

**COUNTY OF SAN MATEO
PLANNING AND BUILDING DEPARTMENT**

DATE: July 14, 2021

TO: Planning Commission

FROM: Planning Staff

SUBJECT: EXECUTIVE SUMMARY: Consideration of a Coastal Development Permit to construct a “pump track” for bicyclists at Quarry Park facility in the unincorporated El Granada area of San Mateo County. This project is appealable to the California Coastal Commission.

County File Number: PLN 2021-00096
(San Mateo County Parks Department)

PROPOSAL

In 2017, the County Parks Department initiated the planning process to create a master plan for the Quarry Park facility in the hills above the community of El Granada. Early on in the process, a pump track was identified as a desirable use for the area, and the Quarry Park meadow was subsequently identified as a compatible location for the pump track. After extensive community outreach, the County’s design team finalized a preferred concept for the pump track and submitted it to the Planning Department for a Coastal Development Permit.

The pump track will be constructed entirely out of compacted earth, sourced from native soils onsite to the extent feasible, and will consist of a sequence of banked turns and rollers to allow riders to traverse the track without pedaling. In addition to dirt trails, the pump track will feature several skills components that will be made out of stones, wood and metal, as well as a bike fixit station, picnic tables, and perimeter gates and fencing to match the existing fencing and gates at Quarry Park. The footprint of the proposed track will be approximately 42,000 sq. ft. (0.96 ac). Grading to construct the track is estimated at approximately 800 cubic yards, but no cut or fill will be greater than two feet in height. The project site is relatively flat and vegetation within the footprint area consists primarily of non-native annual grasses. No trees are proposed for removal as part of this project.

RECOMMENDATION

That the Planning Commission approve the Coastal Development Permit, County File Number PLN 2021-00096, by adopting the required findings and conditions of approval contained in Attachment A.

SUMMARY

Staff has completed a review of the proposed project and all submitted documents and reports in order to determine the project's conformity to applicable General Plan and Local Coastal Program policies. Potential impacts to special status species were identified. Conditions of approval to mitigate these potential impacts have been included in Attachment A of this report. For the purposes of compliance with the California Environmental Quality Act (CEQA), the project qualifies for a Categorical Exemption, specifically Category Four (Minor Alterations of Land). Planning staff has reviewed the project and concluded that the project, as conditioned, complies with the County's General Plan and Local Coastal Program.

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**COUNTY OF SAN MATEO
PLANNING AND BUILDING DEPARTMENT**

DATE: July 14, 2021

TO: Planning Commission

FROM: Planning Staff

SUBJECT: Consideration of a Coastal Development Permit, pursuant to Section 6328.4 of the County Zoning Regulations, to construct a “pump track” for bicyclists at Quarry Park facility in the unincorporated El Granada area of San Mateo County. This project is appealable to the California Coastal Commission.

County File Number: PLN 2021-00096
(San Mateo County Parks Department)

PROPOSAL

In 2017, the County Parks Department initiated the planning process to create a master plan for the Quarry Park facility in the hills above the community of El Granada. Early on in the process, a pump track was identified as a desirable use for the area, and the Quarry Park meadow was subsequently identified as a compatible location for the pump track. After extensive community outreach, the County’s design team finalized a preferred concept for the pump track and submitted it to the Planning Department for a Coastal Development Permit.

The pump track will be constructed entirely out of compacted earth, sourced from native soils onsite to the extent feasible, and will consist of a sequence of banked turns and rollers to allow riders to traverse the track without pedaling. In addition to dirt trails, the pump track will feature several skills components that will be made out of stones, wood and metal, as well as a bike fixit station, picnic tables, and perimeter gates and fencing to match the existing fencing and gates at Quarry Park. The pump track will be separated into three separate skill levels including a perimeter skills trail, a beginner track, and an intermediate track in order to provide a range of experiences for riders, and clear signage will be provided to ensure the pump track rules and expectations are understood by all users. The footprint of the proposed track will be approximately 42,000 sq. ft. (0.96 ac). Grading to construct the track is estimated at approximately 800 cubic yards, but no cut or fill will be greater than two feet in height. The project site is relatively flat and vegetation within the footprint area consists primarily of non-native annual grasses. No trees are proposed for removal as part of this project.

RECOMMENDATION

Approve the Coastal Development Permit, County File Number PLN 2021-00096, by adopting the required findings and conditions of approval contained in Attachment A.

BACKGROUND

Report Prepared By: Michael Schaller, Senior Planner

Applicant: Gates + Associates (Dylan Buterbaugh, representative)

Owner: San Mateo County Parks Department

Location: Quarry Park, El Granada

APN(s): 047-340-020

Existing Zoning: Resource Management – Coastal Zone (RM-CZ)

General Plan Designation: Open Space (Rural)

Existing Land Use: The larger Project Parcel is part of the Quarry Park community park in the hills on the east side of El Granada. The area in which the pump track is proposed is an existing open meadow area adjacent to the parking lot near the entrance to the park.

Flood Zone: Zone X (Areas of Minimal Flood Hazard), FEMA Community Panel 06081C-0140E, Effective Date: October 16, 2012.

Environmental Evaluation: Categorically exempt, pursuant to the California Environmental Quality Act (CEQA), Section 15304, Class 4, relating to the minor alteration in the condition of land.

Setting: The area where the pump track is proposed is an open meadow area dominated by non-native annual grassland vegetation. Primary plant species include slender oat, Italian ryegrass, rip gut brome, and bristly ox-tongue with few native species. Surrounding the meadow to the north, east and west lies a dense stand of non-native eucalyptus forest. To the south lies the entry road and parking area for the park. The meadow area where the track is proposed has a gentle slope of just under 3 percent. Approximately 200 feet to the west of the proposed track lies an intermittent stream channel. Vegetation around this stream channel is dominated by eucalyptus trees.

DISCUSSION

A. KEY ISSUES

1. Conformance with the County General Plan

The County's Local Coastal Program (LCP) is a subset of the County General Plan, and the two documents are internally consistent. The following analysis of the project's consistency with the LCP, which is more specific than the General Plan with regard to issues raised by this project, therefore also addresses, by extension, the project's consistency with the County's General Plan.

2. Conformance with the Local Coastal Program

a. Locating and Planning New Development

Policy 1.8 (*Land Uses and Development Densities in Rural Areas - Amount of Development Allowed for Visitor-Serving, Commercial Recreation, and Public Recreation Uses*) this policy requires the use of density credits as a means of regulating the amount of development allowed on rural parcels. The project site lies on the "rural" side of the LCP designated urban/rural boundary map. Specifically, this policy requires one density credit for the first 945 gallons, or fraction thereof, of average daily water use during the two months of highest water use in a year. It further ties the amount of development allowed per density credit to the uses enumerated in Table 1.5 of the Local Coastal Program. The closest category of use listed in that table would be Outdoor Sports Facility. However, all of the subcategories within that listing involve water use – drinking fountains, toilets, and irrigated landscape. In this instance the track will be "paved" (using Soiltac) and no irrigated landscaping (which would require regular watering) is being proposed. No bathrooms or water fountains are proposed. Upon completion, the project will not consume water. Therefore, the proposed public recreational use does not consume a density credit.

Policy 1.35 (*All New Land Use Development and Activities Shall Protect Coastal Water Quality*) the project plans include construction phase erosion control plans and a permanent storm water control plan that have been reviewed and approved by the Department's Stormwater Review section as complying with the County's Regional Stormwater Permit.

b. Sensitive Habitats Component

Policy 7.1 (*Definition of Sensitive Habitats*) this policy defines sensitive habitats as any area in which plant or animal life or their habitats are either rare or especially valuable, and includes endangered species habitat, intermittent streams, and lakes and ponds. As discussed in the Project Setting section, there is an intermittent stream channel approximately 200 feet to the west of the project site. The applicant has had a Biological Resource Assessment prepared for the Quarry Park property (Attachment D). The Assessment described this stream channel as follows:

“The unnamed USGS dashed blue-line intermittent stream trending north-south in the western portion of the Study Area had obvious signs of scouring and debris deposition within the streambed and an unvegetated gravel bed. This unnamed stream had widths varying from 5 to 7 feet with flowing water (at the time of the assessment). Dominant vegetation associated with the stream is comprised of blue gum eucalyptus, red elderberry, and poison oak.”

The Assessment did not identify any other Sensitive Habitat Areas in the area surrounding the project site.

Policy 7.5 (*Permit Conditions*) this policy requires, as part of the development review process, that the applicant demonstrate that there will be no significant impact on sensitive habitats or species. This is achieved by submission of a biological report outlining what resources exist at the project location and how the project may impact those resources. As discussed above, the applicant has prepared a Biological Resource Assessment of the Quarry Park property. The Assessment identified the several plant species, such as San Mateo Tree Lupine, which have the potential to occur on the larger Quarry Park property. However, these species are generally associated with northern coastal scrub habitat, which occurs in other parts of the park and are not usually associated with open grassland habitats. Moreover, this grassland meadow area where the track is proposed has a history of active use for hiking, picnicking, and other pedestrian uses.

Four special status wildlife species were also identified as having a high potential to occur on or within the Quarry Park property, though their chances of occurring in the immediate project area are limited due to the lack of suitable habitat. The Assessment identified:

San Francisco Dusky-footed Woodrat - Woodrat nests were observed in various forested habitats (e.g., riparian, willow and blue gum) throughout the Study Area. The Assessment determined that if construction activities were to occur within such habitats, then protection measures would be required. As stated previously, all work associated with the project will occur in the open grassland meadow area. No work is proposed to occur within any of the forested areas of the property.

Special-Status and Non-Special-Status Nesting Birds - Special-status bird species with potential to nest within the Study Area include white-tailed kite, olive-sided flycatcher, and Allen's hummingbird. In addition, most common native bird species are also protected by the Migratory Bird Treaty Act (MBTA) during the nesting season. The following avoidance and minimization measures are recommended by the Assessment to avoid impacts to special-status bird species. These measures include pre-construction surveys and exclusion zones around identified nests. These recommended measures have been included as Conditions of Approval No. 5 and 6.

California Red-legged Frog - California Red-Legged Frog (CRLF) and San Francisco Garter Snake (SFGS) are both likely to inhabit upper Arroyo de en Medio within Quarry Park. The Arroyo is nearly a mile away from the project site and on the other side of the ridge that dominates Quarry Park. California Red-Legged Frog may also inhabit ponds and streams throughout the rest of the Quarry Park Study Area, but SFGS is unlikely in areas outside of Arroyo de en Medio because of the absence of preferred habitat components. As discussed previously, there is an intermittent stream approximately 200 feet to the west of the project site. While not ideal habitat for the CRLF, it still potentially could occur within the riparian corridor associated with this intermittent stream. The Assessment has recommended a number of standard protection measures to avoid impacting the California Red-Legged Frog. These recommended measures have been included as Conditions of Approval Nos. 8 - 21.

Monarch Butterfly - Monarch butterfly has potential to roost in the Eucalyptus groves throughout the Study Area during the winter. However, the proposed project will not remove or trim any of the adjacent Eucalyptus trees. It is not anticipated that the project will have an impact upon roosting Monarch butterfly colonies if any are present during the time of construction. However, out of an abundance of caution, the recommended protection measures from the Biological Resources Assessment have been included as Conditions of Approval Nos. 22 - 25.

Policy 7.11 (*Establishment of Buffer Zones (for Riparian Corridors)*) on both sides of riparian corridors, from the “limit of riparian vegetation” extend buffer zones 50 feet outward for perennial streams and 30 feet outward for intermittent streams. As mentioned previously, there is an intermittent stream (with associated riparian vegetation) approximately 200 feet west of the project site. The most westerly edge of the proposed work area is approximately 60 feet away from the “limits of riparian vegetation” for this stream, well outside the required buffer zone.

c. Visual Resources Component

Policy 8.5 (*Location of Development*) this policy requires that development be located on a portion of a parcel where it is least visible from State and County Scenic Roads, is least likely to significantly impact views from public viewpoints, and best preserves the visual and open space qualities of the parcel overall. The project location is within the boundaries of the Cabrillo Highway County Scenic Corridor. However, the project site is not visible from Cabrillo Highway due to distance and intervening urban development. The project site will be visible from the surrounding parkland (a public viewing point). However, the project will not create structures taller than 3.5 feet tall. The tallest proposed track feature will be three feet above grade. The wood fencing that will surround the completed track is proposed at 3.5 feet in height. No solid walled structures that could block views are proposed. While the proposed track will convert a portion of the park’s open meadow area to a more intensive public recreational use, the large majority of the park will be left as undeveloped open space. Constructing the proposed track at this location as opposed to other open meadow areas within Quarry Park best preserves the overall visual resources of the El Granada area.

Policy 8.17 – (*Alteration of Landforms; Roads and Grading*) this policy requires that development be located and designed to conform with, rather than change, landforms. The alteration of landforms as a consequence of grading, cutting, excavating, filling or other development shall be minimized. As stated previously and in the project description, the amount of grading is relatively minor in comparison to the footprint of the project. No cuts greater than two feet in height are proposed while fill areas will not exceed three feet in height. No significant terraforming of the project area is proposed.

Policy 8.19 – (*Colors and Materials*) this policy requires new development to employ colors and materials which blend, rather than contrast, with the surrounding physical conditions of the site and prohibits highly reflective surfaces and colors except those of solar

energy devices. The proposed track will employ natural earth tone colors, with no shiny or reflective surfaces proposed.

d. Hazards Component

Policy 9.5 (*Designation of High-Risk Fire Areas*) the project site lies within a designated High-Risk Fire area as delineated by Cal-Fire. However, no habitable structures are proposed as part of this project, nor will a significant number of flammable materials be placed on the site. The project is not in conflict with the hazards policies of Chapter Nine.

e. Recreation/Visitor-Serving Facilities Component

Policy 11.8 (*Rural Areas*) this policy permits public recreation facilities to locate outside of rural service centers when they require a location surrounded by open land and do not require new structures which obstruct or detract from existing views. Public recreational uses are, by definition, restricted to land that is owned by the public in some form. Such is the case with the subject project. The open space area surrounding the proposed bike track will provide a buffer from adjacent residential uses. This buffer space combined with intervening vegetation will help reduce potential noise impacts upon adjacent residences to a less than significant level. Additionally, there is existing parking and bathroom facilities nearby that will help address use of the park by users who do not live in the immediate area. As discussed previously, the track will not obstruct views from the surrounding park land.

Policy 11.12 (*Sensitive Habitats*) this policy permits recreation facilities to locate on lands adjacent to sensitive habitats only when (1) there is adequate distance or separation by barriers, (2) the habitat is not threatened, and (3) there will not be substantial impacts on habitat, topography, and water resources. As discussed above, there is an intermittent stream with associated habitat approximately 200 feet west of the project site. No construction activities will occur within the buffer zone for this riparian area nor is there any reason to believe that normal use of the track by area residents will threaten or impact surrounding habitat.

3. Compliance with RM-CZ Zoning Regulations

The Coastal Act of 1976 requires that the County's Local Coastal Program (LCP) include zoning ordinances, zoning district maps and any other actions necessary to implement the requirements of the Coastal Act in San Mateo County. To that end, all projects, including government projects, must show

compliance with not only the LCP, but with the applicable zoning regulations.

Section 6905 - *Permitted Uses*. Within the RM-CZ district, Public Recreation is a permitted use.

Section 6908b - *Minimum Yards*. In the absence of more restrictive provisions within this ordinance, the minimum yards required in the RM-CZ District shall be as follows:

	Required	Proposed
Front Yard	50 feet	Approx. 500 feet
Side Yard	20 feet	Approx. 250 feet
Rear Yard	20 feet	1000+feet

Section 6912.2 - *Site Design Criteria*.

- a. *All roads, buildings and other structural improvements or land coverage shall be located, sited and designed to fit the natural topography and shall minimize grading and modification of existing land forms and natural characteristics.*

As discussed previously, the project is located in an area of Quarry Park with a relatively low slope, thus reducing the amount of grading necessary to construct the track. Construction of the track will require approximately 369 cubic yards of cut and 425 cubic yards of fill to construct. The deepest cut face will be approximately 1.5 feet in depth at the north end of the track area.

- b. *All development shall be sited and designed to minimize the impacts of noise, light, glare and odors on adjacent properties and the community-at-large.*

The applicant is proposing to construct the track at the northerly end of the open meadow area within Quarry Park. This location was chosen to take advantage of existing vegetation and spacing in order to provide screening of the track from adjacent residences. There will be no lighting of the track nor shiny surfaces that would generate glare. No odor generating uses are proposed as part of the track.

- c. *The development shall employ colors and materials which blend in with, rather than contrast with, the surrounding soil and vegetative cover of the site. In grassland, or grassland/forest areas, all exterior materials shall be of the same earth and vegetative tones as the*

*predominant colors of the site (as determined by on-site inspections).
Highly reflective surfaces and colors are discouraged.*

The track surface will be composed of packed earth sourced from on-site. Fencing around the track will be wood, split rail fencing. Other amenities at the site, such as picnic tables and bike repair equipment will either utilize wood materials or be painted in non-reflective earth tones. No reflective or non-earth tone colors will be employed.

4. Compliance with the County Grading Ordinance

Section 9284 (*Exemptions*) of the County Grading Regulations exempts work conducted in any County street, land, or right of way when the work is for a public facility, public utility or other public purposes, or is controlled by other permits. The purpose of the proposed grading is to construct a public recreation facility, where the discretionary approval is controlled by a Coastal Development Permit. Therefore, the proposed grading activities are exempt.

B. ENVIRONMENTAL REVIEW

Categorically exempt, pursuant to the California Environmental Quality Act (CEQA), Section 15304, Class 4, relating to the minor alteration in the condition of land.

C. REVIEWING AGENCIES

California Coastal Commission
SMC Building Department – Geotechnical Review Section
SMC Building Department – Drainage Review Section
MidCoast Community Council

ATTACHMENTS

- A) Recommended Findings and Conditions of Approval
- B) Location Map
- C) Project Plans
- D) Biological Resources Assessment - San Mateo County Quarry Park Master Plan Project

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County of San Mateo
Planning and Building Department

RECOMMENDED FINDINGS AND CONDITIONS OF APPROVAL

Permit or Project File Number: PLN 2021-00096

Hearing Date: July 14, 2021

Prepared By: Michael Schaller
Senior Planner

For Adoption By: Planning Commission

RECOMMENDED FINDINGS

Regarding the Environmental Review, Find:

1. That the project is categorically exempt, pursuant to the California Environmental Quality Act (CEQA), Section 15304, Class 4, relating to the minor alteration in the condition of land.

Regarding the Coastal Development Permit, Find:

2. That the project, as described in the application and accompanying materials required by Zoning Regulations Section 6328.7 and as conditioned in accordance with Section 6328.14, conforms with the plans, policies, requirements and standards of the San Mateo County Local Coastal Program with regards to the protection of biotic and visual resources.
3. That the project conforms to the specific findings required by policies of the San Mateo County Local Coastal Program as discussed in Section A(2) of this Staff Report. Protection measures will be implemented to prevent any impact to biological resources, including the San Francisco Garter Snake and California Red-Legged Frog.

RECOMMENDED CONDITIONS OF APPROVAL

Current Planning Section

1. The approval applies only to the proposal as described in this report and materials submitted for review and approval by the Planning Commission on July 14, 2021. The Community Development Director may approve minor revisions or modifications to the project if they are found to be consistent with the intent of and in substantial conformance with this approval.

General Avoidance Measures

2. Site grading and trail development activities shall be restricted between May 1 and December 31. Site grading during these dryer months will reduce the possibility of soil erosion and sediments flowing into natural habitats.
3. Install temporary silt fencing along the perimeter of Environmentally Sensitive Habitat Areas (ESHAs) where land disturbing activities will occur to protect potential ESHAs.
4. Solid materials, including wood, masonry/rock, glass, paper, or other materials shall not be stored or placed in any required buffer zone to the extent practicable. Solid waste materials should be properly disposed of off-site. Fluid materials, including concrete, wash water, fuels, lubricants, or other fluid materials used during construction shall not be disposed of on-site and should be stored or confined as necessary to prevent spillage into natural habitats. If a spill of such materials occurs, the area shall be cleaned, and contaminated materials disposed of properly. The affected area shall be restored to its natural condition.

Special-Status and Non-Special-Status Nesting Birds

5. If project activities are conducted during the nesting season (February 15 – August 31), a pre-construction nesting bird survey, performed by a qualified biologist, shall be performed no more than 14 days prior to initial ground disturbance to avoid impacting active nests, eggs, and/or young.
6. If the survey identifies any active nest, an exclusion buffer shall be established for protection of the nest and young. A qualified biologist shall establish a buffer appropriate for the species and location of the nest if it is necessary. The buffer shall be maintained until all young have fledged.
7. Impacts to nesting birds can be avoided if construction activities are initiated outside of the nesting season (September 1 – January 31). During this time period, no pre-construction bird surveys are recommended.

California Red-Legged Frog and San Francisco Garter Snake

8. All ground disturbance activities shall be restricted to the dry season (April 15 through October 15) or when suitable habitats have dried in order to reduce the potential for CRLF and SFGS to occur within non-ponded habitats of the Study Area.
9. A qualified biologist shall survey the work site immediately before the onset of vegetation clearing or ground disturbance activities to verify if species are present and all habitats are dry. If CRLF are found and do not move out of the work area on their own, the USFWS shall be contacted to determine if relocation is

appropriate. In making this determination, the USFWS will consider if an appropriate relocation site exists. If the USFWS approves moving animals, a USFWS-approved biologist will be allowed sufficient time to move them from the work site before work activities begin. Any SFGS shall be allowed to leave the work area on their own and shall be monitored as practical by the biologist to ensure they do not reenter the work area.

10. Prior to the start of ground-disturbing activities, all construction personnel shall receive training on listed species and their habitats by a qualified biologist. The importance of these species and their habitat will be described to all employees as well as the minimization and avoidance measures that are to be implemented as part of the project. An educational brochure containing color photographs of all listed species in the work area will be distributed to all employees working within the Study Area. The original list of employees who attend the training sessions will be maintained by the contractor and be made available for review by the USFWS and the CDFW upon request.
11. The contractor shall designate a person or employee to monitor on-site compliance with all minimization measures. The on-site monitor(s) will be on-site daily for the duration of work, including vegetation removal, grading, and clean-up activities.
12. Any vehicles and equipment associated with work-activities shall be parked or staged only within a designated staging area at the end of each workday or when not in use in order to minimize habitat disturbance or water quality degradation.
13. Wildlife exclusion fencing shall be erected and maintained around the perimeter of the Limit of Work area, including the project construction staging areas and access routes, to prevent SFGS and CRLF from entering the site overnight.
14. Vehicle access points shall have a temporary silt fence gate, which is opened to allow construction vehicle access while the contractor's trained personnel are present. At night the seal on the temporary gate should be augmented by sandbags to prevent species from entering the area beneath the gate. Installation of fencing will be performed under the supervision of a USFWS-approved biologist.
15. No work shall occur within 48 hours of a rain event (over 0.25-inch in a 24-hour period). Following a rain event, a qualified biologist will resurvey the work area immediately before reinitiating ground disturbance activities to verify if species are present. If CRLF or SFGS are observed, then the steps previously described for the initial pre-construction survey shall be followed.
16. Plastic monofilament netting (erosion control matting), rolled erosion control materials, or similar material shall not be used at the Study Area because CRLF, SFGS, and other species may become entangled or trapped in it. Any erosion control materials used should be made of tightly woven fiber netting or similar

material to ensure that the CRLF and SFGS are not trapped. This limitation shall be communicated to the contractor prior to the start of work.

17. No trash shall be deposited on the site during construction activities. All trash shall be placed in trash receptacles with secure lids, stored in vehicles, and removed nightly from the Study Area.
18. Refueling or maintenance of equipment shall be conducted at least 50 feet from any wetlands, waters or designated ESHAs.
19. California Red-Legged Frog and SFGS may take refuge in cavity-like or den-like structures such as pipes and may enter stored pipes and become trapped. Therefore, all construction pipes, culverts, or similar materials, which are stored at the site for one or more nights, will be either securely capped or thoroughly inspected by the on-site monitor and/or the construction foreman/manager before the pipe is used or moved in any way. It is also recommended these materials are stored within the staging areas either in developed areas or within wildlife exclusion fencing.
20. The on-site monitor and/or construction foreman/manager shall ensure that all excavated steep-walled holes or trenches more than one foot deep are completely covered at the close of each working day by covering holes with plywood or similar materials and covering the edges of those materials with dirt to prevent access by wildlife. Alternatively, holes may be augmented with one or more escape ramps constructed of earth fill or wooden planks. Any ramps installed should be approved by the on-site biologist. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the on-site biologist and/or construction foreman/manager.
21. If at any time a trapped CRLF or SFGS is discovered by the on-site biologist or anyone else, work in the immediate area should cease as soon as it is safe to do so, and the animal shall be allowed to passively leave the work area on its own. Steps outlined above shall be followed if the animal does not or cannot leave the area on its own.

Monarch Butterfly

22. If possible, project work should be scheduled to occur between September and October.
23. If the Project will remove or trim trees during the winter roost season (October 1 through March 15), then a pre-construction survey for roosting monarch butterflies should be conducted within 7 days of tree removal or trimming activities.

24. If monarch butterflies are detected roosting in trees to be removed or trimmed, then consultation with CDFW may be required to determine how and when to proceed with activities and if additional mitigation measures are required.
25. If tree removal or trimming is conducted March 16 through September 31, then no preconstruction surveys for roosting monarch butterflies are necessary.

Discovery of Human Remains

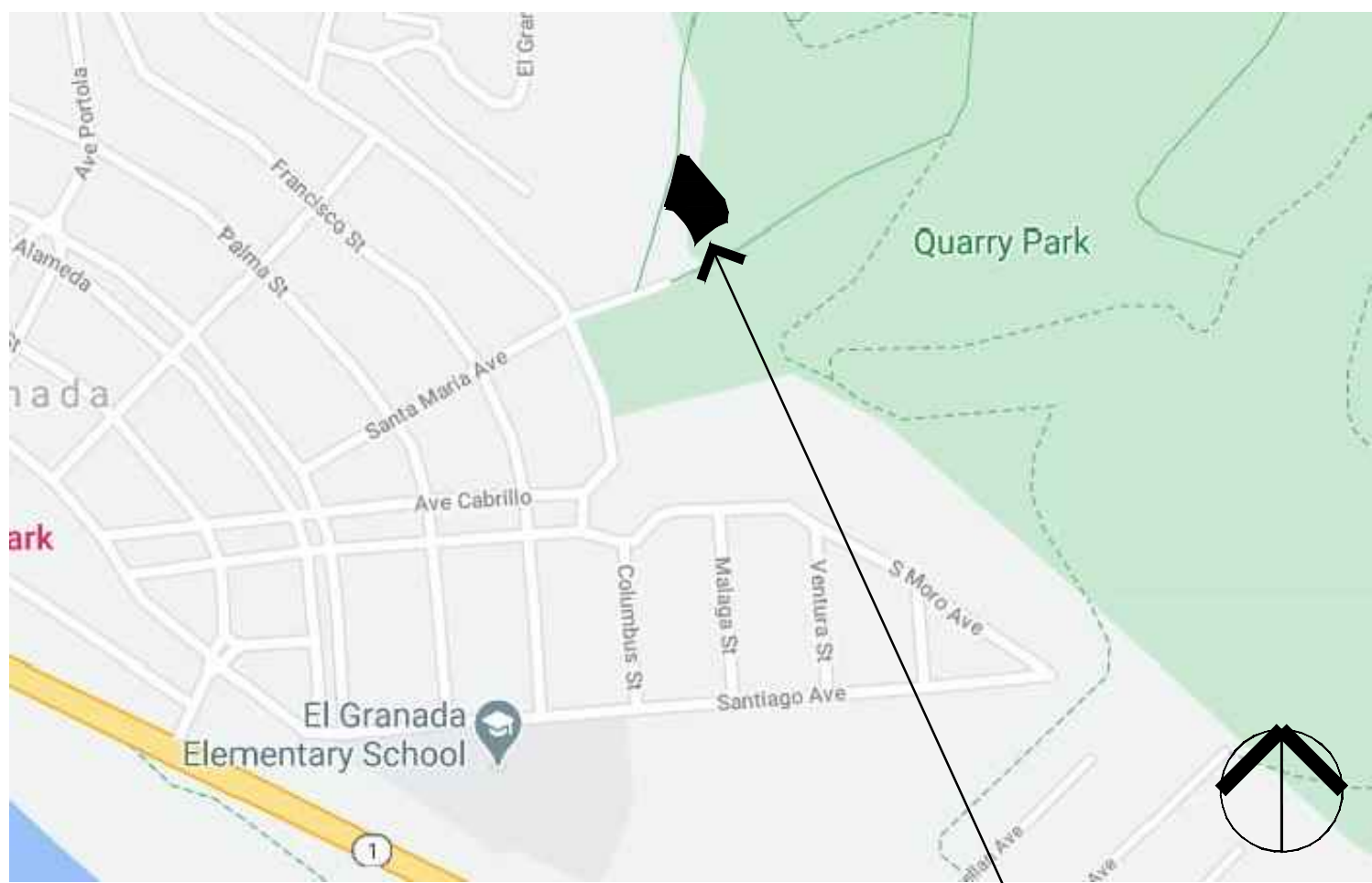
26. If at any time during site preparation, excavation, or other ground disturbance associated with the proposed project, human remains are discovered, the construction contractor shall immediately cease and desist from all further site excavation and notify the County Planning Department. The Planning Department shall notify the sheriff-coroner. If the coroner determines the remains are Native American, the coroner will contact the Native American Heritage Commission. The Native American Heritage Commission will identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations regarding the treatment of the remains with appropriate dignity. Disturbance shall not resume until the significance of the human remains is determined and appropriate mitigations to preserve the resource on the site are established.

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County of San Mateo - Planning and Building Department

ATTACHMENT B



PROJECT SITE



County of San Mateo - Planning and Building Department

ATTACHMENT C

QUARRY PARK PUMP TRACK

SAN MATEO COUNTY, CALIFORNIA

PROJECT DIRECTORY

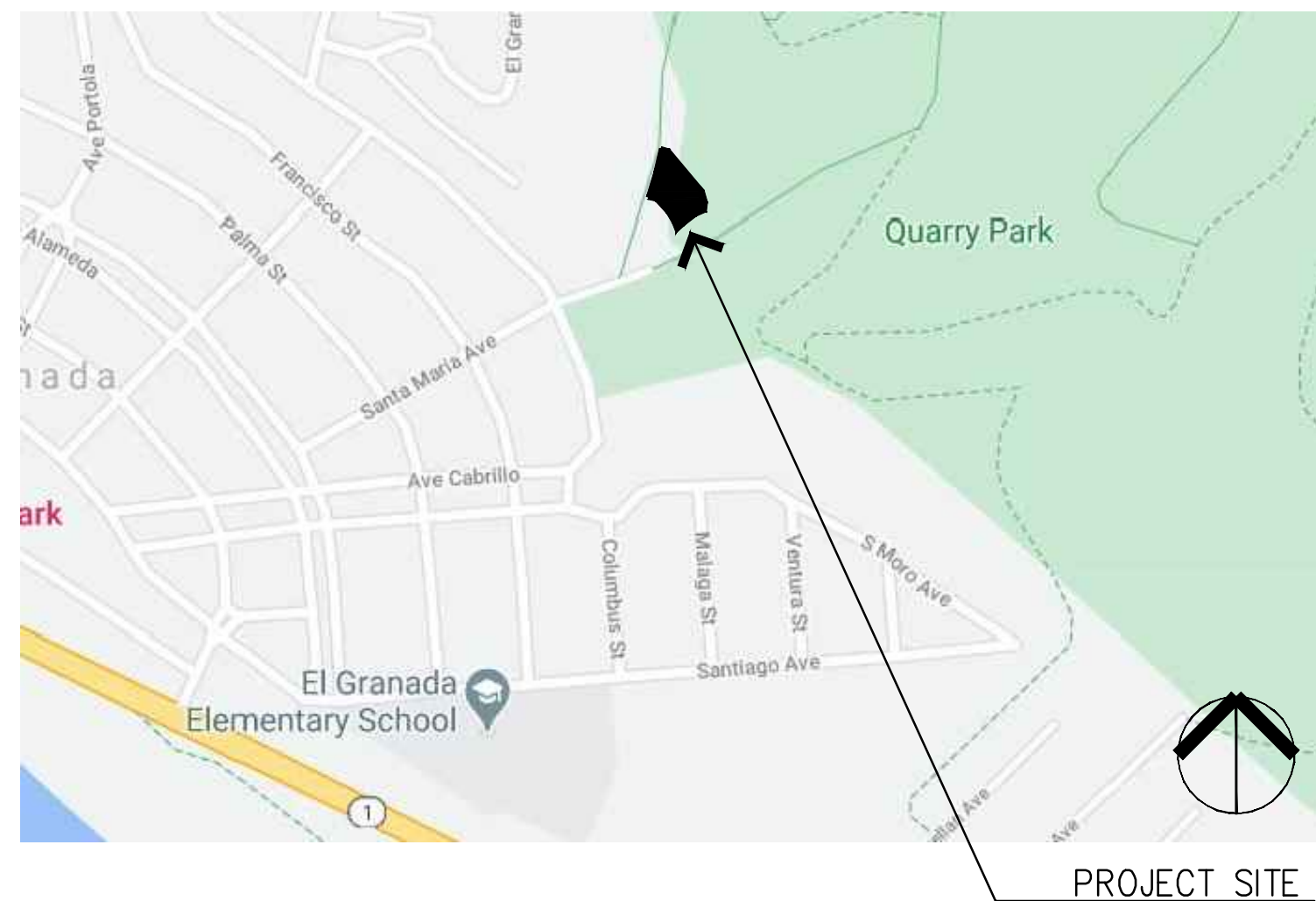
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GATES + ASSOCIATES
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PUMP TRACK DESIGNER
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CONTACT: ZACH WORMHOUDT

SHEET LIST

Sheet Number	Sheet Title
L0.1	GENERAL NOTES & LEGENDS
L1.0	EXISTING CONDITIONS & DEMOLITION PLAN
L2.0	EROSION CONTROL PLAN
L2.1	EROSION CONTROL PLAN
L3.0	SITE GRADING PLAN
L4.0	SITE AMENITIES PLAN
L5.0	CONSTRUCTION DETAILS
L5.1	EROSION CONTROL DETAILS
PT3.0	PUMP TRACK GRADING PLAN
PT3.1	PUMP TRACK CONSTRUCTION PLAN
PT3.2	PUMP TRACK LAYOUT PLAN
PT3.3	PUMP TRACK MATERIALS PLAN
PT4.0	PUMP TRACK DETAILS
PT4.1	PUMP TRACK DETAILS
PT4.2	PUMP TRACK DETAILS
PT4.3	PUMP TRACK DETAILS
PT4.4	PUMP TRACK DETAILS

LOCATION MAP



PROJECT SITE

GENERAL NOTES

- THE CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD COUNTY AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXEMPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF ENGINEER.
- ALL APPLICABLE REQUIREMENTS OF THE CALIFORNIA CONSTRUCTION AND GENERAL INDUSTRY SAFETY ERRORS, THE OCCUPATIONAL SAFETY AND HEALTH ACT AND THE CONSTRUCTION SAFETY ACT SHALL BE MET.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN PERMITS NECESSARY TO PERFORM THE WORK SHOWN IN THESE PLANS FROM THE APPROPRIATE AGENCIES.
- THE CONTRACTOR SHALL TAKE EFFECTIVE ACTION TO PREVENT THE FORMATION OF AN AIRBORNE DUST NUISANCE AND SHALL BE RESPONSIBLE FOR ANY DAMAGE RESULTING FROM THEIR FAILURE TO DO SO.
- THE CONTRACTOR MUST PROVIDE FOR SAFE ACCESSIBLE INGRESS AND EGRESS FOR ADJACENT PROPERTY OWNERS AND EVA THROUGHOUT THE PERIOD OF CONSTRUCTION . TEMPORARY THROUGH ACCESS FOR THE GENERAL PUBLIC DUE TO CONSTRUCTION STAGING OR LIMITATIONS MUST BE FULLY REVIEWED AND APPROVED BY THE COUNTY PRIOR TO IMPLEMENTATION. ALL ACCESS MUST BE SAFE, SECURED, SIGNED, AND ACCESSIBLE PER THE APPROVED SITE ACCESS PLAN SUBMITTED BY THE CONTRACTOR AND REQUIRED BY THE COUNTY.
- THE CONTRACTOR SHALL POST EMERGENCY TELEPHONE NUMBERS FOR POLICE, FIRE, AMBULANCE, AND THOSE AGENCIES RESPONSIBLE FOR MAINTENANCE OF UTILITIES IN THE VICINITY OF JOB SITE.
- WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING GROUND ELEVATIONS, PIPE INVERTS, AND OVERALL TOPOGRAPHY OF THE SITE, AS WELL AS, ALL SITE DIMENSIONS PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CITY ENGINEER IN WRITING OF ANY DIFFERENCES IN TOPOGRAPHY OR SITE DIMENSION THAT DIFFER FROM THOSE SHOWN ON THE PLANS. ALL PUMPTRACK STRUCTURE GRADING, COMPACTION, AND EARTHWORK SHALL COMPLY WITH THE RECOMMENDATIONS AND REQUIREMENTS OF THE GEOTECHNICAL REPORT.
- ALL EXISTING UTILITIES AND IMPROVEMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATIONS BASED UPON RECORD INFORMATION AVAILABLE TO THE ENGINEER AT THE TIME OF PREPARATION OF THESE PLANS. LOCATIONS MAY NOT HAVE BEEN VERIFIED IN THE FIELD AND NO GUARANTEE IS MADE AS TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES AT LEAST THREE (3) WORKING DAYS IN ADVANCE OF CONSTRUCTION TO FIELD LOCATE UTILITIES. CALL UNDERGROUND SERVICE ALERT (U.S.A.), AT 800-227-2600. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXISTENCE AND LOCATION OF THOSE UTILITIES SHOWN ON THESE PLANS OR INDICATED IN THE FIELD BY LOCATING SERVICES. ADDITIONAL COSTS INCURRED AS A RESULT OF CONTRACTOR'S FAILURE TO VERIFY LOCATIONS OF EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION IN THEIR VICINITY SHALL BE BORNE BY THE CONTRACTOR AND ASSUMED INCLUDED AND MERGED IN THE CONTRACT UNIT PRICE.
- ALL EXISTING UTILITIES AND IMPROVEMENTS THAT BECOME DAMAGED DURING CONSTRUCTION MUST BE COMPLETELY RESTORED TO THE SATISFACTION OF THE CITY ENGINEER OR UTILITY AGENCY REPRESENTATIVE, AT THE CONTRACTOR'S SOLE EXPENSE.
- ANY RELOCATION OF PUBLIC UTILITIES SHALL BE CONDUCTED IN ACCORDANCE WITH ANY AND ALL REQUIREMENTS OF THE UTILITY COMPANY REPRESENTATIVE INCLUDING FEES, BONDS, PERMITS AND WORKING CONDITIONS, ETC. THIS WORK SHALL BE DONE AT NO EXPENSE TO THE UTILITY COMPANY. THE OWNER SHALL PAY THE COST OF ALL SUCH RELOCATION WORK INCLUDING FEES, BONDS, PERMITS, ETC
- IF ARCHEOLOGICAL MATERIALS ARE UNCOVERED DURING GRADING, TRENCHING OR OTHER EXCAVATION, EARTHWORK SHALL BE STOPPED UNTIL A PROFESSIONAL ARCHAEOLOGIST WHO IS CERTIFIED BY THE SOCIETY OF CALIFORNIA ARCHAEOLOGY (SCA) AND/OR THE SOCIETY OF PROFESSIONAL ARCHAEOLOGY (SOPA) HAS HAD AN OPPORTUNITY TO EVALUATE THE SIGNIFICANCE OF THE FIND AND SUGGEST APPROPRIATE MITIGATION MEASURES, IF THEY ARE DEEMED NECESSARY.
- THE USE OR INSTALLATION OF ANY MATERIAL OR EQUIPMENT WHICH IS MADE FROM, OR WHICH CONTAINS ASBESTOS FOR USE IN THE CONSTRUCTION OF THESE IMPROVEMENTS, IS NEITHER SPECIFIED NOR RECOMMENDED. ANY PARTY INSTALLING OR USING ANY PARTY SUCH MATERIALS OR EQUIPMENT SHALL BE SOLELY RESPONSIBLE FOR ALL INJURIES, DAMAGES, OR LIABILITIES OF ANY KIND, CAUSED BY THE USE OF SUCH MATERIALS OR EQUIPMENT.
- THE CONTRACTOR MUST MEET AND IMPLEMENT ALL NPDES, SWPPP, AND EROSION CONTROL REQUIREMENTS IN EFFECT AT THE TIME OF CONSTRUCTION.
- SHOULD IT APPEAR THAT THE WORK TO BE DONE OR ANY MATTER RELATIVE THERETO IS NOT SUFFICIENTLY DETAILED OR EXPLAINED ON THESE PLANS, THE CONTRACTOR SHALL CONTACT GATES & ASSOCIATES AT (925) 736-8176 FOR SUCH FURTHER EXPLANATIONS AS MAY BE NECESSARY.

LAYOUT NOTES

- CONTRACTOR SHALL VERIFY ALL UTILITIES, GRADES, EXISTING CONDITIONS AND DIMENSIONS IN THE FIELD PRIOR TO COMMENCING WORK. ALL DISCREPANCIES OR QUESTIONS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR RESOLUTION.
- ALL WRITTEN DIMENSIONS SUPERCEDE ALL SCALED DISTANCES AND DIMENSIONS.
- ANY EXTRA CONSTRUCTION STAKING NECESSITATED SOLELY BY THE CONTRACTOR'S NEGLIGENCE WILL BE CHARGED TO THE CONTRACTOR ON A TIME AND EXPENSES BASIS AND PAID FOR BY THE CONTRACTOR.
- ALL TYPICAL DETAILS SHALL APPLY UNLESS NOTED OTHERWISE.
- CONCRETE FOOTINGS INSTALLED FOR ALL SITE FURNISHINGS SHALL BE HELD BELOW GRADE.
- ALL EXISTING ITEMS TO REMAIN SHALL BE PROTECTED AS REQUIRED. ANY DAMAGED ITEMS SHALL BE FULLY REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE TO THE FULL SATISFACTION OF THE OWNER.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH OPERATIONS.
- ALL QUANTITIES AND PAY ITEMS ARE AND WILL BE BASED ON HORIZONTAL MEASUREMENTS.
- ALL PATTERNS, LINE TYPES, AND SYMBOLS SHOWN WITHIN THE PLAN SET REFERENCE THE LAYOUT LEGEND AND ARE PART OF THE SCOPE OF WORK. CALLOUTS ARE SHOWN FOR CLARIFICATION OF WORK, BUT DO NOT INDICATE EVERY AND ALL INSTANCES OF SUCH WORK. THE CONTRACTOR SHALL REQUEST CLARIFICATION TO ANY ITEMS (INCLUDING BUT NOT LIMITED TO PAVING, WALLS, FINISHES, COLORS, FENCING, FOUNTAINS, POTS, AND SITE FURNITURE) NOT CLEARLY IDENTIFIED TO BE PART OF THE SCOPE OF WORK PRIOR TO BID.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL WORK AND MATERIALS OF THE CONTRACT DOCUMENTS INCLUDING ALL WORK AND MATERIALS PROVIDED BY SUBCONTRACTORS. ALL QUALIFICATIONS OF THE CONTRACT DOCUMENTS INCLUDING ALL SPECIFIC EXCLUSIONS OF ANY WORK, DETAILS, MATERIALS, AND INCIDENTALS SHALL BE CONFIRMED AND ACCEPTED IN WRITING BY THE CONTRACTOR AND OWNER UPON FINALIZATION OF BIDS AND CONTRACT. THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED OF ALL QUALIFICATIONS AND NOTIFICATIONS.

GRADING NOTES

- EXISTING GRADES ARE BASED ON PROJECT SURVEY. CONTRACTOR SHALL VERIFY EXISTING GRADES FOR ACCURACY PRIOR TO THE START OF GRADING, NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY SHOULD CONFLICTS ARISE AND REDIRECT WORK TO AVOID DELAY. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ALL SURVEYING, STAKING, AND LAYOUT. BIKE PARK DESIGNER SHALL PROVIDE CONTRACTOR WITH LAYOUT PLAN DRAWING DWG FILE.
- THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES AND SERVICES BEFORE COMMENCING WORK. THE LOCATIONS OF UTILITIES, STRUCTURES AND SERVICES SHOWN IN THE CONTRACT DOCUMENTS SHALL BE DEEMED TO BE APPROXIMATIONS ONLY. ALL DISCREPANCIES BETWEEN WHAT IS SHOWN AND THE ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL CONTACT UNDER GROUND SERVICE ALERT (USA) AT (800) 227-2600 PRIOR TO ANY DEMOLITION OR EXCAVATION. UPON COMPLETION OF USA MARKING OPERATIONS, CONTRACTOR SHALL RECORD ALL UTILITY MARKINGS ON A SEPARATE SET OF DRAWINGS. THIS SET SHALL BE KEPT ON-SITE FOR REFERENCE FOR DURATION OF CONTRACT.
- EXPORTATION AND IMPORTATION OF SOIL, WHICH MAY BE NECESSARY TO MEET THE GRADES SHOWN ON THIS PLAN, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE PART OF THIS CONTRACT. ALL EXCESS SOIL SHALL BE REMOVED FROM THE SITE AS PART OF THIS CONTRACT.
- PROPOSED GRADES SHALL MEET EXISTING GRADES WITH A SMOOTH AND CONTINUOUS TRANSITION SO AS TO AVOID TRAPPING WATER. CONTRACTOR SHALL NOTIFY OWNER REPRESENTATIVE IF PUDDLING IS SUSPECTED AND REDIRECT WORK SO AS TO AVOID DELAY WHILE AWAITING RESPONSE.
- ALL EXISTING DRAINAGE STRUCTURES, BOXES, UTILITY VAULTS ETC. SHALL BE BROUGHT TO FINAL FINISH GRADE PRIOR TO FINAL SURFACE TREATMENT.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING IMPORT FILL QUANTITIES FOR ALL GRADING AND FILL OPERATIONS RELATED TO CONSTRUCTION OF THE PUMP TRACK.
- CONTRACTOR SHALL LAY OUT ALL RIDING FEATURES. BIKE PARK DESIGNER MUST REVIEW AND APPROVE LAYOUT PRIOR TO CONSTRUCTION.
- ALL RIDING FEATURES SHALL BE CONSTRUCTED OR INSTALLED PER THE INDICATED RIDE ORDER.
- PROJECT STAGING AREA MUST BE WITHIN PROJECT LIMIT OF WORK LINE (CONSTRUCTION FENCE). CONTRACTOR WILL SUBMIT PROJECT ACCESS AND STAGING PLAN WITHIN 5 WORKING DAYS OF NOTICE TO PROCEED.
- THE CONTRACTOR SHALL BE RESPONSIBLE UNDER THIS CONTRACT FOR REPAIRING AND REPLACING AT THE CONTRACTORS OWN EXPENSE ALL DAMAGES CAUSED BY HIS/HER OPERATIONS INCLUDING, BUT NOT LIMITED TO: STRUCTURES, LUMINARIES, PLANT LIFE, ETC... LIKEWISE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY AND ALL DAMAGES OCCURRING BY THEIR OPERATIONS ON ADJACENT PROPERTIES AND ANYWHERE OUTSIDE THE CONTRACT LIMIT LINES. REPAIR AND REPLACEMENT OF DAMAGED ITEMS IS AT THE SOLE DISCRETION OF THE COUNTY. THE DAMAGED ITEMS WILL BE RESTORED TO THEIR ORIGINAL CONDITION AND TO THE SATISFACTION OF THE COUNTY.

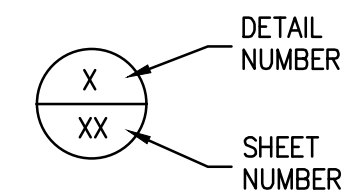
PLANTING NOTES

HYDROSEED

- ALL DISTURBED AREAS IN AND AROUND PUMP TRACK IMPROVEMENTS SHALL HAVE NON-IRRIGATED HYDROSEED PLACED.
- ALL HYDROSEED SHALL BE FULLY ROOTED AND ESTABLISHED PRIOR TO OCTOBER 15TH.

