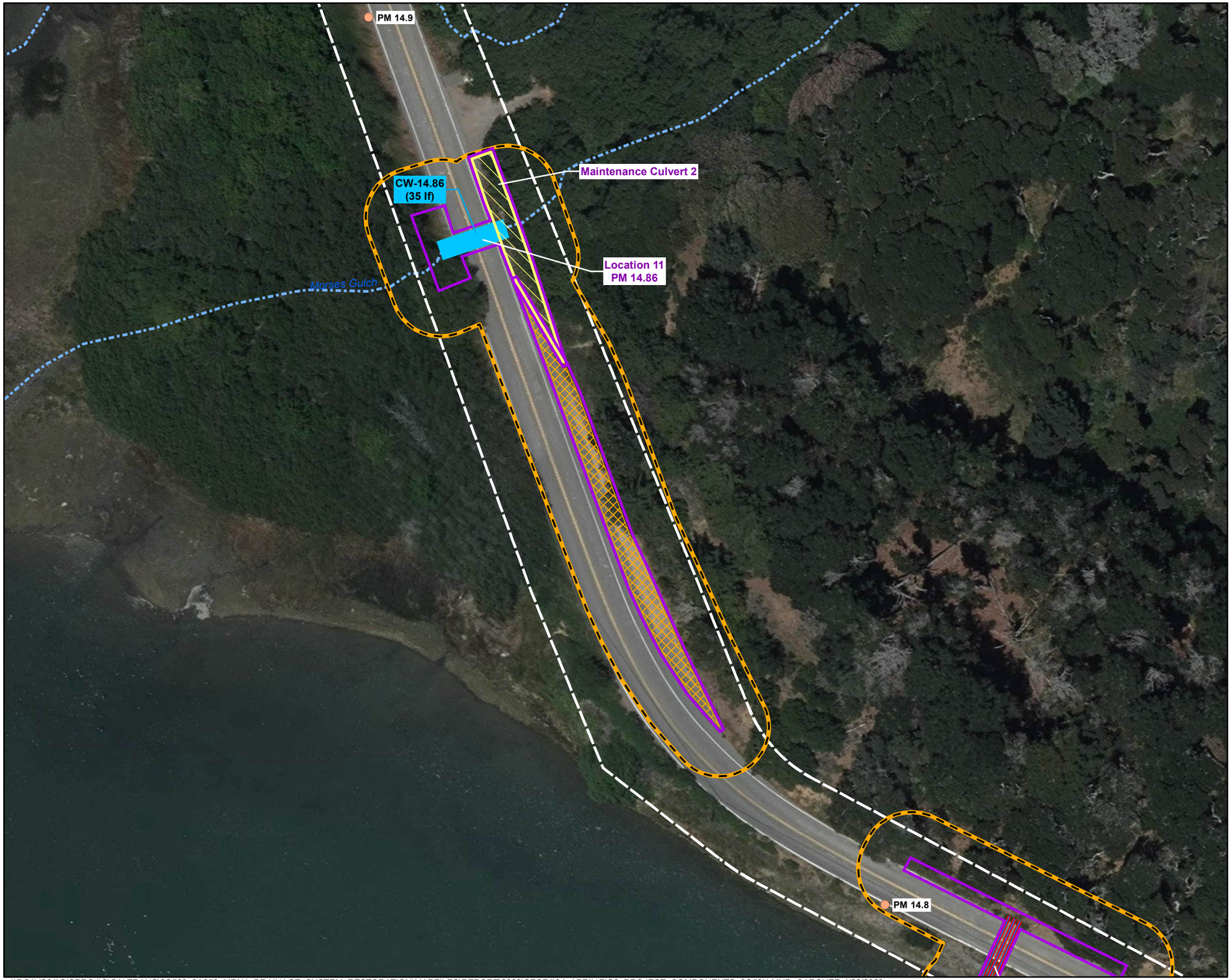
Source:
1. Imagery: ESRI, Maxar March 2021

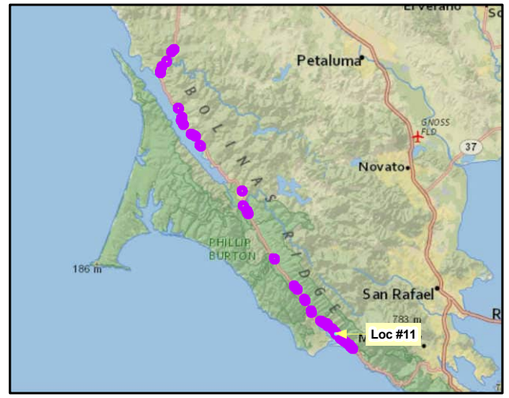
N

0 50 100
Feet

Figure 2
Map 10 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culvert
- Culverted Waters
- Staging Area
- Culvert Expansion
- Maintenance Culvert Work Areas

Source:
1. Imagery: ESRI, Maxar March 2021

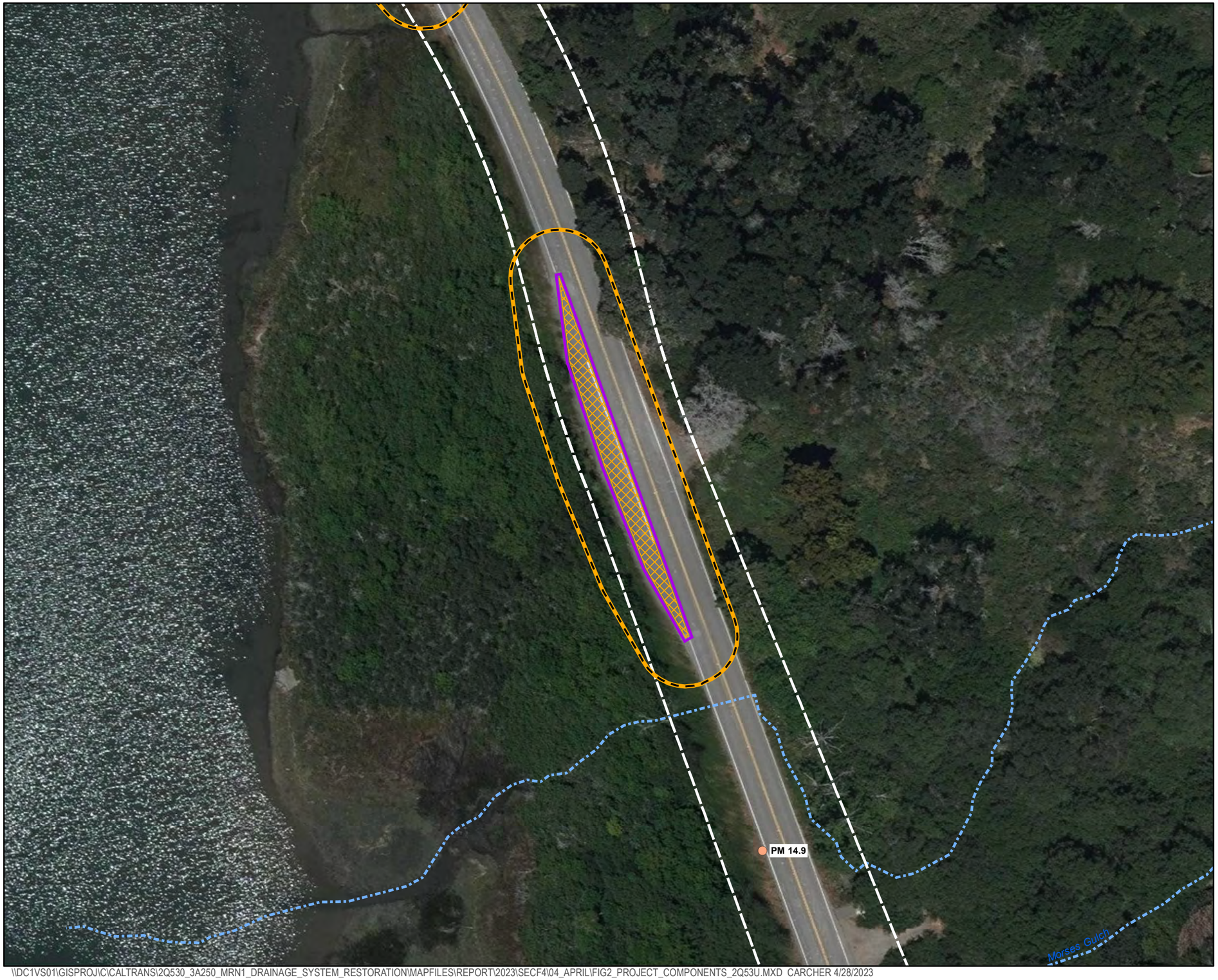
N

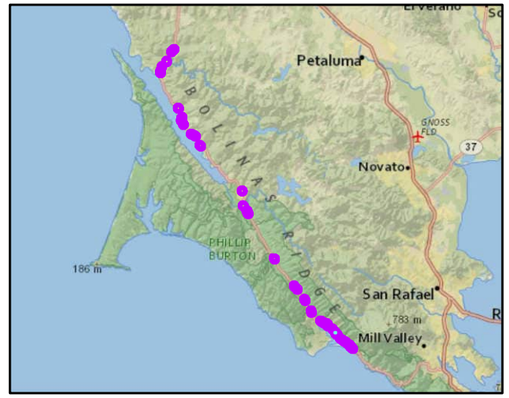
0 50 100
Feet

Caltrans

Figure 2
Map 11 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

N

0 50 100
Feet

Caltrans

Figure 2
Map 12 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

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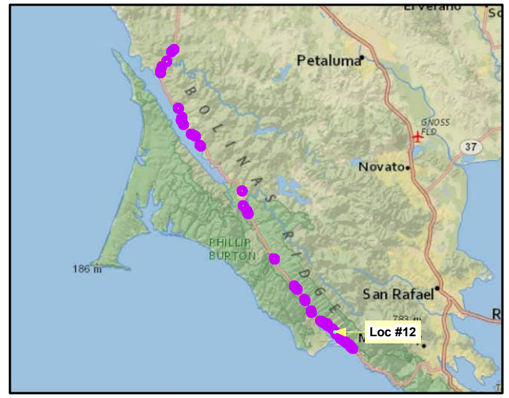


LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culverted Waters
- Staging Area

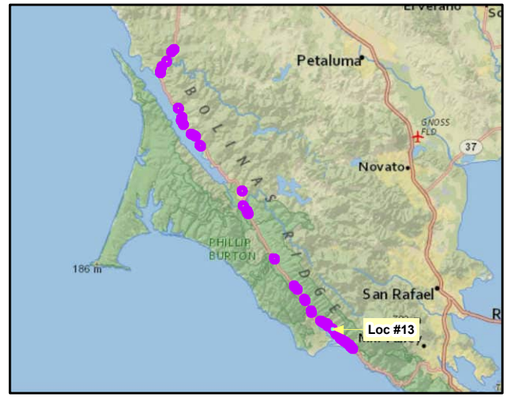
Source:
1. Imagery: ESRI, Maxar March 2021

N

0 50 100
Feet

Figure 2
Map 13 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023



LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culvert
- Temporary Construction Easement (Total = 0.548 acre)
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

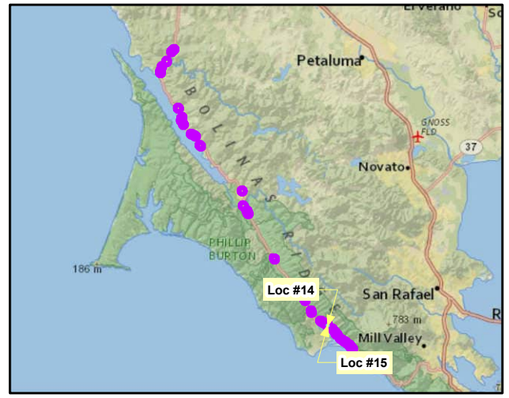
N

0 50 100
Feet

Caltrans

Figure 2
Map 14 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023



LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culvert
- Temporary Construction Easement and Drainage Easement (Total = 0.068 acre)
- Staging Area
- Culvert Expansion

Source:
1. Imagery: ESRI, Maxar March 2021

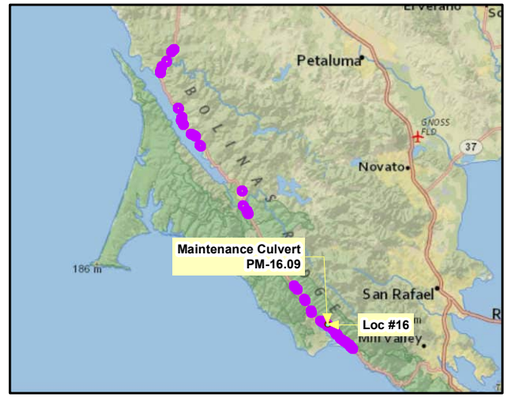
N

0 50 100
Feet

Caltrans

Figure 2
Map 15 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023



LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Caltrans Right of Way
- Stream or River
- Culverted Waters
- Staging Area
- Maintenance Culvert
- Maintenance Culvert Work Areas

Source:
1. Imagery: ESRI, Maxar March 2021

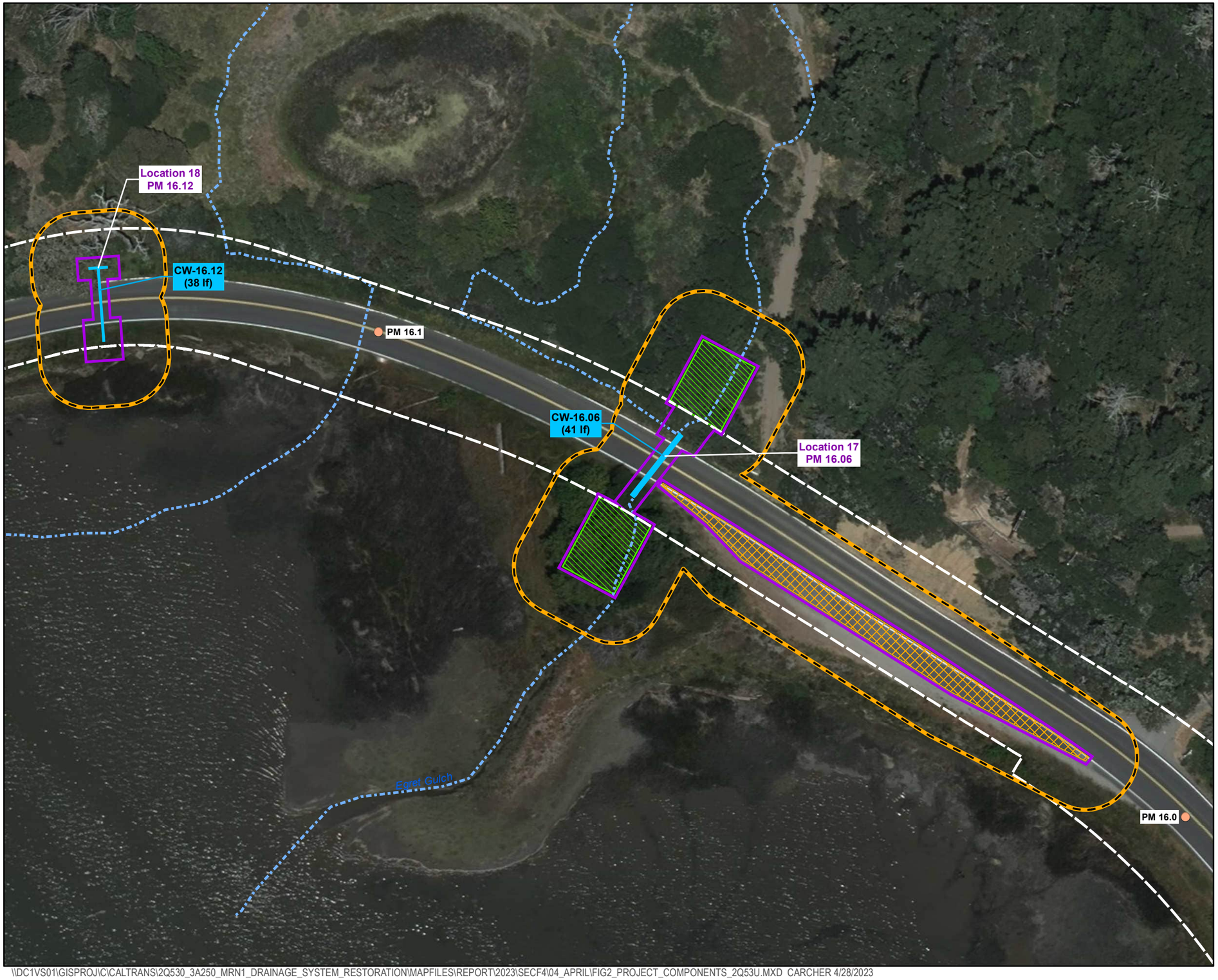
N

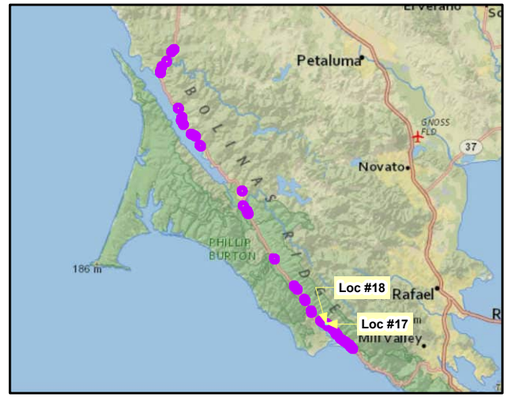
0 50 100
Feet

Caltrans

Figure 2
Map 16 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culverted Waters
- Temporary Construction Easement (Total = 0.548 acre)
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

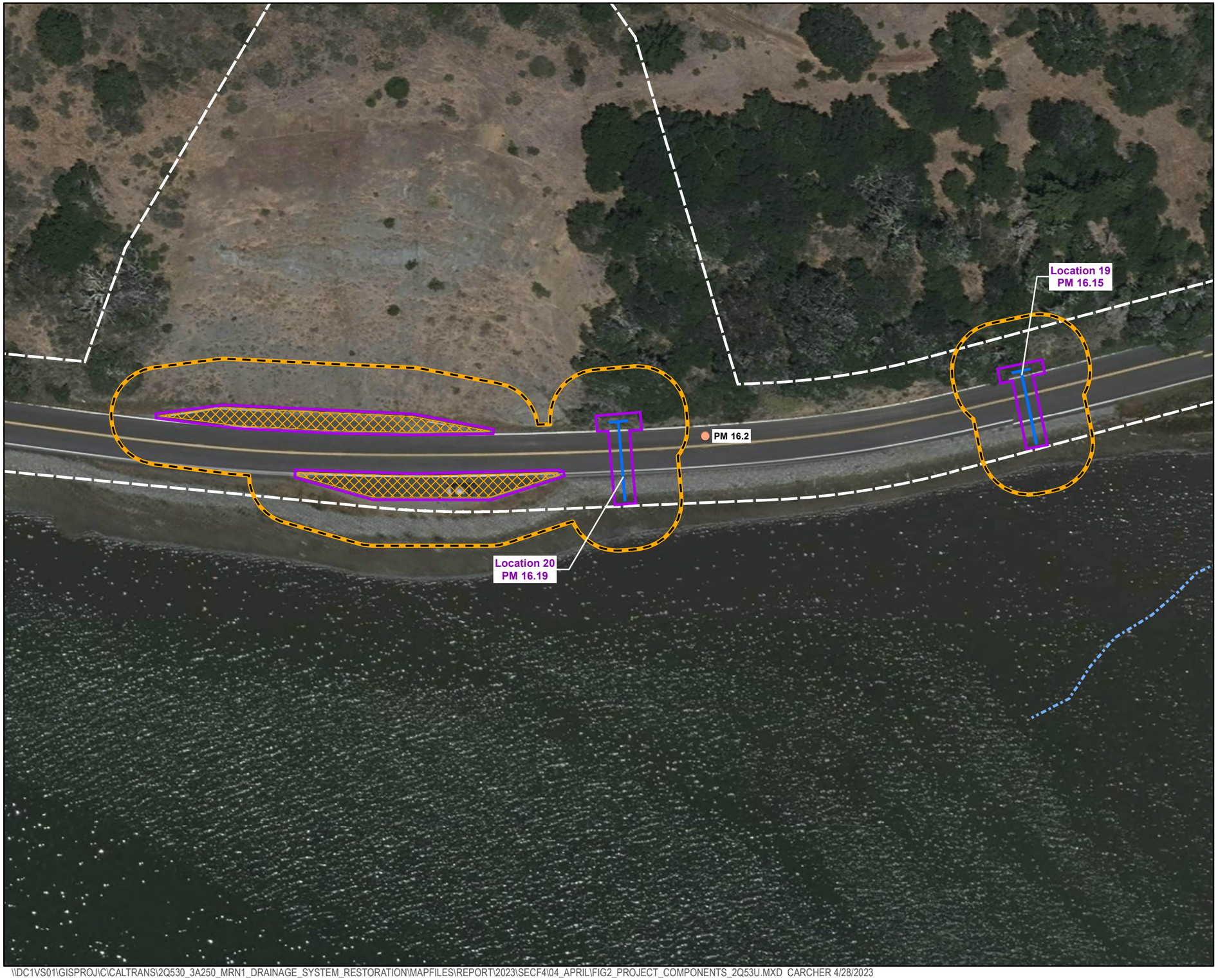
N

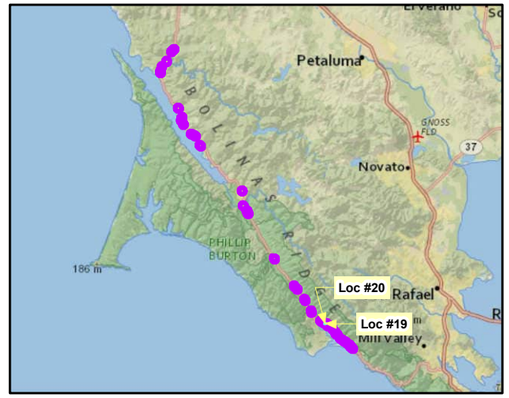
0 50 100
Feet

Caltrans

Figure 2
Map 17 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culvert
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

