STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING

SACRAMENTO RIVER BANK PROTECTION PROJECT
STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR - PHASE II
BEAR RIVER - MILE 1.2L AND SACRAMENTO RIVER - MILES 99.5R, AND 182.0R
SPECIFICATION NO. 07-10

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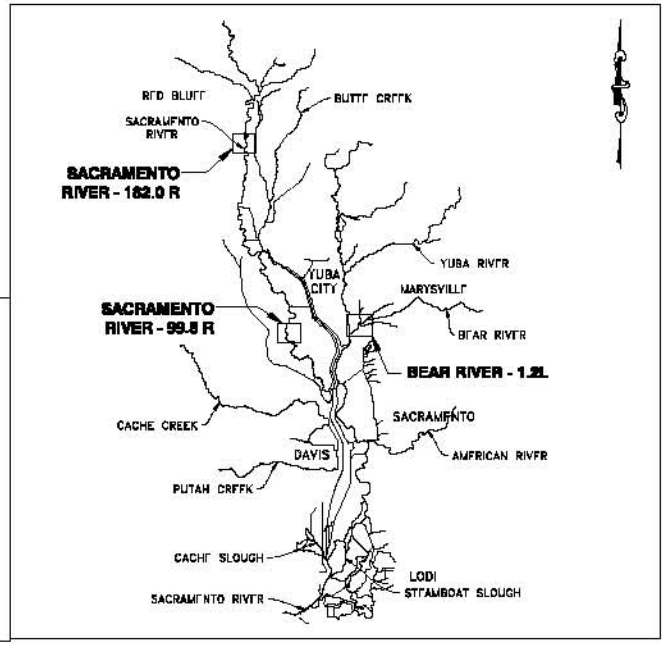
046	REF-04	SAC 182.0R ENGINEERING CROSS-SECTIONS, SHEET 1 OF 2
047	REF-05	SAC 182.0R ENGINEERING CROSS-SECTIONS, SHEET 2 OF 2



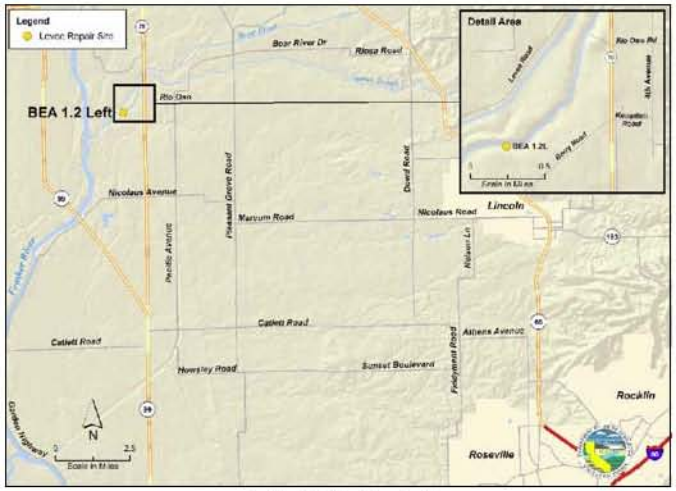
VICINITY MAP
NTS

REV	DATE	DESCRIPTION	SUBS.	APPD

APPROVED DATE: PROJECT MANAGER, DEPT. OF WATER RESOURCES, REG. C.E. NO. 64873

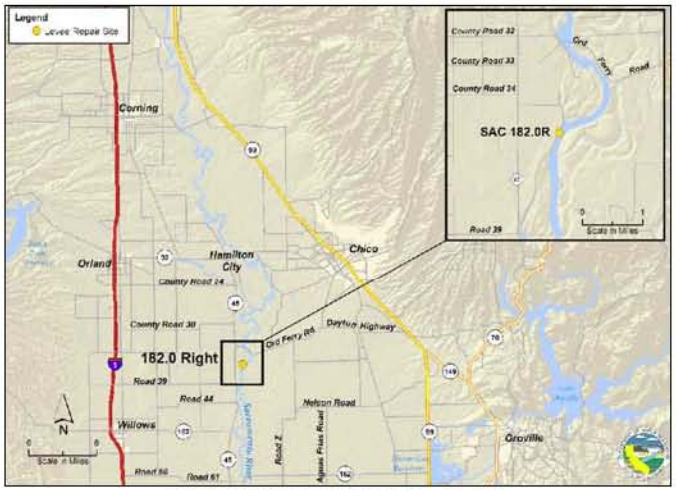
APPROVED DATE: CHIEF, DIVISION OF ENGINEERING, REG. C.E. NO. 51748

SPEC No. 07-10
DRAWING NO. G-01
REV. SHEET NO. 001



BEAR RIVER - 1.2L

SACRAMENTO RIVER - 99.5R



SACRAMENTO RIVER - 182.0R

REV	DATE	DESCRIPTION	DWN.	APPR

DESIGNED: L. BERNALDEZ
DRAWN: L. BERNALDEZ
CHECKED: W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED: H. BERGER, REG. CE. NO. 36107
APPROVAL BY: S. SALAH-NARS, REG. CE. NO. 30445

URS

REVIEWED: REG. CE. NO. 56069
APPROVAL RECOMMENDED: REG. CE. NO. 67771
APPROVED PROJECT MANAGER: REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 182.0R

SITE LOCATION MAPS

SPEC NO. 07-10
DRAWING NO. G-02
SHEET NO. 002

Usa_p-bernaldez
H:\CADD\Current\DWG-SHEETS\Levee Repair\Levee Repair\Phase 2\General\G-02.dwg
Apr 29, 2007 - 7:42pm

GENERAL NOTES:

1. NOTES ARE APPLICABLE TO ALL WORK, UNLESS NOTED OTHERWISE ON OTHER SHEETS.
2. ACCESS TO THE PROJECT IS LIMITED TO THE ACCESS POINTS SHOWN ON THE DRAWINGS.
3. REFERENCE LINE IS INTENDED TO FACILITATE SITE-RELATED COMMUNICATION BETWEEN THE CONTRACTOR AND THE ENGINEER.

SURVEY NOTES:

1. COORDINATES REFER TO THE CALIFORNIA STATE PLANE COORDINATE SYSTEM ZONE 2, NAD 83, FEET.
2. ELEVATIONS ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29), FEET.
3. BFA 1.2L, SAC 99.5, AND SAC 182.0R PHASE 2 DESIGN IS BASED ON DWR'S 2007 PHASE 1 AS-INSTALLED SURVEYS. ORIGINAL LAND SURVEY DATA COLLECTED IN NOVEMBER 2006 BY MICHAEL DEQUINE AND ASSOCIATES, INC. BATHYMETRY WAS DEVELOPED FROM HYDROGRAPHIC SURVEY DATA COLLECTED BY MERIDIAN SURVEYING ENGINEERING, INC. IN NOVEMBER 2006. THE CONTRACTOR IS REQUIRED TO CONFIRM FIELD CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION BY SURVEYING CROSS SECTIONS A MAXIMUM OF 50 FEET APART.

GENERAL CONSTRUCTION NOTES:

1. THE LOCATIONS OF EXISTING UTILITIES, IF ANY, ARE APPROXIMATE AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THEIR REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UTILITIES WITHIN THE CONSTRUCTION ZONE, ALONG THE CONSTRUCTION ACCESS ROUTE AND IN THE STAGING AREAS BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY THE CONTRACTOR'S FAILURE TO LOCATE AND PRESERVE ANY AND ALL UTILITIES. CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT OF NORTHERN CALIFORNIA 1-800-422-4133 AT LEAST TWO DAYS PRIOR TO CONSTRUCTION.
2. LEVEE SLOPES SHALL NOT BE CUT IN ORDER TO PROVIDE CONSTRUCTION RAMPS. IF REQUIRED, TEMPORARY CONSTRUCTION ACCESS RAMPS MAY BE CONSTRUCTED DOWN THE WATERSIDE FACE OF THE LEVEE BY PLACING EARTH AND/OR ROCK MATERIALS PRIOR TO THE FLOOD SEASON. UNLESS DIRECTED OTHERWISE BY THE ENGINEER, ALL TEMPORARY RAMPS SHALL BE REMOVED AND THE MATERIALS DISPOSED OF BY THE CONTRACTOR. ALL TEMPORARY EARTHWORK ASSOCIATED WITH THE CONSTRUCTION MUST BE APPROVED BY THE ENGINEER.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED BY THE CONTRACTOR TO RECREATION BIKE TRAILS, STAGING AREAS, PAVEMENT, ROADS, FENCES, GATES, FLOOD CONTROL STRUCTURES, INCLUDING LEVEES, LEVEE RAMP, AND EXISTING BANK PROTECTION IMPROVEMENT NOT DESIGNATED FOR REMOVAL.
4. EXISTING ROADWAYS SHALL BE KEPT CLEAR OF MUD AND DEBRIS.
5. CONTRACTOR SHALL PROTECT IN PLACE ALL UTILITIES TO REMAIN WITHIN PROJECT LIMITS AND WILL BE RESPONSIBLE FOR DAMAGE TO THESE UTILITIES.
6. IF WATER LEVEL AT THE TIME OF CONSTRUCTION IS HIGHER THAN AUGUST MEAN WATER SURFACE ELEVATION, CONTRACTOR SHALL COORDINATE ANY NEEDED CONSTRUCTION CHANGES WITH ENGINEER.
7. ALL SITES HAVE TWO PHASES OF CONSTRUCTIONS. PHASE 1 IS COMPLETE AND SHOWN AS EXISTING GROUND ON THESE DRAWINGS.
8. FOR ALL SITES: ALL EXISTING ELDERBERRY SHRUBS AND TREES ON THE CONSTRUCTION SITE ARE TO BE MARKED PRIOR TO AND PROTECTED DURING CONSTRUCTION. SPECIAL PERMITS WILL BE REQUIRED IN ORDER TO ENCROACH WITHIN 20 FEET OF EXISTING ELDERBERRY SHRUBS OR TREES. PRIOR TO REMOVING ANY ELDERBERRY SHRUBS OR TREES, CONTRACTOR SHALL PRESENT A DETAILED PLAN FOR APPROVAL BY REGULATORY AGENCIES FOR ANY ELDERBERRY SHRUBS OR TREES THAT NEED TO BE REMOVED, SHOWING HOW AND WHERE THEY WILL BE REPLACED (SEE LANDSCAPE DRAWINGS).