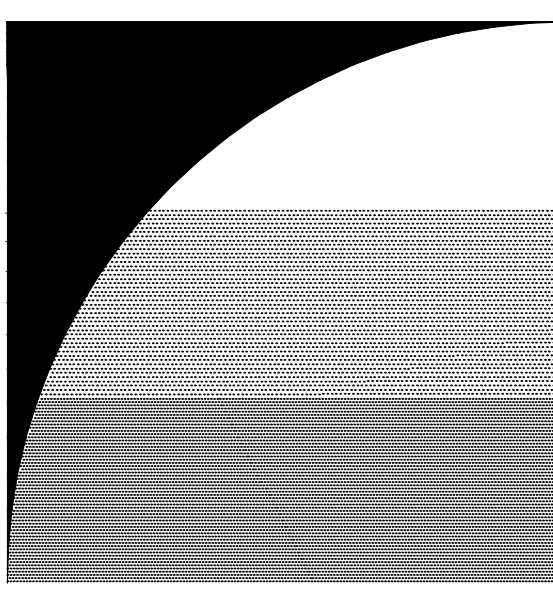
ABBREVIATIONS

Ø	AT	N/A	NOT APPLICABLE
ALT.	ALTERNATE	NIC	NOT IN CONTRACT
BETW.	BETWEEN	NO.	NUMBER
BOT.	BOTTOM	NTS	NOT TO SCALE
CONT.	CONTINUOUS	O.C.	ON CENTER
CP	CONTROL POINT	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
CTRL	CONTROL	(R)	RELOCATED
(E), EXIST	EXISTING	RAD	RADIUS
E.W.	EACH WAY	S	SLOPE
EA	EACH	SP	SPACING
EL	ELEVATION	SD	STORM DRAIN
EQ	EQUAL	TBD	TO BE DETERMINED
ES	EQUAL SPACES	THK.	THICK
EX	EXISTING	T.P.	TANGENT POINT
FG	FINISH GRADE	TYP.	TYPICAL
FS	FINISH SURFACE	UNO	UNLESS OTHERWISE NOTED
FL	FLOW LINE	VERT.	VERTICAL
(G), GRD	GROUND	W/	WITH
HORIZ	HORIZONTAL		
HP	HIGH POINT		
HT	HEIGHT		
I.D.	INNER DIAMETER		
O.D.	OUTER DIAMETER		
LF	LINEAR FOOT		
MFR	MANUFACTURER		
MAX.	MAXIMUM		
MIN.	MINIMUM		
(N)	NEW		



LAYOUT LEGEND

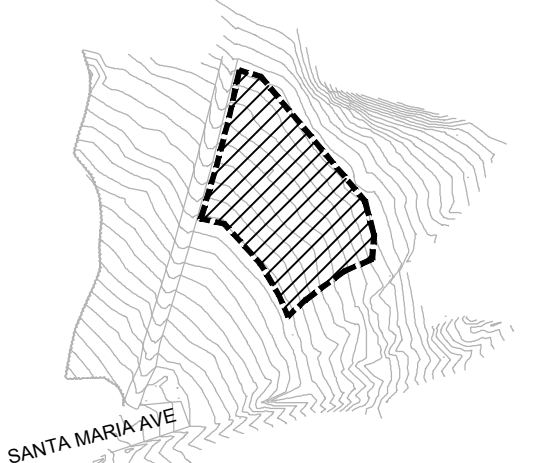
	PICNIC TABLE (COUNTY STANDARD) MFR: BELSON MODEL: PMB-6WR COLOR: REDWOOD FINISH: BLACK ENAMEL FRAME PHONE: (800) 323-5664		BIKE MAINTENANCE STATION (COUNTY STANDARD) MFR: DERO MODEL: FIXIT W/ AIR PUMP KIT COLOR: GREEN FINISH: POWDER COAT INSTALL PER MFR SPECS
	DOUBLE GATE (COUNTY STANDARD) MFR: VIDAXL MODEL: 141202 SIZE: 66.9" X 35.4" (W X H) INSTALLATION HARDWARE AND GATE CATCH PROVIDED BY MFR		42" HT SPLIT RAIL FENCE COUNTY STANDARD
	PUMP TRACK OPERATIONAL SIGNAGE		PUMP TRACK ADVISORY SIGNAGE



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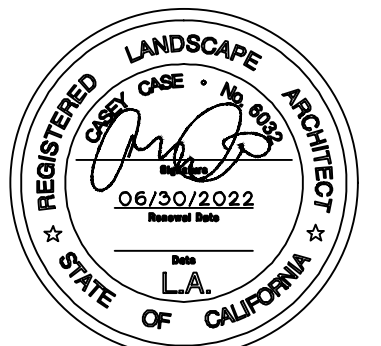
QUARRY PARK PUMP TRACK

SAN MATEO COUNTY
CALIFORNIA

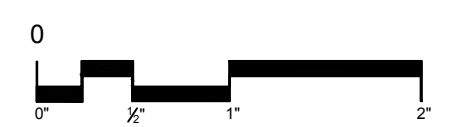


ISSUE:	DESCRIPTION:	DATE:
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PROJECT NUMBER:	5603
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SCALE:	NTS



GENERAL NOTES &
LEGENDS

L0.1



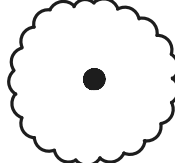



DEMOLITION NOTES:

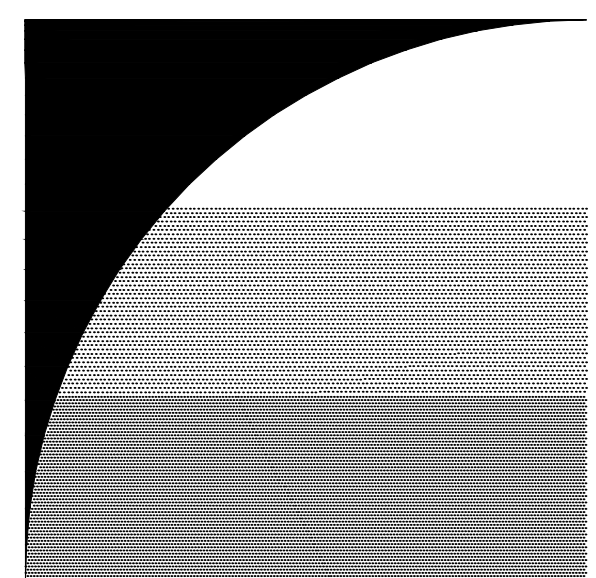
1. ACTUAL CONDITIONS AT THE SITE MAY VARY SUBSTANTIALLY FROM THAT SHOWN ON THESE PLANS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO START OF CONSTRUCTION. CONTRACTOR SHALL NOTIFY COUNTY INSPECTOR OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND EXISTING CONDITIONS SHOWN ON THESE PLANS.
2. THE LIMITS OF DEMOLITION ARE APPROXIMATELY AS SHOWN ON THIS DEMOLITION PLAN. THE EXACT LIMIT SHALL BE DETERMINED IN THE FIELD BY THE COUNTY'S INSPECTOR AND WILL BE DETERMINED BY THE LIMITS OF THE NEW IMPROVEMENTS TO BE CONSTRUCTED. ALL EXISTING IMPROVEMENTS WITHIN LIMITS OF DEMOLITION WILL BE REMOVED UNLESS OTHERWISE NOTED.
3. SURFACE MOUNTED, GALVANIZED, TEMPORARY METAL CHAIN LINK CONSTRUCTION FENCING SHALL BE MIN. 6' HIGH, 11 1/2 TO 9 GAUGE, 2 1/2" TO 2" MESH SIZE, AND SHALL REMAIN IN PLACE THROUGHOUT THE DURATION OF THE PROJECT, AND BE REMOVED IMMEDIATELY AFTER PROJECT ACCEPTANCE. TEMPORARY CONSTRUCTION SIGNAGE SHALL CONFORM TO COUNTY REQUIREMENTS, SHALL REMAIN IN PLACE THROUGHOUT THE DURATION OF THE PROJECT, AND BE REMOVED IMMEDIATELY AFTER PROJECT ACCEPTANCE.
4. CONTRACTOR SHALL PROVIDE PARKING LOT ACCESS AND PEDESTRIAN ACCESS FOR ADJACENT RESIDENTS FOR THE DURATION OF THE PROJECT. CONTRACTOR TO SUBMIT THE FOLLOWING PLANS TO COUNTY INSPECTOR FOR APPROVAL PRIOR TO BEGINNING ANY WORK. WORK SHALL NOT START WITHOUT COUNTY APPROVED PLANS:
 - A. CONSTRUCTION FENCING PLAN
 - B. CONSTRUCTION SIGNAGE PLAN
 - C. WORK STAGING PLAN
 - D. PEDESTRIAN SAFETY PLAN
5. EXISTING SITE DRAINAGE STRUCTURES AND GRADING TO REMAIN AND BE PROTECTED. CONTRACTOR TO PROTECT ALL SUBSURFACE PIPING AND UTILITIES AT ALL TIMES.
6. CONTRACTOR IS RESPONSIBLE FOR ALL DEMOLITION WORK.
7. ANY DAMAGE TO THE SURROUNDING ROAD OR ASPHALT PATH DUE TO CONSTRUCTION SHALL BE REPAIRED TO PRE EXISTING CONDITIONS TO THE SATISFACTION OF THE COUNTY AND AT NO ADDITIONAL COST.
8. CLEARING AND GRUBBING: ON ALL AREAS WHERE GRADING, EXCAVATION, AND FILL ARE TO BE DONE, ALL TIMBER, BRUSH, STUMPS, ROOTS, RUBBISH, AND ORGANIC MATERIALS SHALL BE REMOVED. STUMP HOLES SHALL BE FILLED WITH COMPACTED FILL SOIL.
9. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY, THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED. ANY DAMAGE TO EXISTING GRASS OR VEGETATION OUTSIDE THE CONSTRUCTION LIMITS AND STAGING AREAS SHALL BE REPLACED TO MATCH PRE EXISTING CONDITIONS AND TO THE SATISFACTION OF THE COUNTY.
10. PROTECT ALL EXISTING UTILITY STRUCTURES, PLANTERS, LANDSCAPING, BUILDINGS AND FENCES, DURING CLEAR AND GRUB.
11. CONTRACTOR SHALL NOTIFY COUNTY IMMEDIATELY IF CONFLICTS EXIST.
12. ALL EXISTING UTILITIES MAY NOT BE SHOWN. CONTRACTOR TO FIELD VERIFY LOCATION AND EXISTENCE OF ALL UTILITIES PRIOR TO DEMOLITION. CONTRACTOR TO COORDINATE WITH COUNTY PRIOR TO DISTURBANCE OF ANY UTILITY TO DETERMINE ITS CURRENT OR FUTURE USE.

DEMOLITION LEGEND

-  CLEAR & GRUB (E) MEADOW VEGETATION WITHIN LIMIT OF WORK

PROTECTION LEGEND

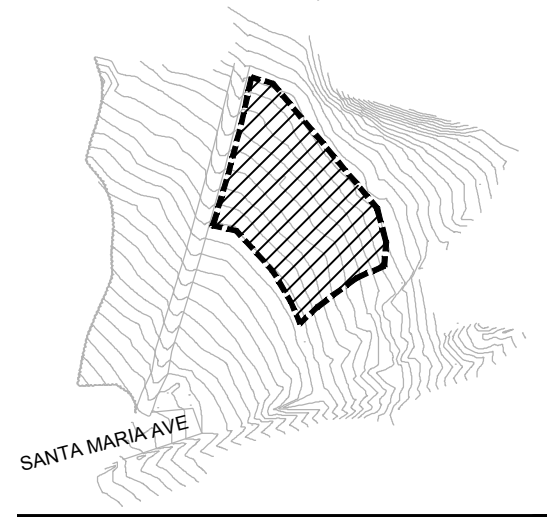
-  (E) EUCALYPTUS TREES TO REMAIN, ALL CONSTRUCTION ACTIVITIES TO OCCUR OUTSIDE OF TREE DRIP LINE.
-  (E) MEADOW TO REMAIN, PROTECT IN PLACE, TYP.
-  EXISTING GRAVEL PATH TO REMAIN, PROTECT IN PLACE, TYP.
-  EXISTING FENCING TO REMAIN, PROTECT IN PLACE



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CALIFORNIA

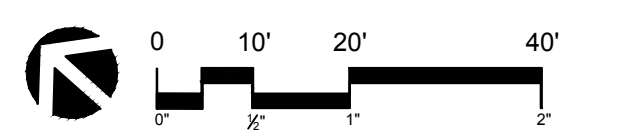


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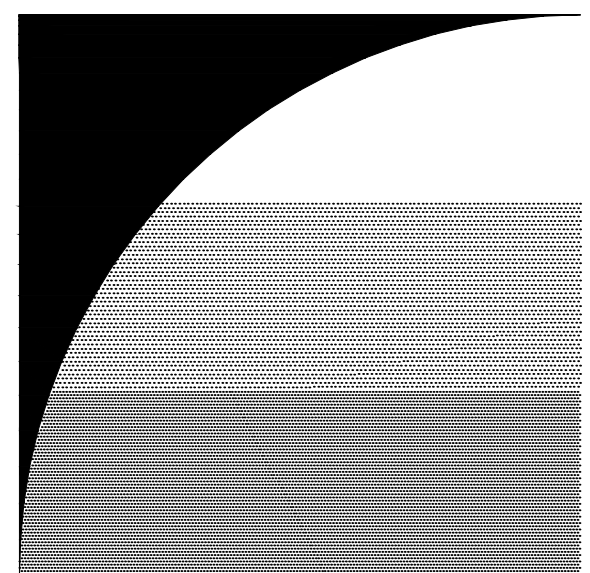


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EXISTING CONDITIONS &
DEMOLITION PLAN

L1.0



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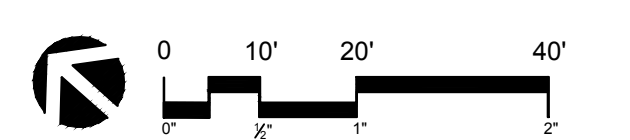


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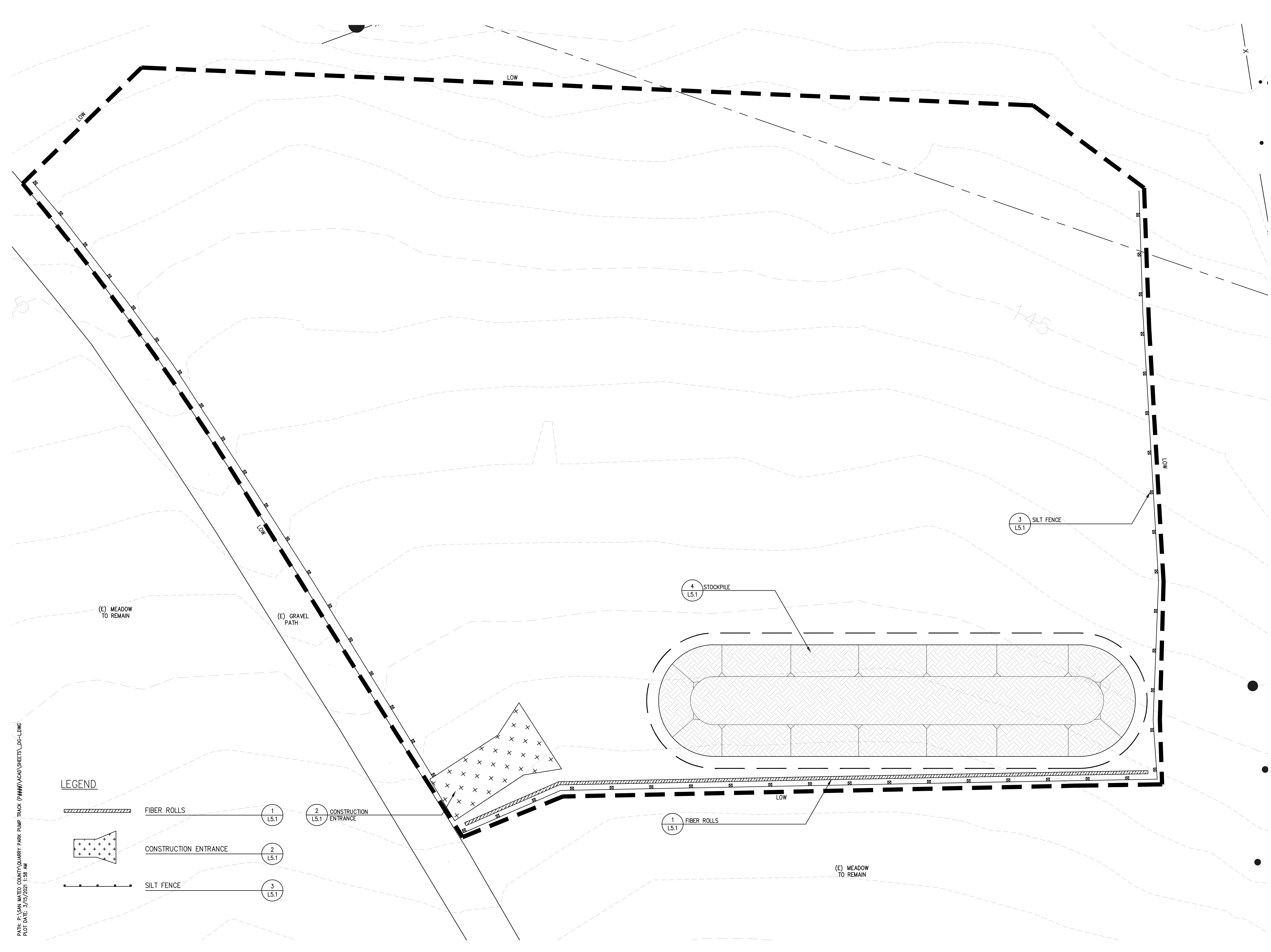


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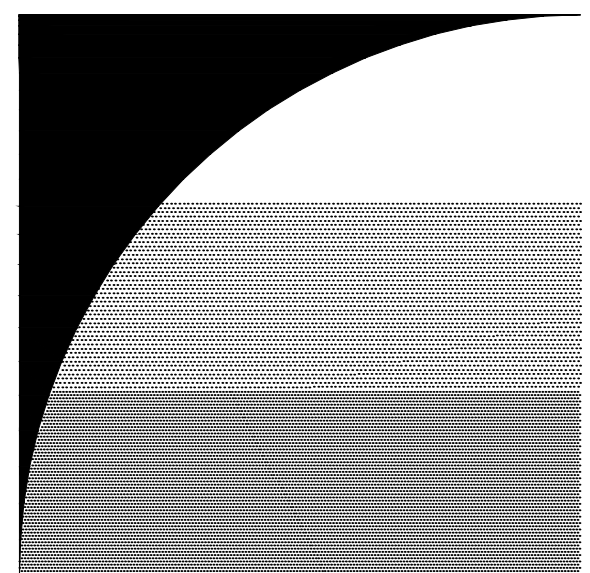


**EROSION CONTROL
 PLAN**

L2.0



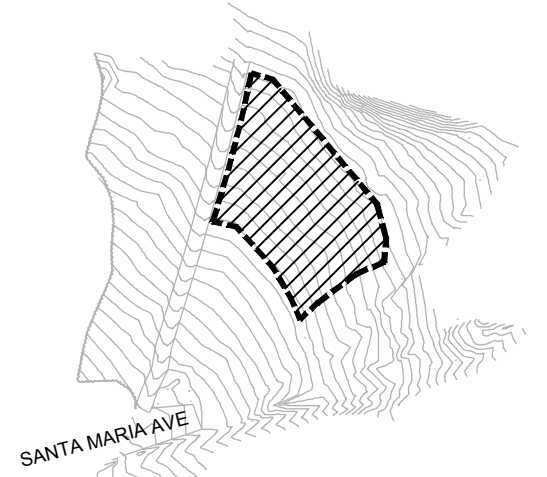
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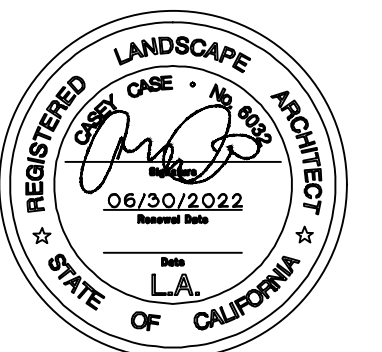
**QUARRY PARK
 PUMP TRACK**

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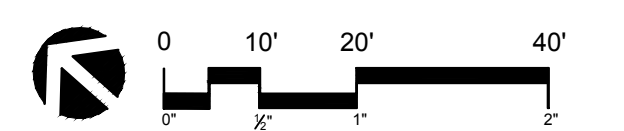


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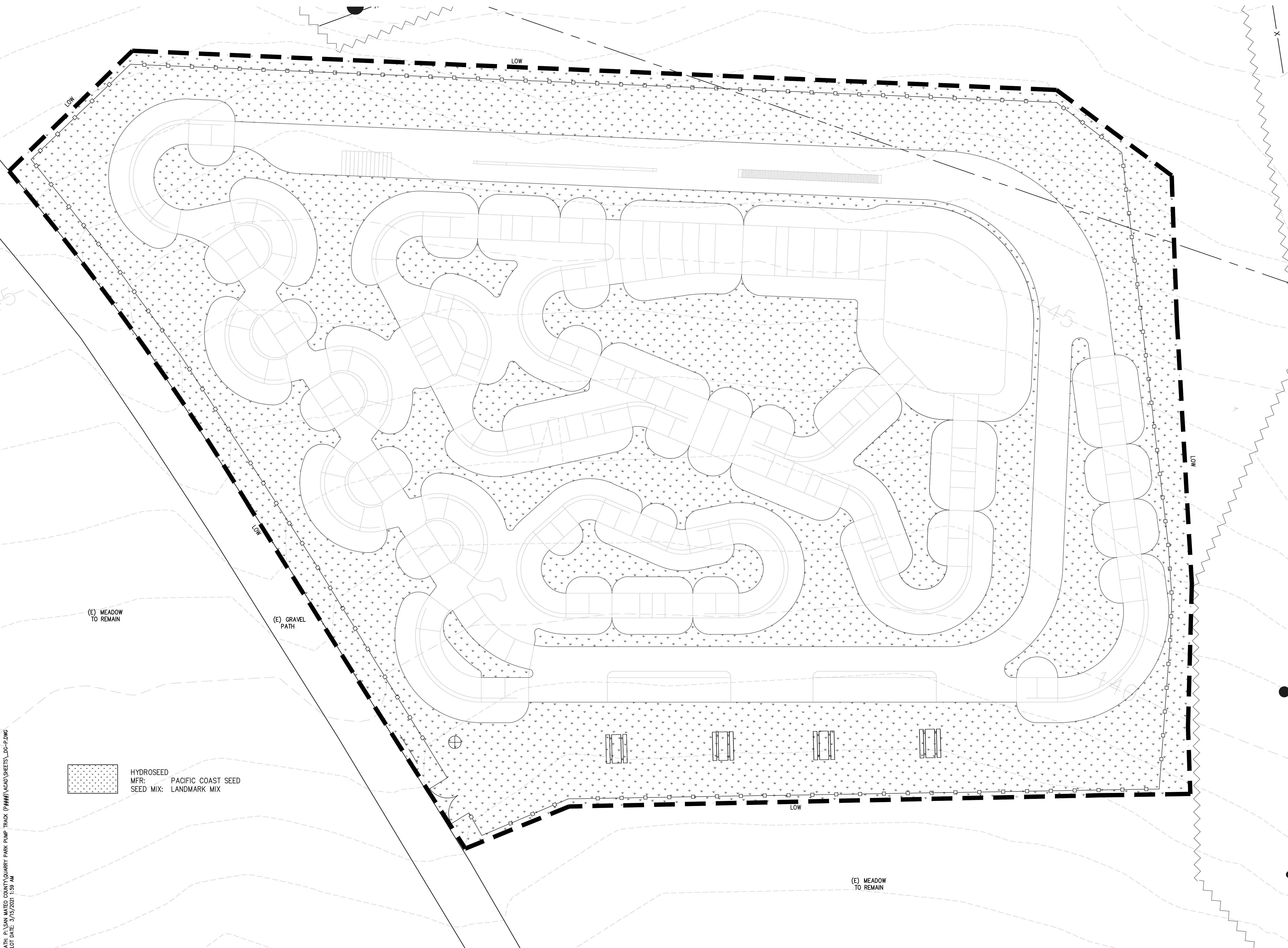


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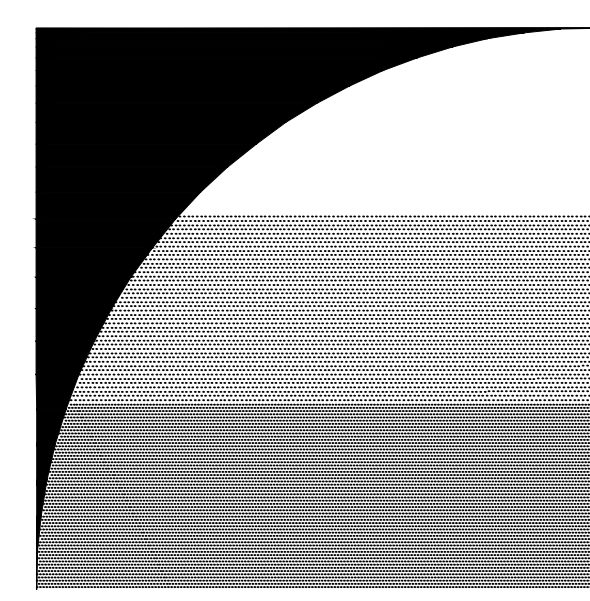
**EROSION CONTROL
 PLAN**

L2.1



HYDROSEED
 MFR: PACIFIC COAST SEED
 SEED MIX: LANDMARK MIX

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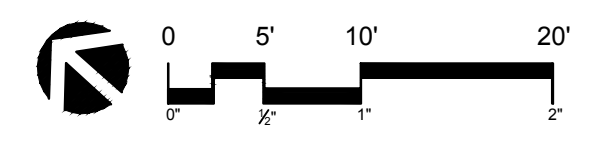


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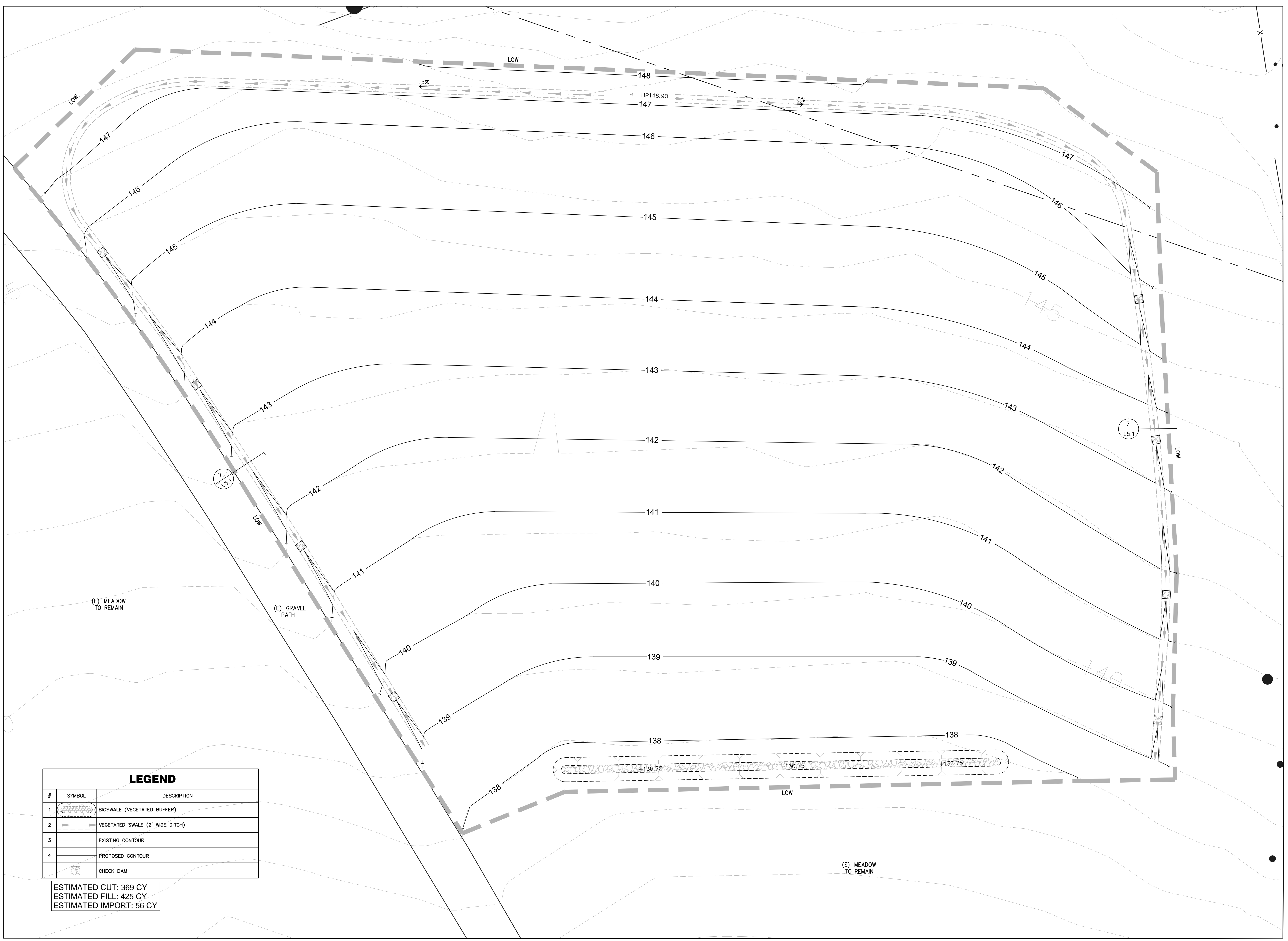


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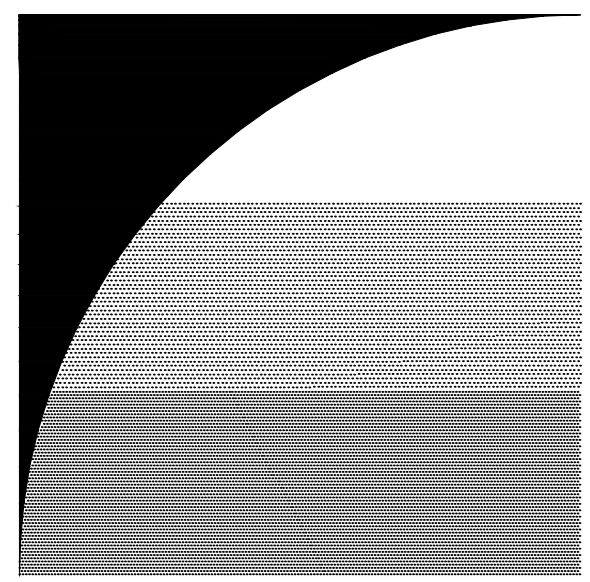
SITE GRADING PLAN

L3.0



LEGEND		
#	SYMBOL	DESCRIPTION
1		BIOSWALE (VEGETATED BUFFER)
2		VEGETATED SWALE (2' WIDE DITCH)
3		EXISTING CONTOUR
4		PROPOSED CONTOUR
		CHECK DAM

ESTIMATED CUT: 369 CY
 ESTIMATED FILL: 425 CY
 ESTIMATED IMPORT: 56 CY



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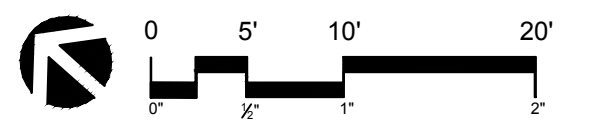


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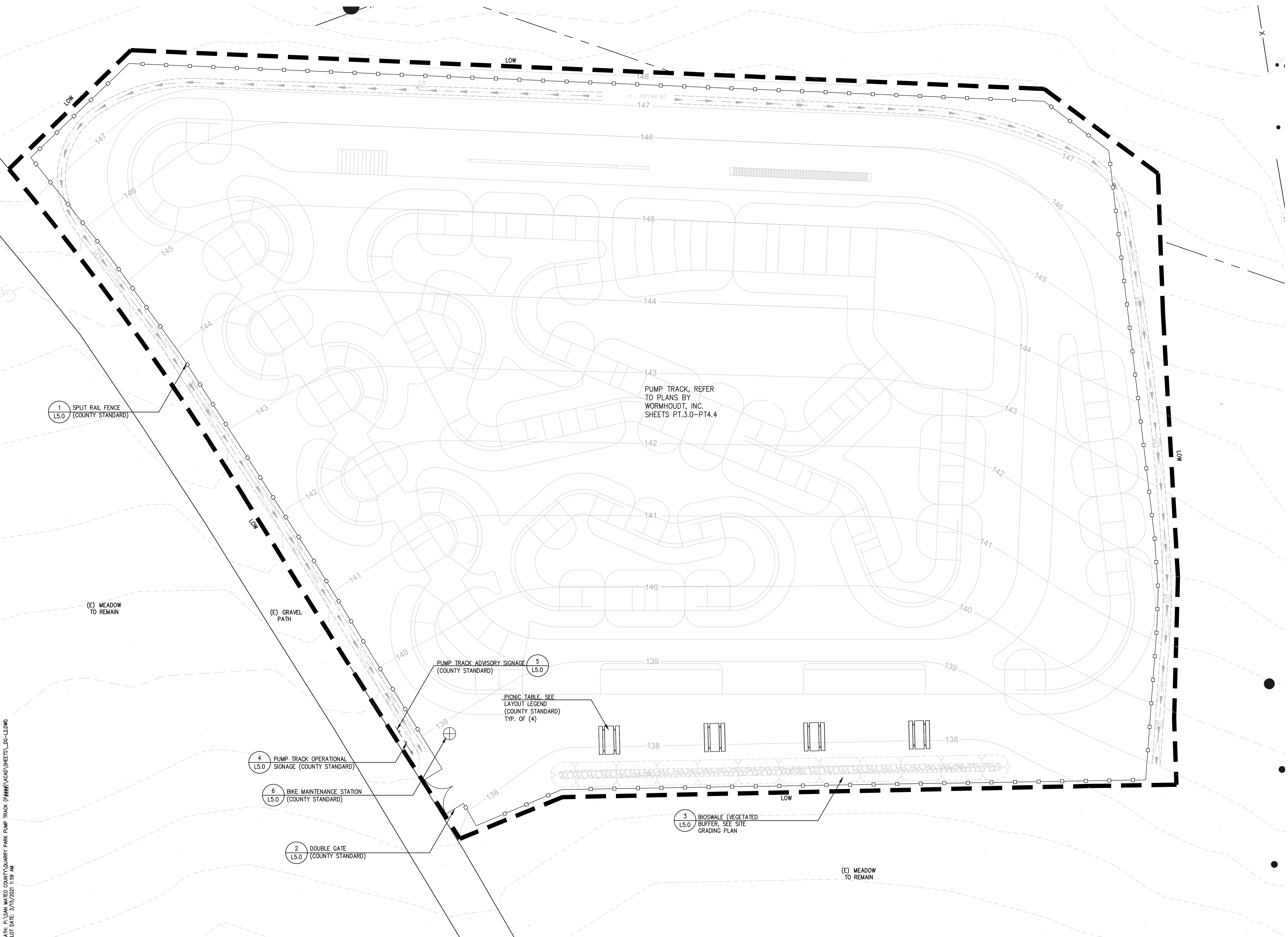


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DRAWN:	DB
CHECK:	CG
DATE:	03/15/2021
SCALE:	1"=10'-0"

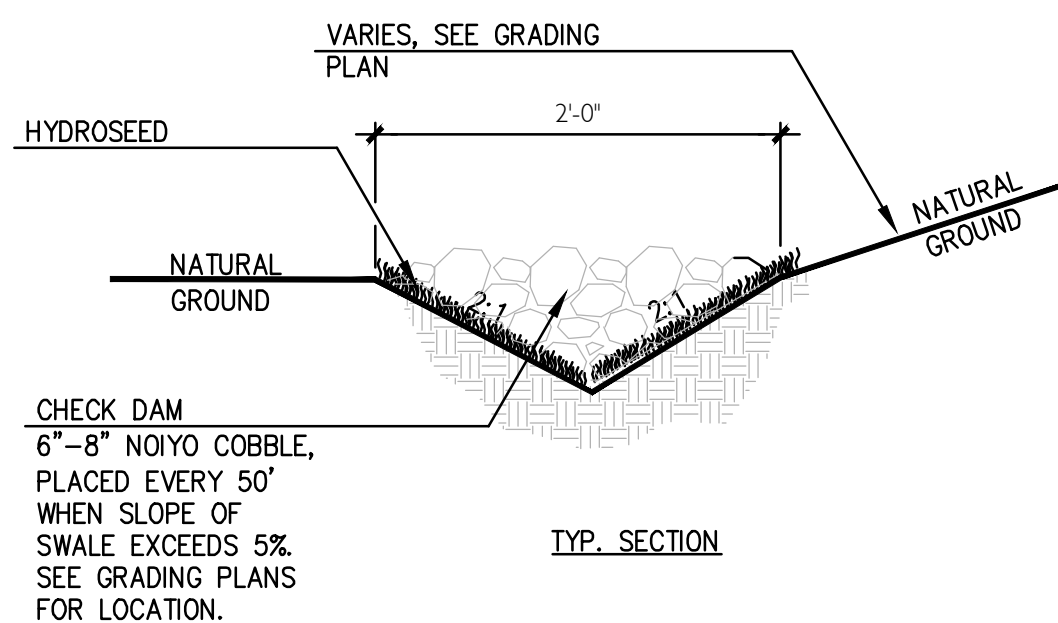


SITE AMENITIES PLAN

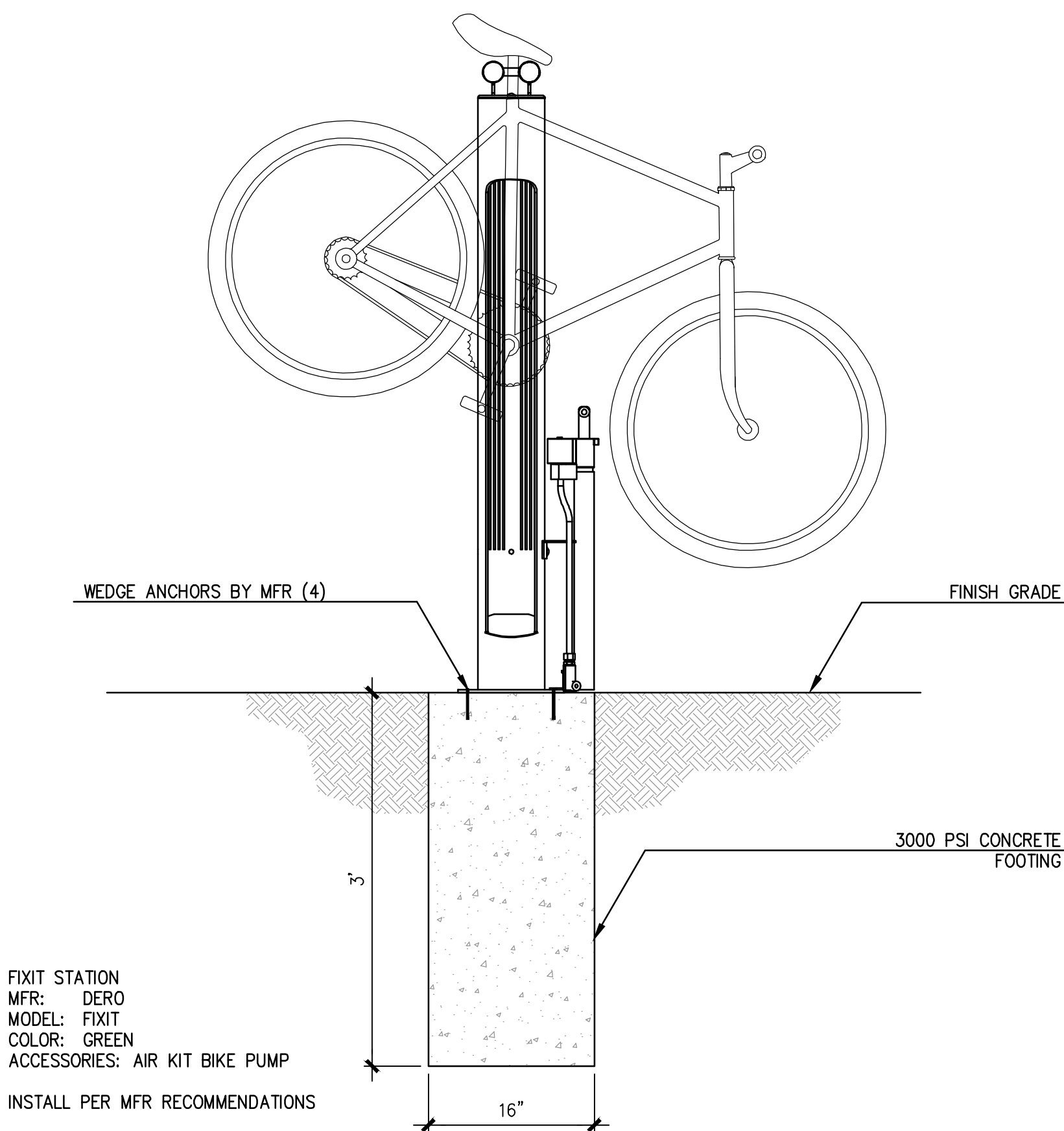
L4.0



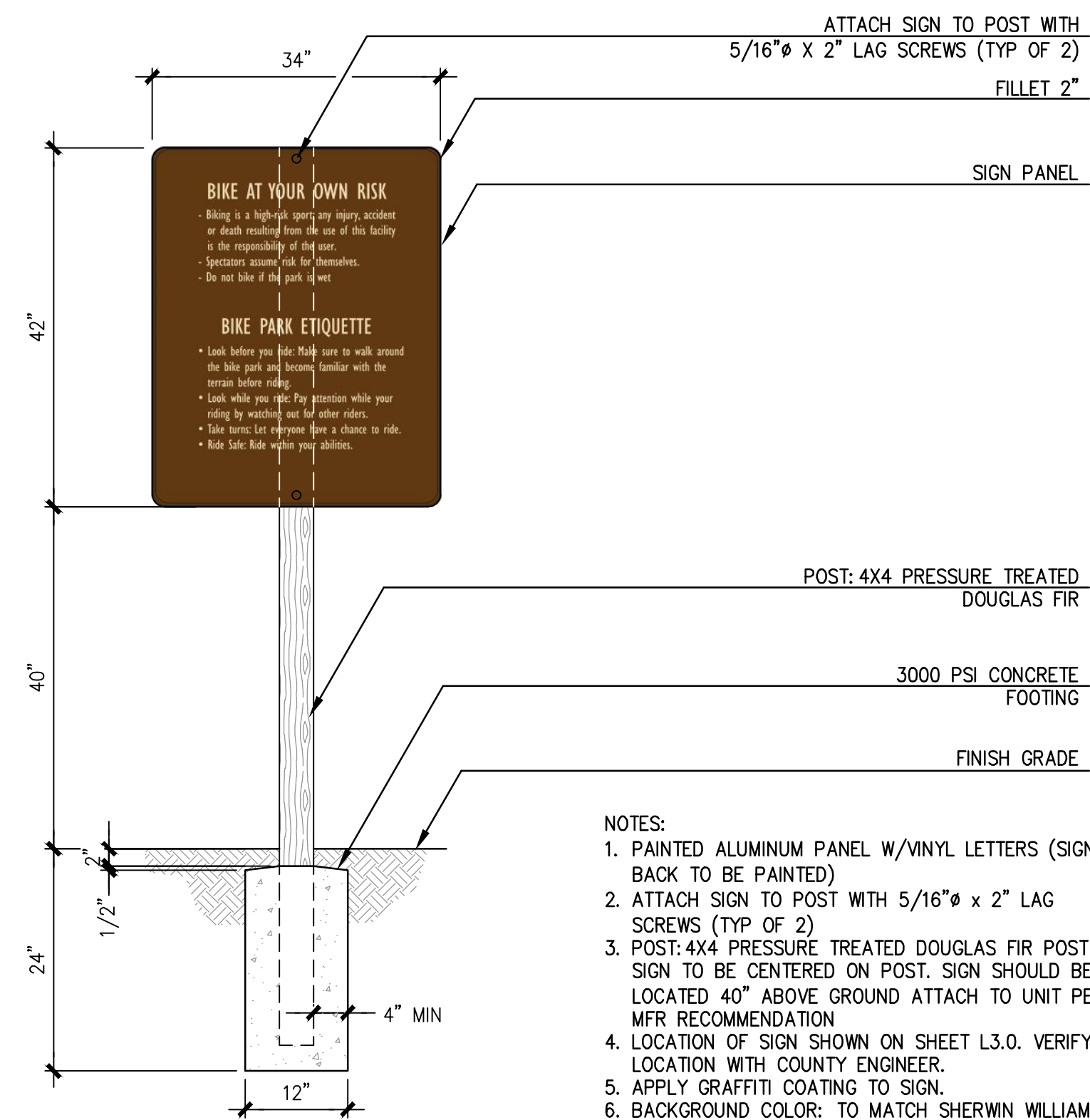
PATH: F:\SAN MATEO COUNTY\QUARRY PARK PUMP TRACK (P###)\ACAD\SHEETS\L4.0-L4.0.DWG
 PLOT DATE: 3/15/2021 1:59 AM



7 VEGETATED SWALE (2' WIDE DITCH)
SCALE: 1" = 1'-0"

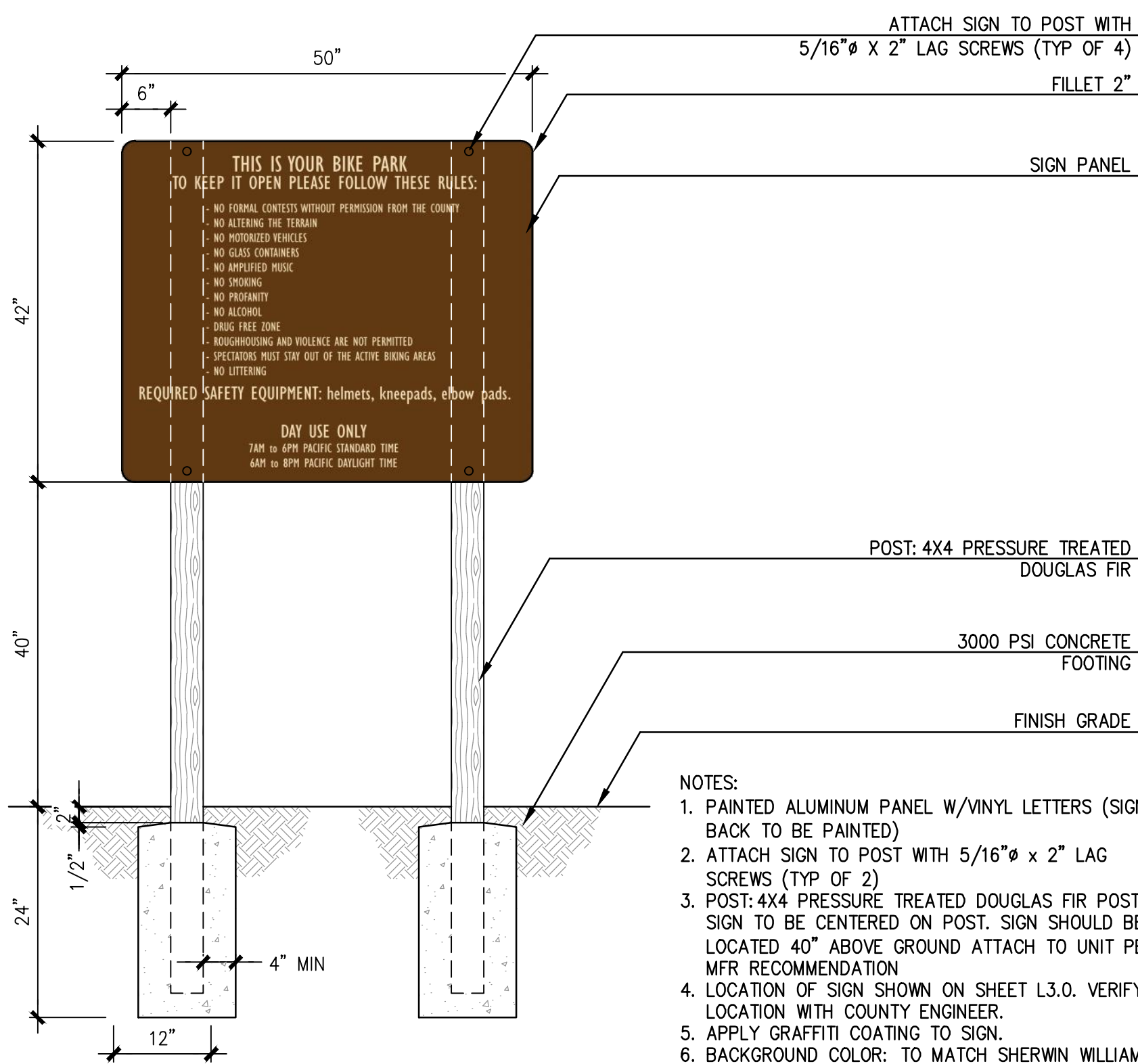


6 BIKE MAINTENANCE STATION
SCALE: 1" = 1'-0"



- NOTES:
1. PAINTED ALUMINUM PANEL W/VINYL LETTERS (SIGN BACK TO BE PAINTED)
 2. ATTACH SIGN TO POST WITH 5/16" x 2" LAG SCREWS (TYP OF 2)
 3. POST: 4X4 PRESSURE TREATED DOUGLAS FIR POST SIGN TO BE CENTERED ON POST. SIGN SHOULD BE LOCATED 40" ABOVE GROUND ATTACH TO UNIT PER MFR RECOMMENDATION
 4. LOCATION OF SIGN SHOWN ON SHEET L3.0. VERIFY LOCATION WITH COUNTY ENGINEER.
 5. APPLY GRAFFITI COATING TO SIGN.
 6. BACKGROUND COLOR: TO MATCH SHERWIN WILLIAMS "CHANTICLEER #2912, SATIN.
 7. LETTERING COLOR: SW6385 DOVER WHITE (WHITE)