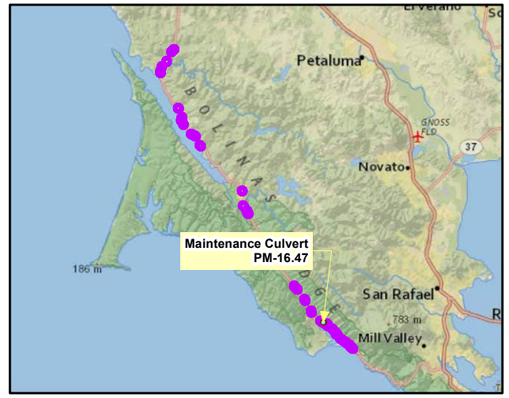
N

0 50 100
Feet

Caltrans

Figure 2
Map 18 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023



LEGEND

- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Maintenance Culvert
- Maintenance Culvert Work Areas

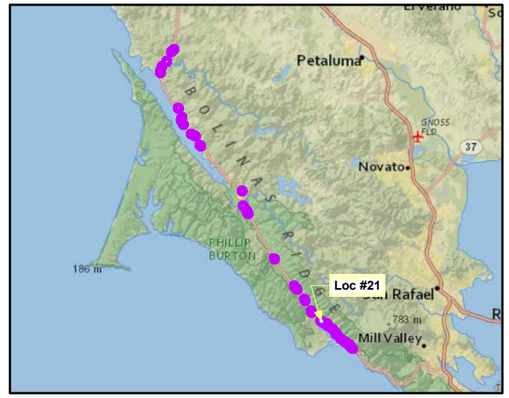
Source:
1. Imagery: ESRI, Maxar March 2021

N

0 50 100
Feet

Figure 2
Map 19 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023



LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culverted Waters
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

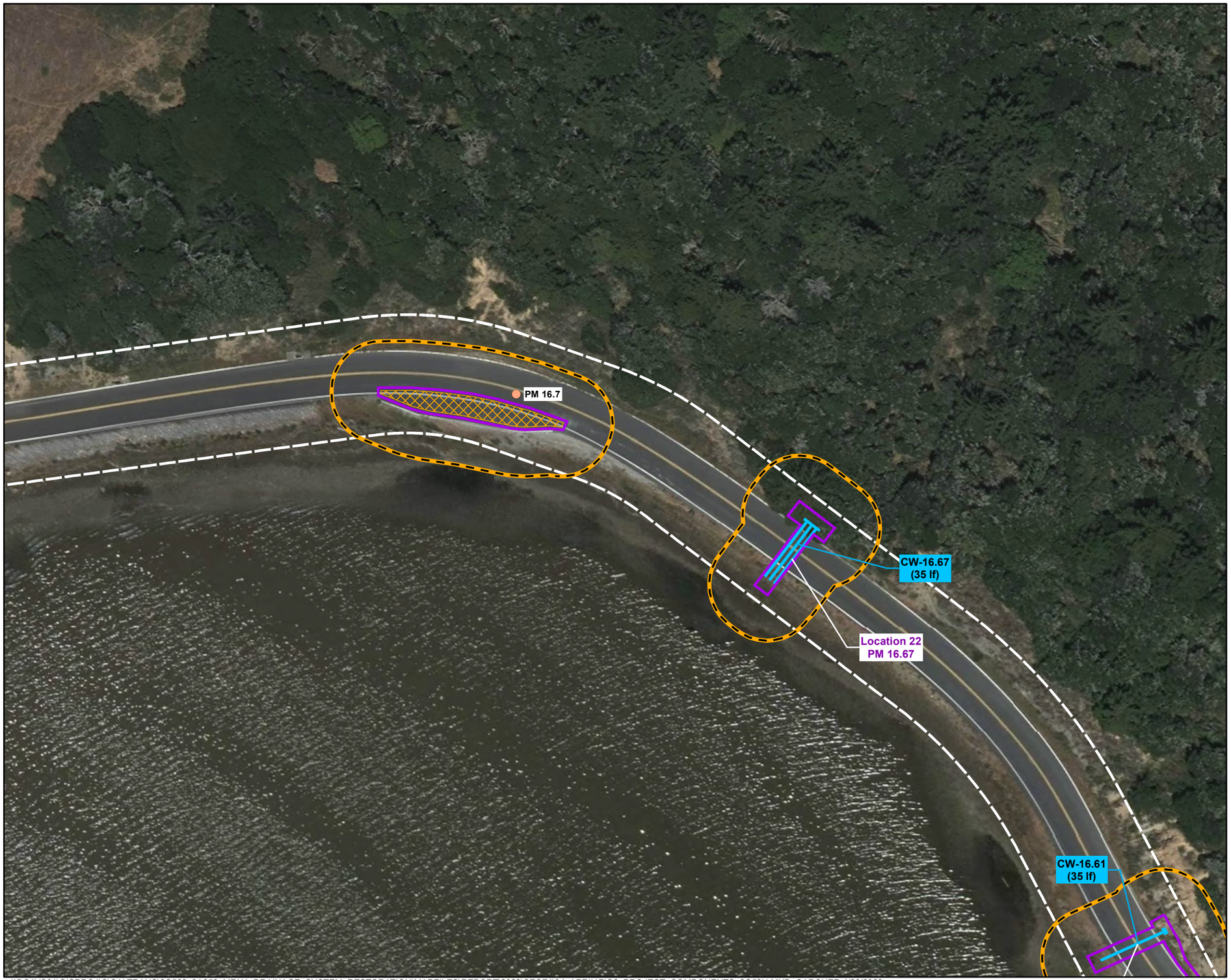
N

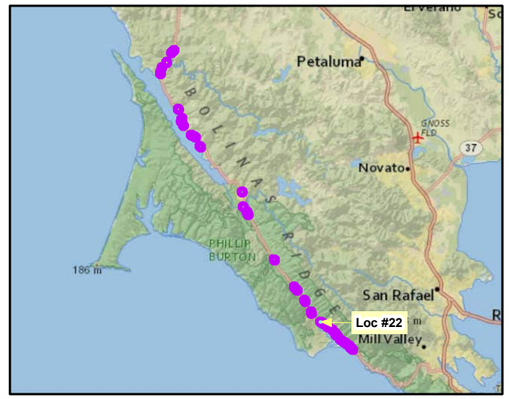
0 50 100
Feet

Caltrans

Figure 2
Map 20 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Culverted Waters
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

N

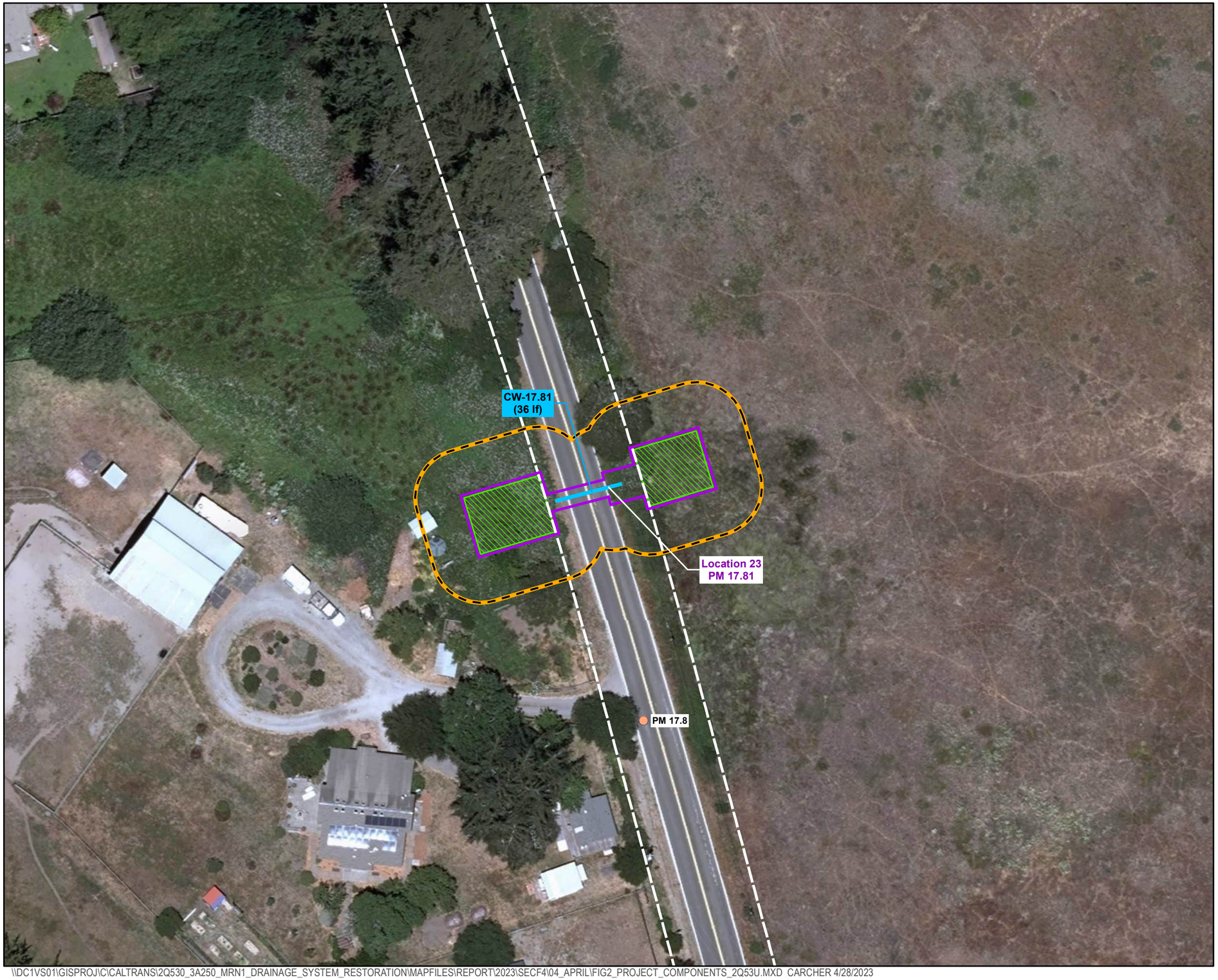
0 50 100
Feet

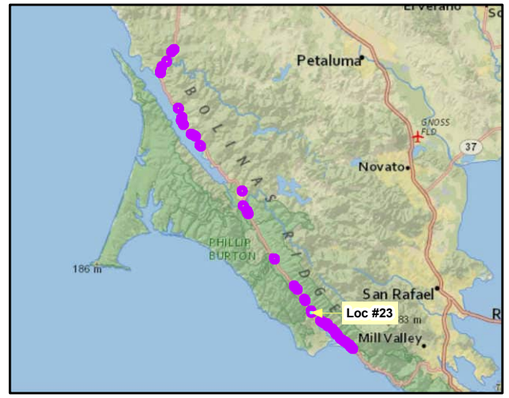
Caltrans

Figure 2
Map 21 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023

Location 21





LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Culverted Waters
- Temporary Construction Easement (Total = 0.548 acre)

Source:
1. Imagery: ESRI, Maxar March 2021

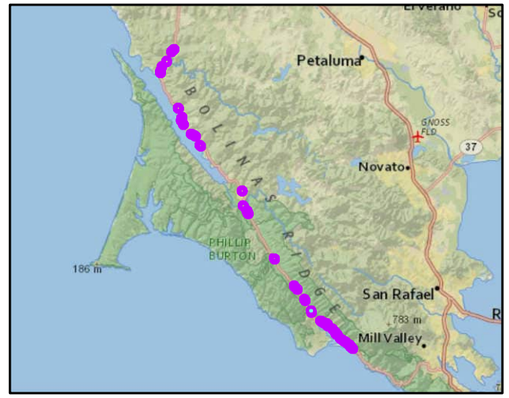
N

0 50 100
Feet

Caltrans

Figure 2
Map 22 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023



LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Staging Area

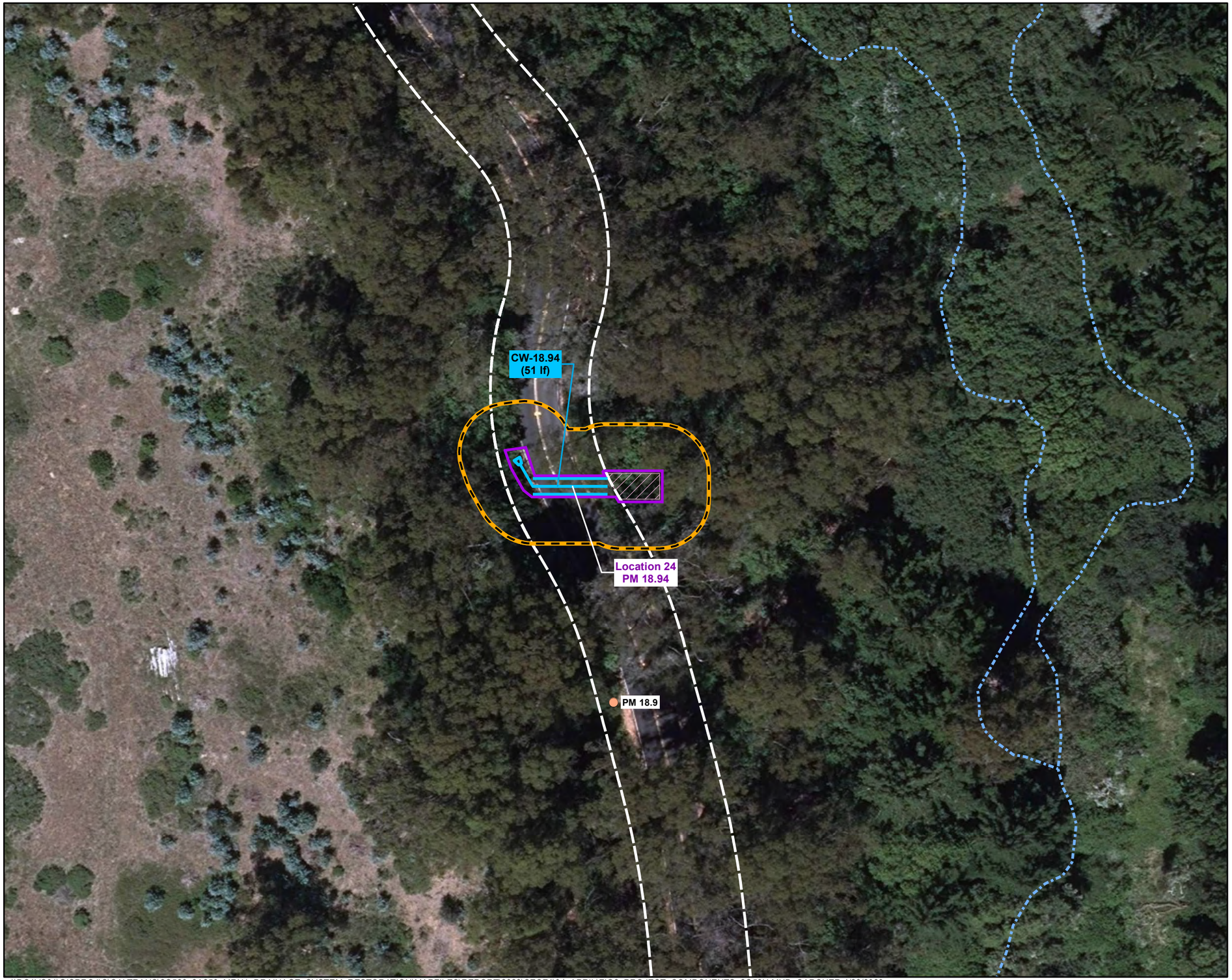
Source:
1. Imagery: ESRI, Maxar March 2021

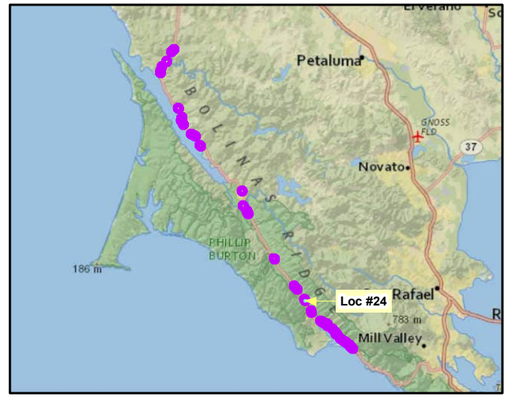
N

0 50 100
Feet

Figure 2
Map 23 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culverted Waters
- Temporary Construction Easement and Drainage Easement (Total = 0.068 acre)

Source:
1. Imagery: ESRI, Maxar March 2021

N

0 50 100
Feet

Caltrans

Figure 2
Map 24 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

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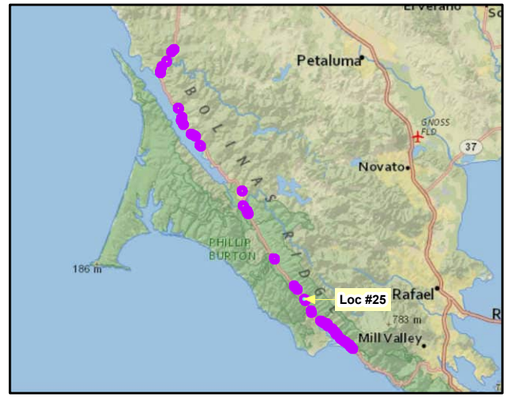


LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culvert
- Culvert Expansion

Source:
1. Imagery: ESRI, Maxar March 2021

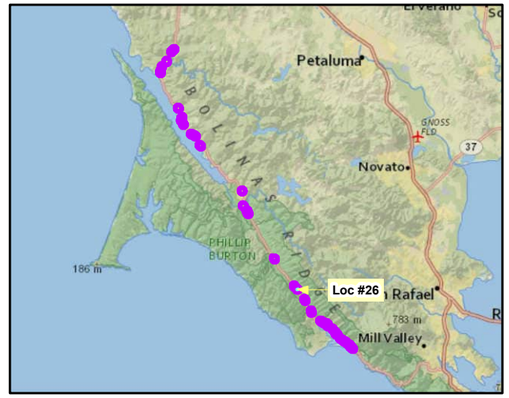
N

0 50 100
Feet

Caltrans

Figure 2
Map 25 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023



LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culverted Waters
- Drainage Easement (Total = 0.091 acre)
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

