

APPENDIX AE-1
LANDSCAPE SCREENING AND IRRIGATION PLAN
REVISED JULY 2024

August 11, 2023

COYOTE CREEK AGRIVOLTAIC RANCH LANDSCAPE SCREENING CONCEPT

The goal of the proposed landscape work is to mitigate the visual impacts of the proposed Coyote Creek Agrivoltaic Ranch. The project is not visible from private homes or businesses (except a few project participants) so the screening work will be focused on Scott Road traffic moving through the project at normal highway speeds.

The proposed mitigation planting is intended to obscure solar arrays in the foreground, while still allowing distant views. Unlike similar screening projects in the County, the planting will include a high percentage of evergreen interior live oaks (*Quercus wislizeni*), a dense native tree with a low canopy that can live for many decades. The oaks will be supplemented with locally native shrub hedgerows that should remain healthy when irrigation is no longer needed after about 5 years. Agricultural style woven wire fencing will enhance the agricultural character of the project while providing security.

To promote a healthy root structure, the oaks will be planted from acorns; this will insure the development of strong, deep tap roots, which rarely happens with container grown oaks. Significant screening is expected within 5 years and effectiveness will continue to improve far beyond the lifetime of this project. Appendix A (Sheets LA-1 to LA-4) delineates tentative screening locations, which will be finalized in consultation with County staff. Photographs of the proposed oaks and shrub hedgerows are included on Sheet LA-4 of Appendix A.

Implementation of the screen planting will integrate the clearing and trenching operations for the irrigations system with planting procedures to provide a rooting environment conducive to the establishment of healthy screen plants. The staging strategy for the installation of the screen planting is outlined below.

Sincerely,



Garth Ruffner
CA Landscape Architect #2808

SCREEN PLANTING STAGING STRATEGY

I. Site Preparation

- A. Acorns would be obtained when ripe (roughly in October) prior to the construction year(s).
- B. Proposed oak thickets and shrub hedgerows would be flagged for County review prior to the implementation of the work.
 - 1. Proposed screen planting would be adjusted as necessary based on comments from the County, the project landscape architect and other members of the project team.
 - 2. When the layout is acceptable to the County's representative, work would proceed.
- C. Existing vegetation would be scraped off in a 3' strip, following the approved alignment. Cleared vegetation would be composted on site.

II. Irrigation

- A. A six inch wide trench would be cut down the center of the cleared strip to a depth of about 6-12 inches, depending on the type of irrigation pipe being installed. Rocky or hard packed soil areas would be bypassed where alternate screen locations are nearby.
- B. Irrigation mainline would be installed in the bottom of the trench as needed and remote control valves would be connected.
- C. The mainline would be buried with about 2 inches of cover, using the trenching spoils. The backfill would be moderately compacted.
- D. Lateral pipe would be installed where necessary with a few inches of clearance from the mainline so young, expanding roots growing between the pipes do not cause damage.
- E. Lateral lines would be covered with trenching spoils to about 3 inches from the surface of the scraped soil area. The backfill would be moderately compacted.
- F. Subsurface drip tubing with integral check valves and integral emitters spaced at 18 inches on center would be installed for the oak thickets.
- G. Point source drip emitters or subsurface drip tubing will be used for the shrub hedgerows.
- H. The drip tubing would be buried with trench spoils free of significant rocks or clods to about one inch below the scraped surface. The backfill will be minimally compacted.

III. Planting

- A. Planting would occur from late October to early December.
- B. Oak Thickets
 - 1. Acorns would be planted 20 inches apart down the center of the irrigated trench.
 - 2. The acorns would be buried with trench spoils free of significant rocks or clods to a depth of one to ½ inch. The backfill will be minimally compacted.
 - 3. About 10% of the oak thicket planting would consist of shrubs from the native shrub hedgerow palette.

- C. Native Shrub Hedgerows
 - 1. Trenches would be backfilled flush with the scraped grade.
 - 2. Shrubs would be planted from liner pots (2"x2"x3") set about 5' apart down the center of the trench.
 - 3. Blue oak (*Quercus douglasii*) acorns will be placed midway between about 50% of the shrubs to increase diversity.
 - 4. Revegetation shelters would be installed to protect the shrubs.
- D. Pre-emergent herbicide would be applied to the cleared area, leaving an untreated strip at the backfilled trench.
- E. Top dressing would be placed to a depth of 3 inches over the 3 foot wide cleared strip.
 - 1. A 2"-4" wide clear strip would be retained down the trench centerline above the acorn planting. Extra mulch would be placed alongside for use in covering the bare strip once the oaks reach adequate size.
 - 2. One inch of clearance would be maintained between the shrubs and top dressing.

IV. Maintenance - Year One

- A. Plants would be irrigated to simulate normal rainfall through the winter if drought conditions occur.
- B. Monitoring visits would occur every 3 weeks.
- C. Where establishing oaks are significantly damaged by deer or rodents, tree protection cages will be installed.
- D. Weeding
 - 1. Light weeding would occur within the 3 foot wide strips as necessary during the normal monitoring visits.
 - 2. Thorough weeding would occur near the end of the rainy season.
- E. The previously installed top dressing would be spread to cover the unmulched centerline of the oak thicket trenches when the young oaks are over 4 inches high. One inch of clearance would be maintained between the trees and the top dressing.
- F. Infrequent but thorough irrigation would occur during the dry season to encourage healthy, deep root growth.
- G. Replacements would occur roughly in November.
 - 1. Gaps exceeding 5 feet between oaks would be filled in with young live oaks from treeband pots (2"x2"x5"). Protective shelters would be installed on all replacement trees.
 - 2. Shrub replacements would occur from liner size pots wherever a gap of more than 10 feet occurs.
- H. An observation meeting would occur on site between representatives of the County and the project team prior to the start of the rainy season.