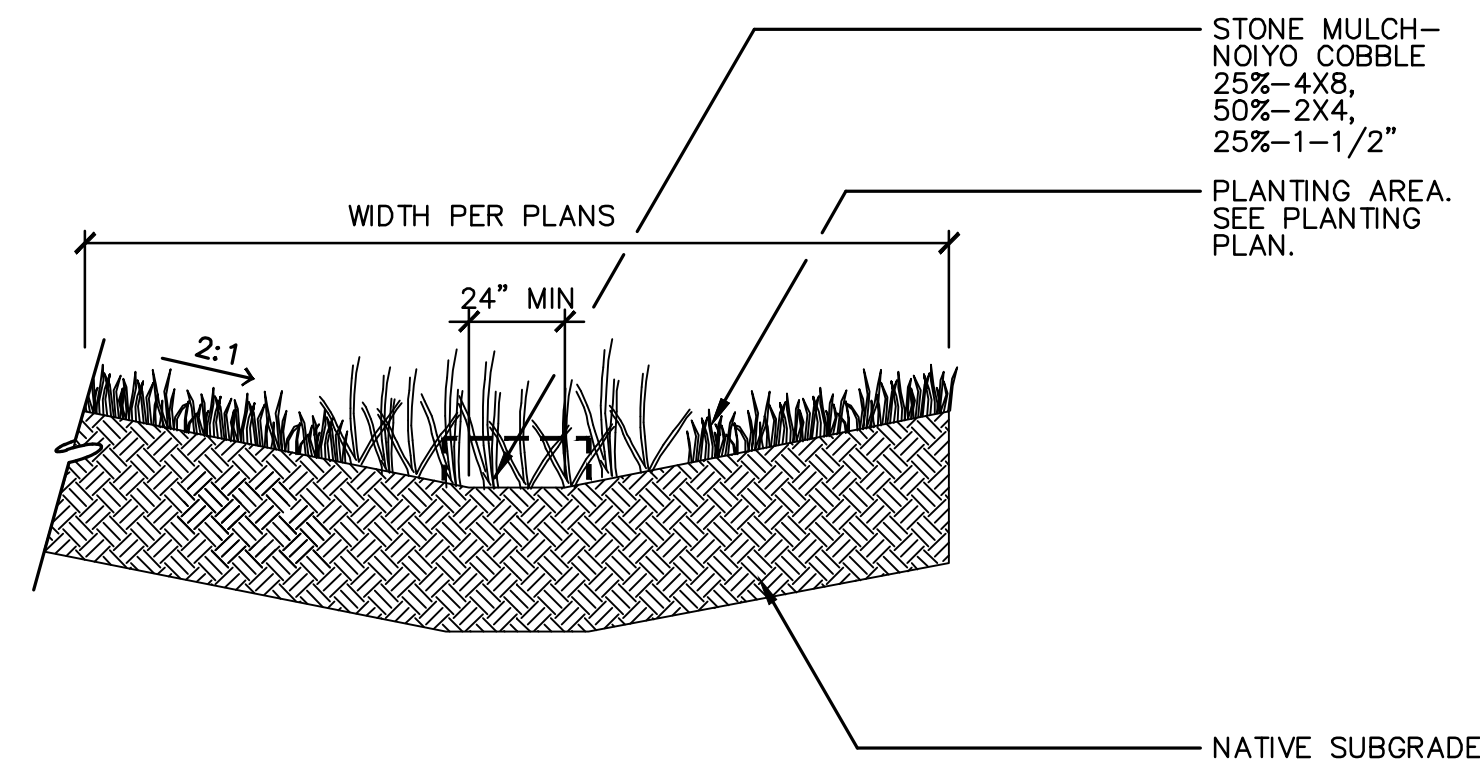
5 PUMP TRACK ADVISORY SIGNAGE
SCALE: 3/4" = 1'-0"



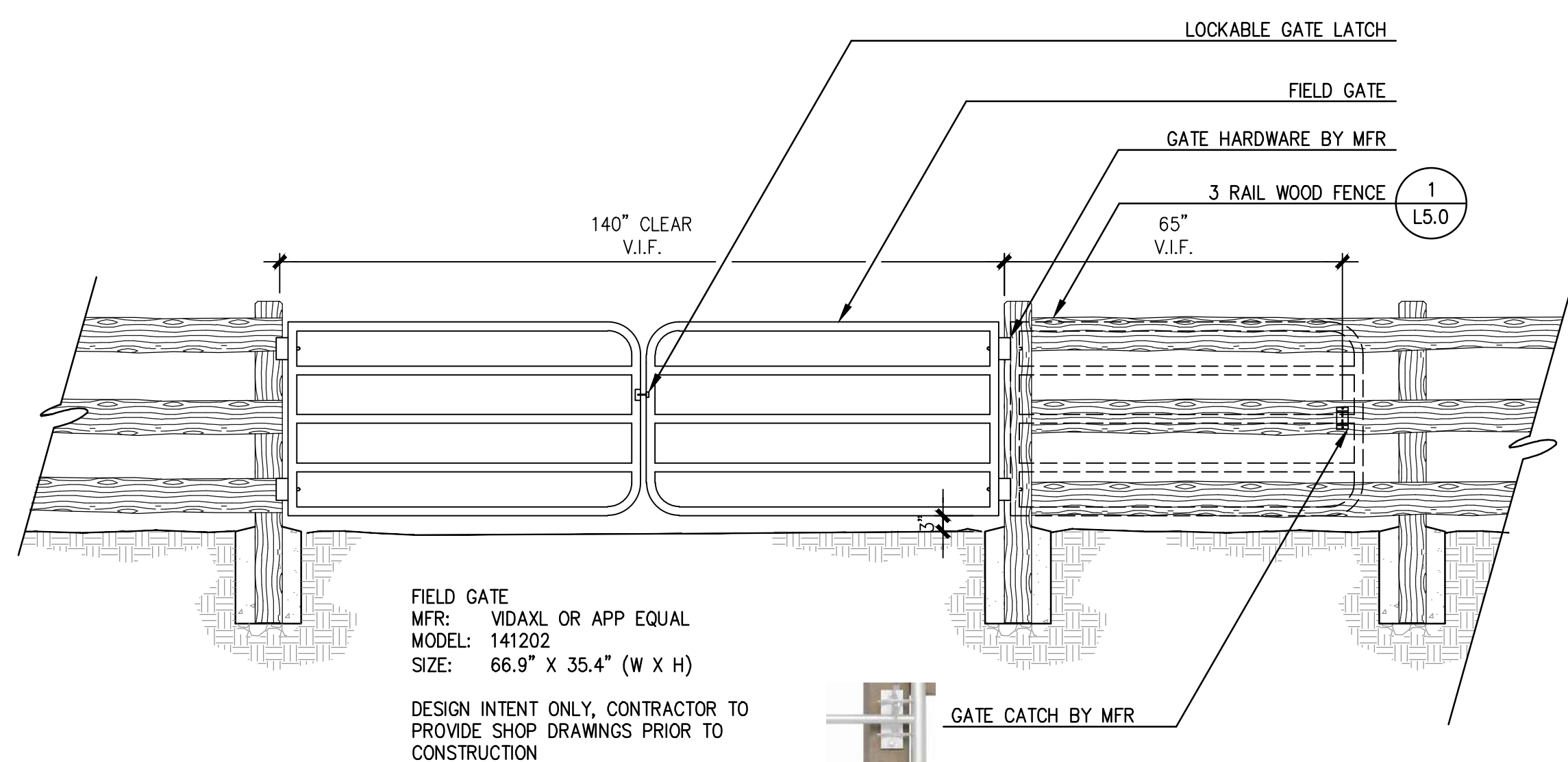
- NOTES:
1. PAINTED ALUMINUM PANEL W/VINYL LETTERS (SIGN BACK TO BE PAINTED)
 2. ATTACH SIGN TO POST WITH 5/16" x 2" LAG SCREWS (TYP OF 2)
 3. POST: 4X4 PRESSURE TREATED DOUGLAS FIR POST SIGN TO BE CENTERED ON POST. SIGN SHOULD BE LOCATED 40" ABOVE GROUND ATTACH TO UNIT PER MFR RECOMMENDATION
 4. LOCATION OF SIGN SHOWN ON SHEET L3.0. VERIFY LOCATION WITH COUNTY ENGINEER.
 5. APPLY GRAFFITI COATING TO SIGN.
 6. BACKGROUND COLOR: TO MATCH SHERWIN WILLIAMS "CHANTICLEER #2912, SATIN.
 7. LETTERING COLOR: SW6385 DOVER WHITE (WHITE)

4 PUMP TRACK OPERATIONAL SIGNAGE
SCALE: 3/4" = 1'-0"

- NOTES:
1. BASE OF SWALES ARE TO BE GRADED FLAT AT A 2' MINIMUM WIDTH. TYPICAL. HOWEVER, IN AREAS WHERE 8' TOTAL WIDTH CANNOT BE ACHIEVED, THE BASE OF THE SWALE MAY BE REDUCED TO A 1' MINIMUM WIDTH.
 2. ALL SWALE AREAS ARE TO BE MULCHED W/ NOIOY COBBLE

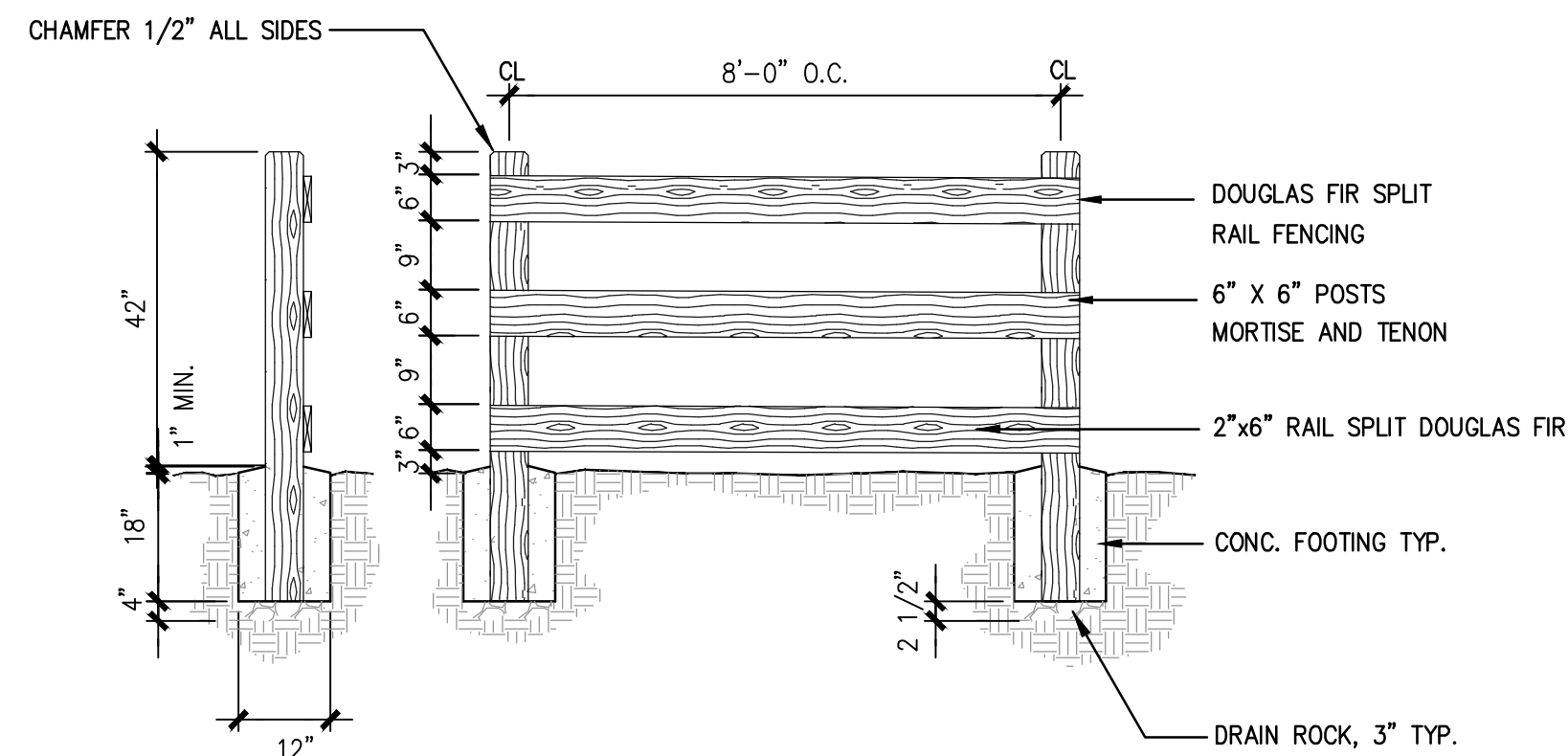


3 BIOSWALE (VEGETATED BUFFER)
SCALE: 1/2" = 1'-0"

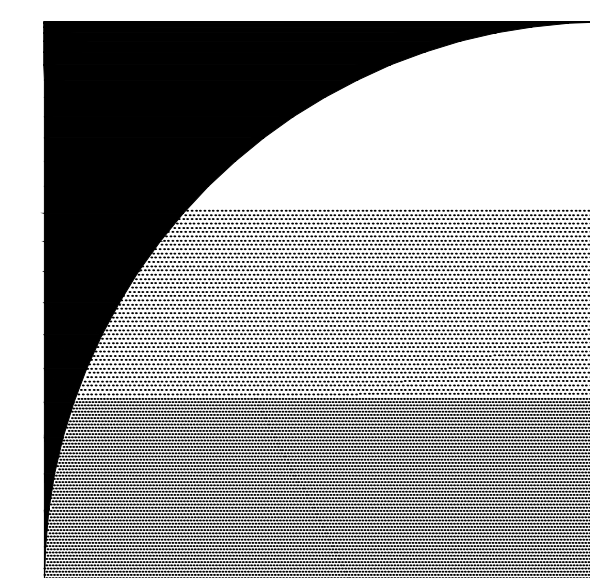


2 DOUBLE GATE (COUNTY STANDARD)
SCALE: 1/2" = 1'-0"

FENCING AVAILABLE FROM COASTAL LUMBER:
(408) 995-0791



1 3 RAIL WOOD FENCE (COUNTY STANDARD)
SCALE: 1/2" = 1'-0"



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QUARRY PARK PUMP TRACK

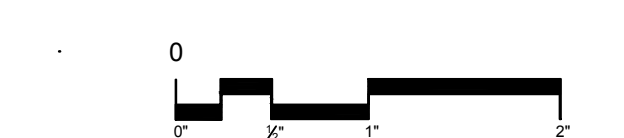
SAN MATEO COUNTY CALIFORNIA

ISSUE:	DESCRIPTION:	DATE:
1	90% SUBMITTAL	03/15/2021

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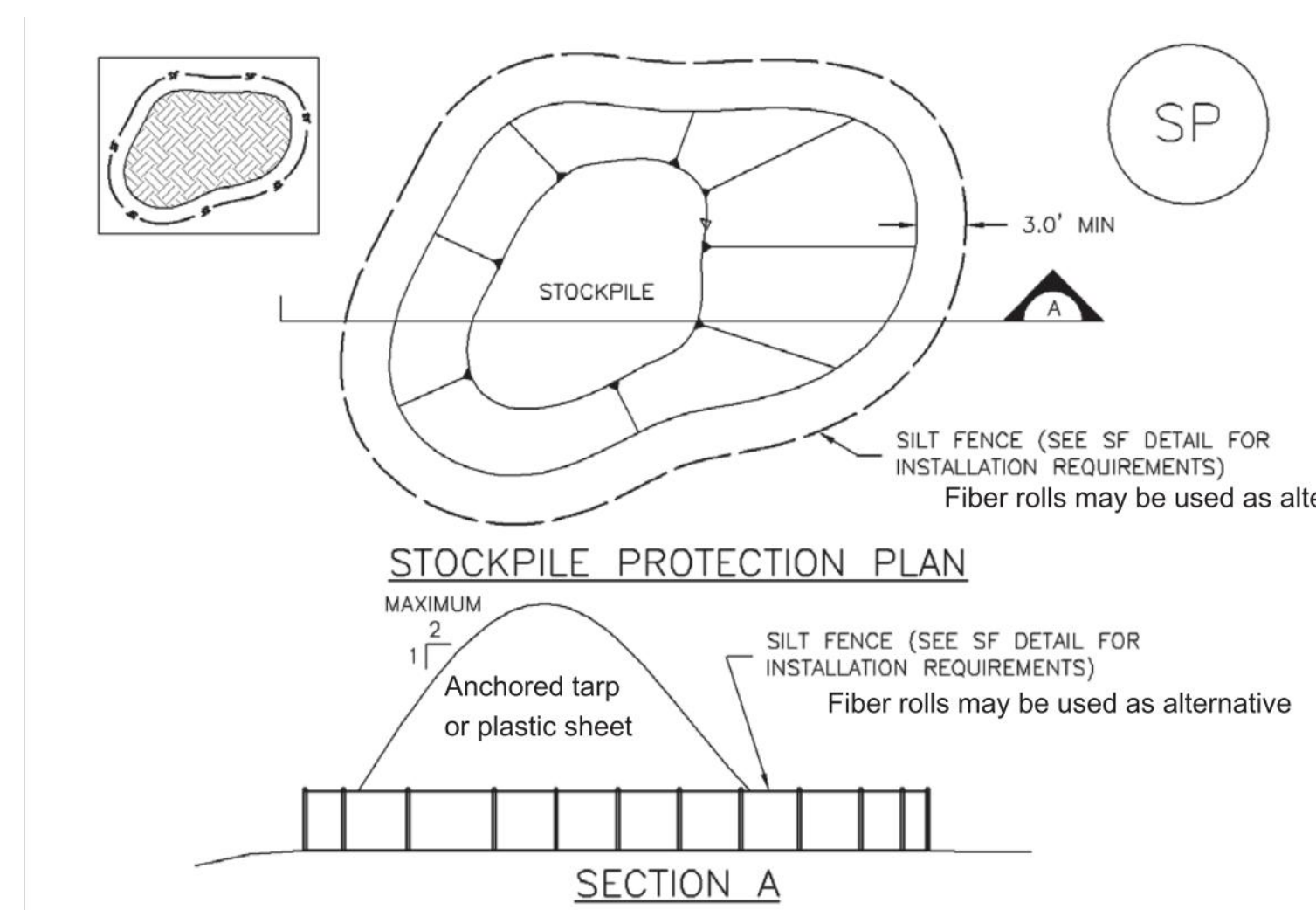
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DRAWN:	DB
CHECK:	CG
DATE:	03/15/2021
SCALE:	PER DETAIL



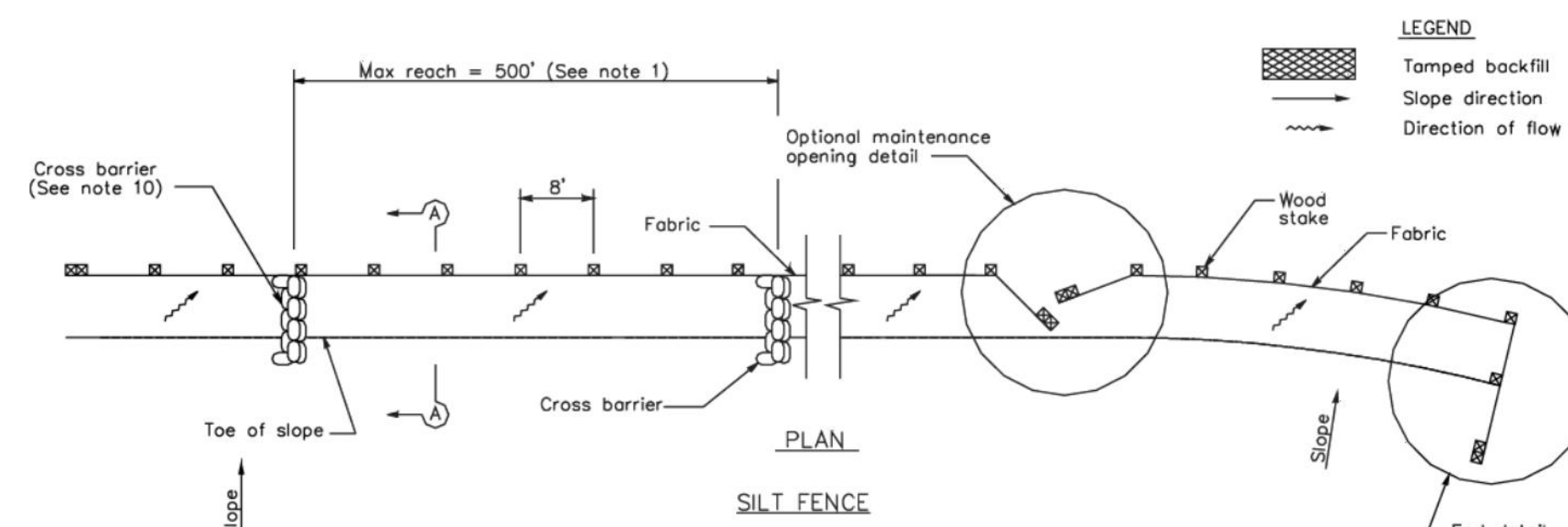
CONSTRUCTION DETAILS

L5.0

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PLOT DATE: 3/15/2021 11:39 AM

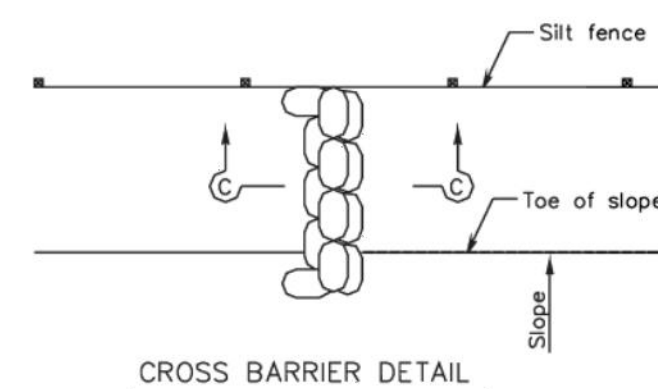


4 STOCKPILE
 NTS

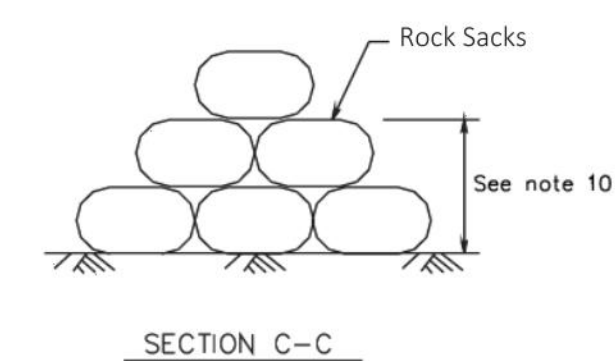


NOTES

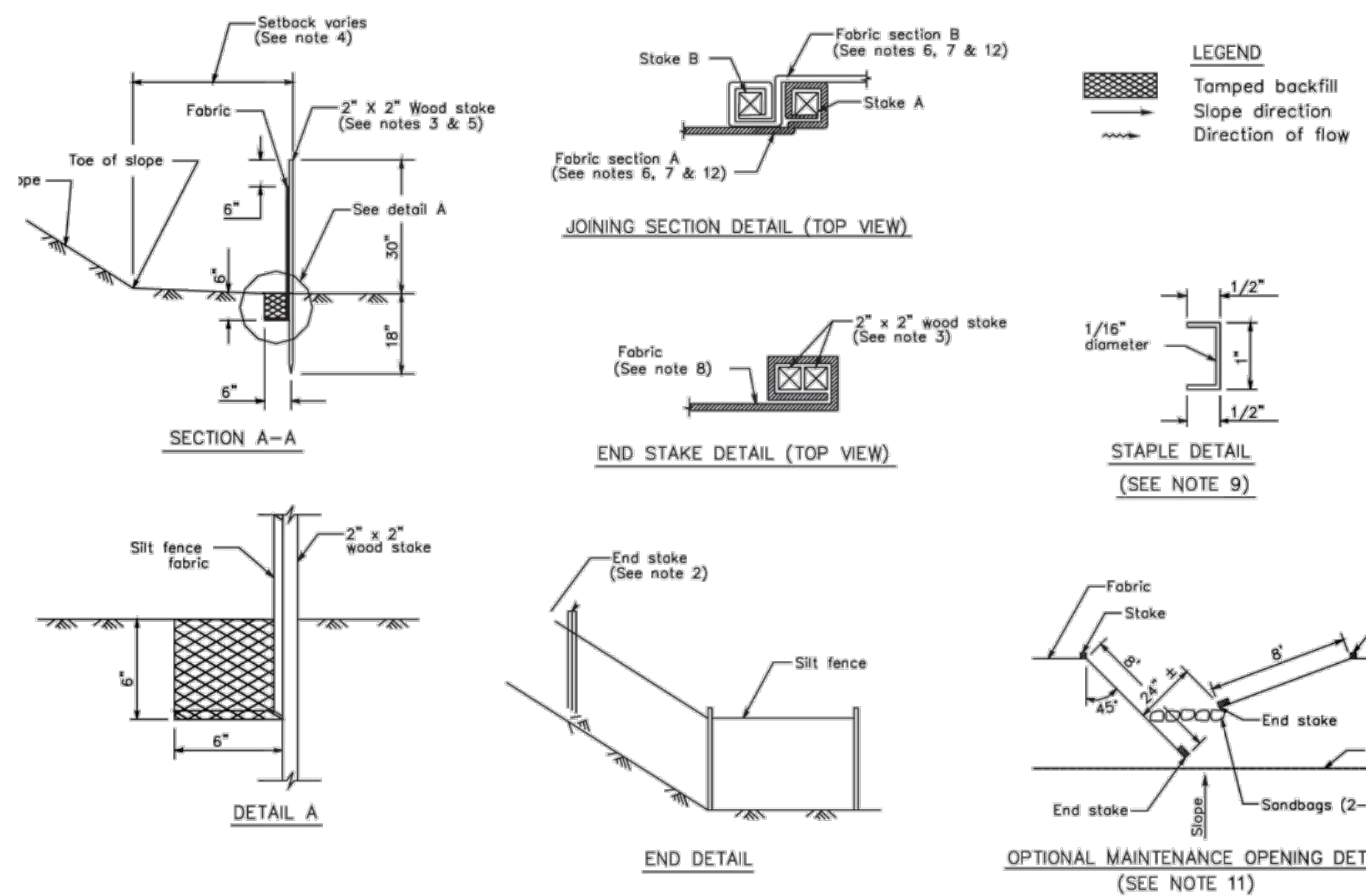
- Construct the length of each reach so that the change in base elevation along the reach does not exceed 1/3 the height of the linear barrier, in no case shall the reach length exceed 500'.
- The last 8'-0" of fence shall be turned up slope.
- Stake dimensions are nominal.
- Dimension may vary to fit field condition.
- Stakes shall be spaced at 8'-0" maximum and shall be positioned on downstream side of fence.
- Stakes to overlap and fence fabric to fold around each stake one full turn. Secure fabric to stake with 4 staples.
- Stakes shall be driven tightly together to prevent potential flow-through of sediment at joint. The tops of the stakes shall be secured with wire.
- For end stake, fence fabric shall be folded around two stakes one full turn and secured with 4 staples.
- Minimum 4 staples per stake. Dimensions shown are typical.
- Cross barriers shall be a minimum of 1/3 and a maximum of 1/2 the height of the linear barrier.
- Maintenance openings shall be constructed in a manner to ensure sediment remains behind silt fence.
- Joining sections shall not be placed at sump locations.
- Sandbag rows and layers shall be offset to eliminate gaps.



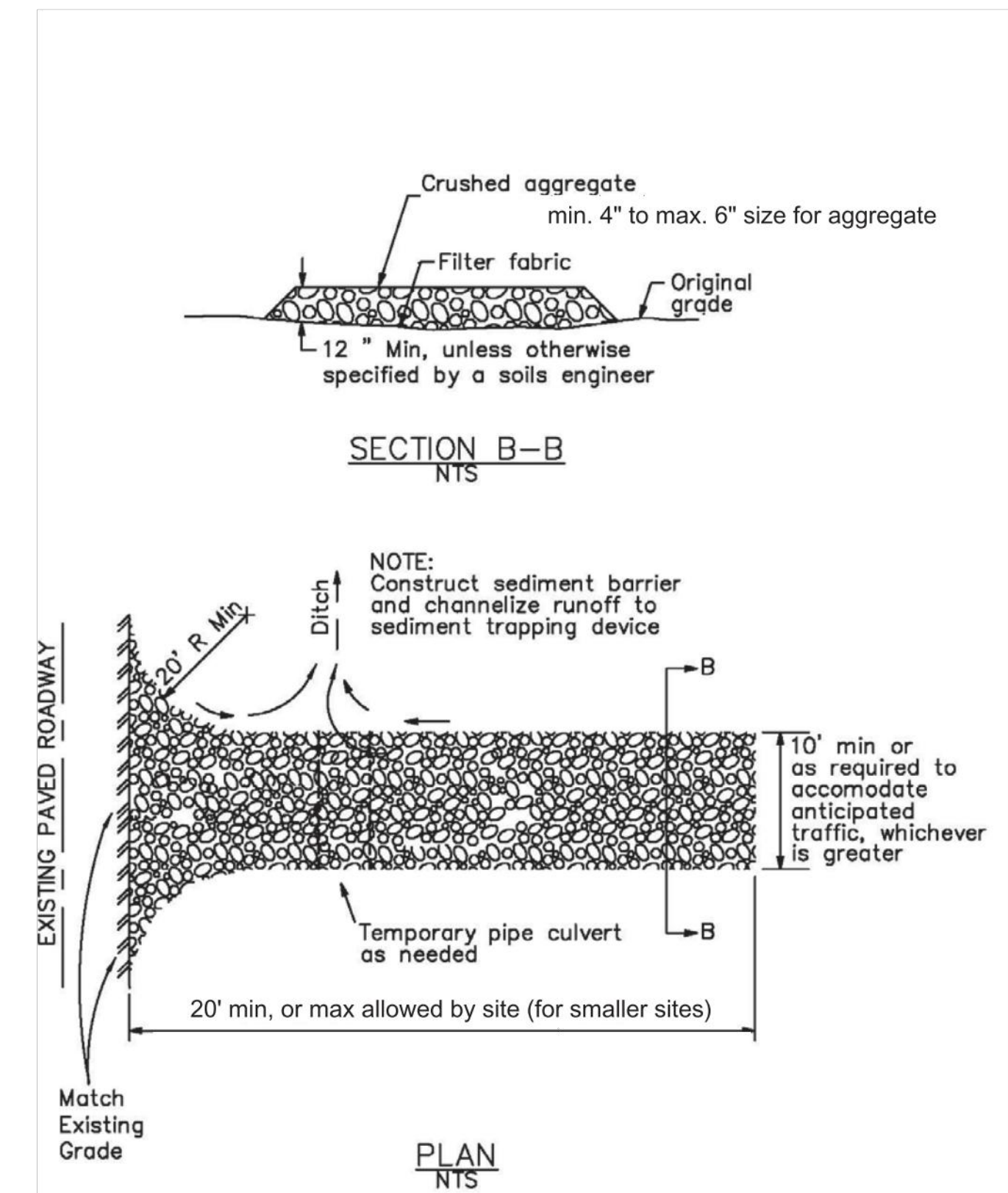
CROSS BARRIER DETAIL



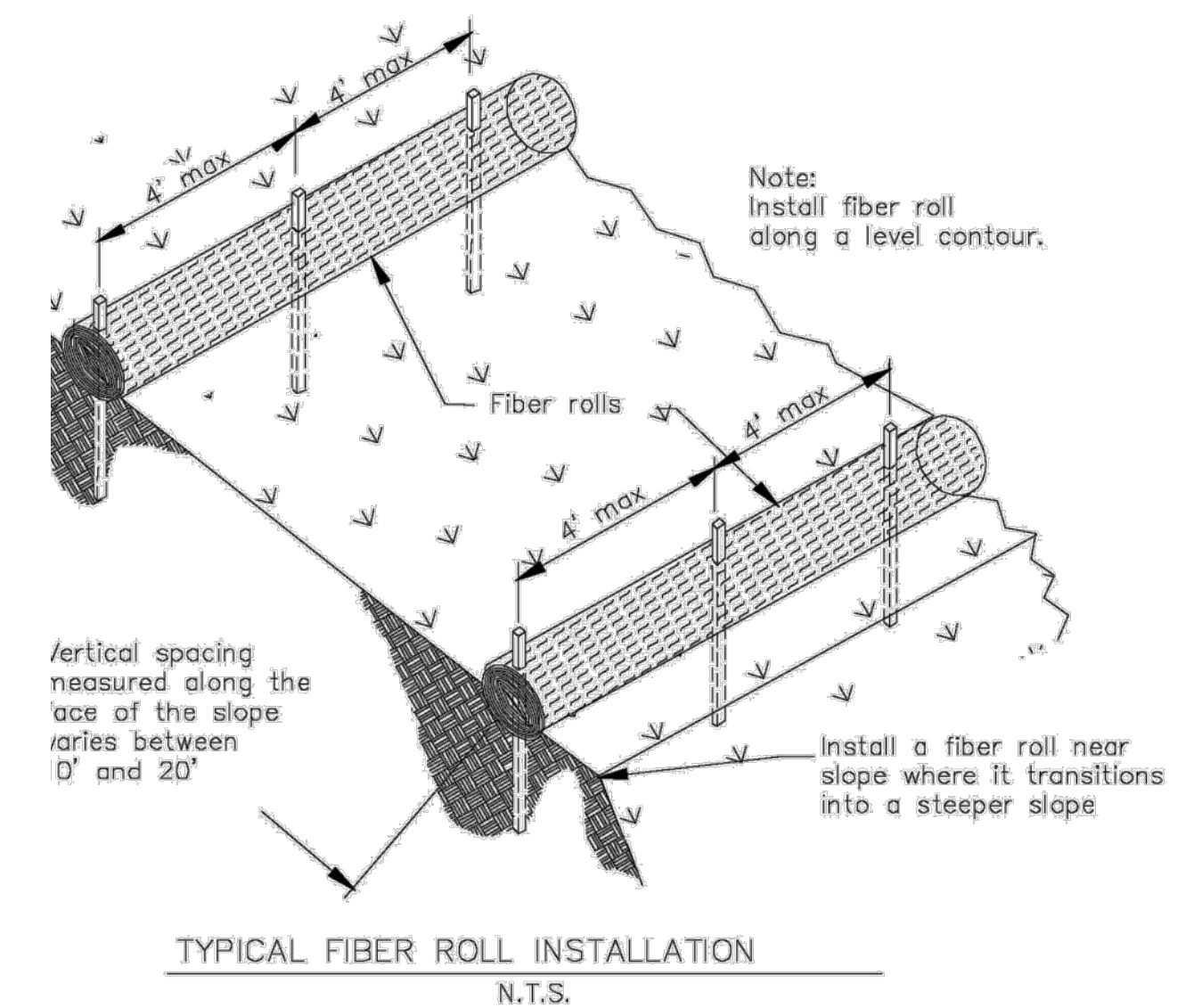
SECTION C-C



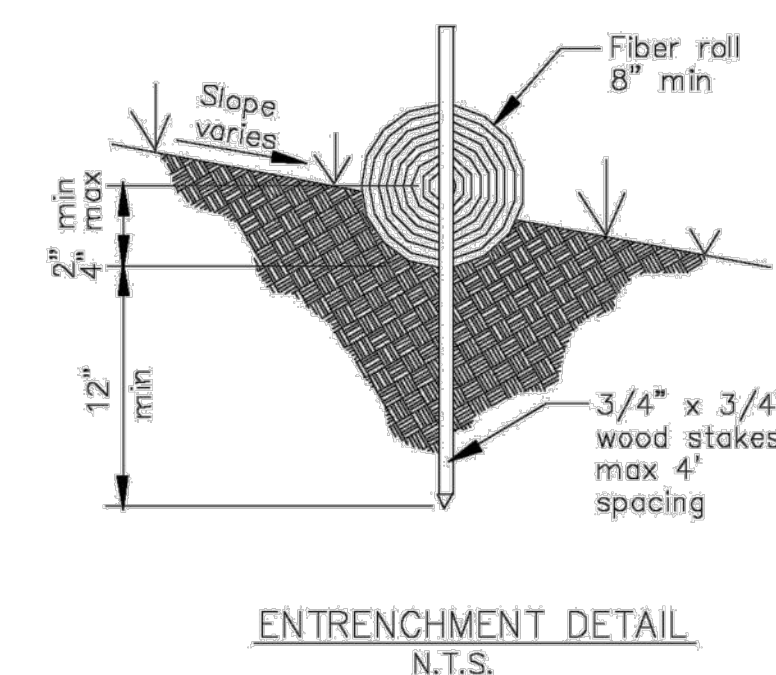
3 SILT FENCE
 NTS



2 CONSTRUCTION ENTRANCE
 NTS

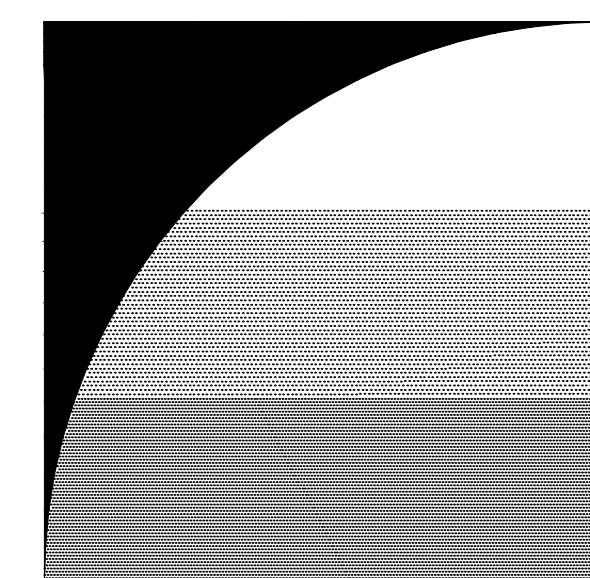


TYPICAL FIBER ROLL INSTALLATION
 N.T.S.



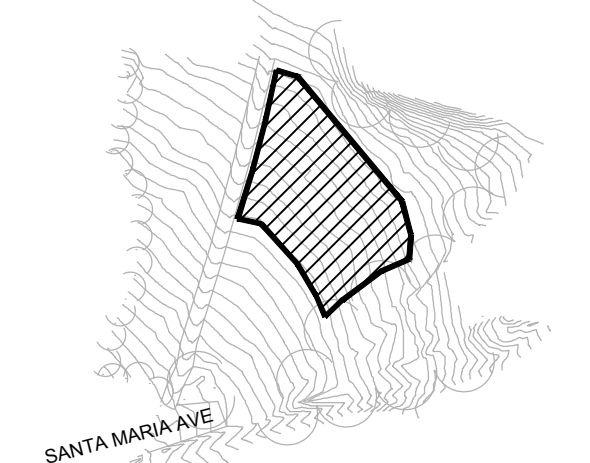
ENTRENCHMENT DETAIL
 N.T.S.

1 FIBER ROLLS
 NTS



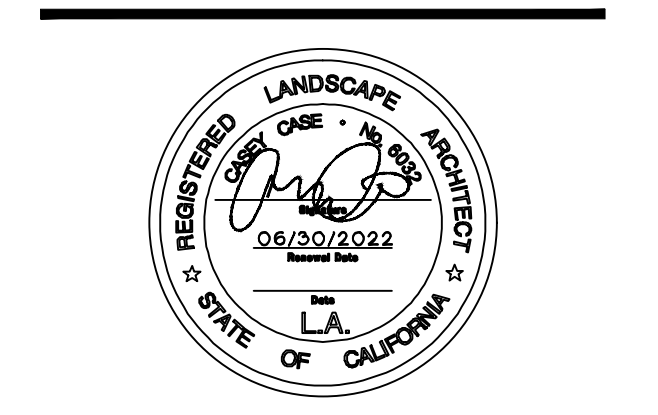
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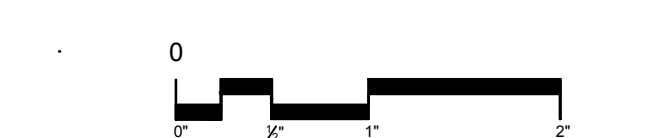


ISSUE: 1
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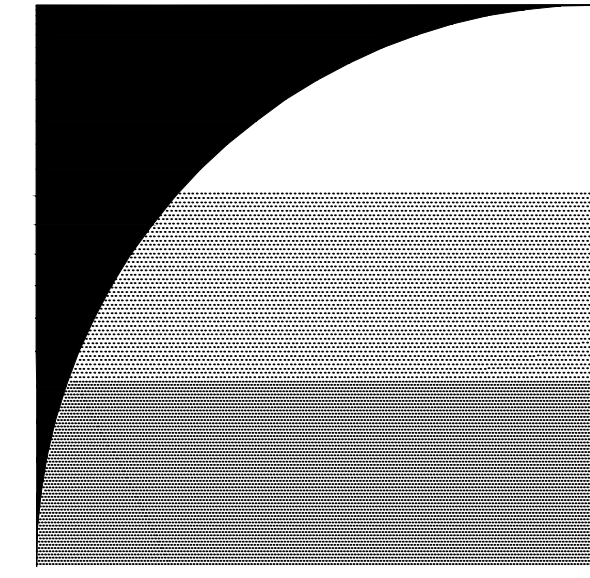
PROJECT NUMBER: 5603
 DRAWN: DB
 CHECK: CG
 DATE: 03/15/2021
 SCALE: PER DETAIL



EROSION CONTROL DETAILS

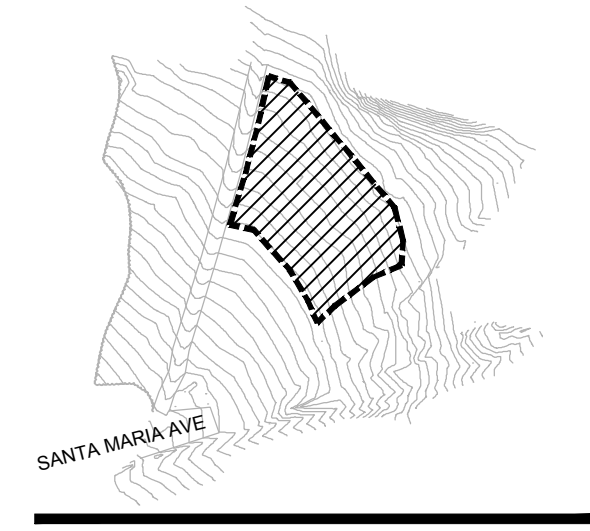
L5.1

SYMBOL	DETAIL	DESCRIPTION
←	NA	GRADE DIRECTION - DOWN.



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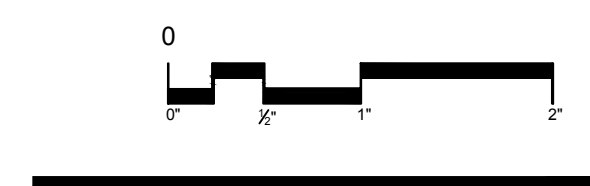


ISSUE:	DESCRIPTION:	DATE:
1	90% SUBMITTAL	03/15/2021

NOT FOR CONSTRUCTION

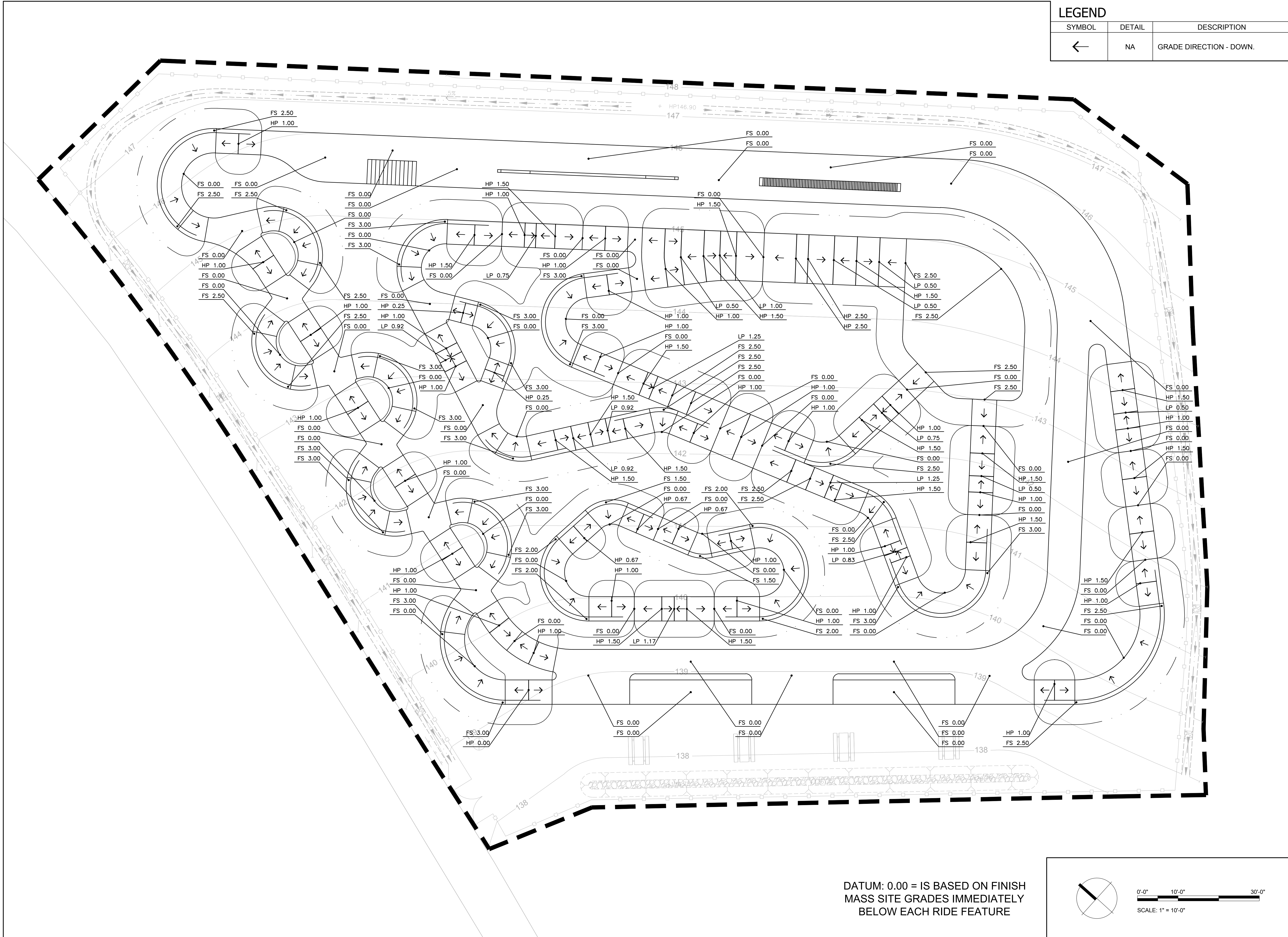


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 DRAWN: KM
 CHECK: ZW
 DATE: 03/15/2021
 SCALE:

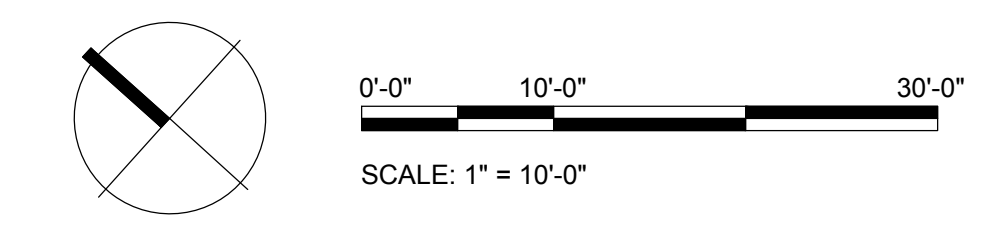


PUMP TRACK GRADING PLAN

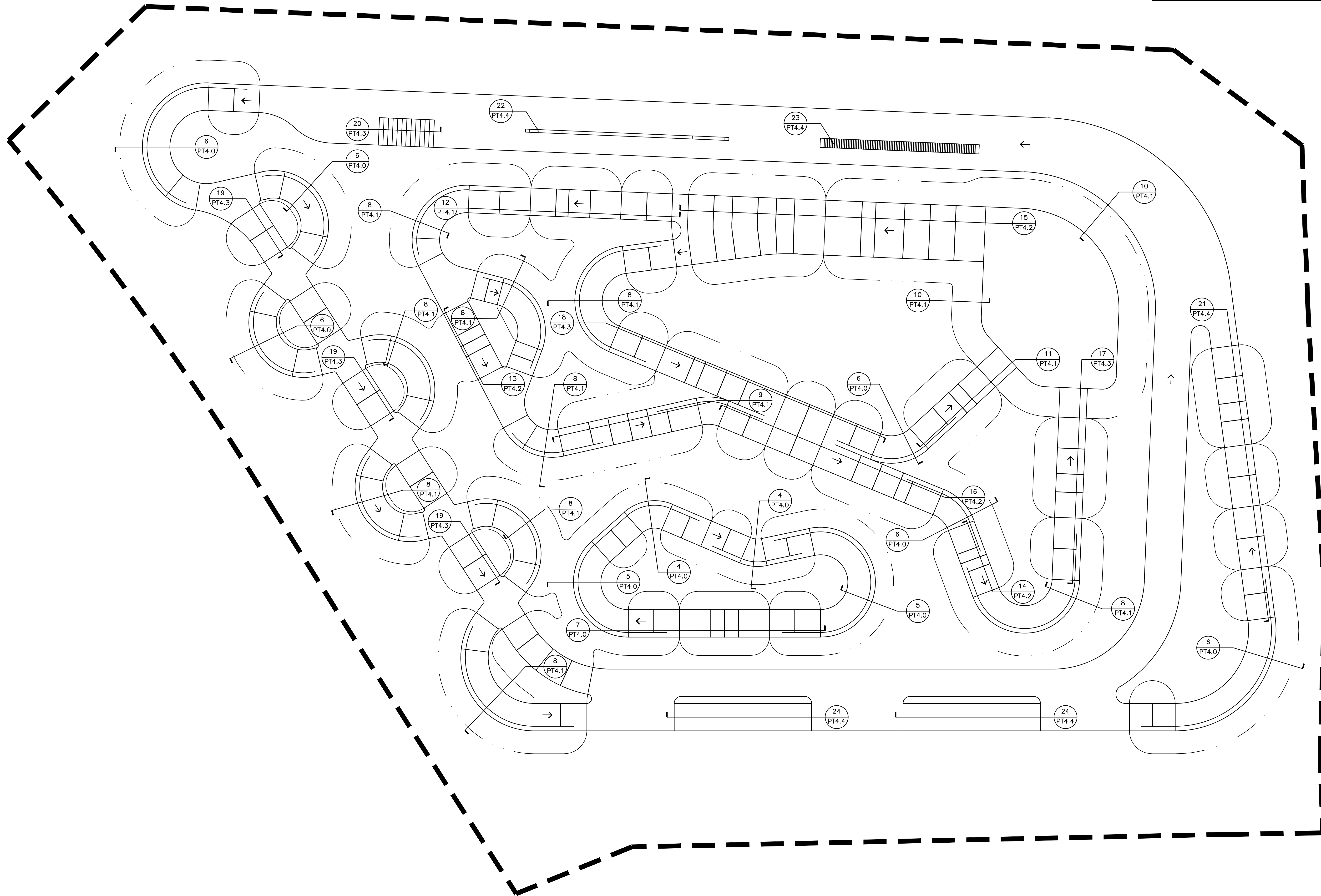
PT-3.0



DATUM: 0.00 = IS BASED ON FINISH MASS SITE GRADES IMMEDIATELY BELOW EACH RIDE FEATURE



SYMBOL	DETAIL	DESCRIPTION
←	NA	RIDE DIRECTION.



