CALIFORNIA COASTAL COMMISSION
CENTRAL COAST DISTRICT
725 FRONT STREET, SUITE 300
SANTA CRUZ, CA 95060
PHONE: (831) 427-4863
FAX: (831) 427-4877
WEB: WWW.COASTAL.CA.GOV

W18d

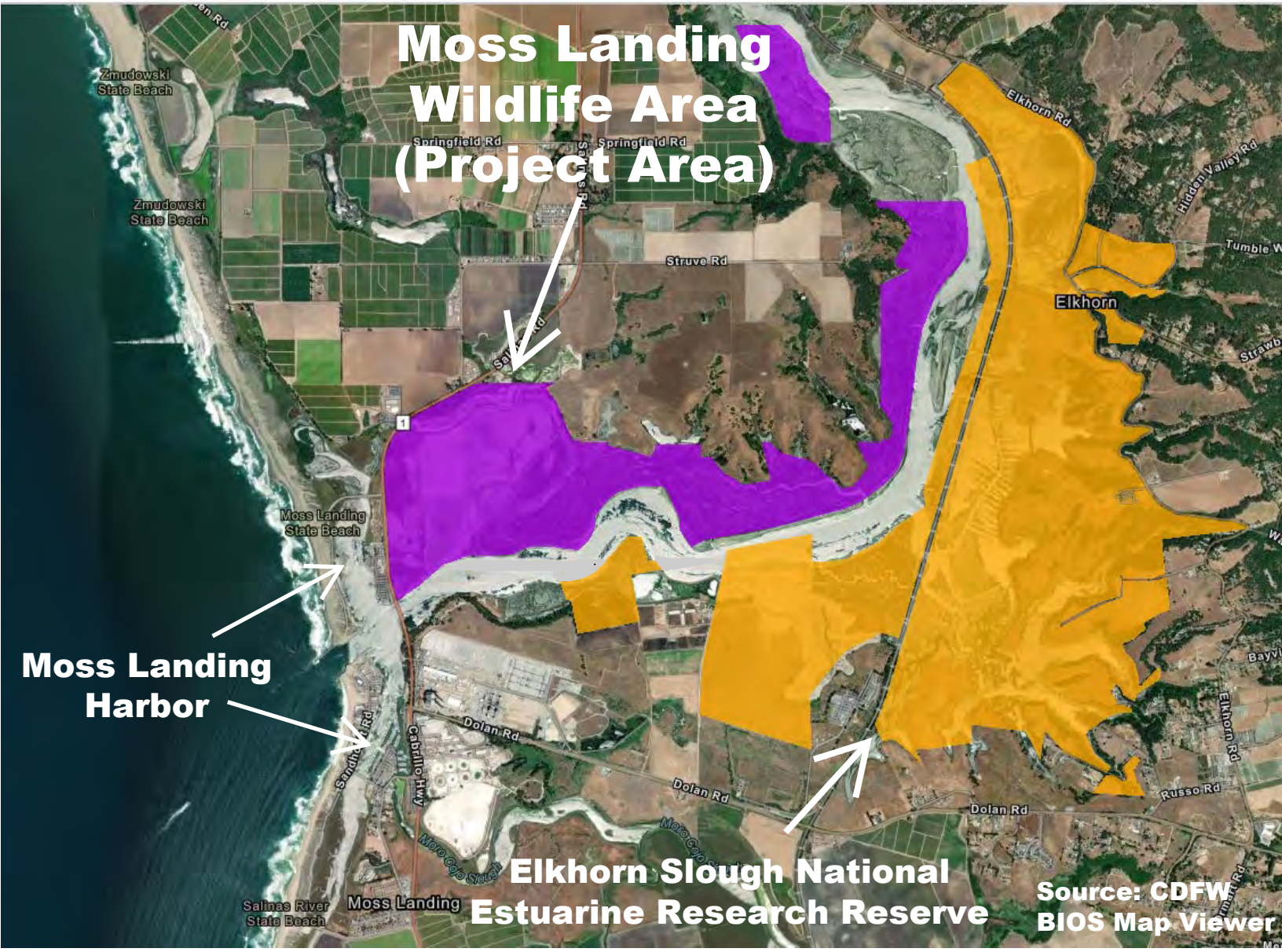
3-23-0176 (CDFW HABITAT RESILIENCY AND ACCESS ENHANCEMENT PROJECT)