V. Maintenance - Year Two

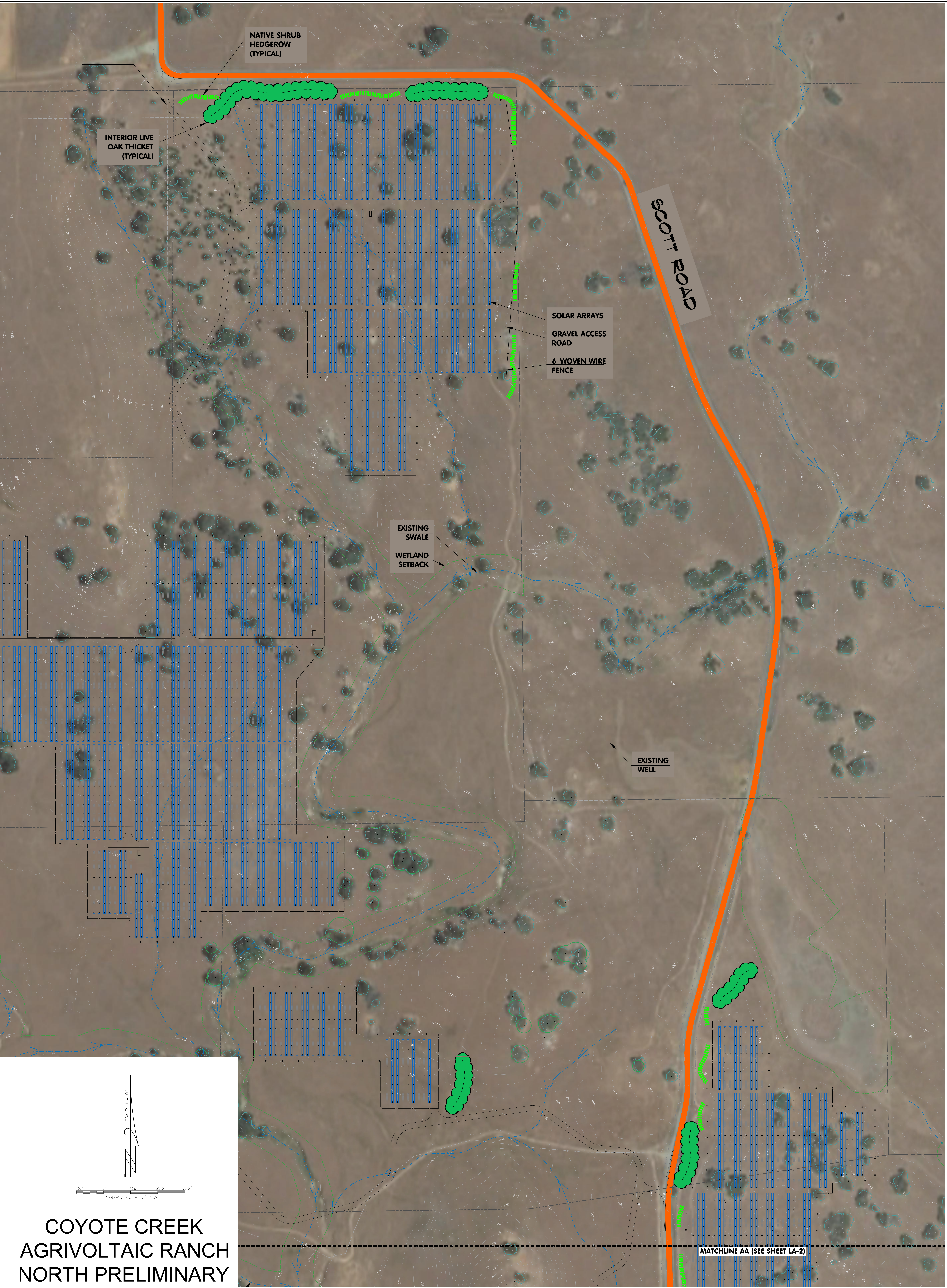
- A. Monitoring and light weeding would occur at 4 week intervals if survival rates and growth over the previous year are satisfactory. If problems are noted, monitoring visits will be increased as necessary.

- B. Plants would be irrigated to simulate normal rainfall through the winter if drought conditions occur. Longer run times with frequent starts would be used to insure the soil surrounding the initial trench is absorbing water.
- C. Thorough weeding would occur near the end of the rainy season.
- D. Infrequent but thorough irrigation would occur during the dry season to encourage healthy, deep root growth. Longer run times with frequent starts would be used to insure the soil surrounding the initial trench is receiving water.
- E. Pre-emergent herbicide would be applied to the 3' wide mulched area in the fall.
- F. Replacements would occur around November.
 - 1. Gaps exceeding 10 feet between oaks would be filled in with young live oaks from treeband pots (2"x2"x5"). Protective shelters would be installed on all replacement trees.
 - 2. Shrub replacements would occur from liner size pots wherever a gap of more than 15 feet occurs.
- G. An observation meeting would occur on site between representatives of the County and the project team prior to the start of the rainy season.

VI. Maintenance - Year Three to Year Five

- A. Replacements would occur around November.
 - 1. Gaps exceeding 15 feet between live oaks would be filled in with oaks from treeband pots (2"x2"x5"). Protective tubes would be installed on all replacement trees.
 - 2. Shrub replacements would occur from liner size pots wherever a gap of more than 15 feet between plants occurs.
- B. Monitoring and weeding would occur at monthly intervals if survival rates and growth are satisfactory. If problems are noted, monitoring visits will be increased as necessary.
- C. Plants would be irrigated to simulate normal rainfall through the winter if drought conditions occur. Longer run times with frequent starts would be used to insure the soil surrounding the initial trench is receiving water.
- D. Top dressing would be replenished as necessary in the spring to achieve a minimum depth of 3 inches.
- E. Thorough irrigation would occur on a monthly basis during the dry season to encourage healthy, deep root growth. Longer run times with long delays between multiple starts would be used to insure the soil surrounding the initial trench is receiving water.
- F. An observation meeting would occur on site between representatives of the County and the project team prior to the start of the rainy season.