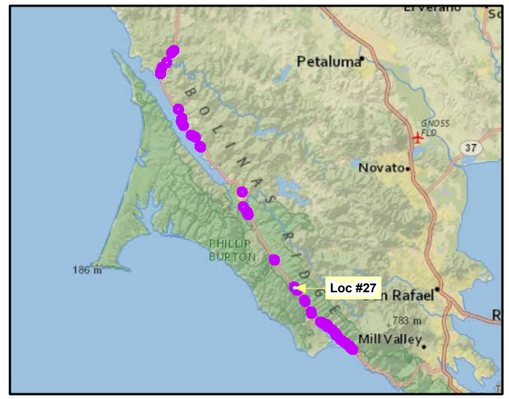
N

0 50 100
Feet

Caltrans

Figure 2
Map 26 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023



LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culvert

Source:
1. Imagery: ESRI, Maxar March 2021

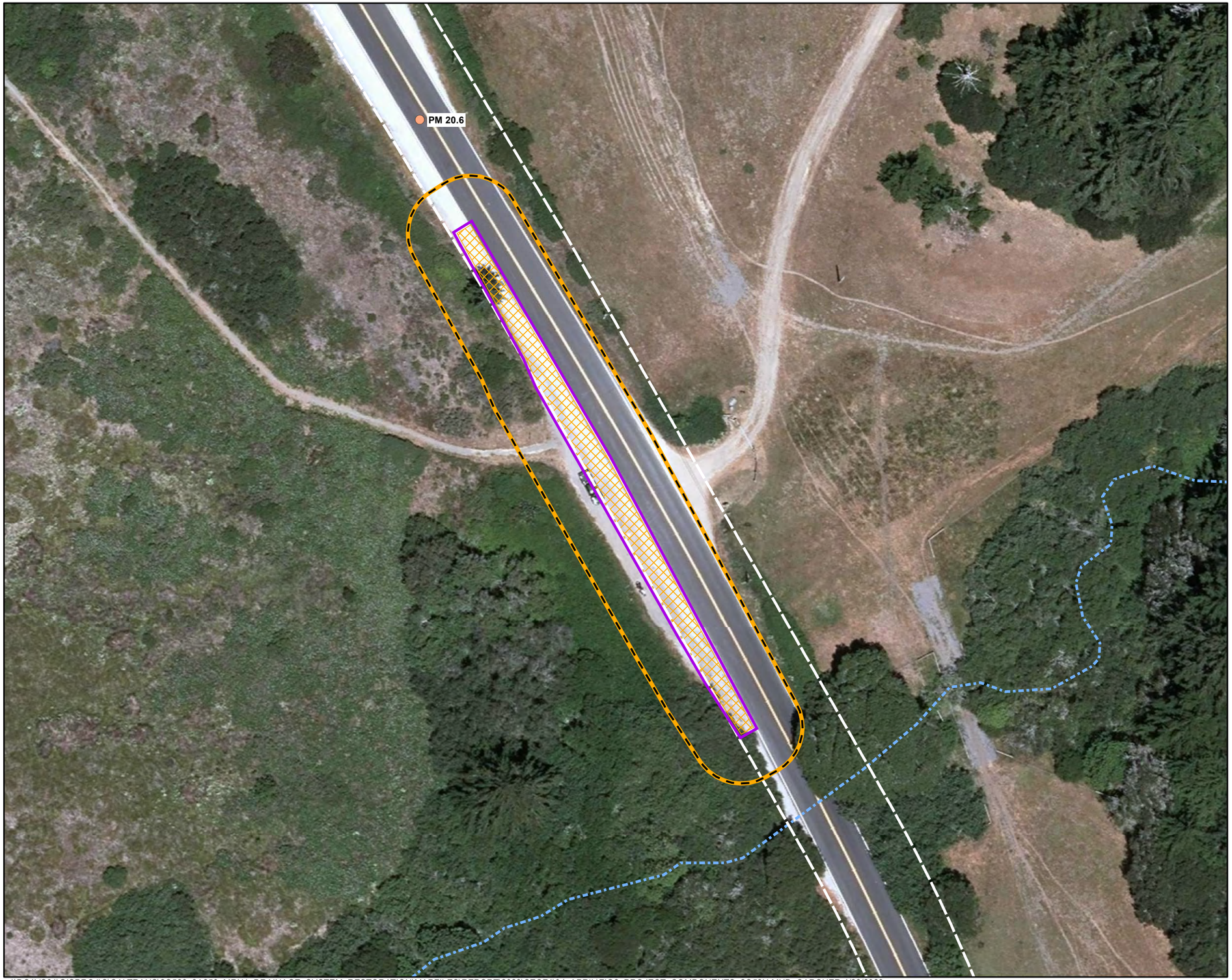
N

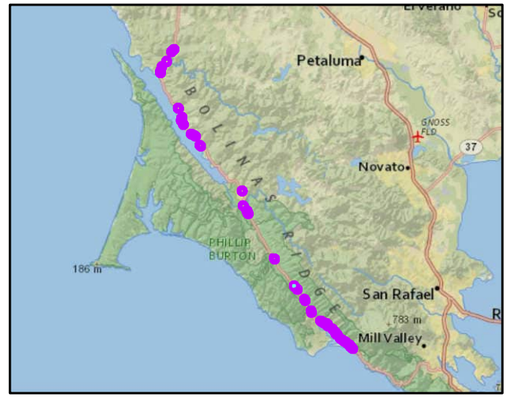
0 50 100
Feet

Caltrans

Figure 2
Map 27 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

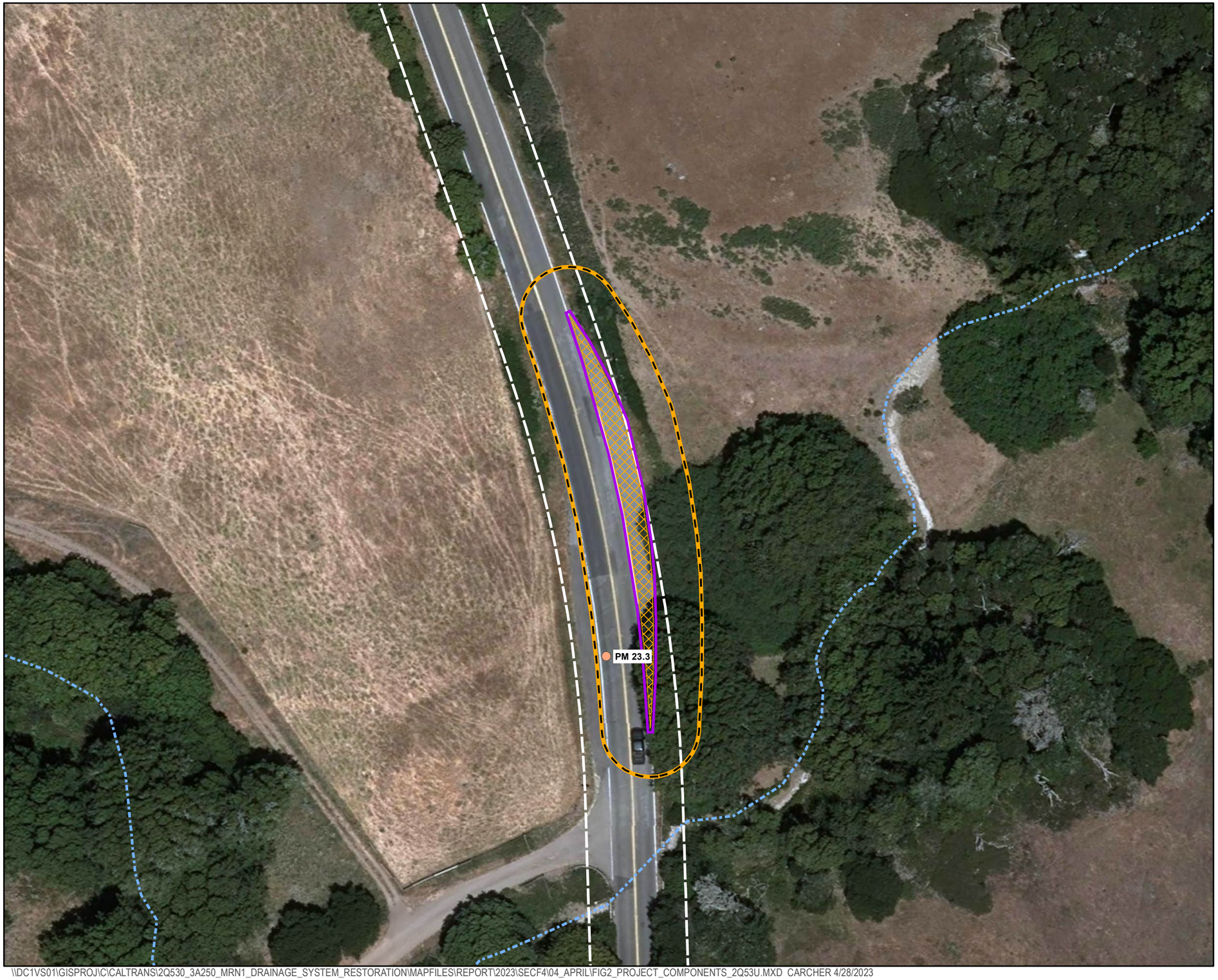
N

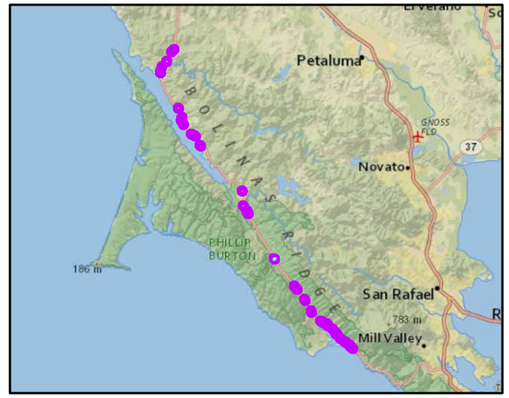
0 50 100
Feet

Caltrans

Figure 2
Map 28 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Staging Area

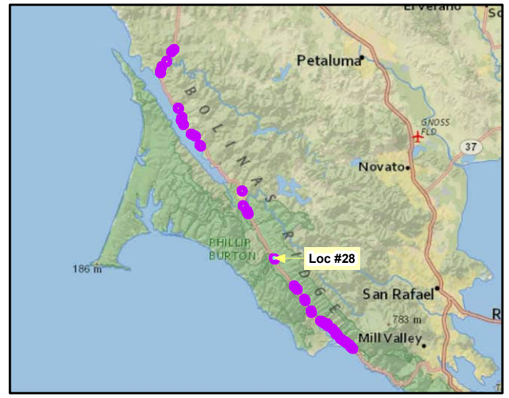
Source:
1. Imagery: ESRI, Maxar March 2021

N

0 50 100
Feet

Figure 2
Map 29 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023



LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culverted Waters
- Temporary Construction Easement (Total = 0.548 acre)
- Temporary Construction Easement and Drainage Easement (Total = 0.068 acre)

Source:
1. Imagery: ESRI, Maxar March 2021

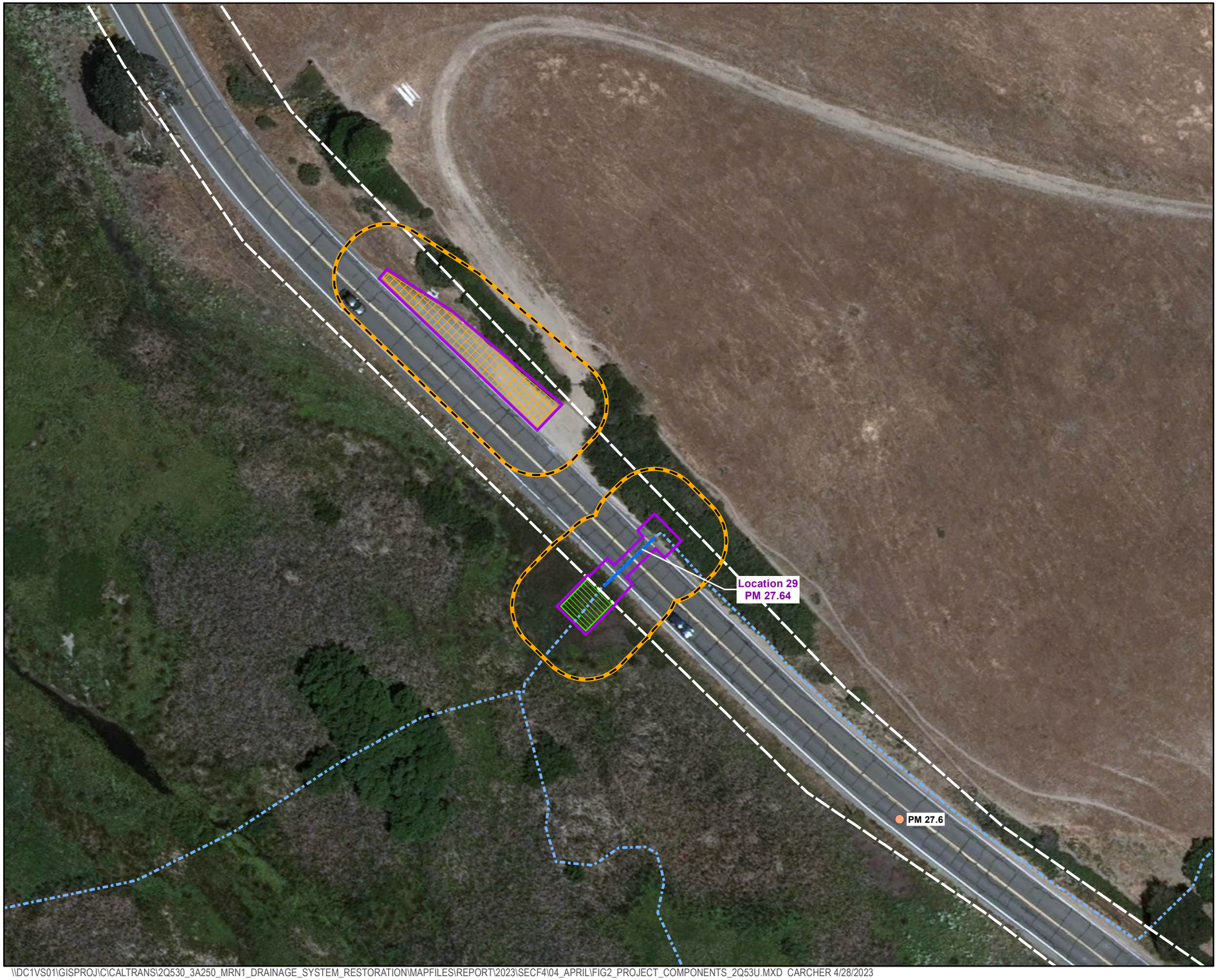
N

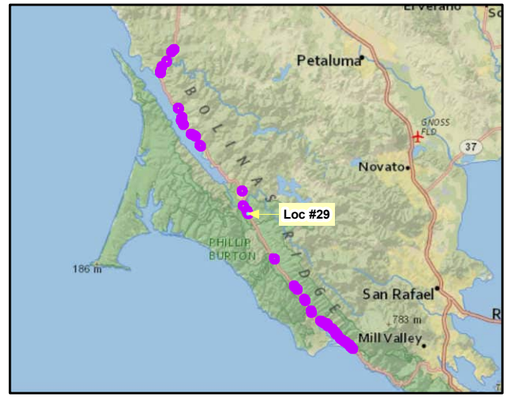
0 50 100
Feet

Caltrans

Figure 2
Map 30 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culvert
- Temporary Construction Easement (Total = 0.548 acre)
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

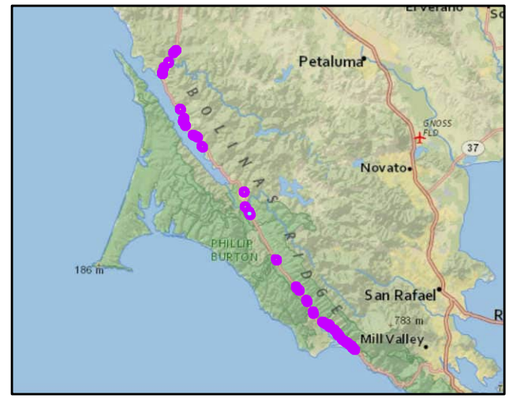
N

0 50 100
Feet

Caltrans

Figure 2
Map 31 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023



LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

N

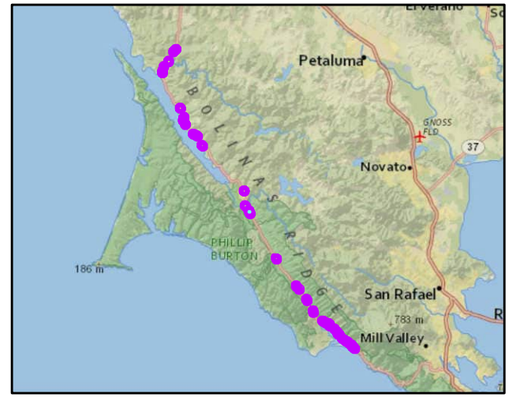
0 50 100
Feet

Caltrans

Figure 2
Map 32 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023

PM 27.8



LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Staging Area

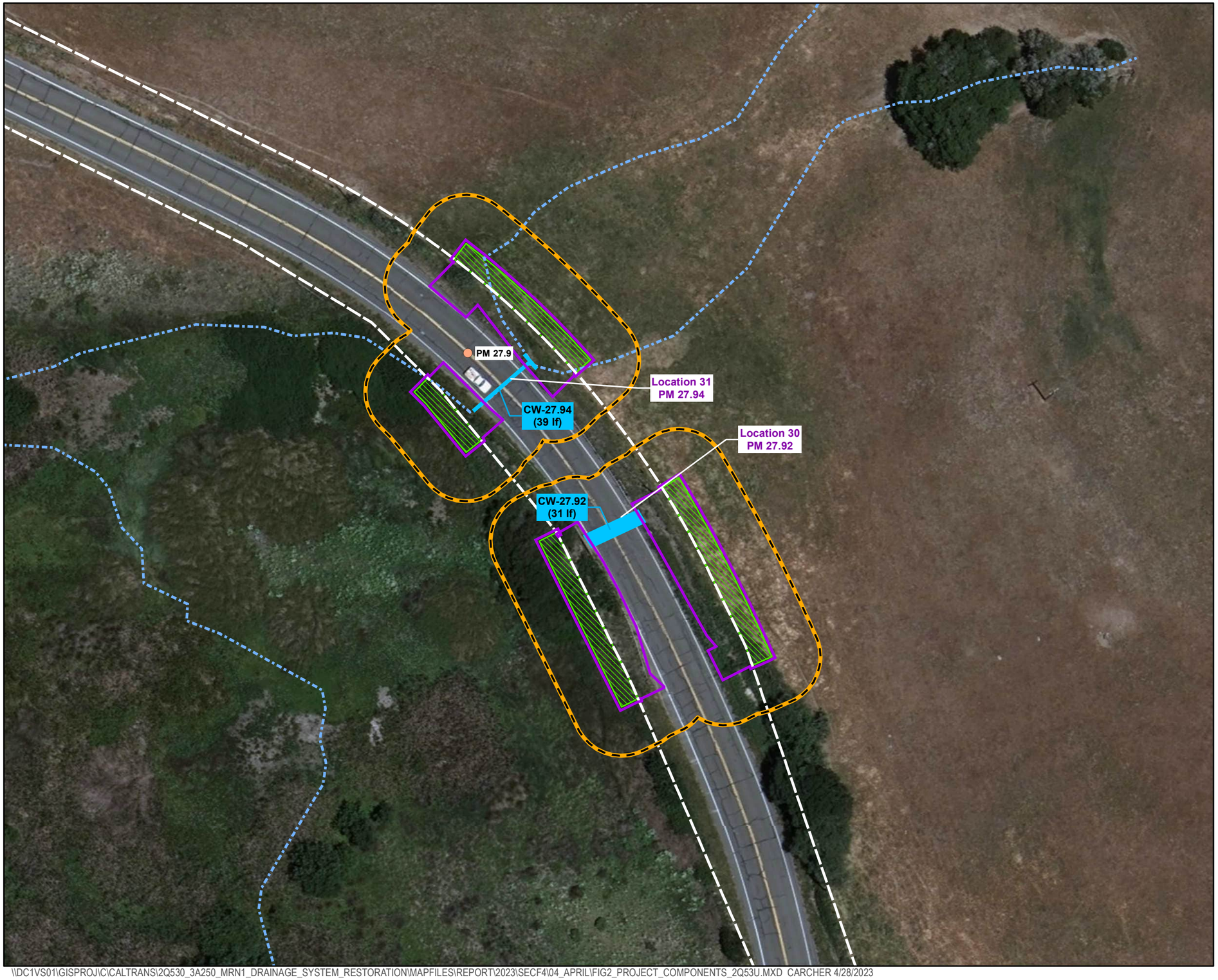
Source:
1. Imagery: ESRI, Maxar March 2021

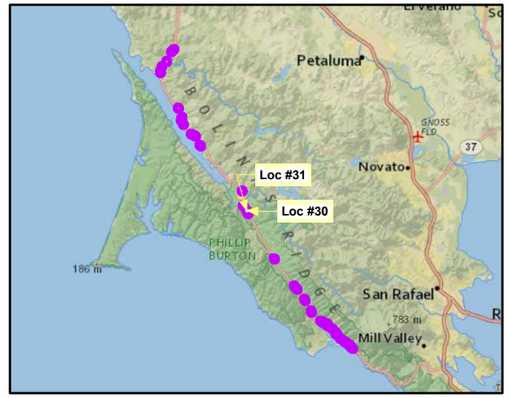
N

0 50 100
Feet

Figure 2
Map 33 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culverted Waters
- Temporary Construction Easement (Total = 0.548 acre)

Source:
1. Imagery: ESRI, Maxar March 2021

N

0 50 100
Feet

Caltrans

Figure 2
Map 34 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

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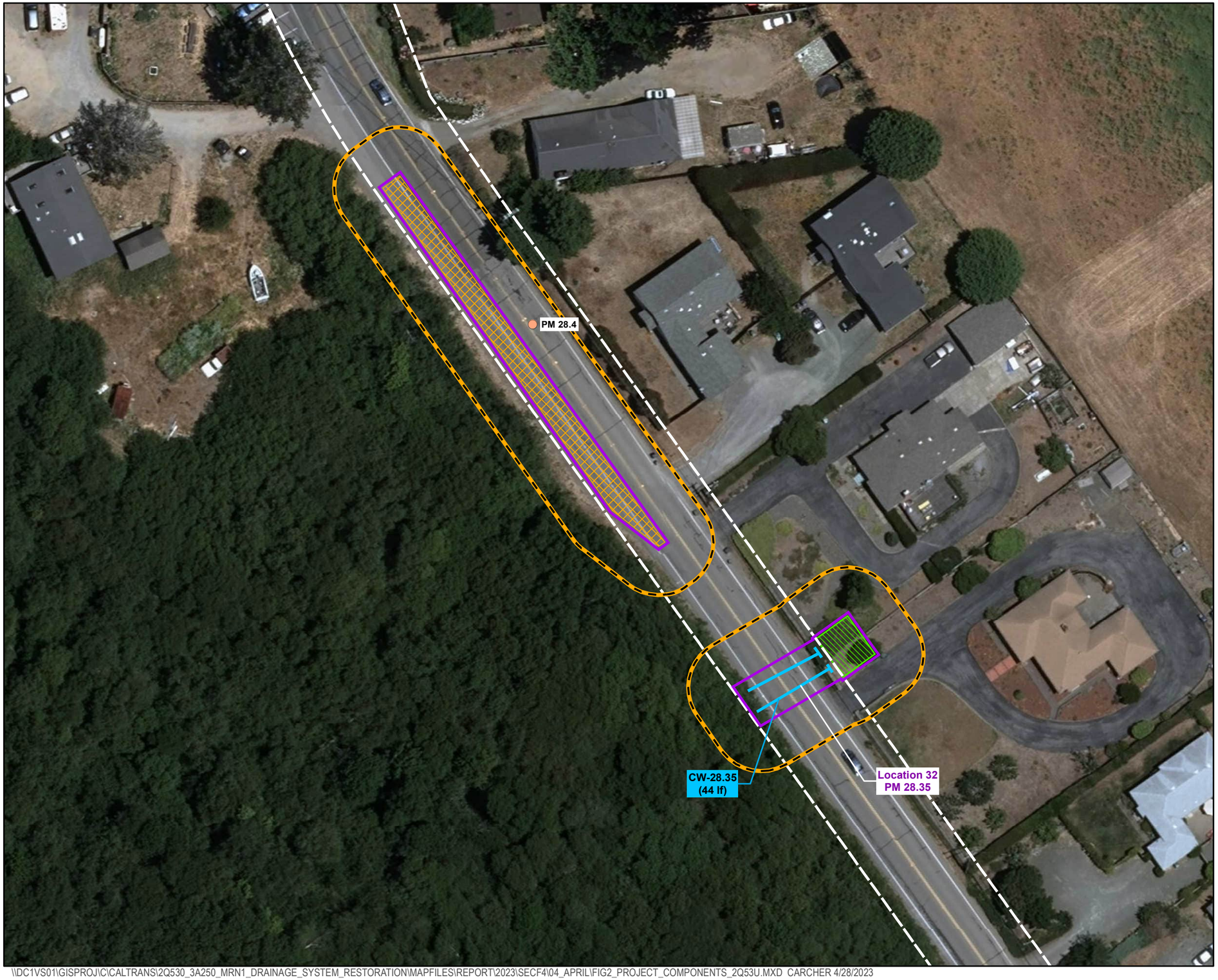
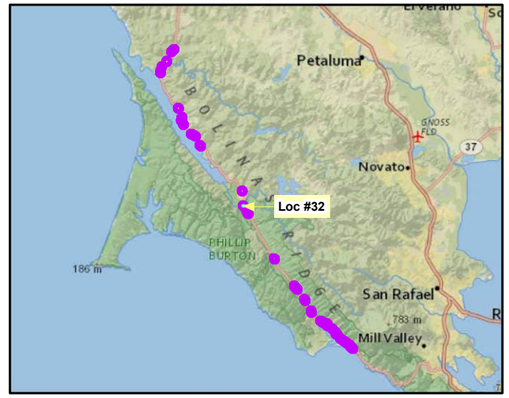




LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Culverted Waters
- Temporary Construction Easement (Total = 0.548 acre)
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

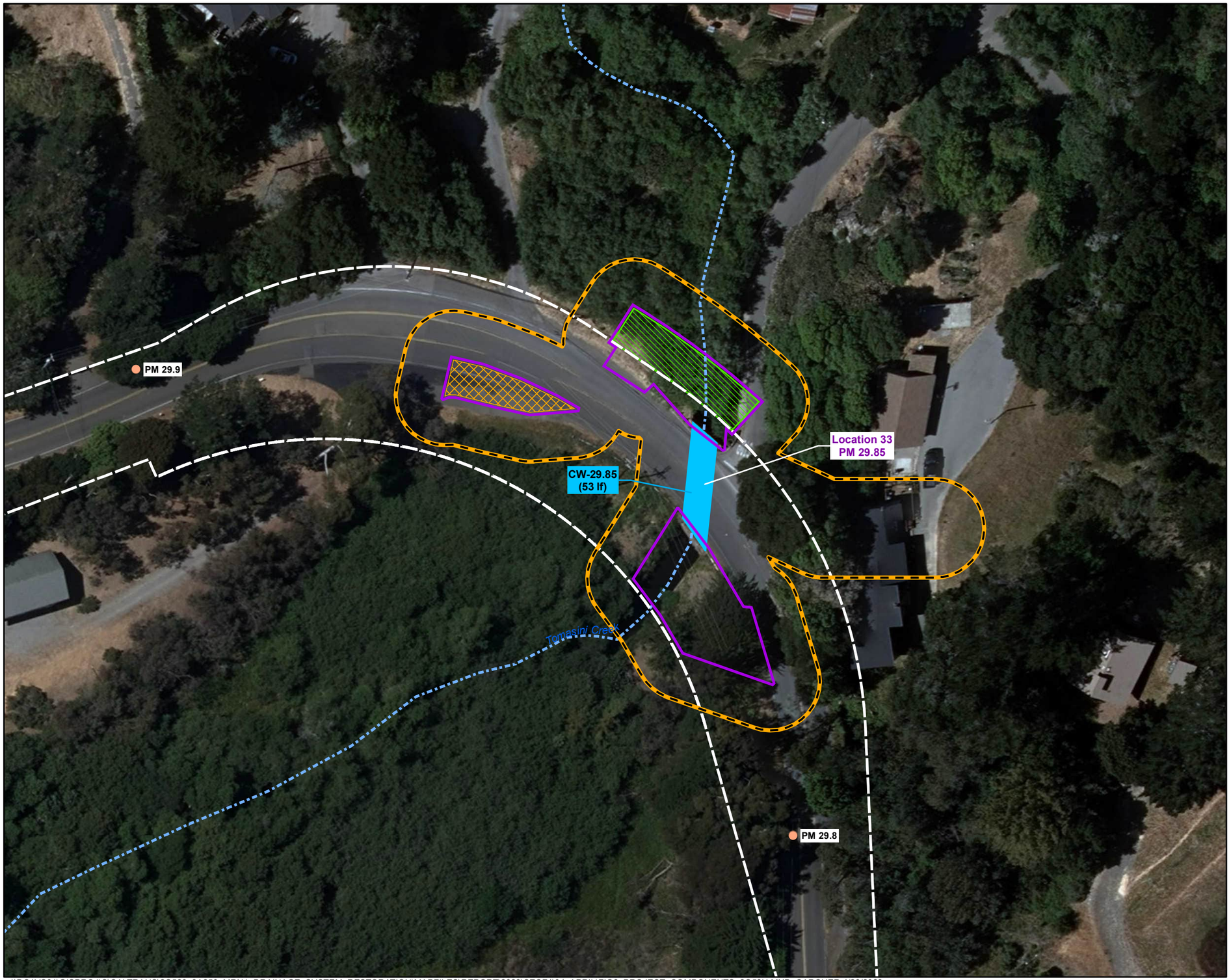
N

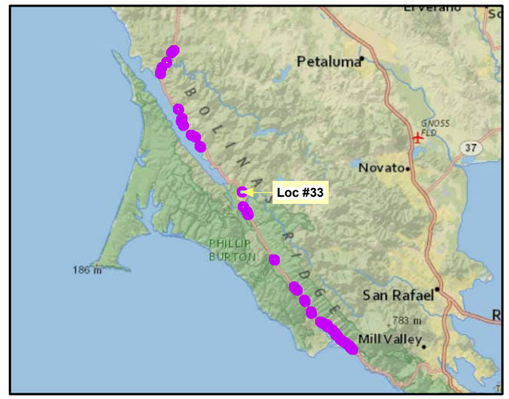
0 50 100
Feet

Caltrans

Figure 2
Map 35 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culverted Waters
- Temporary Construction Easement (Total = 0.548 acre)
- Staging Area

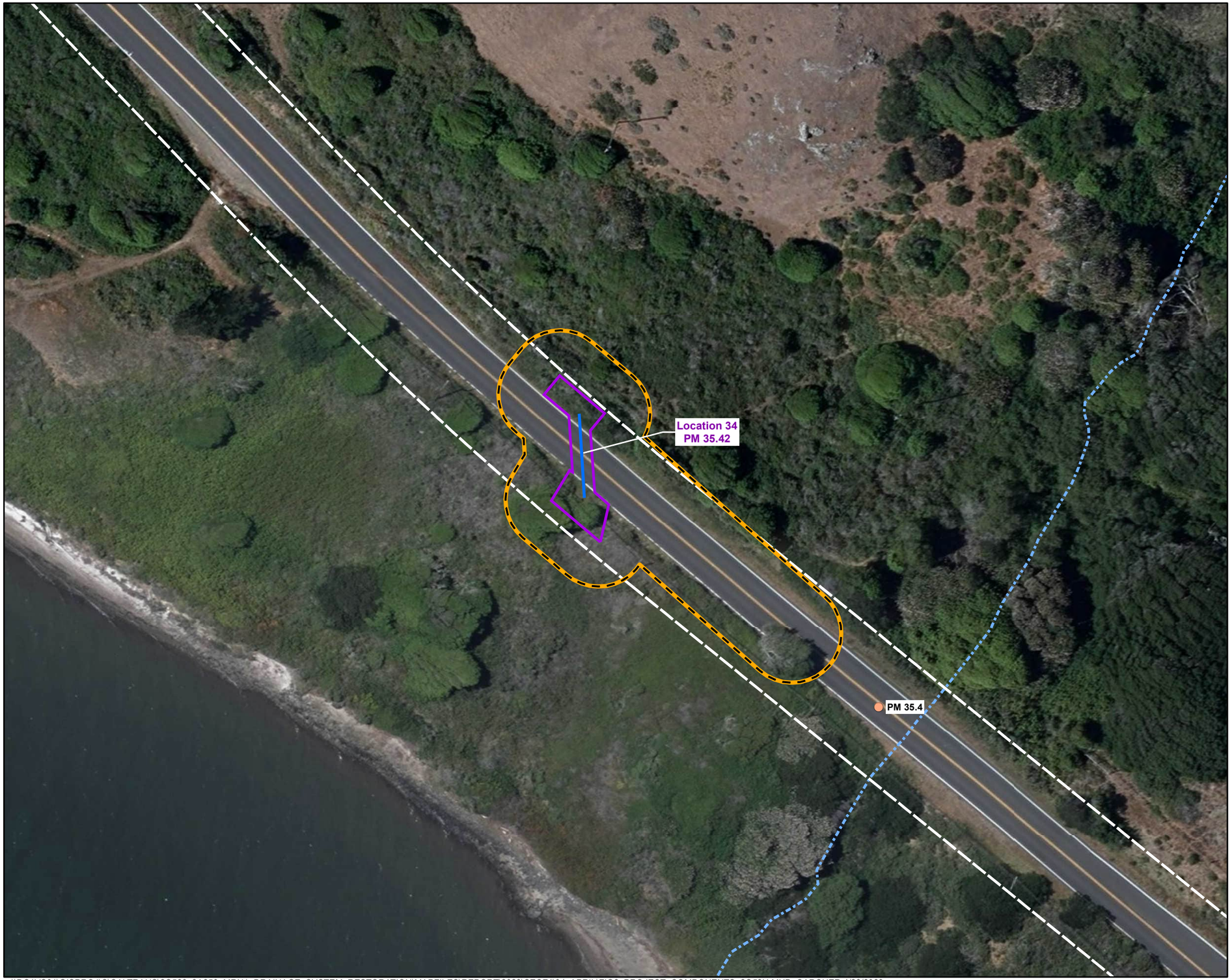
Source:
1. Imagery: ESRI, Maxar March 2021

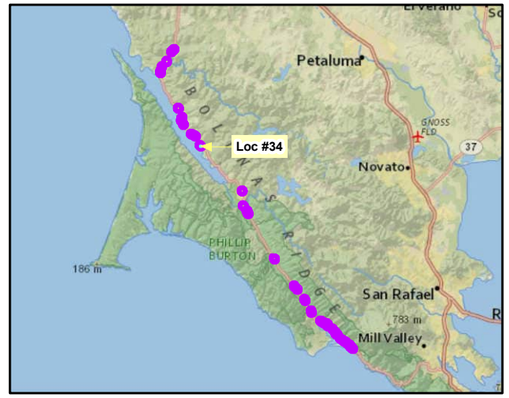
N

0 50 100
Feet

Figure 2
Map 36 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culvert

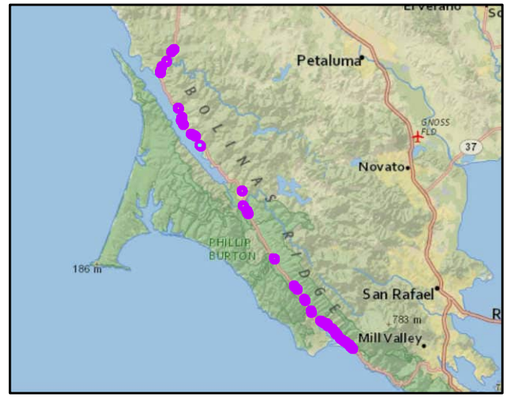
Source:
1. Imagery: ESRI, Maxar March 2021

N

0 50 100
Feet

Figure 2
Map 37 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023



LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

N

0 50 100
Feet

Caltrans

Figure 2
Map 38 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

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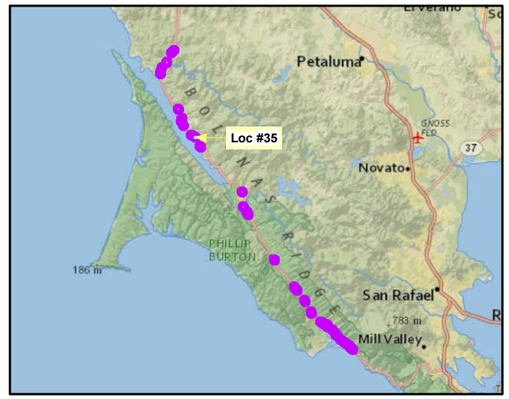


LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culvert
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

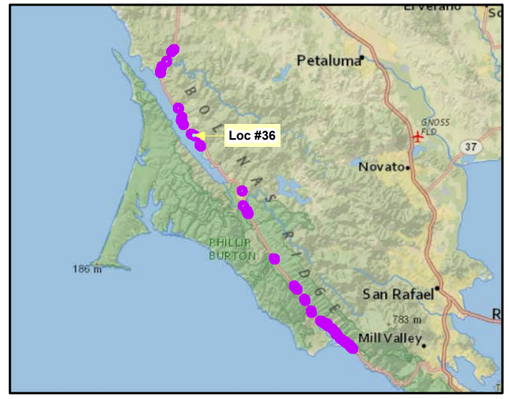
N

0 50 100
Feet

Caltrans

Figure 2
Map 39 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023



LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culverted Waters
- Temporary Construction Easement (Total = 0.548 acre)
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

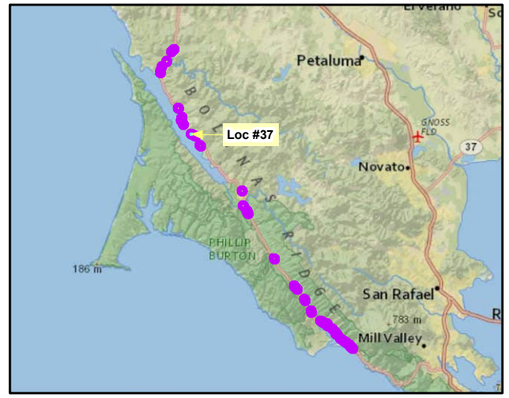
N

0 50 100
Feet

Caltrans

Figure 2
Map 40 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023



LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Culvert
- Temporary Construction Easement (Total = 0.548 acre)
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

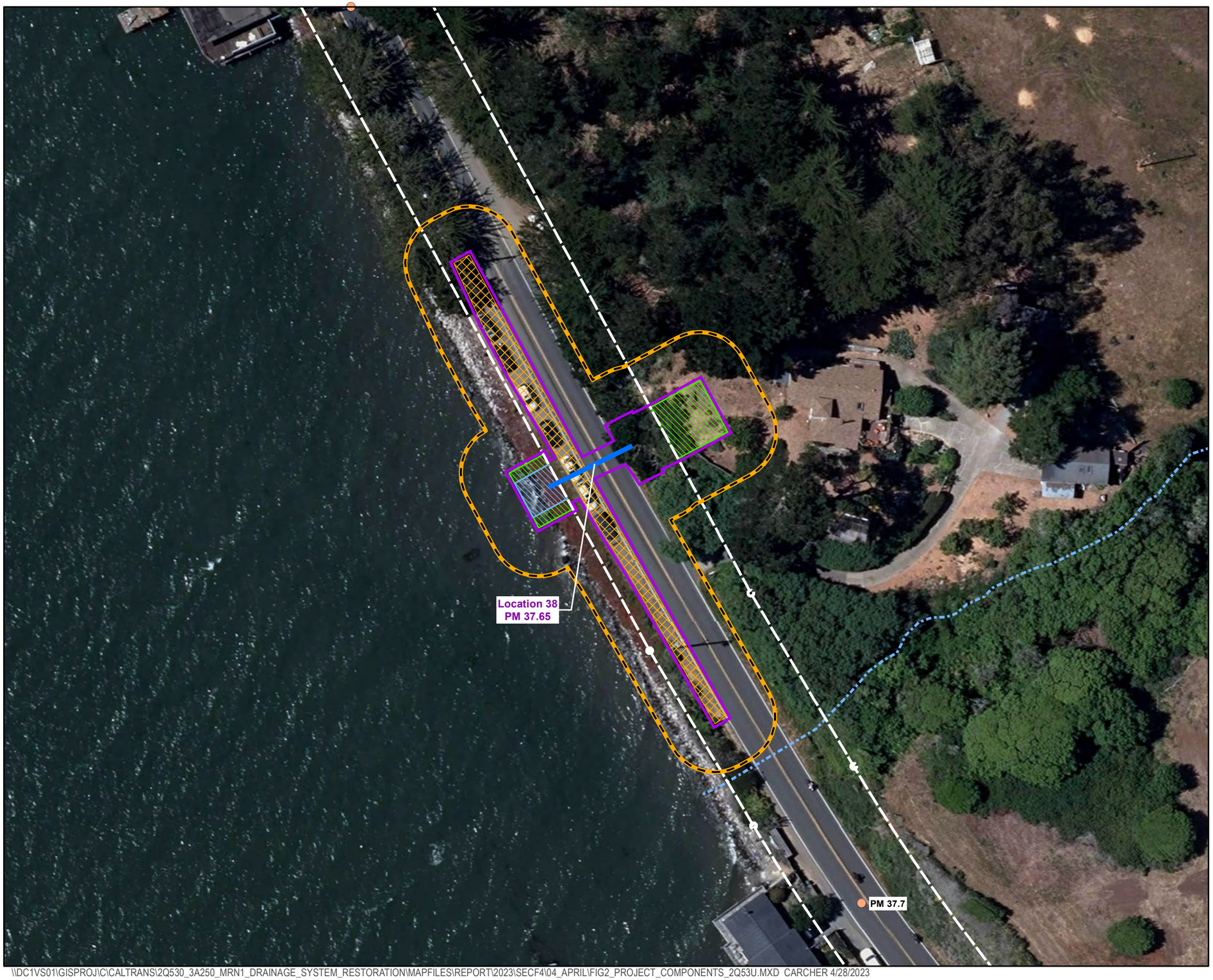
N

0 50 100
Feet

Caltrans

Figure 2
Map 41 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023



LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culvert
- Drainage Easement (Total = 0.091 acre)
- Temporary Construction Easement (Total = 0.548 acre)
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

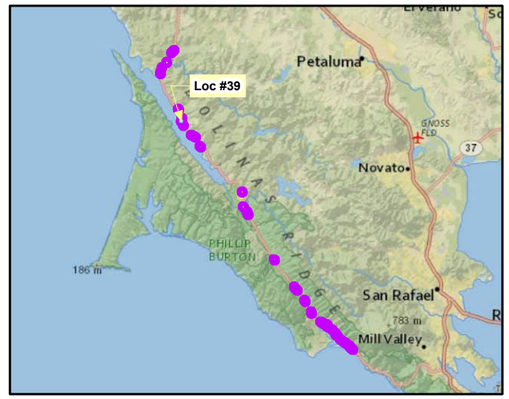
N

0 50 100
Feet

Caltrans

Figure 2
Map 42 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023



LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Culverted Waters
- Temporary Construction Easement (Total = 0.548 acre)
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

N

0 50 100
Feet

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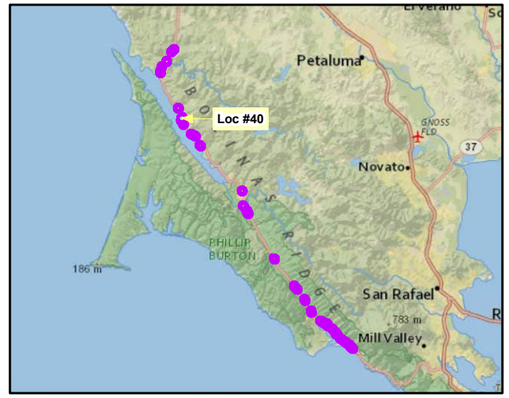
Figure 2
Map 43 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California



LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culvert
- Culverted Waters
- Drainage Easement (Total = 0.091 acre)
- Temporary Construction Easement (Total = 0.548 acre)
- Culvert Expansion