SEPTEMBER 6, 2023 HEARING

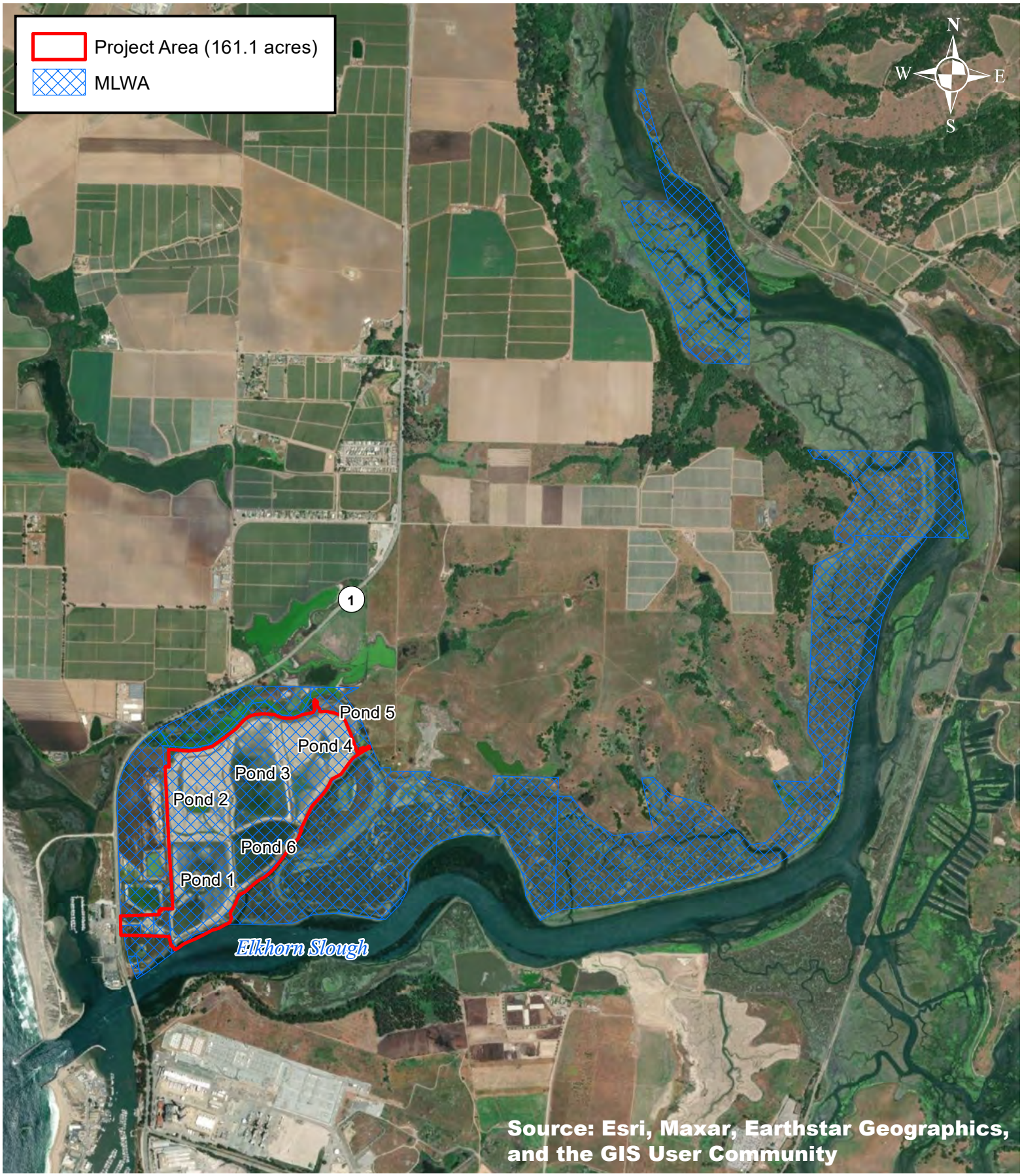
EXHIBITS

Table of Contents

Regional Location Map



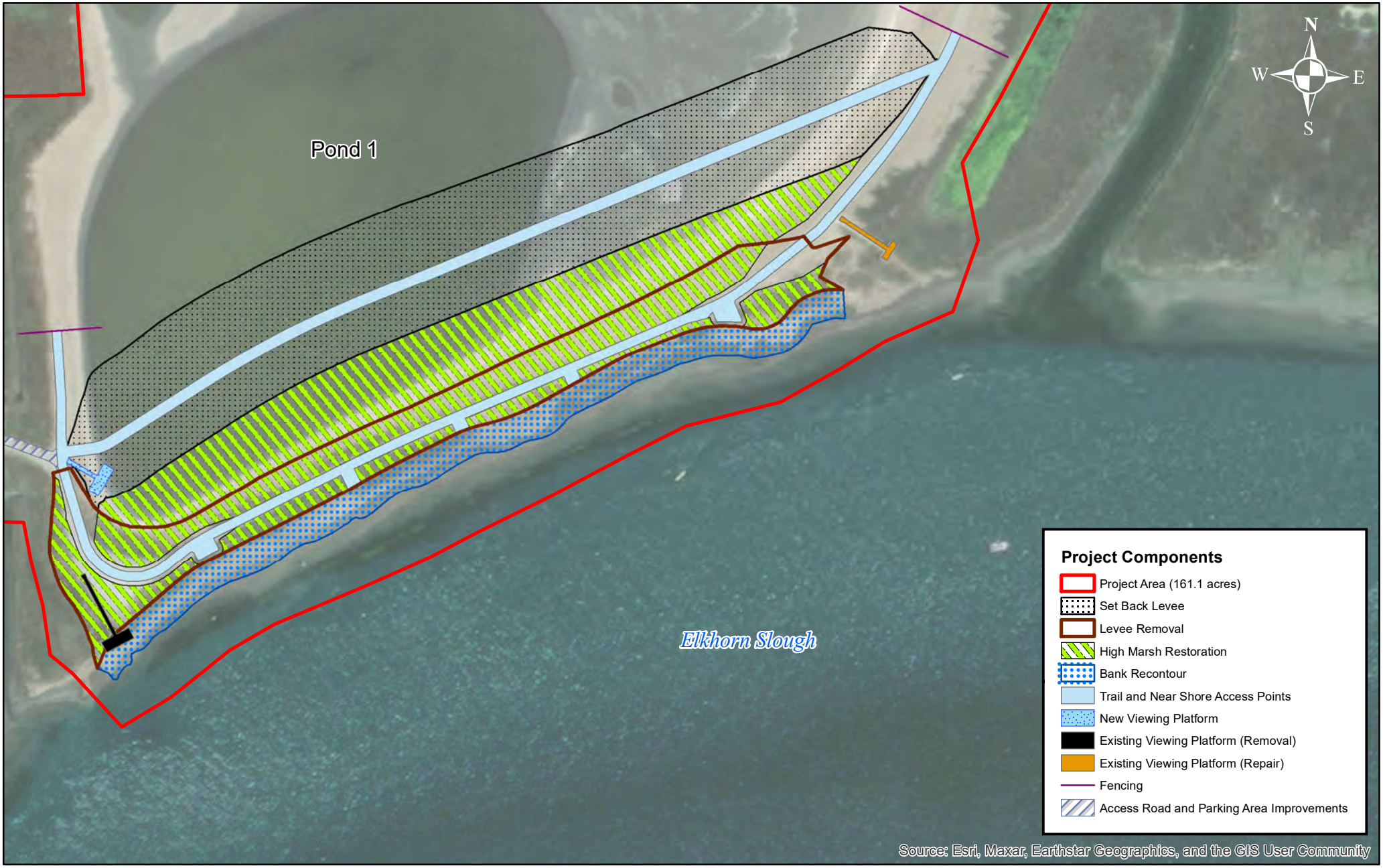
Elkhorn Slough Vicinity Map



Project Area Map

Project Area Map

Project Area Map



Project Components

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Project Components

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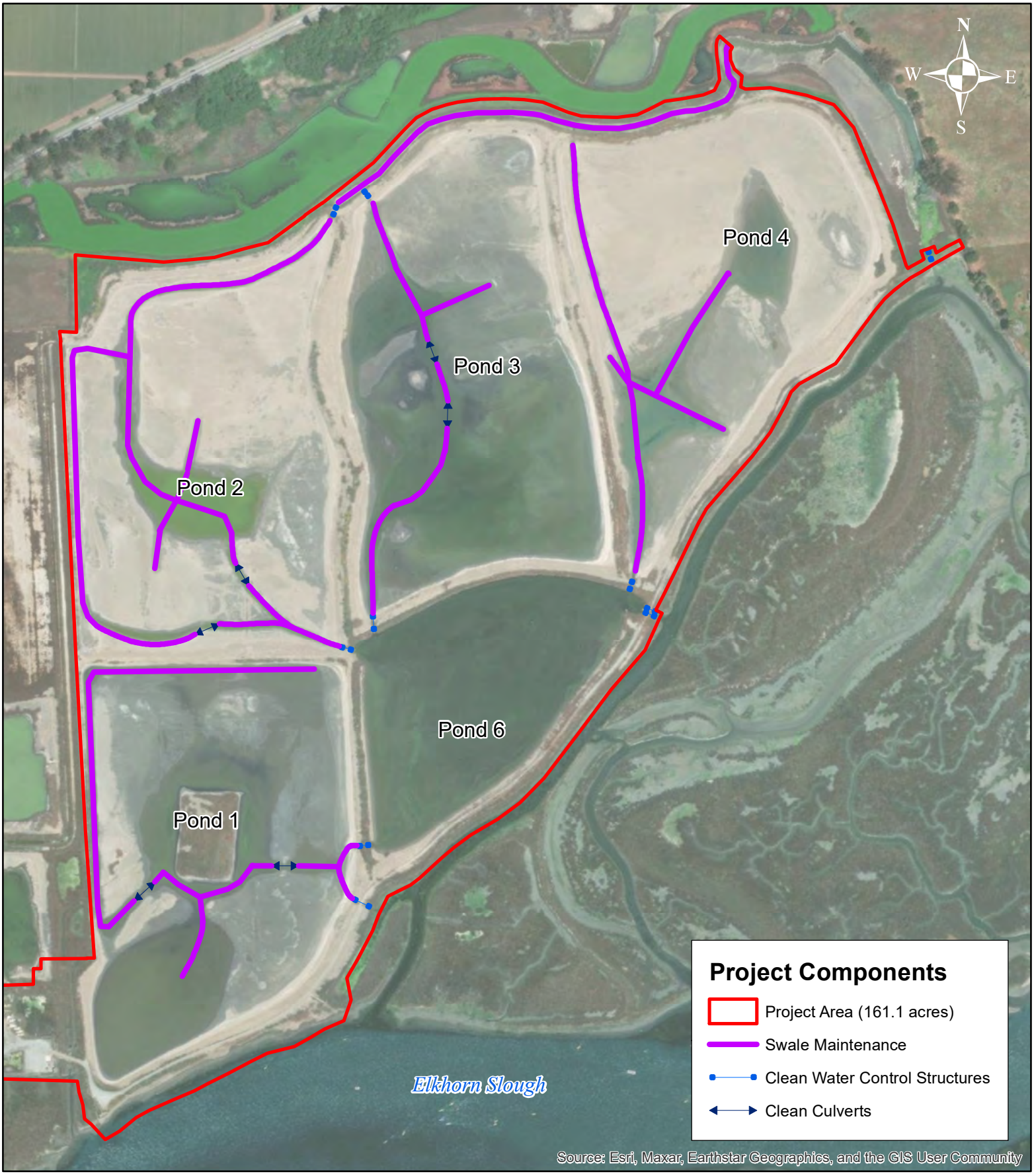
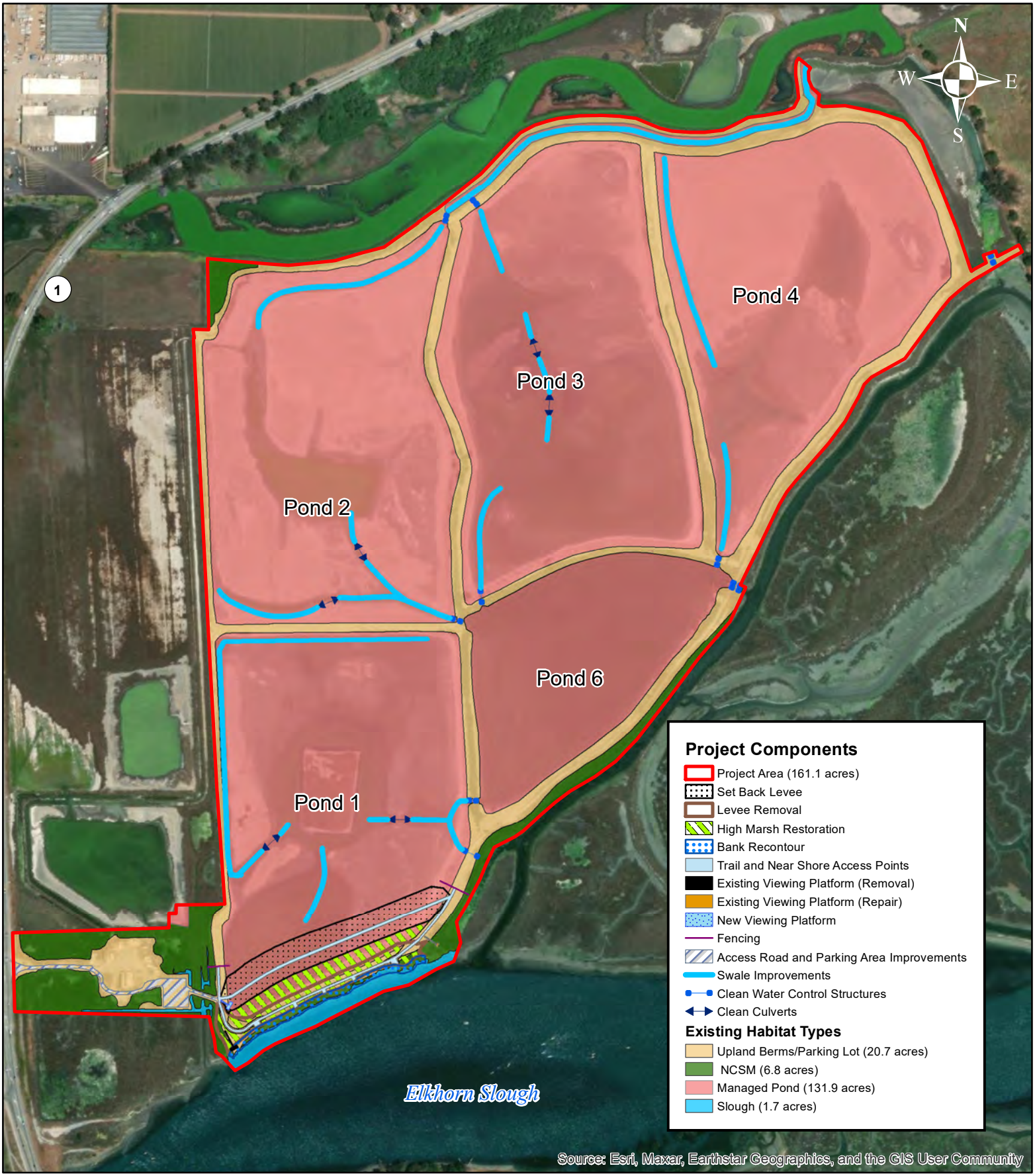


Long-Term Maintenance



Project Components and Habitats

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Piling Shows Extent of Erosion Over Time

Exhibit 3
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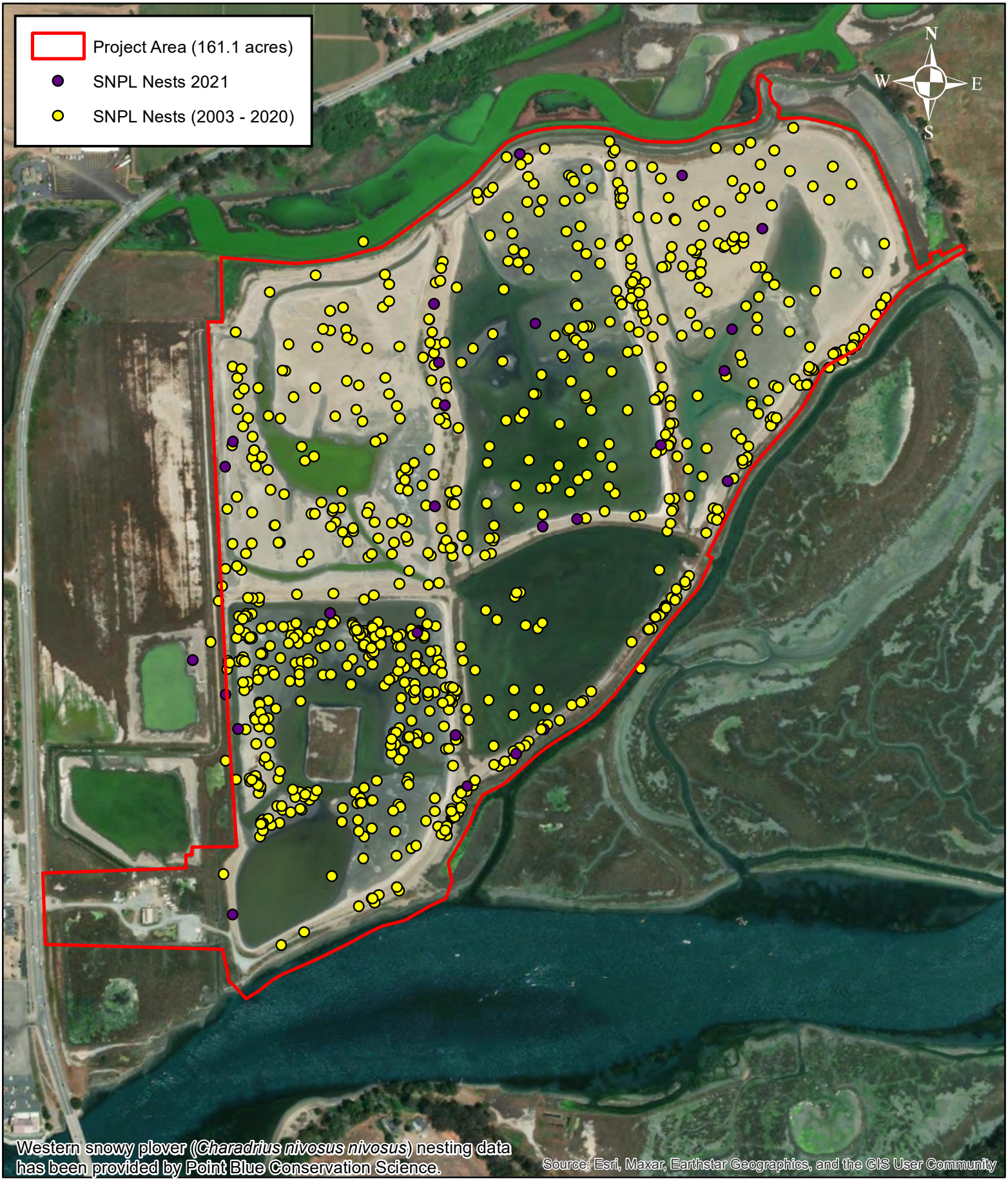
Page 1 of 1

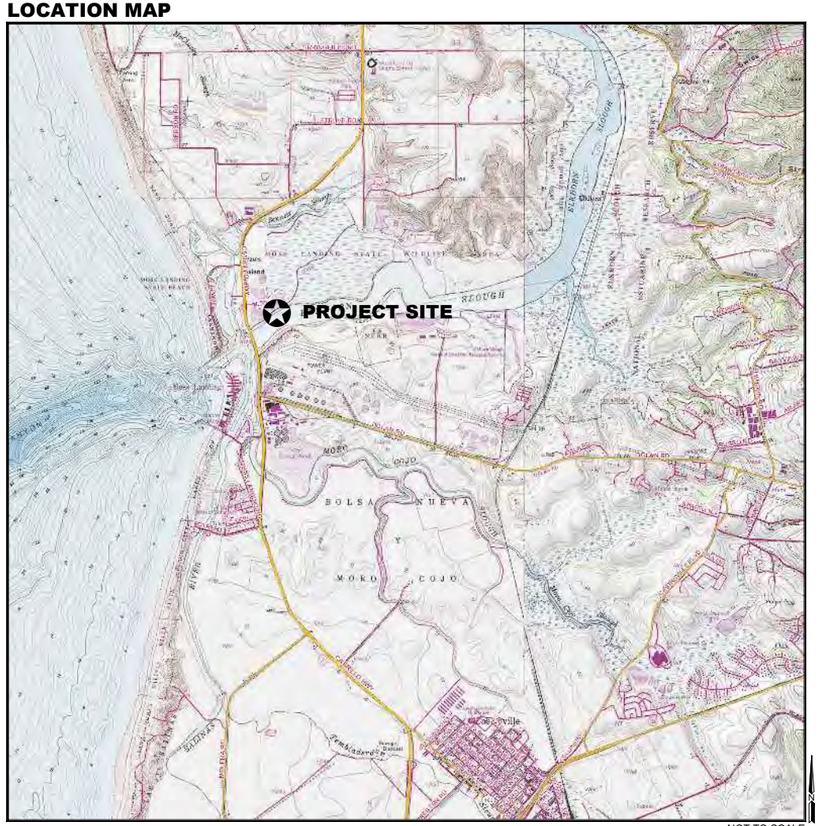


Snowy Plover Nesting Sites 2003-2021

US-CA-272-5

MOSS LANDING WILDLIFE AREA
EX IMPROVEMENT MAINTENANCE & BANK RESTORATION

LOCATION MAP



NOT TO SCALE

VICINITY MAP

SURVEY DATUM

Horizontal and Vertical Control:
Coordinates are State Plane 0404 California Zone 4 in US feet [NAD83]. The vertical control was established using Geoid99 in the NAVD88. The full report is on file at the WRO engineering department in Rancho Cordova, California.