Appendix A
Preliminary Landscaping Plan



INTERIOR LIVE OAK THICKET (TYPICAL)

NATIVE SHRUB HEDGEROW (TYPICAL)

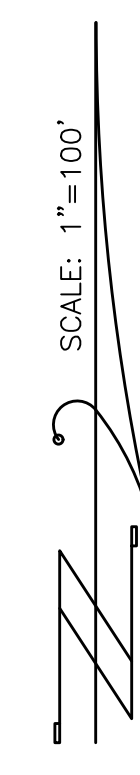
SCOTT ROAD

SOLAR ARRAYS
GRAVEL ACCESS ROAD
6' WOVEN WIRE FENCE

EXISTING SWALE
WETLAND SETBACK

EXISTING WELL

MATCHLINE AA (SEE SHEET LA-2)



SCALE: 1"=100'
GRAPHIC SCALE: 1"=100'

COYOTE CREEK
AGRIVOLTAIC RANCH
NORTH PRELIMINARY
LANDSCAPE PLAN

SACRAMENTO COUNTY, CALIFORNIA
AUGUST 11, 2023

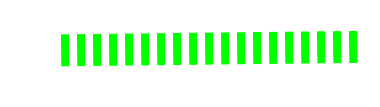
LA-1
OF 4

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4121 Douglas Blvd., Suite 302, Rocklin, CA 95765-6936
GarthRuffner.com California R.L.A. #2008

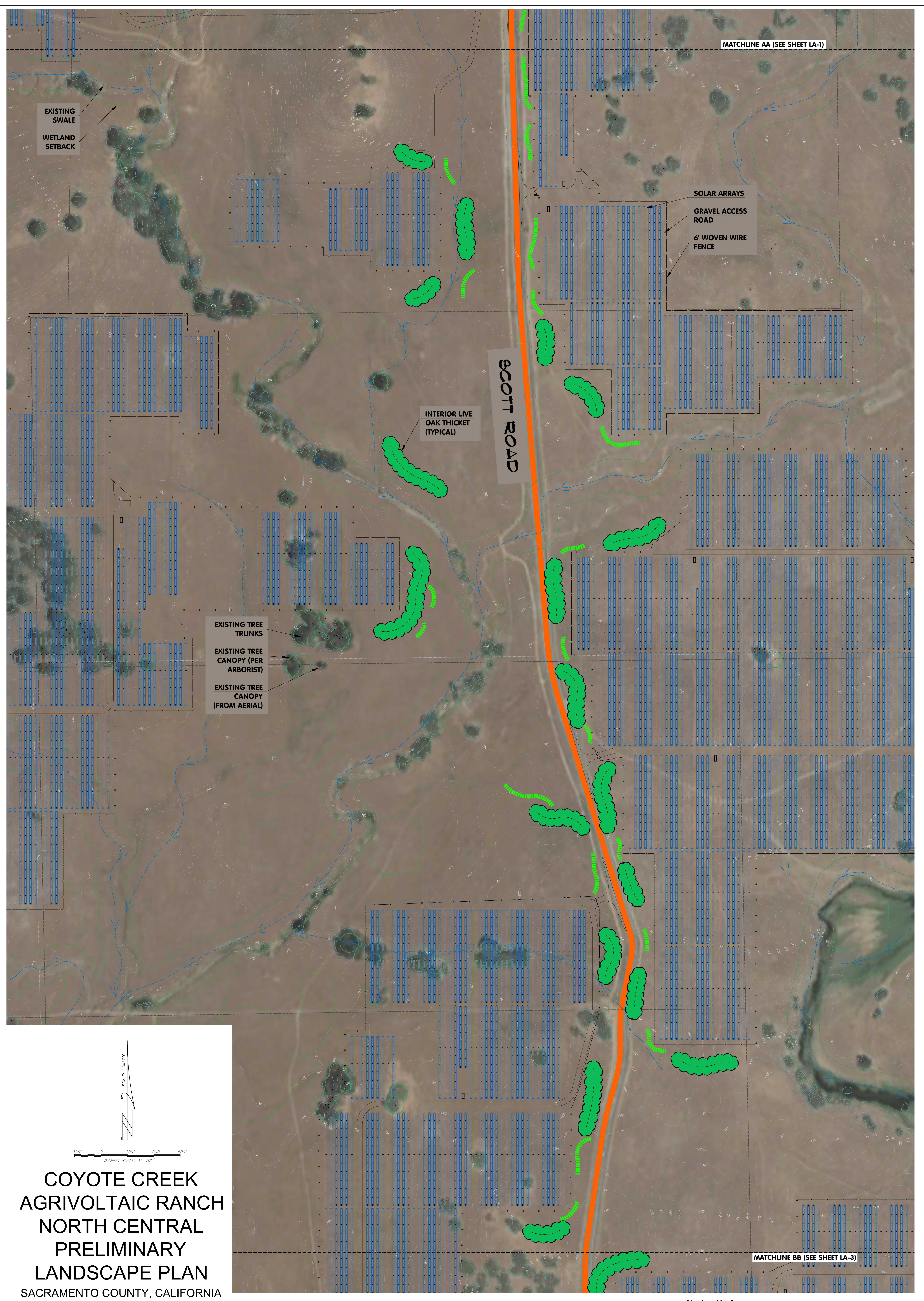
JOB NO. 40056



Oak Thicket
Species:
Live Oak (*Quercus wislizeni*)



Native Hedgerow
Representative Species:
Approx. 10% Common Manzanita (*Arctostaphylos Manzanita*)
Approx. 20% Coyote Brush (*Baccharis Pulularis Consanguinea*)
Approx. 10% Buckbrush (*Ceanothus Cuneatus*)
Approx. 40% California Coffeeberry (*Frangula Californica*)
Approx. 15% Hoary Coffeeberry (*Frangula Californica SSP Tomentella*)
Approx. 5% Black Elderberry (*Sambuca Elderberry*)



MATCHLINE AA (SEE SHEET LA-1)