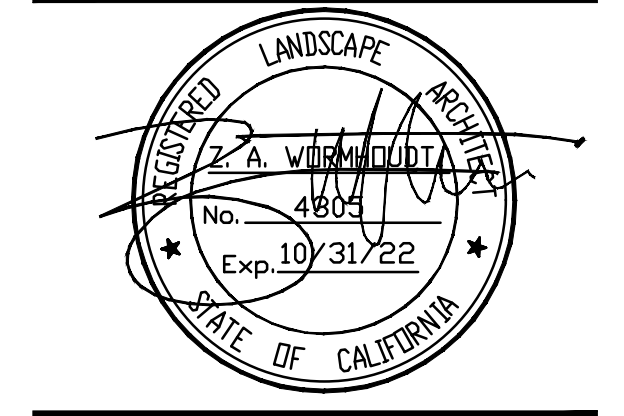
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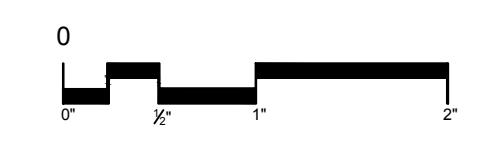


ISSUE:	DESCRIPTION:	DATE:
1	90% SUBMITTAL	03/15/2021

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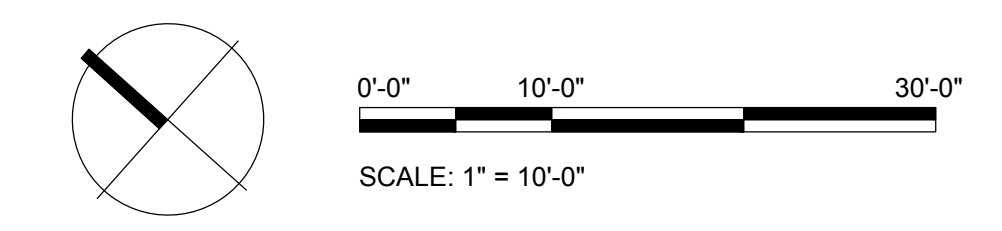


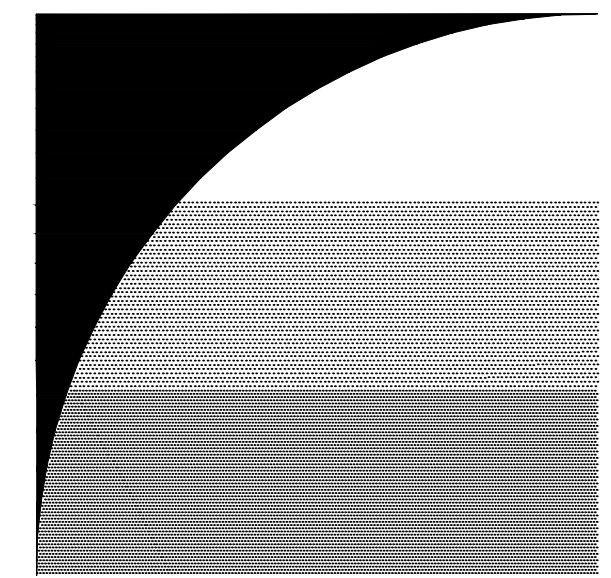
PROJECT NUMBER: 5603
 DRAWN: KM
 CHECK: ZW
 DATE: 03/15/2021
 SCALE:



PUMP TRACK
CONSTRUCTION
PLAN

PT-3.1

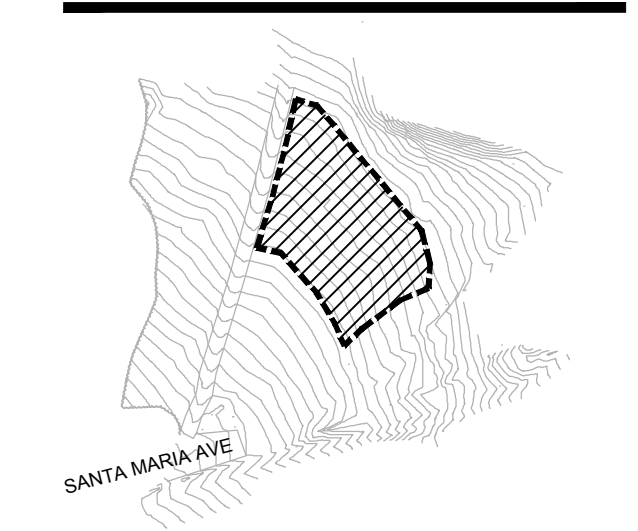




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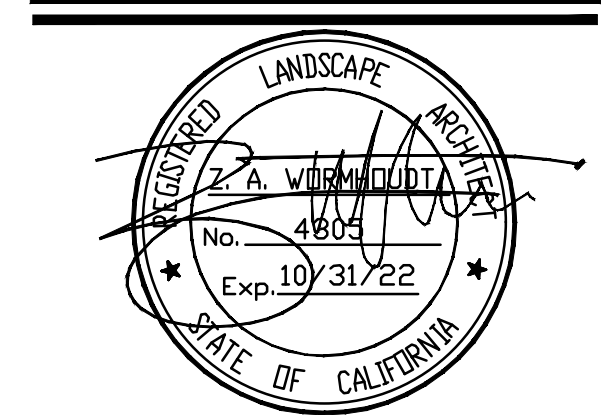
**QUARRY PARK
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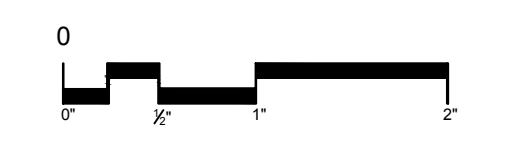


ISSUE:	DESCRIPTION:	DATE:
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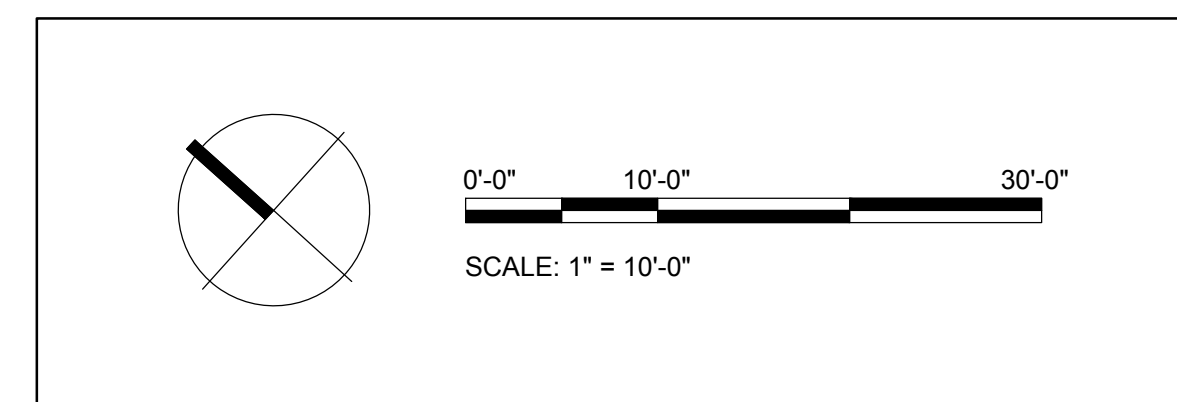
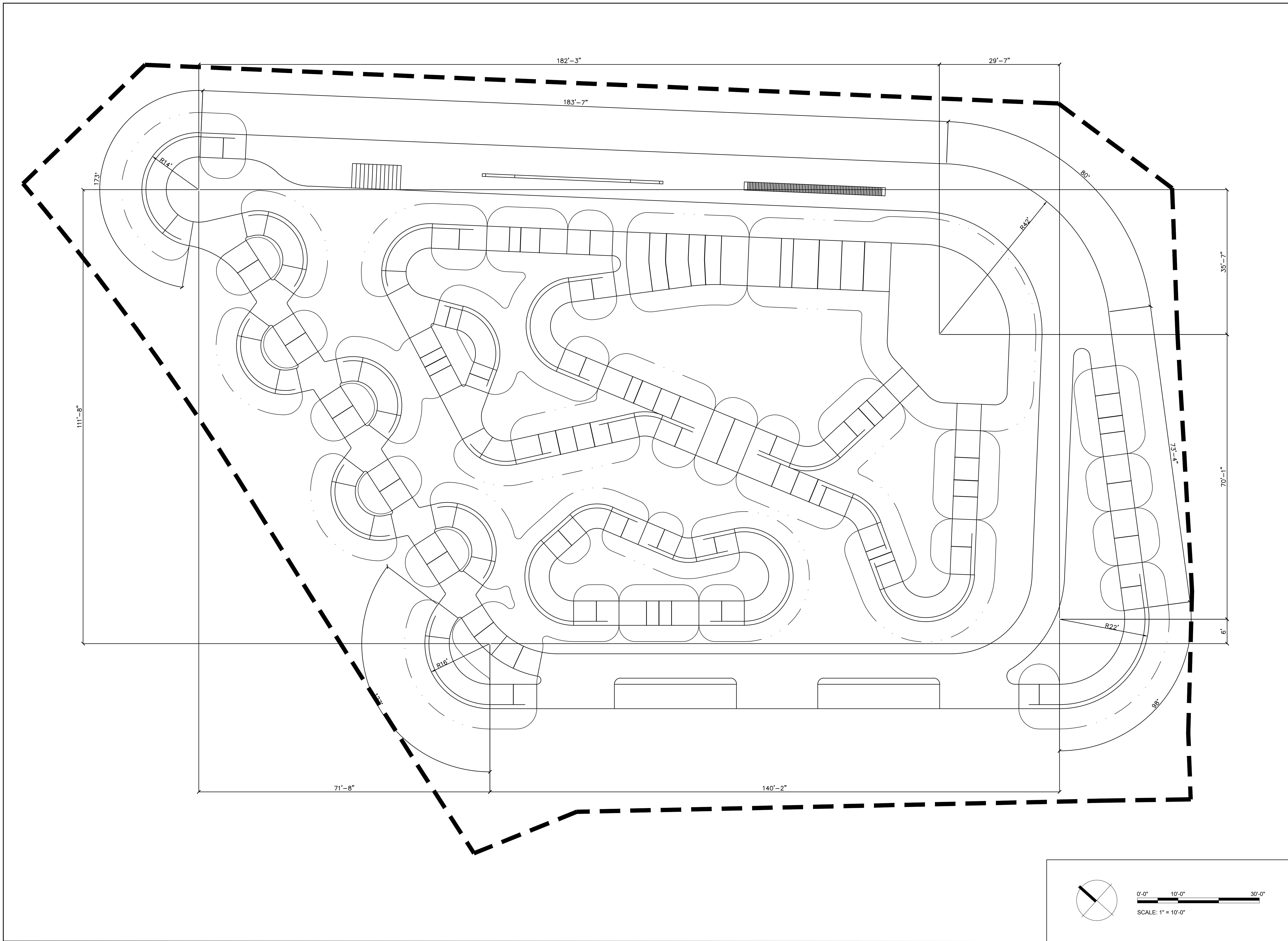


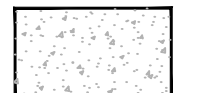

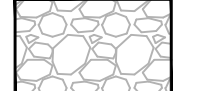
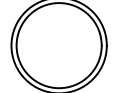
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 CHECK: ZW
 DATE: 03/15/2021
 SCALE:

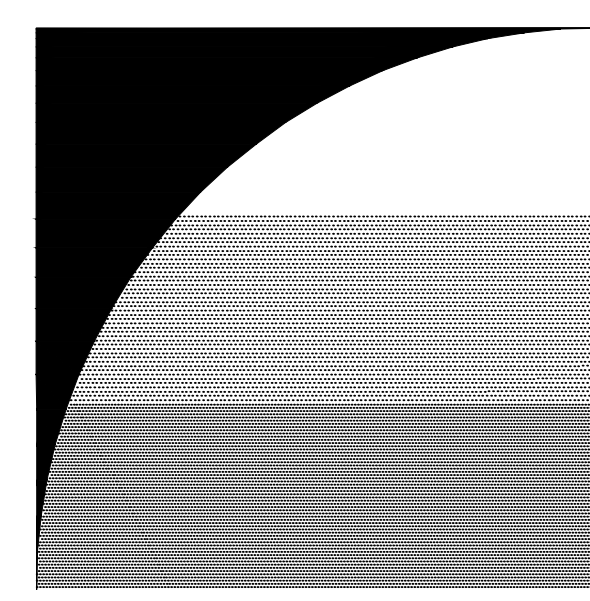
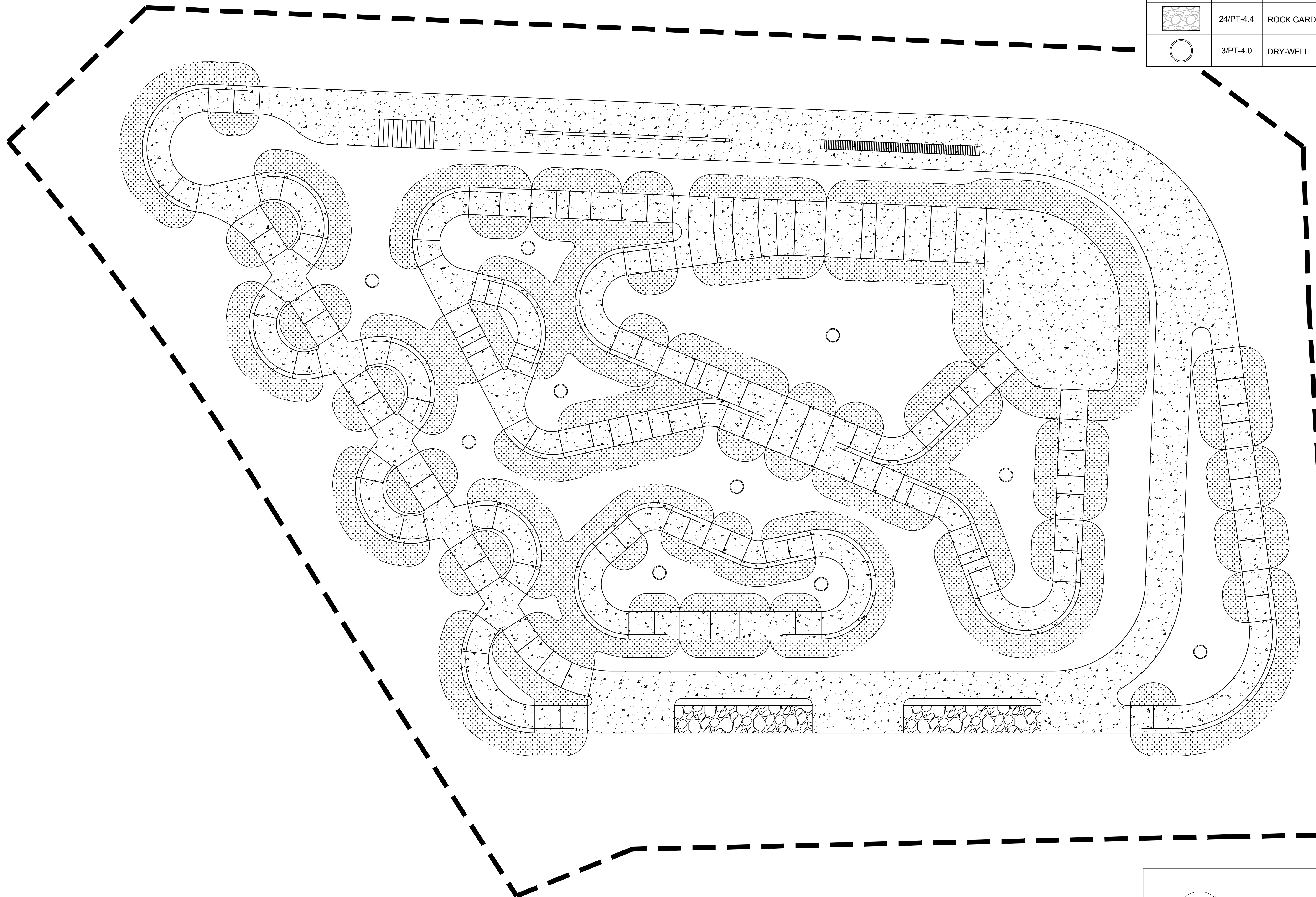


**PUMP TRACK
 LAYOUT PLAN**

PT-3.2



SYMBOL	DETAIL	DESCRIPTION
	1/PT-4.0 2/PT-4.0	RIDE SURFACE FINISH GRADE
	1/PT-4.0 2/PT-4.0	NON-RIDE RETURN TO GRADE FINISH SURFACE
	24/PT-4.4	ROCK GARDEN
	3/PT-4.0	DRY-WELL



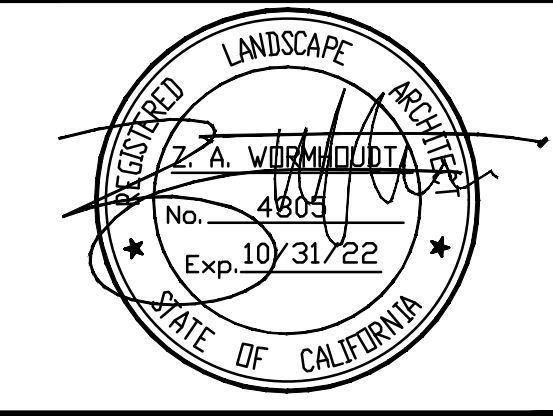
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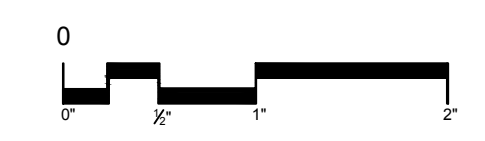


ISSUE:	DESCRIPTION:	DATE:
1	90% SUBMITTAL	03/15/2021

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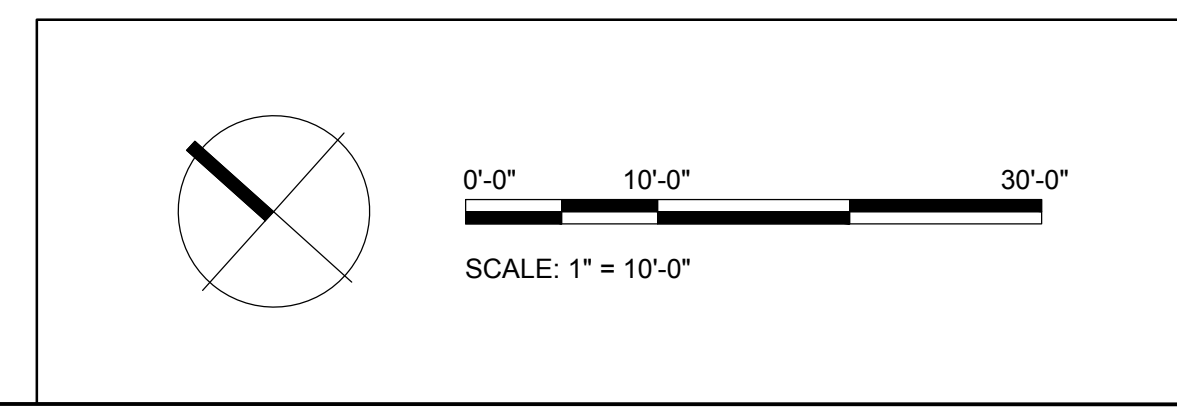


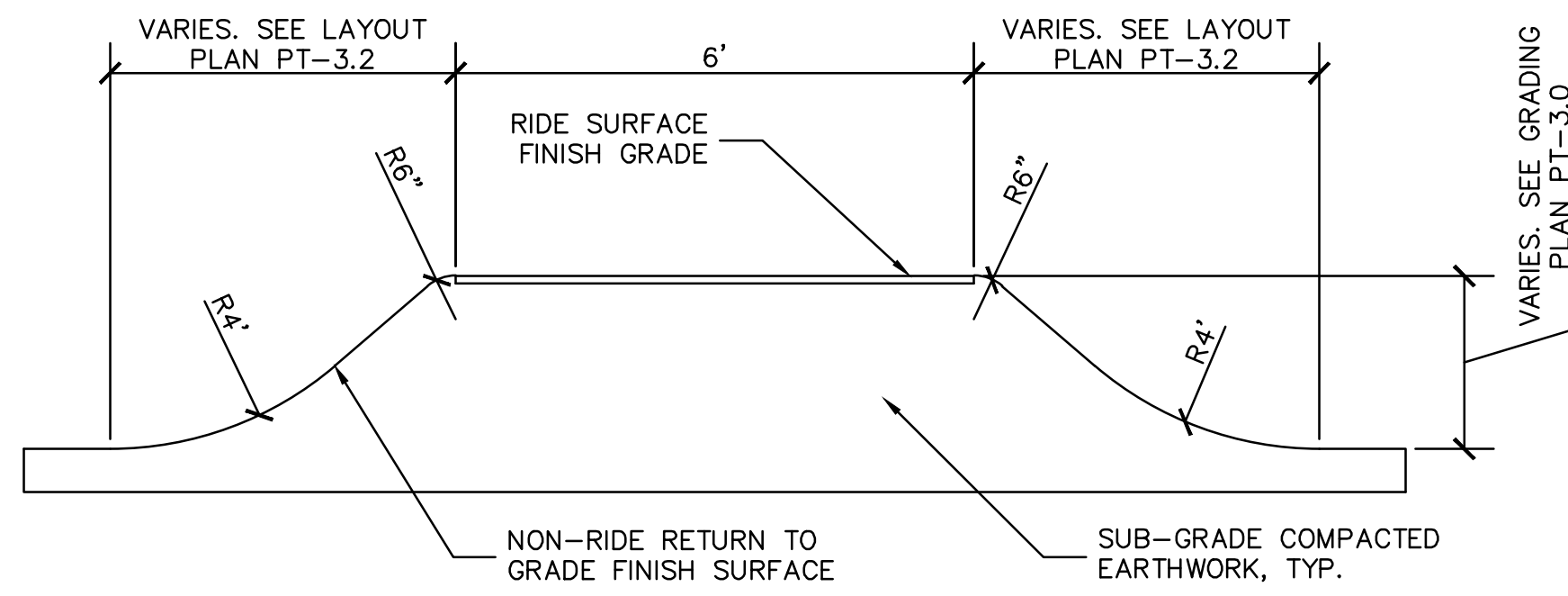
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 CHECK: ZW
 DATE: 03/15/2021
 SCALE:



**PUMP TRACK
 MATERIALS PLAN**

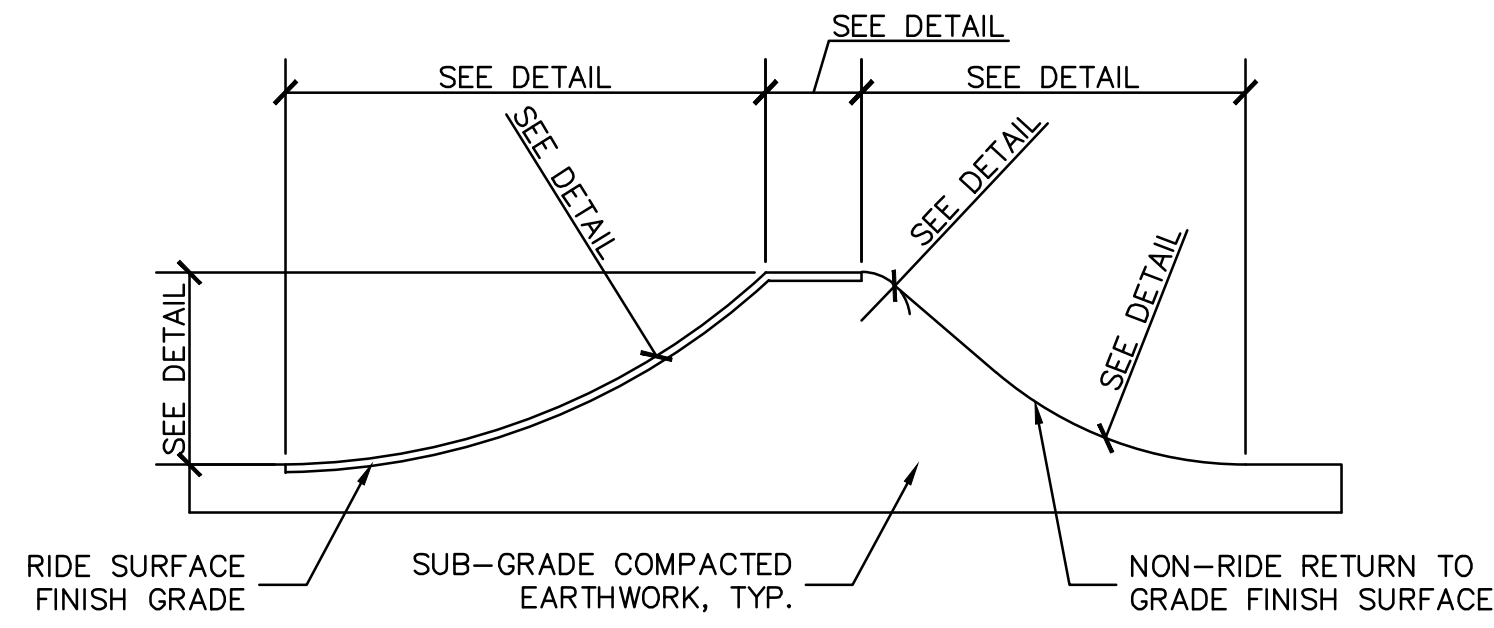
PT-3.3





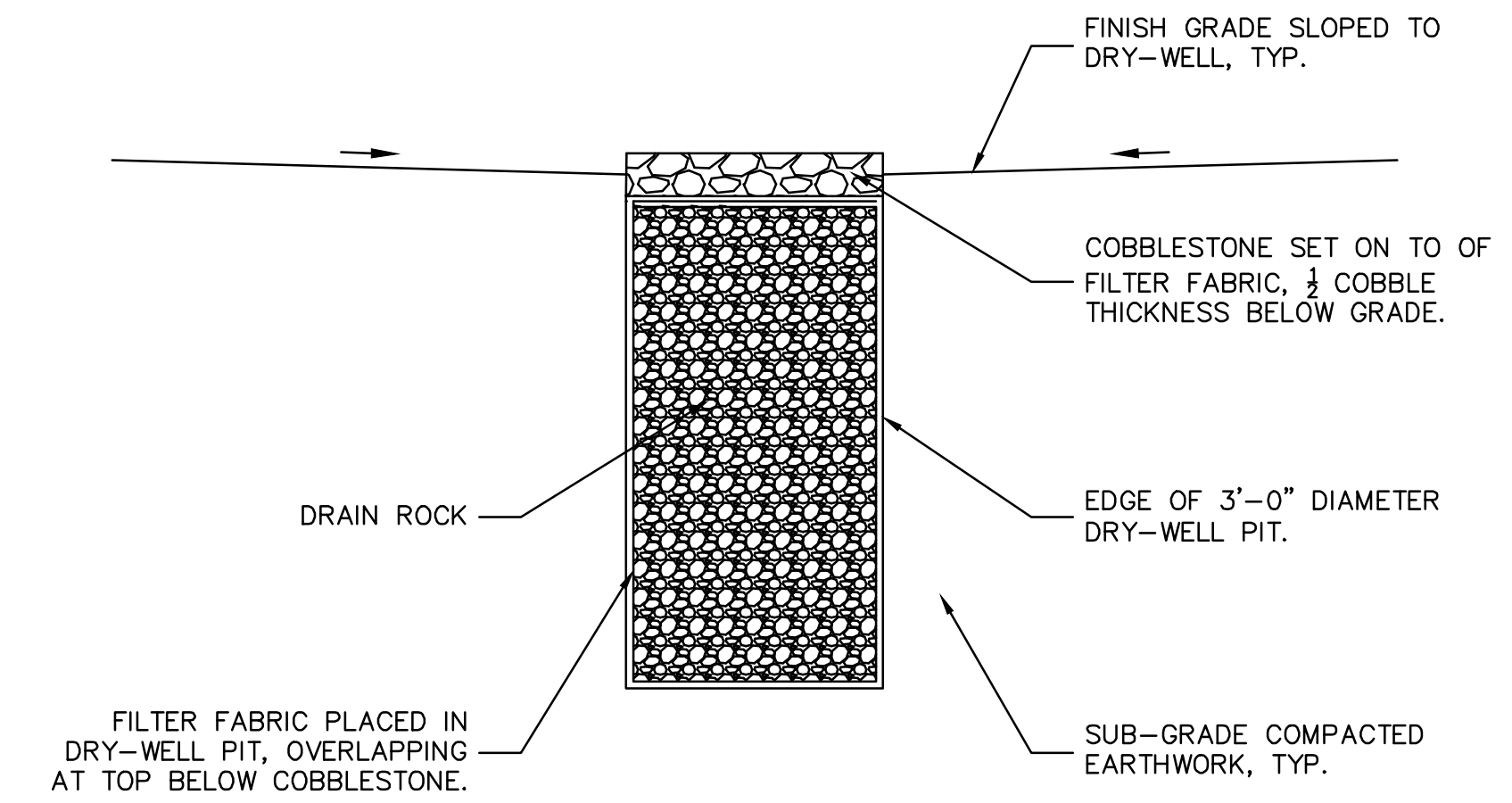
NOTE:
 1. DOUBLE LINE REPRESENTS RIDE SURFACE FINISH GRADE.
 2. ALL PUMPTRACK FEATURE SURFACES SHALL BE STABILIZED WITH SOILTAC PER MANUFACTURER SPECIFICATIONS.

TYPICAL RIDE LANE SECTION 1/2"=1'-0" 1

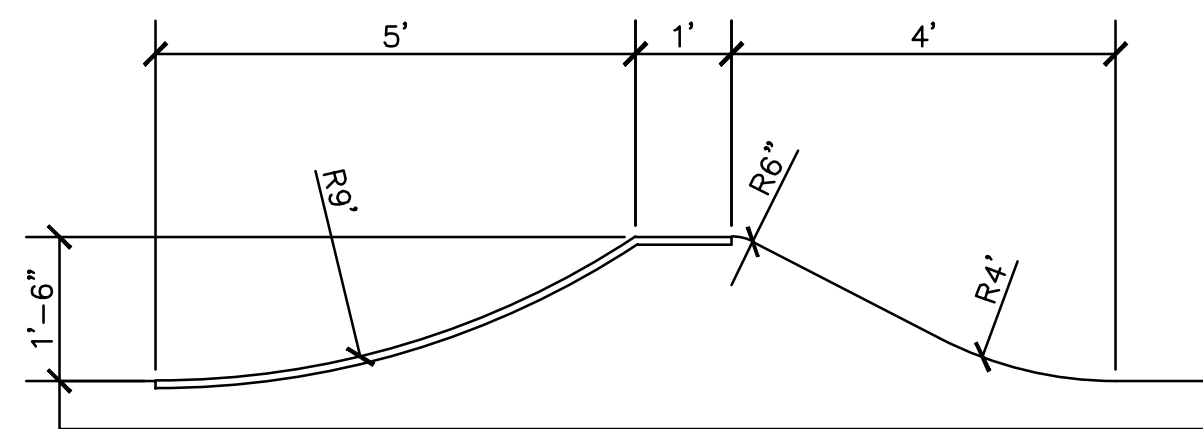


NOTE:
 1. DOUBLE LINE REPRESENTS RIDE SURFACE FINISH GRADE.
 2. ALL PUMPTRACK FEATURE SURFACES SHALL BE STABILIZED WITH SOILTAC PER MANUFACTURER SPECIFICATIONS.

TYPICAL RIDE FEATURE SECTION 1/2"=1'-0" 2

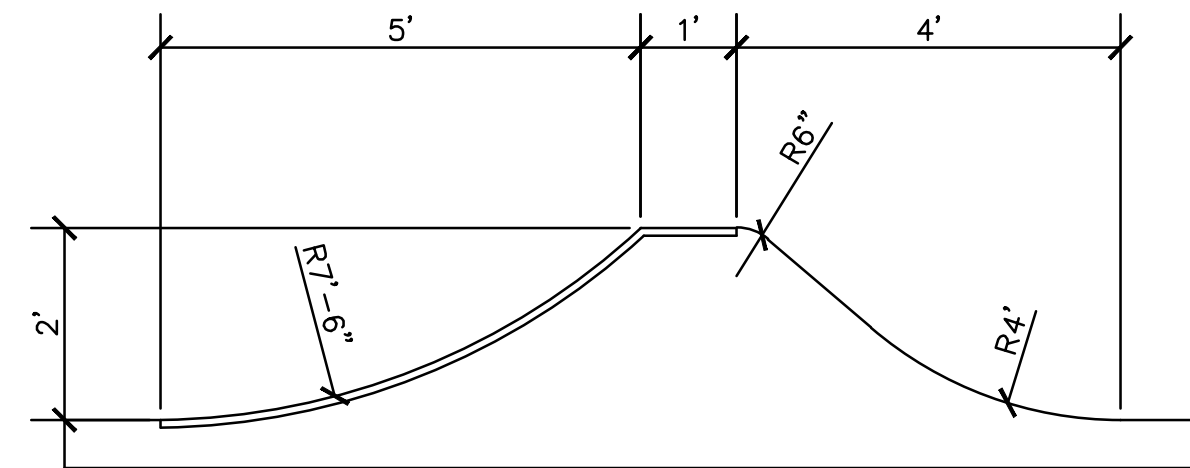


DRY-WELL 1/2"=1'-0" 3



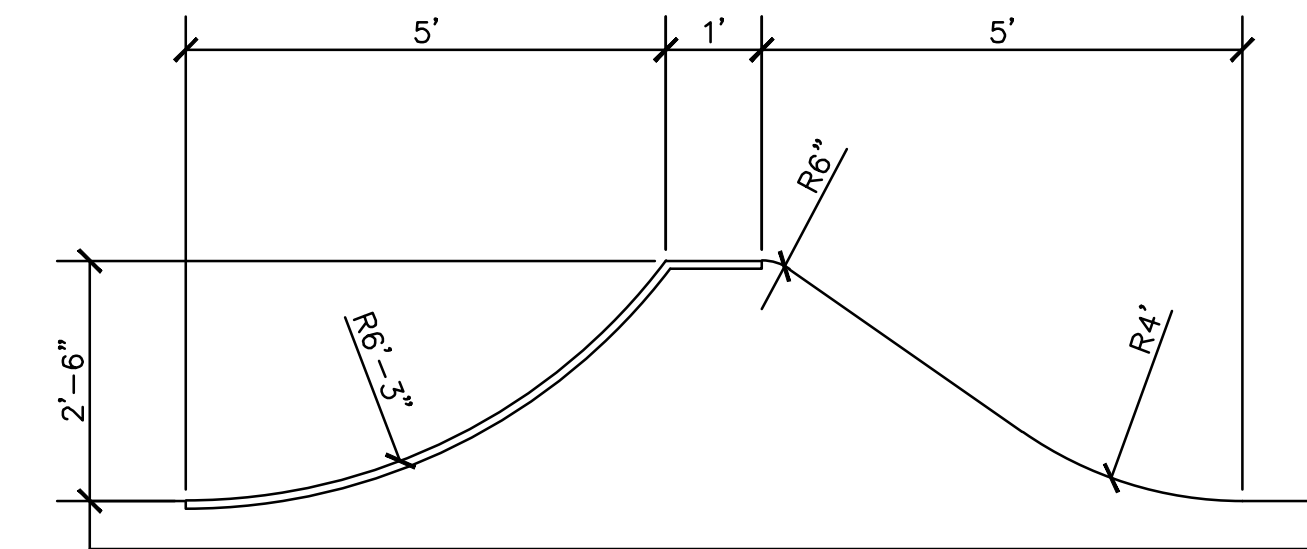
NOTE:
 1. SEE DETAIL 1/PT-4.0 FOR TYPICAL RIDE LANE SECTION.
 2. SEE DETAIL 2/PT-4.0 FOR TYPICAL RIDE FEATURE SECTION.

1'-6" PUMPTRACK BERN 1/2"=1'-0" 4



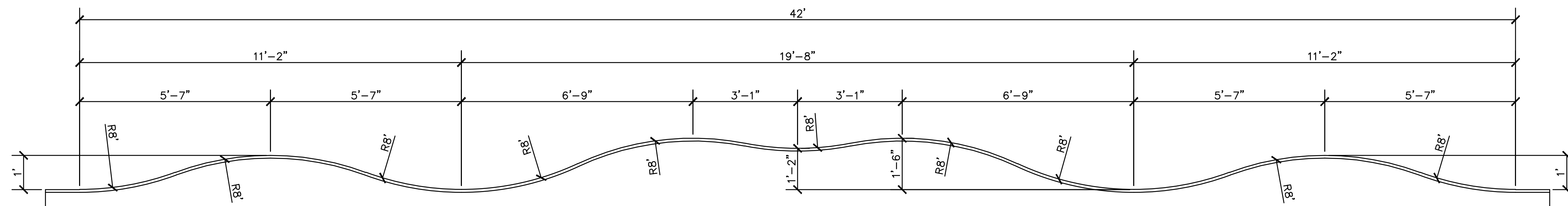
NOTE:
 1. SEE DETAIL 1/PT-4.0 FOR TYPICAL RIDE LANE SECTION.
 2. SEE DETAIL 2/PT-4.0 FOR TYPICAL RIDE FEATURE SECTION.

2'-0" PUMPTRACK BERN 1/2"=1'-0" 5



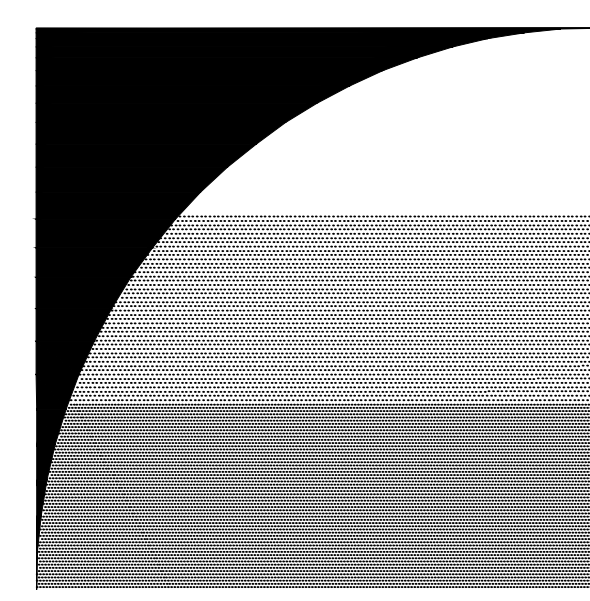
NOTE:
 1. SEE DETAIL 1/PT-4.0 FOR TYPICAL RIDE LANE SECTION.
 2. SEE DETAIL 2/PT-4.0 FOR TYPICAL RIDE FEATURE SECTION.

2'-6" PUMPTRACK BERN 1/2"=1'-0" 6



NOTE:
 1. SEE DETAIL 1/PT-4.0 FOR TYPICAL RIDE LANE SECTION.
 2. SEE DETAIL 2/PT-4.0 FOR TYPICAL RIDE FEATURE SECTION.

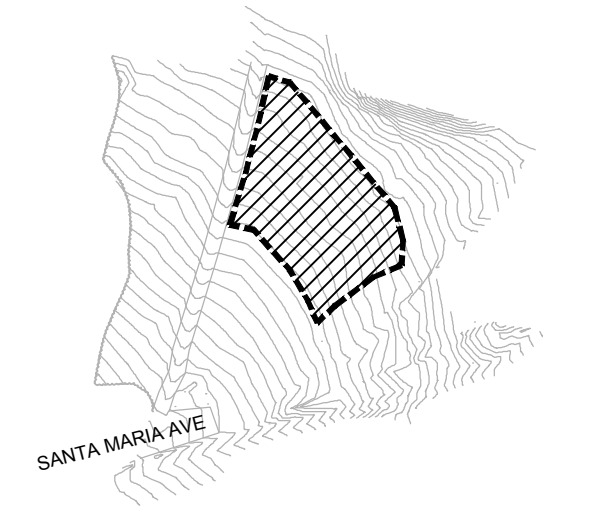
KID TRACK 42'-0" RHYTHM LANE 1/2"=1'-0" 7



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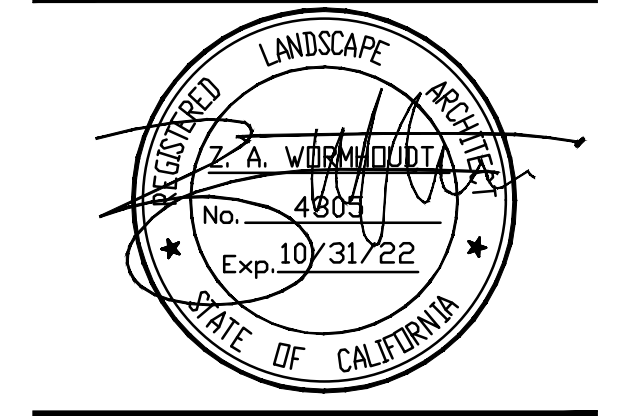
QUARRY PARK PUMP TRACK

SAN MATEO COUNTY
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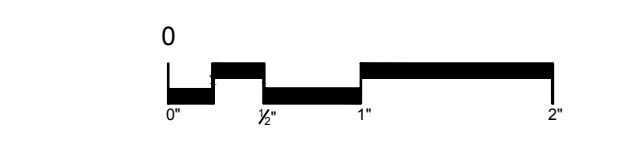


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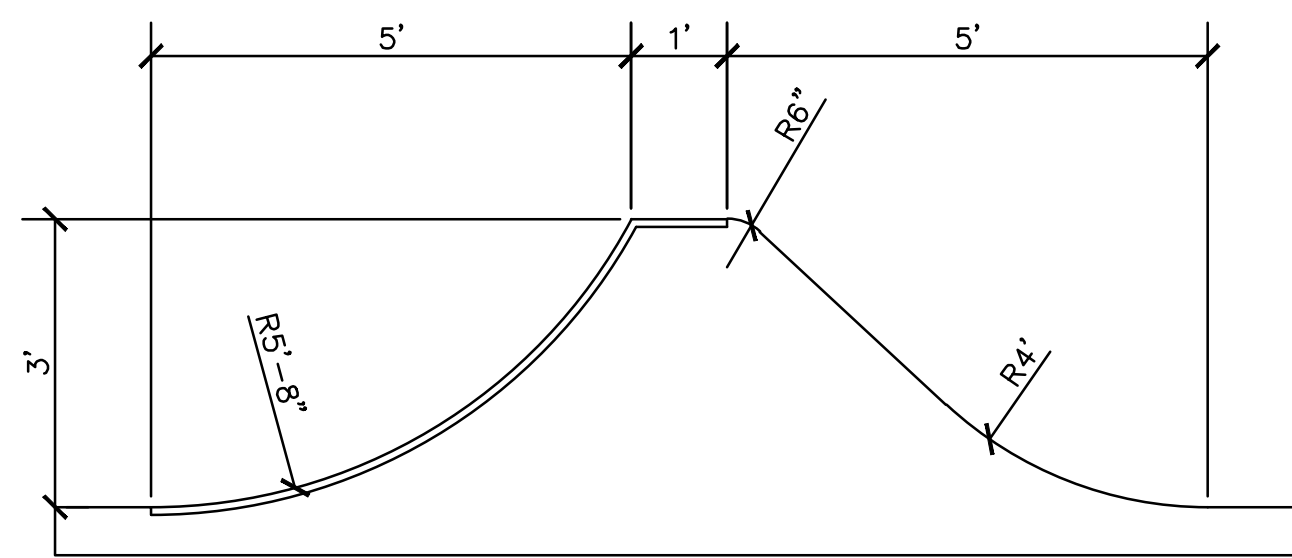


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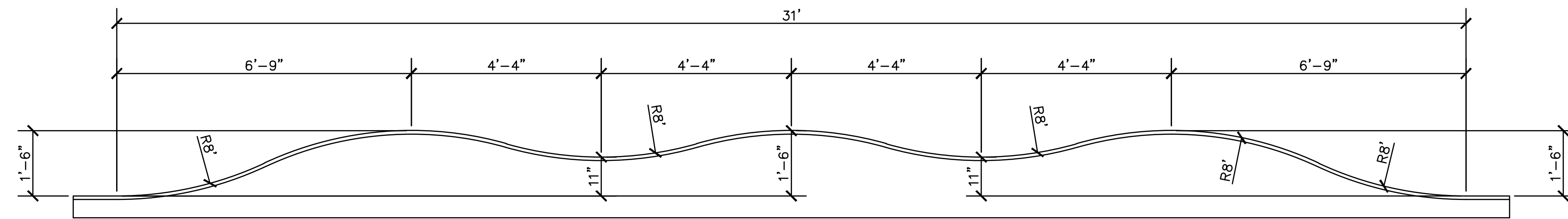
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NOTE:
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 2. SEE DETAIL 2/PT-4.0 FOR TYPICAL RIDE FEATURE SECTION.