Source:
1. Imagery: ESRI, Maxar March 2021

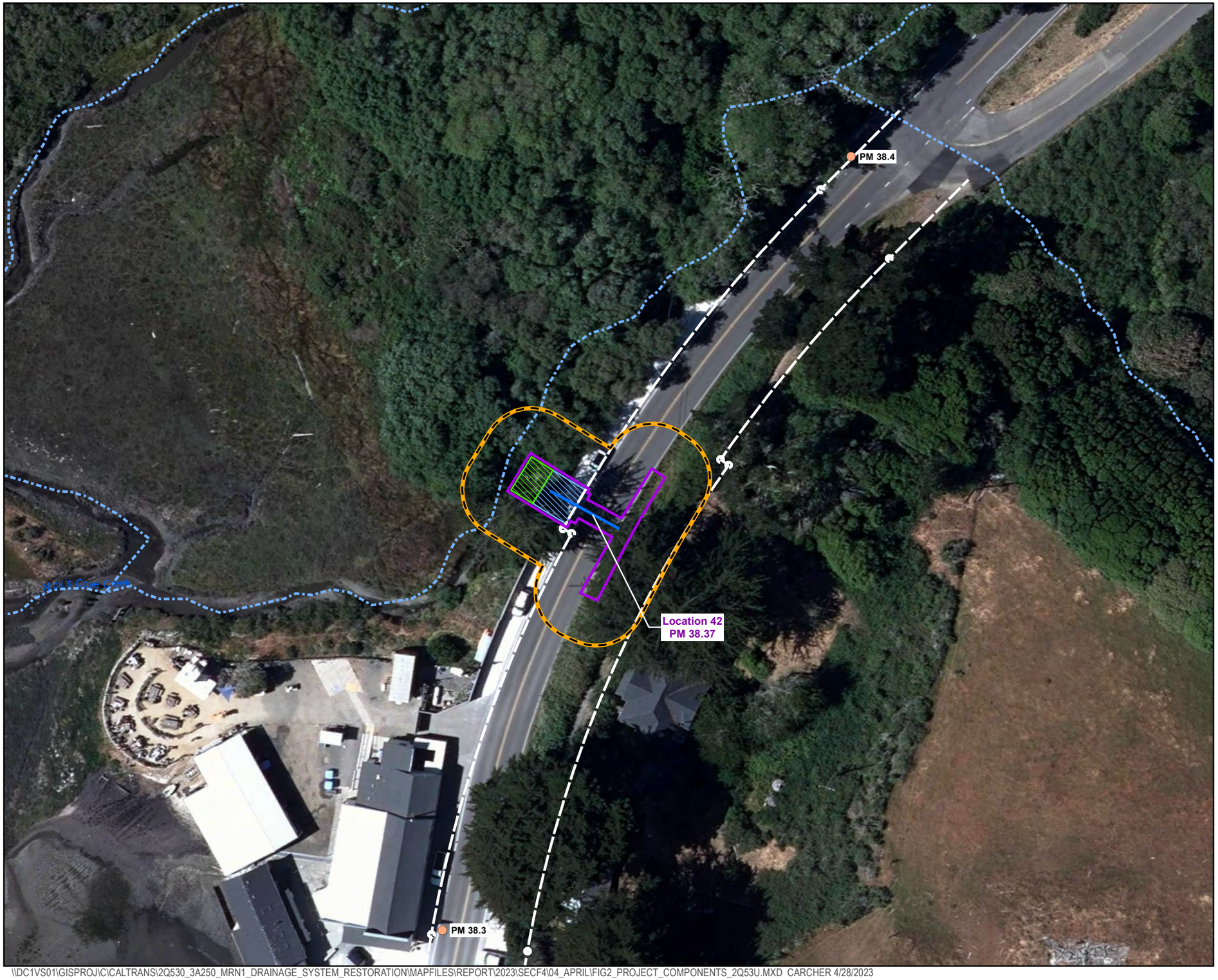
N

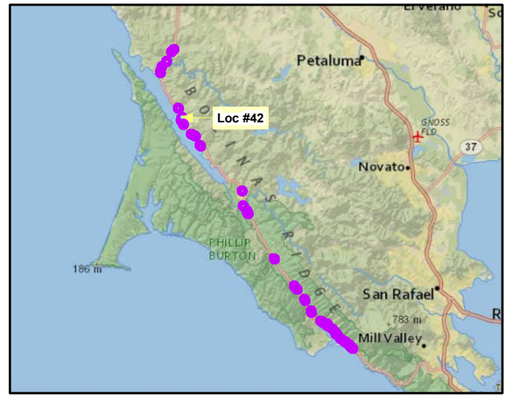
0 50 100
Feet

Caltrans

Figure 2
Map 44 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culvert
- Drainage Easement (Total = 0.091 acre)
- Temporary Construction Easement (Total = 0.548 acre)

Source:
1. Imagery: ESRI, Maxar March 2021

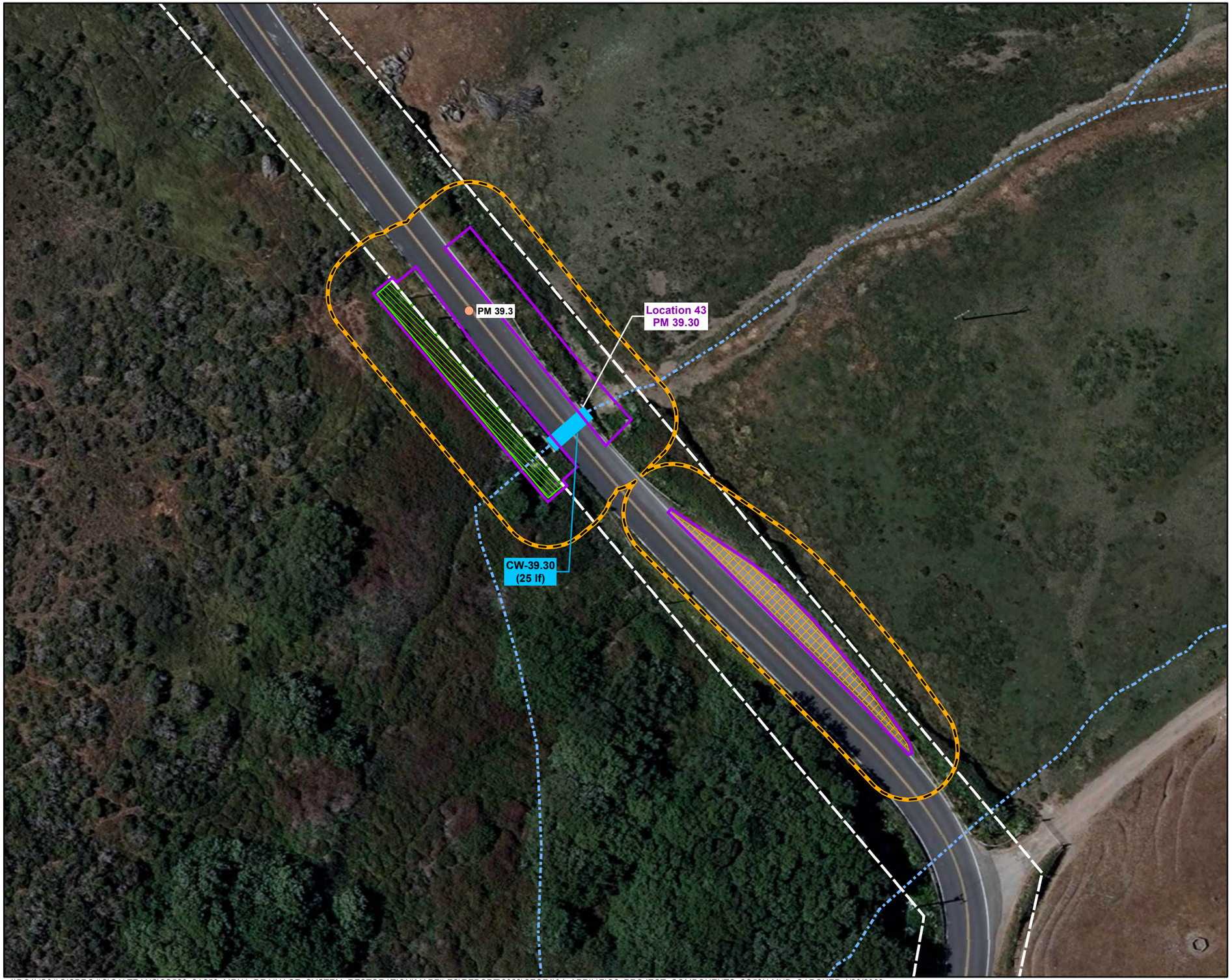
N

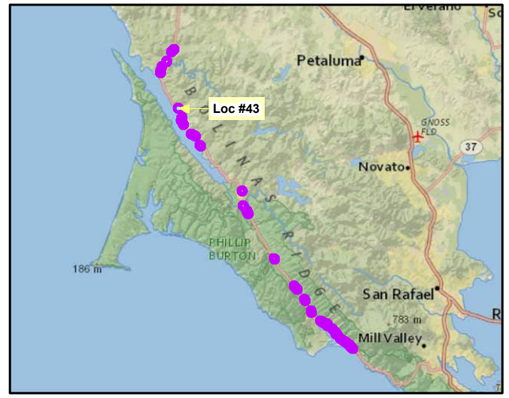
0 50 100
Feet

Caltrans

Figure 2
Map 45 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culverted Waters
- Temporary Construction Easement (Total = 0.548 acre)
- Staging Area

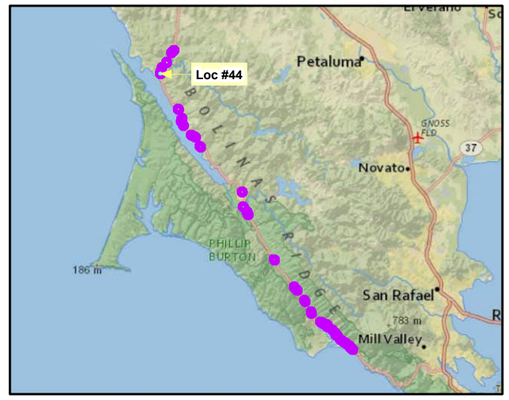
Source:
1. Imagery: ESRI, Maxar March 2021

N

0 50 100
Feet

Figure 2
Map 46 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023



LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Caltrans Right of Way
- Stream or River
- Culvert
- Temporary Construction Easement (Total = 0.548 acre)
- Staging Area

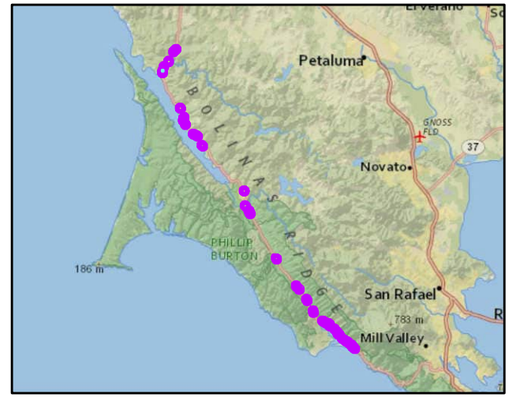
Source:
1. Imagery: ESRI, Maxar March 2021

N

0 50 100
Feet

Figure 2
Map 47 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023



LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

N

0 50 100
Feet

Figure 2
Map 48 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023

LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culverted Waters
- Temporary Construction Easement and Drainage Easement (Total = 0.068 acre)
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

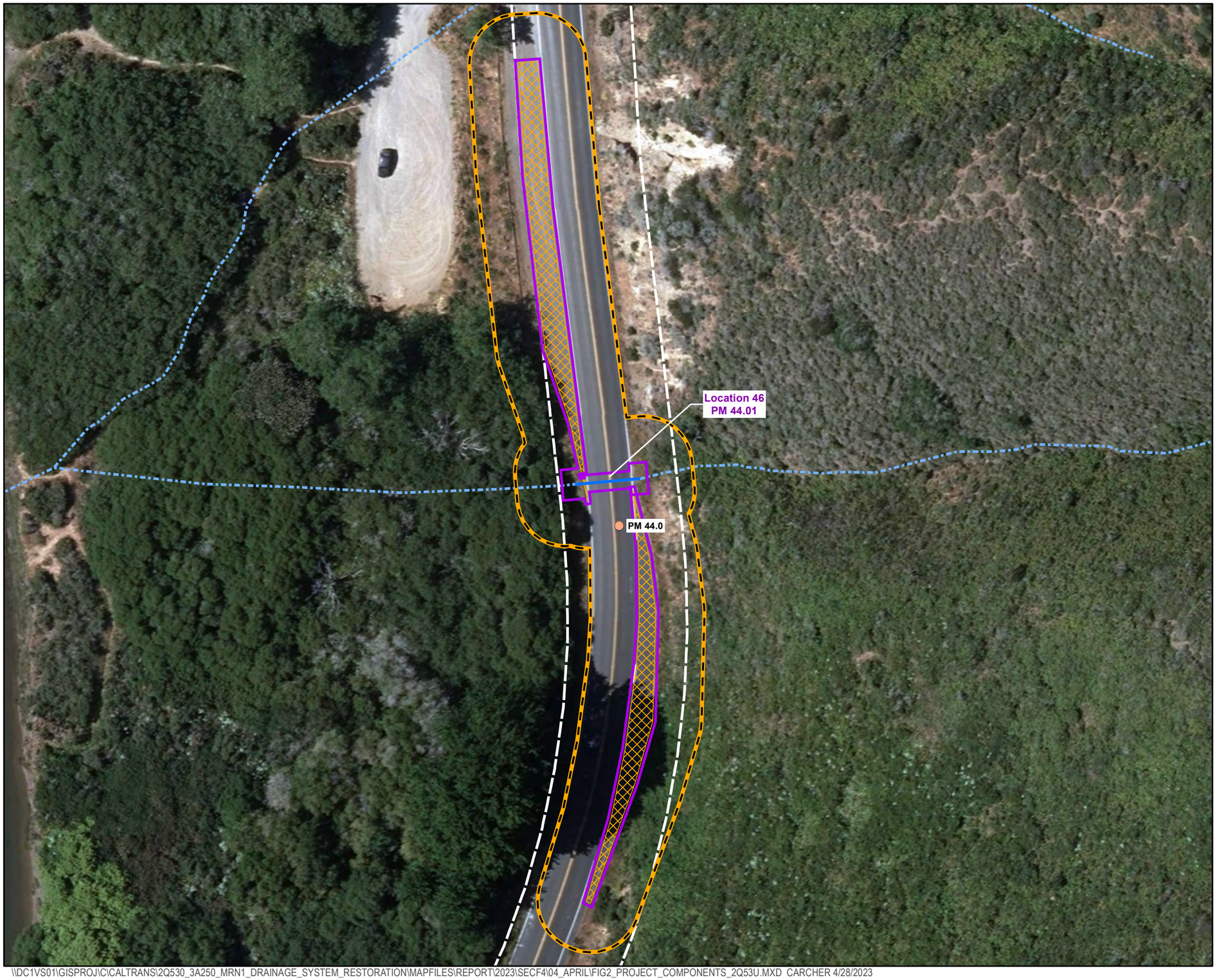
N

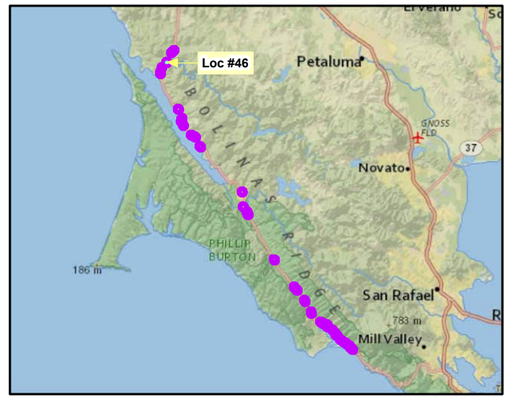
0 50 100
Feet

Caltrans

Figure 2
Map 49 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culvert
- Staging Area

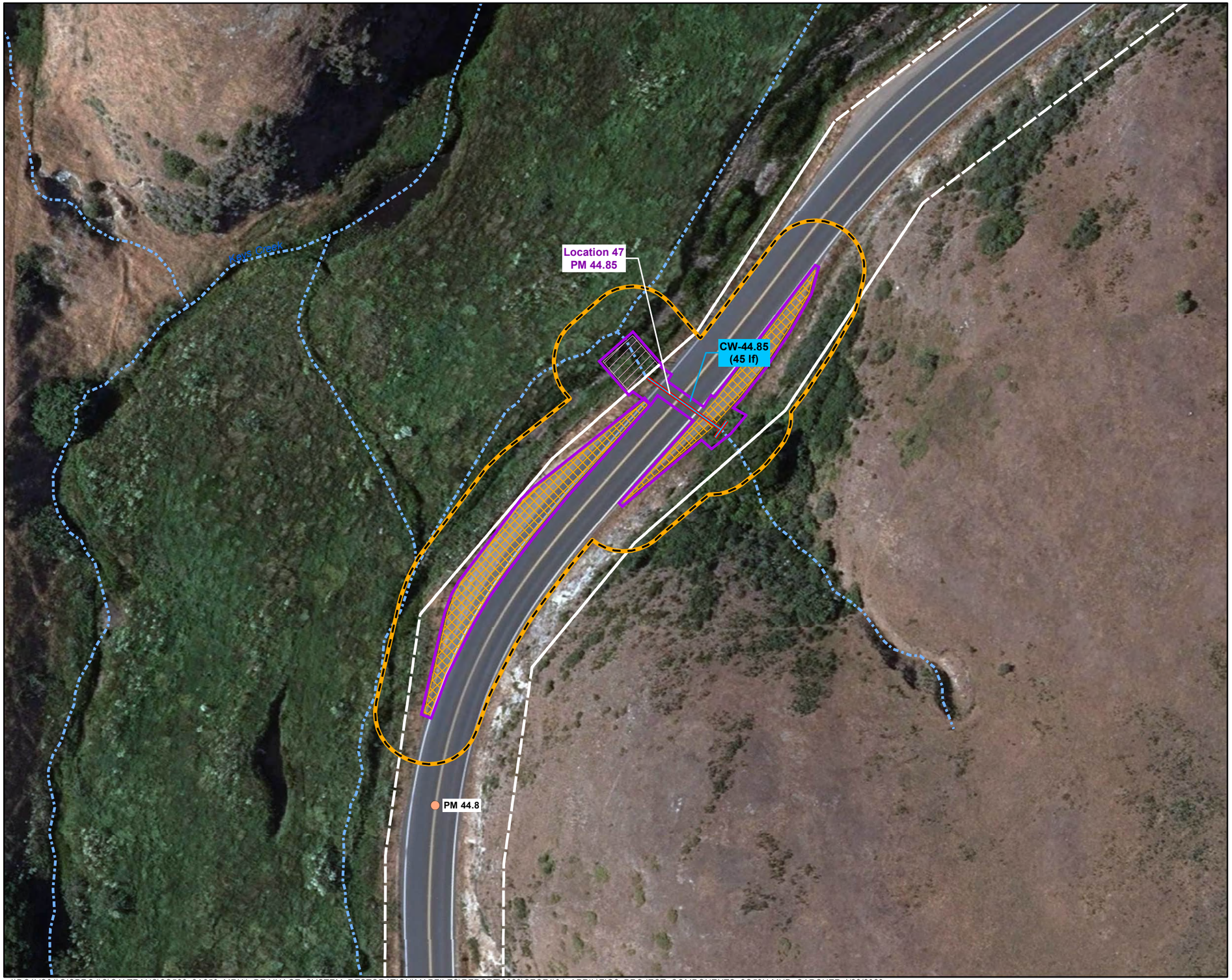
Source:
1. Imagery: ESRI, Maxar March 2021

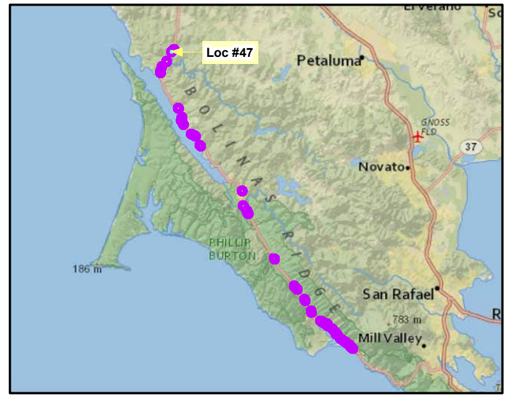
N

0 50 100
Feet

Figure 2
Map 50 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culverted Waters
- Temporary Construction Easement and Drainage Easement (Total = 0.068 acre)
- Staging Area
- Culvert Expansion