Tidal datums at Monterey, Monterey Harbor based on:
Length of Series: 19 Years
Time Period: January 1983 - December 2001
Tidal Epoch: 1983 - 2001

Elevations of tidal datumsreferred to Mean Lower Low Water (MLLW), in feet:

Mean Higher High Water	MHHW:	5.33
Mean High Water	MHW:	4.63
Mean Tide Level	MTL:	2.86
Mean Sea Level	MSL:	2.83
Mean Low Water	MLW:	1.09
Mean Lower Low Water	MLLW:	0.00
North American Vertical Datum	NAVD88:	-0.14

MAP DATA

CONTOUR INTERVAL: 1 FOOT
AERIAL PHOTO: 2020 NAIP, 2016 GOOGLE EARTH

SHEET INDEX

PROJECT DIRECTORY

Ducks Unlimited, Inc.
Western Regional Office
3074 Gold Canal Drive
Rancho Cordova, Ca. 95670-6116
Ph. (916) 852-2000

PRELIMINARY

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Utility Notification Center
CALL BEFORE YOU DIG

PRELIMINARY
NOT FOR CONSTRUCTION

REVISIONS			
REV. NO.	DESCRIPTION	DATE	APPROVED
5			
4			
3			
2			
1			

DUCKS UNLIMITED

PROJECT NO. US-CA-272-5	DATE: 2/24/2021	DESIGNED BY:	SC
MOSS LANDING WILDLIFE AREA EX IMPROVEMENT MAINTENANCE & BANK RESTORATION		DRAWN BY:	JS
		SURVEYED BY:	SC
APPROVED BY:		CHECKED BY:	
		SHEET NO.	1 of 12

GENERAL NOTES:

1. Ducks unlimited makes no representations as to the existence or nonexistence of utilities. It is the responsibility of the contractor to comply with the provisions of all applicable utility notification regulations. The contractor will be liable for any damage to utilities caused by construction activities.

2. The engineer does not represent that the location of utilities shown on the plans are exact or complete. It shall be the responsibility of the contractor to determine the presence of, actual locations of and make provisions for all watercourses and utilities. The contractor shall verify location, depth and height. Their verification shall be coordinated by the contractor with the appropriate utility company.

3. The contractor shall exercise extreme caution when working in the vicinity of overhead power lines. Verify location in the field and protect in place.

4. At least 2 working days prior to beginning any digging or excavation work, the contractor shall notify underground service alert (a.k.a. USA North) at www.usanorth.org or by phone at 811 or 1-800-227-2600, to determine locations of existing utilities.

5. In accordance with generally accepted construction practices, the contractor will be solely and completely responsible for the conditions of the job site including safety of all persons and property during performance of the work. The contractor shall ensure that all work is performed in accordance with occupational safety laws, including the design and construction of proper shoring of trenches. The duties of the project engineer do not include review of the adequacy of the contractor's safety in, on, or near the job site.

6. It is the responsibility of the contractor to be knowledgeable about the project specifications and permits. All work shall be completed in compliance with the contract documents. The contractor shall have copies of the most current approved plans, specifications and permit conditions on site during all work operations.

7. The project site and adjacent areas contain sensitive habitat areas for protected wildlife, and may include endangered species. The contractor shall protect wildlife and water quality, and minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

8. Should it appear that the work to be done, or any matter relative thereto, is not sufficiently detailed or explained on these plans or in the specifications, the contractor shall contact the construction manager for such further explanations as may be necessary.

9. Should the contractor find any discrepancies between the conditions existing in the field and the information shown on the drawings, he shall notify the construction manager before proceeding with construction.

SURVEY POINT DESCRIPTORS

CTBM	Bench Mark (permanent)
CTBT	Bench Mark (temporary)
CTCP	Survey Control Point (permanent)
CTCT	Survey Control Point (temporary)
DIFL	Ditch Flowline
DIGB	Ditch Grade Break
DITO	Ditch Toe
DITP	Ditch Top
ELBX	Electric, Box or Pullbox
ELGY	Electric, Guy Wire
ELPP	Electric, Power Pole
ELSN	Electric, Warning Sign
ELTR	Electric, Transformer
ELTW	Electric, Tower
ELVT	Electric, Vault
FNAP	Fence Angle Point
FNCR	Fence Corner
FNGT	Fence Gate
FNLN	Fence Line
IRCO	Irrigation Concrete Pad
IRCP	Irrigation Control Panel
IRPI	Irrigation Pipe Invert
IRPM	Irrigation Pump
IRPT	Irrigation Pipe Top
IRVL	Irrigation Valve
IRWL	Irrigation Well
LVCL	Levee Centerline
LVGB	Levee Grade Break
LVTO	Levee Toe of Slope
LVTP	Levee Top of Slope
RDCL	Road, Centerline
RDED	Road, Edge of Dirt Road
RDEG	Road, Edge of Gravel Road
RDEP	Road, Edge of Paved Road
RDGB	Road Grade Break
RDSH	Road Shoulder
RDSN	Road Sign
RDTO	Road, Toe of Slope
RDTP	Road, Top of Slope
SDMH	Storm Drain, Manhole
SDPI	Storm Drain, Pipe Invert
SDPT	Storm Drain, Pipe Top
SSMH	Sanitary Sewer, Manhole
SWFL	Swale Flowline
SWGB	Swale Grade Break
SWTO	Swale Toe
SWTP	Swale Top
TFBL	Topo Feature, Building
TFBR	Topo Feature, Brush
TFCO	Topo Feature, Concrete (pad, slab, etc.)
TFFL	Topo Feature, Flowline
TFGB	Topo Feature, Grade Break
TFGS	Topo Feature, Ground Shot
TFRK	Topo Feature, Rock Or Rocky Area Boundary
TFTL	Topo Feature, Tree line
TFTO	Topo Feature, Grade Break at Toe
TFTP	Topo Feature, Grade Break at Top
TFTR	Topo Feature, Tree
WAEW	Edge of Water
WAHW	High Water Mark
WAUW	Under Water Ground Shot
WAWS	Water Surface
WCFL	Water Control Structure, Flowline/Invert at Structure
WCFR	Water Control Structure, Frame Top
WCHW	Water Control Structure, Headwall
WCPI	Water Control Structure, Pipe Invert at Outlet
WCPT	Water Control Structure, Pipe Top at Outlet
WCST	Water Control Structure, Top of Structure
WCWW	Water Control Structure, Wing Wall

ABBREVIATIONS

AB	Aggregate Base
AC	Acre
APPROX	Approximate
BM	Benchmark
CAP	Corrugated Aluminum Pipe
CC	Center to Center
CF	Cubic Foot
CFS	Cubic Foot Per Second
CL	Centerline
CMP	Corrugated Metal Pipe
CMPA	Corrugated Metal Arch Pipe
CONC	Concrete
CP	Control Point
CY	Cubic Yard
DEMO	Demolish
DIA	Diameter
Dp	Pipe Diameter
Dr	Riser Diameter
DU	Ducks Unlimited, Inc.
D/S	Downstream
E	East
EG	Existing Ground
EL	Elevation
EX, EXIST	Existing
FG	Finished Grade
FL	Flowline
FRG	Final Rough Grade
FT	Foot, Feet
FTG	Fitting, Footing
GA	Gauge
GB	Grade Break
H	Height
HDPE	High-Density Polyethylene
HR	Half Round
ID	Inside Diameter
IE	Invert Elevation
IG	Initial Grade
IN	Inch, Inches
INV	Invert
IPS	Iron Pipe Size
L	Length, Left
LBF	Pounds-Force
LF	Linear Feet
MAINT	Maintenance
MAX	Maximum
MIN	Minimum
MISC	Miscellaneous
(N)	New
N	North
NIC	Not In Contract
NTS	Not To Scale
OC	On Center
OD	Outside Diameter
PIP	Pressure Irrigation Pipe
PP	Power Pole
PSI	Pounds per Square Inch
PT	Pressure Treated
PVC	Polyvinyl Chloride
QTY	Quantity
R	Right
RCB	Reinforced Concrete Box
RD	Road
REF	Reference Dimension
REQD	Required
ROW	Right Of Way
S	South
SCH	Schedule
SS	Stainless Steel
SDR	Standard Dimension Ratio
SF	Square Feet
SHT	Sheet
SP	Special
SPECS	Specifications
SY	Square Yard
STA	Station
STD	Standard
TBD	To Be Determined by Engineer
TBM	Temporary Benchmark
TE	Top Elevation
TEMP	Temporary
TOI	Top of Island
TOL	Top of Levee
TOB	Top of Berm
TYP	Typical
USA	Underground Service Alert
U/S	Upstream
VLV	Valve
W	Width, West (where applicable)
W /	With
WCS	Water Control Structure
WS	Water Surface
WSEL	Water Surface Elevation
WWF	Welded Wire Fabric
X:1	Slope, Horizontal:Vertical

LEGEND & STANDARD SYMBOLS (Symbols do not represent actual scale / size of object)

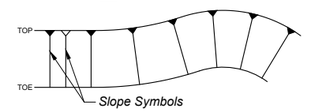
EXISTING CONDITIONS

- Existing Fence Line - Barbed Wire
- Existing Fence Line - Chain Link
- Existing Fence Line - Stockade
- Power / Telephone Overhead Lines
- Underground Gas Line
- Electric Line
- Force Main Line
- Sanitary Sewer Line
- Storm Drain Line
- Existing Ditch
- Existing Levee
- Existing Swale
- Existing Road - Dirt
- Existing Road - Gravel
- Existing Road - Paved
- Existing Trees / Brushline
- Existing Power / Telephone Pole
- Existing Electric Guy Wire
- Existing Electric Transformer
- Existing Electric Tower
- Existing Electric Vault
- Existing Blind
- Existing Gate Valve
- Existing Air Relief Valve
- Existing Alfalfa / Overflow Valve
- Existing Irrigation Well
- Existing Irrigation Pump
- Existing Water Meter
- Existing Fire Hydrant
- Existing Manhole
- Existing Natural Gas Meter / Valve
- Existing Sign
- Existing Pipe / Culvert
- Existing Water Control Structure (Precast Concrete)
- Existing Water Control Structure (Full Round)
- Existing Water Control Structure (Half Round)

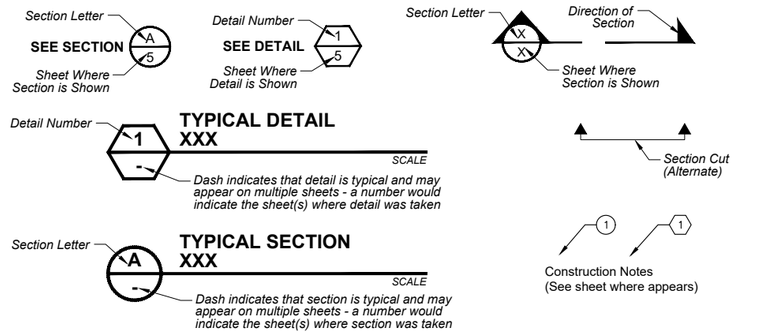
DESIGN SYMBOLS

- Water Control Structure ID# (WCS01)
- Revision Number Identifier (1)
- Cut/Borrow Area / Pothole
- Fill Area
- Ditch Cleaning
- New Ditch Centerline / Flowline
- New Swale Centerline / Flowline
- Regrade Existing Swale
- New Levee Centerline
- Improved Levee Centerline
- Regraded/Lowered Levee Centerline
- Remove Existing Levee
- Design Water Surface Elevation (DESIGN WSEL= XXX.X)
- New Power Pole
- New Gate Valve
- New Air Relief Valve
- New Alfalfa / Overflow Valve
- New Irrigation Pump
- New Water Control Structure
- New Water Control Structure
- Benchmark
- Temporary Benchmark
- Control Point

Grading Example



DETAILING CONVENTIONS



PRELIMINARY

Unauthorized Changes & Uses
The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes must be in writing and must be approved by the preparer of these plans.