3'-0" PUMPTRACK BERN

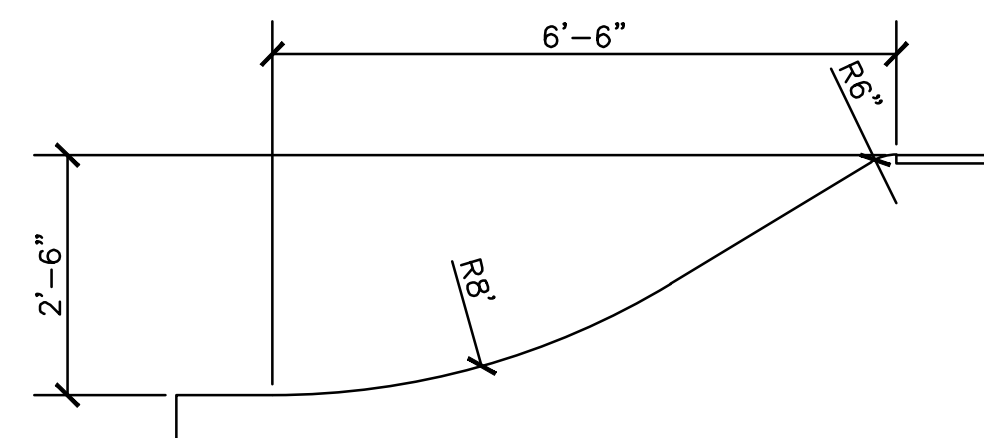
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NOTE:
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MAIN TRACK 31'-0" RHYTHM LANE

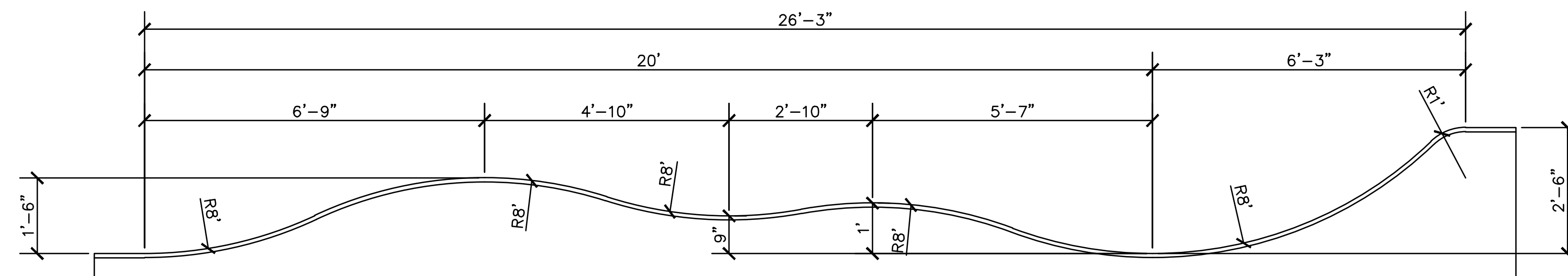
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MAIN TRACK START MOUND

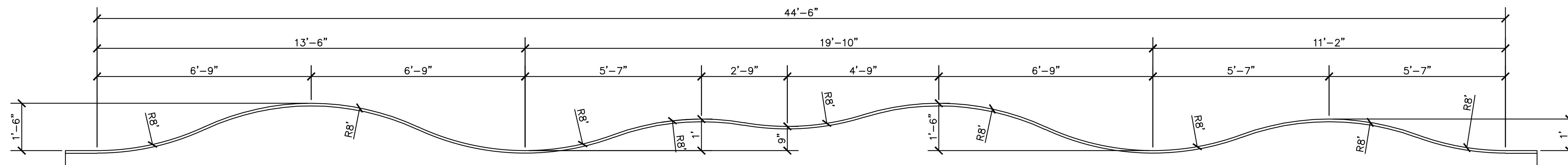
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NOTE:
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MAIN TRACK 26'-3" RHYTHM LANE

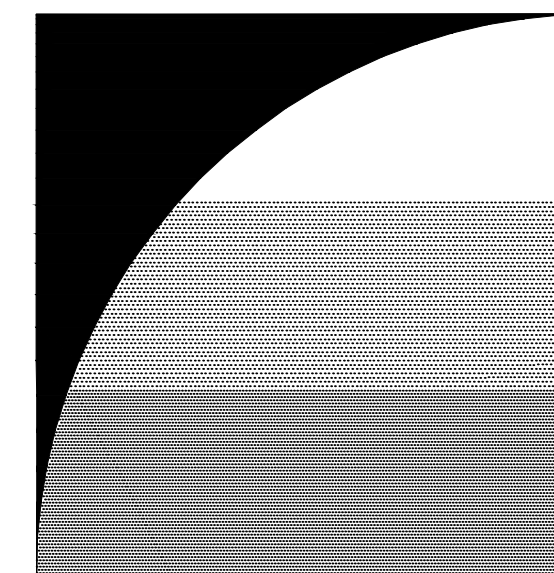
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MAIN TRACK 44'-6" RHYTHM LANE

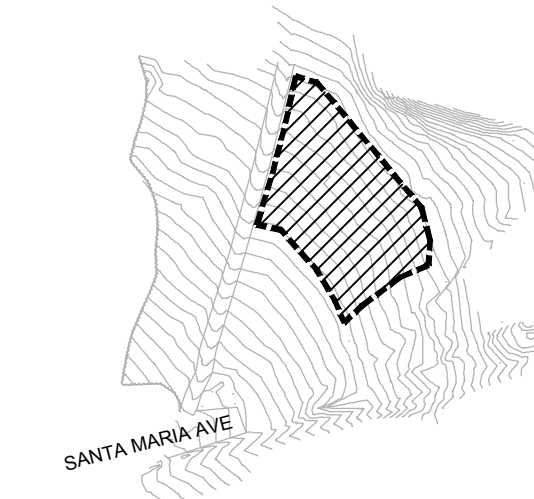
1/2"=1'-0" 12



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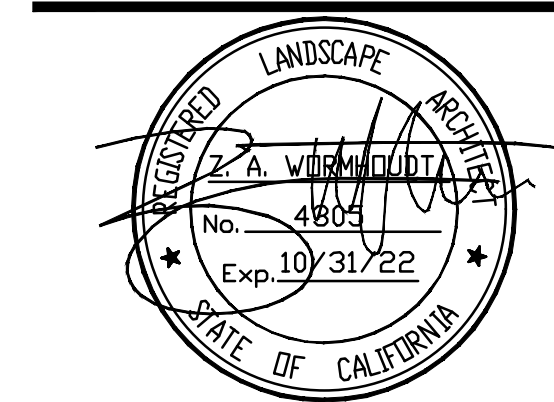
QUARRY PARK
PUMP TRACK

SAN MATEO COUNTY
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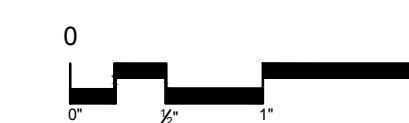


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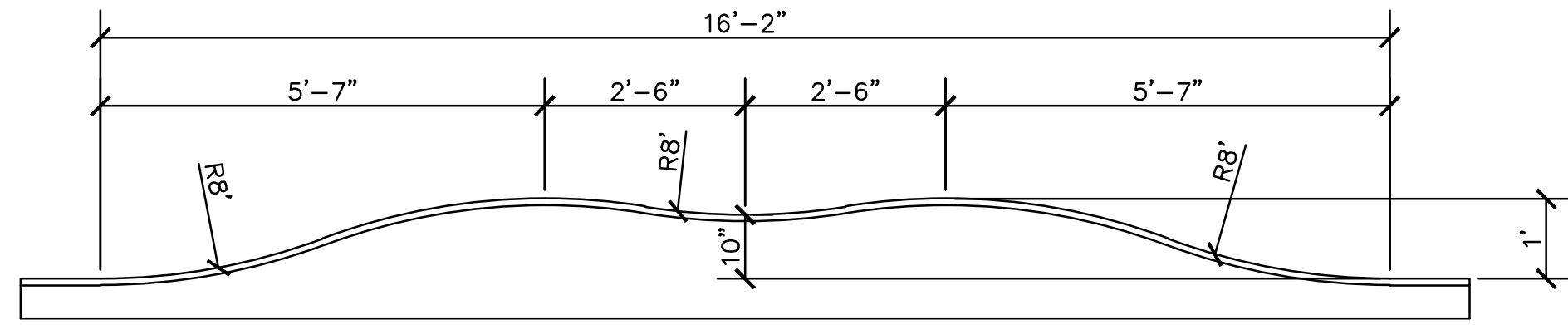


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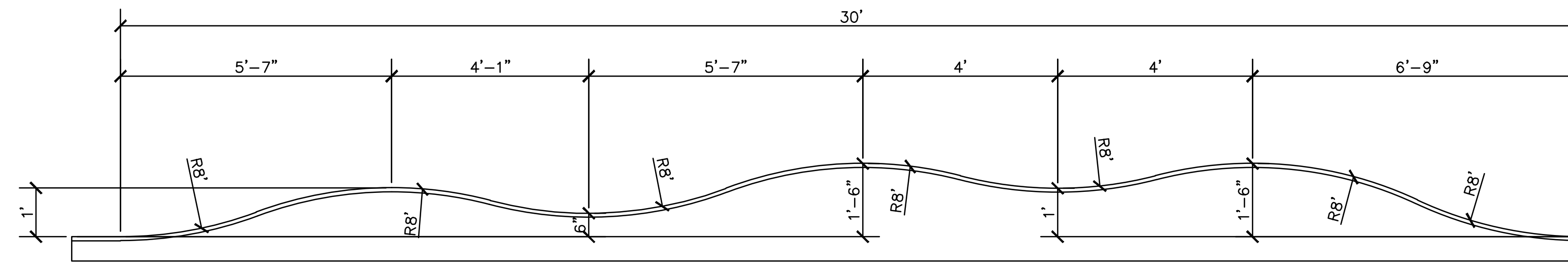
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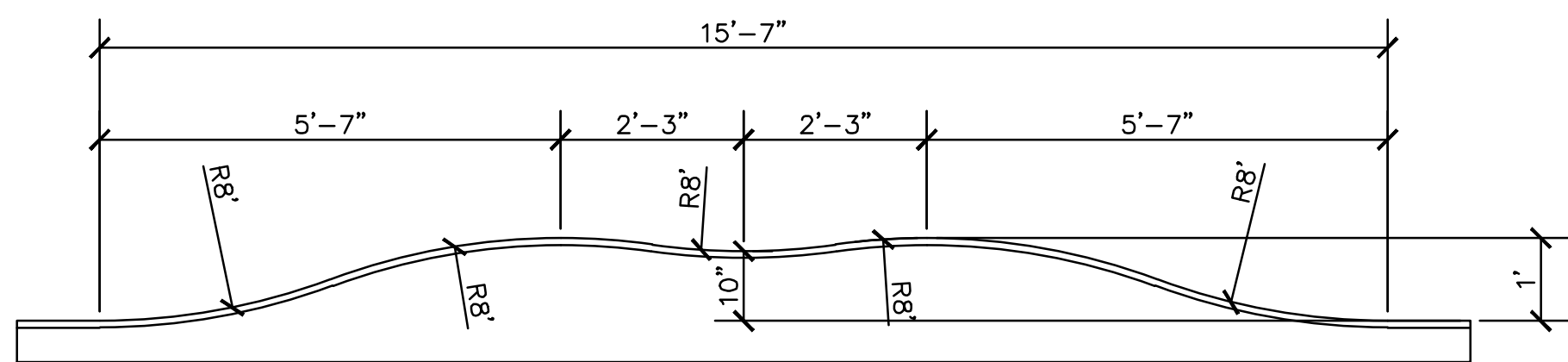
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NOTE:
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MAIN TRACK 65'-0" RHYTHM LANE

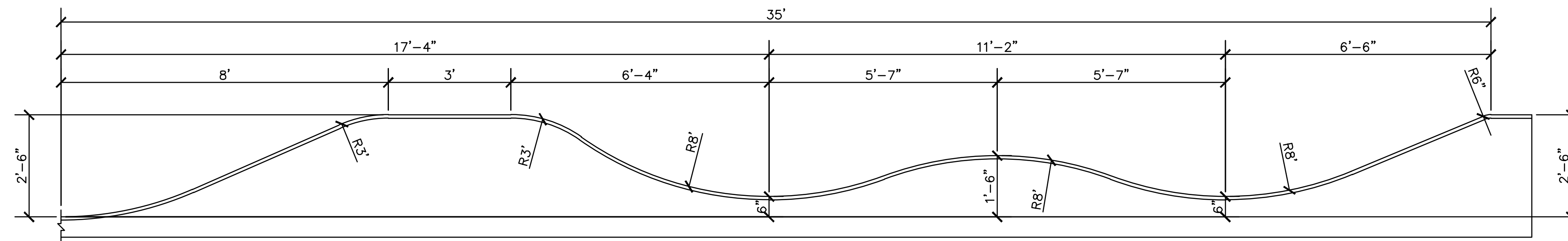
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NOTE:
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 2. SEE DETAIL 2/PT-4.0 FOR TYPICAL RIDE FEATURE SECTION.

MAIN TRACK 15'-7" DOUBLE ROLLER

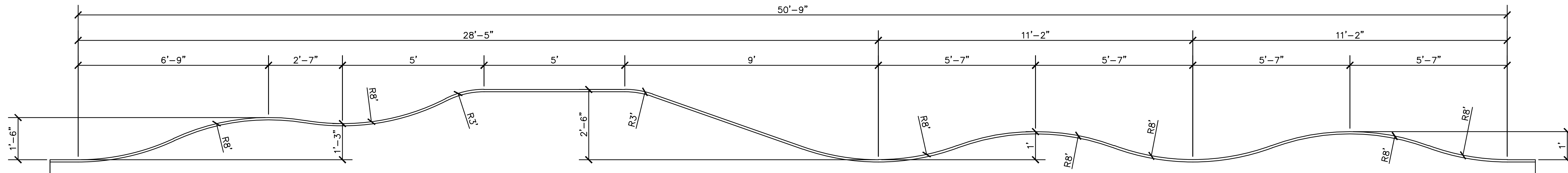
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MAIN TRACK 65'-0" RHYTHM LANE

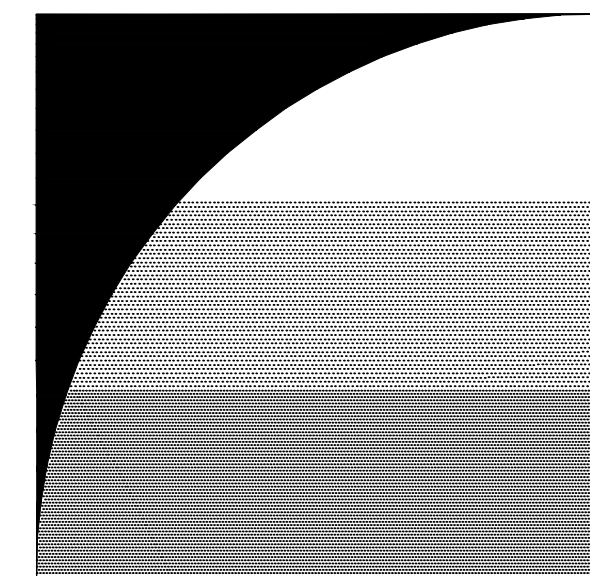
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NOTE:
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MAIN TRACK 50'-9" RHYTHM LANE

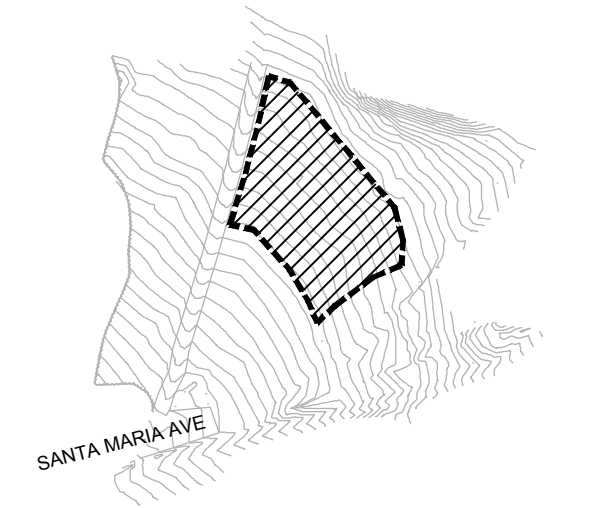
1/2"=1'-0" 16



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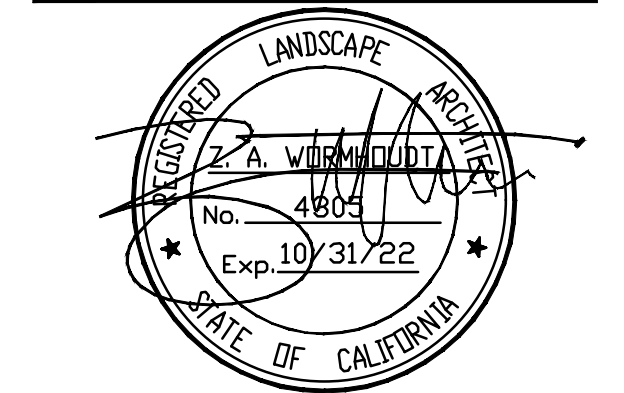
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 PUMP TRACK**

SAN MATEO COUNTY
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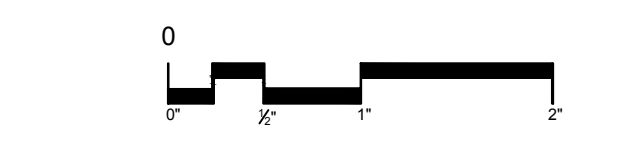


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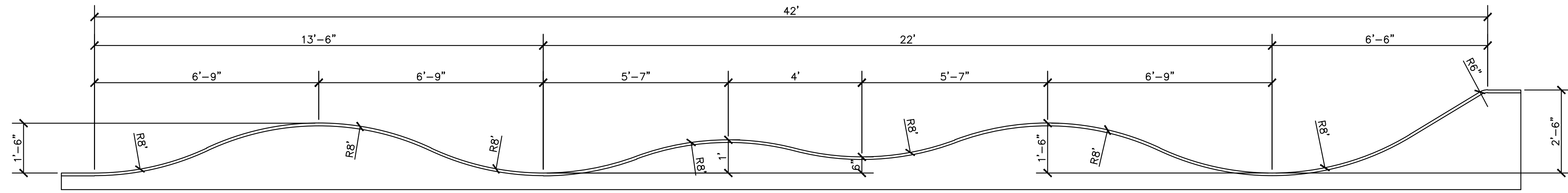


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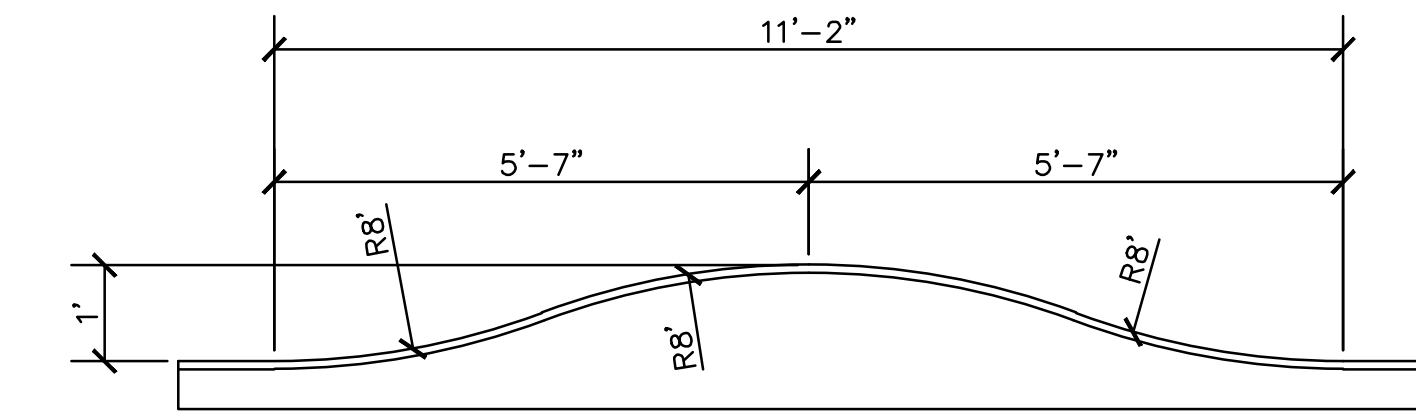
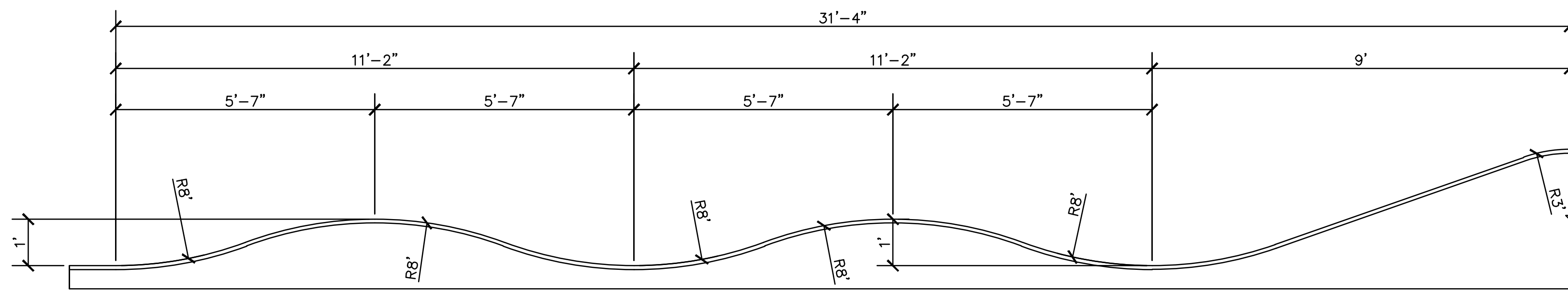
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NOTE:
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MAIN TRACK 42'-0" RHYTHM LANE

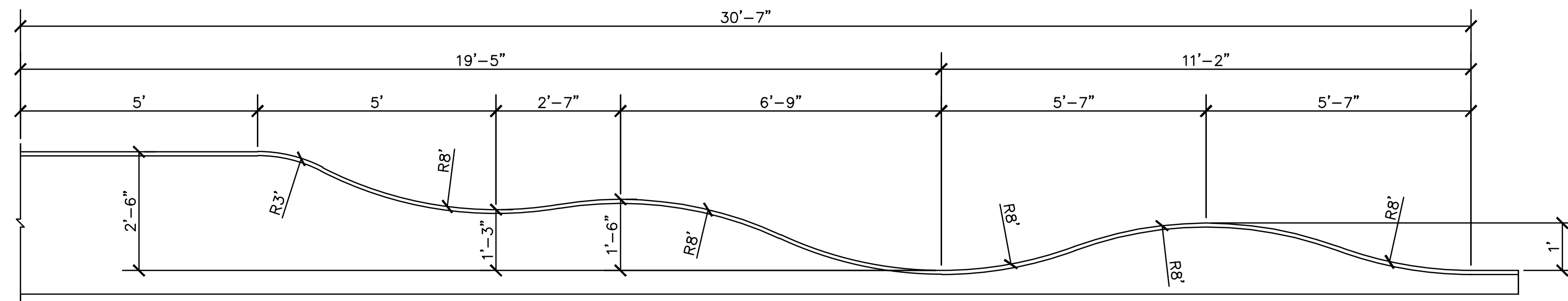
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SKILLS TRAIL ROLLER

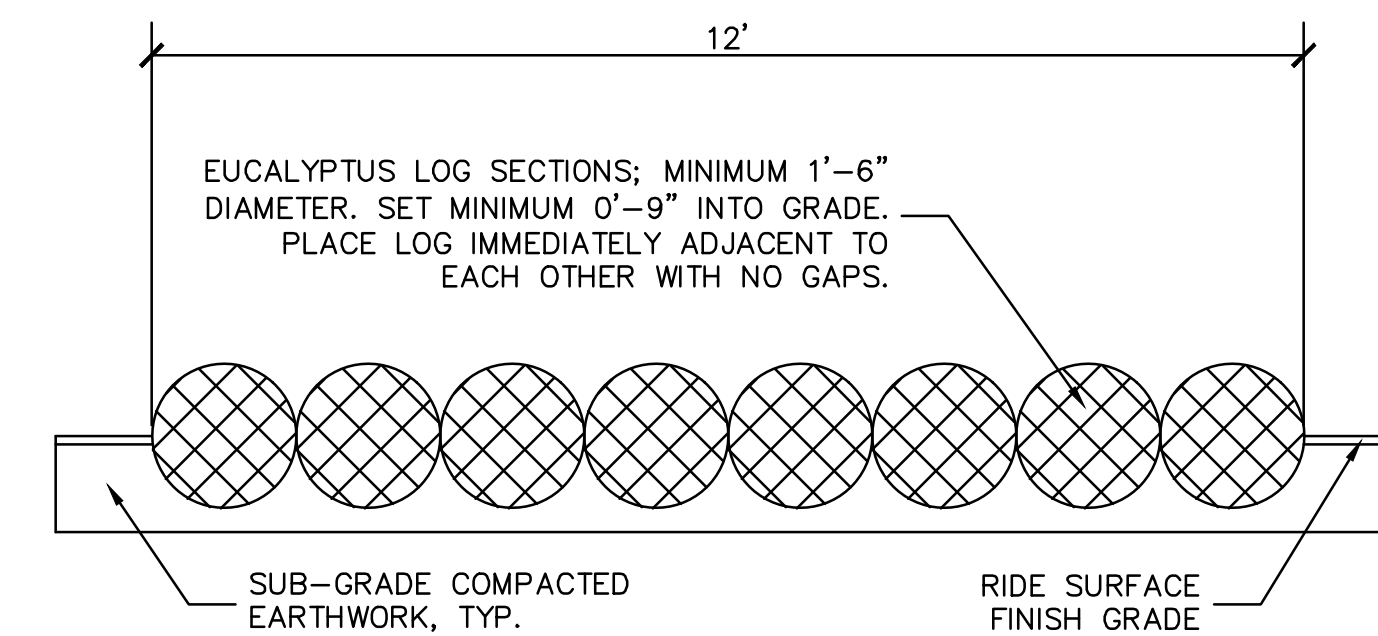
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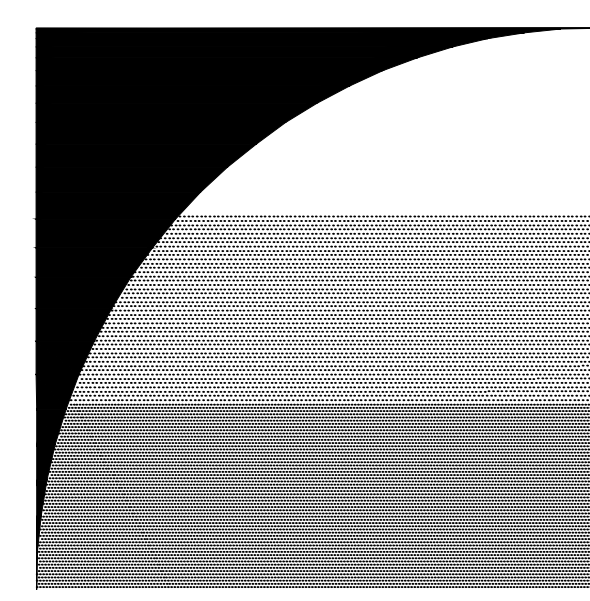
MAIN TRACK 61'-11" RHYTHM LANE

1/2"=1'-0" 18



SKILLS TRAIL LOG FEATURE

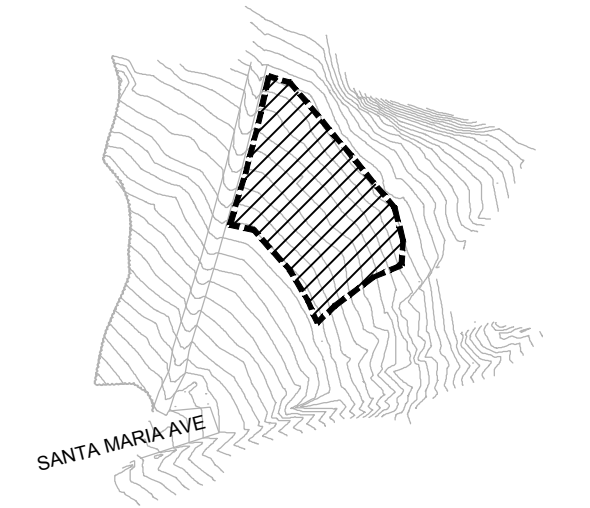
1/2"=1'-0" 20



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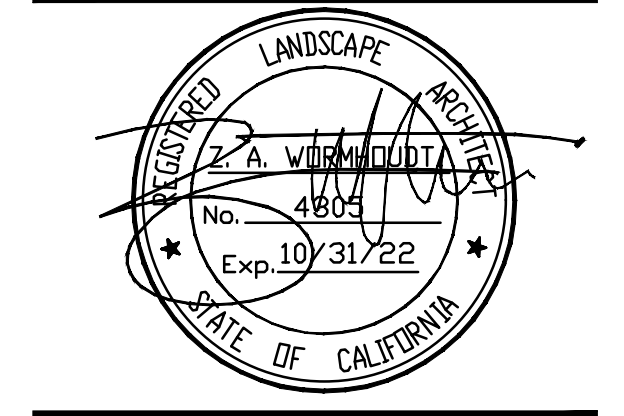
**QUARRY PARK
 PUMP TRACK**

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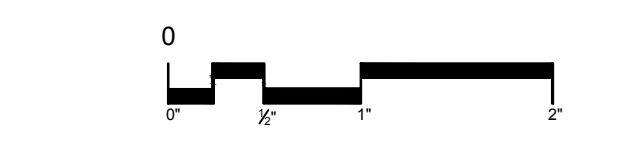


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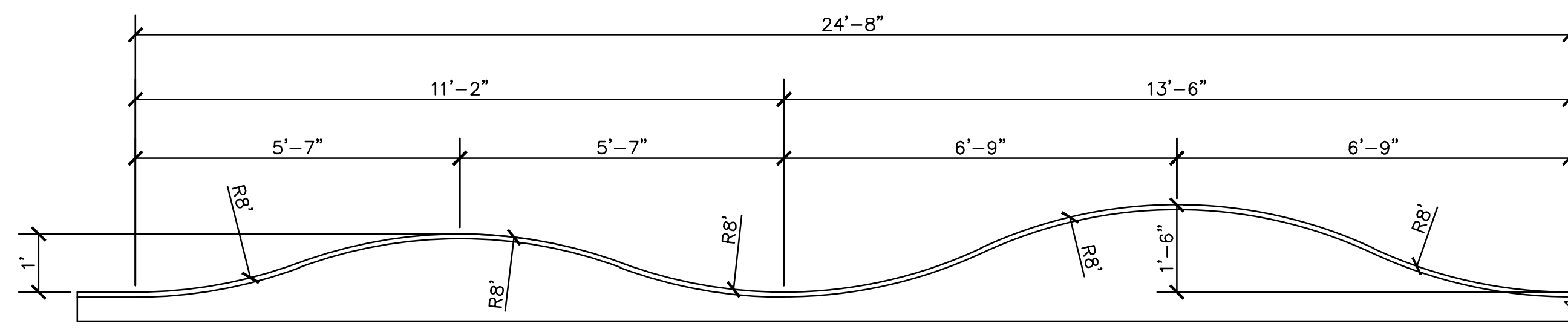


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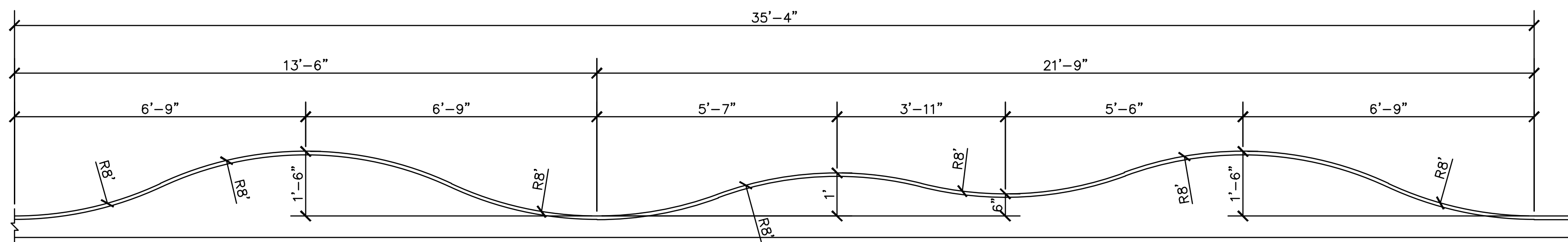
**PUMPTRACK
 DETAILS**

PT-4.3



NOTE:
 1. MANUFACTURED BY PROGRESSIVE BIKE RAMPS OR PROVED EQUAL.
 2. REFER TO LAYOUT PLAN PT-3.2 FOR DIMENSIONS.

PROGRESSIVE BIKE RAMPS 1'-0" HIGH BALANCE BEAM 1/2"=1'-0" (22)



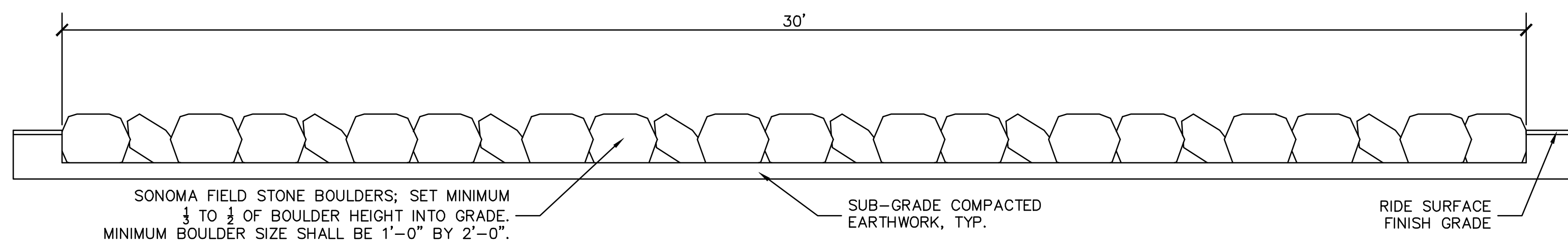
NOTE:
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SKILLS TRAIL 60'-0" RHYTHM LANE 1/2"=1'-0" (21)

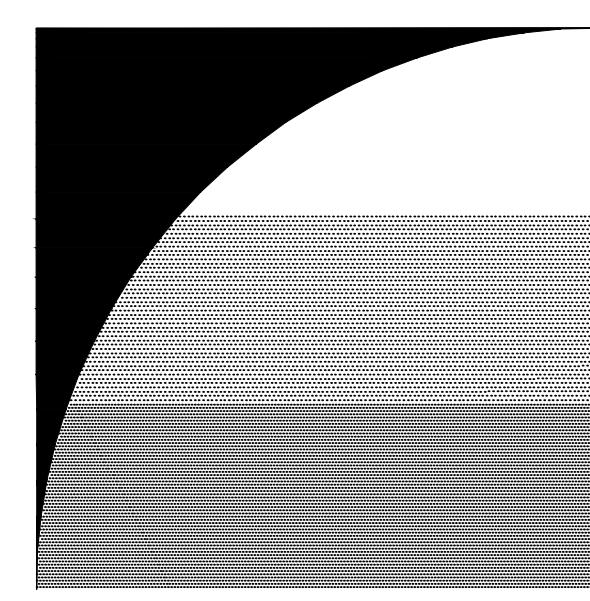


NOTE:
 1. MANUFACTURED BY PROGRESSIVE BIKE RAMPS OR PROVED EQUAL.
 2. REFER TO LAYOUT PLAN PT-3.2 FOR DIMENSIONS.

PROGRESSIVE BIKE RAMPS MOUNTAIN TOP 2'-0" PEAK 1/2"=1'-0" (23)



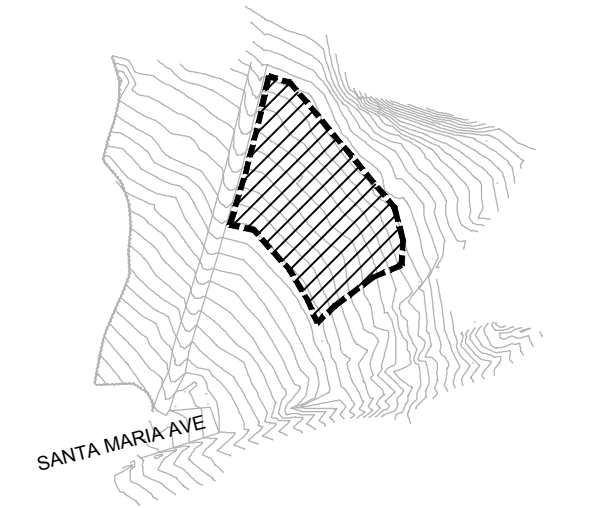
SKILLS TRAIL ROCK GARDEN 1/2"=1'-0" (24)



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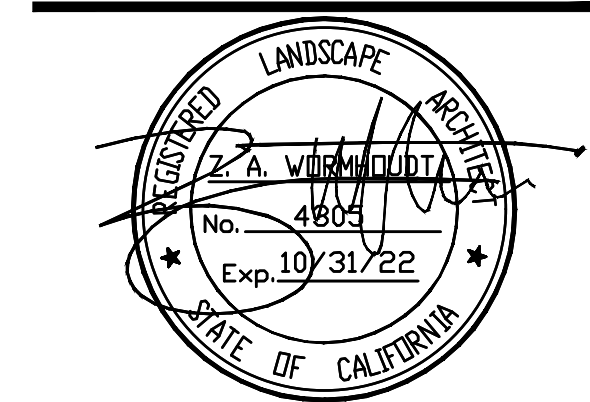
QUARRY PARK PUMP TRACK

SAN MATEO COUNTY
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PUMPTRAK DETAILS

PT-4.4



County of San Mateo - Planning and Building Department

ATTACHMENT D

Biological Resources Assessment

SAN MATEO COUNTY QUARRY PARK MASTER PLAN PROJECT EL GRANADA, SAN MATEO COUNTY, CALIFORNIA

Prepared for:

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Prepared by:

Leslie Lazarotti
lazarotti@wra-ca.com

Date:

May 2017

Project Number 26342



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LIST OF ACRONYMS AND ABBREVIATIONS

Cal-IPC	California Invasive Plant Council
CCC	California Coastal Commission
CCH	Consortium of California Herbaria
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Corps	U.S. Army Corps of Engineers
County	San Mateo County
CRLF	California red-legged frog
CWA	Clean Water Act
dBA	A-weighted decibels
EPA	U.S. Environmental Protection Agency
ESHA	Environmentally Sensitive Habitat Area
FAC	Facultative species (equal in wetland or non-wetlands)
FACW	Facultative wetland species (usually found in wetlands)
FE	Federal Endangered
FESA	Federal Endangered Species Act
LCP	Local Coastal Program
MBTA	Migratory Bird Treaty Act
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Service
OBL	Obligate wetland species (almost always found in wetlands)
OHWM	Ordinary High Water Mark
RWQCB	Regional Water Quality Control Board
SE	State Endangered
SFGS	San Francisco garter snake
SOC	Species of Concern
SSC	Species of Special Concern
TOB	Top of Bank
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group

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1.0 INTRODUCTION

On March 16 and 22, 2017, WRA, Inc. conducted a biological resource assessment of the 524.12-acre Quarry Park property (Study Area) for the Master Plan Project (Project) located in the unincorporated community of El Granada in San Mateo County, California (Figure 1). The Study Area is comprised to several parcels: Quarry Park, Wicklow, Mirada Surf East, and Mirada Surf West. While Quarry Park and Mirada Surf West contain public access features, Wicklow and Mirada Surf East have not been developed. A private, residential in-holding (O'Neill residence) lies within the northern section of the Study Area.

The purpose of the site visit and report is to identify, describe, and map any sensitive habitats, including riparian, wetland, and stream areas, or other Environmental Sensitive Habitat Areas (ESHAs); and "rare, threatened, or endangered" species, which may occur in the Study Area. WRA performed the biological resources assessment in accordance with the San Mateo County (County) Midcoast Local Coastal Program (LCP), including Sections 7.1-7.19. This assessment is based on site conditions observed on the date of the site visit, related information available at the time of the study, and from reviewing past reports completed on the Study Area or adjacent properties. This report also contains an evaluation of potential impacts to special-status species or ESHAs that may occur as a result of the proposed project and potential mitigation measures to compensate for those impacts.

1.1 Description of the Study Area

The Study Area rises from approximately 100 feet in elevation to a maximum elevation of 935 feet above sea level at the northern edge of the Study Area. Mirada Surf West is located adjacent to the Pacific Ocean while the eastern slope of the property drains into the Arroyo de en Medio watershed. The majority of the property is comprised of a series of unnamed drainages that discharge into the community of El Granada.

The Study Area is situated between the Santa Cruz mountain range and the Pacific Ocean. No past development or agriculture fields occurred within the Study Area; however, based on historic aerial imagery, southern portions of the Study Area are mowed regularly (Google Earth 2002-2015). The Study Area is situated in the coastal fog belt where fog is a source of hydrology in the summer and storms provide precipitation in the winter. Average maximum temperature peaks in September at 67 degrees Fahrenheit with average minimum temperature in January at 43 degrees Fahrenheit. Average annual precipitation is 26.98 inches, generally occurring in the from November through March.

The Study Area includes the following biological communities: beaches; Eucalyptus (*Eucalyptus globulus*) grove (non-native woodland); central coast riparian scrub dominated by arroyo willow (*Salix lasiolepis*); developed areas; Monterey cypress (*Hesperocyparis macrocarpa*) forest; non-native annual grasslands; non-wetland waters consistent of ephemeral, intermittent, and perennial streams; perennial ponds; northern coastal scrub; and potential seasonal wetlands. Residential neighborhoods, public open space, and schools surround the southeastern portion of the Study Area and undeveloped land occurs to the north, east, and in portions of the northwest.

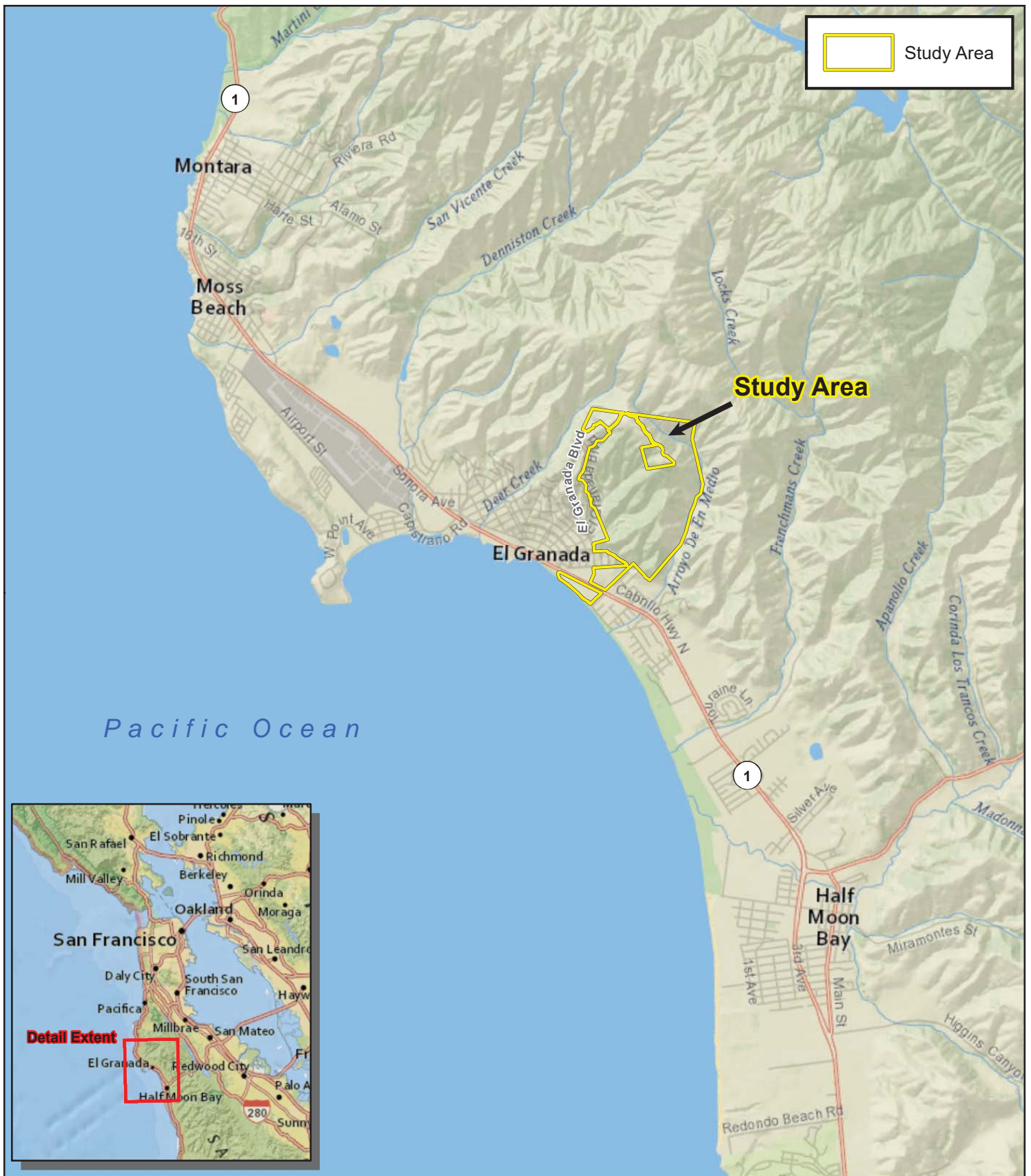


Figure 1. Project Location

San Mateo County Quarry Park
 Master Plan
 San Mateo County, California



Map Prepared Date: 3/20/2017
 Map Prepared By: mrochelle
 Base Source: National Geographic
 Data Source(s): WRA

2.0 REGULATORY BACKGROUND

The following sections explain the regulatory context of the biological assessment, including applicable laws and regulations that were applied to the field investigations and analysis of potential project impacts.

2.1 Special-Status Species

Special-status species include those plants and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the federal Endangered Species Act (FESA) or California Endangered Species Act (CESA). These Acts afford protection to both listed and proposed species. In addition, California Department of Fish and Wildlife (CDFW) Species of Special Concern (SSC), and National Marine Fisheries Service (NMFS) Species of Concern (SOC), are species that face extirpation if current population and habitat trends continue. U.S. Fish and Wildlife Service (USFWS) Birds of Conservation Concern, sensitive species included in USFWS Recovery Plans, and CDFW special-status invertebrates are also considered special-status species. Although CDFW Species of Special Concern generally have no special legal status, they are given special consideration under the California Environmental Quality Act (CEQA). In addition to regulations for special-status species, most birds in the United States, including non-status species, are protected by the Migratory Bird Treaty Act (MBTA) of 1918. Under this legislation, destroying active nests, eggs, and young is illegal. Bat species designated as “High Priority” by the Western Bat Working Group (WBWG) qualify for legal protection under Section 15380(d) of the CEQA Guidelines. Species designated “High Priority” are defined as “imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats”.

Plant species included within the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (Inventory; CNPS 2017a) with California Rare Plant Rank (Rank) of 1, 2, and 3 are also considered special-status plant species and must be considered under the CEQA. Some Rank 4 plant species meet the definitions of Section 1901 Chapter 10 of the Native Plant Protection Act or Sections 2062 and 2067 of the CFGC that outlines CESA. However, the CNPS and the CDFW strongly recommend that these species be fully considered during the preparation of environmental documentation related to the CEQA. This may be particularly appropriate for the type locality of a Rank 4 plant species, for populations at the periphery of a species range, or in areas where the taxon is especially uncommon or has sustained heavy losses, or from populations exhibiting unusual morphology or occurring on unusual substrates. A description of the CNPS Ranks is provided below in Table 1.

Table 1. Description of CNPS Ranks and Threat Codes

California Rare Plant Ranks (formerly known as CNPS Lists)	
Rank 1A	Presumed extirpated in California and either rare or extinct elsewhere
Rank 1B	Rare, threatened, or endangered in California and elsewhere
Rank 2A	Presumed extirpated in California, but more common elsewhere
Rank 2B	Rare, threatened, or endangered in California, but more common elsewhere

California Rare Plant Ranks (formerly known as CNPS Lists)	
Rank 3	Plants about which more information is needed - A review list
Rank 4	Plants of limited distribution - A watch list
Threat Ranks	
0.1	Seriously threatened in California
0.2	Moderately threatened in California
0.3	Not very threatened in California

Critical Habitat

Critical habitat is a term defined and used in the FESA as a specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. The FESA requires federal agencies to consult with the USFWS to conserve listed species on their lands and to ensure that any activities or projects they fund, authorize, or carry out will not jeopardize the survival of a threatened or endangered species. In consultation for those species with critical habitat, federal agencies must also ensure that their activities or projects do not adversely modify critical habitat to the point that it will no longer aid in the species' recovery. In many cases, this level of protection is similar to that already provided to species by the FESA "jeopardy standard." However, areas that are currently unoccupied by the species but which are needed for the species' recovery, are protected by the prohibition against adverse modification of critical habitat.

2.2 Sensitive Biological Communities

Sensitive biological communities include habitats that fulfill special functions or have special values, such as wetlands, streams, and riparian habitat. These habitats are regulated under federal regulations (such as the Clean Water Act [CWA]), state regulations (such as the Porter-Cologne Act, the CDFW Streambed Alteration Program, and CEQA), or local ordinances or policies (such as City or County Tree Ordinances, Special Habitat Management Areas, applicable LCPs, and General Plan Elements). Mitigation measures for impacts to these communities are discussed in Section 5 of this report.

Waters of the United States

The U.S. Army Corps of Engineers (Corps) regulates "Waters of the United States" under Section 404 of the Clean Water Act. Waters of the U.S. are defined in the Code of Federal Regulations (CFR) as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3). Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated at a sufficient depth and for a sufficient duration to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as "other waters" and are often characterized by an ordinary high water mark (OHWM). Other waters, for example, generally include lakes, rivers, and streams. The placement of fill material into Waters of the U.S generally

requires an individual or nationwide permit from the Corps under Section 404 of the Clean Water Act.

Waters of the State

The term “Waters of the State” is defined by the Porter-Cologne Act as “any surface water or groundwater, including saline waters, within the boundaries of the state.” The Regional Water Quality Control Board (RWQCB) protects all waters in its regulatory scope, but has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. RWQCB jurisdiction includes “isolated” wetlands and waters that may not be regulated by the Corps under Section 404. “Waters of the State” are regulated by the RWQCB under the State Water Quality Certification Program which regulates discharges of fill and dredged material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require a Corps permit, or fall under other federal jurisdiction, and have the potential to impact “Waters of the State,” are required to comply with the terms of the Water Quality Certification determination. If a proposed project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to “Waters of the State,” the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements.

Streams, Lakes, and Riparian Habitat

Streams and lakes, as habitat for fish and wildlife species, are subject to jurisdiction by CDFW under Sections 1600-1616 of the State Fish and Game Code. Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term stream, which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as follows: “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation” (14 CCR 1.72). In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream dependent terrestrial wildlife (CDFG ESD 1994). Riparian is defined as, “on, or pertaining to, the banks of a stream;” therefore, riparian vegetation is defined as, “vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself” (CDFG ESD 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFW.

Other Sensitive Biological Communities

Other sensitive biological communities not discussed above include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by the CDFW. The CDFW ranks sensitive communities as “threatened” or “very threatened” and keeps records of their occurrences in its Natural Diversity Database (CNDDDB). Sensitive plant communities are also identified by CDFW on their *List of California Natural Communities Recognized by the CNDDDB*. Impacts to sensitive natural communities identified in local or regional plans, policies, regulations or by the CDFW or USFWS must be considered and evaluated under CEQA (CCR: Title 14, Div. 6, Chap. 3, Appendix G). Specific habitats may also be identified as sensitive in City or County General Plans or ordinances.

The California Coastal Commission ESHA Definition

The California Coastal Commission defines an ESHA as follows:

"Environmentally sensitive habitat area" means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments. "

California Coastal Commission (CCC) Guidelines contain definitions for specific types of ESHAs, including: wetlands, estuaries, streams and rivers, lakes, open coastal waters and coastal waters, riparian habitats, other resource areas, and special-status species and their habitats. For the purposes of this report, WRA has taken into consideration any areas that may meet the definition of any ESHA defined by the CCC guidelines or the County LCP.