GENERAL CONSTRUCTION NOTES (CONTINUED):

9. THE SITES ARE PRESUMED NOT TO BE ACCESSIBLE BY BARGE. HOWEVER, THE CONTRACTOR MAY DEMONSTRATE THAT THEY CAN ACCESS THE SITE FROM THE WATERSIDE IF DESIRED.
10. NO VEHICLE, EQUIPMENT OR MATERIAL STORAGE OR MOVEMENT SHALL OCCUR WITHIN THE DRIPLINE AREAS OF EXISTING TREES TO REMAIN. IF THESE ACTIVITIES ARE NECESSARY FOR THE COMPLETION OF WORK, THE CONTRACTOR SHALL PLACE 8'X4'X1½" PLYWOOD OR 8'X6'X⅝" STEEL PLATE OVER THE ENTIRE GROUND AREA WITHIN THE TREE DRIPLINE. ANY ACTIVITY WITHIN DRIPLINE AREAS OF EXISTING TREES SHALL BEGIN ONLY UPON ENGINEER'S APPROVAL.
11. TREE PROTECTION AREAS SHALL BE CIRCULAR AREAS WITH THE TREE BASE IN THE CENTER AND A 6-FOOT RADIUS AS SHOWN ON DETAILS 1 & 4/L-18. DO NOT FILL VOIDS IN RSP WITH AG SOIL OR PLACE AG SOIL ON TOP OF RSP WITHIN TREE PROTECTION AREAS.
12. PROTECT ALL NATIVE TREES 4 IN. DBH OR GREATER. TREES MARKED WITH BLUE FLAGGING TAPE SHALL BE PROTECTED WITH PLYWOOD BOXES AS SHOWN ON DETAILS 1, 2 & 3/L-18. TREES MARKED WITH WHITE FLAGGING TAPE SHALL BE PROTECTED WITH 4X4 WRAP AS SHOWN ON DETAILS 4 & 5/L-18. NATIVE TREES WITH UNDERMINED ROOTS SHALL BE PROTECTED AS SHOWN ON DETAIL 6/L-18. NATIVE TREES TO BE PROTECTED INCLUDE OAKS, WILLOWS, OREGON ASH, WHITE ALDER, BOXELDER, SYCAMORE, COTTONWOOD, WALNUT, BUTTONBUSH, ELDERBERRY AND OTHERS AS DIRECTED BY ENGINEER.
13. REMOVE ALL INVASIVE EXOTIC PLANTS SUCH AS BLACK LOCUST, EDIBLE FIG, GIANT REED GRASS, TAMARISK AND OTHERS AS DIRECTED AND AS APPROVED BY ENGINEER, INCLUDING THEIR STUMPS OR ROOT SYSTEM.
14. DO NOT PLANT SHRUBS OR TREES WITHIN 15 FEET OF ROAD PAVEMENT EDGE.
15. PROVIDE BEAVER FENCE ALONG THE RIVER AND THE SIDE EDGES OF PLANTING AREAS. DO NOT PROVIDE BEAVER FENCE ALONG THE TOP EDGE OF PLANTING AREAS.
16. DO NOT REMOVE ANY BRANCHES FROM INSTREAM WOODY MATERIALS (IWMs).
17. WHERE FEASIBLE, UTILIZE EXISTING WILLOWS TO BE REMOVED (INSIDE REPAIR AREA) SMALLER THAN 4 INCH DBH TO PREPARE FASCINE BUNDLES AS SHOWN IN DETAIL 4/L-21.

ABBREVIATIONS:

AG	AGRICULTURAL
AWWSE	AUGUST MEAN WSE
APPROX	APPROXIMATE
B.W.	BARBED WIRE
C.L.	CHAIN LINK
℄	CENTERLINE
CMP	CORRUGATED METAL PIPE
DBH	DIAMETER BREAST HEIGHT
DFG	DEPARTMENT OF FISH & GAME
DP	DRAIN PIPE
DWG	DRAWING
DWR	CALIFORNIA DEPARTMENT OF WATER RESOURCES
E	EAST
ELEV, EL	ELEVATION
EP	EDGE OF PAVEMENT
ESA	ENVIRONMENTALLY SENSITIVE AREA
EX	EXISTING
FMWSE	FEBRUARY MEAN WSE
FT	FEET, FOOT
GA	GAGE
GALV	GALVANIZE
H & V	HORIZONTAL & VERTICAL
IN	INCHES
IWM	INSTREAM WOODY MATERIAL
L	LENGTH
LLT	LEFT
MAX	MAXIMUM
MDA	MICHAEL DEQUINE AND ASSOCIATES
MIN	MINIMUM
MSL	MEAN SEA LEVEL
N	NORTH
NTS	NOT TO SCALE
O.C.	ON CENTER
ORIG	ORIGINAL
PS	PUMP STATION
PVI	POINT OF VERTICAL INTERSECTION
R	RIGHT
℄	REFERENCE LINE
R&RPS	ROUGH & READY PUMP STATION
RSP	ROCK SLOPE PROTECTION
R/W	RIGHT OF WAY
SAC	SACRAMENTO
S	SOUTH
SD	STORM DRAIN
SLP	SLOPE
SR	STATE ROUTE
STA	STATION
TYP	TYPICAL
USA	UNDERGROUND SERVICE ALERT
W	WEST
WLS	WATER LEVEL SURFACE
WSE	WATER SURFACE ELEVATION

LEGEND:

- ZONE 0 PLANTING AREA
- ZONE 1 PLANTING AREA
- ZONE 2 PLANTING AREA
- ZONE 3 PLANTING AREA
- PHASE 1 RSP
- PHASE 2 RSP
- BEDDING
- CONCRETE
- AG SOIL
- SHRUBS
- ELDERBERRY SHRUB
- GENERIC TREE
- INSTREAM WOODY MATERIAL
- FASCINE BUNDLE
- NON-NATIVE PLANTS TO REMOVE
- TREE PROTECTION BOX
- TREE PROTECTION WRAP
- BEAVER FENCE
- ELDERBERRY PROTECTION BOX
- 52.3 WATER LEVEL DATA
- STAGING AREA
- ORIGINAL GROUND
- EROSION CONTROL FABRIC
- WORK LIMIT
- EXISTING PHASE 1 LEVEE REPAIR
- ? APPROX LOCATION OF EX RSP TOE (PER DWR 2007 SURVEY)
- PHASE 2 LEVEE REPAIR
- PHASE 2 RSP RETRIEVAL
- 21.00 SPOT ELEVATION
- SURVEY CONTROL POINT
- 5 COORDINATE
- FLOW DIRECTION OF WATER FLOW
- SLOPE
- A C-03 SECTION LETTER / DWG WHERE SHOWN
- ACCESS GATE
- NOT IN WORK AREA

REV	DATE	DESCRIPTION	DWN.	APPD

DESIGNED L. BERNARDEZ
DRAWN L. ALA
CHECKED W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED H. BERGER REG. CE. NO. 26107
APPROVAL BY S. SALAH-NARE REG. CE. NO. 50445

URS

REVIEWED DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54573

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R

NOTES AND LEGEND

SPEC NO. 07-10
DRAWING NO. G-03
REV. SHEET NO. 003

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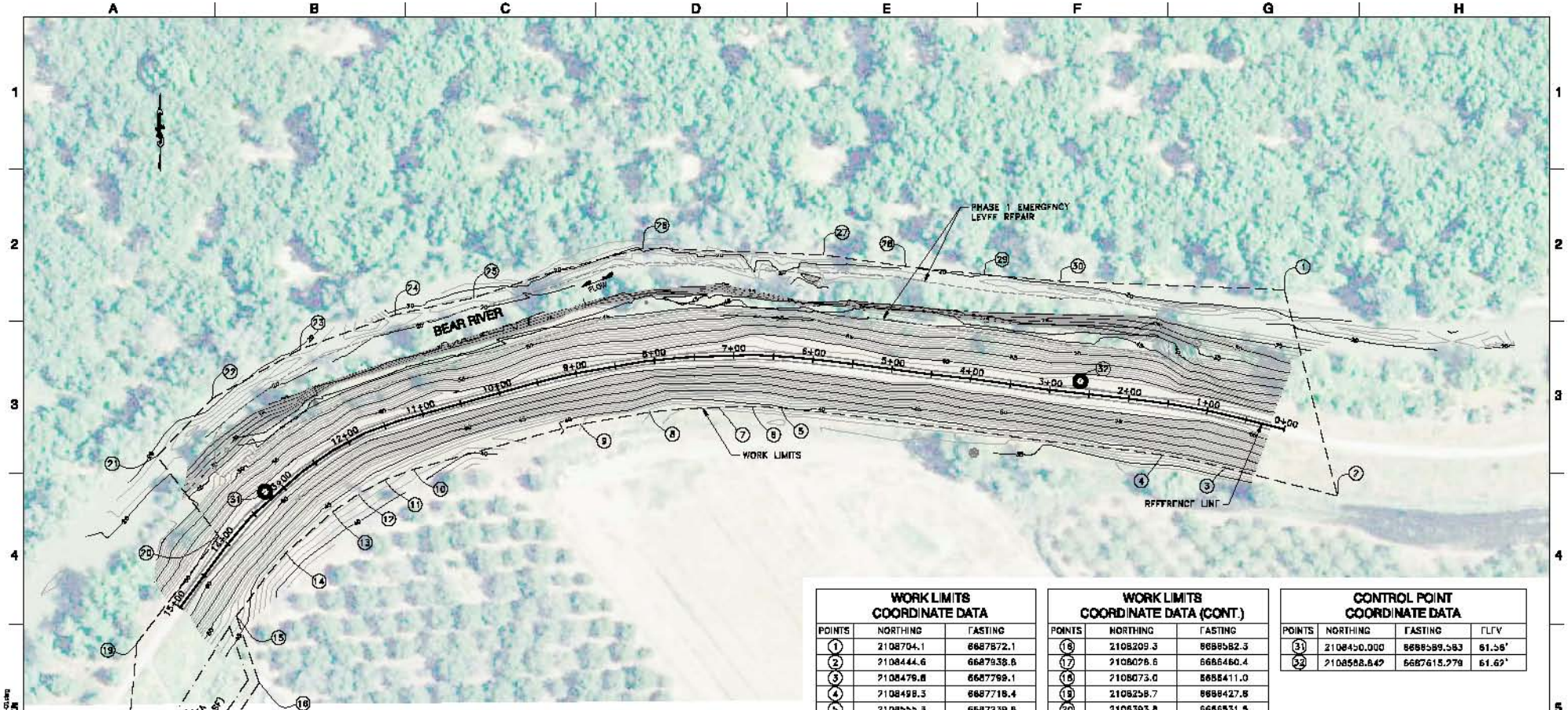

NOTES:

1. CONTRACTOR SHALL COORDINATE USE OF THE STAGING AREA WITH THE ENGINEER.
2. POTENTIAL STAGING AREA IS ALSO LOCATED AT BEAR RIVER-MILE 2.4, LEFT BANK (PREVIOUS REPAIR SITE).
3. CONTRACTOR SHALL COORDINATE INGRESS/EGRESS WITH DWR AND/OR LAND OWNERS.
4. SEE DRAWING NO. C-05. REPAIR AT THIS SECTION ONLY INCLUDES 0.5 FEET OF COBBLE AND EROSION CONTROL FABRIC DUE TO PRESENCE OF FLOWERBERRY SHRUBS.

WORK LIMITS COORDINATE DATA

POINTS	NORTHING	EASTING
1	2108704.1	6687872.1
2	2108444.6	6687938.8
3	2108479.8	6687799.1
4	2108498.3	6687718.4
5	2108555.3	6687939.8
6	2108557.4	6687702.1
7	2108558.0	6687159.4
8	2108550.1	6687074.0
9	2108534.8	6686886.5
10	2108478.2	6686776.8
11	2108465.0	6686740.4
12	2108447.1	6686707.2
13	2108474.6	6686674.8
14	2108373.3	6686616.2
15	2108283.3	6686553.5

WORK LIMITS COORDINATE DATA (CONT.)