EXISTING SWALE
WETLAND SETBACK

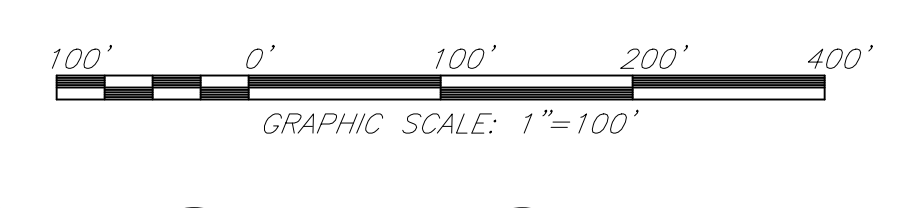
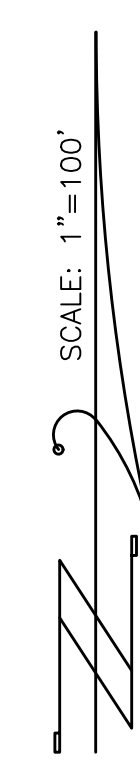
SOLAR ARRAYS
GRAVEL ACCESS ROAD
6' WOVEN WIRE FENCE

SCOTT ROAD

INTERIOR LIVE OAK THICKET (TYPICAL)

EXISTING TREE TRUNKS
EXISTING TREE CANOPY (PER ARBORIST)
EXISTING TREE CANOPY (FROM AERIAL)

MATCHLINE BB (SEE SHEET LA-3)



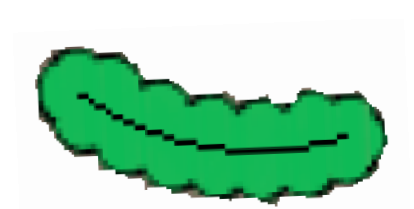
**COYOTE CREEK
AGRIVOLTAIC RANCH
NORTH CENTRAL
PRELIMINARY
LANDSCAPE PLAN**

SACRAMENTO COUNTY, CALIFORNIA
AUGUST 11, 2023

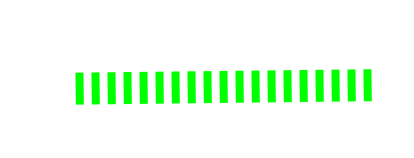
LA-2
OF 4

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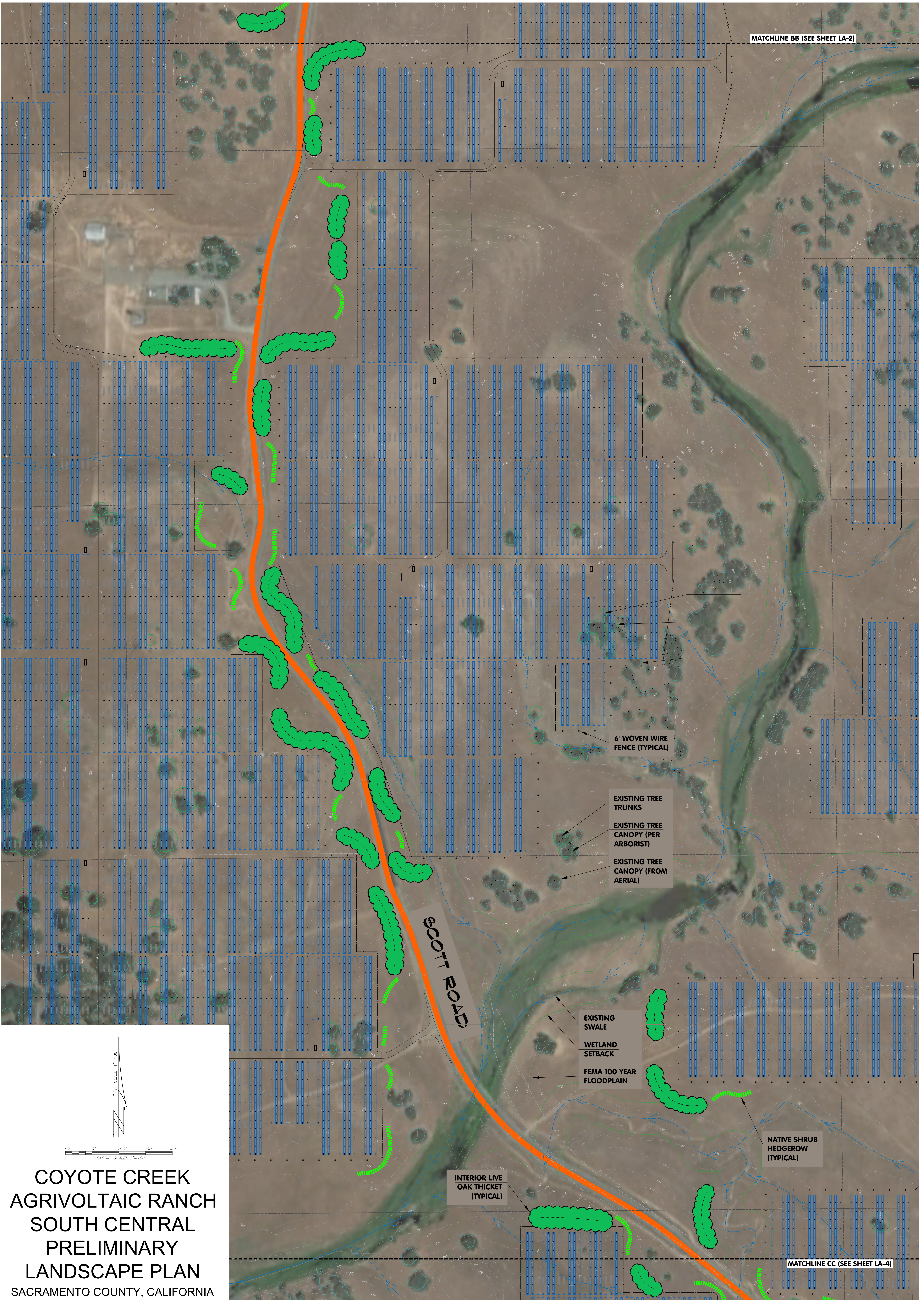
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Approx. 15% Hoary Coffeeberry (*Frangula Californica SSP Tomentella*)
Approx. 5% Black Elderberry (*Sambuca Elderberry*)