San Mateo County Local Coastal Program and Land Use Plan

The 2013 County LCP identified sensitive habitats to include: riparian corridors, wetlands, marine habitats, sand dunes, sea cliffs, and habitats supporting rare, endangered, and unique species. Further, the County LCP defines sensitive habitats as:

...any area which meets one of the following criteria: (1) habitats containing or supporting “rare and endangered” species as defined by the State Fish and Game Commission, (2) all perennial and intermittent streams and their tributaries, (3) coastal tide lands and marshes, (4) coastal and offshore areas containing breeding or nesting sites and coastal areas used by migratory and resident water-associated birds for resting areas and feeding, (5) areas used for scientific study and research concerning fish and wildlife, (6) lakes and ponds and adjacent shore habitat, (7) existing game and wildlife refuges and reserves, and (8) sand dunes.

San Mateo LCP, Policy 7.1

Additionally, the County LCP defines Riparian Corridors as a sensitive habitat, where riparian corridors are defined as:

...the “limit of riparian vegetation” (i.e., a line determined by the association of plant and animal species normally found near streams, lakes and other bodies of freshwater: red alder, jaumea, pickleweed, big leaf maple, narrow-leaf cattail, arroyo willow, broadleaf cattail, horsetail, creek dogwood, black cottonwood, and

box elder). Such a corridor must contain at least a 50% cover of some combination of the plants listed.

San Mateo LCP (2013), Policy 7.7

This County LCP further clarifies in Policy 7.8 that riparian corridors be established for all perennial and intermittent streams, lakes, and other bodies of freshwater in the Coastal Zone. The County LCP also requires in Policy 7.49 that any development within one-half mile of the coast mitigate against the destruction of any California strawberry (*Fragaria vesca*),

3.0 METHODS

On March 16 and 22, 2017, the Study Area was traversed on foot to determine (1) plant communities present within the Study Area, (2) if existing conditions provide suitable habitat for any special-status plant or wildlife species, and (3) if sensitive habitats including ESHA are present. All plant and wildlife species encountered were recorded, and are summarized in Appendix A. Plant nomenclature follows Baldwin et al. (2012), except where noted. For cases in which taxonomic discrepancies occur between Baldwin et al. and the CNPS Inventory of Rare Plants, precedence was given to the species classification used in the CNPS Inventory.

3.1 Biological Communities

Prior to the site visit, the *Soil Survey of San Mateo Area, California* (NRCS 2015) was examined to determine if any unique soil types that could support sensitive plant communities and/or aquatic features were present in the Study Area. Biological communities present in the Study Area were classified based on existing plant community descriptions described in the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) and *A Manual of California Vegetation* (Sawyer et al. 2009). However, in some cases it is necessary to identify variants of community types or to describe non-vegetated areas that are not described in the literature. Biological communities were classified as sensitive or non-sensitive as defined by CEQA, the County LCP, and other applicable laws and regulations.

3.1.1 Non-sensitive Biological Communities

Non-sensitive biological communities are those communities that are not afforded special protection under CEQA, and other state, federal, and local laws, regulations and ordinances. These communities may provide suitable habitat for some special-status plant or wildlife species and are this is discussed in Section 4.2 below.

3.1.2 Sensitive Biological Communities

Sensitive biological communities are defined as those communities that are given special protection under CEQA and other applicable federal, state, and local laws, regulations and ordinances. Applicable laws and ordinances are discussed above in Section 2.0. Special methods used to identify sensitive biological communities are discussed below.

Wetlands and Waters

The Study Area was surveyed at a reconnaissance level to determine if any wetlands and waters potentially subject to jurisdiction by the Corps, RWQCB, or CDFW were present. The assessment was based primarily on the presence of wetland plant indicators, but may also include any observed indicators of wetland hydrology as defined by the Corps Manual (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Corps 2008). Any potential wetland areas were identified as areas dominated by plant species with a wetland indicator status of obligate wetland (OBL), facultative wetland (FACW), or facultative (FAC) as given on the U.S. Department of Agriculture: National Wetland Plant List (Lichvar 2014). Evidence of wetland hydrology can include evidence such as visible inundation or saturation, surface sediment deposits, algal mats and drift lines, and oxidized root channels. Given that the site visits did not include a routine-level wetland delineation and was only reconnaissance level, soils were not examined in the field as part of this assessment.

Other Sensitive Biological Communities

The Study Area was evaluated for the presence of other sensitive biological communities, including riparian areas, sensitive plant communities recognized by CDFW, significant areas of native plants, and other ESHAs. These sensitive biological communities were mapped and are described in Section 4.1.2 below.

3.2 Special-Status Species

3.2.1 Literature Review

Potential occurrence of special-status species in the Study Area was evaluated by first determining which special-status species occur in the vicinity of the Study Area through a literature and database search. Database searches for known occurrences of special-status species focused on the Half Moon Bay and Montara Mountain 7.5-minute U.S. Geological Survey (USGS) quadrangles. The following sources were reviewed to determine which special-status plant and wildlife species have been documented to occur in the vicinity of the Study Area:

- CNDDDB records (CDFW 2017)
- USFWS Information for Planning and Conservation Species (USFWS 2017a)
- CNPS Inventory records (CNPS 2017a)
- Consortium of California Herbaria (CCH 2017)
- California Department of Fish and Game publication "California's Wildlife, Volumes I-III" (Zeiner et al. 1990)
- A Field Guide to Western Reptiles and Amphibians (Stebbins and McGinnis 2012)
- California Amphibian and Reptile Species of Special Concern (Thomson et al 2016)
- California Bird Species of Special Concern (Shuford and Gardali 2008)
- USFWS Critical Habitat Mapper (USFWS 2017b)
- Western Bat Working Group, species accounts (WBWG 2017)
- San Mateo County Local Coastal Program (County of San Mateo 1998, 2013)

3.2.2 Site Assessment

On March 16 and 22, 2017, WRA surveyed the Study Area to search for suitable habitats for species identified in the literature review as occurring in the vicinity. The potential for each special-status species to occur in the Study Area was then evaluated according to the following criteria:

- No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).
- Unlikely. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site.
- Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- Present. Species is observed on the site or has been recorded (i.e. CNDDDB, other reports) on the site recently.

The site assessment was intended to identify the presence or absence of suitable habitat for each special-status species known to occur in the vicinity in order to determine its potential to occur in the Study Area. The site visit does not constitute protocol-level surveys and was not intended to determine the actual presence or absence of a species; however, if a special-status species was observed during the site visit, its presence was recorded and is discussed. Appendix B presents the evaluation of potential for occurrence of each special-status plant and wildlife species known to occur in the vicinity of the Study Area with their habitat requirements, potential for occurrence, and rationale for the classification based on criteria listed above. Recommendations for further surveys are made in Section 5.0 below for species with a moderate or high potential to occur in the Study Area.

4.0 RESULTS

The following sections present the results and discussion of the biological assessment within the Study Area.

4.1 Biological Communities

Non-sensitive biological communities in the Study Area include Eucalyptus grove, developed areas, Monterey cypress forest, non-native annual grassland, and northern coastal scrub. Seven ESHAs occur within the Study Area: beaches; central coast riparian scrub; ephemeral, intermittent, and perennial streams; perennial ponds; and potential seasonal wetlands (Figure 2). Photographs of biological communities within the Study Area are included in Appendix C. Descriptions for each

biological community are contained in the following sections. Acreage summations for biological communities are detailed in Table 2.

4.1.1 Non-Sensitive Biological Communities

The Study Area is dominated by biological communities considered non-sensitive under CEQA. These biological communities include Eucalyptus groves, developed areas (roadways and utility structures), Monterey cypress forests, non-native annual grasslands, and northern coastal scrub.

Eucalyptus Groves

Eucalyptus groves are known from the Coast Ranges and Central Valley, typically as planted woodlands and shelterbelts to buffer coastal winds and provide shade. These groves are not described in Holland (1986), but are included in Sawyer et al. (2009) describes Eucalyptus groves as *Eucalyptus globulus* Semi-Natural Woodland Stands. This vegetation alliance is dominated by one of several eucalyptus species (*Eucalyptus* spp.), which are not native to North America. Eucalyptus groves are frequently situated in rural and semi-urbanized settings, along streams, and coastal hills and prairies.

Within the Study Area, Eucalyptus grove is the dominant plant community present in the Study Area and occupies approximately 320.23 acres. The overstory is composed of Eucalyptus with the occasional Monterey pine (*Pinus radiata*) and Douglas fir (*Pseudotsuga menziesii*). As is typical of Eucalyptus groves because of allelopathic chemicals in fallen leaves and branches, the understory is low-growing and composed predominately of non-native, weedy species such as cape ivy (*Delairea odorata*), bur clover (*Medicago polymorpha*), bristly ox-tongue (*Helminthotheca [Picris] echioides*) with few native species such as red elderberry (*Sambucus racemosa* var. *racemosa*) and poison oak (*Toxicodendron diversilobum*). Within Eucalyptus grove within the Study Area, an extensive informal trail network exists consisting of dirt paths. Individual plants of California strawberry were observed scattered throughout the understory of the Eucalyptus grove within the Study Area at higher elevations.

Developed

The Study Area contains approximately 2.43 acres of developed areas composed of multiple-use paved trails and roadways. While an extensive informal trail network consisting of dirt pathways exists within the Eucalyptus grove, this was not mapped separately due to its extensive nature, pervious surfaces, and coverage by Eucalyptus overstory in most areas.

Table 2. Biological Communities within the Study Area

Biological Community ¹	Natural Community ³	Acres/ Linear Feet
Non-Sensitive ⁴		
Eucalyptus groves ²	Eucalyptus groves (<i>Eucalyptus [globulus, camaldulensis]</i> Semi-Natural Woodland Alliance)	319.89 ac
Developed ²	N/A	2.43 ac
Monterey cypress forest	Monterey cypress stands (<i>Callitropsis macrocarpa</i> Woodland Special Stands)	1.03 ac
Non-native [annual] grassland	Wild oats grassland (<i>Avena [barbata, fatua]</i> Herbaceous Stands)	44.31 ac
Northern coastal scrub	Coyote brush scrub (<i>Baccharis pilularis</i> Shrubland Alliance)	126.15 ac
Sensitive ⁴		
Beaches ² (ESHA)	N/A	1.92 ac
Central coast riparian scrub (ESHA)	Arroyo willow thickets (<i>Salix lasiolepis</i> Shrubland Alliance)	23.38 ac
Ephemeral, intermittent, and perennial streams ² (ESHA)	N/A	0.54 ac/ 21,005 lf
Perennial Ponds ² (ESHA)	N/A	1.49 ac
Potential seasonal wetland ² (ESHA)	Western rush marshes (<i>Juncus patens</i> Provisional Herbaceous Alliance)	4.02 ac
TOTAL		525.16 ac

¹Holland (1986)

²Biological community not described in Holland (1986)

³Sawyer et al. (2009)

⁴Determination based on the *List of California Terrestrial Natural Communities* (CDFG 2010) and the *San Mateo County Local Coastal Program* (County 1998)

Monterey Cypress Forest

The southeastern portion of the Study Area contains a small stand of Monterey cypress forest, totaling 1.03 acre. Monterey cypress is native only to the Monterey peninsula where it grows on rocky, granitic soils of coastal headlands and bluffs subject to nearly constant onshore winds (Holland 1986). Only two natural stands have been documented, but Monterey cypress has been planted throughout coastal California for its capacity to serve as a windbreak and it has become naturalized. The California Invasive Plant Council (Cal-IPC) has rated Monterey cypress as “limited” for its ability to invade wildlands (Cal-IPC 2006).

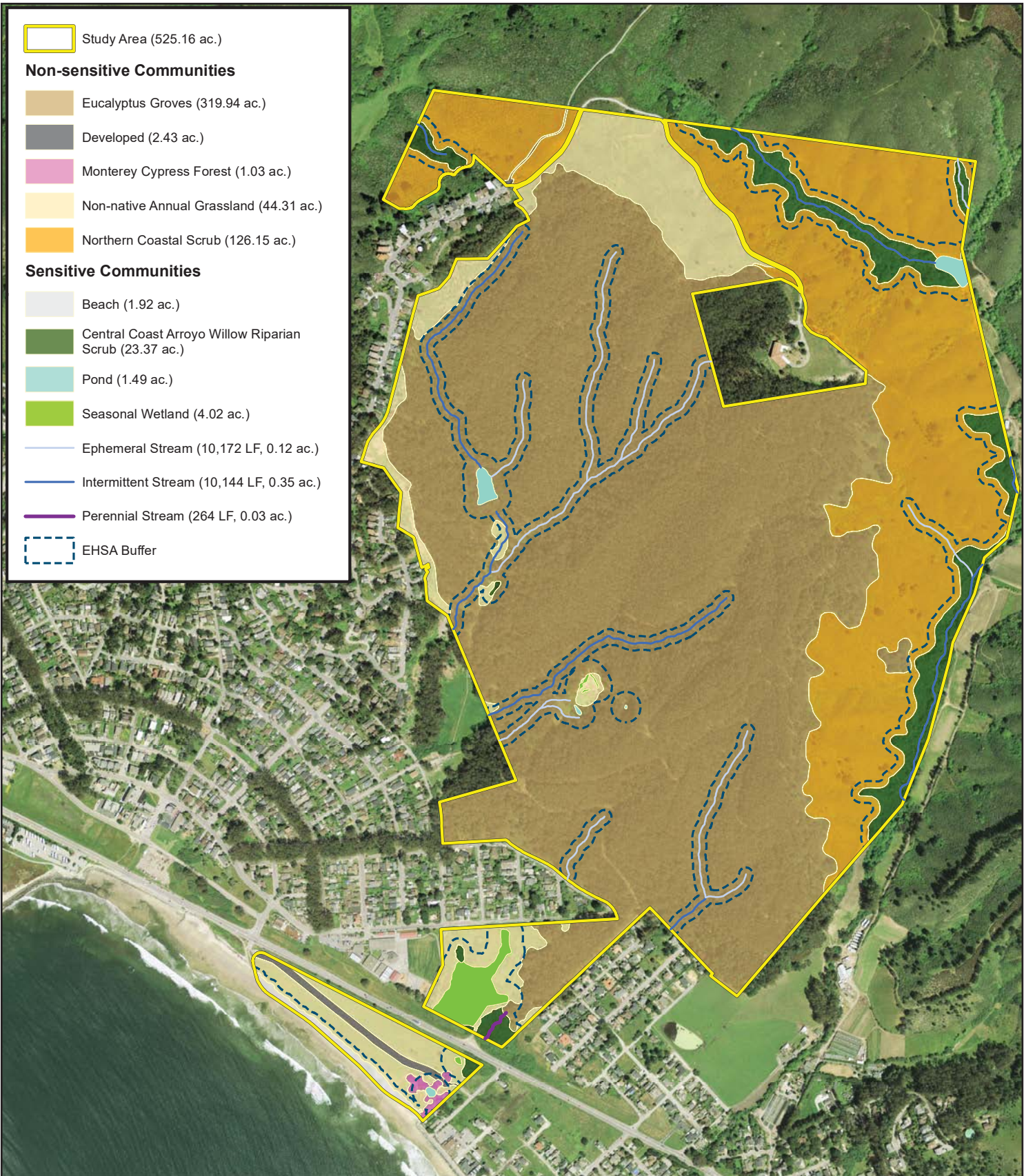


Figure X. Biological Communities



San Mateo County Quarry Park Master Plan
San Mateo County, California

0 500 1,000
Feet

Map Prepared Date: 5/11/2017
Map Prepared By: mrochelle
Base Source: Esri Streaming - NAIP 2014
Data Source(s): WRA

Sawyer (2009) has recognized this biological community as Monterey Cypress Stands (*Callitropsis macrocarpa* Woodland Special Stands), which are planted for wind protection and as ornamental trees near roadsides, driveways, and homesteads. Native stands of this alliance that occur on the Monterey peninsula are given G1 S1 status due to their rarity; however, stands outside of the native range are not ranked and naturalized stands extend from Humboldt County to Santa Barbara County (Sawyer et al. 2009).

In the Study Area, Monterey cypress forest occurs in association with the coastal trail area in the southern portion of the Study Area. The shrub layer is depauperate due to a dense canopy cover and leaf litter. A small perennial pond with facultative and obligate wetland plants occurs in the understory of this stand is described in more detail in Section 4.1.2 below.

Non-Native Annual Grassland

Approximately 44.31 acres of the Study Area contain non-native annual grassland habitat. Holland describes non-native grassland as a dense to sparse cover of non-native annual grasses with flowering culms 0.2-1-meter-high and often associated with numerous species of showy-flowered annual forbs. This community often occurs on fine-textured, usually clay soils, that are moist, or saturated during the winter rainy season and very dry during the summer and fall. Sawyer (2009) describes this community as wild oats grasslands (*Avena* [*barbata*, *fatua*] Semi-Natural Herbaceous Stands, no rarity ranking), which are dominated by the cool-season annual grass and occur in most habitats in California. Non-native grasslands typically contain elements of other non-native grasses.

In the Study Area, non-native annual grassland occupies flat, open areas and is dominated by slender oat (*Avena barbata*), Italian ryegrass (*Festuca perennis* [*Lolium multiflorum*]), ripgut brome (*Bromus diandrus*), and bristly ox-tongue with few native species.

Northern Coastal Scrub

Within the Study Area, relatively undisturbed northern coastal scrub occupies approximately 126.15 acres on mid- to high-slopes on north-facing aspects, predominantly underlain by rocky loam substrate. Holland (1986) describes northern coastal scrub as a community type having low shrubs with dense covering in scattered grassy openings on shallow, rocky soils. Sawyer (2009) describes this community as coyote brush scrub (*Baccharis pilularis* Shrubland Alliance), which is known from the outer Coast Ranges and Sierra Nevada Foothills from Del Norte County south to San Diego County. This vegetation community is typically located on river mouths, riparian areas, terraces, stabilized dunes, coastal bluffs, open hillsides, and ridgelines on all aspects underlain by variable substrate of sand to clay (Sawyer et al. 2009).

The tree layer is minimal in this community with isolated individuals of red alder (*Alnus rubra*) and individual blue gum trees. The dominant species in the shrub layer include coyote brush (*Baccharis pilularis* ssp. *consanguinea*), red elderberry, wax myrtle (*Morella californica*), thimbleberry (*Rubus parviflorus*), and blue blossom (*Ceanothus thyrsiflorus* var. *thyrsiflorus*), with coyote brush comprising greater than 50 percent relative cover in this stratum. The herbaceous layer is dominated by poison oak, soft chess (*Bromus hordeaceus*), dog-tail grass (*Cynosurus echinatus*), and Italian thistle (*Carduus pycnocephalus*). Individual plants of California strawberry were observed scattered within northern coastal scrub in the Study Area.

4.1.2 Environmentally Sensitive Habitat Areas (ESHAs)

The Study Area contains seven natural communities considered sensitive by the Corps, RWQCB, CDFW, CCC, and County LCP, and would therefore be considered sensitive under CEQA. These communities include beaches; central coast riparian scrub; ephemeral, intermittent, and perennial streams; perennial ponds; and potential seasonal wetlands.

Beaches

The Study Area includes approximately 1.92 acres of beaches. Beaches consist of barren, mobile sand accumulations whose size and shape are determined by abiotic factors such as wind, rather than by stabilizing vegetation. Sawyer et al. (2009) does not describe this community. The closest Holland association to beaches is active coastal dunes, which occur along the Pacific Ocean where sandy beaches are present and coastal headlands are absent. The CCC and County LCP regulate beaches and this community is therefore considered sensitive under CEQA.

Central Coast Riparian Scrub

Within the Study Area, approximately 23.38 acres of central coast riparian scrub occurs in the southern portion adjacent to a perennial blue-line stream, and in the north along Arroyo de en Medio and along Deer Creek. The canopy is dense and nearly impenetrable and is dominated by arroyo willow with occasional red alder trees. California blackberry (*Rubus ursinus*), stinging nettle (*Urtica dioica* ssp. *holosericea*), panicled bulrush (*Scirpus microcarpus*), and Pacific rush (*Juncus effusus*) comprise the intermittent shrub and herb layers.

Holland (1986) describes this central coast riparian scrub as occurring in areas of open to nearly impenetrable willow shrubs associated with a stream or mouth of streams, occurring near the coast in the South Coast Ranges. This community is described by Sawyer (2009) as arroyo willow thickets (*Salix lasiolepis* Shrubland Alliance, Rarity Ranking G4 S4), which occurs throughout much of California along streams, seeps and drainages. The canopy is dominated by arroyo willow, forming an open to continuous layer with a variable herbaceous layer. Soils are relatively fine-grained sand and gravel bars from alluvial deposition. Central coast riparian scrub is considered an ESHA within the Coastal Zone. The RWQCB, CDFW, CCC, and County LCP regulate riparian communities and this community is therefore considered sensitive under CEQA.

Ephemeral, Intermittent, and Perennial Streams

Streams are not described by Holland (1986) or Sawyer (2009). Approximately 0.54 acre (21,005 linear feet) of ephemeral, intermittent, and perennial streams were observed within the Study Area and are depicted on Figure 2.

Ephemeral Streams

Approximately 0.12 acre (10,513 linear feet) of ephemeral streams and 0.34 acre (9,803 linear feet) of intermittent streams occur within the Study Area. Ephemeral and intermittent streams contained obvious signs of bank scour and ranged in width from approximately 1 foot to 3 feet, respectively. Vegetation associated with these streams include blue gum with occasional plants species such as poison oak and thimbleberry and is similar to the vegetation present along perennial stream discussed below.

Intermittent Streams

Three intermittent USGS-dashed blue line streams exist within the eastern and western portions of the Study Area. The unnamed USGS dashed blue-line intermittent stream trending north-south in the western portion of the Study Area had obvious signs of scouring and debris deposition within the streambed and an unvegetated gravel bed. This unnamed stream had widths varying from 5 to 7 feet with flowing water. Dominant vegetation associated with the stream is comprised of species including blue gum, red elderberry, and poison oak.

The USGS dashed blue-line stream, named Arroyo de en Medio, occurs along the northern and eastern portions of the Study Area and was dominated by arroyo willow and red alder. The USGS dashed blue-line stream, named Deer Creek, occurs along the northwestern portion of the Study Area and had similar riparian species composition. Riparian habitat associated with streams is discussed below in more detail.

Perennial Streams

An unnamed perennial stream was observed within the southern portion of the Study Area, totaling approximately 0.08 acre (689 linear feet). The perennial stream was observed with flowing water and obvious signs of bank scour. The stream was approximately 14 inches deep and 3 to 5 feet wide. Vegetation associated with the perennial drainage was dominated by central coast riparian scrub, as described above, and the tree canopy was dominated by arroyo willow. Upstream portions of this perennial drainage are conveyed subsurface and subsurface flows likely include a local underground stormwater conveyance system from areas adjacent to the Study Area. Riparian habitat associated with this perennial stream is discussed below in more detail. The Corps, RWQCB, CCC and County LCP regulate non-wetland waters including ephemeral, perennial, and intermittent streams and this community is therefore considered sensitive under CEQA.

Ponds

Ponds occupy 1.49 acres of the Study Area. These features are located in-line with the unnamed perennial drainage located in the western portion of the Study Area or are directly connected to the Arroyo de en Medio stream channel and are the result of stream impoundments. In the western portion of the Study Area, blue gum groves surround a perennial pond while the vegetation around the perennial pond associated with Arroyo de en Medio includes central coast riparian scrub composed of arroyo willow and red alders. Although man-made, these features are potentially jurisdictional as an impoundment of potentially jurisdictional non-wetland waters (Arroyo de en Medio). Additionally, smaller seasonal ponds exist within Eucalyptus groves centrally and under Monterey cypress forest in the southern extent of the Study Area. The Corps, RWQCB, CCC, and County LCP regulate perennial ponds and thus, this community is therefore considered sensitive under CEQA.

Seasonal Wetland

Approximately 4.02 acres of potentially seasonal wetland habitat is present within the Study Area. As described by Holland (1986), potential seasonal wetlands are comprised of mostly perennial herbs, especially sedges and grasses, usually forming complete cover, growing throughout the year in areas with mild winters. This community type occurs scattered throughout California and is most common in mesic grasslands. Sawyer (2009) best describes potential seasonal wetlands within the Study Area as western rush marshes (*Juncus patens* Provisional Herbaceous Alliance, Rarity Ranking G4 S4), which occur on seasonally saturated soils on flats, depressions, or gentle slopes. Seasonal wetlands contain continuous to intermittent cover of western rush with commonly

associated facultative wetland plants such as Italian ryegrass, velvet grass (*Holcus lanatus*), willow-leaved dock (*Rumex crassus*), and subterranean clover (*Trifolium subterraneum*).

In the Study Area, this biological community occurs as potential seasonal wetland depressions within the non-native annual grassland centrally located in a clearing within Eucalyptus grove and within the southern extent of the Study Area, as well as within a large potential seasonal wetland meadow north of Highway 1 and south of the Eucalyptus grove. The potential seasonal wetland depressions within the Eucalyptus groves were dominated by western rush (*Juncus patens*) with co-dominants including brown headed rush (*Juncus phaeocephalus* var. *phaeocephalus*), subterranean clover, and buckhorn plantain (*Plantago coronopus*). For the potential seasonal wetland meadow in the southern portion of the Study Area, dominant species present include clustered field sedge (*Carex praegracilis*), western rush, and willow-leaved dock along with bristly ox-tongue and non-native grasses. An additional potential seasonal wetland depression was observed in the southeastern portion of the Study Area and is comprised predominately of willow-leaved dock and water pepper (*Persicaria hydropiperoides*) as well as species similar to the other potential wetlands. The Corps, RWQCB, CCC and County LCP regulate wetlands and this community is therefore considered sensitive under CEQA.

4.2 Special-Status Species

4.2.1 Plants

Based upon a review of the resources and databases given in Section 3.2.1, 45 special-status plant species have been documented in the vicinity of the Study Area, of which seven special-status species have a high or moderate potential to occur within the Study Area (Figure 3). The remaining species are unlikely or have no potential to occur due to lack of suitable habitat within the Study Area, such as serpentine soils, coniferous forests, woodlands, or high quality meadows and seeps.

Appendix B summarizes the potential for occurrence for each special-status plant species occurring in the Half Moon Bay and Montara Mountain USGS 7.5-minute quadrangles. Plants observed during the site visit are listed in Appendix A. No special-status species were observed during the site visits conducted on March 16 or 22, 2017; however, these did not constitute protocol-level rare plant surveys.

Special-status plant species that have a high or moderate potential to occur in the Study Area are discussed below and include:

- Bent-flowered fiddleneck (*Amsinckia lunaris*);
- Western leatherwood (*Dirca occidentalis*);
- Marin checker lily (*Fritillaria lanceolata* var. *tristulis*);
- Perennial goldfields (*Lasthenia californica* ssp. *macrantha*);
- San Mateo tree lupine (*Lupinus arboreus* var. *eximius*);
- Oregon polemonium (*Polemonium carneum*); and,
- Hickman's cinquefoil (*Potentilla hickmanii*).

High Potential


San Mateo tree lupine (*Lupinus arboreus* var. *eximius*), Rank 3.2. San Mateo tree lupine is a shrub in the pea family (Fabaceae). This species typically occurs in chaparral and coastal scrub habitats at elevations ranging from 300 to 1,800 feet (90 to 550 meters). It typically blooms between April and July and has been recorded in San Mateo and Sonoma counties. Observed associated species include California coffeeberry (*Frangula californica*), poison oak, and elderberry (*Sambucus* sp.), all of which were observed within the northern coastal scrub habitat within the Study Area.

An unknown, shrubby species of lupine was observed in the Study Area that has vegetative characteristics consistent with both San Mateo tree lupine and silver lupine (*Lupinus albifrons*), a common native species. The observed lupine shrubs were not flowering at the time of the March 2017 site visit and were therefore not identifiable to species. The shrubby lupine was observed along margins of the northern coastal scrub within the Study Area. Given the presence of coastal scrub vegetation, there is high potential that some of the shrubby lupines observed in the Study Area may be San Mateo tree lupine.

Moderate Potential

Bent-flowered fiddleneck (*Amsinckia lunaris*). Rank 1B.2. Bent-flowered fiddleneck is an annual forb in the forget-me-not family (Boraginaceae) that blooms from March to June. It typically occurs in open areas within cismontane woodland, valley and foothill grassland, and coastal bluff scrub habitat often underlain by clay substrate at elevations ranging from 10 to 1625 feet (CDFW 2017, CNPS 2017a, Jepson Flora Project 2017). Typical associated species include coast live oak, blue oak (*Quercus douglasii*), California juniper (*Juniperus californicus*), buck brush (*Ceanothus cuneatus*), poison oak, miniature lupine (*Lupinus bicolor*), foothill lotus (*Acmispon brachycarpus*), calf lotus (*A. wrangelianus*), fringe pod (*Thysanocarpus curvipes*), q-tips (*Micropus californicus*), cream cups (*Platystemon californicus*), slender tarweed (*Madia gracilis*), common yarrow (*Achillea millefolium*), goldenback fern (*Pentagramma triangularis*), one-sided bluegrass (*Poa secunda*), woolly sunflower (*Eriophyllum lanatum*), and slender wild oat (*Avena barbata*) (CDFW 2017).

The nearest documented occurrence of bent-flowered fiddleneck is from 2008, in grassland on the east side of Crystal Springs Reservoir (CDFW 2017). Bent-flowered fiddleneck has a moderate potential to occur in the northern coastal scrub community within the Study Area due to the presence of suitable substrate and open grassy areas.

 CNDDDB Plant Occurrences	6, coastal marsh milk-vetch	12, Hillsborough chocolate lily	18, Ornduff's meadowfoam	24, San Francisco owl's-clover
1, arcuate bush-mallow	7, Crystal Springs lessingia	13, Kellogg's horkelia	19, perennial goldfields	25, San Mateo woolly sunflower
2, bent-flowered fiddleneck	8, fragrant fritillary	14, Kings Mountain manzanita	20, rose leptosiphon	26, short-leaved evax
3, Blasdale's bent grass	9, Franciscan onion	15, Marin western flax	21, San Francisco campion	27, western leatherwood
4, Choris' popcornflower	10, Franciscan thistle	16, Montara manzanita	22, San Francisco collinsia	28, white-rayed pentachaeta
5, coast yellow leptosiphon	11, Hickman's cinquefoil	17, Oregon polemonium	23, San Francisco gumplant	29, woodland woollythreads

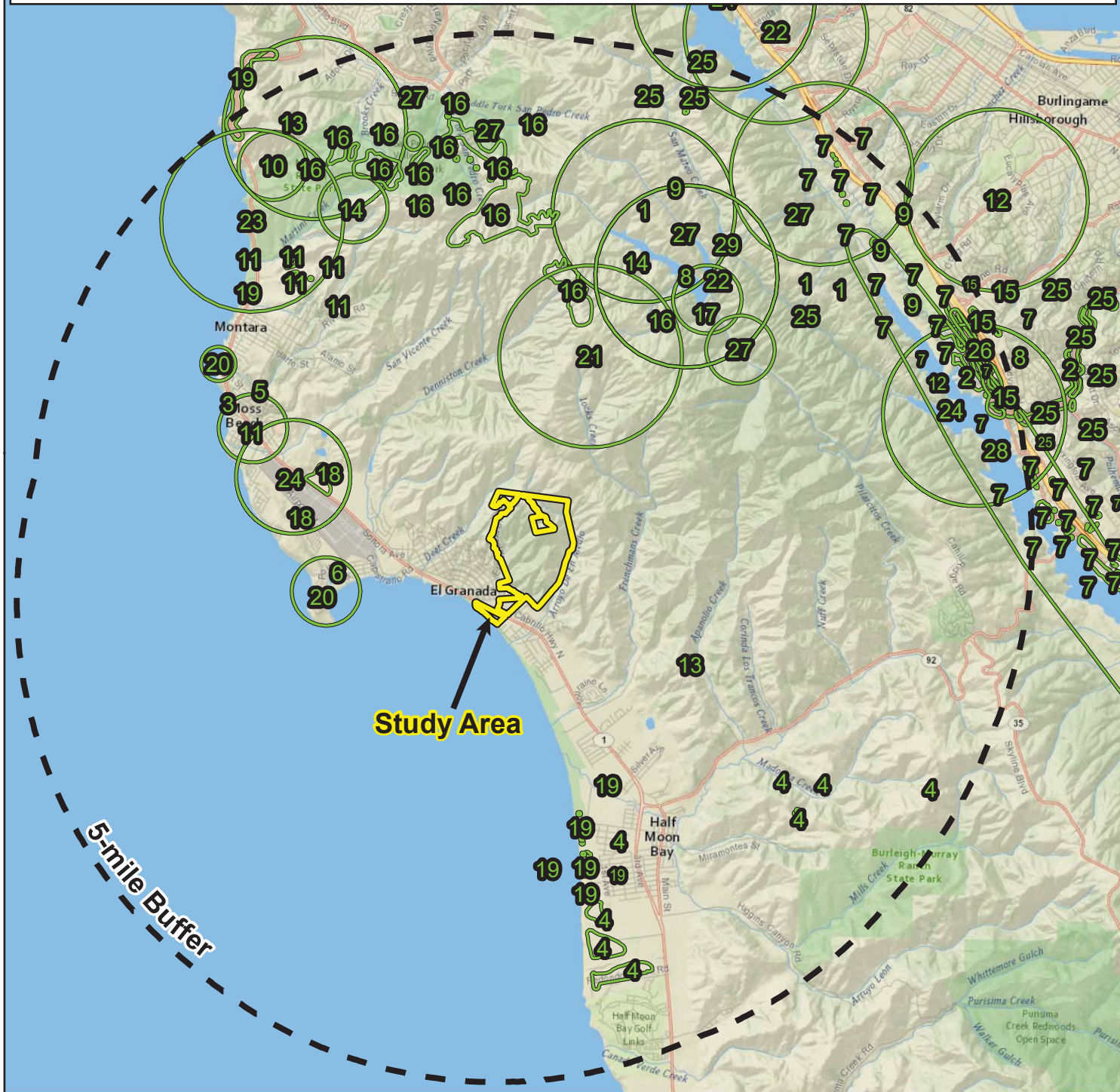


Figure X. Special-status Plants Documented within 5 Miles of the Study Area

San Mateo County Quarry Park
 Master Plan
 San Mateo County, California



Map Prepared Date: 3/21/2017
 Map Prepared By: mrochelle
 Base Source: National Geographic
 Data Source(s): CNDDDB March 2017

Western leatherwood (*Dirca occidentalis*), Rank 1B.2. Western leatherwood is a deciduous shrub in the Daphne family (Thymelaeaceae) that blooms from January to April, but is typically identifiable via vegetative structures into late spring and/or early summer. It typically occurs on brushy, mesic slopes in partial shade in broadleaf upland forest, chaparral, closed-cone coniferous forest, cismontane woodland, North Coast coniferous forest, riparian forest, and riparian woodland habitat at elevations range from 165 to 1285 feet (CDFW 2017, CNPS 2017a, Jepson Flora Project 2017). Observed associated species include coast live oak, California bay (*Umbellularia californica*), Pacific madrone (*Arbutus menziesii*), California coffeeberry, poison oak, toyon (*Heteromeles arbutifolia*), California buckeye (*Aesculus californicus*), California hazelnut (*Corylus cornuta*), coyote brush, yerba buena (*Clinopodium douglasii*), sword fern (*Polystichum munitum*), Pacific sanicle (*Sanicula crassicaulis*), and Douglas iris (*Iris douglasiana*) (CDFW 2017).

The nearest occurrence is from 1975, in Douglas fir forest on San Francisco Public Utilities District property, approximately 3.5 miles east of the Study Area (CDFW 2017). Western leatherwood has a moderate potential to occur in the coyote brush scrub and riparian communities in the Study Area due to the presence of relatively undisturbed brushy and shaded slopes and associated species.

Marin checker lily (*Fritillaria lanceolata* var. *tristulis*), Rank 1B.1. Marin checker-lily is a perennial herb in the lily family (Liliaceae) that blooms from February to May. It typically occurs in coastal bluff scrub, coastal prairie, and coastal scrub habitats at elevations ranging from 50 to 500 feet (15 to 150 meters; CNPS 2017a). Observed associated species include coyote brush, soap plant (*Chlorogalum pomeridianum*), poison oak, strawberry (*Fragaria* sp.), plantain (*Plantago* sp.), ripgut brome, and filaree (*Erodium* sp.) (CCH 2017).

The nearest documented occurrence is located within the USGS Montara Mountain quad along Lower Crystal Springs Reservoir approximately 5.5 miles to the northeast of the Study Area, but the exact location and date of the observation are not listed (CNDDDB 2017). Marin checker-lily has moderate potential to occur in the northern coastal scrub community due to of the presence of all associated species listed above and suitable openings in this habitat.

Perennial goldfields (*Lasthenia californica* ssp. *macrantha*), Rank 1B.2. Perennial goldfields are annual to perennial forbs in the sunflower family (Asteraceae) that bloom from January to November. It typically occurs on mesas, benches, and bluff faces in coastal bluff scrub, coastal dune, and coastal scrub at elevations from 15 to 1,690 (CDFW 2017, CNPS 2017). Observed associated species include coyote brush, poison oak, California blackberry, brownie thistle (*Cirsium quercetorum*), Douglas iris, sea lettuce (*Dudleya farinosa*), California buttercup (*Ranunculus californicus*), Pacific reed grass (*Calamagrostis nutkaensis*), Italian ryegrass, selfheal (*Prunella vulgaris*), English plantain (*Plantago lanceolata*), dwarf checkerbloom (*Sidalcea malviflora*), beach strawberry (*Fragaria chiloensis*), narrow-leaf mule's-ears (*Wyethia angustifolia*), coast angelica (*Angelica hendersonii*), soap plant, and coast coyote thistle (*Eryngium armatum*) (CDFW 2017).

The nearest documented occurrence of this species is from 2015 near Pescadero, and is located 18.4 miles southeast of the Study Area (CDFW 2017). Perennial goldfields have a moderate potential to occur in the coastal scrub community due to the presence of associated species such as coyote brush, poison oak, and California blackberry and suitable openings in this habitat.

Oregon polemonium (*Polemonium carneum*), Rank 2B.2. Oregon polemonium is a perennial herb in the family Polemoniaceae. It occurs in coastal prairie, coastal scrub, and lower montane

coniferous forest. Oregon polemonium is recorded from 0 to 1830 meters in elevation in Del Norte, Siskiyou, Humboldt, Sonoma, Marin, Alameda, San Francisco, and San Mateo counties. It blooms between April and September. Observed associated species include coyote brush, California sagebrush (*Artemisia californica*), blue-eyed grass (*Sisyrinchium* sp.), native grasses, and non-native annual grasses (CDFW 2017).

The nearest documented occurrence of this species is from 1916 near the Pilarcitos Dam, and is located 4 miles northeast of the Study Area (CDFW 2017). Oregon polemonium has a moderate potential to occur within the Study Area in northern coastal scrub because of the close proximity of the nearest occurrence and the presence of suitable northern coastal scrub habitat.

Hickman's cinquefoil (*Potentilla hickmanii*), FE, SE, Rank 1B.2. Hickman's cinquefoil is a perennial herb in the family Rosaceae. It occurs in coastal bluff scrub, closed-cone coniferous forest, vernal mesic meadows and seeps, and freshwater marshes and swamps. It is recorded from 10 to 149 meters in elevation in Monterey, San Mateo, and Sonoma counties. It blooms between April and August. Observed associated species include native and non-native grasses including California oatgrass (*Danthonia californica*), silver hairgrass (*Aira caryophyllaea*), little quaking grass (*Briza minor*) as well as English plantain (*Plantago lanceolata*), and rough cat's ear (*Hypochaeris radicata*) (CDFW 2017).

The nearest documented occurrence of this species is from 2008 over 4 miles northwest from the Study Area near Montara State Beach. Hickman's cinquefoil has a moderate potential to occur within the Study Area due to the presence of suitable northern coastal scrub habitat.

4.2.2 Wildlife

Based upon a review of the resources and databases given in Section 3.4.1, 57 special-status wildlife species have been documented in the vicinity of the Study Area. Appendix B summarizes the potential for each of these species to occur in the Study Area. Any wildlife species documented in the CNDDDB within 5 miles of the Study Area are shown in Figure 4. Of the 57 special-status wildlife species documented in the vicinity of the Study Area, two are present in the Study Area and seven have a moderate or high potential to occur within the Study Area. The majority of species have no potential or are unlikely to occur due to a lack of suitable habitat components such as:

- offshore islands;
- marine waters;
- caves, mines or abandoned buildings;
- suitable cavity bearing trees; or,
- the Study Area is outside of the known range for the species.

Special-status plant species that have a high or moderate potential to occur in the Study Area are discussed below and include:

- San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*);
- White-tailed kite (*Elanus leucurus*);
- Allen's hummingbird (*Selasphorus sasin*);
- Olive-sided flycatcher (*Contopus cooperi*);
- Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*);
- California red-legged frog (*Rana draytonii*);

- San Francisco garter snake (*Thamnophis sirtalis tetrataenia*); and,
- Monarch butterfly (*Danaus plexippus*).

Present


San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*). CDFW Species of Special Concern. This subspecies of the dusky-footed woodrat occurs in the Coast Ranges between San Francisco Bay and the Salinas River (Matocq 2003). Occupied habitats are variable and include forest, woodland, riparian areas, and chaparral. Woodrats feed on woody plants, but will also consume fungi, grasses, flowers, and acorns. Foraging occurs on the ground and in bushes and trees. This species constructs robust stick houses/nests in areas with moderate cover and a well-developed understory containing woody debris. Breeding takes place from December to September. Individuals are active year-round and generally nocturnal.

While the species does not typically inhabit Eucalyptus groves, thick sections of willow scrub and riparian corridors are generally preferred habitats for the species. Nests constructed by this species were observed in these habitats. Because nests constructed by this species were observed in multiple locations throughout the Study Area, and suitable habitats are present in various locations, this species is considered present throughout the Study Area.

California red-legged frog (*Rana draytonii*; CRLF), Federal Threatened Species, CDFW Species of Special Concern. California red-legged frog (CRLF) is dependent on suitable aquatic, estivation, and upland habitat. During periods of wet weather, starting with the first rainfall in late fall, red-legged frogs disperse away from their estivation sites to seek suitable breeding habitat. Aquatic and breeding habitat is characterized by dense, shrubby, riparian vegetation and deep, still or slow-moving water. Breeding occurs between late November and late April. California red-legged frogs estivate (period of inactivity) during the dry months in small mammal burrows, moist leaf litter, incised stream channels, and large cracks in the bottom of dried ponds.

There are four physical and biological features that are considered to be essential for the conservation or survival of a species. The features for the CRLF include: aquatic breeding habitat; non-breeding aquatic habitat; upland habitat; and dispersal habitat (USFWS 2010a).

Aquatic breeding habitat consists of low-gradient fresh water bodies, including natural and manmade (e.g. stock) ponds, backwaters within streams and creeks, marshes, lagoons, and dune ponds. It does not include deep water habitat, such as lakes and reservoirs. Aquatic breeding habitat must hold water for a minimum of 20 weeks in most years. This is the average amount of time needed for egg, larvae, and tadpole development and metamorphosis so that juveniles can become capable of surviving in upland habitats (USFWS 2010a).

- | | | | |
|--|-------------------------------|---|--|
|  CNDDB Wildlife Occurrences | 5, California red-legged frog | 10, monarch - California overwintering population | 15, San Francisco gartersnake |
| 1, American badger | 6, Edgewood blind-harvestman | 11, obscure-bumble-bee | 16, steelhead - central California coast DPS |
| 2, American peregrine falcon | 7, hoary bat | 12, saltmarsh common yellowthroat | 17, western bumble bee |
| 3, Bay checkerspot butterfly | 8, marbled murrelet | 13, San Bruno elfin butterfly | 18, western pond turtle |
| 4, California giant salamander | 9, Mission blue butterfly | 14, San Francisco dusky-footed woodrat | 19, western snowy plover |

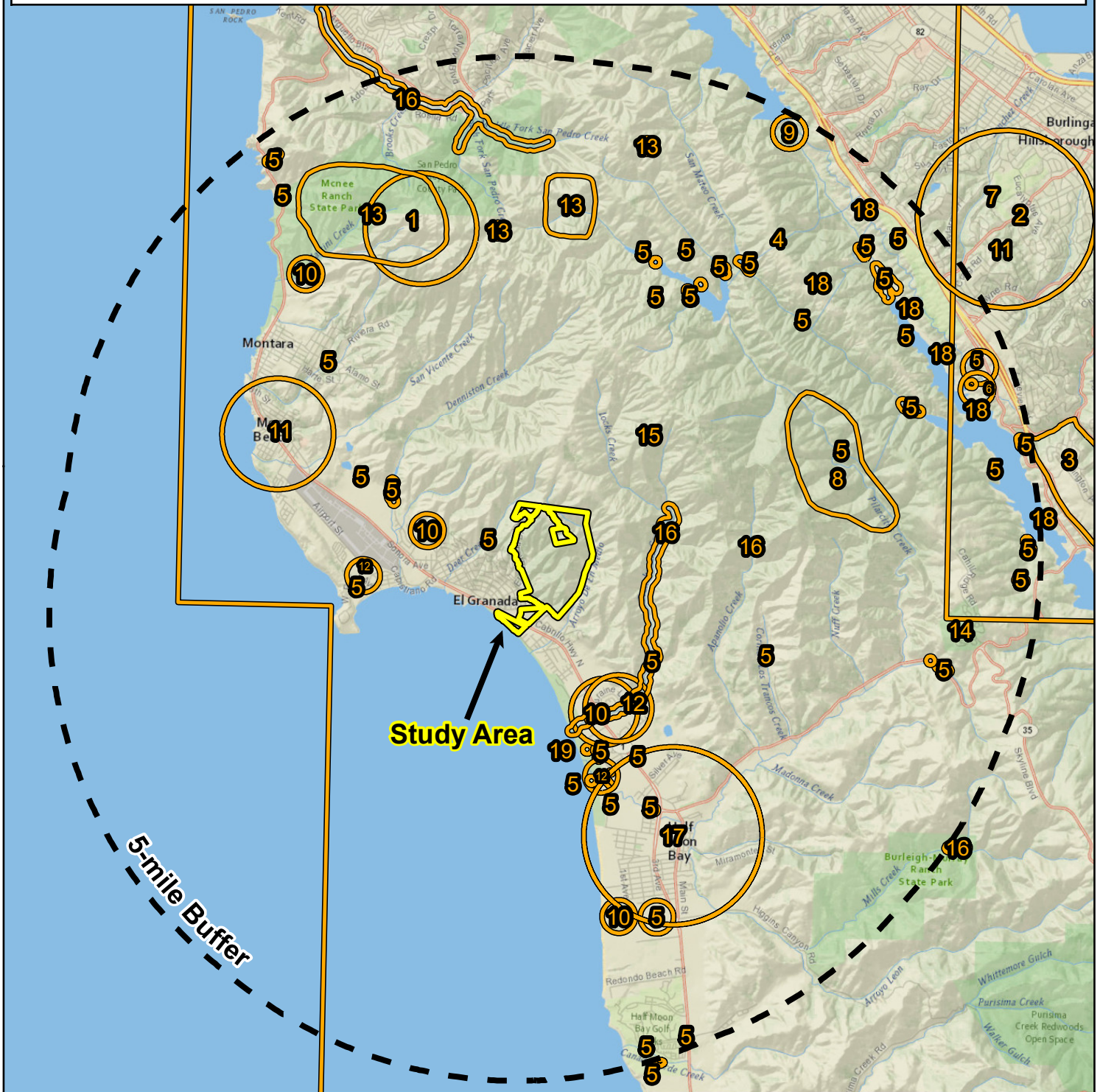
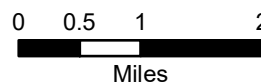


Figure X. Special-status Wildlife Documented within 5 Miles of the Study Area

San Mateo County Quarry Park
Master Plan
San Mateo County, California



Map Prepared Date: 3/20/2017
Map Prepared By: mrochelle
Base Source: National Geographic
Data Source(s): CNDDB March 2017

Aquatic non-breeding habitat may or may not hold water long enough for this species to hatch and complete its aquatic life cycle, but it provides shelter, foraging, predator avoidance, and aquatic dispersal for juvenile and adult CRLF. These waterbodies include plunge pools within intermittent creeks; seeps; quiet water refugia during high water flows; and springs of sufficient flow to withstand the summer dry period. The CRLF can use large cracks in the bottom of dried ponds as refugia to maintain moisture and avoid heat and solar exposure (Alvarez 2004). Non-breeding aquatic features enable CRLF to survive drought periods, and disperse to other aquatic breeding habitat (USFWS 2010a).

Upland habitats include areas within 300 feet of aquatic and riparian habitat and are comprised of grasslands, woodlands, and/or vegetation that provide shelter, forage, and predator avoidance. These upland features provide breeding, non-breeding, feeding, and sheltering habitat for juvenile and adult frogs (e.g., shelter, shade, moisture, cooler temperatures, a prey base, foraging opportunities, and areas for predator avoidance). Upland habitat can include structural features such as boulders, rocks and organic debris (e.g. downed trees, logs), as well as small mammal burrows and moist leaf litter (USFWS 2010a).

Dispersal habitat includes accessible upland or riparian habitats between occupied locations within 0.7 mile of each other that allow for movement between these sites. Dispersal habitat includes various natural and altered habitats such as agricultural fields, which do not contain barriers to dispersal. Moderate- to high-density urban or industrial developments, large reservoirs, and heavily traveled roads without bridges or culverts are considered barriers to dispersal (USFWS 2010a). Although CRLF is highly aquatic, this species has been documented to make overland movements of several hundred meters and up to one mile during a winter-spring wet season in Northern California (Bulger et al. 2003, Fellers and Kleeman 2007) and 2,860 meters (1.8 miles) in the central California coast (Rathbun and Schneider 2001). Frogs traveling along water courses can exceed these distances.