POINTS	NORTHING	EASTING
16	2108209.3	6686582.3
17	2108076.6	6686460.4
18	2108073.0	6686411.0
19	2108258.7	6686427.6
20	2108393.8	6686531.5
21	2108494.7	6686453.6
22	2108567.3	6686523.1
23	2108678.2	6686633.9
24	2108677.8	6686752.9
25	2108893.9	6686851.9
26	2108756.6	6687065.2
27	2108747.9	6687297.2
28	2108733.5	6687395.6
29	2108793.1	6687494.9
30	2108714.7	6687580.2

CONTROL POINT COORDINATE DATA

POINTS	NORTHING	EASTING	ELEV
31	2108450.000	6686589.583	61.56'
32	2108568.642	6687615.279	61.62'

SCALE: 1" = 60'

PLAN

REV	DATE	DESCRIPTION	DWN.	APPD

DESIGNED: N. DENIS
DRAWN: L. ALA
CHECKED: W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED: N. BETRITH, REG. CE. NO. 36107
APPROVAL BY: S. SALAH-NARS, REG. CE. NO. 50445

URS

REVIEWED: DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 69771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L, &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
BEAR RIVER-MILE 1.2 LEFT BANK
SITE ACCESS MAP AND STAGING AREA

SPEC NO. 07-10
DRAWING NO. C-01
REV. SHEET NO. 004

Apr 29, 2007 - 7:49pm
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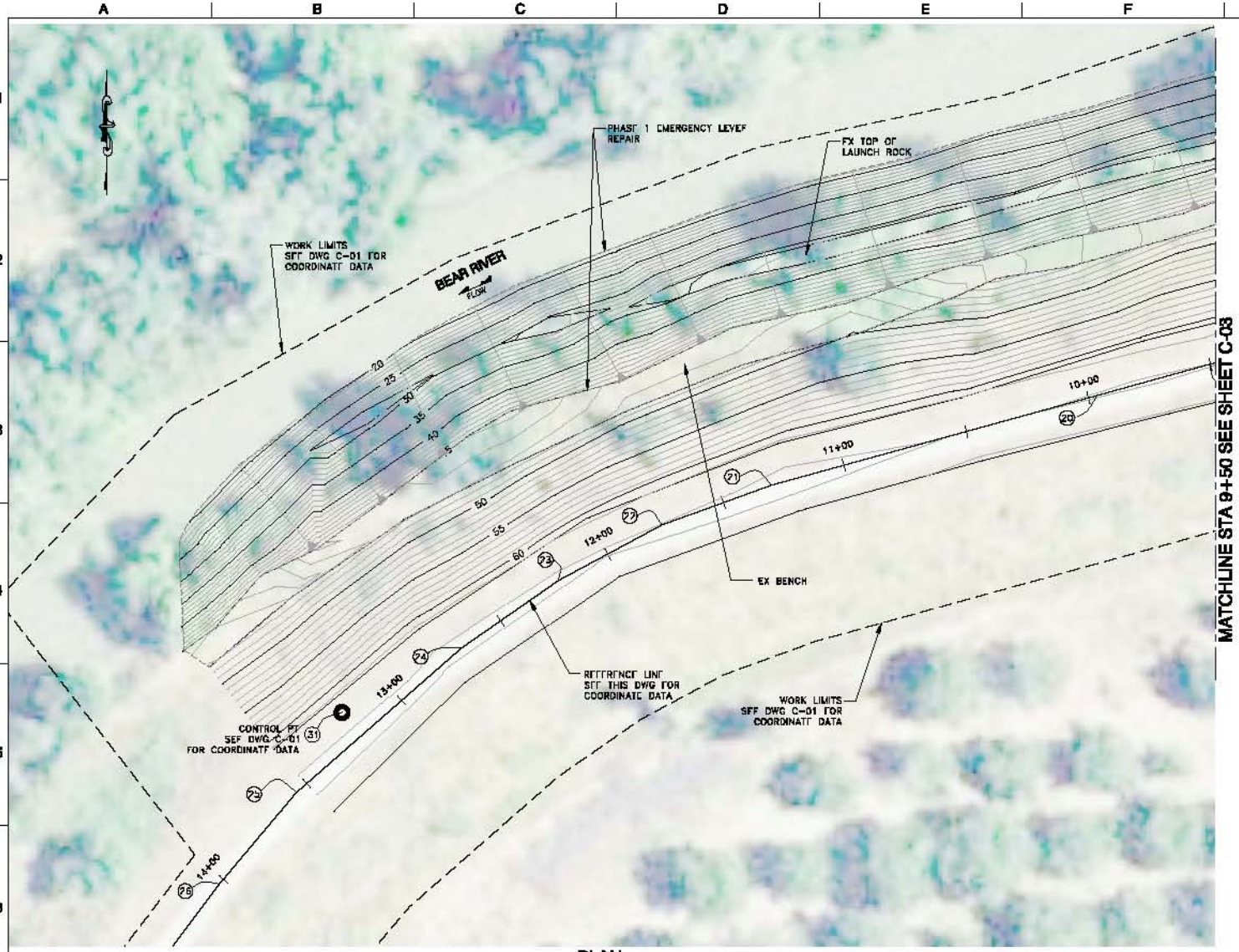

PLAN

NOTES:

1. BASE TOPOGRAPHY IS FROM DWR 2007 SURVEY.
2. THE CONTRACTOR SHALL PERFORM PRE-CONSTRUCTION SURVEYS OF ORIGINAL GROUND CONDITIONS AND PROVIDE CROSS SECTIONS AT A MAXIMUM SPACING OF 50 FEET ON STATION, INCLUDING TRANSITIONS, TO THE ENGINEER PRIOR TO BEGINNING CONSTRUCTION. WHERE GRADE BREAKS OR CONTOURS SIGNIFICANTLY CHANGE BETWEEN 50-FOOT STATIONS, INTERMEDIATE CROSS SECTIONS SHALL BE PROVIDED AS NEEDED TO REPRESENT SUCH EXISTING CONDITIONS.

COORDINATE DATA

POINTS	NORTHING	EASTING	DESCRIPTION
1 a	2108578.4	6687872.1	REFERENCE LINE
2 a	2108542.5	6687816.3	REFERENCE LINE
3 c	2108551.4	6687777.8	REFERENCE LINE
4 a	2108560.1	6687730.4	REFERENCE LINE
5 a	2108566.4	6687681.9	REFERENCE LINE
6 c	2108574.1	6687613.8	REFERENCE LINE
7 a	2108578.6	6687572.6	REFERENCE LINE
8 a	2108585.8	6687522.8	REFERENCE LINE
9 c	2108593.3	6687476.8	REFERENCE LINE
10 a	2108597.8	6687425.4	REFERENCE LINE
11 a	2108610.2	6687334.5	REFERENCE LINE
12 c	2108615.1	6687291.1	REFERENCE LINE
13 b	2108619.6	6687246.8	REFERENCE LINE
14 b	2108622.0	6687204.7	REFERENCE LINE
15 b	2108620.5	6687159.0	REFERENCE LINE
16 b	2108618.7	6687113.5	REFERENCE LINE
17 b	2108614.1	6687087.1	REFERENCE LINE
18 b	2108598.0	6686875.4	REFERENCE LINE
19 b	2108587.4	6686832.1	REFERENCE LINE
20 a	2108575.1	6686887.5	REFERENCE LINE
21 a	2108538.6	6686759.0	REFERENCE LINE
22 a	2108523.9	6686715.7	REFERENCE LINE
23 a	2108502.1	6686675.0	REFERENCE LINE
24 a	2108475.4	6686636.7	REFERENCE LINE
25 a	2108418.4	6686571.6	REFERENCE LINE
26 a	2108382.2	6686541.2	REFERENCE LINE
27 d	2108304.3	6686487.7	REFERENCE LINE
28 c	2108665.5	6687352.4	FLOWERBERRY SHRUB
29 a	2108665.4	6687478.7	FLOWERBERRY SHRUB

a REFERENCE LINE DATA POINT ON SHEET C-02
b REFERENCE LINE DATA POINT ON SHEET C-03
c REFERENCE LINE DATA POINT ON SHEET C-04
d REFERENCE LINE DATA NOT REPRESENTED ON LAYOUT SHEETS.

SCALE: 1"=20'

REV	DATE	DESCRIPTION	DES.	APPR

DESIGNED N. DONG
DRAWN L. ALA
CHECKED W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED N. BERGER REG. CE. NO. 36107
APPROVAL BY S. SALAH-NARS REG. CE. NO. 30445

URS

REVIEWED DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L, &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
BEAR RIVER-MILE 1.2 LEFT BANK
LAYOUT PLAN SHEET 1 OF 3

SPEC NO. 07-10
DRAWING NO. C-02
REV. SHEET NO. 005

Usa_p-bernaldez
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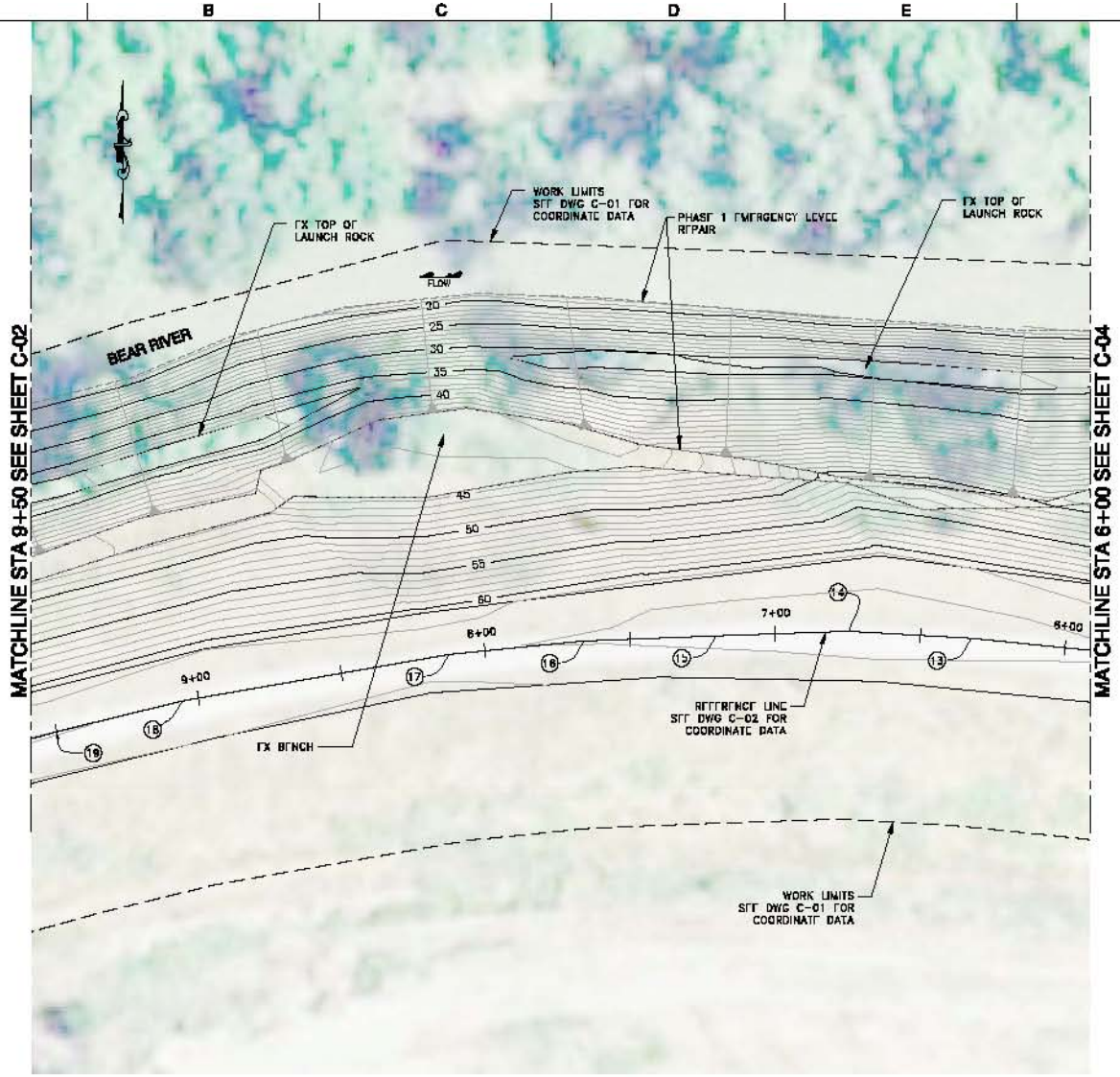
Apr 29, 2007 - 7:59pm



PLAN

NOTES:

1. BASE TOPOGRAPHY IS FROM DWR 2007 SURVEY.
2. THE CONTRACTOR SHALL PERFORM PRE-CONSTRUCTION SURVEYS OF ORIGINAL GROUND CONDITIONS AND PROVIDE CROSS SECTIONS AT A MAXIMUM SPACING OF 50 FEET ON STATION, INCLUDING TRANSITIONS, TO THE ENGINEER PRIOR TO BEGINNING CONSTRUCTION. WHERE GRADE BREAKS OR CONTOURS SIGNIFICANTLY CHANGE BETWEEN 50-FOOT STATIONS, INTERMEDIATE CROSS SECTIONS SHALL BE PROVIDED AS NEEDED TO REPRESENT SUCH EXISTING CONDITIONS.