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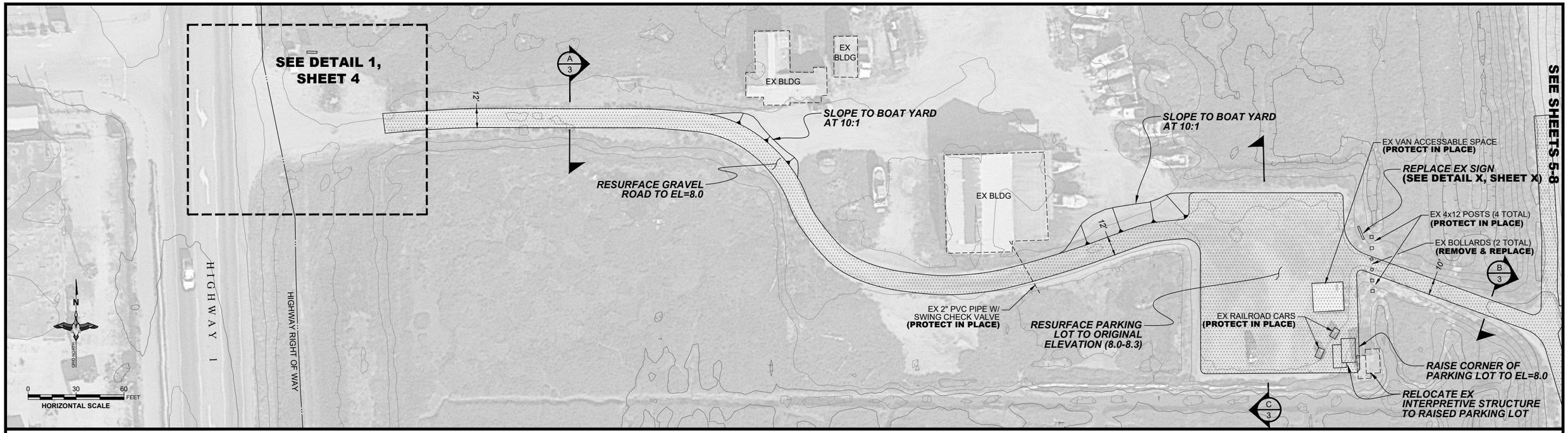
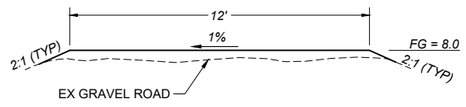
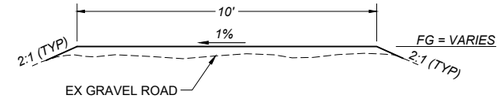
DUCKS UNLIMITED

PROJECT NO. US-CA-272-5	DATE: 2/24/2021	DESIGNED BY:	SC
MOSS LANDING WILDLIFE AREA EX IMPROVEMENT MAINTENANCE & BANK RESTORATION		DRAWN BY:	JS
		SURVEYED BY:	SC
		CHECKED BY:	
DEFINITIONS & LEGEND		SHEET NO.	2 of 12

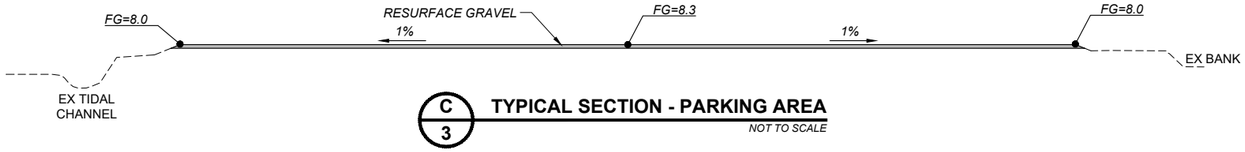




A 3 **TYPICAL SECTION - ROAD RESURFACING**
NOT TO SCALE



B 3 **TYPICAL SECTION - PATH RESURFACING**
NOT TO SCALE



C 3 **TYPICAL SECTION - PARKING AREA**
NOT TO SCALE

PRELIMINARY

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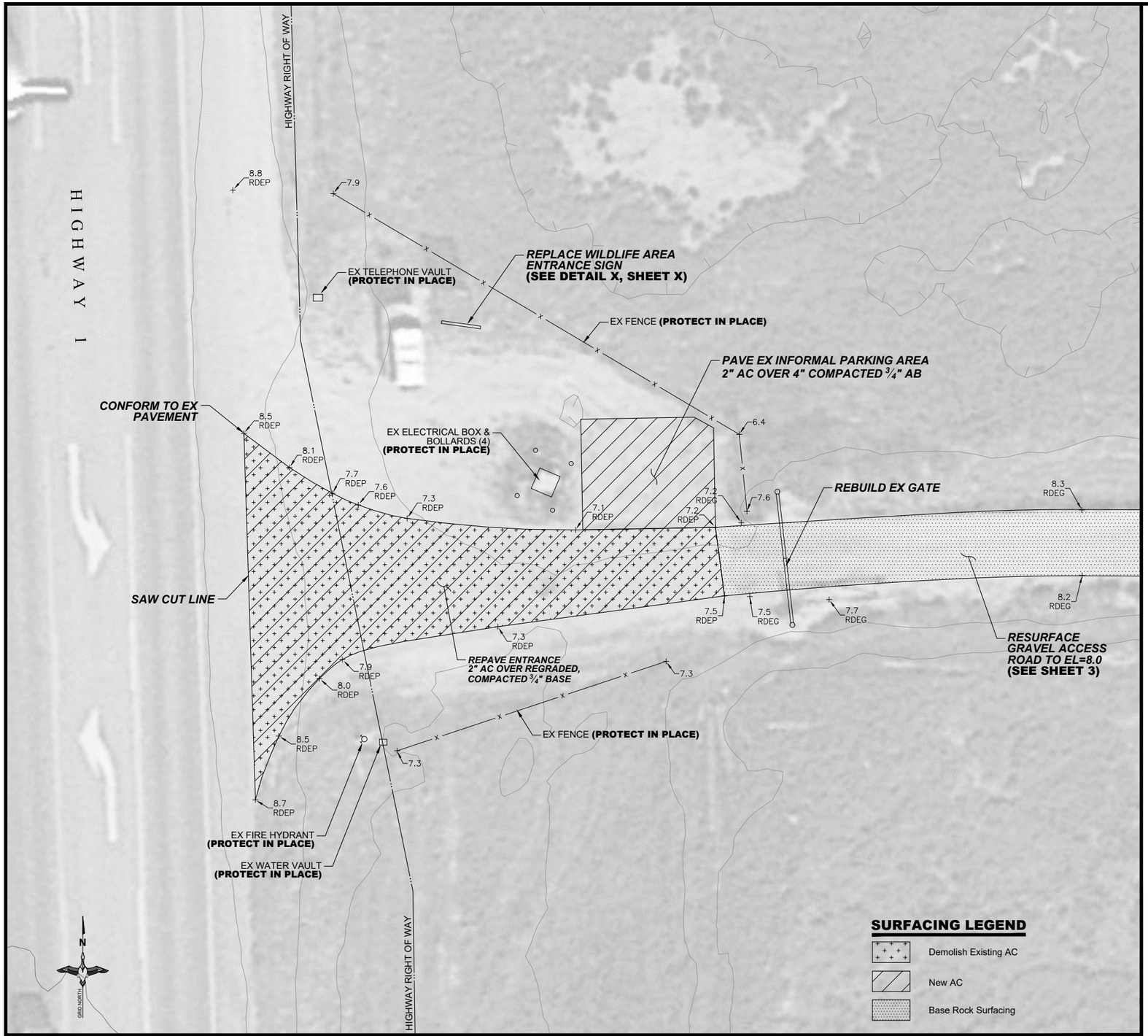
DUCKS UNLIMITED

PROJECT NO. US-CA-272-5 DATE: 2/24/2021

MOSS LANDING WILDLIFE AREA EX IMPROVEMENT MAINTENANCE & BANK RESTORATION

EX IMPROVEMENTS MAINTENANCE

DESIGNED BY:	SC
DRAWN BY:	JS
SURVEYED BY:	SC
CHECKED BY:	
SHEET NO.	**3 of 12**



0 10 20 FEET
HORIZONTAL SCALE

1/3 DETAIL

Unauthorized Changes & Uses
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DUCKS UNLIMITED

PROJECT NO. US-CA-272-5 DATE: 2/24/2021

MOSS LANDING WILDLIFE AREA EX IMPROVEMENT MAINTENANCE & BANK RESTORATION

EX IMPROVEMENTS MAINTENANCE

DESIGNED BY:	SC
DRAWN BY:	JS
SURVEYED BY:	SC
CHECKED BY:	
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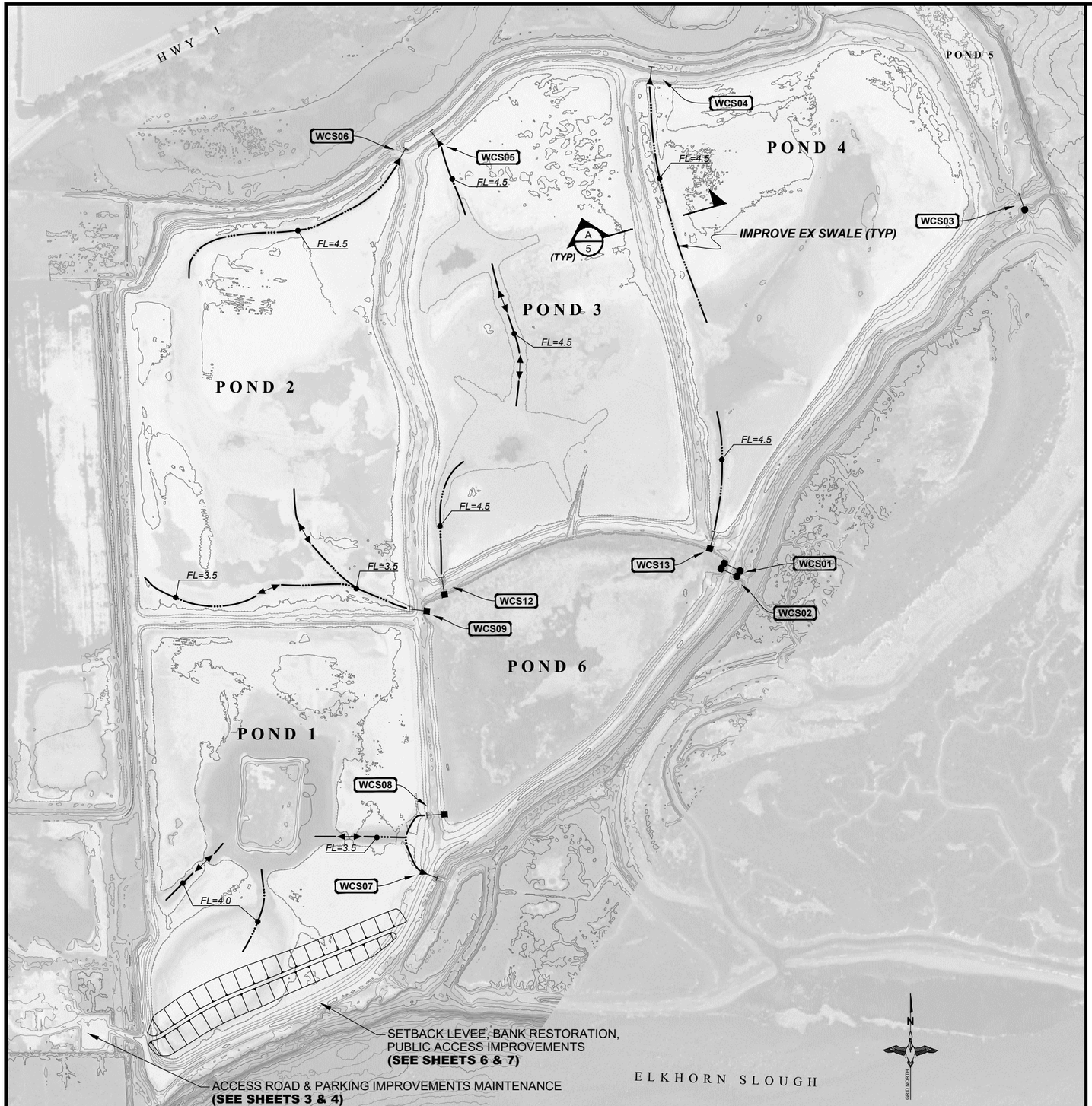


LEGEND & STANDARD SYMBOLS

- Existing Swale - To be cleaned / Restored (See Section "A" this sheet)
- WCS - Open Culvert
- WCS - Riser & Flap
- WCS - Double Combination Gates
- WCS - Combination Gate & Open Culvert
- WCS - Canal Gate & Flap

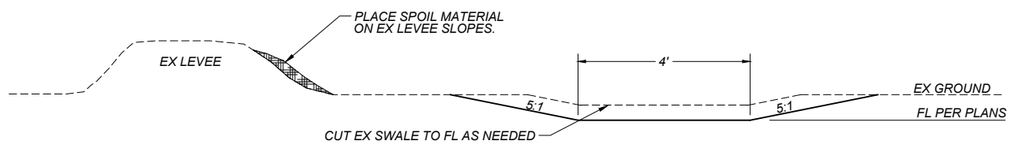
NOTES:

1. Perform maintenance on all water control structures per specifications. Clean out sediment traps.
2. Excavate swales to original lines and grades.
3. Clean out culverts.
4. Material generated from swales and sediment traps shall be placed on nearby levee side slopes and blended to match the existing slopes and ensure positive drainage.