MATCHLINE BB (SEE SHEET LA-2)

SCOTT ROAD

6' WOVEN WIRE FENCE (TYPICAL)

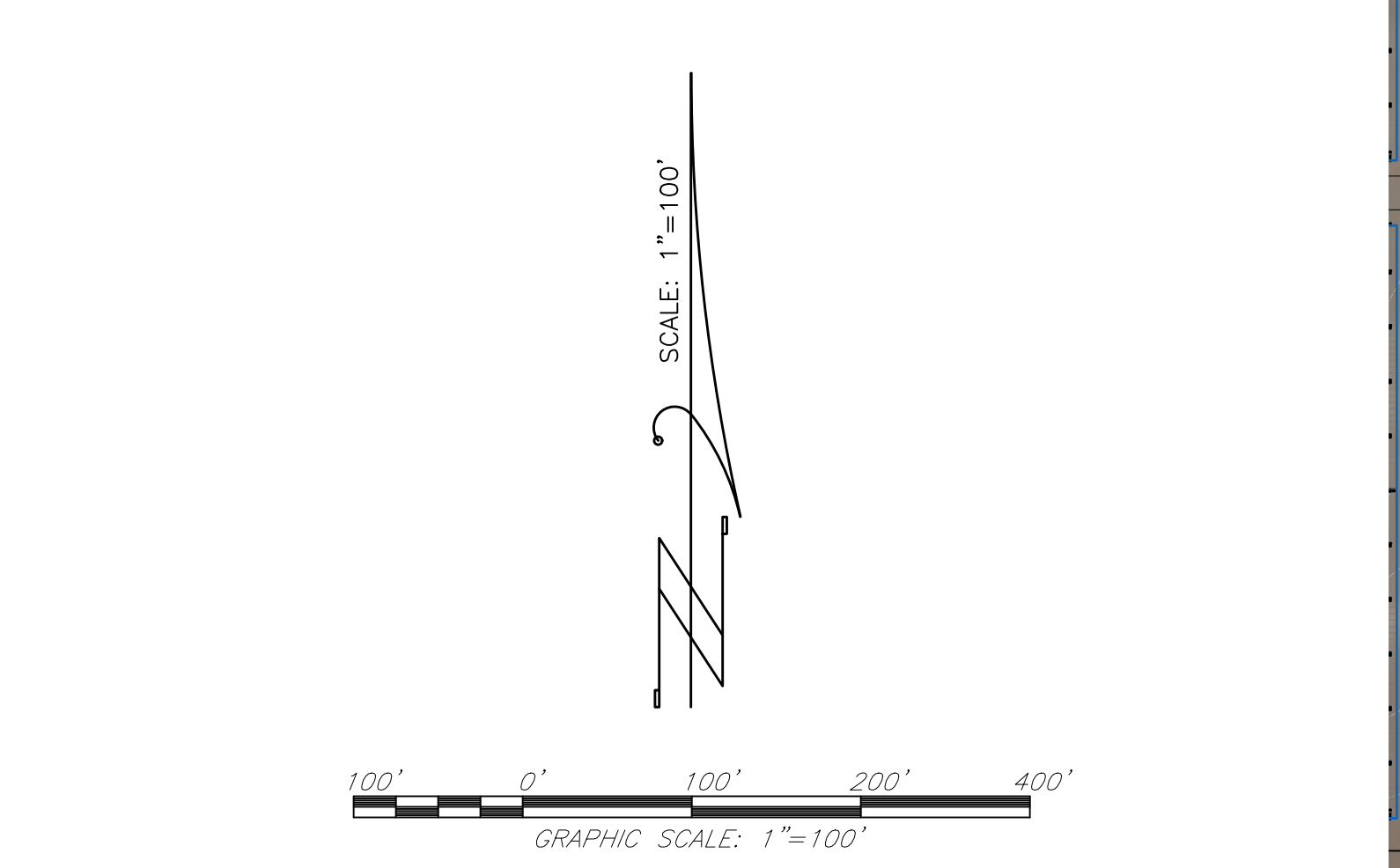
EXISTING TREE TRUNKS
EXISTING TREE CANOPY (PER ARBORIST)
EXISTING TREE CANOPY (FROM AERIAL)

EXISTING SWALE
WETLAND SETBACK
FEMA 100 YEAR FLOODPLAIN

NATIVE SHRUB HEDGEROW (TYPICAL)

INTERIOR LIVE OAK THICKET (TYPICAL)

MATCHLINE CC (SEE SHEET LA-4)