SCALE: 1"=20'

REV	DATE	DESCRIPTION	DWN.	APPR

DESIGNED: N. DENG
DRAWN: L. ALA
CHECKED: W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED: N. BERGER, REG. CE. NO. 36107
APPROVAL BY: S. SALAH-NARS, REG. CE. NO. 30445

URS

REVIEWED: DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L, &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
BEAR RIVER-MILE 1.2 LEFT BANK
LAYOUT PLAN SHEET 2 OF 3

SPEC NO. 07-10
DRAWING NO. C-03
REV. SHEET NO. 008

Usa_p-berndales
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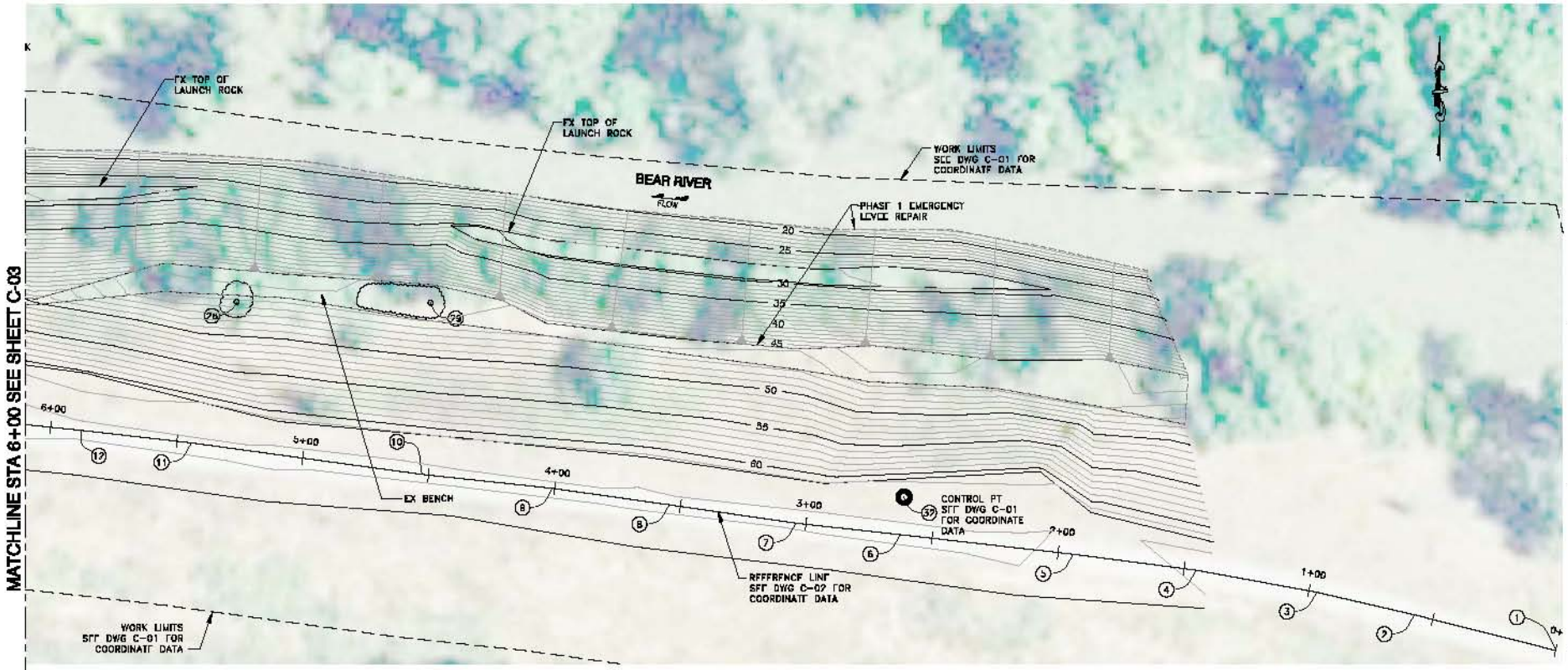


NOTES:

1. BASE TOPOGRAPHY IS FROM DWR 2007 SURVEY.
2. THE CONTRACTOR SHALL PERFORM PRE-CONSTRUCTION SURVEYS OF ORIGINAL GROUND CONDITIONS AND PROVIDE CROSS SECTIONS AT A MAXIMUM SPACING OF 50 FEET ON STATION, INCLUDING TRANSITIONS, TO THE ENGINEER PRIOR TO BEGINNING CONSTRUCTION. WHERE GRADE BREAKS OR CONTOURS SIGNIFICANTLY CHANGE BETWEEN 50-FOOT STATIONS, INTERMEDIATE CROSS SECTIONS SHALL BE PROVIDED AS NEEDED TO REPRESENT SUCH EXISTING CONDITIONS.
3. SEE DRAWING NO. C-05. REPAIR AT THIS SECTION (STA 4+75 TO 5+65) ONLY INCLUDES 0.5 FT OF COBBLE AND EROSION CONTROL FABRIC DUE TO PRESENCE OF ELDERBERRY SHRUBS (SEE LANDSCAPE DWGS).

PLAN

SCALE: 1"=20'

REV	DATE	DESCRIPTION	DWN	APPR

DESIGNED: N. DENIS
DRAWN: L. ALA
CHECKED: W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED: N. BERGER, REG. CE. NO. 36107
APPROVAL BY: S. SALAH-NARE, REG. CE. NO. 50445

URS

REVIEWED: DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

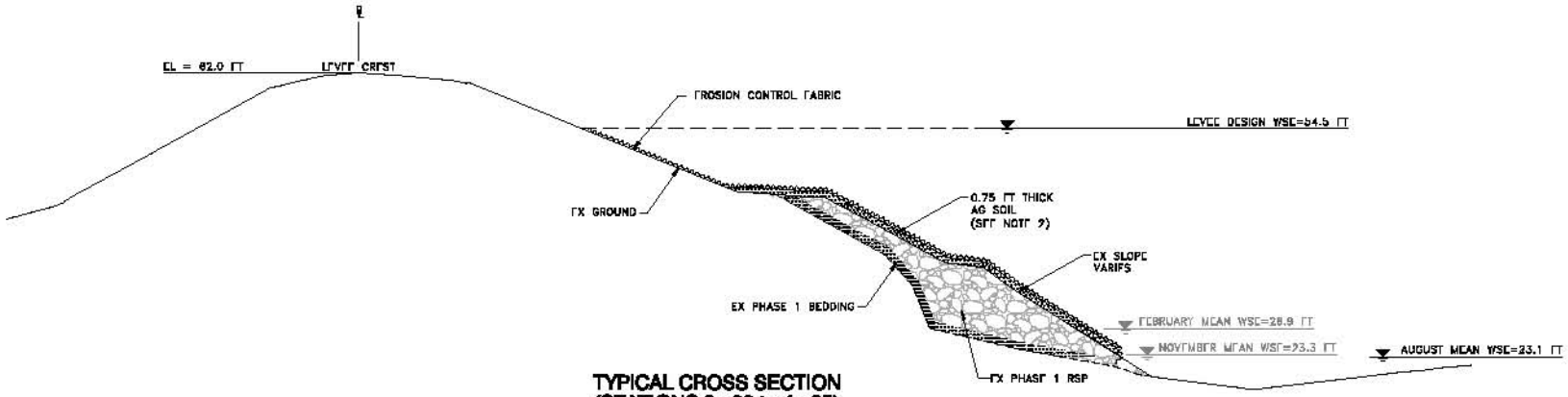
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
BEAR RIVER-MILE 1.2 LEFT BANK
LAYOUT PLAN SHEET 3 OF 3

SPEC NO. 07-10
DRAWING NO. C-04
REV. SHEET NO. 007

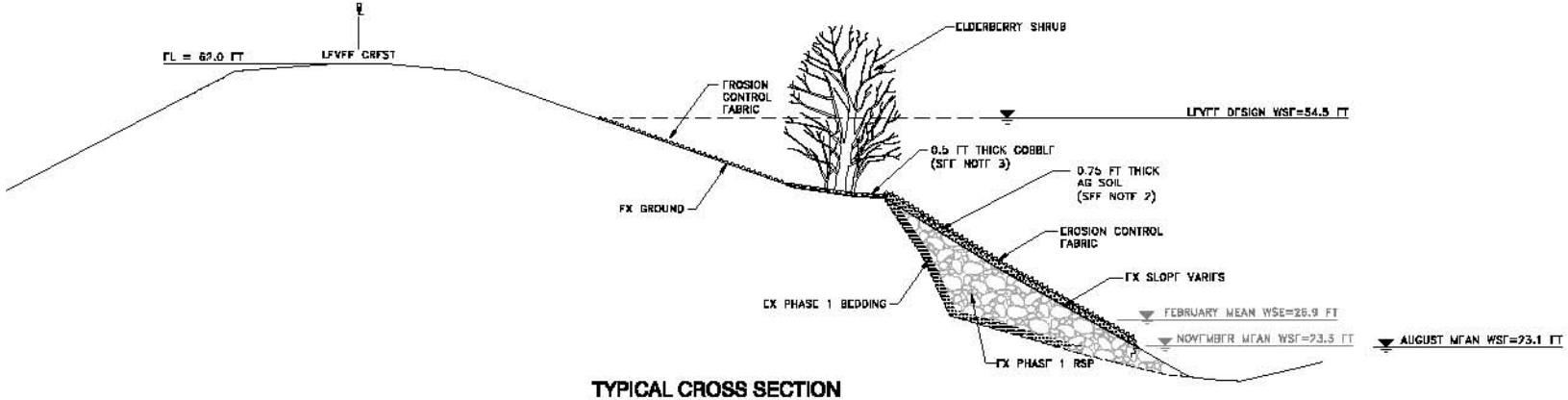
NOTES:

1. EXISTING INSTREAM WOODY MATERIAL TO BE TRIMMED AS DETERMINED IN THE FIELD (SEE LANDSCAPE DRAWINGS).
2. NO AG SOIL SHALL BE PLACED WITHIN A 8-FOOT RADIUS OF TREES TO REMAIN (SEE LANDSCAPE DRAWINGS).
3. CONTRACTOR SHALL HAND PLACE COBBLES AROUND THE ELDERBERRY SHRUBS TO THE DRIPLINE (SEE LANDSCAPE DRAWINGS).