Within the Study Area, a number of ponds were observed which were of sufficient size and depth to support reproduction by the species. Smaller ponds, intermittent streams and wetlands are also present and may provide suitable non-breeding aquatic, as well as dispersal habitat for the species. Thick underbrush, moist leaf litter, and downed trees within the site may provide suitable upland habitat during various life stages. Additionally, this species has been observed in Deer Creek and Frenchman's Creek (CDFW 2017) in upper portions of the watershed. Although the lower portions of the Arroyo de en Medio are intermittent and do not provide optimal habitat for CRLF, the upper portion above the impoundment does provide suitable habitat and no barriers are present between nearby occurrences. Due to the presence of all of the physical and biological features required to sustain the species, and the documented presence within the surrounding landscape, the species is considered present within the Study Area.

High Potential

Allen's hummingbird (*Selasphorus sasin*). USFWS Bird of Conservation Concern. Allen's hummingbird, common in many portions of its range, is a summer resident along the majority of California's coast and a year-round resident in portions of coastal southern California and the Channel Islands. Breeding occurs in association with the coastal fog belt, and typical habitats used include coastal scrub, riparian, woodland and forest edges, and eucalyptus and cypress groves (Mitchell 2000). This species feeds on nectar, as well as insects and spiders.

There are a variety of suitable habitats for this species within the Study Area including northern coastal scrub and blue gum grove. Additionally, the Study Area is in close proximity to a variety of rich natural and landscaped foraging habitats. Therefore, Allen's hummingbird has a high potential to occur within the Study Area.

Moderate Potential

White-tailed kite (*Elanus leucurus*). CDFW Fully Protected Species. The white-tailed kite is resident in open to semi-open habitats throughout the lower elevations of California, including grasslands, savannahs, woodlands, agricultural areas and wetlands. Vegetative structure and prey availability seem to be more important habitat elements than associations with specific plants or vegetative communities (Dunk 1995). Nests are constructed mostly of twigs and placed in trees, often at habitat edges. Nest trees are highly variable in size, structure, and immediate surroundings, ranging from shrubs to trees greater than 150 feet tall (Dunk 1995). This species preys upon a variety of small mammals, as well as other vertebrates and invertebrates.

While grassland and foraging habitats are only present in small patches near the southeastern edges of the Study Area, farmlands just outside of the Study Area along Arroyo de en Medio and Deer Creek may provide adequate foraging opportunities to support the species. Additionally, tall trees throughout the Study Area may provide suitable structures to support nesting by the species. Due to the presence of suitable nesting substrates and the presence of suitable foraging grounds, this species has a moderate potential to occur.

Olive-sided flycatcher (*Contopus cooperi*). CDFW Species of Special Concern. USFWS Bird of Conservation Concern. This species is found within the coniferous forest biome, most often associated with forest openings, forest edges near natural openings (e.g. meadows, canyons, rivers) or human-made openings (e.g., harvest units), or open to semi-open forest stands (Altman 2000).

Although this species typically nests in more protected areas from the coastline, large blue gum trees throughout the Study Area may provide suitable nesting habitat. The habitat mosaic of northern coastal scrub, forests, and wetland vegetation in the Study Area is also suitable foraging habitat. Because of the presence of suitable nesting and foraging habitat, this species has a moderate potential to occur within the Study Area.

San Francisco (saltmarsh) common yellowthroat (*Geothlypis trichas sinuosa*), USFWS Bird of Conservation Concern, CDFW Species of Special Concern. This subspecies of the common yellowthroat is found in freshwater marshes, coastal swales, riparian thickets, brackish marshes, and saltwater marshes. Their breeding range extends from Tomales Bay in the north, Carquinez Strait to the east, and Santa Cruz County to the south. This species requires thick, continuous cover such as tall grasses, tule patches, or riparian vegetation down to the water surface for foraging and prefers willows for nesting (Gardali and Evans 2008).

Throughout most of the Study Area, the lack of dense ground cover makes the area unsuitable for nesting by the species. However, two small sections of willow thickets in the seasonal wetland habitat along Highway 1 at the southeastern edge of the Study Area may be suitable to support the species. This species can also use the adjacent grasslands to supplement foraging opportunities in this area. Therefore, while these thickets are small and bisected by Highway 1, they may potentially support nesting by the species.

San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*), Federal Endangered, State Endangered, CDFW Fully Protected. Historically, San Francisco garter snake (SFGS) occurred in scattered wetland areas on the San Francisco Peninsula. This species was historically documented from approximately the San Francisco County line south along the eastern and western bases of the Santa Cruz Mountains, at least to the Upper Crystal Springs Reservoir, and along the coast south to Año Nuevo Point, San Mateo County, and Waddell Creek, Santa Cruz County. The preferred habitat of SFGS is a densely vegetated pond near an open hillside where they can sun themselves, feed, and find cover in rodent burrows; however, considerably less ideal habitats can be successfully occupied (USFWS 2006).

There are two significant components to SFGS habitat: 1) ponds that support CRLF, American bullfrog (*Lithobates catesbeiana*), or the Pacific chorus frog (*Pseudacris regilla*) and 2) surrounding upland that supports Botta's pocket gopher (*Thomomys bottae*) and California meadow vole (*Microtus californicus*) (USFWS 2006). Ranid frogs are an obligate component of the SFGS's diet (USFWS 2006).

The Study Area is composed primarily of thick Eucalyptus groves. The heavy overstory of Eucalyptus groves throughout most of the Study Area makes ponds and other aquatic features in these areas less likely to support the species due to limited basking habitat. However, along upper Arroyo de en Medio above the impoundments, ponds containing CRLF (SFGS's primary food source), as well as exposed sunny slopes suitable for basking and heavily vegetated ponds or creeks are present. Together, such features are preferred habitat for SFGS. The species has also been documented to the north and south of the Study Area (CDFW 2017). While suitable habitat is limited to the areas along Arroyo de en Medio, the presence of this habitat and documented occurrences surrounding the Study Area make it likely that the species would be present. Therefore, this species has been evaluated to have a moderate potential to occur, especially along Arroyo de en Medio.

Monarch Butterfly (*Danaus plexippus*). CDFW Special Status Invertebrate. This large, showy butterfly is found throughout the United States, southern Canada, and Central America. It also occurs in parts of South America and other continents. In North America, this species spends spring and summer months breeding and foraging across much of its range. The monarch butterfly generally uses milkweed (*Asclepias spp.*) for both breeding and nectaring, although nectar may also be obtained from a variety of additional plant species. From August to October, monarchs will migrate thousands of miles to winter roost sites located along the California coast and central Mexico. At roost sites, monarchs will congregate in thousands or millions on a tree or group of trees (Opler et al. 2011). Western monarchs prefer overwintering habitat comprised of a relatively dense grove of trees with some understory, located near water and nectar sources and protected from the wind by topographic landforms or trees (Sakai and Calvert 1991). Winter roost sites are often on south, southwest, or west facing slopes which may provide more favorable temperature regimes and wind protection (Leong et al. 2004). Monarch butterflies typically arrive in mid-October to overwintering sites along the California coast and remain until late February or March (Jepsen et al. 2015).

This Study Area is primarily comprised of Eucalyptus groves, which is known to be used by the species for winter roosting. Additionally, the aspects typically favored are south and southwest facing slopes, which comprise the majority of the Study Area. Lastly, the area supports a variety of wild and landscaped (urban) plants to provide nectar, as well as ponds wetlands and seeps suitable for watering. Due to these factors, the species has a moderate potential to use the Study Area as winter roosting habitat.

San Francisco tree lupine moth (*Grapholita edwardsiana*), LCP. San Francisco tree lupine moth was proposed for federal threatened status in 1978, just prior to the authoring of the LCP. However, its status was never elevated and it is currently not a listed species. The species occurs only on sandy northern peninsula sites and is associated with its larval host plant, tree lupine (*Lupinus arboreus*). Little is known about the species' ecology; however, the initial concern that led to the proposal of federal threatened status in 1978 was largely due to the degradation and loss of the sandy dune system of the host plant, tree lupine (USFWS 1978). However, later research showed that the tree lupine host plants recovered well from habitat disturbance and in some instances may have expanded their initial range, presumably to the benefit of the San Francisco tree lupine moth (USFWS 1986). The grassland habitat in the Study Area may contain large numbers of tree lupines. Although little is known about the reproductive strategy, current numbers of this species, or where it occurs, San Francisco tree lupine moth was determined to have a moderate potential to occur in areas which tree lupine may be present.

Unlikely Potential

The following FESA and CESA-listed species are known to occur in the greater vicinity of the Study Area but have been determined to be unlikely to occur. Species that are discussed have been documented within 5-miles of the Study Area, though current habitat conditions are such that their presence is not supported. Despite the determination that these species are unlikely to be found within the Study Area, they are discussed for completeness.

San Bruno Elfin Butterfly (*Callophrys mossii bayensis*), Federal Endangered. San Bruno elfin butterfly inhabits coastal mountains near San Francisco Bay, in the fog belt of steep north-facing slopes that receive little direct sunlight. It lives near prolific growths of the larval food plant, broadleaf stonecrop (*Sedum spathulifolium*), which is a low-growing succulent associated with rocky outcrops (often in the shade) that occur on steep, mainly north-facing slopes in coastal scrub from 200 to 5,000 feet elevation (Black and Vaughan 2005a). The San Bruno elfin is restricted to a few small populations, the largest of which occurs on San Bruno Mountain. Its habitat has been diminished by quarrying, off-road recreation, and urban development (Black and Vaughan 2005a).

While several occurrences of this species have been recorded approximately 3.5 miles north of the Study Area (CDFW 2017), the aspect of the topography within the Study Area make it unlikely that the species will occur. This butterfly occurs only on north facing slopes that receive little direct sunlight, which moderates weather conditions (USFWS 2010b). All of the occurrences for this species in the area have been recorded on northern aspect slopes which maintain some level of shading throughout the day (CDFW 2017). These slopes provide favorable conditions for both the butterfly and its host plant. Slope aspects within the Study Area face almost entirely east, west or southward, with full exposure to offshore winds and higher levels of sunlight than the species typically tolerates. Additionally, the majority of the Study Area is comprised of Eucalyptus groves, which does not support the species or its host plants. Because the distribution of this species is fairly well know as well as being limited in range, and aspects of the Study Area are primarily east, west or south, which provides conditions unfavorable to the butterfly or its host plant, this species is unlikely to occur.

Mission Blue Butterfly (*Plebejus icarioides missionensis*), Federal Endangered. Mission blue butterfly persists in small populations in San Francisco, San Mateo, and Marin Counties. The majority of the remaining mission blues are found on San Bruno Mountain in San Mateo County. This species inhabits coastal grasslands in the fog belt of the coastal range from 690 to 1,180 feet in elevation. Three species of lupine serve as larval food plants: silver lupine, summer lupine (*L.*

formosus), and many-colored lupine (*L. variicolor*). Adults feed on hairy false goldenaster (*Heterotheca villosa*), bluedicks (*Dichelostemma capitatum*), and seaside buckwheat (*Eriogonum latifolium*) (Black and Vaughan 2005b).

This species is also only known to occur in northern San Mateo County (San Bruno Mountain, Sweeney Ridge, and Milagra Ridge), San Francisco County (Twin Peaks), and in Marin County, all of which are far from the Study Area (Wayne and Weiss 2009, USFWS 2010b). The nearest documented occurrence of this species is approximately 5-miles northwest of the Study Area near Crystal Springs Reservoir (CDFW 2017), and nearest known population is on Sweeney Ridge over 4 miles north. The maximum known travel distance of this species is 2,500 meters (about 1.5 miles) (USFWS 2010) and open patches of grassland are rare between the nearest known occupied habitat and the Study Area. This species primarily occurs in coastal grasslands along ridgelines and requires three species of lupine as host plants. Although grassland habitat and potential host plants are present, the distance from known populations and lack of connectivity through grassland patches reduces potential for mission blue butterfly to be present. Therefore, because the Study Area is not within the known distribution of the species, grassland habitat typical of this species is not present, and does not contain the elevation gradients or typical habitats used by this species, mission blue is unlikely to be present.

5.0 SUMMARY AND RECOMMENDATIONS

The following sections present recommendations for future studies and/or measures to avoid or reduce impacts to special-status species and sensitive habitats. Seven ESHAs occur within the Study Area:

- ephemeral streams potentially subject to the jurisdictional of the Corps, RWQCB, CDFW, CCC, and County LCP;
- intermittent streams potentially subject to the jurisdictional of the Corps, RWQCB, CDFW, CCC, and County LCP;
- perennial streams potentially subject to the jurisdictional of the Corps, RWQCB, CDFW, CCC, and County LCP;
- ponds potentially subject to the jurisdictional of the Corps, RWQCB, CDFW, CCC, and County LCP;
- seasonal wetlands potentially subject to the jurisdictional of the Corps, RWQCB, CDFW, CCC, and County LCP;
- central coast riparian scrub potentially subject to the jurisdiction of the CDFW, CCC, and County LCP; and,
- beaches potentially subject to the jurisdiction of the CCC and County LCP.

No special-status plant species were observed during the March 16 or 22, 2017 site visits; however, these did not constitute protocol-level rare plant surveys. Seven special-status plant species have been identified with moderate to high potential to occur within the Study Area. Two special-status wildlife species are present and seven have a moderate to high potential to occur within the Study Area. The following sections present recommendations for future studies and/or measures to avoid or reduce impacts to sensitive habitats and special-status wildlife with potential to occur in the Study Area.

5.1 Biological Communities

The CCC and County LCP generally prohibit land use or development that would have significant adverse impact on ESHAs. The County LCP defines specific criteria for allowable development areas in ESHAs, requires ESHA impacts to be minimized to the maximum extent feasible through siting and design, requires that mitigation measures implemented where impacts to ESHAs may occur. However, permitted uses allowed within ESHAs include the following: education and research, trails and scenic overlooks on public lands, and fish and wildlife management. As mentioned, ESHAs within the Study Area include central coast riparian scrub; ephemeral, intermittent, and perennial streams; perennial ponds; and potential seasonal wetlands.

5.1.1 Wetlands

Seasonal wetlands are subject to the jurisdiction to the Corps, RWQCB, CCC, and County LCP. Impacts directly to potential seasonal wetlands within the Study Area would require a Corps Section 404 Permit, a RWQCB Section 401 Water Quality Certification, and a coastal development permit (CDP) through the CCC and County. Further, work within buffers of potential seasonal wetlands may also require a CDP through the CCC and County.

A 100-foot minimum buffer is typically required surrounding wetlands (as well as ponds) by the County LCP code. However, specific permitted uses, including trails, are allowed within these buffer areas. As such, while trail development activities may occur within the 100-foot buffer surrounding a wetland, the following standards are recommended to minimize adverse effects (Section 7.17, San Mateo County LCP):

- All paths be elevated so as not to impede movement of water;
- All construction takes place during daytime hours;
- All outdoor lighting be kept at a distance away from the wetland sufficient not to affect the wildlife;
- Motorized machinery be kept to less than 45 dBA at the wetland boundary;
- All construction which alters wetland vegetation be required to replace vegetation;
- No herbicides be used in wetlands unless specifically approved by the county Agricultural commissioner and CDFW; and,
- All projects be reviewed by CDFW and RWQCB to determine appropriate mitigation measures.

5.1.2 Non-Wetland Waters

The Study Area contains non-wetland waters including ephemeral, intermittent, and perennial streams and perennial ponds, which are potentially subject to regulation by the following agencies: the Corps, the RWQCB, the CDFW, and the County LCP. Temporary and permanent impacts to federal-protected waters (below the ordinary high water mark [OHWM] of the stream or pond) in the Study Area will require a Corps Section 404 Permit, and a RWQCB Section 401 Water Quality Certification. Any work below top of bank (TOB) of a stream will require a Section 1602 Lake and Streambed Alteration Agreement from CDFW and a Section 401 Water Quality Certification from

the RWQCB. Additionally, work within established ESHA buffers of streams may require a CDP through the CCC and County.

Best management practices should be used to lessen potential impacts to sensitive habitats. This includes the use of silt fencing, wattles, and other appropriate stormwater pollution prevention measures. Permitting agencies may require a mitigation and monitoring plan to restore or replace temporary and permanent impacts to non-wetland waters.

5.1.3 Riparian Habitat

In addition to streams and lakes, the CDFW and RWQCB regulate riparian vegetation. Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFW and Section 401 Water Quality Certification from the RWQCB. Both CDFW and RWQCB jurisdiction typically extends to the TOB or the outer edge of riparian vegetation, whichever is further from the stream.

Potential impacts to riparian vegetation could occur through riparian vegetation removal or project-related encroachment into riparian habitat. To ensure that potential impacts to riparian vegetation are avoided, exclusion and/or silt fencing should be placed around all riparian vegetation that will be preserved and this fencing shall remain in place for the duration of construction. If removal of riparian vegetation is proposed, mitigation for impacts may be required from both the CDFW and RWQCB.

5.1.4 General Avoidance Measures

Below, general avoidance measures to reduce potential impacts to sensitive habitats and specific performance criteria for ESHAs are described:

- Site grading and trail development activities should be restricted between approximately May 1 and December 31. Site grading during these dryer months will reduce the possibility of soil erosion and sediments flowing into natural habitats.
- Install temporary silt fencing along the perimeter of ESHAs where land disturbing activities will occur to protect potential ESHAs.
- Soil disturbance in the 100-foot buffer zone around the wetland areas (see Section 5.1.1) should be minimized as much as possible. This will reduce the impact to existing soils and vegetation that will remain as natural habitat within the buffer zone and reduce the potential for soil erosion. Perimeter erosion and sediment control measures (i.e. silt fencing, straw wattles) should be installed within the buffer zone area as an extra precaution to reduce the possibility of sediments entering the adjacent potential ESHAs.
- Solid materials, including wood, masonry/rock, glass, paper, or other materials should not be stored or placed in the 100-foot wetland buffer zone to the extent practicable. Solid waste materials should be properly disposed of off-site. Fluid materials, including concrete, wash water, fuels, lubricants, or other fluid materials used during construction should not be disposed of on-site and should be stored or confined as necessary to prevent spillage into natural habitats. If a spill of such materials occurs, the area should be cleaned and contaminated materials disposed of properly. The affected area should be restored to its natural condition.

5.2 Special-Status Plant Species

Of the 45 special-status plant species known to occur in the vicinity of the Study Area, seven were determined to have a high to moderate potential to occur in the Study Area. Prior to any project construction work, protocol-level rare plant surveys are recommended during appropriate blooming periods for species determined to have potential to occur including: bent-flowered fiddleneck, western leatherwood, Marin checker lily, perennial goldfields, San Mateo tree lupine, Oregon polemonium, and Hickman's cinquefoil. If the presence of any special-status plant species is confirmed during surveys, buffers may be required to ensure plant individuals are not impacted from project work. If complete avoidance to special-status species is infeasible, mitigation may be required by the Corps, CDFW, the CCC, and the County.

Additionally, while not considered a Federal, State, or CNPS-ranked special-status plant species, California strawberry was observed scattered throughout Eucalyptus grove, northern coastal scrub, and potential seasonal wetlands in the Study Area. Policy 7.49 of the County LCP requires that any development within one-half mile of the coast mitigate against the destruction of California strawberry through:

- a) Prevent any development, trampling, or other destructive activity which would destroy the plant; or,
- b) After determining specifically if the plants involved are of particular value, successfully transplant them or have them successfully transplanted to some other suitable site. Determination of the importance of the plants can only be made by a professional doing work in strawberry breeding.

5.3 Special-Status Wildlife Species

Of the 58 special-status wildlife species documented in the vicinity, two are present and seven were determined to have potential to occur within the Study Area. Most of the species found in the review of background literature occur in habitats not found in the Study Area. General recommendations for species or groups of similar species are listed below.

5.3.1 San Francisco Dusky-footed Woodrat

Woodrat nests were observed in various forested habitats (e.g. riparian, willow and blue gum) throughout the Study Area. If project activities are to occur within such habitats, the measures below are recommended to minimize impacts to San Francisco dusky-footed woodrat.

- Prior to working in forested or scrub habitats, a pre-construction survey within the work area is recommended to identify any existing San Francisco dusky-footed woodrat nests to be impacted.
- Woodrat houses that cannot be avoided should be dismantled by hand under the supervision of a biologist. If young are encountered during the dismantling process, the material should be placed back on the house and the house would then remain unmolested for three weeks in order to give the young enough time to mature and leave the house. After that time, the nest dismantling process may begin again. Nest material should be scattered to suitable adjacent areas (riparian, woodland, scrub) that will not be impacted.

5.3.2 *Special-Status and Non-special-status Nesting Birds*

Special-status bird species with potential to nest within the Study Area include white-tailed kite, olive-sided flycatcher, and Allen's hummingbird. In addition, most common native bird species are also protected by the Migratory Bird Treaty Act (MBTA) during the nesting season. The following avoidance and minimization measures are recommended to be incorporated to any proposed project within the Study Area to avoid impacts to special-status bird species and birds protected under the MBTA.

- If project activities are conducted during the nesting season (February 15 – August 31), a pre-construction nesting bird survey should be performed no more than 14 days prior to initial ground disturbance to avoid impacting active nests, eggs, and/or young.
- If the survey identifies any active nest, an exclusion buffer should be established for protection of the nest and young. The qualified biologist should establish a buffer appropriate for the species and location of the nest if it is necessary. The buffer should be maintained until all young have fledged. Buffer distance varies based on species and conditions at the site, but typically range between 25 up to 500 feet.
- Impacts to nesting birds can be avoided if potential activities are initiated outside of the nesting season (September 1 – January 31). During this time period, no pre-construction bird surveys are recommended.

5.3.3 *CRLF and SFGS*

California red-legged frog and SFGS are both likely to inhabit upper Arroyo de en Medio within the Study Area. CRLF may also inhabit ponds and streams throughout the rest of the Study Area, but SFGS is unlikely in areas outside of Arroyo de en Medio because of the absence of preferred habitat components. Because of the suitability of some habitats within the Study Area to support both species, and considering measures for both species are similar, recommendations for CRLF and SFGS are discussed below.

- All ground disturbance activities should be restricted to the dry season (April 15 through October 15) or when suitable habitats have dried in order to reduce the potential for CRLF and SFGS to occur within non-ponded habitats of the Study Area.
- A qualified biologist should survey the work site immediately before the onset of vegetation clearing or ground disturbance activities to verify if species are present and all habitats are dry. If CRLF are found and do not move out of the work area on their own, the USFWS should be contacted to determine if relocation is appropriate. In making this determination, the USFWS will consider if an appropriate relocation site exists. If the USFWS approves moving animals, a USFWS-approved biologist will be allowed sufficient time to move them from the work site before work activities begin. Any SFGS shall be allowed to leave the work area on their own, and shall be monitored as practical by the biologist to ensure they do not reenter the work area.
- Prior to the start of ground-disturbing activities, all construction personnel should receive training on listed species and their habitats by a qualified biologist. The importance of these species and their habitat will be described to all employees as well as the minimization and avoidance measures that are to be implemented as part of the project. An educational brochure containing color photographs of all listed species in the work area will be distributed to all employees working within the Study Area. The original list of employees who attend the training sessions will be maintained by the contractor and be made available for review by the USFWS and the CDFW upon request.

- The contractor shall designate a person or employee to monitor on-site compliance with all minimization measures. The on-site monitor(s) will be on-site daily for the duration of work, including vegetation removal, grading, and clean-up activities.
- Any vehicles and equipment associated with work-activities should be parked or staged only within a designated staging area at the end of each workday or when not in use in order to minimize habitat disturbance or water quality degradation.
- If appropriate, wildlife exclusion fencing should be erected and maintained around the perimeter of the Limit of Work area, including the project construction staging areas and access routes, to prevent SFGS and CRLF from entering the site overnight. Any wetland areas within the Limit of Work area should also be protected by silt fencing.
- Vehicle access points may have a temporary silt fence gate, which is opened to allow construction vehicle access while the contractor's trained personnel is present. At night the seal on the temporary gate should be augmented by sandbags to prevent species from entering the area beneath the gate. Installation of fencing will be performed under the supervision of a USFWS-approved biologist.
- No work should occur within 48 hours of a rain event (over 0.25 inch in a 24-hour period). Following a rain event, a qualified biologist will resurvey the work area immediately before reinitiating ground disturbance activities to verify if species are present. If CRLF or SFGS are observed, then the steps previously described for the initial pre-construction survey shall be followed.
- Plastic monofilament netting (erosion control matting), rolled erosion control materials, or similar material shall not be used at the Study Area because CRLF, SFGS, and other species may become entangled or trapped in it. Any erosion control materials used should be made of tightly woven fiber netting or similar material to ensure that the CRLF and SFGS are not trapped. This limitation should be communicated to the contractor prior to the start of work.
- No trash shall be deposited on the site during construction activities. All trash shall be placed in trash receptacles with secure lids, stored in vehicles, and removed nightly from the Study Area.
- Refueling or maintenance of equipment should be conducted at least 50 feet from any wetlands, waters or designated ESHAs.
- CRLF and SFGS may take refuge in cavity-like or den-like structures such as pipes and may enter stored pipes and become trapped. Therefore, all construction pipes, culverts, or similar materials, which are stored at the site for one or more nights, will be either securely capped or thoroughly inspected by the on-site monitor and/or the construction foreman/manager before the pipe is used or moved in any way. It is also recommended these materials are stored within the staging areas either in developed areas or within wildlife exclusion fencing.
- The on-site monitor and/or construction foreman/manager shall ensure that all excavated steep-walled holes or trenches more than one foot deep are completely covered at the close of each working day by covering holes with plywood or similar materials, and covering the edges of those materials with dirt to prevent access by wildlife. Alternatively, holes may be augmented with one or more escape ramps constructed of earth fill or wooden planks. Any ramps installed should be approved by the on-site biologist. Before such holes or trenches are filled, they will be thoroughly inspected for trapped animals by the on-site biologist and/or construction foreman/manager.
- If at any time a trapped CRLF or SFGS is discovered by the on-site biologist or anyone else, work in the immediate area should cease as soon as it is safe to do so, and the animal

shall be allowed to passively leave the work area on its own. Steps outlined above shall be followed if the animal does not, or cannot leave the area on its own.

5.3.4 Monarch Butterfly

Monarch butterfly has potential to roost in the Eucalyptus groves throughout the Study Area during the winter. Foraging habitat is also present in the Study Area. WRA recommends the following measures be implemented to avoid impacts to monarch butterfly winter-roost sites.

- Project work should be scheduled to occur between September and October.
- If the Project will remove or trim trees during the winter roost season (October 1 through March 15), then a pre-construction survey for roosting monarch butterflies should be conducted within 7 days of tree removal or trimming activities.
- If monarch butterflies are detected roosting in trees to be removed or trimmed, then consultation with CDFW may be required to determine how and when to proceed with activities and if additional mitigation measures are required.
- If tree removal or trimming is conducted March 16 through September 31, then no pre-construction surveys for roosting monarch butterflies are necessary.

6.0 REFERENCES

- Alvarez, J. A. 2004. *Rana aurora draytonii* (California red-legged frog) Microhabitat. *Herpetological Review* 35:162-163.
- Baldwin, BG, DH Goldman, DJ Keil, R Patterson, TJ Rosatti, and DH Wilken (eds.). 2012. *The Jepson Manual: Vascular Plants of California*, second edition. University of California Press, Berkeley, CA.
- Becker, G.S. and I.J. Reining. 2008. Steelhead/rainbow trout (*Oncorhynchus mykiss*) resources south of the Golden Gate, California. Cartography by D.A. Asbury. Center for Ecosystem Management and Restoration. Oakland, CA.
- Black, S. H., and D. M. Vaughan. 2005a. Species Profile: *Icaricia icarioides missionensis*. In Shepherd, M. D., D. M. Vaughan, and S. H. Black (Eds). *Red List of Pollinator Insects of North America*. CD-ROM Version 1 (May 2005). Portland, OR: The Xerces Society for Invertebrate Conservation.
- Black, S. H., and D. M. Vaughan. 2005b. Species Profile: *Icaricia icarioides missionensis*. In Shepherd, M. D., D. M. Vaughan, and S. H. Black (Eds). *Red List of Pollinator Insects of North America*. CD-ROM Version 1 (May 2005). Portland, OR: The Xerces Society for Invertebrate Conservation.
- Bulger J. B., J. S. Norman, And R. B. Seymour. 2003. Terrestrial Activity and Conservation Of Adult California Red-Legged Frogs *Rana aurora draytonii* In Coastal Forests And Grasslands. *Biological Conservation*, 110:85.-95.

- [CCH] Consortium of California Herbaria. 2017. Data provided by the participants of the Consortium of California Herbaria. Available at: <http://ucjeps.berkeley.edu/consortium>. Accessed: May 2017.
- [CDFG] California Department of Fish and Game, Biogeographic Data Branch. 2010. List of California Terrestrial Natural Communities Recognized by The California Natural Diversity Database.
- [CDFG] California Department of Fish and Game, Environmental Services Division (ESD). 1994. A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607, California Fish and Game Code.
- [CDFW] California Department of Fish and Wildlife, Biogeographic Data Branch. 2017. California Natural Diversity Database (CNDDDB). Sacramento Field Office.
- [CNPS] California Native Plant Society. 2017a. Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society, Sacramento, California. Available online: <http://www.rareplants.cnps.org/>
- County of San Mateo. 2013. Local Coastal Program Policies. June 2013.
- County of San Mateo. 1998. Local Coastal Program. June 1998.
- Dunk, J. R. 1995. White-tailed Kite (*Elanus leucurus*). In The Birds of North America, No. 178 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, and the American Ornithologists' Union, Washington, D.C.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Department of the Army, Waterways Experiment Station, Vicksburg, Mississippi 39180-0631.
- Fellers, G.M. and P.M. Kleeman. 2007. California red-legged frog (*Rana draytonii*) movement and habitat use: Implications for conservation. *Journal of Herpetology* 41(2): 276-286.
- Gardali, T. and J. Evens. 2008. San Francisco Common Yellowthroat (*Geothlypis trichas sinuosa*). In: Shuford, W. D. and T. Gardali, eds. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. *Studies of Western Birds* 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.
- Google Earth. 2017. Aerial Imagery 2002-2017. Accessed March 2017.
- Holland, R. F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Prepared for the California Department of Fish and Game, Sacramento, California.
- Jepsen, S., D.F. Schweitzer, B. Young, N. Sears, M. Omes, and S. Hoffman Black. 2015. Conservation Status and Ecology of the Monarch Butterfly in the United States. Prepared for the U.S. Forest Service. Xerces Society for Invertebrate Conservation, Portland, OR.
- Leong, K.L.H., W.H. Sakai, W. Bremer, D. Feuerstein, and G. Yoshimura. 2004. Analysis of the pattern of distribution and abundance of monarch overwintering sites along the California coastline. Pages 177-185 in *The Monarch Butterfly: Biology and Conservation*, K.

- Oberhauser and M. Solensky (eds). Cornell University Press, Ithaca, NY.
- Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2014. The National Wetland Plant List: 2014 Update of Wetland Ratings. *Phytoneuron* 2014-41: 1-42.
- Matocq, M. Dusky-footed Woodrats (*Neotoma fuscipes*) at Hastings: A Research Tradition. Hastings Natural History Reserve <http://www.hastingsreserve.org/Woodrats>, 2003.
- Mitchell, D. E. 2000. Allen's Hummingbird (*Selasphorus sasin*). In: The birds of North America (A. Poole, and F. Gill, eds.), no. 501. The Birds of North America Inc., Philadelphia, PA.
- NRCS. Web Soil Survey: San Mateo County. Available online: <http://websoilsurvey.nrcs.usda.gov/>. Accessed September 2015.
- Opler, PA, K Lotts, and T Naberhaus, coordinators. 2011. Butterflies and Moths of North America. Bozeman, MT: Big Sky Institute. <<http://www.butterfliesandmoths.org/species/Danaus-plexippus>> Accessed August 21, 2011.
- Rathbun, G.B. and J. Schneider. 2001. Translocation of California red-legged frogs (*Rana aurora draytonii*). *Wildlife Society Bulletin* 29(4): 1300-1303.
- Sakai, W and W Calvert. 1991. Statewide Monarch Butterfly Management Plan for the State of California Department of Parks and Recreation Final Report. Life Sciences Department, Santa Monica College, 1900 Pico Blvd., Santa Monica, CA 90405.
- Sawyer, J. O. and T. Keeler-Wolf. 2009. A Manual of California Vegetation. California Native Plant Society, Sacramento, California.
- Shuford, WD, and T Gardali (eds). 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. *Studies of Western Birds* 1. Western Field Ornithologists, Camarillo, California, and CDFG, Sacramento.
- Stebbins, Robert C., and Samuel M. McGinnis. 2012. Field Guide to Amphibians and Reptiles of California: Revised Edition. University of California Press.
- Thomson, Robert C., Amber N. Wright, H. Bradley Shaffer. 2016. California Amphibian and Reptile Species of Special Concern. University of California Press. 408 pages.
- [USFWS] U.S. Fish and Wildlife Service. 1978. Endangered and Threatened Wildlife and Plants: Proposed Endangered or Threatened Status or Critical Habitat for 10 Butterflies or Moths. *Federal Register*, Vol. 43, No. 128. 28938-28945.
- [USFWS] U.S. Fish and Wildlife Service. 1986. Endangered and Threatened Wildlife and Plants; Findings on Pending Petitions and Description of Progress on Listing Actions. *Federal Register*, Vol. 51, No. 6. 996-999.
- [USFWS] U.S. Fish and Wildlife Service. 2006. San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*) 5-Year Review: Summary and Evaluation. Sacramento Fish and Wildlife Office. USFWS. 2015. Quadrangle Species Lists, Sacramento Fish and Wildlife Service.
- [USFWS] U.S. Fish and Wildlife Service. 2010a. Endangered and Threatened Wildlife and Plants:

Revised Designation of Critical Habitat for California Red-legged Frog; Final Rule. Federal Register, Vol. 75, No. 51. 12815-12959.

[USFWS] U.S. Fish and Wildlife Service. 2010b. San Bruno elfin butterfly (*Callophrys mossii bayensis*) and Mission blue butterfly (*Icaricia icarioides missionensis*) 5-year review: summary and evaluation, pp. 39. Sacramento Fish and Wildlife Field Office, U.S. Fish and Wildlife.

[USFWS] U.S. Fish and Wildlife Service. 2017a. IPaC - Information for Planning and Conservation Trust Resource Report. Sacramento Fish and Wildlife Office. Available online: <http://ecos.fws.gov/ipac/>. Most recently accessed March 2017.

[USFWS] U.S. Fish and Wildlife Service. 2017b. ECOS – Environmental Conservation Online System. U.S. FWS Threatened & Endangered Species Active Critical Habitat Report. Sacramento Fish and Wildlife Office. Available online <https://ecos.fws.gov/ecp/report/table/critical-habitat.html>. Most recently accessed March 2017.

[USFWS] U.S. Fish and Wildlife Service. 2017c. Myrtle's Silverspot Butterfly Species Information Available Online at: https://www.fws.gov/sacramento/es_species/Accounts/Invertebrates/es_myrtle-silverspot-butterfly.htm. Most recently accessed: March 2017.

[Corps] United States Army Corps of Engineers. 2008. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0), ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

Wayne L., and S. B. Weiss. 2009. Recovery Action Plan For The Mission Blue Butterfly (*Icaricia icarioides missionensis*) At Twin Peaks Natural Area.

[WBWG] Western Bat Working Group. 2017. Species accounts. Prepared by: Betsy C. Bolster. Available online at: <http://wbwg.org/western-bat-species/>

WRA. August 2015. Wetland Delineation Report, Midcoast Multimodal Trail Project. Prepared for San Mateo County.

Zeiner, D. C., W. F. Laudenslayer, Jr., K. E. Mayer, and M. White. 1990. California's Wildlife, Volume I-III: Amphibians and Reptiles, Birds, Mammals. California Statewide Wildlife Habitat Relationships System, California Department of Fish and Game, Sacramento.

APPENDIX A

LIST OF OBSERVED PLANT AND ANIMAL SPECIES

Appendix A-1. Plant Species Observed within the Project Area.

Scientific Name	Common Name	Origin	Form	CAL-IPC Status
<i>Acacia dealbata</i>	Silver wattle	non-native (invasive)	tree, shrub	Moderate
<i>Acacia melanoxylon</i>	Blackwood acacia	non-native (invasive)	tree	Limited
<i>Achillea millefolium</i>	Yarrow	native	perennial herb	-
<i>Allium triquetrum</i>	White flowered onion	non-native (invasive)	perennial herb (bulb)	-
<i>Alnus rubra</i>	Red alder	native	tree, shrub	-
<i>Anthoxanthum odoratum</i>	Sweet vernal grass	non-native (invasive)	annual, perennial grass	Moderate
<i>Artemisia californica</i>	Coastal sage brush	native	shrub	-
<i>Artemisia douglasiana</i>	California mugwort	native	perennial herb	-
<i>Athyrium filix-femina var. cyclosorum</i>	Western lady fern	native	fern	-
<i>Avena barbata</i>	Slim oat	non-native (invasive)	annual, perennial grass	Moderate
<i>Baccharis pilularis ssp. consanguinea</i>	Coyote brush	native	shrub	-
<i>Briza maxima</i>	Rattlesnake grass	non-native (invasive)	annual grass	Limited
<i>Bromus carinatus var. marginatus</i>	Mountain brome	native	perennial grass	-
<i>Bromus diandrus</i>	Ripgut brome	non-native (invasive)	annual grass	Moderate
<i>Cardamine californica</i>	Bitter cress	native	perennial herb	-
<i>Cardamine oligosperma</i>	Idaho bittercress	native	annual, perennial herb	-
<i>Carduus pycnocephalus ssp. pycnocephalus</i>	Italian thistle	non-native (invasive)	annual herb	Moderate
<i>Carex harfordii</i>	Monterey sedge	native	perennial grasslike herb	-
<i>Carex praegracilis</i>	Field sedge	native	perennial grasslike herb	-
<i>Ceanothus foliosus var. foliosus</i>	Wavy leaved ceanothus	native	shrub	-
<i>Ceanothus thyrsiflorus var. thyrsiflorus</i>	Blue blossom	native	tree, shrub	-
<i>Cerastium fontanum ssp. vulgare</i>	Common chickweed	non-native	perennial herb	-
<i>Chasmanthe floribunda</i>	Chasmanthe	non-native	perennial herb	-
<i>Chlorogalum pomeridianum var. pomeridianum</i>	Common soaproot	native	perennial herb	-

Scientific Name	Common Name	Origin	Form	CAL-IPC Status
<i>Cirsium vulgare</i>	Bullthistle	non-native (invasive)	perennial herb	Moderate
<i>Claytonia perfoliata ssp. perfoliata</i>	Claytonia	native	annual herb	-
<i>Clinopodium douglasii</i>	Yerba buena	native	perennial herb	-
<i>Conium maculatum</i>	Poison hemlock	non-native (invasive)	perennial herb	Moderate
<i>Cornus sericea ssp. sericea</i>	Red osier dogwood	native	shrub	-
<i>Cortaderia selloana</i>	Pampas grass	non-native (invasive)	perennial grass	High
<i>Cotoneaster pannosus</i>	Woolly cotoneaster	non-native (invasive)	shrub	Moderate
<i>Crassula ovata</i>	Jade plant	non-native	annual herb	-
<i>Crassula tillaea</i>	Mediterranean pygmy weed	non-native	annual herb	-
<i>Crocsmia xrocosmiiflora</i>	-	-	-	-
<i>Cynosurus cristatus</i>	Crested dogtail grass	non-native	perennial grass	-
<i>Cyperus eragrostis</i>	Tall cyperus	native	perennial grasslike herb	-
<i>Delairea odorata</i>	Cape ivy	non-native (invasive)	perennial herb	High
<i>Echium candicans</i>	Pride of madeira	non-native (invasive)	shrub	Limited
<i>Ehrharta erecta</i>	Upright veldt grass	non-native (invasive)	perennial grass	Moderate
<i>Epilobium brachycarpum</i>	Willow herb	native	annual herb	-
<i>Erigeron canadensis</i>	Canada horseweed	native	annual herb	-
<i>Eriophyllum staechadifolium</i>	Lizard tail	native	perennial herb	-
<i>Erodium cicutarium</i>	Coastal heron's bill	non-native (invasive)	annual herb	Limited
<i>Eschscholzia californica</i>	California poppy	native	annual, perennial herb	-
<i>Eucalyptus globulus</i>	Blue gum	non-native (invasive)	tree	Limited
<i>Euphorbia lathyris</i>	Gopher plant	non-native (invasive)	annual, perennial herb	-
<i>Euphorbia peplus</i>	Petty spurge	non-native	annual herb	-
<i>Festuca arundinacea</i>	Reed fescue	non-native (invasive)	perennial grass	Moderate
<i>Festuca myuros</i>	Rattail sixweeks grass	non-native (invasive)	annual grass	-
<i>Festuca perennis</i>	Italian rye grass	non-native	annual, perennial grass	-

Scientific Name	Common Name	Origin	Form	CAL-IPC Status
<i>Foeniculum vulgare</i>	Fennel	non-native (invasive)	perennial herb	High
<i>Fragaria vesca</i>	Wild strawberry	native	perennial herb	-
<i>Frangula californica ssp. californica</i>	California coffeeberry	native	shrub	-
<i>Fumaria parviflora</i>	Fine leaved fumitory	non-native	annual herb	-
<i>Galium aparine</i>	Cleavers	native	annual herb	-
<i>Gamochaeta ustulata</i>	Featherweed	native	perennial herb	-
<i>Genista monspessulana</i>	French broom	non-native (invasive)	shrub	High
<i>Geranium dissectum</i>	Wild geranium	non-native (invasive)	annual herb	Limited
<i>Geranium molle</i>	Crane's bill geranium	non-native (invasive)	annual, perennial herb	-
<i>Hedera helix</i>	English ivy	non-native (invasive)	vine, shrub	-
<i>Helminthotheca echioides</i>	Bristly ox-tongue	non-native (invasive)	annual, perennial herb	Limited
<i>Heracleum maximum</i>	Common cowparsnip	native	perennial herb	-
<i>Hesperocyparis macrocarpa</i>	Monterey cypress	native	tree	-
<i>Hirschfeldia incana</i>	Mustard	non-native (invasive)	perennial herb	Moderate
<i>Holcus lanatus</i>	Common velvetgrass	non-native (invasive)	perennial grass	Moderate
<i>Holodiscus discolor var. discolor</i>	Oceanspray	native	shrub	-
<i>Hordeum murinum ssp. leporinum</i>	Farmer's foxtail	non-native (invasive)	annual grass	Moderate
<i>Hypochaeris radicata</i>	Hairy cats ear	non-native (invasive)	perennial herb	Moderate
<i>Juncus bufonius var. bufonius</i>	Toad rush	native	annual grasslike herb	-
<i>Juncus patens</i>	Rush	native	perennial grasslike herb	-
<i>Juncus phaeocephalus var. phaeocephalus</i>	Brown headed rush	native	perennial grasslike herb	-
<i>Lactuca serriola</i>	Prickly lettuce	non-native (invasive)	annual herb	-
<i>Lathyrus vestitus var. vestitus</i>	Hillside pea	native	perennial herb	-
<i>Leucanthemum maximum</i>	Shasta daisy	non-native	annual, perennial herb	-
<i>Linum bienne</i>	Flax	non-native	annual herb	-
<i>Lobularia maritima</i>	Sweet alyssum	non-native (invasive)	perennial herb	Limited

Scientific Name	Common Name	Origin	Form	CAL-IPC Status
<i>Lonicera involucrata</i> var. <i>ledebourii</i>	Coast twinberry	native	shrub	-
<i>Lotus corniculatus</i>	Bird's foot trefoil	non-native (invasive)	perennial herb	-
<i>Lupinus</i> sp.	-	-	-	-
<i>Luzula subsessilis</i>	Pacific woodrush	native	perennial grasslike herb	-
<i>Lysimachia arvensis</i>	Scarlet pimpernel	non-native	annual herb	-
<i>Lythrum hyssopifolia</i>	Hyssop loosestrife	non-native	annual, perennial herb	-
<i>Malva nicaeensis</i>	Bull mallow	non-native	annual herb	-
<i>Malva sylvestris</i>	High mallow	non-native	perennial herb	-
<i>Marah fabacea</i>	California man-root	native	perennial herb, vine	-
<i>Matricaria chamomilla</i>	German chamomile	non-native	annual herb	-
<i>Medicago polymorpha</i>	California burclover	non-native (invasive)	annual herb	Limited
<i>Melilotus albus</i>	White sweetclover	non-native (invasive)	annual, biennial herb	-
<i>Mimulus aurantiacus</i> var. <i>aurantiacus</i>	Sticky monkeyflower	native	shrub	-
<i>Morella californica</i>	California wax myrtle	native	shrub	-
<i>Myoporum laetum</i>	Ngaio tree	non-native (invasive)	tree, shrub	Moderate
<i>Oemleria cerasiformis</i>	Oso berry	native	shrub	-
<i>Oxalis pes-caprae</i>	Bermuda buttercup	non-native (invasive)	perennial herb	Moderate
<i>Parentucellia viscosa</i>	Yellow parentucellia	non-native (invasive)	annual herb	Limited
<i>Persicaria hydropiperoides</i>	Water pepper	native	perennial herb	-
<i>Phacelia californica</i>	Rock phacelia	native	perennial herb	-
<i>Phalaris aquatica</i>	Harding grass	non-native (invasive)	perennial grass	Moderate
<i>Pinus contorta</i> ssp. <i>contorta</i>	Shore pine	native	tree	-
<i>Pinus radiata</i>	Monterey pine	native	tree	-
<i>Plantago coronopus</i>	Cut leaf plantain	non-native (invasive)	annual herb	-
<i>Plantago lanceolata</i>	Ribwort	non-native (invasive)	perennial herb	Limited
<i>Poa annua</i>	Annual blue grass	non-native	annual grass	-
<i>Polystichum munitum</i>	Western sword fern	native	fern	-

Scientific Name	Common Name	Origin	Form	CAL-IPC Status
<i>Prosartes smithii</i>	Largeflower fairybells	native	perennial herb	-
<i>Prunella vulgaris var. lanceolata</i>	Mountain selfheal	native	perennial herb	-
<i>Pseudotsuga menziesii var. menziesii</i>	Douglas fir	native	tree	-
<i>Pteridium aquilinum var. pubescens</i>	Western bracken fern	native	fern	-
<i>Pyracantha angustifolia</i>	Firethorn	non-native (invasive)	shrub	-
<i>Raphanus sativus</i>	Jointed charlock	non-native (invasive)	annual, biennial herb	Limited
<i>Ribes menziesii var. menziesii</i>	Canyon gooseberry	native	shrub	-
<i>Ribes sanguineum var. sanguineum</i>	Red flowering currant	native	shrub	-
<i>Rubus armeniacus</i>	Himalayan blackberry	non-native (invasive)	shrub	High
<i>Rubus parviflorus</i>	Thimbleberry	native	vine, shrub	-
<i>Rubus ursinus</i>	California blackberry	native	vine, shrub	-
<i>Rumex acetosella</i>	Sheep sorrel	non-native (invasive)	perennial herb	Moderate
<i>Rumex crassus</i>	Willow leaved dock	native	perennial herb	-
<i>Salix laevigata</i>	Polished willow	native	tree	-
<i>Salix lasiolepis</i>	Arroyo willow	native	tree, shrub	-
<i>Sambucus racemosa var. racemosa</i>	Red elderberry	native	shrub	-
<i>Sanicula crassicaulis</i>	Pacific sanicle	native	perennial herb	-
<i>Scirpus microcarpus</i>	Mountain bog bulrush	native	perennial grasslike herb	-
<i>Scrophularia californica</i>	California bee plant	native	perennial herb	-
<i>Senecio minimus</i>	Coastal burnweed	non-native (invasive)	annual, perennial herb	-
<i>Senecio vulgaris</i>	Common groundsel	non-native	annual herb	-
<i>Sequoia sempervirens</i>	Coast redwood	native	tree	-
<i>Sidalcea malviflora ssp. malviflora</i>	Checker mallow	native	perennial herb (rhizomatous)	-
<i>Silene gallica</i>	Common catchfly	non-native	annual herb	-
<i>Silybum marianum</i>	Milk thistle	non-native (invasive)	annual, perennial herb	Limited
<i>Sisyrinchium bellum</i>	Blue eyed grass	native	perennial herb	-

Scientific Name	Common Name	Origin	Form	CAL-IPC Status
<i>Solanum furcatum</i>	Forked nightshade	non-native	perennial herb, shrub	-
<i>Solanum parishii</i>	Parish's purple nightshade	native	shrub	-
<i>Stachys rigida var. quercetorum</i>	Rough hedgenettle	native	perennial herb	-
<i>Symphoricarpos albus var. laevigatus</i>	Snowberry	native	shrub	-
<i>Symphyotrichum chilense</i>	Pacific aster	native	perennial herb	-
<i>Taraxacum officinale</i>	Red seeded dandelion	non-native (invasive)	perennial herb	-
<i>Thalictrum fendleri var. polycarpum</i>	Torrey's meadow rue	native	perennial herb	-
<i>Torilis arvensis</i>	Field hedge parsley	non-native (invasive)	annual herb	Moderate
<i>Toxicodendron diversilobum</i>	Poison oak	native	vine, shrub	-
<i>Toxicoscordion fremontii</i>	Fremont's star lily	native	perennial herb	-
<i>Trifolium angustifolium</i>	Narrow leaved clover	non-native	annual herb	-
<i>Trifolium hirtum</i>	Rose clover	non-native (invasive)	annual herb	Limited
<i>Trifolium repens</i>	White clover	non-native	perennial herb	-
<i>Trifolium subterraneum</i>	Subterranean clover	non-native	annual herb	-
<i>Trillium albidum</i>	Giant white wakerobin	native	perennial herb	-
<i>Tropaeolum majus</i>	Garden nasturtium	non-native (invasive)	annual herb, vine	-
<i>Urtica dioica</i>	Stinging nettle	native	perennial herb	-
<i>Vicia americana ssp. americana</i>	American vetch	native	perennial herb, vine	-
<i>Vicia sativa ssp. nigra</i>	Smaller common vetch	non-native	annual herb, vine	-
<i>Vinca major</i>	Vinca	non-native (invasive)	perennial herb	Moderate
<i>Zantedeschia aethiopica</i>	Callalily	non-native (invasive)	perennial herb	Limited

Appendix A-2. Wildlife Species Observed in the Study Area.