COYOTE CREEK
AGRIVOLTAIC RANCH
SOUTH CENTRAL
PRELIMINARY
LANDSCAPE PLAN
SACRAMENTO COUNTY, CALIFORNIA
AUGUST 11, 2023

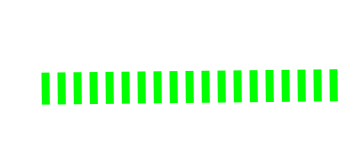
LA-3
OF 4

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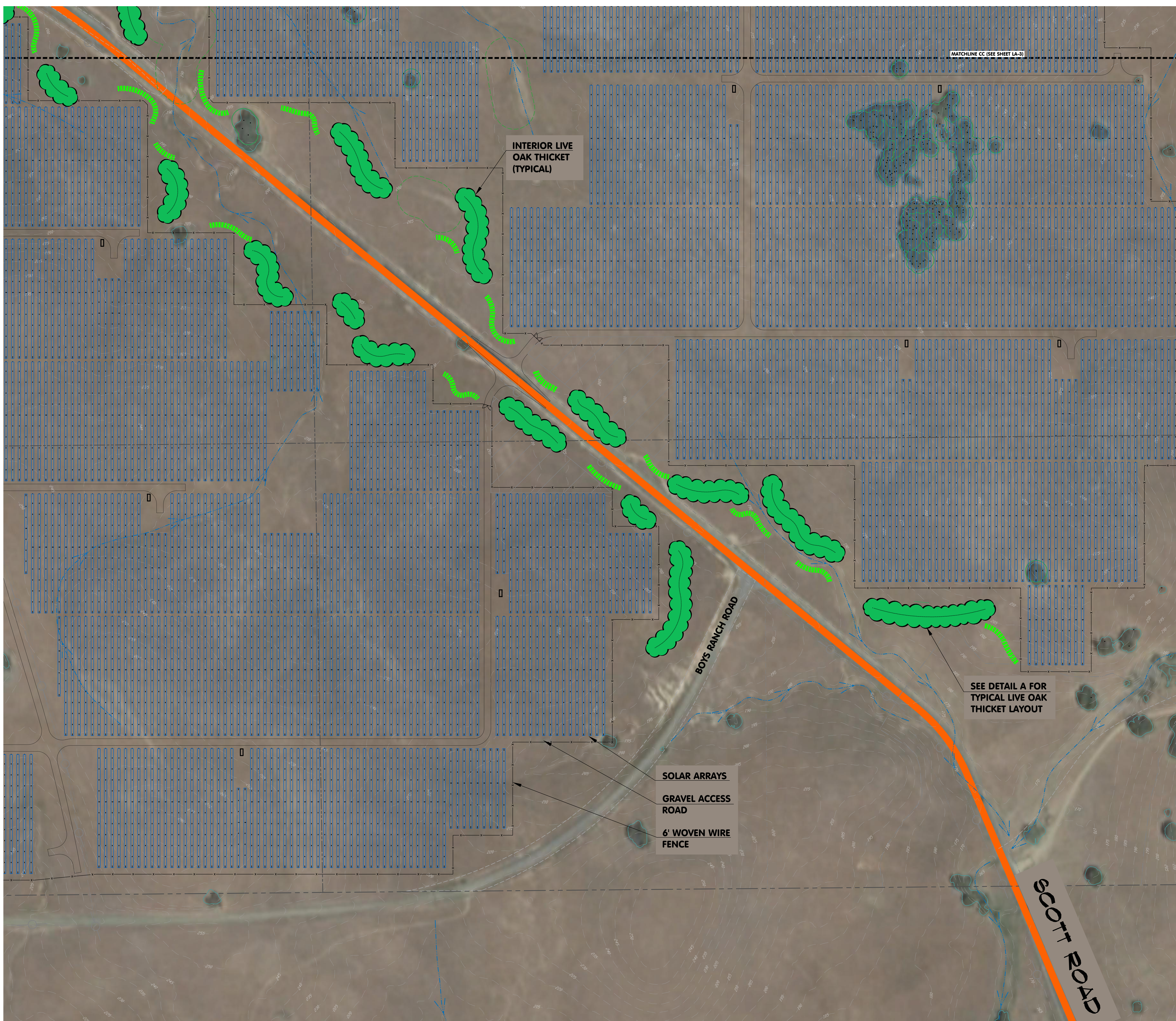
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SEE DETAIL A FOR TYPICAL LIVE OAK THicket LAYOUT

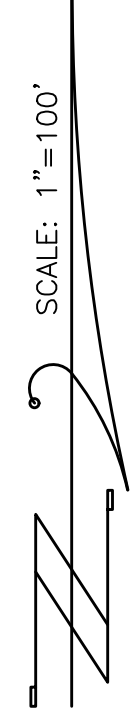
SOLAR ARRAYS
GRAVEL ACCESS ROAD
6' WOVEN WIRE FENCE