TYPICAL CROSS SECTION (STATIONS 2+00 to 4+25) (STATIONS 5+65 to 13+50)

NTS



TYPICAL CROSS SECTION (STATIONS 4+25 to 5+65)

NTS

REV	DATE	DESCRIPTION	DWN	APPD

DESIGNED: N. DOHRS
DRAWN: L. ALA
CHECKED: W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED: N. BERGER, REG. CE. NO. 36107
APPROVAL BY: S. SALAH-MARS, REG. CE. NO. 30445

URS

REVIEWED: DATE
REG. CE. NO. 56089
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER–MILE 1.2L &
SACRAMENTO RIVER–MILE 99.5R & 187.0R
BEAR RIVER-MILE 1.2 LEFT BANK
TYPICAL REPAIR SECTIONS

SPEC NO. 07-10
DRAWING NO. C-05
REV. SHEET NO. 008

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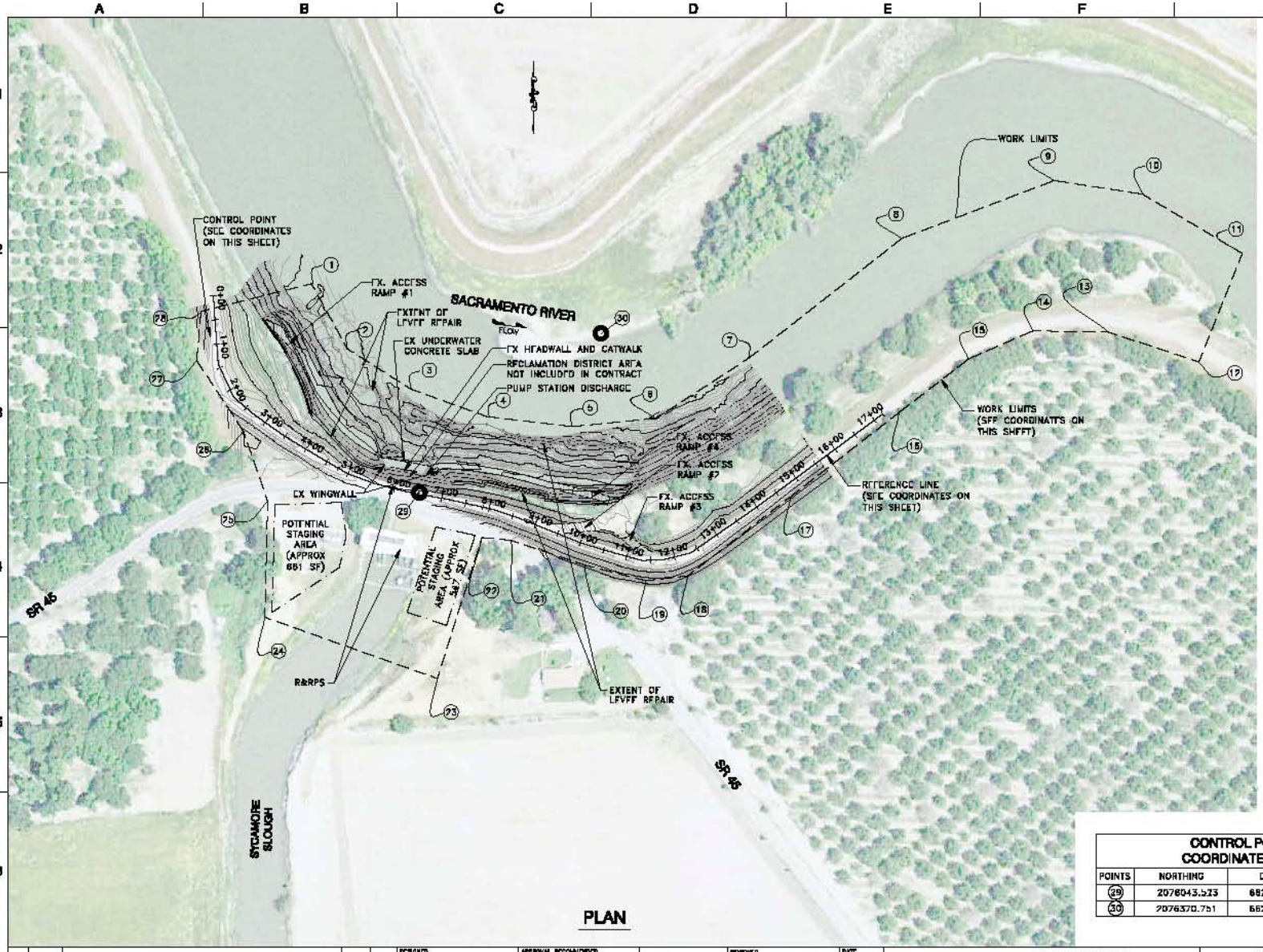

PLAN

NOTES:

1. CONTRACTOR SHALL COORDINATE USE OF THE STAGING AREA WITH THE ENGINEER. BOTH STAGING AREAS ARE KNOWN TO BE EXISTING HABITAT FOR THE STATE AND FEDERAL THREATENED GIANT GARTER SNAKE. SPECIAL FIELD MITIGATION MEASURES ARE REQUIRED. CONTRACTOR SHALL COMPLY WITH MITIGATION MEASURES REQUIRED BY THE ENVIRONMENTAL PERMITS.
2. CONTRACTOR SHALL COORDINATE INGRESS/EGRESS WITH DWR.
3. CONTRACTOR TO VERIFY COORDINATE POINTS IN THE FIELD.
4. BASE TOPOGRAPHY AND BATHYMETRY IS BASED ON DWR'S 2007 SURVEY (MARCH).
5. POTENTIAL STAGING AREA IS ALSO LOCATED AT SAC RIVER-MILE 99.3, RIGHT BANK (PREVIOUS REPAIR SITE).

WORK LIMITS COORDINATE DATA

POINTS	NORTHING	EASTING
1	2076473.0	6620520.0
2	2076339.0	6620594.0
3	2076258.0	6620795.0
4	2076200.0	6620880.0
5	2076179.0	6621056.0
6	2076196.0	6621229.0
7	2076319.0	6621419.0
8	2076586.0	6621735.0
9	2076685.0	6622048.0
10	2076657.0	6622230.0
11	2076535.0	6622435.0
12	2076319.0	6622346.0
13	2076373.0	6622151.0
14	2076376.0	6622004.0
15	2076318.0	6621579.0
16	2076208.0	6621729.0
17	2076035.0	6621506.0
18	2075872.0	6621294.0
19	2075882.0	6621208.0
20	2075895.0	6621080.0
21	2075945.0	6620931.0
22	2075951.0	6620871.0
23	2075851.0	6620779.0
24	2075787.0	6620424.0
25	2076026.0	6620430.0
26	2076170.0	6620580.0
27	2076315.0	6620284.0
28	2076416.0	6620293.0

CONTROL POINT COORDINATE DATA

POINTS	NORTHING	EASTING	ELEVATION
29	2076043.523	6620742.397	45.42'
30	2076370.751	6621115.669	37.84'

SCALE: 1" = 100'

REV	DATE	DESCRIPTION	DWN	APPD

DESIGNED: D. HADAKA
DRAWN: L. ALA
CHECKED: W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED: H. BETRITH, REG. CE. NO. 36107
APPROVAL BY: S. SALAH-NARE, REG. CE. NO. 50445

URS

REVIEWED: DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
SACRAMENTO RIVER-MILE 99.5, RIGHT BANK
SITE ACCESS MAP AND STAGING AREA

SPEC NO. 07-10
DRAWING NO. C-06
REV. SHEET NO. 009

Usa_p-hernandez Apr 29, 2007 - 7:45pm
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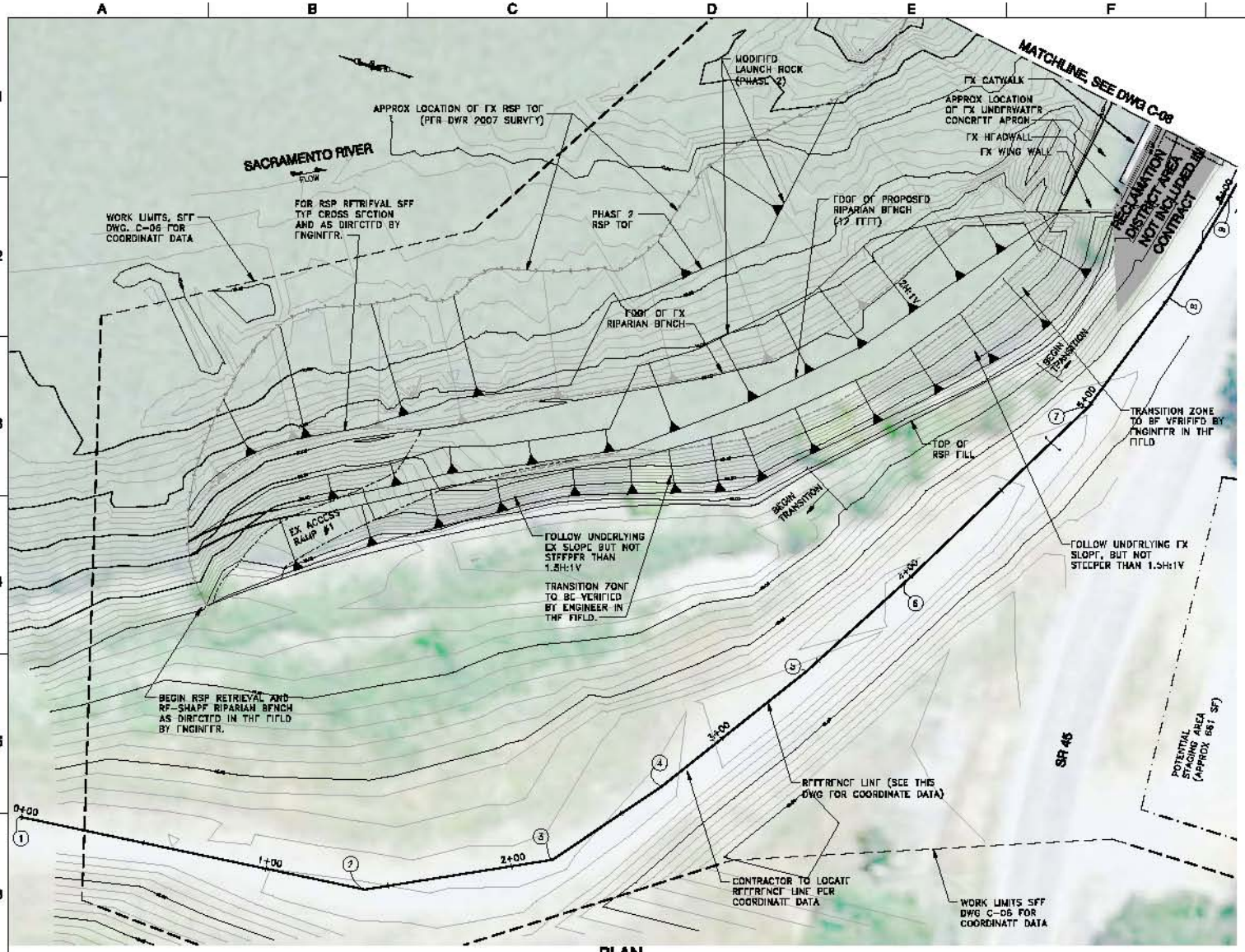

NOTE:

1. CONTRACTOR SHALL COORDINATE INGRESS/EGRESS WITH DWR AND/OR LAND OWNERS.
2. TOPOGRAPHY AND BATHYMETRY BASED ON DWR'S 2007 SURVEY.
3. THE CONTRACTOR SHALL PERFORM PRE-CONSTRUCTION SURVEYS OF ORIGINAL GROUND AND BATHYMETRIC CONDITION AND PROVIDE CROSS SECTIONS AT A MAXIMUM SPACING OF 50-FEET ON STATION, INCLUDING TRANSITIONS, INTERVALS TO THE ENGINEER PRIOR TO BEGINNING ROCK PLACEMENT. WHERE GRADE BREAKS OR CONTOURS SIGNIFICANTLY CHANGE BETWEEN 50-FOOT STATIONS, INTERMEDIATE CROSS SECTIONS SHALL BE PROVIDED AS NEEDED TO REPRESENT SUCH EXISTING CONDITIONS.
4. CONTRACTOR TO DETERMINE LOCATION OF TOE OF RSP PRIOR TO START OF CONSTRUCTION WITH RESPECT TO LOCATION OF TOP OF RSP, TYPICAL CROSS SECTION GEOMETRY, REFERENCE LINE, AND FIELD CONDITIONS; AND COORDINATE WITH ENGINEER. SEE TYPICAL SECTION ON DRAWING C-09.
5. CONTRACTOR TO REMOVE EXCESS MATERIAL USED FOR ACCESS RAMPS AND PLACE ON EXISTING ACCESS ROADS TO REMAIN AS DIRECTED IN THE FIELD BY THE ENGINEER.
6. CONTRACTOR SHALL COORDINATE USE OF THE STAGING AREA WITH THE ENGINEER. BOTH STAGING AREAS ARE KNOWN TO BE EXISTING HABITAT FOR THE STATE AND FEDERAL THREATENED GIANT GARTER SNAKE. SPECIAL FIELD MITIGATION MEASURES ARE REQUIRED. CONTRACTOR SHALL COMPLY WITH MITIGATION MEASURES REQUIRED BY THE ENVIRONMENTAL PERMITS.