Scientific Name	Common Name
Mammals	
<i>Odocoileus hemionus columbianus</i>	blacktailed deer
<i>Neotoma fuscipes annectens</i>	San Francisco dusky-footed woodrat
<i>Canis latrans</i>	coyote
Amphibians	
<i>Taricha torosa</i>	California newt
<i>Rana draytonii</i>	California red-legged frog
Birds	
<i>Fulica americana</i>	American coot
<i>Corvus brachyrhynchos</i>	American crow
<i>Calypte anna</i>	Anna's hummingbird
<i>Bucephala albeola</i>	bufflehead
<i>Aphelocoma californica</i>	California scrub jay
<i>Branta canadensis</i>	Canada goose
<i>Poecile rufescens</i>	chestnut-backed chickadee
<i>Junco hyemalis</i>	dark-eyed junco
<i>Spinus psaltria</i>	lesser goldfinch
<i>Anas platyrhynchos</i>	mallard
<i>Melospiza melodia</i>	song sparrow
<i>Cyanocitta stelleri</i>	Steller's jay
<i>Chamaea fasciata</i>	wrentit

APPENDIX B

**POTENTIAL FOR SPECIAL-STATUS PLANT AND WILDLIFE SPECIES TO OCCUR IN
THE STUDY AREA**

Appendix B. Potential for special-status plant and wildlife species to occur in the Study Area. List compiled from the California Natural Diversity Database (CDFW 2017), U.S. Fish and Wildlife Service Species Lists (2017), and California Native Plant Society Rare and Endangered Plant Inventory (CNPS 2017a) database searches for the San Mateo and Half Moon Bay USGS 7.5-minute quadrangles.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Plants				
Blasdale's bent grass <i>Agrostis blasdalei</i>	Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal prairie. Elevation ranges from 20 to 490 feet (5 to 150 meters). Blooms May-Jul.	Unlikely. While northern coastal scrub within the Study Area has some grassy areas, no rocky areas with sparse vegetation exist that could support this species.	No further actions are recommended for this species.
Franciscan onion <i>Allium peninsulare</i> var. <i>franciscanum</i>	Rank 1B.2	Cismontane woodland, valley and foothill grassland/clay, volcanic, often serpentine. Elevation ranges from 170 to 980 feet (52 to 300 meters). Blooms (Apr), May-Jun.	No Potential. The Study Area does not contain clay, volcanic, or serpentine substrates.	No further actions are recommended for this species.
bent-flowered fiddleneck <i>Amsinckia lunaris</i>	Rank 1B.2	Coastal bluff scrub, cismontane woodland, valley and foothill grassland. Elevation ranges from 10 to 1640 feet (3 to 500 meters). Blooms Mar-Jun.	Moderate Potential. While northern coastal scrub within the Study Area has some grassy areas, no rocky areas with sparse vegetation exist that could support this species.	Seasonally appropriate surveys are recommended for this species.
coast rockcress <i>Arabis blepharophylla</i>	Rank 4.3	Broad-leafed upland forest, coastal bluff scrub, coastal prairie, coastal scrub/rocky. Elevation ranges from 10 to 3610 feet (3 to 1100 meters). Blooms Feb-May.	Unlikely. Rocky substrate is not present within the Study Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Montara manzanita <i>Arctostaphylos montaraensis</i>	Rank 1B.2	Chaparral (maritime), coastal scrub. Elevation ranges from 260 to 1640 feet (80 to 500 meters). Blooms Jan-Mar.	Unlikely. Although the Study Area contains northern coastal scrub, this species typically occurs on granite and sandstone outcrops (Jepson Flora Project 2017), which are not present in Study Area. No <i>Arctostaphylos</i> species were observed in the Study Area.	No further actions are recommended for this species.
Kings Mountain manzanita <i>Arctostaphylos regismontana</i>	Rank 1B.2	Broad-leaved upland forest, chaparral, north coast coniferous forest/granitic or sandstone. Elevation ranges from 1000 to 2400 feet (305 to 730 meters). Blooms Jan-Apr.	Unlikely. This species is known to occur on granitic or sandstone outcrops (CDFW 2017), which are not present in the Study Area. No <i>Arctostaphylos</i> species were observed in the Study Area.	No further actions are recommended for this species.
ocean bluff milk-vetch <i>Astragalus nuttallii</i> var. <i>nuttallii</i>	Rank 4.2	Coastal bluff scrub, coastal dunes. Elevation ranges from 10 to 390 feet (3 to 120 meters). Blooms Jan-Nov.	Unlikely. While the Study Area contains coastal bluff scrub, the habitat is disturbed and likely does not represent typical habitat for the species. Additionally, the Study Area does not contain coastal dunes.	No further actions are recommended for this species.
coastal marsh milk-vetch <i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>	Rank 1B.2	Coastal dunes (mesic), coastal scrub, marshes and swamps (coastal salt, streamsides). Elevation ranges from 0 to 100 feet (0 to 30 meters). Blooms Apr-Oct.	Unlikely. The Study Area does not contain coastal dunes or salt marshes.	No further actions are recommended for this species.
johnny-nip <i>Castilleja ambigua</i> var. <i>ambigua</i>	Rank 4.2	Coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, valley and foothill grassland, vernal pools margins. Elevation ranges from 0 to 1430 feet (0 to 435 meters). Blooms Mar-Aug.	Unlikely. While the Study Area contains coastal bluff scrub and coastal prairie, the habitat is disturbed and likely does not represent typical habitat for the species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
pappose tarplant <i>Centromadia parryi ssp. parryi</i>	Rank 1B.2	Chaparral, coastal prairie, meadows and seeps, marshes and swamps (coastal salt), valley and foothill grassland (vernally mesic)/often alkaline. Elevation ranges from 0 to 1380 feet (0 to 420 meters). Blooms May-Nov.	Unlikely. The Study Area does not contain chaparral, coastal prairie, meadows, and seeps with sufficient inundation dominated by perennial graminoids, marsh and swamp, or alkaline habitats.	No further actions are recommended for this species.
San Francisco Bay spineflower <i>Chorizanthe cuspidata var. cuspidata</i>	Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal prairie, coastal scrub/sandy. Elevation ranges from 10 to 710 feet (3 to 215 meters). Blooms Apr-Jul (Aug).	Unlikely. The Study Area does not contain highly sandy substrates, such as dunes.	No further actions are recommended for this species.
Franciscan thistle <i>Cirsium andrewsii</i>	Rank 1B.2	Broad-leafed upland forest, coastal bluff scrub, coastal prairie, coastal scrub/mesic, sometimes serpentine. Elevation ranges from 0 to 490 feet (0 to 150 meters). Blooms Mar-Jul.	Unlikely. The Study Area does not contain serpentine substrates suitable to support this species.	No further actions are recommended for this species.
San Francisco collinsia <i>Collinsia multicolor</i>	Rank 1B.2	Closed-cone coniferous forest, coastal scrub/sometimes serpentine. Elevation ranges from 100 to 820 feet (30 to 250 meters). Blooms (Feb), Mar-May.	Unlikely. This species is known from serpentine or decomposed shale mixed with humus substrates (CDFW 2017), which are not present in the Study Area.	No further actions are recommended for this species.
clustered lady's-slipper <i>Cypripedium fasciculatum</i>	Rank 4.2	Lower montane coniferous forest, north coast coniferous forest/usually serpentine seeps and streambanks. Elevation ranges from 330 to 7990 feet (100 to 2435 meters). Blooms Mar-Aug.	Unlikely. The Study Area does not contain serpentine seeps or moist streambanks in coniferous forest.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
western leatherwood <i>Dirca occidentalis</i>	Rank 1B.2	Broad-leafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, north coast coniferous forest, riparian forest, riparian woodland/mesic. Elevation ranges from 80 to 1390 feet (25 to 425 meters). Blooms Jan-Mar (Apr).	Moderate Potential. The Study Area contains potentially suitable riparian and northern coastal scrub habitats. Additionally, a known occurrence is within 3-miles of the Study Area.	Seasonally appropriate surveys are recommended for this species.
California bottle-brush grass <i>Elymus californicus</i>	Rank 4.3	Broad-leafed upland forest, cismontane woodland, north coast coniferous forest, riparian woodland. Elevation ranges from 50 to 1540 feet (15 to 470 meters). Blooms May-Aug (Nov).	Unlikely. The Study Area does not contain woodland, coniferous forest and is not underlain with sandy humic soil with known associated species.	No further actions are recommended for this species.
San Mateo woolly sunflower <i>Eriophyllum latilobum</i>	FE, SE, Rank 1B.1	Cismontane woodland (often serpentine, on road cuts). Elevation ranges from 150 to 490 feet (45 to 150 meters). Blooms May-Jun.	Unlikely. The Study Area does not contain woodland habitat or road cuts on serpentine.	No further actions are recommended for this species.
San Francisco wallflower <i>Erysimum franciscanum</i>	Rank 4.2	Chaparral, coastal dunes, coastal scrub, valley and foothill grassland/often serpentine or granitic, sometimes roadsides. Elevation ranges from 0 to 1800 feet (0 to 550 meters). Blooms Mar-Jun.	Unlikely. Although the Study Area contains northern coastal scrub and open, grassy areas, this species typically occurs in rocky, thin soils, loose sand, or serpentine substrate, none of which are present in the Study Area.	No further actions are recommended for this species.
Hillsborough chocolate lily <i>Fritillaria biflora var. ineziana</i>	Rank 1B.1	Cismontane woodland, valley and foothill grassland/serpentine. Elevation ranges from 490 to 490 feet (150 to 150 meters). Blooms Mar-Apr.	No Potential. The Study Area does not contain serpentine substrate.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Marin checker lily <i>Fritillaria lanceolata</i> var. <i>tristulis</i>	Rank 1B.1	Coastal bluff scrub, coastal prairie, coastal scrub. Elevation ranges from 50 to 490 feet (15 to 150 meters). Blooms Feb-May.	Moderate Potential. The Study Area contains potentially suitable open, grassy areas in the northern coastal scrub community.	Seasonally appropriate surveys are recommended for this species.
fragrant fritillary <i>Fritillaria liliacéa</i>	Rank 1B.2	Cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland/often serpentine. Elevation ranges from 10 to 1350 feet (3 to 410 meters). Blooms Feb-Apr.	Unlikely. Although the Study Area contains open, scrubby areas, this species typically occurs on serpentine and/or heavy clay soils, which are not present in the Study Area.	No further actions are recommended for this species.
San Francisco gumplant <i>Grindelia hirsutula</i> var. <i>maritima</i>	Rank 3.2	Coastal bluff scrub, coastal scrub, valley and foothill grassland/sandy or serpentine. Elevation ranges from 50 to 1310 feet (15 to 400 meters). Blooms Jun-Sep.	Unlikely. The Study Area does not contain serpentine or highly sandy substrates, such as dunes.	No further actions are recommended for this species.
short-leaved evax <i>Hesperevax sparsiflora</i> var. <i>brevifolia</i>	Rank 1B.2	Coastal bluff scrub (sandy), coastal dunes, coastal prairie. Elevation ranges from 0 to 710 feet (0 to 215 meters). Blooms Mar-Jun.	Unlikely. While the Study Area contains coastal prairie and scrub, this species typically occurs on sandy soils, which are not present in the Study Area.	No further actions are recommended for this species.
Kellogg's horkelia <i>Horkelia cuneata</i> var. <i>sericea</i>	Rank 1B.1	Closed-cone coniferous forest, chaparral (maritime), coastal dunes, coastal scrub/sandy or gravelly, openings. Elevation ranges from 30 to 660 feet (10 to 200 meters). Blooms Apr-Sep.	Unlikely. While the Study Area contains coastal prairie and scrub, this species typically occurs on sandy soils, which are not present in the Study Area.	No further actions are recommended for this species.
Point Reyes horkelia <i>Horkelia marinensis</i>	Rank 1B.2	Coastal dunes, coastal prairie, coastal scrub/sandy. Elevation ranges from 20 to 2480 feet (5 to 755 meters). Blooms May-Sep.	Unlikely. While the Study Area contains coastal prairie and scrub, this species typically occurs on sandy soils, which are not present in the Study Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
coast iris <i>Iris longipetala</i>	Rank 4.2	Coastal prairie, lower montane coniferous forest, meadows and seeps/mesic. Elevation ranges from 0 to 1970 feet (0 to 600 meters). Blooms Mar-May.	Unlikely. While the Study Area contains coastal prairie, this species typically occurs on heavy soils which is absent in the Study Area.	No further actions are recommended for this species.
perennial goldfields <i>Lasthenia californica ssp. macrantha</i>	Rank 1B.2	Coastal bluff scrub, coastal dunes, coastal scrub. Elevation ranges from 20 to 1710 feet (5 to 520 meters). Blooms Jan-Nov.	Moderate Potential. The Study Area contains potentially suitable open, grassy areas in the northern coastal scrub community. Additionally, there are several occurrences within 5 miles of the Study Area.	Seasonally appropriate surveys are recommended for this species.
coast yellow leptosiphon <i>Leptosiphon croceus</i>	SC, Rank 1B.1	Coastal bluff scrub, coastal prairie. Elevation ranges from 30 to 490 feet (10 to 150 meters). Blooms Apr-May.	Unlikely. While the Study Area contains bluff scrub and coastal prairie, the Study Area is disturbed and lacks any known associated species.	No further actions are recommended for this species.
rose leptosiphon <i>Leptosiphon rosaceus</i>	Rank 1B.1	Coastal bluff scrub. Elevation ranges from 0 to 330 feet (0 to 100 meters). Blooms Apr-Jul.	Unlikely. While the Study Area contains bluff scrub and coastal prairie, the Study Area is disturbed and lacks any known associated species.	No further actions are recommended for this species.
Crystal Springs lessingia <i>Lessingia arachnoidea</i>	Rank 1B.2	Cismontane woodland, coastal scrub, valley, and foothill grassland/serpentine, often roadsides. Elevation ranges from 200 to 660 feet (60 to 200 meters). Blooms Jul-Oct.	No Potential. The Study Area does not contain serpentine substrate.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
woolly-headed lessingia <i>Lessingia hololeuca</i>	Rank 3	Broad-leafed upland forest, coastal scrub, lower montane coniferous forest, valley and foothill grassland/clay, serpentine. Elevation ranges from 50 to 1000 feet (15 to 305 meters). Blooms Jun-Oct.	No Potential. The Study Area does not contain serpentine or clay substrate.	No further actions are recommended for this species.
Ornduff's meadowfoam <i>Limnanthes douglasii ssp. ornduffii</i>	Rank 1B.1	Meadows and seeps/agricultural fields. Elevation ranges from 30 to 70 feet (10 to 20 meters). Blooms Nov-May.	Unlikely. This highly restricted species is known only from current and former agricultural fields on the coastal terrace in El Granada. Although the Study Area has disturbed, seasonally wet areas, the historical and modern land management practices are substantially different from those used in agricultural fields.	No further actions are recommended for this species.
San Mateo tree lupine <i>Lupinus arboreus var. eximius</i>	Rank 3.2	Chaparral, coastal scrub. Elevation ranges from 300 to 1800 feet (90 to 550 meters). Blooms Apr-Jul.	High Potential. Scattered vegetative shrub lupines were observed along the perimeter of the northern coastal scrub. None of the shrubby lupines were blooming, and as a result, they could not be identified to species. San Mateo tree lupine has been observed nearby (pers. comm.) in similar habitat to what is present in the Study Area.	Seasonally appropriate surveys are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Indian Valley bush-mallow <i>Malacothamnus aboriginum</i>	Rank 1B.2	Chaparral, cismontane woodland/rocky, granitic, often in burned areas. Elevation ranges from 490 to 5580 feet (150 to 1700 meters). Blooms Apr-Oct.	No Potential. The Study Area does not contain rocky substrate or sandy bare soil (CDFW 2017).	No further actions are recommended for this species.
arcuate bush-mallow <i>Malacothamnus arcuatus</i>	Rank 1B.2	Chaparral, cismontane woodland. Elevation ranges from 50 to 1160 feet (15 to 355 meters). Blooms Apr-Sep.	No Potential. The Study Area does not contain chaparral or cismontane woodland habitats with gravelly alluvium substrate (CDFW 2017).	No further actions are recommended for this species.
Davidson's bush-mallow <i>Malacothamnus davidsonii</i>	Rank 1B.2	Chaparral, cismontane woodland, coastal scrub, riparian woodland. Elevation ranges from 610 to 2810 feet (185 to 855 meters). Blooms Jun-Jan.	Unlikely. The Study Area does not contain sandy washes within chaparral, cismontane woodland, or riparian woodland habitats. Although the Study Area contains northern coastal scrub habitat, this species occurs in sandy washes (CDFW 2017), which are not present in the Study Area.	No further actions are recommended for this species.
Hall's bush-mallow <i>Malacothamnus hallii</i>	Rank 1B.2	Chaparral, coastal scrub. Elevation ranges from 30 to 2490 feet (10 to 760 meters). Blooms May-Sep (Oct).	Unlikely. This species typically occurs in open chaparral habitat, often on serpentine substrate, and this habitat and substrate are not present in the Study Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
woodland woollythreads <i>Monolopia gracilens</i>	Rank 1B.2	Broad-leafed upland forest (openings), chaparral (openings), cismontane woodland, north coast coniferous forest (openings), valley and foothill grassland/serpentine. Elevation ranges from 330 to 3940 feet (100 to 1200 meters). Blooms (Feb), Mar-Jul.	Unlikely. This species typically occurs on serpentine substrate and/or in chaparral habitat. There is a documented occurrence approximately 3 miles northeast of the Study Area (CDFW 2017), but the occurrence consists of two historical observations (from 1893 and 1946) with very limited location and habitat information. Mapped soils in the vicinity of that occurrence are primarily serpentine or acidic soils derived from sedimentary sources, and such substrate is not present in the Study Area.	No further actions are recommended for this species.
white-rayed pentachaeta <i>Pentachaeta bellidiflora</i>	FE, SE, Rank 1B.1	Cismontane woodland, valley and foothill grassland (often serpentine). Elevation ranges from 110 to 2030 feet (35 to 620 meters). Blooms Mar-May.	Unlikely. The Study Area does not contain cismontane woodland or grassland underlain by soils derived from serpentine bedrock.	No further actions are recommended for this species.
Choris' popcornflower <i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i>	Rank 1B.2	Chaparral, coastal prairie, coastal scrub/mesic. Elevation ranges from 50 to 520 feet (15 to 160 meters). Blooms Mar-Jun.	Unlikely. The northern coastal scrub habitat in the Study Area is likely too dry to support this species, which prefers mesic conditions. Although this species is somewhat disturbance tolerant and can occur in seasonal wetlands, it typically occurs on acidic to moderately acid substrates derived from sandstone or shale, and the soil in the Study Area has neutral acidity and is derived from quartz diorite parent material (CSRL 2017).	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Oregon polemonium <i>Polemonium carneum</i>	Rank 2B.2	Coastal prairie, coastal scrub, lower montane coniferous forest. Elevation ranges from 0 to 6000 feet (0 to 1830 meters). Blooms Apr-Sep.	Moderate Potential. The Study Area contains potentially suitable open areas, particularly in the northern coastal scrub areas.	Seasonally appropriate surveys are recommended for this species.
Hickman's cinquefoil <i>Potentilla hickmanii</i>	FE, SE, Rank 1B.1	Coastal bluff scrub, closed-cone coniferous forest, meadows and seeps (vernally mesic), marshes and swamps (freshwater). Elevation ranges from 30 to 490 feet (10 to 149 meters). Blooms Apr-Aug.	Moderate Potential. The Study Area contains potentially suitable open areas, particularly in the northern coastal scrub areas.	Seasonally appropriate surveys are recommended for this species.
San Francisco campion <i>Silene verecunda ssp. verecunda</i>	Rank 1B.2	Coastal bluff scrub, chaparral, coastal prairie, coastal scrub, valley and foothill grassland/sandy. Elevation ranges from 100 to 2120 feet (30 to 645 meters). Blooms (Feb), Mar-Jun (Aug).	Unlikely. The Study Area does not contain mudstone, shale, or highly sandy substrates such as dunes. There is a CNDDDB occurrence near the Study Area, but this occurrence is greater than 100 years old and has very vague locality information.	No further actions are recommended for this species.
San Francisco owl's-clover <i>Triphysaria floribunda</i>	Rank 1B.2	Coastal prairie, coastal scrub, valley and foothill grassland/usually serpentine. Elevation ranges from 30 to 520 feet (10 to 160 meters). Blooms Apr-Jun.	Unlikely. The Study Area does not contain serpentine substrates suitable to support this species.	No further actions are recommended for this species.
coastal triquetrella <i>Triquetrella californica</i>	Rank 1B.2	Coastal bluff scrub, coastal scrub/soil. Elevation ranges from 30 to 330 feet (10 to 100 meters).	Unlikely. While the Study Area is within 30 meters from the coast, this species grows on gravel or thin soil over outcrops, which is absent in the Study Area.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Wildlife				
Mammals				
pallid bat <i>Antrozous pallidus</i>	SSC, WBWG	Occupies a variety of habitats at low elevation including grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rock crevices, tree hollows, mines, caves, and a variety of man-made structures for roosting.	Unlikely. The majority of trees within the Study Area are eucalyptus, and do not support the cavities, exfoliating bark, or leaf structure typically required by this species. No caves, rock outcrops, or abandoned buildings are present to support maternity or day roosting by this species.	No further actions are recommended for this species.
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	SC, SSC, WBWG	This species is associated with a wide variety of habitats from deserts to mid-elevation mixed coniferous-deciduous forest. Females form maternity colonies in buildings, caves and mines and males roost singly or in small groups. Foraging occurs in open forest habitats where they glean moths from vegetation.	Unlikely. There are no known caves or large rock outcrops within the Study Area to support roosting by this species.	No further actions are recommended for this species.
hoary bat <i>Lasiurus cinereus</i>	WBWG	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	Unlikely. The majority of trees within the Study Area are eucalyptus or cypress, and do not support the cavities, exfoliating bark, or dense leaf structure typically required by this species.	No further actions are recommended for this species.
big free-tailed bat <i>Nyctinomops macrotis</i>	SSC, WBWG	Occurs rarely in low-lying arid areas. Requires high cliffs or rocky outcrops for roosting sites.	No Potential. The Study Area does not contain tall cliffs or large rocky outcrops that support the caves and crevices that are required by this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
fringed myotis <i>Myotis thysanodes</i>	WBWG	Associated with a wide variety of habitats including dry woodlands, desert scrub, mesic coniferous forest, grassland, and sage-grass steppes. Buildings, mines and large trees and snags are important day and night roosts.	Unlikely. The majority of trees within the Study Area are eucalyptus or cypress, and do not support the cavities, exfoliating bark, or leaf structure typically required by this species. No mesic conifer forest or dry desert scrub habitat is present to support the species.	No further actions are recommended for this species.
southern sea otter <i>Enhydra lutris nereis</i>	FT, CFP, MMC	Nearshore marine environments from about Año Nuevo, San Mateo County. To Point Sal, Santa Barbara County. Needs canopies of giant kelp and bull kelp for rafting and feeding. Prefers rocky substrates with abundant invertebrates.	No Potential. The Study Area does not contain any marine environments to support the species.	No further actions are recommended for this species.
salt-marsh harvest mouse <i>Reithrodontomys raviventris</i>	FE, SE, CFP	Found only in the saline emergent wetlands of San Francisco Bay and its tributaries. Pickleweed is primary habitat. Do not burrow, build loosely organized nests. Require higher areas for flood escape.	No Potential. The Study Area does not contain any tidal salt marsh habitat required to support the species.	No further actions are recommended for this species.
American badger <i>Taxidea taxus</i>	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Requires friable soils and open, uncultivated ground. Preys on burrowing rodents.	Unlikely. The Study Area does not contain suitable grasslands with abundant burrowing mammals to support the species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
San Francisco dusky-footed woodrat <i>Neotoma fuscipes annectens</i>	SSC	Forest habitats of moderate canopy and moderate to dense understory. Also in chaparral habitats. Constructs nests of shredded grass, leaves, and other material. May be limited by availability of nest-building materials.	Present. Nests built by this species were observed during the site assessment.	See section 4.2.2 for further discussion concerning avoidance measures and recommendations concerning this species.
Birds				
American peregrine falcon <i>Falco peregrinus anatum</i>	FD, SD, CFP, BCC	Largely resident. Requires protected cliffs, ledges or tall manmade structures for nesting. Often associated with coasts, bays, marshes and other open expanses of water. Preys primarily upon waterbirds; forages widely.	Unlikely. No tall cliffs, or other man-made structures are present to support nesting by the species. Due to the close proximity to the Pacific Ocean, this species may be observed flying overhead while foraging.	No further actions are recommended for this species.
bald eagle <i>Haliaeetus leucocephalus</i>	FD, SE, CFP, BCC	Occurs year-round in California, but primarily a winter visitor. Nests in large trees in the vicinity of larger lakes, reservoirs and rivers. Wintering habitat somewhat more variable but usually features large concentrations of waterfowl or fish.	Unlikely. This species occasionally nests in the local area but typically only within the undeveloped lands surrounding Crystal Springs Reservoir approximately 5-miles inland.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
burrowing owl <i>Athene cunicularia</i>	SSC, BCC	Largely resident in the region. Found in grasslands and other open habitats with a sparse to absent shrub/tree canopy. Nests and roosts in old mammal burrows, typically those of ground squirrels. Preys upon insects, and also small mammals, reptiles and birds.	No Potential. This species requires flat expanses of low grass or bare ground. The scrub and forest which dominates most of the Study Area as well as the surrounding landscape does not provide suitable low vegetation used by this species.	No further actions are recommended for this species.
white-tailed kite <i>Elanus leucurus</i>	CFP	Yearlong resident of coastal and valley lowlands. Preys on small diurnal mammals and occasional birds, insects, reptiles, and amphibians.	Moderate Potential. This species typically requires grasslands or agricultural fields for foraging, neither of which is present within the Study Area. However, some suitable foraging areas are present along Arroyo De En Medio, and may support foraging as well as nesting by the species. Therefore, while these habitats are not entirely within the Study Area, the species may still occur due to the high numbers of potential nest trees.	See section 4.2.2 for further discussion concerning avoidance measures and recommendations concerning this species.
California black rail <i>Laterallus jamaicensis coturniculus</i>	ST, CFP, BCC	Occurs in tidal salt marsh with dense stands of pickleweed as well as freshwater to brackish marshes.	No Potential. The Study Area does not contain any tidal marsh habitat which is required by the species for nesting.	No further actions are recommended for this species.
Ridgeway's (=California) clapper rail <i>Rallus longirostris obsoletus</i>	FE, SE, CFP	Associated with tidal salt marsh and brackish marshes supporting emergent vegetation, upland refugia, and incised tidal channels.	No Potential. The Study Area does not contain any tidal marsh habitat which is required by the species for nesting.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
ashy storm-petrel <i>Oceanodroma homochroa</i>	SSC, BCC	Marine species; nests in rocky crevices on offshore islands and rocks from southern Mendocino County to northern Baja California. Forages over open ocean for invertebrates and larval fishes.	No Potential. The Study Area does not contain rocky offshore islands or other such substrates to support nesting by this species.	No further actions are recommended for this species.
black oystercatcher <i>Haematopus bachmani</i>	BCC	Year-round resident of rocky coast habitats along the Pacific coast. Also occurs on coastal and lower estuarine mud-flats. Forages primarily on intertidal invertebrates.	No Potential. The Study Area does not contain suitable rocky, estuarine or tidal flats to support nesting or foraging by the species.	No further actions are recommended for this species.
black skimmer <i>Rynchops niger</i>	SSC, BCC	Found primarily in southern California; South San Francisco Bay has a small resident population. Nests colonially on gravel bars, low islets, and sandy beaches	No Potential. The Study Area does not contain gravel bars, islets or other such substrates to support nesting by this species.	No further actions are recommended for this species.
California brown pelican <i>Pelecanus occidentalis californicus</i>	FD, SD, CFP	(Nesting colony) colonial nester on coastal islands just outside the surf line. Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators.	No Potential. The Study Area does not contain coastal island habitat required to support nesting by the species.	No further actions are recommended for this species.
California least tern <i>Sterna antillarum browni</i>	FE, SE, CFP	Nests along the coast from San Francisco bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	No Potential. The Study Area does not contain suitable beaches, salt ponds, or alkali flats to support nesting of this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
double-crested cormorant <i>Phalacrocorax auritus</i>		(Rookery site) colonial nester on coastal cliffs, offshore islands, and along lake margins in the interior of the state. Nests along coast on sequestered islets, usually on ground with sloping surface, or in tall trees along lake margins.	No Potential. The Study Area does not contain offshore island habitat used for nesting by this species. The species may occasionally be seen flying over the Study Area when passing between foraging areas inland and along the coast.	No further actions are recommended for this species.
marbled murrelet <i>Brachyramphus marmoratus</i>	FT, SE	(Nesting) Feeds near shore; nests inland along the Pacific coast, from Eureka to Oregon border, and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland. Nests often built in Douglas fir or redwood stands containing platform-like branches.	No Potential. The Study Area does not contain suitable old growth redwood or fir forest to support nesting by the species. This species may be observed flying over the Study Area while flying inland to more suitable and isolated habitat.	No further actions are recommended for this species.
short-tailed albatross <i>Phoebastria albatrus</i>	FE, SSC	Highly pelagic; comes to land only when breeding. Nests on remote Pacific islands. A rare non-breeding visitor to the eastern Pacific.	No Potential. The Study Area does not contain island habitat to support nesting by the species.	No further actions are recommended for this species.
western snowy plover <i>Charadrius alexandrinus nivosus</i>	FT, SSC, BCC	Federal listing applies only to the Pacific coastal population. Found on sandy beaches, salt pond levees, and shores of large alkali lakes. Requires sandy, gravelly, or friable soils for nesting.	No Potential. The Study Area does not contain suitable beaches, salt ponds, or dunes to support nesting of this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Alameda song sparrow <i>Melospiza melodia pusillula</i>	SSC, BCC	Resident of salt marshes bordering south arm of San Francisco Bay. Inhabits Salicornia marshes; nests low in Grindelia bushes (high enough to escape high tides) and in Salicornia.	Unlikely. The Study Area does not contain typical salt marsh habitat required by this species.	No further actions are recommended for this species.
Allen's hummingbird <i>Selasphorus sasin</i>	BCC	(Nesting) Inhabits mixed evergreen, riparian woodlands, eucalyptus and cypress groves, oak woodlands, and coastal scrub during breeding season. Nest in shrubs and trees with dense vegetation.	High Potential. Xeric coastal scrub habitat is prevalent throughout portions of the Study Area. Water and a habitat mosaic to support foraging are also present. The combination of these habitat components make the area suitable for nesting by the species.	See section 4.2.2 for further discussion concerning avoidance measures and recommendations concerning this species.
bank swallow <i>Riparia riparia</i>	ST	Summer resident in riparian and other lowland habitats near rivers, lakes and the ocean in northern California. Nests colonially in excavated burrows on vertical cliffs and bank cuts (natural and manmade) with fine-textured soils. Currently known to breed in Siskiyou, Shasta, and Lassen Cos., portions of the north coast, and along Sacramento River from Shasta Co. south to Yolo Co.	No Potential. The Study Area does not contain suitable cliff habitat to support nesting by the species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Bryant's savannah sparrow <i>Passerculus sandwichensis alaudinus</i>	SSC	Associated with the coastal fog belt, primarily between Humboldt and northern Monterey Counties. Occupies low tidally influenced habitats, adjacent to ruderal areas; often found where Pickleweed communities merge into grassland. Infrequently found in drier grasslands. Builds nests in taller grasses and rushes along roads, levees, and water conveyance canals.	No Potential. The Study Area does not contain typical tidally influenced habitats required by this species for nesting.	No further actions are recommended for this species.
Costa's hummingbird <i>Calypte costae</i>	BCC	Summer resident. Uses xeric habitats, especially California coastal scrub or sage scrub and dry open areas of chaparral in the coast ranges, and is occasionally found in oak savannah. Builds nest in shrub or tree living or dead, on branch, stem, or leaves, usually 1–2 m above ground.	Unlikely Potential. The Study Area occurs outside of the known range for this species and therefore there is unlikely potential for it to occur.	No further actions are recommended for this species.
grasshopper sparrow <i>Ammodramus savannarum</i>	SSC	Summer resident. Breeds in annual grasslands in lowlands and foothills, generally with low-to moderate-height grasses and scattered shrubs. Well-hidden nests are placed on the ground.	Unlikely. Suitable grasslands to support nesting and foraging by the species are largely absent from the Study Area. Additionally, this species has only rarely been observed in the vicinity of the Study Area (ebird 2017).	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Lawrence's goldfinch <i>Spinus (= Carduelis) lawrencei</i>	BCC	Summer resident, primarily in southern California; generally uncommon and local. Also found in large open areas in Contra Costa and Alameda Counties. Typically found in arid open woodlands, including oak savannah. Breeding distribution is erratic from year to year.	Unlikely. This species has been rarely observed on the San Francisco Peninsula, with no sightings recorded in the local area surrounding the Study Area for at least 1.5 years (eBird 2017). Additionally, typical oak savannah habitat used for nesting by this species is not present.	No further actions are recommended for this species.
Nuttall's woodpecker <i>Picoides nuttallii</i>	BCC	Year-round resident in lowland woodlands throughout much of California west of the Sierra Nevada. Typical habitat is dominated by oaks; also occurs in riparian woodland. Nests in tree cavities.	Unlikely. The majority of the Study Area contains a eucalyptus forest, which does not support the complex cavities required for nesting by this species.	No further actions are recommended for this species.
oak titmouse <i>Baeolophus inornatus</i>	BCC	Occurs year-round in woodland and savannah habitats where oaks are present, as well as riparian areas. Nests in tree cavities.	Unlikely. The majority of the Study Area contains a eucalyptus forest, which does not support the complex cavities required for nesting by this species.	No further actions are recommended for this species.
olive-sided flycatcher <i>Contopus cooperi</i>	SSC, BCC	Summer resident. Typical breeding habitat is montane coniferous forests. At lower elevations, also occurs in wooded canyons and mixed forests and woodlands. Often associated with forest edges. Arboreal nest sites located well off the ground.	Moderate Potential. The Study Area contains a variety of edge habitats between eucalyptus forest and shrub. Additionally tall eucalyptus trees provide an abundance of high nesting habitat, preferred by the species.	See section 4.2.2 for further discussion concerning avoidance measures and recommendations concerning this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
saltmarsh common yellowthroat <i>Geothlypis trichas sinuosa</i>	SSC, BCC	Resident of San Francisco bay region fresh and salt-water marshes. Requires thick, continuous cover down to water surface for foraging, tall grasses, tule patches, willows for nesting.	Moderate Potential. Thick vegetation surrounding various aquatic features within the Study Area may support feeding and nesting by this species.	See section 4.2.2 for further discussion concerning avoidance measures and recommendations concerning this species.
tricolored blackbird <i>Agelaius tricolor</i>	SC, SSC, BCC, RP	Nearly endemic to California, where it is most numerous in the Central Valley and vicinity. Highly colonial, nesting in dense aggregations over or near freshwater in emergent growth or riparian thickets. Also uses flooded agricultural fields. Abundant insect prey near breeding areas essential.	Unlikely. The Study Area does not contain extensive marsh or large tule stands which can support nesting or foraging by a colony of this species.	No further actions are recommended for this species.
yellow warbler <i>Setophaga petechia</i>	SSC, BCC	Summer resident throughout much of California. Breeds in riparian vegetation close to water, including streams and wet meadows. Microhabitat used for nesting variable, but dense willow growth is typical. Occurs widely on migration.	Unlikely. Extremely dense riparian vegetation, preferred by the species is limited within the site. Adjacent streams may support some nesting by the species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Reptiles and Amphibians				
western pond turtle <i>Actinemys marmorata</i>	SSC	Occurs in perennial ponds, lakes, rivers and streams with suitable basking habitat (mud banks, mats of floating vegetation, partially submerged logs) and submerged shelter.	Unlikely. Ponds within the Study Area may provide suitable deep-water habitat to support the species, however heavy tree canopies prevent most areas from providing suitable basking sites to support the species. Additionally, dry, friable soils are required for nesting and are only present along Arroyo De En Medio where farming operations are likely to destroy any nests, preventing reproduction by the species.	No further actions are recommended for this species.
California giant salamander <i>Dicamptodon ensatus</i>	SSC	Occurs in the north-central Coast Ranges. Moist coniferous and mixed forests are typical habitat; also uses woodland and chaparral. Adults are terrestrial and fossorial, breeding in cold, permanent, or semi-permanent streams. Larvae usually remain aquatic for over a year.	Unlikely. Cold, deep perennial streams are mostly absent from the Study Area. Arroyo De En Medio and Deer Creek are impounded, and farmed up to the banks along its lower reaches. These practices raise temperatures and create unfavorable water conditions for the species.	No further actions are recommended for this species.
California red-legged frog <i>Rana aurora draytonii</i>	FT, SSC	Associated with quiet perennial to intermittent ponds, stream pools, and wetlands. Prefers shorelines with extensive vegetation. Documented to disperse through upland habitats after rains.	Present. This species has been observed and documented in most waterways and ponds in close proximity to the Study Area (CDFW 2017). Additionally this species has been observed in ponds along Arroyo De En Medio.	See section 4.2.2 for further discussion concerning avoidance measures and recommendations concerning this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
San Francisco garter snake <i>Thamnophis sirtalis tetrataenia</i>	FE, SE, CFP, RP	Vicinity of freshwater marshes, ponds and slow moving streams in San Mateo County and extreme northern Santa Cruz County. Prefers dense cover and water depths of at least one foot. Upland areas near water are also very important.	Moderate Potential. Ponds located within the Study Area along Arroyo De En Medio may have sufficient thermal exposure, food resources, and vegetative cover to support the species.	See section 4.2.2 for further discussion concerning avoidance measures and recommendations concerning this species.
Fish				
green sturgeon <i>Acipenser medirostris</i>	FT, SSC, NMFS	Anadromous. Spawns in the Sacramento and Klamath River systems. Lingering transients may be found throughout the San Francisco Bay Estuary, particularly juveniles.	No Potential. There are no suitable marine habitats within the Study Area to support this species. The Study Area is outside of the species known spawning habitat.	No further actions are recommended for this species.
Delta smelt <i>Hypomesus transpacificus</i>	FT, ST, RP	Endemic to the Sacramento-San Joaquin delta area; found in areas where salt and freshwater systems meet. It occurs seasonally in Suisun Bay, Carquinez Strait and San Pablo Bay.	No Potential. The Study Area is outside of the known range for this species.	No further actions are recommended for this species.
longfin smelt <i>Spirinchus thaleichthys</i>	ST, RP	Found in open waters of estuaries, mostly in the middle or bottom of the water column. This species prefers salinities of 15 to 30 ppt, but can be found in completely freshwater to almost pure seawater.	No Potential. The Study Area is outside of the species known distribution.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
steelhead - central CA coast DPS <i>Oncorhynchus mykiss irideus</i>	FT	Occurs from the Russian River south to Soquel Creek and Pajaro River. Also in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for 1 or more years before migrating downstream to the ocean.	Unlikely. Arroyo De En Medio and Deer Creek are currently impeded, or are too small to support anadromous fishes (Becker and Reining 2008). Therefore, the species is unlikely to be present.	No further actions are recommended for this species.
Coho salmon - central CA coast ESU <i>Oncorhynchus kisutch</i>	FE, SE	Federal listing includes populations between Punta Gorda and San Lorenzo River. State listing includes populations south of San Francisco Bay only. Occurs inland and in coastal marine waters. Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen.	Unlikely. Arroyo De En Medio and Deer Creek are currently impeded, or are too small to support anadromous fishes (Becker and Reining 2008). Therefore, the species is unlikely to be present.	No further actions are recommended for this species.
Pacific lamprey <i>Entosphenus (=Lampetra) tridentatus</i>	SSC	Spawn between March and July in gravel-bottomed streams in riffle habitat. Larvae drift downstream to areas of low velocity and fine substrates and are relatively immobile in the stream substrates.	Unlikely. Arroyo De En Medio and Deer Creek are currently impeded, or are too small to support anadromous fishes (Becker and Reining 2008). Therefore, the species is unlikely to be present.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
tidewater goby <i>Eucyclogobius newberryi</i>	FE, SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	No Potential. There are no suitable lagoon habitats within the Study Area to support this species.	No further actions are recommended for this species.
Invertebrates				
San Bruno elfin butterfly <i>Incisalia (=Callophrys) mossii bayensis</i>	FE, RP	Limited to the vicinity of San Bruno Mountain, San Mateo County. Colonies are located on in rocky outcrops and cliffs in coastal scrub habitat on steep, north-facing slopes within the fog belt. Species range is tied to the distribution of the larval host plant, <i>Sedum spathulifolium</i> .	Unlikely. The majority of the Study Area is comprised of southern aspect, eucalyptus forest which does not support the species or its host plant.	No further actions are recommended for this species.
mission blue butterfly <i>Icaricia icarioides missionensis</i>	FE, RP	Inhabits grasslands of the San Francisco peninsula. Three larval host plants: <i>Lupinus albifrons</i> , <i>L. variicolor</i> , and <i>L. formosus</i> , of which <i>L. albifrons</i> is favored.	Unlikely. Distribution of this species is not known to occur near the Study Area. Habitat conditions within the Study Area are generally unfavorable or unresponsive of the habitat features required by this species.	No further actions are recommended for this species.
Bay checkerspot butterfly <i>Euphydryas editha bayensis</i>	FT, RP	Restricted to native grasslands on outcrops of serpentine soil in the vicinity of San Francisco Bay. <i>Plantago erecta</i> is the primary host plant; <i>Orthocarpus densiflorus</i> and <i>O. purpurscens</i> are the secondary host plants.	No Potential. This species has been extirpated from the San Francisco Peninsula.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
Myrtle's silverspot butterfly <i>Speyeria zerene myrtleae</i>	FE, RP	Restricted to the foggy, coastal dunes/hills of the Point Reyes peninsula; extirpated from coastal San Mateo County. Larval foodplant thought to be <i>Viola adunca</i> .	No Potential. This species has been extirpated from San Mateo County (USFWS 2017c).	No further actions are recommended for this species.
monarch butterfly <i>Danaus plexippus</i>	SSI	Winter roost sites located in wind-protected tree groves, with nectar and water sources nearby; sites are generally on or close to the coast.	Moderate Potential. The majority of the Study Area is comprised of eucalyptus groves, on slopes with a south or western aspect, which are preferred placements and orientation for winter roosting butterflies.	See section 4.2.2 for further discussion concerning avoidance measures and recommendations concerning this species.
Edgewood blind harvestman <i>Calicina minor</i>	SSI	Open grassland in areas of serpentine bedrock. Found on the underside of moist serpentine rocks near permanent springs. Originally collected at Crystal Springs Reservoir in San Mateo County, the species has not been collected there since the construction of Interstate 280. In spite of intensive phalangodid collecting in the Bay Area, the species is currently known only from Edgewood Park. Even where present, populations of this species are quite small.	No Potential. The Study Area is not within the limited known range of this species.	No further actions are recommended for this species.
incredible harvestman <i>Banksula incredula</i>	SSI	Known only from the north slope of San Bruno Mountain. Habitat is talus slopes with a dense chaparral canopy.	No Potential. The Study Area is not within the limited known range of this species.	No further actions are recommended for this species.

SPECIES	STATUS*	HABITAT	POTENTIAL FOR OCCURRENCE**	RECOMMENDATIONS
western bumble bee <i>Bombus occidentalis</i>	SSI	Formerly common throughout much of western North America; populations from southern British Columbia to central California have nearly disappeared (Xerces 2017). Occurs in a wide variety of habitat types. Nests are constructed annually in pre-existing cavities, usually on the ground (e.g. mammal burrows). Many plant species are visited and pollinated.	Unlikely. The Study Area has no grassland to support typical burrowing mammals and the majority of the area is covered by forest, limiting the number of flowering plants and foraging opportunities for the species.	No further actions are recommended for this species.

*** Key to status codes:**

FE	Federal Endangered
FT	Federal Threatened
FD	Federal Delisted
RP	Sensitive species included in a USFWS Recovery Plan or Draft Recovery Plan
SE	State Endangered
ST	State Threatened
SD	State Delisted
NMFS	National Marine Fisheries Service - Species of Concern
SSC	California Department of Fish and Game (CDFG) Species of Special Concern
WBWG	Western Bat Working Group Priority Species
BCC	U.S. Fish & Wildlife Service (USFWS) Birds of Conservation Concern
CFP	CDFW Fully Protected Animal
MMC	Marine Mammal Commission - Species of Special Concern
SSI	CDFW Special Status Invertebrates
Rank 1B.1	California Native Plant Society (CNPS) Rank 1B.1: Plants rare, threatened, or endangered in California and elsewhere (seriously threatened in California)
Rank 1B.2	California Native Plant Society (CNPS) Rank 1B.2: Plants rare, threatened, or endangered in California and elsewhere (moderately threatened in California)
Rank 2B.1	California Native Plant Society (CNPS) Rank 2B.1: Plants rare, threatened, or endangered in California, but more common elsewhere (seriously threatened in California)
Rank 2B.2	California Native Plant Society (CNPS) Rank 2B.2: Plants rare, threatened, or endangered in California, but more common elsewhere (moderately threatened in California)
Rank 3	CRPR Rank 3: Plants about which CNPS needs more information (a review list)

Rank 3.2 CRPR Rank 3.2: Plants about which CNPS needs more information (a review list; moderately threatened in California)
Rank 4.2 California Rare Plant Rank 4.2: Plants of Limited Distribution - A Watch List (moderately threatened in California)
Rank 4.3 California Rare Plant Rank 4.3: Plants of Limited Distribution - A Watch List (not very threatened in California)

****Potential species occurrence definitions:**

Present. Species was observed on the site during site visits or has been recorded (i.e. CNDDDB, other reports) on the site recently.

High Potential. All of the habitat components meeting the species requirements are present and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.

Moderate Potential. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.

Unlikely. Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species has a low probability of being found on the site.

No Potential. Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime).

APPENDIX C

STUDY AREA PHOTOGRAPHS



Photo 1. Photograph of large pond located within the eastern portion of the blue gum grove.



Photo 2. Photograph of a potential seasonal wetland located within non-native annual grassland at excavated clearing in the blue gum forest.



Photo 3. Photograph of the open non-native annual grassland in the historic quarry pit within the blue gum forest.

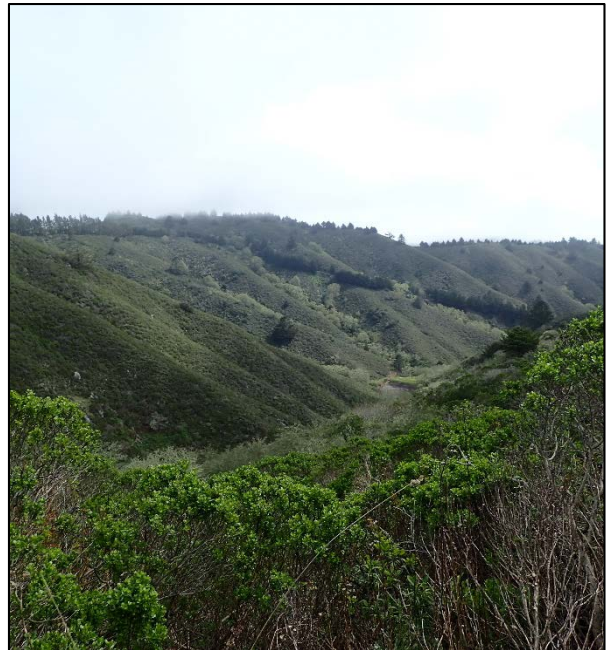


Photo 4. Photograph looking southeast towards pond (far background) located in the northeast portion of the Study Area and fed by Arroyo del en Medio. Northern coastal scrub seen in the foreground.



Photo 4. Photo looking northeast towards small pond located under Monterey cypress trees in southern portion of Study Area.



Photo 5. Photo of arroyo willow scrub located on each side of Highway 1.



Photo 6. Photo looking northwest where non-native annual grassland transitions via sea cliffs to beaches.



Photo 7. Unidentifiable shrubby lupine species that has potential to be San Mateo tree lupine, observed adjacent to northern coastal scrub habitat.



Photo 7. Photo of a portion of the understory comprised predominately of cape ivy of the blue gum forest.



Photo 8. Photo looking north toward non-native annual grassland in southern extent of Study Area.



Photo 9. Photo of ephemeral stream within the blue gum grove.



Photo 10. Photo of woodland strawberry (*Fragaria vesca*) found in the understory of the blue gum groves.