SCOTT ROAD

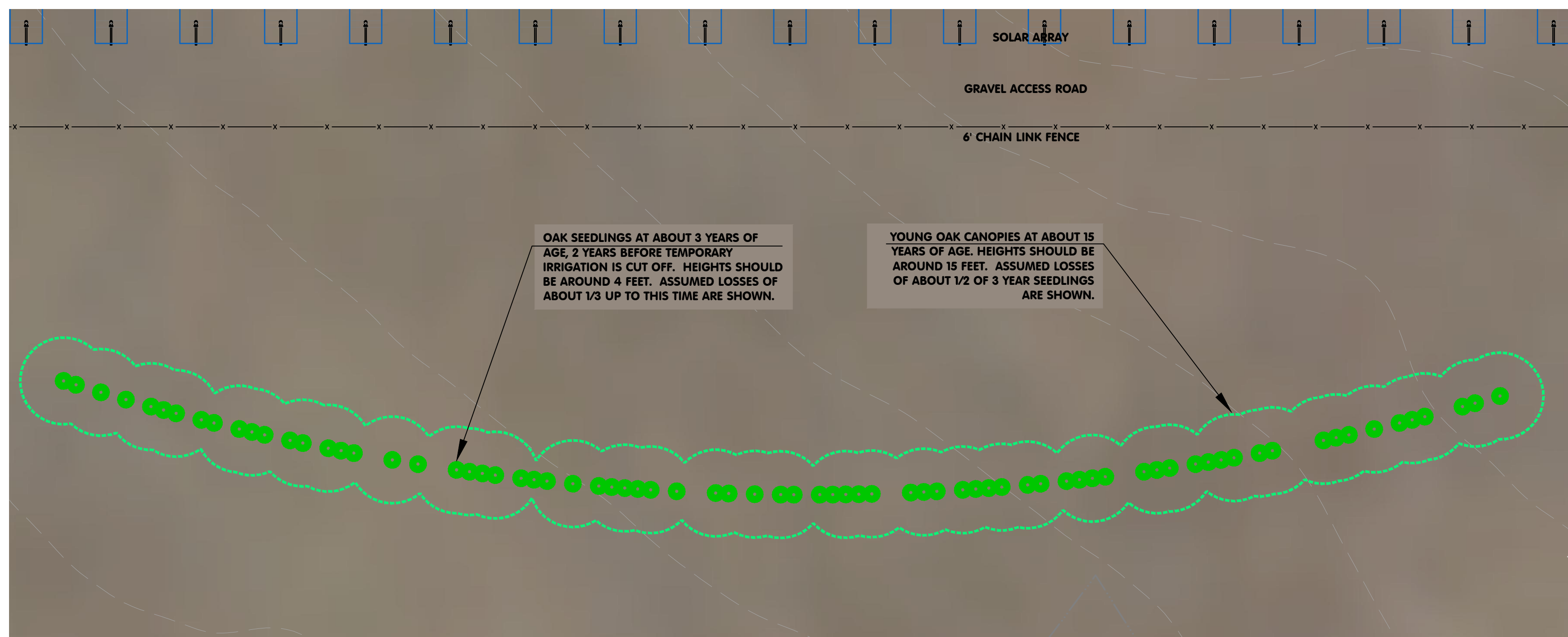
BOY'S RANCH ROAD

INTERIOR LIVE OAK THicket (TYPICAL)

MATCHLINE CC (SEE SHEET LA-3)



SCALE: 1"=100'
GRAPHIC SCALE: 1"=100'



TYPICAL OAK THicket LAYOUT PLAN
SCALE: 1"=20'
DETAIL A

COYOTE CREEK AGRIVOLTAIC RANCH SOUTH PRELIMINARY LANDSCAPE PLAN & CONCEPT DETAILS

SACRAMENTO COUNTY, CALIFORNIA
AUGUST 11, 2023

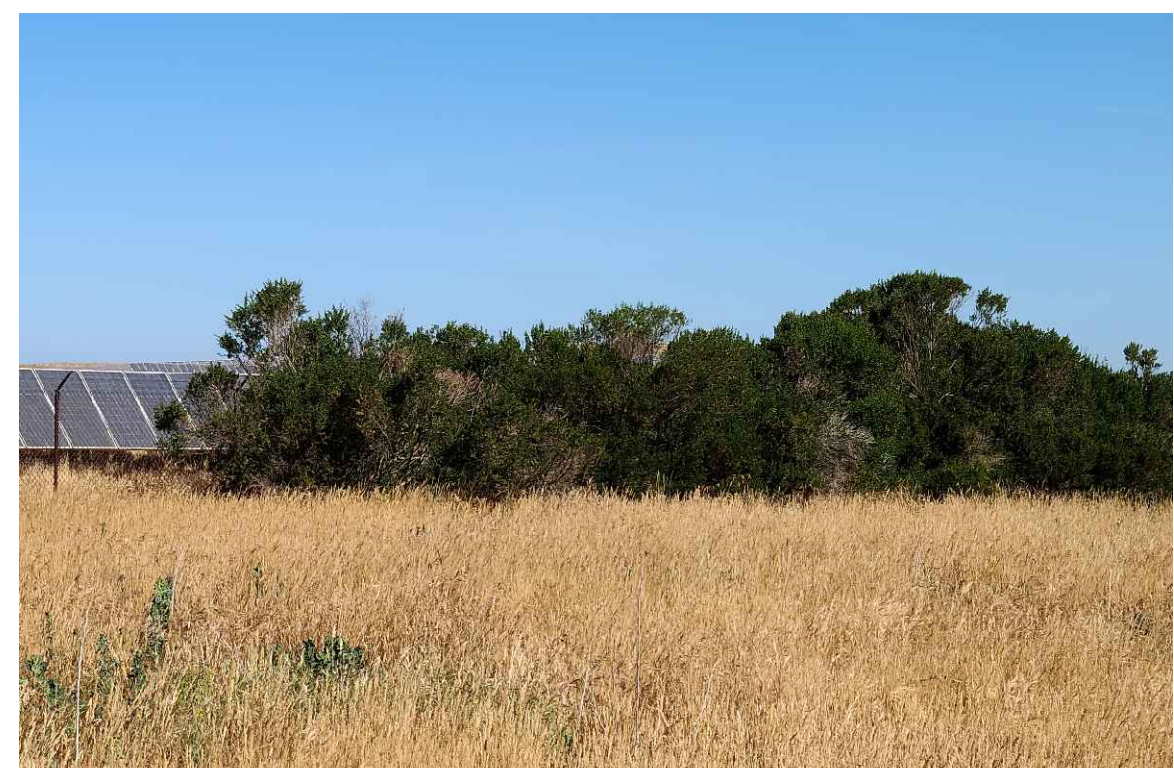
LA-4
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LIVE OAK CONCEPT: LIVE OAK (*QUERCUS WILSONII*) IS NATIVE TO THE AREA & REQUIRES NO SUPPLEMENTARY WATER, PARTICULARLY WHEN ESTABLISHED. THIS TREE, OFF DILLARD ROAD, WAS PROBABLY PLANTED AS AN ACORN BY BIRDS AROUND 3 YEARS AGO. EVEN WITHOUT IRRIGATION, IT IS ALREADY CREATING A SUBSTANTIAL SCREEN OF THE ADJACENT SOLAR PANELS. SCREENING WILL ONLY IMPROVE AS THE TREE AGES.