COORDINATE DATA

POINTS	NORTHING	EASTING	DESCRIPTION
1 a	2076448.4	6620318.3	REFERENCE LINE
2 a	2076308.3	6620378.3	REFERENCE LINE
3 a	2076239.2	6620360.4	REFERENCE LINE
4 a	2076205.2	6620400.7	REFERENCE LINE
5 a	2076167.1	6620460.8	REFERENCE LINE
6 a	2076137.5	6620508.4	REFERENCE LINE
7 a	2076083.4	6620594.2	REFERENCE LINE
8 a	2076063.5	6620644.7	REFERENCE LINE
9 a	2076051.4	6620690.0	REFERENCE LINE
10 b	2076039.0	6620747.1	REFERENCE LINE
11 b	2076030.7	6620794.5	REFERENCE LINE
12 b	2076008.6	6620893.8	REFERENCE LINE
13 a	2075991.2	6620945.4	REFERENCE LINE
14 b	2075965.2	6621011.0	REFERENCE LINE
15 b	2075938.9	6621076.3	REFERENCE LINE
16 b	2075924.5	6621124.0	REFERENCE LINE
17 b	2075903.7	6621199.8	REFERENCE LINE
18 b	2075905.5	6621244.9	REFERENCE LINE
19 a	2075918.2	6621300.1	REFERENCE LINE
20 a	2076013.5	6621436.0	REFERENCE LINE
21 a	2076705.4	6621895.2	REFERENCE LINE

a REFERENCE LINE DATA POINT ON SHEET C-07
b REFERENCE LINE DATA POINT ON SHEET C-08
c REFERENCE LINE DATA NOT REPRESENTED ON LAYOUT SHEETS.

PLAN

SCALE: 1"=20'

REV	DATE	DESCRIPTION	DWN.	APPR

DESIGNED: D. HADAKA
DRAWN: E. ALA
CHECKED: W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED: H. BERGER, REG. CE. NO. 36107
APPROVAL BY: S. SALAH-NARES, REG. CE. NO. 50445

URS

REVIEWED: DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54573

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
SACRAMENTO RIVER-MILE 99.5, RIGHT BANK
LAYOUT PLAN, SHEET 1 OF 2

SPEC NO. 07-10
DRAWING NO. C-07
REV. SHEET NO. 010

Usa_p-hernandez Apr 29, 2007 - 7:46pm
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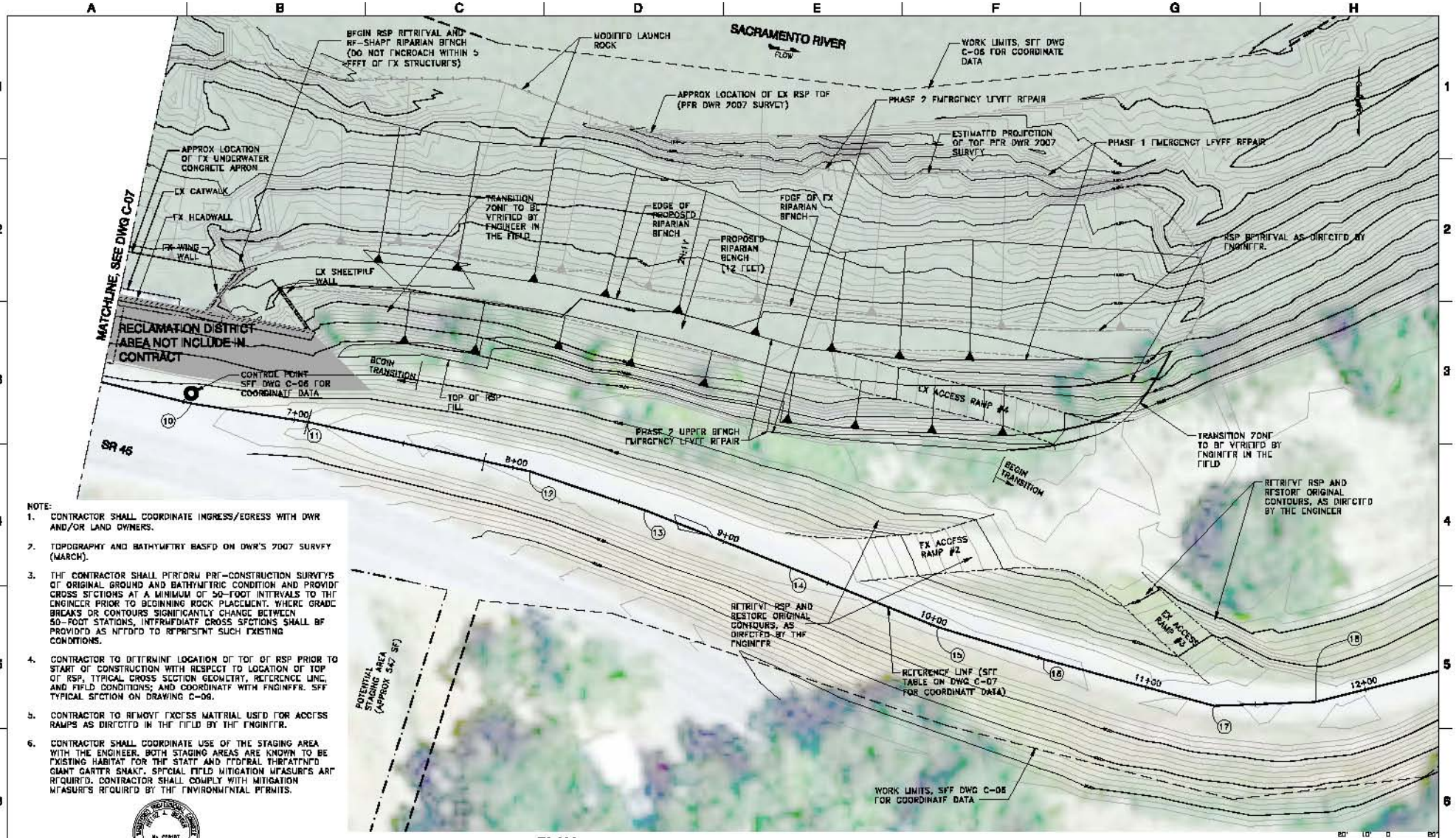

NOTE:

1. CONTRACTOR SHALL COORDINATE INGRESS/EGRESS WITH DWR AND/OR LAND OWNERS.
2. TOPOGRAPHY AND BATHYMETRY BASED ON DWR'S 2007 SURVEY (MARCH).
3. THE CONTRACTOR SHALL PERFORM PRE-CONSTRUCTION SURVEYS OF ORIGINAL GROUND AND BATHYMETRIC CONDITION AND PROVIDE CROSS SECTIONS AT A MINIMUM OF 50-FOOT INTERVALS TO THE ENGINEER PRIOR TO BEGINNING ROCK PLACEMENT. WHERE GRADE BREAKS OR CONTOURS SIGNIFICANTLY CHANGE BETWEEN 50-FOOT STATIONS, INTERMEDIATE CROSS SECTIONS SHALL BE PROVIDED AS NEEDED TO REPRESENT SUCH EXISTING CONDITIONS.
4. CONTRACTOR TO DETERMINE LOCATION OF TOE OF RSP PRIOR TO START OF CONSTRUCTION WITH RESPECT TO LOCATION OF TOP OF RSP, TYPICAL CROSS SECTION GEOMETRY, REFERENCE LINE, AND FIELD CONDITIONS; AND COORDINATE WITH ENGINEER. SEE TYPICAL SECTION ON DRAWING C-09.
5. CONTRACTOR TO REMOVE EXCESS MATERIAL USED FOR ACCESS RAMPS AS DIRECTED IN THE FIELD BY THE ENGINEER.
6. CONTRACTOR SHALL COORDINATE USE OF THE STAGING AREA WITH THE ENGINEER. BOTH STAGING AREAS ARE KNOWN TO BE EXISTING HABITAT FOR THE STATE AND FEDERAL THREATENED GIANT GARTER SNAKE. SPECIAL FIELD MITIGATION MEASURES ARE REQUIRED. CONTRACTOR SHALL COMPLY WITH MITIGATION MEASURES REQUIRED BY THE ENVIRONMENTAL PERMITS.

PLAN

REV	DATE	DESCRIPTION	DWN.	APPD

DESIGNED: D. HADAKA
DRAWN: L. ALA
CHECKED: W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED: H. BERGER, REG. CE. NO. 36107
APPROVAL BY: S. SALAH-NARE, REG. CE. NO. 50445

URS

REVIEWED: DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54573

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
SACRAMENTO RIVER-MILE 99.5, RIGHT BANK
LAYOUT PLAN, SHEET 2 OF 2

SPEC NO. 07-10
DRAWING NO. C-08
REV. SHEET NO. 011

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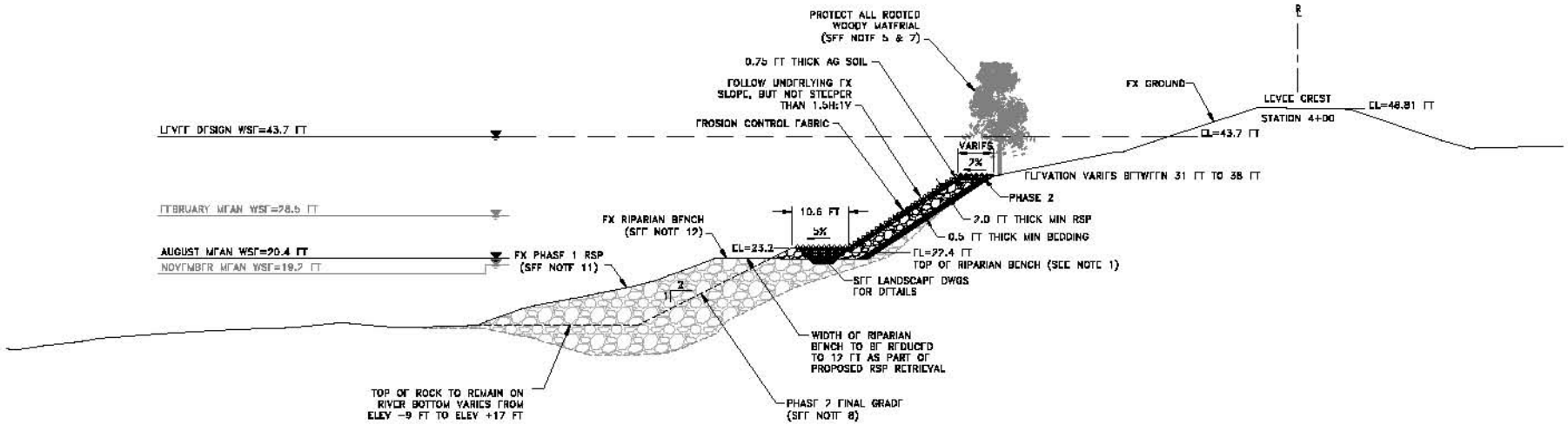