Source:
1. Imagery: ESRI, Maxar March 2021

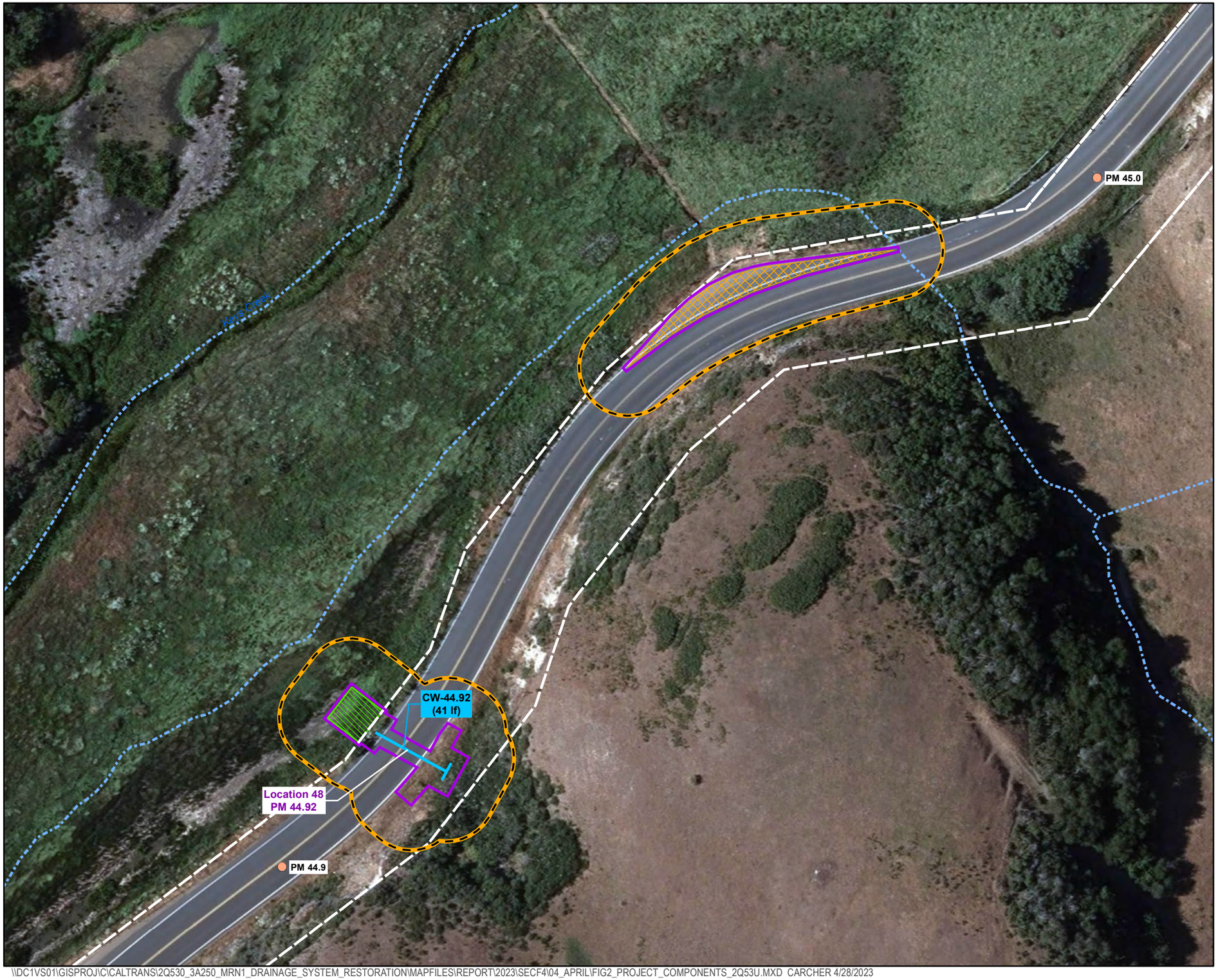
N

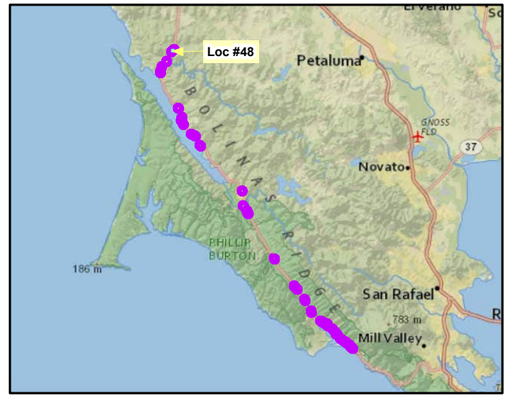
0 50 100
Feet

Caltrans

Figure 2
Map 51 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culverted Waters
- Temporary Construction Easement (Total = 0.548 acre)
- Staging Area

Source:
1. Imagery: ESRI, Maxar March 2021

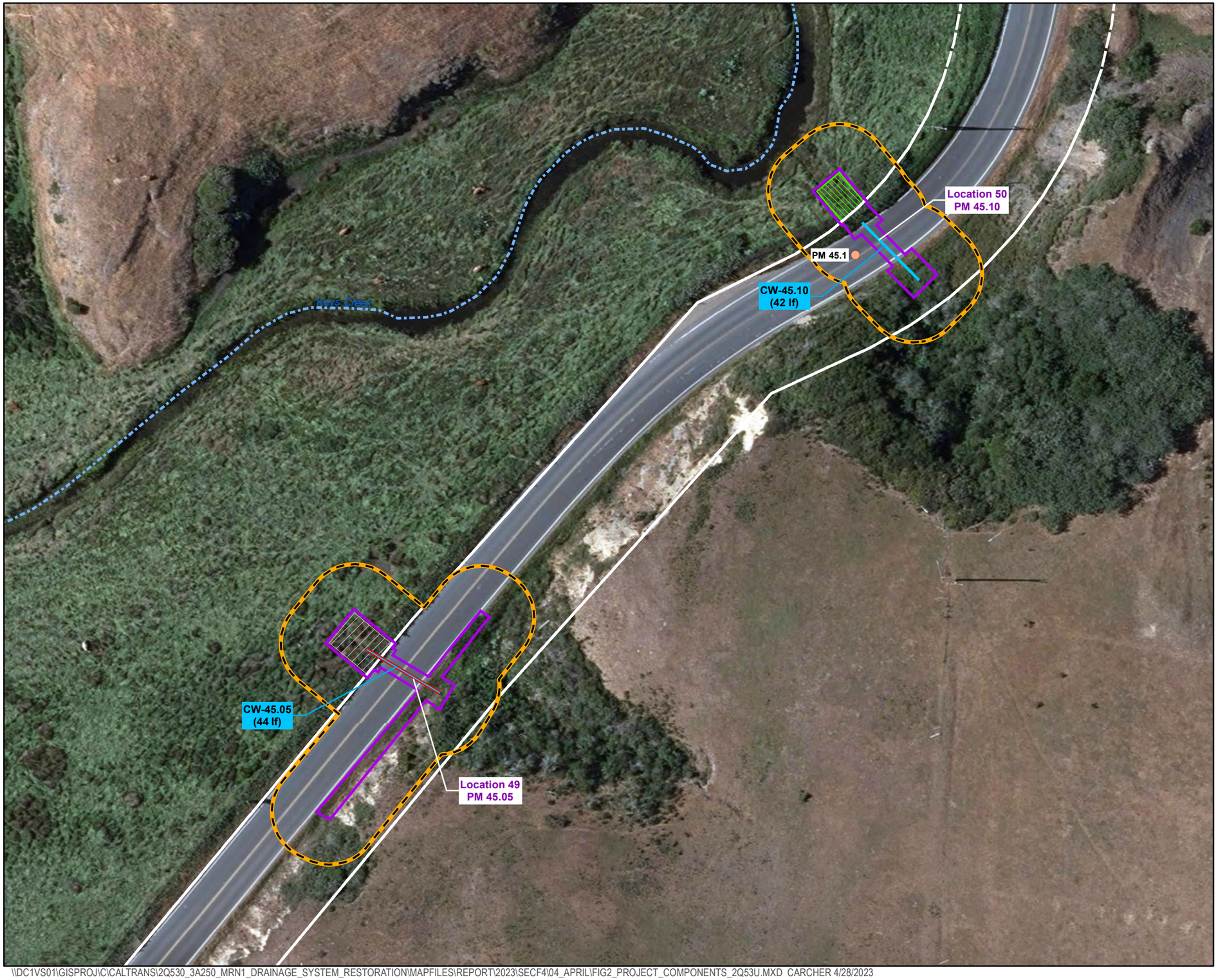
N

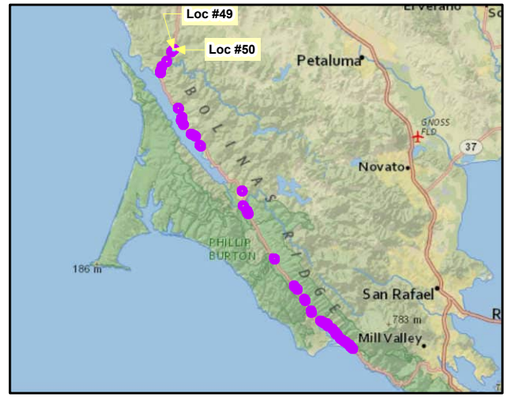
0 50 100
Feet

Caltrans

Figure 2
Map 52 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Biological Study Area (Total = 22.44 acres)
- Project Footprint (Total = 3.51 acres)
- Post Mile
- Caltrans Right of Way
- Stream or River
- Culverted Waters
- Temporary Construction Easement (Total = 0.548 acre)
- Temporary Construction Easement and Drainage Easement (Total = 0.068 acre)
- Culvert Expansion

Source:
1. Imagery: ESRI, Maxar March 2021

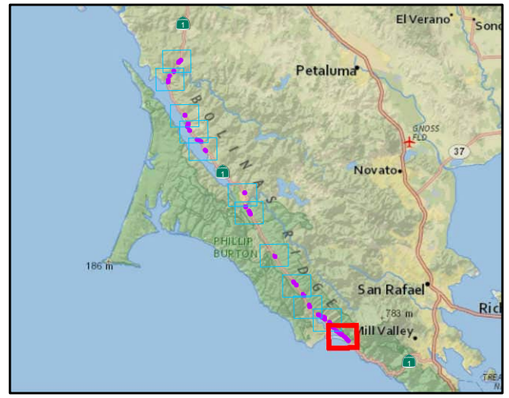
N

0 50 100
Feet

Caltrans

Figure 2
Map 53 of 53
Project Components
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG2_PROJECT_COMPONENTS_2Q53U.MXD CARCHER 4/28/2023



LEGEND

- Project Footprint (3.45 acres)
- 0.5-Mile Radius from Project

Section 4(f) Resource

Parks

- Bolinas Lagoon
- Bolinas-Stinson School (Stinson)
- Golden Gate National Recreational Area
- Mt. Tamalpais State Park
- Stinson Beach Facility
- Upton Beach
- Village Green

Trails

- Existing Trail

Source:
1. Imagery: ESRI, Maxar March 2021

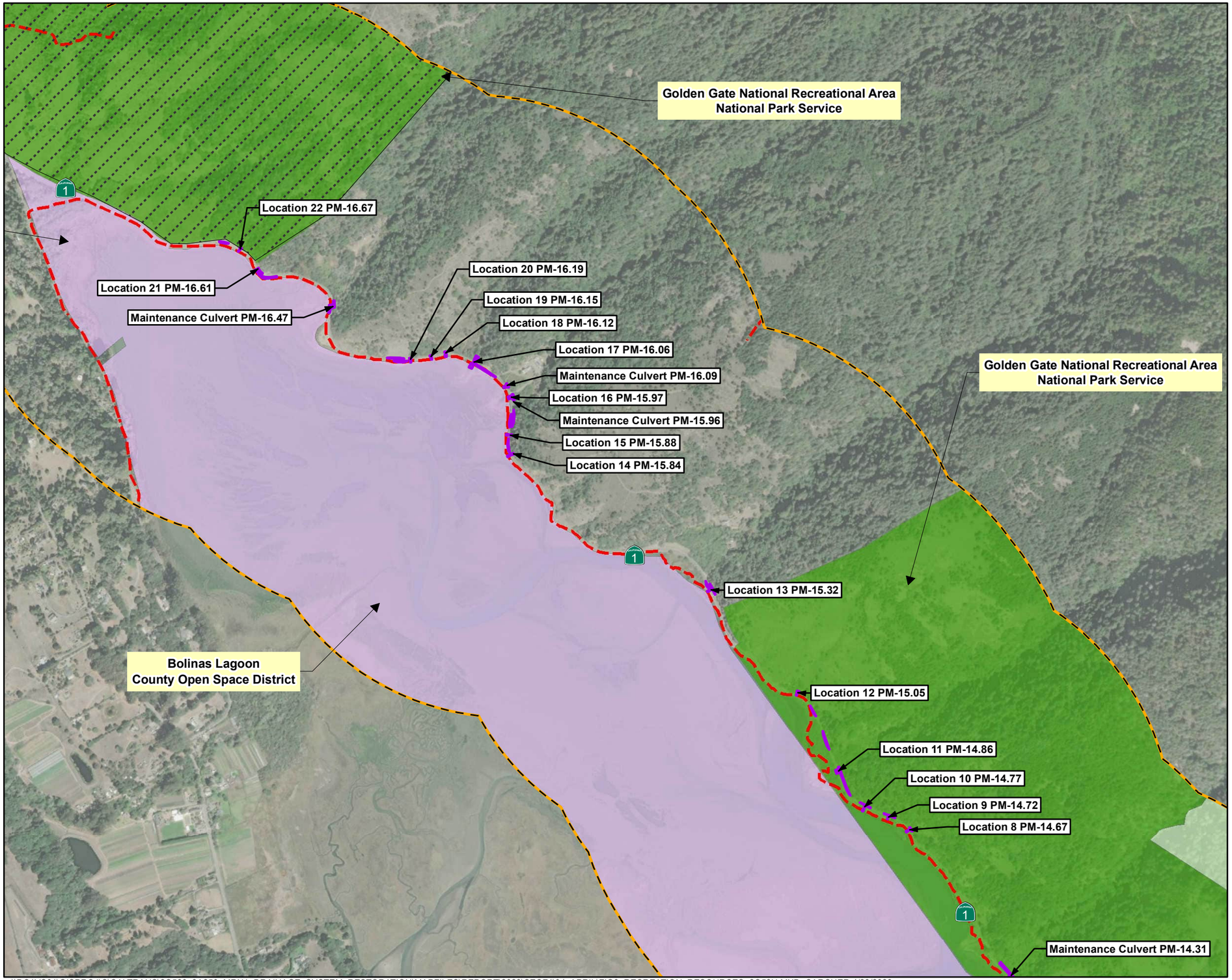
N

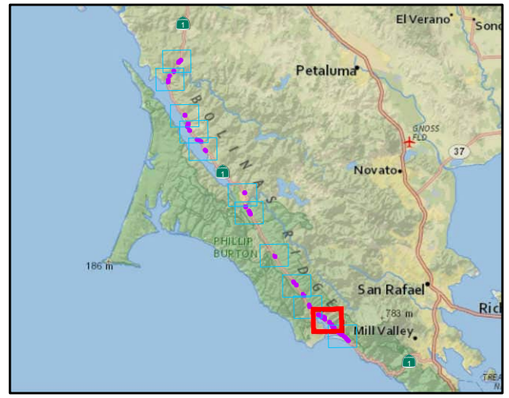
0 1,000 2,000
Feet

Caltrans

Figure 3
Map 01 of 12
Recreation Resources within a 0.5-Mile Radius of Project Footprint
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG3_RECREATION_RESOURCES_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Project Footprint (3.45 acres)
- 0.5-Mile Radius from Project

Section 4(f) Resource

Parks

- Bolinas Lagoon
- Golden Gate National Recreational Area
- Mt. Tamalpais State Park

Trails

- Existing Trail

Historic Resource

- Olema Historic District

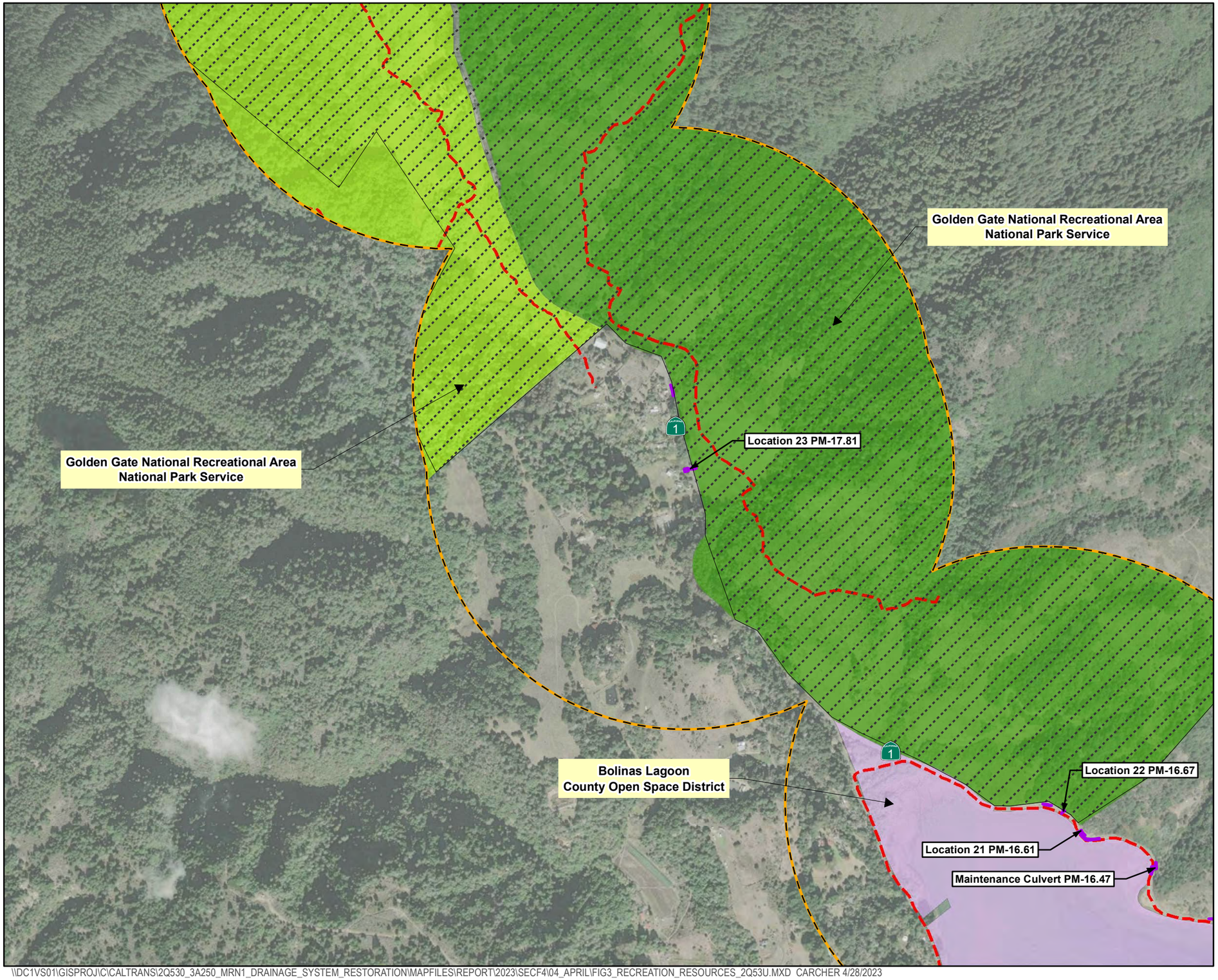
Source:
1. Imagery: ESRI, Maxar March 2021

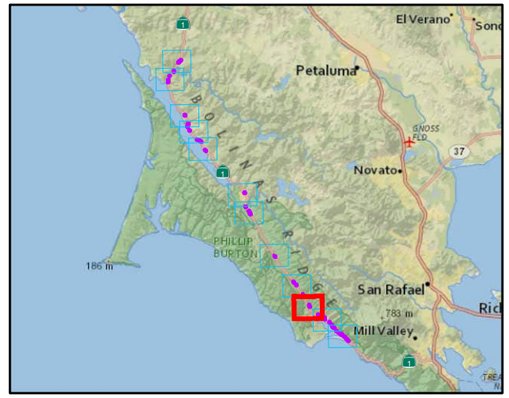
N

0 1,000 2,000
Feet

Figure 3
Map 02 of 12
Recreation Resources within a 0.5-Mile Radius of Project Footprint
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG3_RECREATION_RESOURCES_2Q53U.MXD CARCHER 4/28/2023





LEGEND

Project Footprint (3.45 acres)

0.5-Mile Radius from Project

Section 4(f) Resource

Parks

Bolinas Lagoon

Golden Gate National Recreational Area

Point Reyes National Seashore

Trails

Existing Trail

Historic Resource

Olema Historic District

Source:
1. Imagery: ESRI, Maxar March 2021

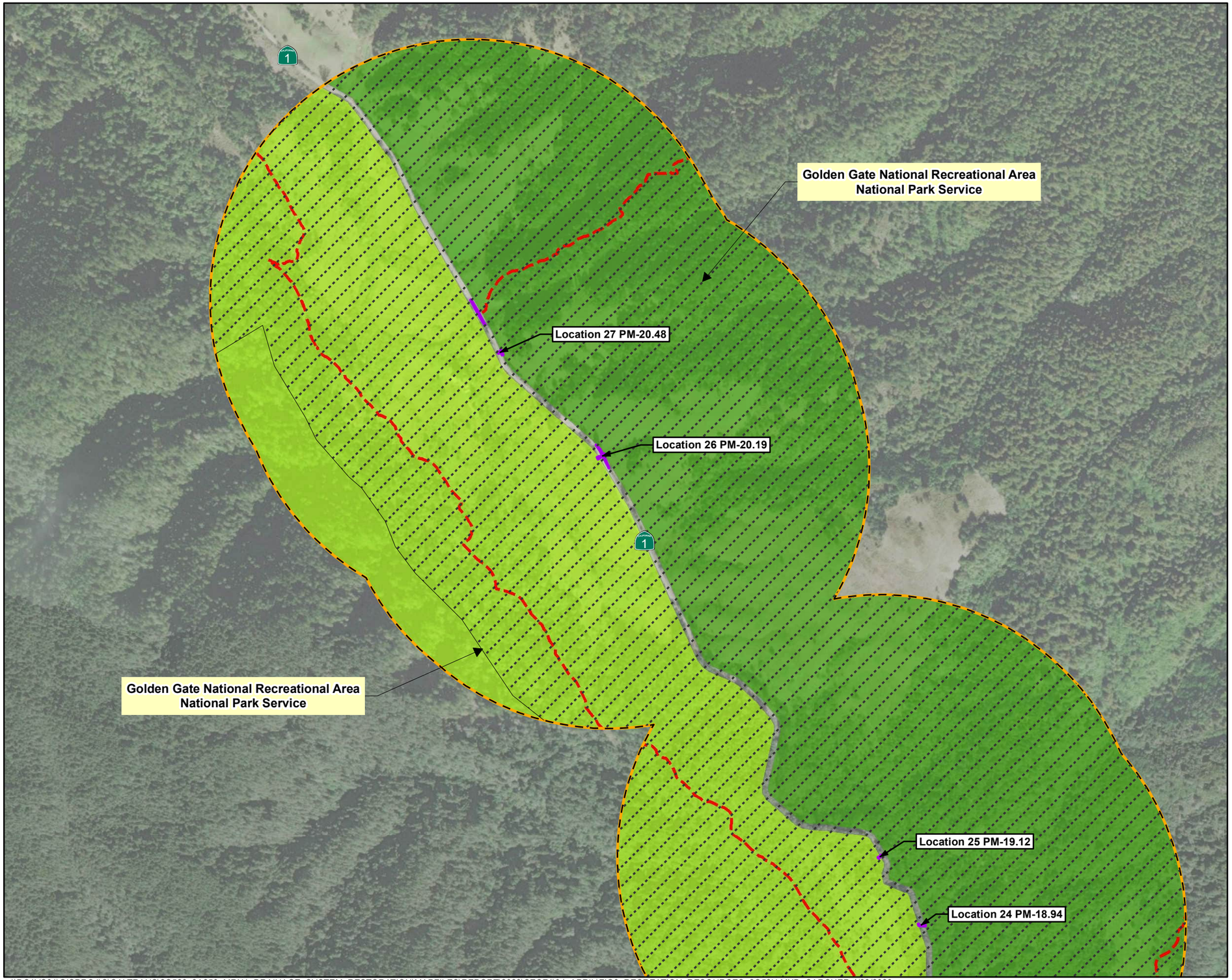
N

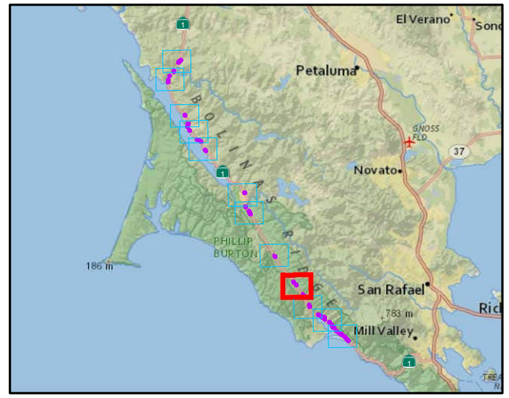
0 1,000 2,000
Feet

Caltrans

Figure 3
Map 03 of 12
Recreation Resources within a 0.5-Mile Radius of Project Footprint
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG3_RECREATION_RESOURCES_2Q53U.MXD CARCHER 4/28/2023