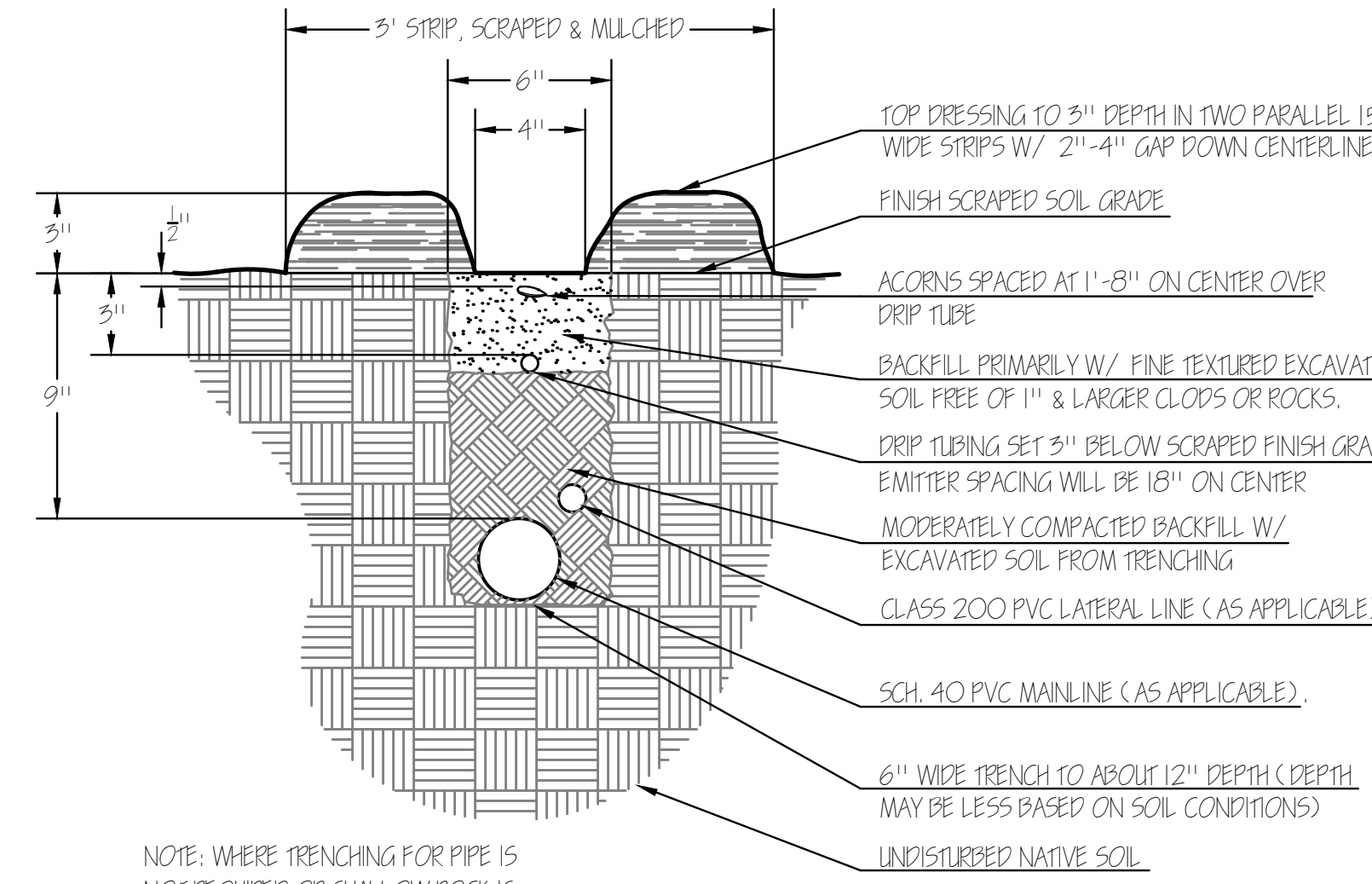
OAK GROVE THicket CONCEPT: LIVE OAKS WOULD BE PLANTED AT 20' ON CENTER FROM ACORNS. THE TREES WOULD RECEIVE SUPPLEMENTARY IN-LINE DRIP IRRIGATION FOR ABOUT 3 YEARS TO ENSURE RAPID SCREENING. FOR VARIETY, AROUND 10% OF THE THicket WOULD BE PLANTED WITH SEGMENTS OF SHRUBS CHOSEN FROM THE HEDGEROW PALETTE BELOW, SPACED AT 8' ON CENTER.



HEDGEROW CONCEPT: HEDGEROWS WOULD BE ESTABLISHED INTERMITTENTLY FOR VARIETY & WHERE SPACE IS LIMITED. THE MIXED NATIVE SHRUBS WOULD TYPICALLY ACHIEVE A MAXIMUM HEIGHT OF AROUND 10'. PLANTS WOULD BE SPACED AT 8' ON CENTER & SHELTERS WOULD BE INSTALLED TO DISCOURAGE HERBIVORES. ALL PLANTS WOULD BE IRRIGATED WITH A TRADITIONAL POINT SOURCE DRIP SYSTEM DESIGNED TO LAST ABOUT 5 YEARS, WHICH WOULD ENSURE ESTABLISHMENT.



MIXED NATIVE SHRUBS: THAT CAN THRIVE WITH NO SUPPLEMENTARY WATER AFTER ESTABLISHMENT COULD INCLUDE ABOUT 10% COMMON MANZANITA (*ARCTOSTAPHYLOS MANZANITA*), 20% COYOTE BUSH (*BAECARPA PALMISPARA*), 10% BLACKBUSH (*CENANTHUS CUNEATUS*), 50% CALIFORNIA COFFEEBERRY (*RANUNCULUS CALIFORNICUS*), 10% HOARY COFFEEBERRY (*RANUNCULUS CALIFORNICUS* SPP. *TOBENTELLA*), 5% BLACK ELDERBERRY (*SAMBUCUS NIGRA*) MAY BE USED AS A DECIDUOUS ACCENT.



NOTE: WHERE TRENCHING FOR PIPE IS NOT REQUIRED OR SHALLOW ROCK IS ENCOUNTERED, DRIP TUBING MAY BE STAKED IN PLACE ON GRADE.

LIVE-OAK THicket PLANTING CONCEPT
NOT TO SCALE
DETAIL B

NOTE: AGRICULTURAL WOVEN WIRE PERIMETER FENCING WILL BE USED IN MOST AREAS. STANDARD CHAIN LINK FENCING WILL BE USED TO SECURE THE BATTERY ENERGY STORAGE SYSTEM, SUBSTATION, AND SWITCHYARD.