TYPICAL CROSS SECTION

NTS

GENERAL NOTES:

1. THE FINISHED ELEVATION OF THE TOP ELEVATION OF RIPARIAN BENCH SHALL BE VARIED BY +/- 1 FOOT FROM SPECIFIED MEAN ELEVATION IN 300-FOOT-LONG IRREGULAR UNDULATIONS. THICKNESS OF AGRICULTURAL SOIL AND BEDDING SHALL REMAIN UNCHANGED.
2. CONTRACTOR SHALL PROTECT EXISTING STRUCTURES (HEADWALL, WINGWALLS, CONCRETE APRON, AND SHEETPILE WALL).
3. ROCK SLOPE PROTECTION (RSP) SHALL BE MINIMUM 2 FEET THICK AT LOCATIONS NORMAL TO SLOPE ABOVE RIPARIAN BENCH, EXCEPT IN TRANSITIONS.
4. BEDDING SHALL BE MINIMUM 0.5 FEET THICK AT LOCATIONS NORMAL TO SLOPE ABOVE RIPARIAN BENCH.
5. PROTECT **ALL** NATIVE TREES 4 IN. OR GREATER IN DBH. TREES MARKED WITH BLUE FLAGGING TAPE SHALL BE PROTECTED WITH PLYWOOD BOXES AS SHOWN ON DETAILS 1, 2 AND 3 ON DWG L-18. TREES MARKED WITH WHITE FLAGGING TAPE SHALL BE PROTECTED WITH 4X4 WRAP SHOWN ON DETAILS 4 AND 5 ON DWG L-18. NATIVE TREES WITH UNDERMINED ROOTS SHALL BE PROTECTED AS PER METHOD SHOWN ON DETAIL 6 ON DWG L-18. NATIVE TREES TO BE PROTECTED INCLUDE OAKS, WILLOWS, OREGON ASH, WHITE ALDER, BOX ELDER SYCAMORE, COTTONWOOD, WALNUT, BUTTONBUSH AND ELDERBERRY.
6. VOIDS IN RSP ON UPPER SLOPE SHALL BE FILLED MANUALLY WITH AGRICULTURAL SOIL TO MAXIMUM DEPTH PRACTICAL. WHERE RSP THICKNESS EXCEEDS 4 FEET, RSP SHALL BE PLACED IN LAYERS OF 2-FOOT MAXIMUM THICKNESS AND AGRICULTURAL SOIL SHALL BE PLACED IN RSP VOIDS. RSP SURFACE SHALL BE CLEANED OF AGRICULTURAL SOIL BEFORE NEXT LIFT IS PLACED.
7. NO AG FILL SHALL BE PLACED WITHIN A 6-FOOT RADIUS OF TREES TO REMAIN. SEE LANDSCAPE DRAWINGS.
8. CONTRACTOR SHALL RE-SHAPE THE RSP BELOW THE RIPARIAN BENCH TO THE TOE OF SLOPE OR DESIGN LINE. THE SLOPE SHALL BE RE-SHAPED TO A 2H:1V SLOPE. THE RSP THAT IS RETRIEVED SHALL BE USED TO CONSTRUCT THE UPPER RSP FILL.
9. NO WORK TO BE PERFORMED BELOW AND ABOVE HEADWALL, REFER TO DRAWINGS C-07 AND C-08 FOR TRANSITION SECTIONS.
10. TOPOGRAPHY AND BATHYMETRY SURVEY BASED ON DWR'S 2007 AS-INSTALLED SURVEY. CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING FIELD CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION (SEE DRAWING NO. G-03 FOR SPECIFICS).
11. DURING ROCK REMOVAL CONTRACTOR SHALL NOT ENCROACH ON RIVER BOTTOM (REFER TO SPECIFICATION SECTION 02371 FOR DETAILS).
12. BASED ON DWR'S 2007 SURVEY, EXISTING RIPARIAN BENCH IS BETWEEN EL 20.0 TO 22.0 FEET, TOP OF RIPARIAN BENCH SHOULD BE BUILT TO EL 22.4 FT PRIOR TO CONSTRUCTION OF TRENCH.

REV	DATE	DESCRIPTION	DWN	APPD

DESIGNED: D. HADAKA
DRAWN: L. ALA
CHECKED: W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED: H. BETRITH, REG. CE. NO. 36107
APPROVAL BY: S. SALAH-NARE, REG. CE. NO. 50445

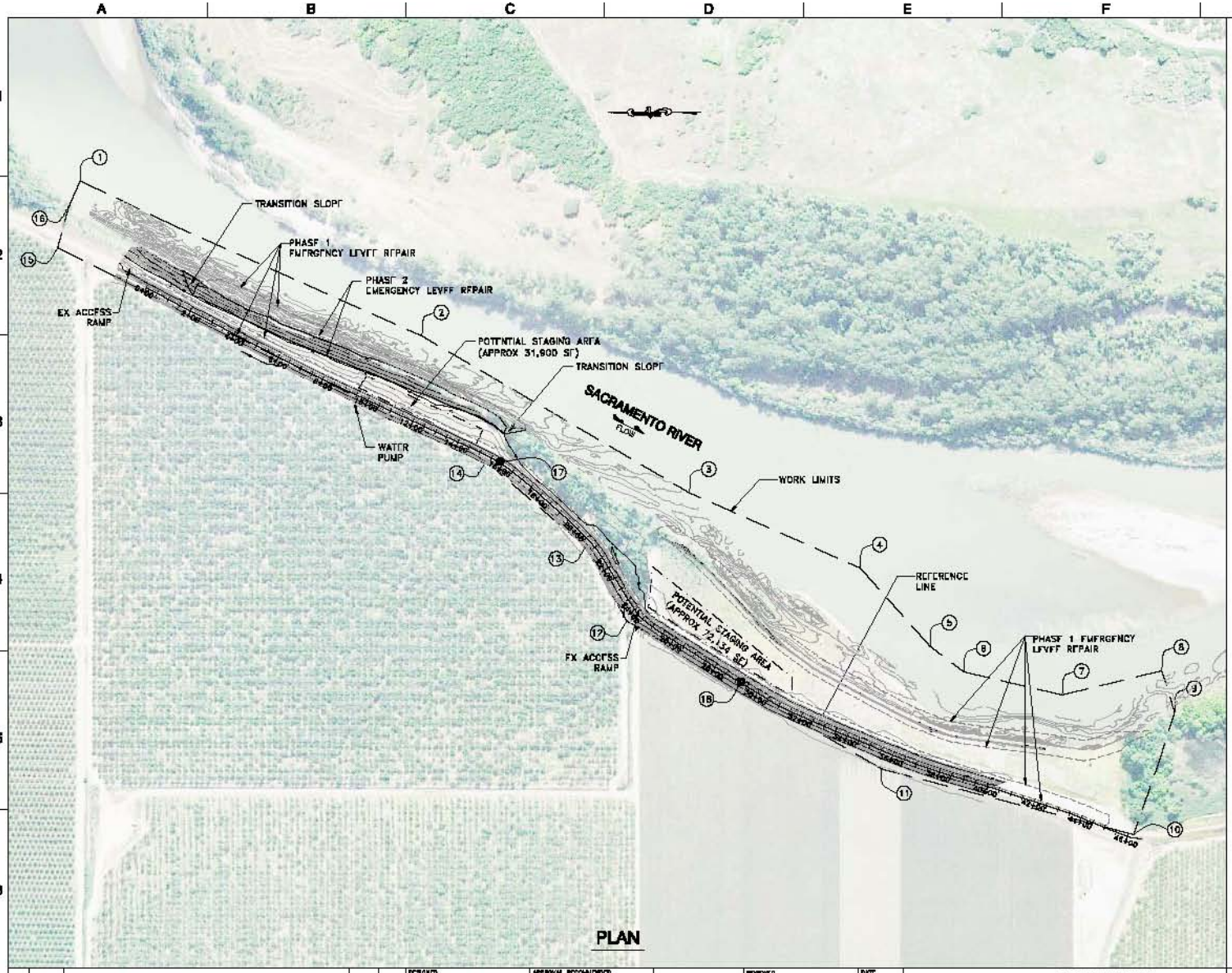
URS

REVIEWED: DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54573

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
SACRAMENTO RIVER-MILE 99.5, RIGHT BANK
TYPICAL REPAIR SECTION

SPEC NO. 07-10
DRAWING NO. C-09
REV. SHEET NO. 012



PLAN

NOTES:

1. CONTRACTOR SHALL COORDINATE USE OF THE STAGING AREA WITH THE ENGINEER.
2. CONTRACTOR SHALL COORDINATE INGRESS/EGRESS WITH DWR AND/OR LAND OWNERS. (DWR TO COORDINATE WITH DFG)

WORK LIMITS COORDINATE DATA

POINTS	NORTHING	EASTING
1	2347343.0	6583576.0
2	2345968.0	6582857.0
3	2344891.0	6582371.0
4	2344203.0	6582015.0
5	2343922.0	6581703.0
6	2343785.0	6581600.0
7	2343390.0	6581508.0
8	2342989.0	6581605.0
9	2342937.0	6581439.0
10	2343103.0	6580846.0
11	2344117.0	6581210.0
12	2345143.0	6581806.0
13	2345308.0	6582104.0
14	2345710.0	6582446.0
15	2347434.0	6583307.0
16	2347389.0	6583473.0

CONTROL POINT COORDINATE DATA

POINTS	NORTHING	EASTING	ELEV
17	2345651.999	6582447.897	117.84'
18	2344682.826	6581560.480	117.51'

SCALE: 1" =200'

REV	DATE	DESCRIPTION	DWN.	APPD

DESIGNED L. BERNALDEZ
DRAWN L. BERNALDEZ
CHECKED W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED H. BERGER REG. CE. NO. 36107
APPROVAL BY S. SALAH-NARES REG. CE. NO. 50445

URS

REVIEWED DATE
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REG. CE. NO. 69771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

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FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L, &
SACRAMENTO RIVER-MILE 99.5R & 187.0R