WATER CONTROL STRUCTURE TABLE

WCS#	CONTROL TYPE		GATE HEIGHT (Ft)	FLOWLINE ELEV	PIPE		
	UPSTREAM	DOWNSTREAM			Dp (In)	LENGTH (Ft)	MATERIAL
WCS01	FC	F	7.5	3.0	39	50	SDR
WCS02	FC	F	7.5	3.0	39	50	SDR
WCS03	FC	N	6	4.0	39	50	SDR
WCS04	R	F	N/A	4.5	24	30	DW
WCS05	R	F	N/A	4.5	24	30	DW
WCS06	R	F	N/A	4.5	24	30	DW
WCS07	R	F	N/A	3.5	24	50	DW
WCS08	C	F	6	4.0	24	50	DW
WCS09	C	F	6.5	4.0	24	40	DW
WCS12	C	F	6.5	4.0	24	40	DW
WCS13	C	F	6.5	4.0	24	40	DW

WCS TABLE LEGEND:
C = Canal Gate
DW = Dual Walled HDPE
F = Flap Gate
FC = Combination Canal / Flap Gate
N = None
R = Flashboard Riser
SDR = Solid Walled HDPE
V = Valve



A/5 **TYPICAL SECTION IMPROVED SWALE**
NOT TO SCALE

PRELIMINARY

0 200 400 FEET
HORIZONTAL SCALE

REVISIONS			
REV. NO.	DESCRIPTION	DATE	APPROVED
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DUCKS UNLIMITED

PROJECT NO. US-CA-272-5 DATE: 2/24/2021
MOSS LANDING WILDLIFE AREA
EX IMPROVEMENT MAINTENANCE & BANK RESTORATION
PONDS MAINTENANCE

DESIGNED BY: SC
DRAWN BY: JS
SURVEYED BY: SC
CHECKED BY:
SHEET NO. 5 of 12

0 40 80 FEET
HORIZONTAL SCALE

Unauthorized Changes & Uses
The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes must be in writing and must be approved by the preparer of these plans.

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PRELIMINARY

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DUCKS UNLIMITED

PROJECT NO. US-CA-272-5 DATE: 2/24/2021

MOSS LANDING WILDLIFE AREA EX IMPROVEMENT MAINTENANCE & BANK RESTORATION

EXISTING CONDITIONS - SHORE EROSION

DESIGNED BY:	SC
DRAWN BY:	JS
SURVEYED BY:	SC
CHECKED BY:	
SHEET NO.	**6 of 12**

POND 1

CONSTRUCT OFFSET LEVEE & PATH

INSTALL 5 FOOT PVC COATED CHAIN LINK FENCE AND GATE (1/9)

INSTALL 5 FOOT PVC COATED CHAIN LINK FENCE AND GATE (1/9)

REPAIR EX OBSERVATION PLATFORM

RELOCATED VIEWING PLATFORM

CONSTRUCT NEW PATH (B/8)

CONSTRUCT FENCED & SURFACED FISHING AREA (2/8)

CONTOUR EX LEVEE EXCAVATION GRADE AT 10:1 TO EL=3.3 & DAYLIGHT TO EROSION BANK TOE

EXCAVATE EXISTING LEVEE TO EL=6.0

LIMIT OF LEVEE CUT

DAYLIGHT TO EROSION BANK TOE

CONSTRUCT AT-GRADE SURFACED FISHING TRAIL

CONSTRUCT BENCH AT EL=8.0 BELOW PLATFORM

FILL TO MATCH EXCAVATED LEVEE

CONSTRUCT FENCED & SURFACED FISHING AREA (1/8)

CONSTRUCT NEW PATH (B/8)

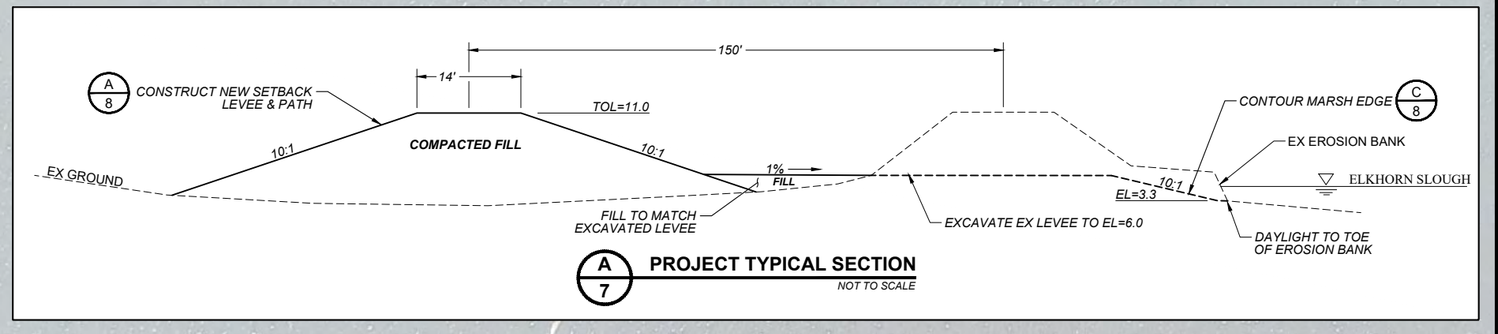
EX VIEWING PLATFORM RELOCATE

ELKHORN SLOUGH

TOL=11.0 TOL=9.2 TOL=11.0

FG=9.0 FG=7.5 FG=8.0 FG=7.0 FG=6.0 FG=3.3 FG=6.0 FG=7.5 FG=6.0 FG=6.0 FG=3.3 FG=6.0 FG=6.0 FG=3.3 FG=10.0 FG=7.5 FG=6.0 FG=7.5 FG=6.0 FG=7.5 FG=6.0 FG=6.0 FG=3.3

10:1 20:1 15:1



A/7 PROJECT TYPICAL SECTION
NOT TO SCALE

0 40 80 FEET
HORIZONTAL SCALE

Unauthorized Changes & Uses
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PRELIMINARY

REVISIONS			
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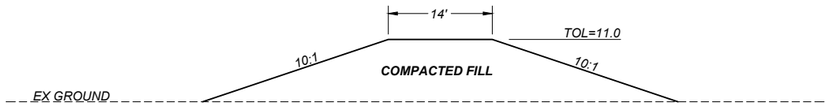
DUCKS UNLIMITED

PROJECT NO. US-CA-272-5 DATE: 2/24/2021

MOSS LANDING WILDLIFE AREA EX IMPROVEMENT MAINTENANCE & BANK RESTORATION

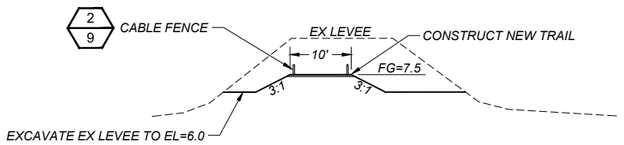
SITE PLAN - SETBACK LEVEE

DESIGNED BY:	SC
DRAWN BY:	JS
SURVEYED BY:	SC
CHECKED BY:	
SHEET NO.	**7 of 12**



A - TYPICAL SECTION SETBACK LEVEE

NOT TO SCALE



B - TYPICAL SECTION NEW TRAIL

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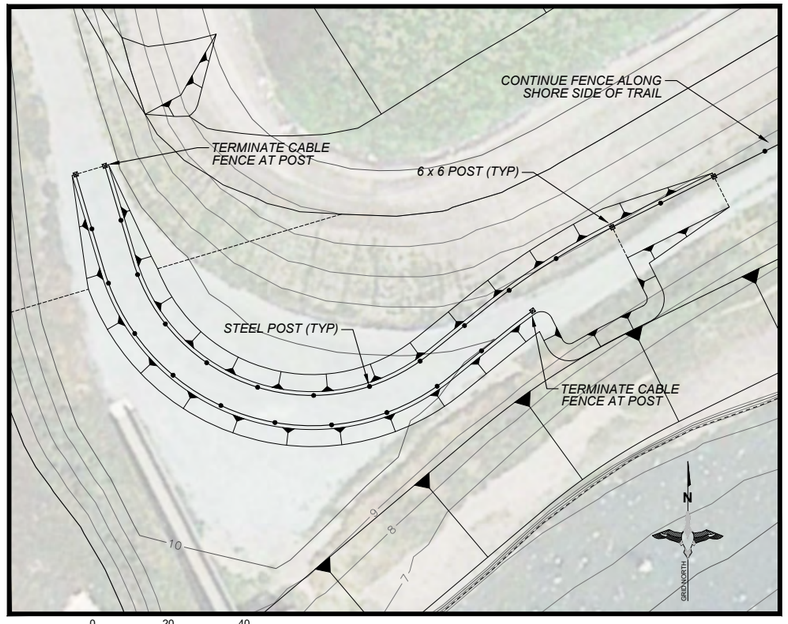
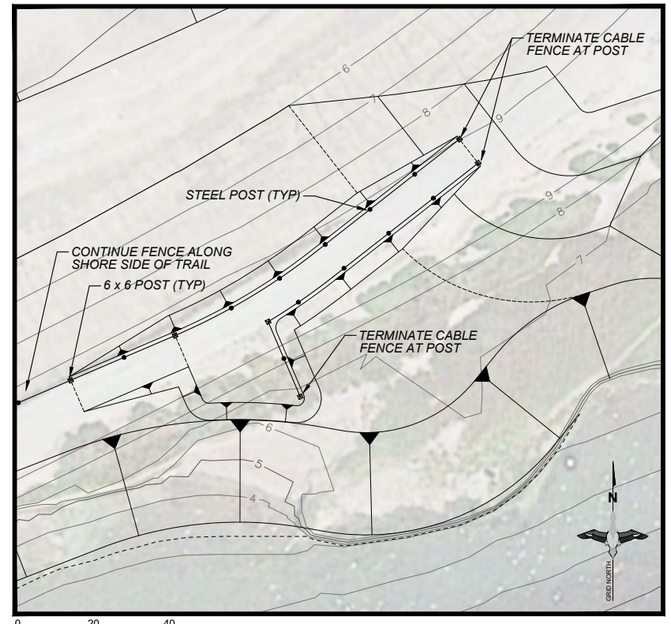
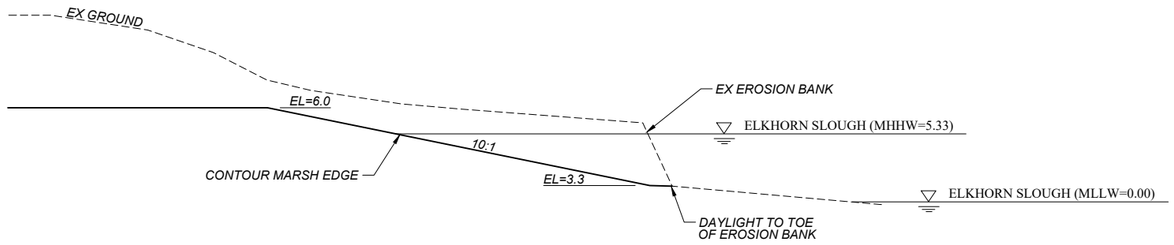


1 - DETAIL - CABLE FENCE

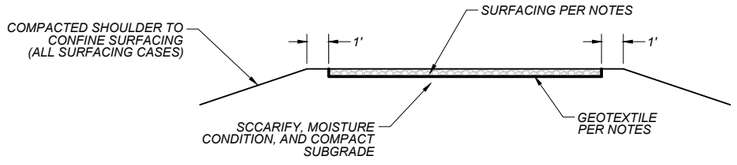


2 - DETAIL - CABLE FENCE



C - TYPICAL SECTION MARSH EDGE CONTOURING

NOT TO SCALE



D - TYPICAL SECTION SURFACING

NOT TO SCALE

SURFACING NOTES:

1. Levee surfacing: 6" thick ¾ base rock over geotextile fabric
2. Trail surfacing: 2" thick quarry fines over 4" thick ¾ base rock. No geotextile fabric.