LEGEND

Project Footprint (3.45 acres)

0.5-Mile Radius from Project

Section 4(f) Resource

Parks

Golden Gate National Recreational Area

Point Reyes National Seashore

Trails

Existing Trail

Historic Resource

Olema Historic District

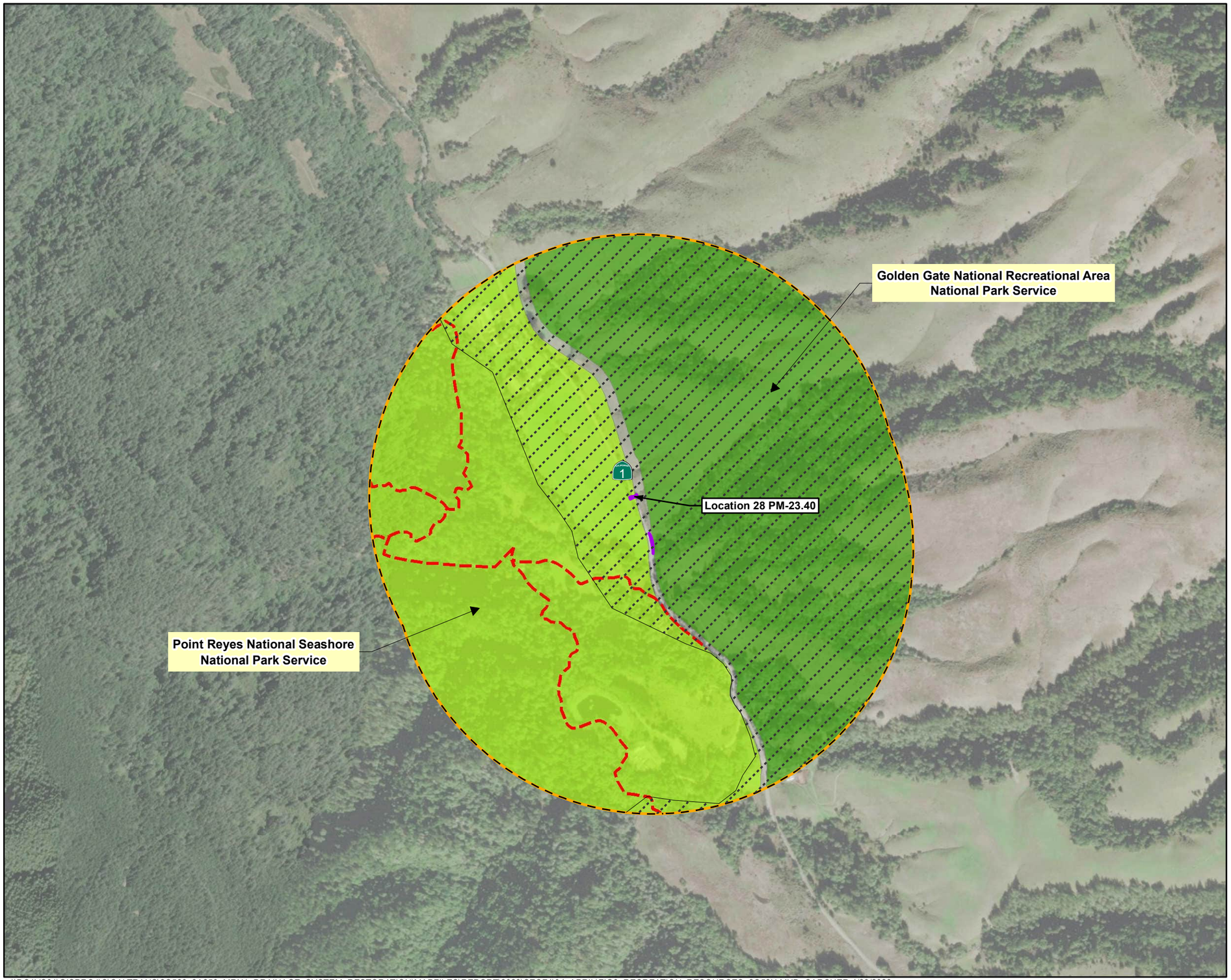
Source:
1. Imagery: ESRI, Maxar March 2021

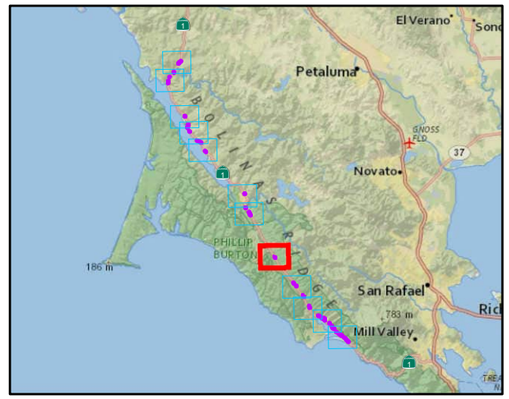
N

0 1,000 2,000
Feet

Figure 3
Map 04 of 12
Recreation Resources within a 0.5-Mile Radius of Project Footprint
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG3_RECREATION_RESOURCES_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Project Footprint (3.45 acres)
- 0.5-Mile Radius from Project

Section 4(f) Resource

Parks

- Golden Gate National Recreational Area
- Point Reyes National Seashore

Trails

- Existing Trail

Historic Resource

- Olema Historic District

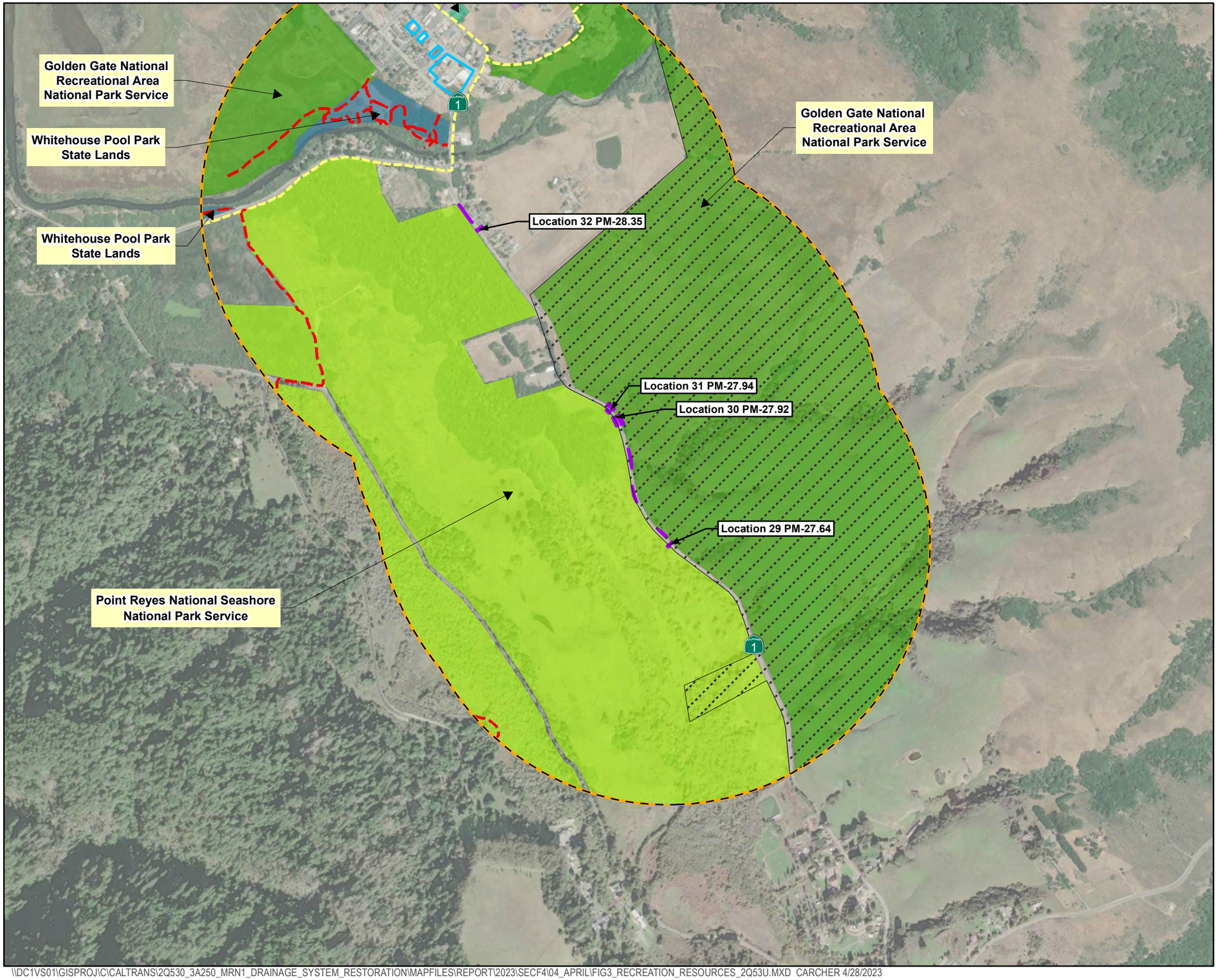
Source:
1. Imagery: ESRI, Maxar March 2021

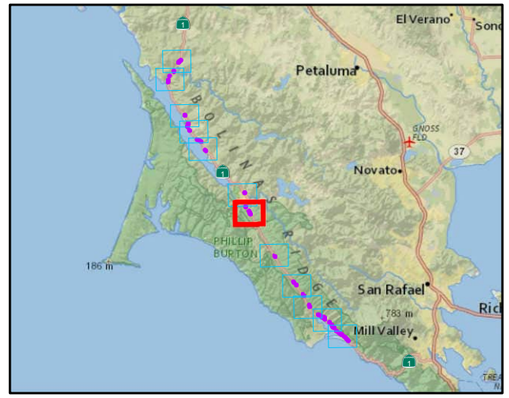
N

0 1,000 2,000
Feet

Figure 3
Map 05 of 12
Recreation Resources within a 0.5-Mile Radius of Project Footprint
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG3_RECREATION_RESOURCES_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Project Footprint (3.45 acres)
- 0.5-Mile Radius from Project

Section 4(f) Resource

Parks

- Golden Gate National Recreational Area
- Point Reyes National Seashore
- Pt. Reyes Park
- West Marin Elementary School
- Whitehouse Pool Park

Trails

- Existing Trail
- Future or Proposed Trail

Historic Resource

- Olema Historic District

Source:
1. Imagery: ESRI, Maxar March 2021

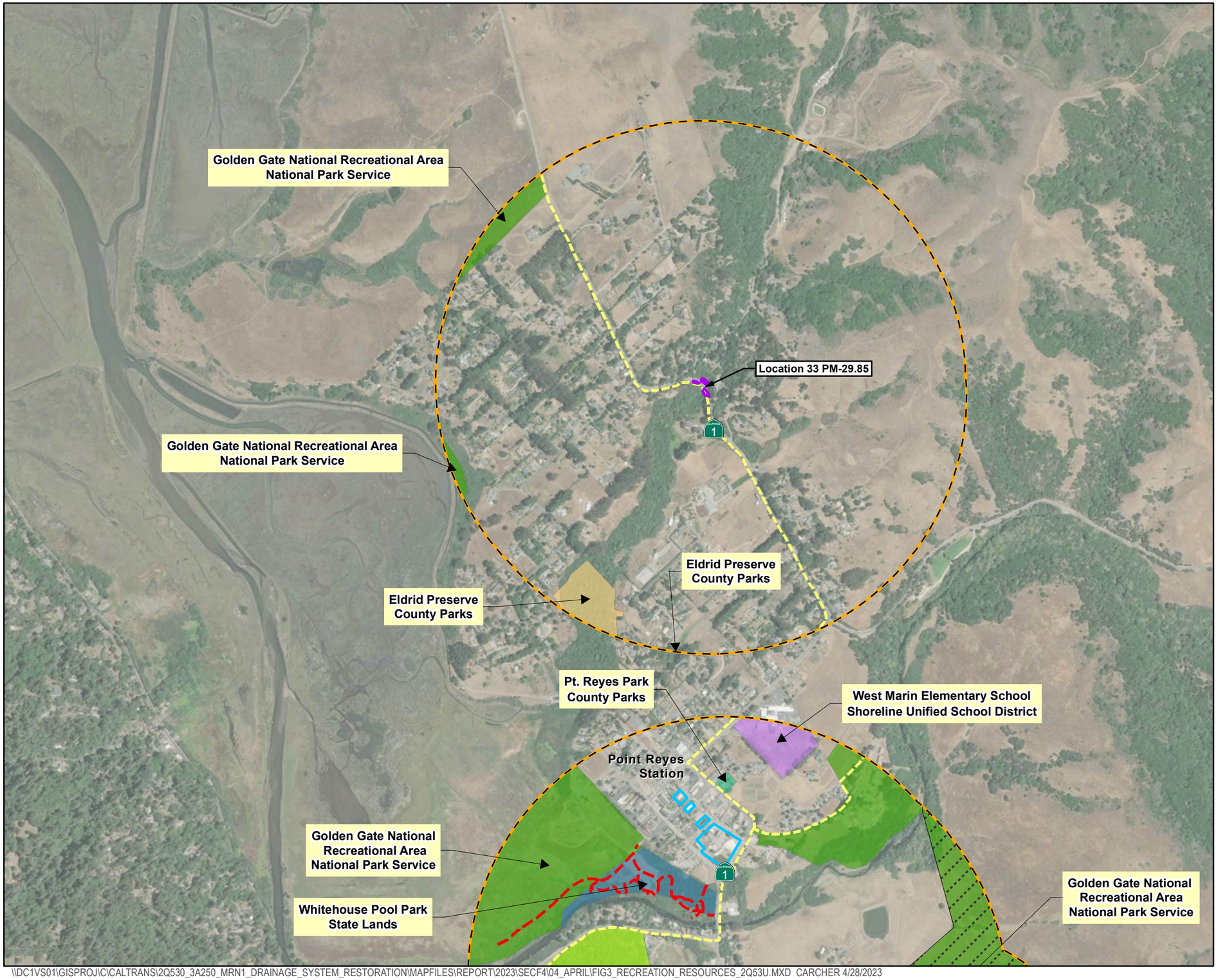
N

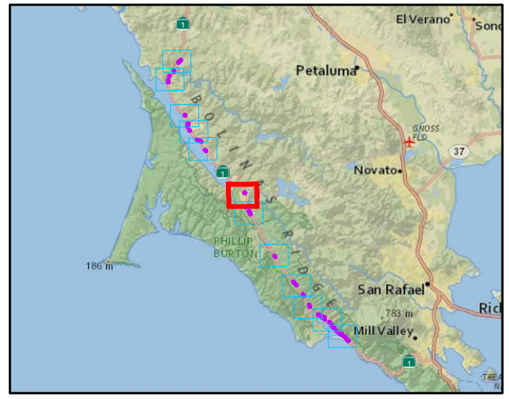
0 1,000 2,000
Feet

Caltrans

Figure 3
Map 06 of 12
Recreation Resources within a 0.5-Mile Radius of Project Footprint
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG3_RECREATION_RESOURCES_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Project Footprint (3.45 acres)
- 0.5-Mile Radius from Project

Section 4(f) Resource

Parks

- Eldrid Preserve
- Golden Gate National Recreational Area
- Point Reyes National Seashore
- Pt. Reyes Park
- West Marin Elementary School
- Whitehouse Pool Park

Trails

- Existing Trail
- Future or Proposed Trail

Historic Resource

- Olema Historic District

Source:
1. Imagery: ESRI, Maxar March 2021

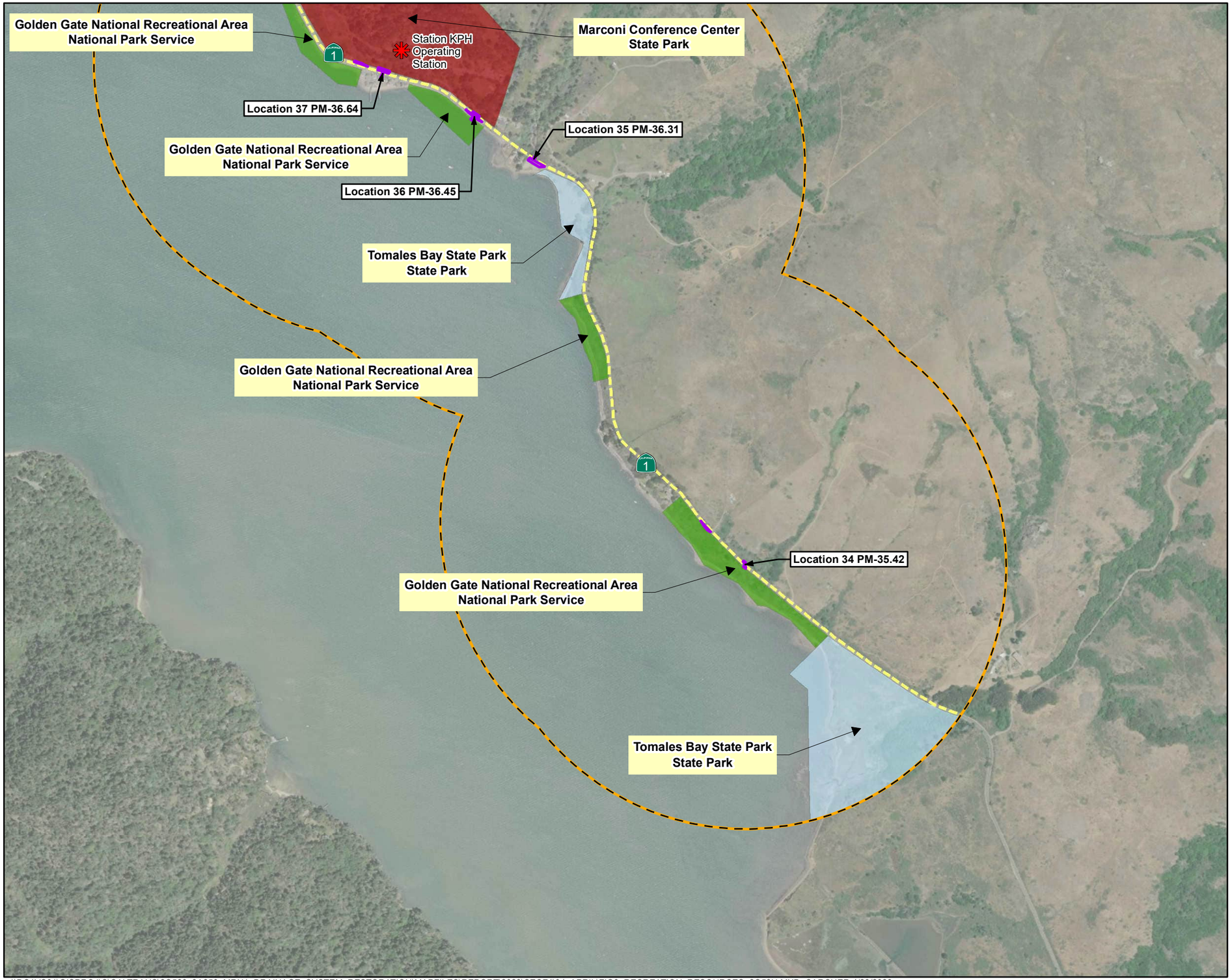
N

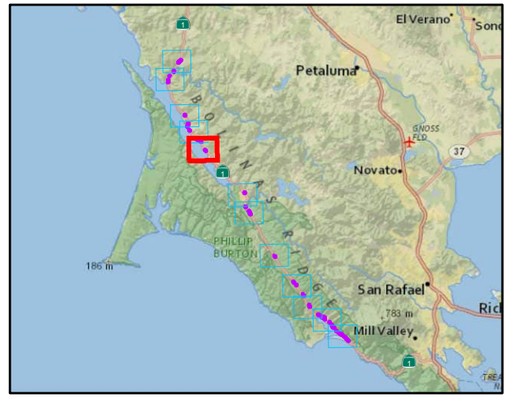
0 1,000 2,000
Feet

Caltrans

Figure 3
Map 07 of 12
Recreation Resources within a 0.5-Mile Radius of Project Footprint
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG3_RECREATION_RESOURCES_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Project Footprint (3.45 acres)
- 0.5-Mile Radius from Project