PRELIMINARY

REVISIONS			
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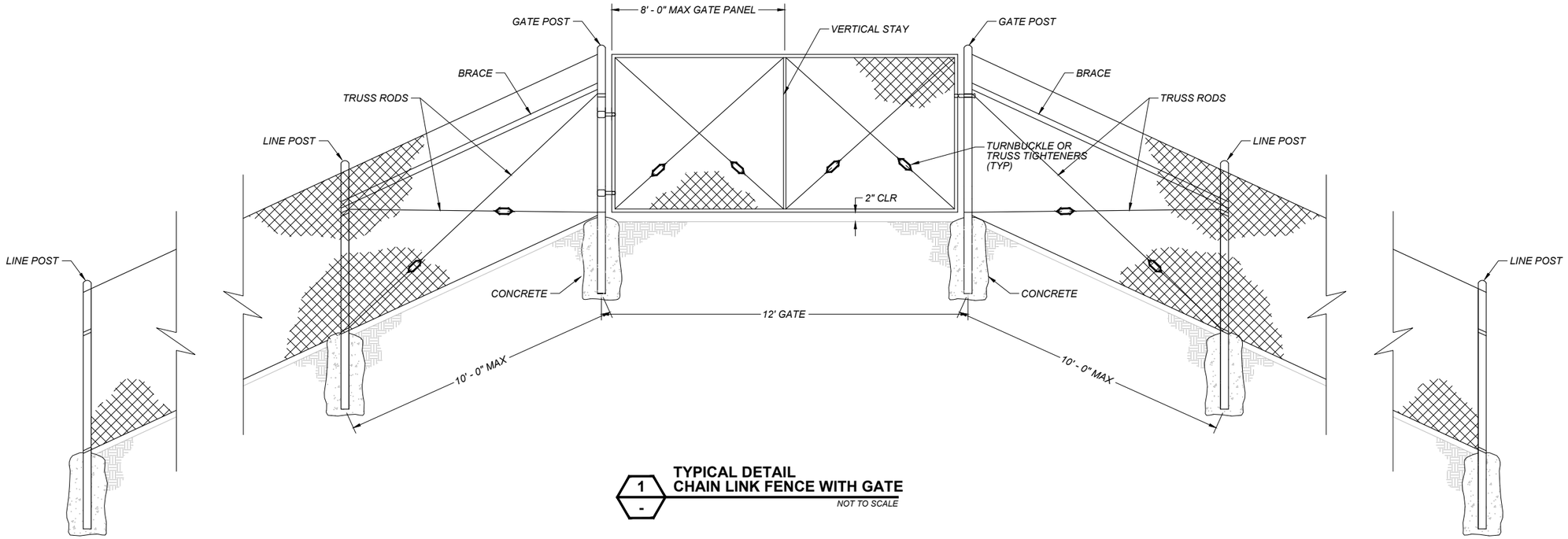
DUCKS UNLIMITED

PROJECT NO. US-CA-272-5 DATE: 2/24/2021

MOSS LANDING WILDLIFE AREA EX IMPROVEMENT MAINTENANCE & BANK RESTORATION

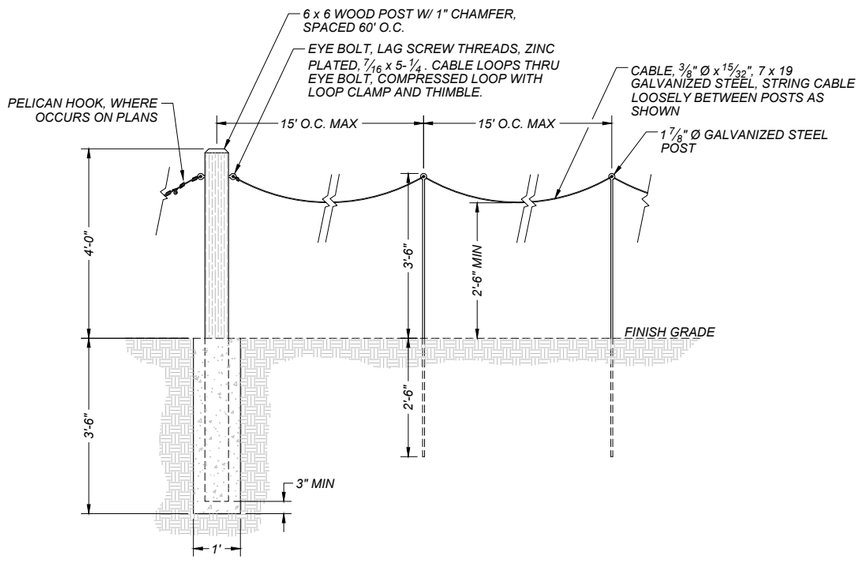
DETAILS

DESIGNED BY:	SC
DRAWN BY:	JS
SURVEYED BY:	SC
CHECKED BY:	
SHEET NO.	**8 of 12**



1 - TYPICAL DETAIL CHAIN LINK FENCE WITH GATE

NOT TO SCALE



2 - TYPICAL DETAIL CABLE FENCE

NOT TO SCALE

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3-23-0176
Page 9 of 11

Unauthorized Changes & Uses
The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes must be in writing and must be approved by the preparer of these plans.

PRELIMINARY

REVISIONS			
REV. NO.	DESCRIPTION	DATE	APPROVED
5			
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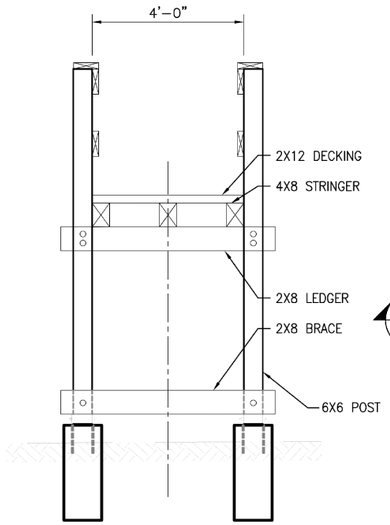
DUCKS UNLIMITED

PROJECT NO. **US-CA-272-5** DATE: **2/24/2021**

MOSS LANDING WILDLIFE AREA EX IMPROVEMENT MAINTENANCE & BANK RESTORATION

DETAILS

DESIGNED BY:	SC
DRAWN BY:	JS
SURVEYED BY:	SC
CHECKED BY:	
SHEET NO.	**9 of 12**



K / 11 SECTION
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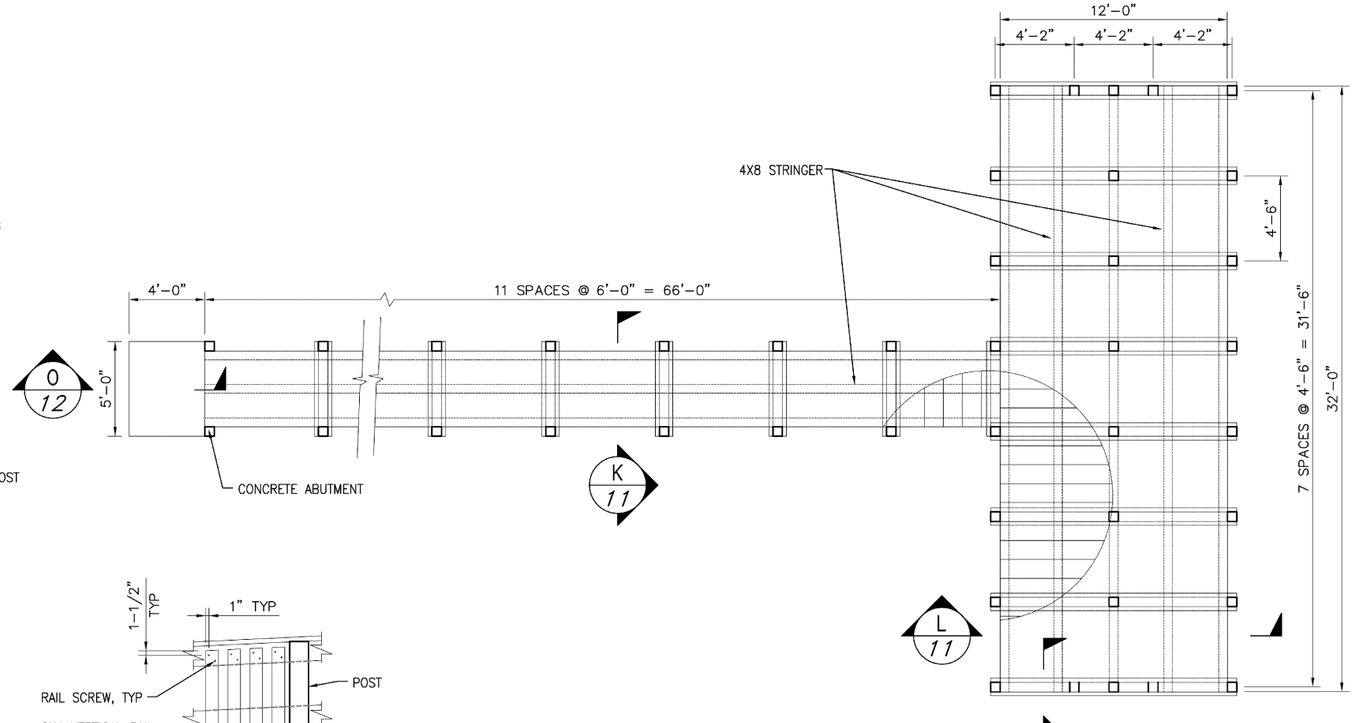
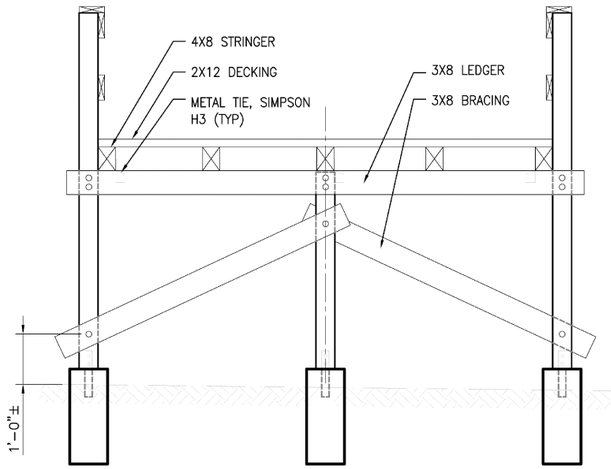
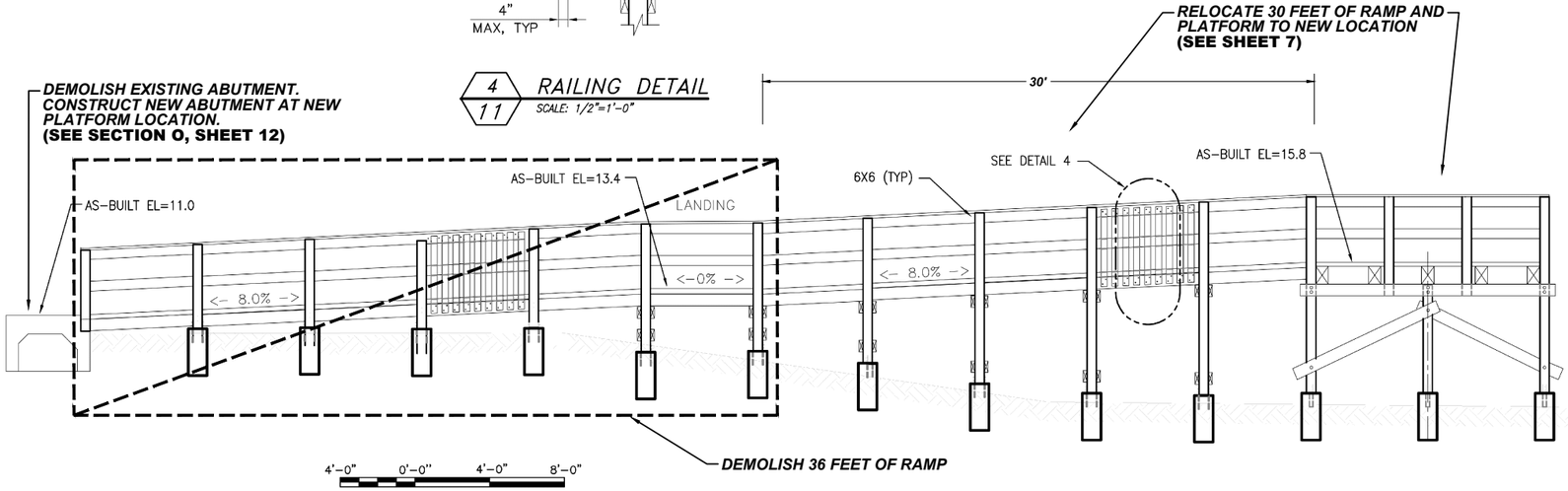




L / 11 SECTION
SCALE: 1/2"=1'–0"

4 / 11 RAILING DETAIL
SCALE: 1/2"=1'–0"

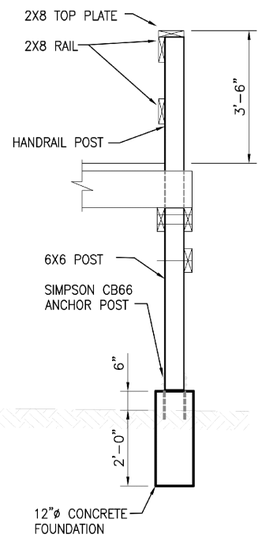
NEW PLATFORM PLAN
SCALE: 1/4"=1'–0"



4'–0" 0'–0" 4'–0" 8'–0"
SCALE: 1/4"=1'–0"

2'–0" 0'–0" 2'–0" 4'–0"
SCALE: 1/2"=1'–0"

NEW PLATFORM ELEVATION
SCALE: 1/4"=1'–0"



M / 11 SECTION
SCALE: 1/2"=1'–0"

NOTES:

1. SALVAGED TIMBER TO BE REUSED IN CONSTRUCTION SHALL BE STRUCTURALLY SOUND. CONTRACTOR SHALL RECEIVE APPROVAL FROM ENGINEER OF TIMBER ACCEPTABILITY PRIOR TO INSTALLATION.
2. NEW STRUCTURAL TIMBER SHALL BE REDWOOD GRADED SELECT STRUCTURAL OR BETTER AS SPECIFIED IN THE WEST COAST LUMBER INSPECTION BUREAU, STANDARD NO. 17.
3. LUMBER SHALL BE SURFACED FOUR SIDES (S4S) UNLESS NOTED OTHERWISE TO MATCH EXISTING. DECKING ROUGH SAWN.
4. NEW STRUCTURAL TIMBER SHALL NOT BE CHEMICALLY TREATED.
5. DECKING SHALL BE INSTALLED SO THERE SHALL BE NO SPACE BETWEEN BOARDS.
6. DECKING SHALL BE INSTALLED AS SOLID PIECES.
7. ALL STEEL PLATES, ANGLES, BOLTS, LAG BOLTS, NUTS AND WASHERS SHALL BE HOT DIP GALVANIZED. BOLTS SHALL HAVE FLAT WASHERS AT THE NUT AND HEAD.
8. DECK SCREWS SHALL BE STAINLESS STEEL GRADE 316, MINIMUM 3–1/2" LONG. SCREW HEAD SHALL BE DRIVEL 1/8" BELOW WOOD SURFACE.
9. BOLTS SHALL BE 5/8"ø GALVANIZED UNLESS NOTED OTHERWISE.
10. USE LAG BOLTS AT CORNER POSTS IN LIEU OF BOLTS. USE SAME SPACING AND LAYOUT AS SHOWN FOR BOLTED CONNECTION.

PRELIMINARY

NOTE:
Plans shown taken from sheets 9 & 10 of the "Record Set", dated 2-20-12. Sections and details were renumbered for this plan set

REVISIONS			
REV. NO.	DESCRIPTION	DATE	APPROVED
6			
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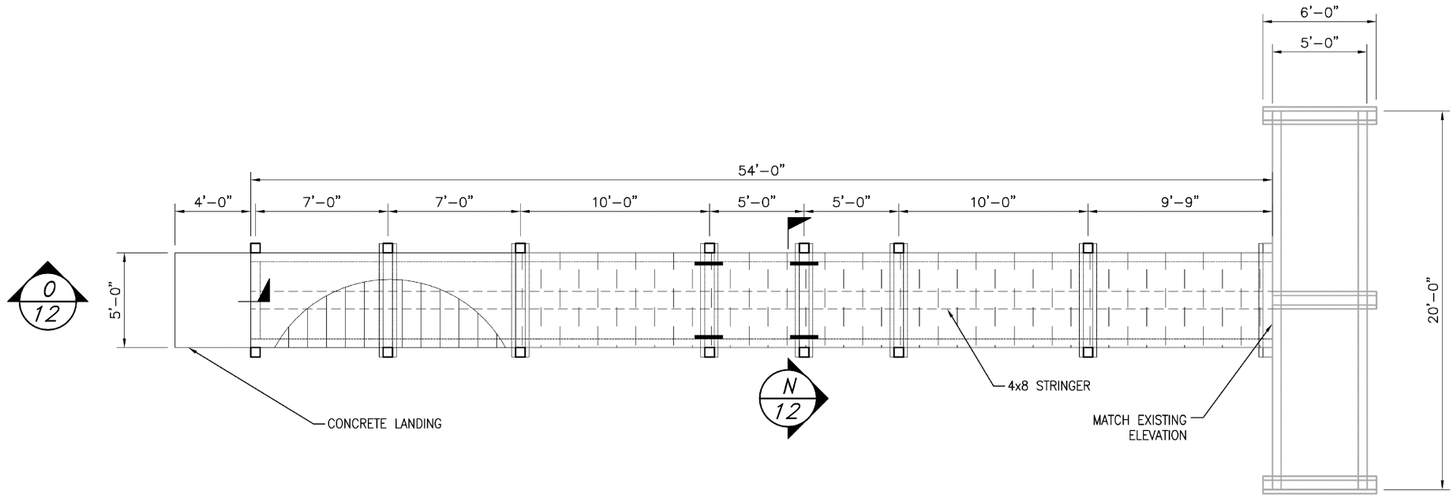
DUCKS UNLIMITED

PROJECT NO. US-CA-272-5 DATE: 2/24/2021
MOSS LANDING WILDLIFE AREA EX IMPROVEMENT MAINTENANCE & BANK RESTORATION
DETAILS

DESIGNED BY:	SC
DRAWN BY:	JS
SURVEYED BY:	SC
CHECKED BY:	
SHEET NO.	**11 of 12**

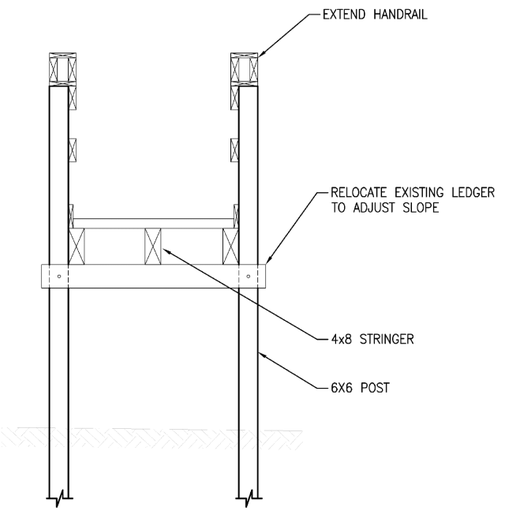


MODIFIED EXISTING PLATFORM PLAN

SCALE: 1/4"=1'–0"

NOTES:

1. SEE SHEET FOR NOTES.



N/12 SECTION

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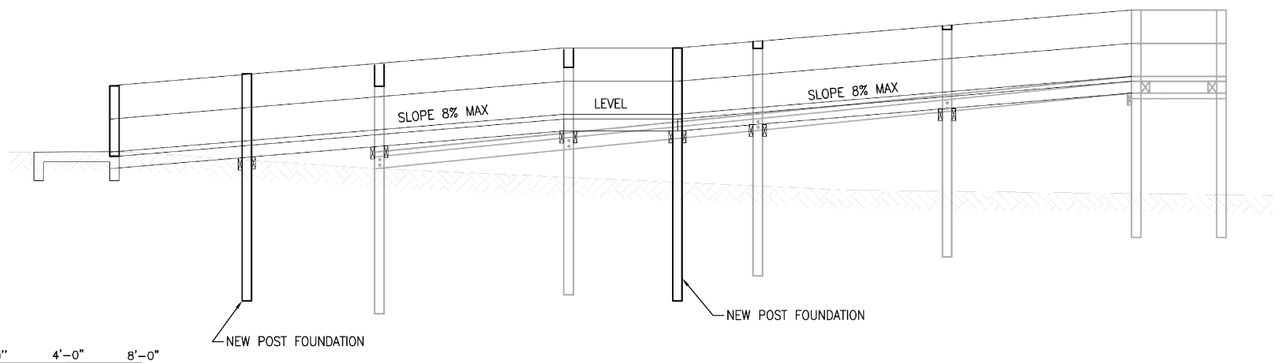


4'–0" 0'–0" 4'–0" 8'–0"

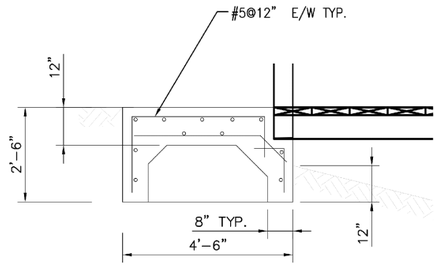
SCALE: 1/4"=1'–0"

2'–0" 0'–0" 2'–0" 4'–0"

SCALE: 1/2"=1'–0"

MODIFIED EXISTING PLATFORM ELEVATION

SCALE: 1/4"=1'–0"



0/12 SECTION – LANDING DETAIL

SCALE: 1/2"=1'–0"

Unauthorized Changes & Uses
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Exhibit 5
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Page 11 of 11

NOTE:
Plans shown taken from sheets 9 & 10 of the "Record Set", dated 2-20-12. Sections and details were renumbered for this plan set

PRELIMINARY

REVISIONS			
REV. NO.	DESCRIPTION	DATE	APPROVED
5			
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DUCKS UNLIMITED

PROJECT NO. US-CA-272-5 DATE: 2/24/2021

MOSS LANDING WILDLIFE AREA EX IMPROVEMENT MAINTENANCE & BANK RESTORATION

DETAILS

DESIGNED BY:	SC
DRAWN BY:	JS
SURVEYED BY:	SC
CHECKED BY:	
SHEET NO.	**12 of 12**

Table 2. Construction-Related Best Management Practices

BMP No.	Name	BMP
BMP – 1	Erosion Control and Construction-Related Turbidity	1. Sandbags or other erosion control measures will be employed to prevent runoff and construction-related turbidity. 2. Upland soils exposed during construction will be stabilized using locally and genetically appropriate seeds, where available, native or non-invasive seed and, if necessary to control erosion, existing vegetation or straw mulch. This BMP does not apply to levees that may be used by plover for nesting. *3. Invasive plant species will be removed from work areas during construction, to the extent feasible.* 4. Erosion control fabric will consist of natural fibers that biodegrade over time. No plastic or other non-porous material will be used as part of a permanent erosion control approach. 5. Other erosion control measures shall be implemented as necessary to ensure that sediment or other contaminants do not reach surface water bodies.
BMP -2	Staging and Stockpiling of Materials	1. All construction equipment will be staged in upland areas, away from sensitive natural communities or habitats. 2. All construction-related items, including equipment, temporary erosion control treatments, and trash will be removed within 72 hours of project completion. All residual soils and/or materials will be cleared from the project area. 3. Building materials and other construction-related materials, including chemicals, will not be stockpiled or stored where they could spill into water bodies or storm drains, or where they could cover aquatic or riparian vegetation.
BMP – 3	Spill Prevention and Response Plan	1. A Spill Prevention and Response Plan will be developed prior to the start of construction describing spill cleanup equipment and materials required to be maintained on-site; measures to be taken to contain a spill; and notification requirements in the event of a spill.
BMP – 4	Equipment and Vehicle Maintenance and Cleaning	1. All vehicles and equipment will be kept clean. Excessive build-up of oil or grease will be prevented. Vehicles should be free of invasive vegetation. 2. Vehicle and equipment maintenance activities will be conducted in a designated area to prevent inadvertent fluid spills from adversely impacting water quality. This area will be clearly designated with berms, sandbags, or other barriers. 3. Secondary containment, such as a drain pan or drop cloth, to catch spills or leaks will be used when removing or changing fluids. Fluids will be stored in appropriate containers with covers, and properly recycled or disposed of off-site. 4. Cracked batteries will be stored in a non-leaking secondary container and removed from the site. 5. Spill cleanup materials will be stockpiled where they are readily accessible. 6. Incoming vehicles and equipment will be checked for leaking oil and fluids (including delivery trucks and employee and subcontractor vehicles). Leaking vehicles or equipment will not be allowed on-site. 7. Vehicles and equipment will not be washed on-site. Vehicle and equipment washing will occur at an appropriate wash station.
BMP – 5	Refueling	1. All fueling sites shall be equipped with secondary containment and avoid a direct connection to underlying soil, surface water, or the storm drainage system. 2. For stationary equipment that must be fueled on-site, secondary containment such as a drain pan or drop cloth shall be provided in such a manner to prevent