Section 4(f) Resource

Parks

- Golden Gate National Recreational Area
- Marconi Conference Center
- Tomales Bay State Park

Trails

- Future or Proposed Trail

National Register of Historic Places

- Cultural Resource Building

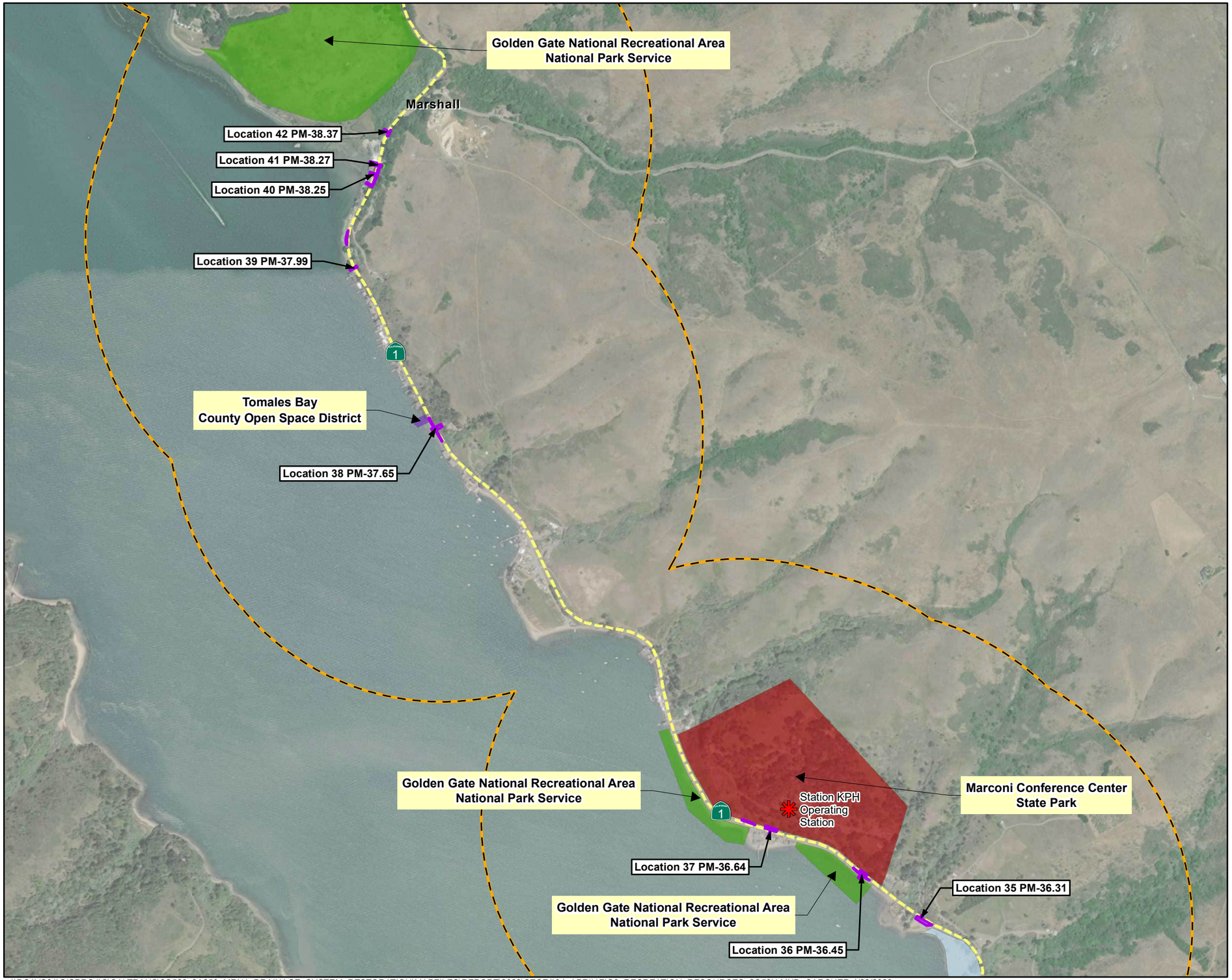
Source:
1. Imagery: ESRI, Maxar March 2021

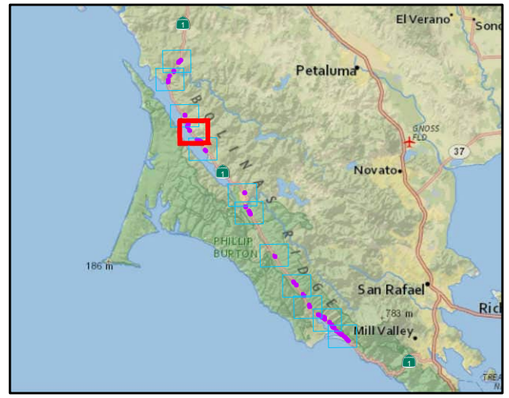
N

0 1,000 2,000
Feet

Figure 3
Map 08 of 12
Recreation Resources within a 0.5-Mile Radius of Project Footprint
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG3_RECREATION_RESOURCES_2Q53U.MXD CARCHER 4/28/2023





LEGEND

Project Footprint (3.45 acres)

0.5-Mile Radius from Project

Section 4(f) Resource

Parks

Golden Gate National Recreational Area

Marconi Conference Center

Tomales Bay

Tomales Bay State Park

Trails

Future or Proposed Trail

National Register of Historic Places

Cultural Resource Building

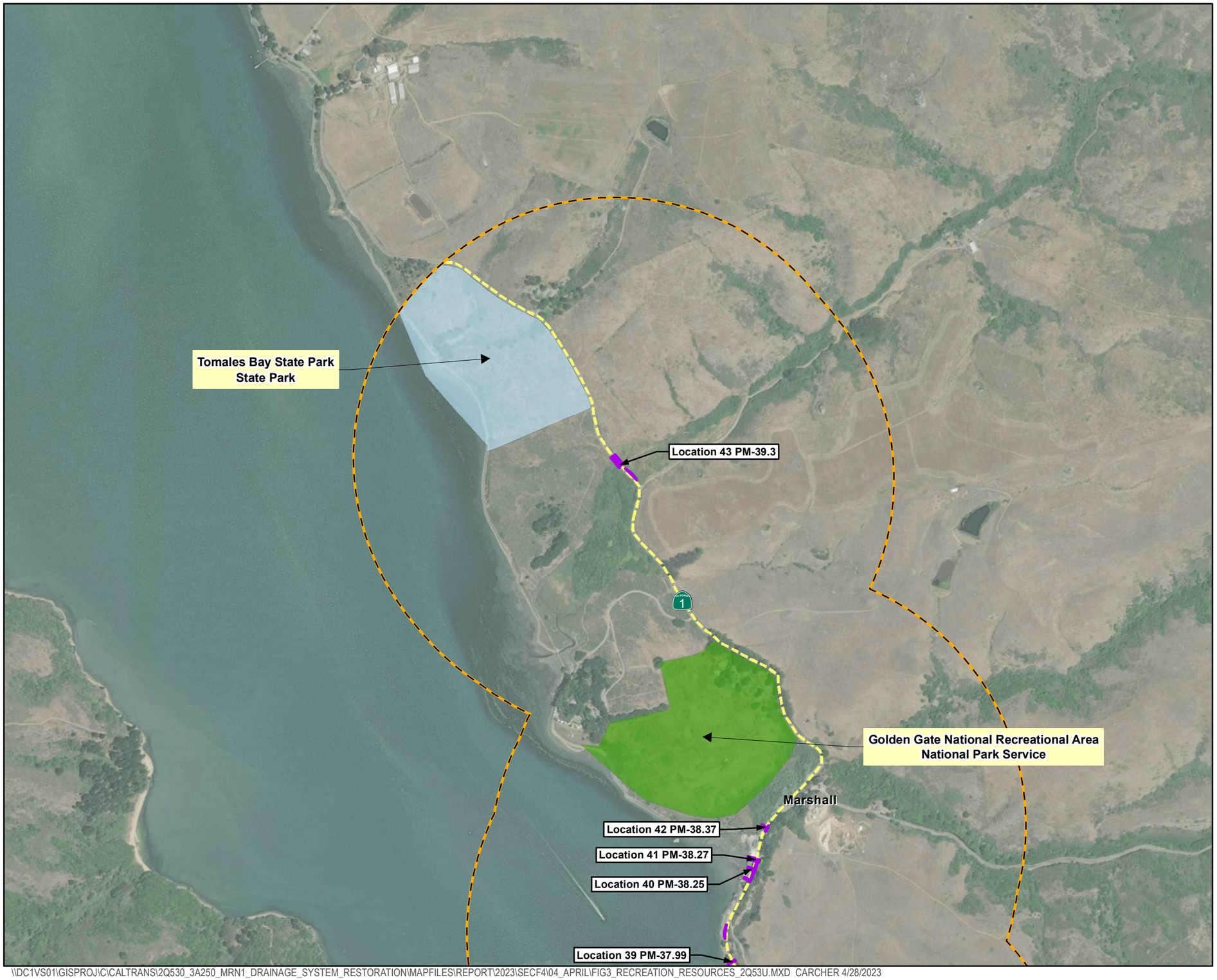
Source:
1. Imagery: ESRI, Maxar March 2021

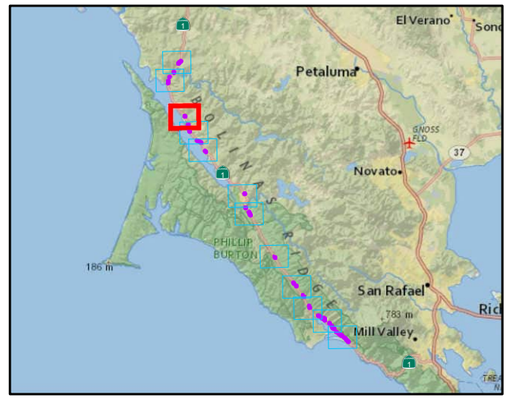
N

0 1,000 2,000
Feet

Figure 3
Map 09 of 12
Recreation Resources within a 0.5-Mile Radius of Project Footprint
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG3_RECREATION_RESOURCES_2Q53U.MXD CARCHER 4/28/2023





LEGEND

Project Footprint (3.45 acres)

0.5-Mile Radius from Project

Section 4(f) Resource

Parks

Golden Gate National Recreational Area

Tomales Bay State Park

Trails

Future or Proposed Trail

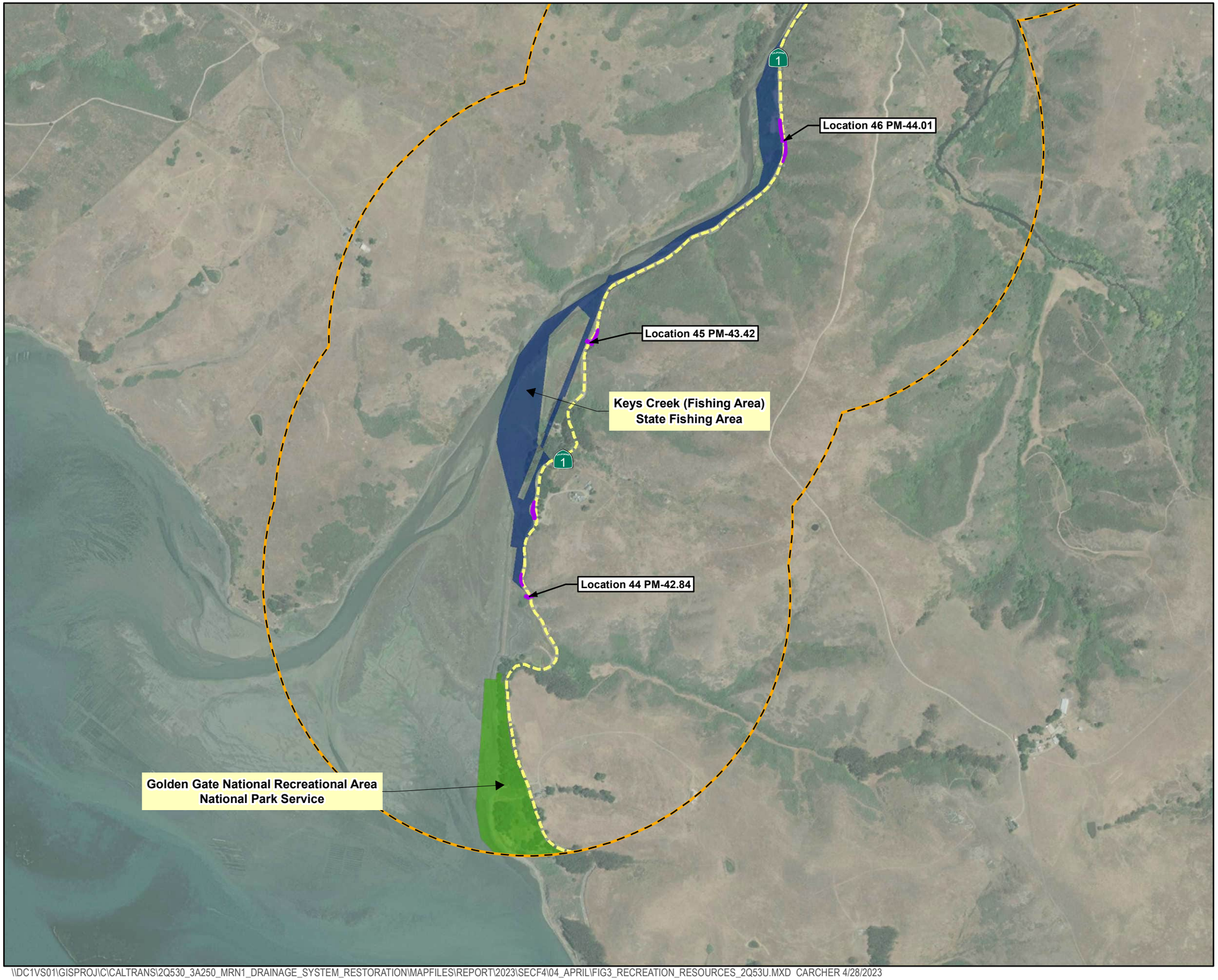
Source:
1. Imagery: ESRI, Maxar March 2021

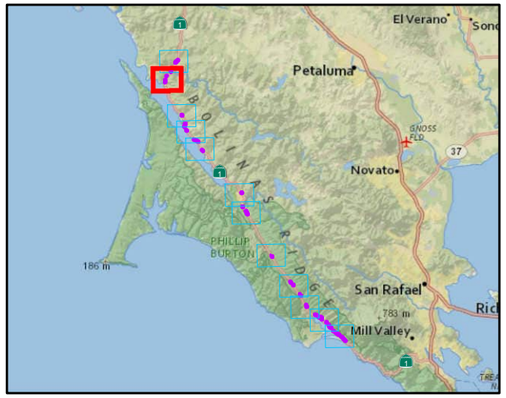
N

0 1,000 2,000
Feet

Figure 3
Map 10 of 12
Recreation Resources within a 0.5-Mile Radius of Project Footprint
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG3_RECREATION_RESOURCES_2Q53U.MXD CARCHER 4/28/2023





LEGEND

Project Footprint (3.45 acres)

0.5-Mile Radius from Project

Section 4(f) Resource

Parks

Golden Gate National Recreational Area

Keys Creek (Fishing Area)

Trails

Future or Proposed Trail

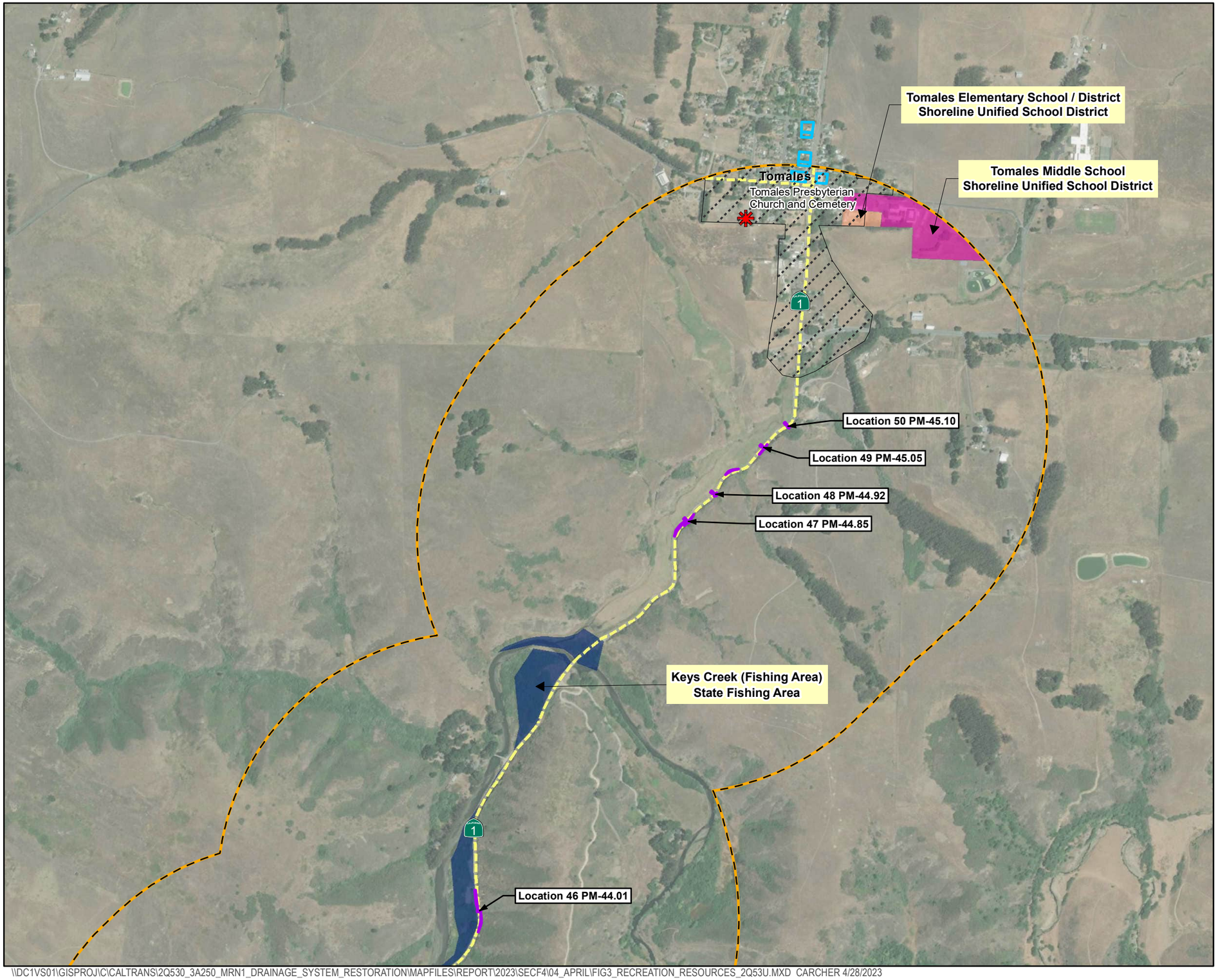
Source:
1. Imagery: ESRI, Maxar March 2021

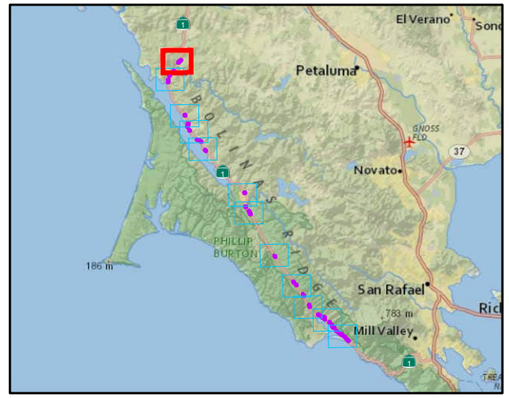
N

0 1,000 2,000
Feet

Figure 3
Map 11 of 12
Recreation Resources within a 0.5-Mile Radius of Project Footprint
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG3_RECREATION_RESOURCES_2Q53U.MXD CARCHER 4/28/2023





LEGEND

- Project Footprint (3.45 acres)
- 0.5-Mile Radius from Project

Section 4(f) Resource

Parks

- Keys Creek (Fishing Area)
- Tomales Elementary School / District
- Tomales Middle School

Trails

- Future or Proposed Trail

Historic Resource

- Tomales Historic District

National Register of Historic Places

- Cultural Resource Building

Source:
1. Imagery: ESRI, Maxar March 2021

N

0 1,000 2,000
Feet

Caltrans

Figure 3
Map 12 of 12
Recreation Resources within a 0.5-Mile Radius of Project Footprint
Marin 1 Drainage System Restoration Project
04-2Q53U
MRN-1 Post Mile 13.05/45.10
Marin County, California

\\DC1VS01\GISPROJ\C\CALTRANS\2Q530_3A250_MRN1_DRAINAGE_SYSTEM_RESTORATION\MAPFILES\REPORT\2023\SECF4\04_APRIL\FIG3_RECREATION_RESOURCES_2Q53U.MXD CARCHER 4/28/2023