		accidental spill of fuels to underlying soil, surface water, or the storm drainage system.
BMP - 6	On-Site Hazardous Materials Management	1. The products used and/or expected to be used and the end products that are produced and/or expected to be produced after their use will be inventoried. 2. As appropriate, containers will be properly labeled "Hazardous Waste" and properly recycled or disposed of off-site. 3. Contact of chemicals with precipitation will be minimized by storing chemicals in watertight containers or in a storage shed (completely enclosed), with appropriate secondary containment to prevent any spillage or leakage. *Any chemical storage will be located a minimum of 100 feet away from any waterways.* 4. Quantities of equipment fuels and lubricants greater than 55 gallons shall be provided with secondary containment that is capable of containing 110 percent of the volume of primary container(s). 5. Petroleum products, chemicals, cement, fuels, lubricants, and non-storm drainage water or water contaminated with the aforementioned materials shall not be allowed to enter receiving waters or the storm drainage system. 6. Sanitation facilities (e.g., portable toilets) will be surrounded by a berm, and a direct connection to the storm drainage system or receiving water will be avoided. 7. Sanitation facilities will be regularly cleaned and/or replaced, and inspected regularly for leaks and spills. 8. Waste disposal containers will be covered when they are not in use, and a direct connection to the storm drainage system or receiving water will be avoided 9. All trash that is brought to a project area during construction (e.g., plastic water bottles, plastic lunch bags) will be removed from the site daily.
BMP - 7	Fire Prevention	1. All earthmoving and portable equipment with internal combustion engines will be equipped with spark arrestors. 2. During the high fire danger period (April 1–December 1), work crews will have appropriate fire suppression equipment available at the work site. 3. On days when the fire danger is high, flammable materials will be kept at least 10 feet away from any equipment that could produce a spark, fire, or flame. 4. On days when the fire danger is high, portable tools powered by gasoline-fueled internal combustion engines will not be used within 25 feet of any flammable materials unless at least one round-point shovel or fire extinguisher is within immediate reach of the work crew (no more 25 feet away from the work area).
BMP - 8	Work Site Housekeeping	1. The work site will be maintained in a neat and orderly condition, and left in a neat, clean, and orderly condition when work is complete. 2. Materials or equipment left on the site overnight will be stored as inconspicuously as possible, and will be neatly arranged.
BMP - 9	Health and Safety Plan	1. Consistent with Occupational Safety and Health Administration (OSHA) regulations, CDFW would require that a project-specific Health and Safety Plan be developed by the construction contractor prior to any construction activities.

Table 3 summarizes avoidance and minimization measures that will be implemented to reduce impacts to special-status and sensitive species. The avoidance and minimization measures are taken from the Mitigation Monitoring and Reporting Program (MMRP) for the project (Vinnedge Environmental Consulting 2021) and the 2022 Draft Biological Assessment (BA) and Essential Fish Habitat (EFH) Assessment (BA), which is currently being reviewed by USFWS and National Marine Fisheries Service (NMFS) (CDFW and DU 2022). Of note, measures

in Table 3 may be modified based on input from USFWS and NMFS on species-specific conservation measures provided in the draft BA/EFH Assessment.

Table 3. Biological Resource Avoidance and Minimization Measures

Target Species	Avoidance and Minimization Measure
General	1. Prior to the start of construction, a biological monitor will identify and conspicuously flag all sensitive aquatic and wetland resources located outside the project footprint to prevent inadvertent impacts to these resources. If required, setback or non-disturbance buffer zones around these resources would be established and monitored by a biologist. 2. Environmental awareness training will be conducted for all construction crews and contractors. The awareness training will be conducted prior to starting work on the project and upon the arrival of any new worker. The training will include locations of sensitive areas; environmental permits and regulatory compliance requirements including all relevant avoidance and mitigation measures; and required actions if sensitive species are encountered. Additional training will be conducted as needed, including morning "tailgate" sessions to update crews as they advance into new sensitive areas. A record of all personnel trained during the project will be maintained by CDFW.
Fish	1. Bank contouring work will occur intermittently during low, low tide cycles (tides below 2.5 feet NAVD88) to minimize sediment delivery to Elkhorn Slough. The construction contractor will install coir logs along the top of the recontoured bank to limit sediment delivery to Elkhorn Slough from disturbed work area after recontouring is complete.
Western Snowy Plover	1. Setback levee construction, bank recontouring, infrastructure maintenance activities and levee removal activities will occur after the western snowy plover nesting season (March 1 – September 30) is complete as determined by a qualified biologist. 2. Due to the irregular availability of sediment needed to construct the setback levee, sediment import and stockpiling may occur during the western snowy plover nesting season if needed. Stockpiling of setback levee construction material will be limited to the area where the new setback levee would be constructed, where the existing levee would be removed, and the space between those areas. If sediment import and stockpiling will occur during the nesting season, a qualified biologist will conduct focused surveys for western snowy plover nests at least 72 hours prior to construction activities. No construction activities will occur within 300 feet of an active snowy plover nest unless a qualified biologist, in coordination with USFWS and CDFW, determines a reduction of the buffer will not result in take. In addition, a qualified biologist will monitor sediment import and stockpiling activities occurring during the snowy plover nesting season, including work proximate to any established nest buffers, and will halt vehicle and equipment operations if snowy plover chicks enter an active work area. If work is stopped, CDFW and USFWS will be notified immediately to determine appropriate remedial actions before construction activities may resume. 3. Prior to the plover nesting season, CDFW may implement passive nest deterrent measures near Pond 1. These measures may include installing streamers or removing wrack and/or placing substrate on the surface of the managed pond to inhibit nesting activity. Installation of nest deterrent measures will only be conducted under supervision of a qualified biologist and in coordination with USFWS. The purpose of the deterrent(s) is to provide the construction contractor with a location to stockpile sediment before the end of the nesting season.

Target Species	Avoidance and Minimization Measure
	4. The placement of gravel or oyster shells (preferred) in Pond 1 to enhance habitat for plovers shall be completed in coordination with a qualified biologist.
Marine Mammals	1. Implementation of the project will require approval of a site-specific Storm Water Pollution Prevention Plan (SWPPP) that will implement measures to protect water quality, and which will include a hazardous spill prevention plan and erosion prevention techniques. 2. The contractor will be required to establish a 30-minute period at the start of each construction day whereby activities and equipment begin gradually. 3. At USFWS discretion, a qualified marine mammal monitor may be required to be present during work within 30 meters (100 feet) of tidal waters for the purposes of verifying marine mammals are not reacting to construction equipment or noise (e.g., physically moving or flushing from the haul out). Monitoring during construction will occur from the eastern-most observation platform. The monitoring location will be accessed by foot. Construction work will not occur within 30 meters of marine mammals if they are observed reacting to project activities. 4. A 15 meter (50-foot) exclusion zone will be established at all times around active construction areas adjacent to Elkhorn Slough. If a marine mammal enters the exclusion zone, the contractor will stop all activities within the exclusion zone. Preemptively, the monitor will have the authority to halt construction activity when there is a reasonable possibility that marine mammals will enter the exclusion zone. Construction may resume at the direction of the monitor after marine mammals have moved out of the exclusion zone and have returned to normal behavior.
Aquatic and Wetland Protective Measures	1. Prior to the start of construction, a biological monitor will identify and conspicuously flag all sensitive aquatic and wetland resources located within the project area and outside the project footprint to prevent inadvertent impacts to these resources. Sensitive aquatic and wetland resources outside the project area will be flagged if those resources could be impacted by construction activities. If required, setback or non-disturbance buffer zones around these resources would be established and monitored by a biologist. 2. Sandbags or other erosion control measures will be employed to prevent runoff and construction-related turbidity. Upland soils exposed during construction will be stabilized using native or non-invasive seed and, if necessary, straw mulch. Erosion control fabric will consist of natural fibers that biodegrade over time. No plastic or other non-porous material will be used as part of a permanent erosion control approach. Other erosion control measures shall be implemented as necessary to ensure that sediment or other contaminants do not reach surface water bodies.
Nesting Birds	1. Vegetation removal and/or ground disturbing activities shall not occur during the bird breeding season of February 15 through August 31. 2. If vegetation removal and/or ground disturbing activities must occur during the breeding season, all sites shall be surveyed by a qualified biologist to verify the presence or absence of nesting birds. Preconstruction surveys will be conducted no more than 72 hours prior to the start of work where work is proposed between February 15 – August 31. 3. If the survey indicates the potential presence of nesting birds, a buffer will be placed around the nest in which no work will be allowed until the young have successfully fledged. The size of the nest buffer will be determined by the biologist in consultation with the USFWS and CDFW, and will be based to a large extent on the nesting species and its sensitivity to disturbance. The buffers may be increased or decreased, as appropriate, depending on the bird species and the level of disturbance anticipated near the nest.

1.3.4 Public Access Improvements

Public access improvements would include improving the parking area and access road; providing a loop trail incorporating the new setback levee and a path along the bank of Elkhorn Slough; and installing near-shore fishing/wildlife viewing areas adjacent to Elkhorn Slough (Figure 4). The eastern viewing platform would be maintained in place, with minor repairs (e.g., replace rotting boards) conducted to restore the integrity of the existing structure. Signage and symbolic fencing would be installed around the trails to limit recreational use to designated areas. Trails would be surfaced with small rock and/or decomposed granite (quarry fines) to clearly identify public access ways and deter plant growth within the trail alignment. Relocating the western viewing platform and reconfiguring the trail system to provide fishing/wildlife viewing areas closer to the slough would improve the recreational experience of the public (e.g., more accessible wildlife viewing and fishing opportunities) while better protecting sensitive habitats (i.e., limiting unrestricted use along the bank of the slough). Details are provided below.

- Trails and Near-Shore Access Points. A new loop trail would provide public access along the setback levee between the relocated viewing platform on the west and the existing viewing platform on the east, and would allow access to the new fishing/wildlife viewing areas located along the bank of Elkhorn Slough (Figure 4). The portion of the trail along the setback levee would be 14 feet wide and surfaced to comply with the Americans with Disabilities Act. The remaining portions of the loop trail would be 10 feet wide and constructed of earthen material removed when the perimeter levee is deconstructed. The loop trail would be slightly elevated (constructed to an elevation of about 7.5 feet, or 2 feet above MHHW) between the setback levee and the two larger fishing / wildlife viewing areas. The two larger fishing / wildlife viewing areas would be surfaced with 6-inches of material and connected by an at-grade trail (elevation 6.0 feet), which would be surfaced with small rock or decomposed granite. Three additional, smaller, fishing areas would be located along the at-grade trail. Symbolic fencing (e.g., post and cable trail markers) and fishing pole holders would be installed to discourage public access into the adjacent tidal marsh and anglers from pounding poles into tidal marsh vegetation.

- Signage. Multi-lingual signage would be installed along the new trails to indicate that public access is limited to the designated trail system and viewing platforms. Additional public access and western snowy plover management signage would be constructed at the entrance road and in the parking area, including interpretive signage articulating how the Wildlife Area is managed to benefit western snowy plover and migratory waterfowl. All signage would be low profile and limited in the vicinity of western snowy plover nesting habitat to minimize predator perching opportunities.

- Relocated Western Viewing Platform. The viewing platform on the western side of the project area would be relocated to the western end of the new trail on the setback levee. The area where the viewing platform was previously located would be converted into a walkway (approximately 25:1 slope). The walkway substrate would consist of recycled, base rock that is currently on-site.

- Access Road and Parking Area Improvements. The entrance to the Wildlife Area from Highway 1 would be improved by replacing degraded asphalt within the existing road footprint and regrading/paving the turnout to provide a safer area for cars to turn around, informally park, and reenter Highway 1. In addition, low spots in the gravel access road from Highway 1 to the main parking lot would receive supplemental soil and rock to bring the access back to original design lines and grades. The visitor kiosk in the parking area would also be updated and raised. Specifically, the existing kiosk would be removed, the lower corner of the parking lot raised to match the overall parking lot elevation (8.0 feet), and a new / updated kiosk reinstalled at the same general location.