SACRAMENTO RIVER-MILE 182.0, RIGHT BANK
SITE ACCESS MAP AND STAGING AREA

SPEC NO. 07-10
DRAWING NO. C-10
REV. SHEET NO. 013

Usa_p-bernaldez Apr 26, 2007 - 7:07pm
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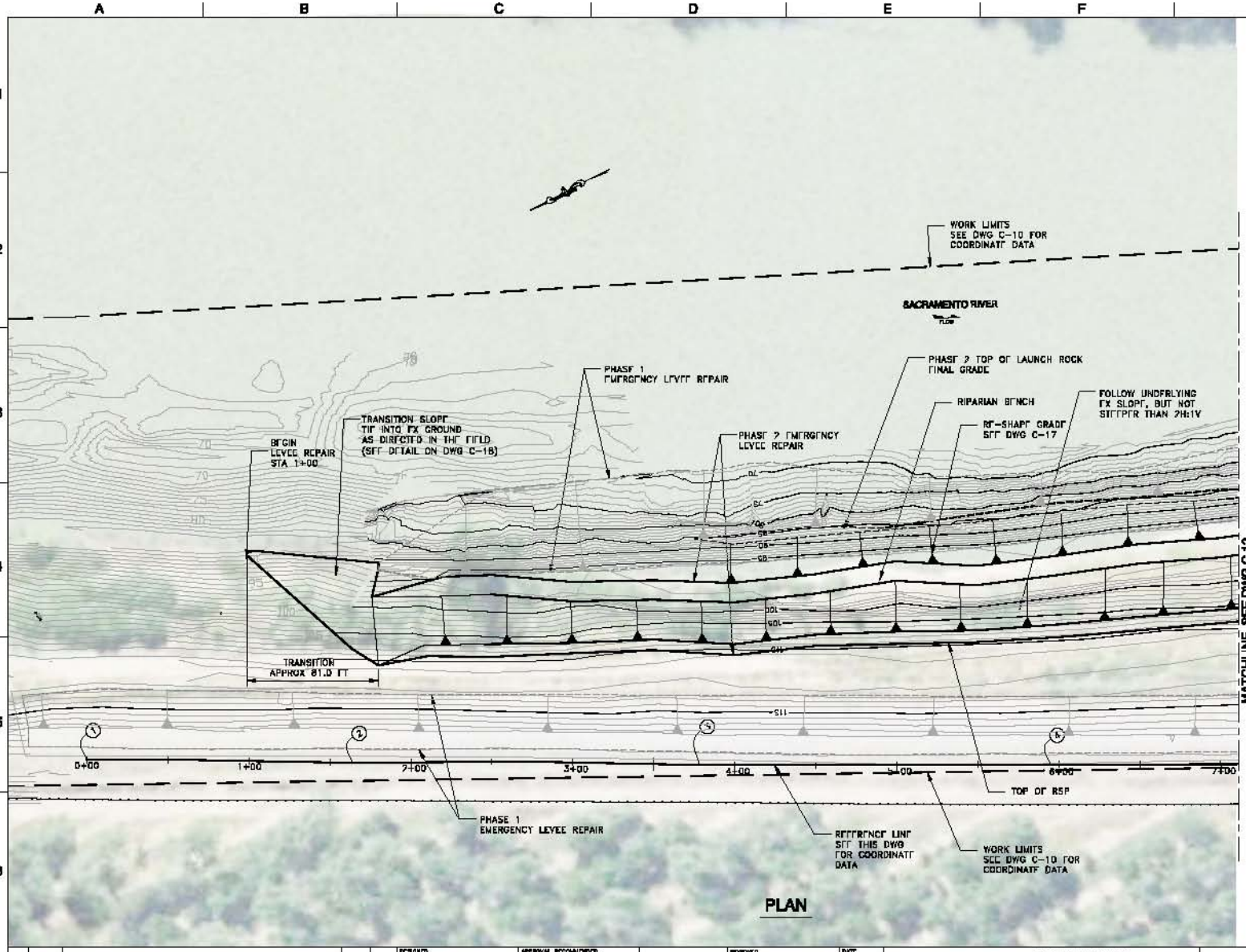

NOTE:

1. BASE TOPOGRAPHY IS FROM DWR'S 2007 (MARCH) SURVEY.
2. THE CONTRACTOR SHALL PERFORM PRE-CONSTRUCTION SURVEYS OF ORIGINAL GROUND CONDITIONS AND PROVIDE CROSS SECTIONS AT A MINIMUM OF 50-FOOT INTERVALS TO THE ENGINEER PRIOR TO BEGINNING ROCK PLACEMENT. WHERE GRADE BREAKS OR CONTOUR SIGNIFICANTLY CHANGE BETWEEN 50-FOOT STATIONS. INTERMEDIATE CROSS SECTIONS SHALL BE PROVIDED AS NEEDED TO REPRESENT SUCH EXISTING CONDITIONS.
3. CONTRACTOR TO DETERMINE LOCATION OF TOE OF RSP PRIOR TO START OF CONSTRUCTION WITH RESPECT TO LOCATION OF TOP OF RSP, TYPICAL CROSS SECTION GEOMETRY, REFERENCE LINE AND FIELD CONDITIONS; AND COORDINATION WITH THE ENGINEER. SEE TYPICAL CROSS SECTION ON DRAWING C-17.

COORDINATE DATA

POINTS	NORTHING	EASTING	DESCRIPTION
1 a	2347076.9	6563146.3	REFERENCE LINE
2 a	2346931.8	6563059.3	REFERENCE LINE
3 a	2346742.5	6562969.8	REFERENCE LINE
4 a	2346549.7	6562870.4	REFERENCE LINE
5 b	2346260.6	6562776.4	REFERENCE LINE
6 b	2346070.1	6562640.0	REFERENCE LINE
7 b	2345875.8	6562548.0	REFERENCE LINE
8 a	2345684.6	6562459.3	REFERENCE LINE
9 a	2345621.8	6562420.7	REFERENCE LINE
10 a	2345400.0	6562231.6	REFERENCE LINE
11 c	2345250.8	6562075.2	REFERENCE LINE
12 d	2345069.5	6561821.7	REFERENCE LINE
13 d	2345061.6	6561797.3	REFERENCE LINE
14 d	2344715.9	6561574.6	REFERENCE LINE
15 e	2344971.8	6561349.4	REFERENCE LINE
16 e	2343874.7	6561199.9	REFERENCE LINE
17 f	2343513.7	6561067.4	REFERENCE LINE
18 f	2343345.8	6561076.1	REFERENCE LINE
19 f	2343111.6	6560933.2	REFERENCE LINE
20 f	2343072.7	6560929.0	REFERENCE LINE
21 b	2346920.4	6562614.9	FLOREBERRY SHRUB
22 b	2346719.0	6562799.7	FLOREBERRY SHRUB
23 b	2346210.2	6562619.4	FLOREBERRY SHRUB
24 b	2346197.3	6562790.0	FLOREBERRY SHRUB
25 b	2346173.3	6562602.9	FLOREBERRY SHRUB
26 b	2345842.6	6562673.6	FLOREBERRY SHRUB

a REFERENCE LINE DATA POINT ON THIS SHEET
b REFERENCE LINE DATA POINT ON SHEET C-12
c REFERENCE LINE DATA POINT ON SHEET C-13
d REFERENCE LINE DATA POINT ON SHEET C-14
e REFERENCE LINE DATA POINT ON SHEET C-15
f REFERENCE LINE DATA POINT ON SHEET C-16

REGISTERED PROFESSIONAL ENGINEER
NO. 52107
Sep 2-Al-08
CIVIL
STATE OF CALIFORNIA

90' 15' 0 30'
SCALE: 1" = 30'

REV	DATE	DESCRIPTION	DWN.	APPR

DESIGNED
L. BERNALDEZ

DRAWN
L. BERNALDEZ

CHECKED
W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED
H. BERGER
REG. CE. NO. 36107
APPROVAL BY
S. SALAH-NARE
REG. CE. NO. 30445

URS

REVIEWED
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 59771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

DATE

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
SACRAMENTO RIVER-MILE 182.0, RIGHT BANK
LAYOUT PLAN, SHEET 1 OF 6

SPEC NO. 07-10
DRAWING NO. C-11
REV. SHEET NO. 014

Wed, 2-Berndez Apr 29, 2007 - 7:48pm
H:\CADD\Current\DWG-SR\RIVER Levee Repair\Phase 2\SacCBR_EROSIR_C-11\C-14.dwg

NOTE:

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2. THE CONTRACTOR SHALL PERFORM PRE-CONSTRUCTION SURVEYS OF ORIGINAL GROUND CONDITIONS AND PROVIDE CROSS SECTIONS AT A MINIMUM OF 50-FOOT INTERVALS TO THE ENGINEER PRIOR TO BEGINNING ROCK PLACEMENT. WHERE GRADE BREAKS OR CONTOUR SIGNIFICANTLY CHANGE BETWEEN 50-FOOT STATIONS. INTERMEDIATE CROSS SECTIONS SHALL BE PROVIDED AS NEEDED TO REPRESENT SUCH EXISTING CONDITIONS.
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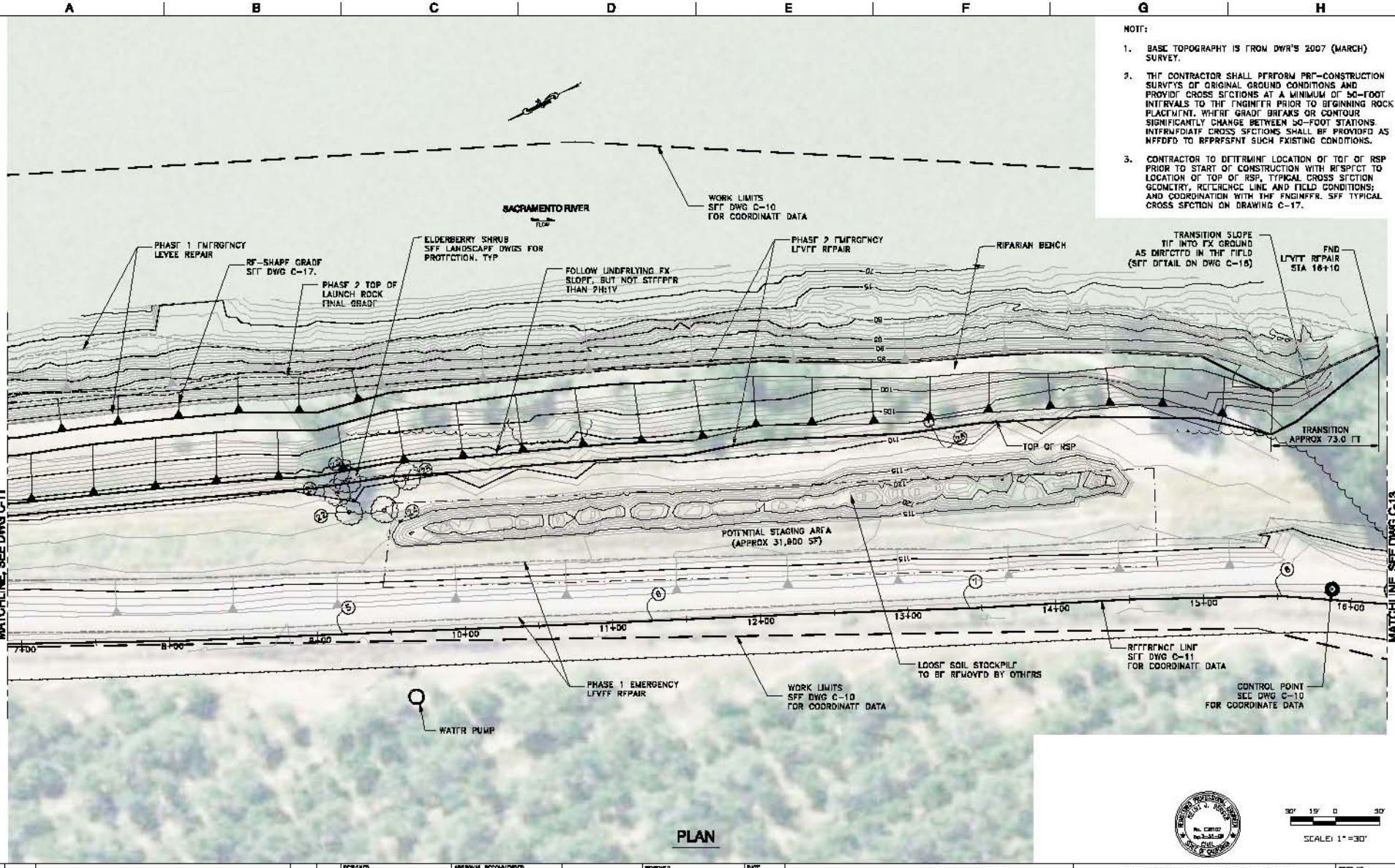


PLAN

90' 15' 0 30'

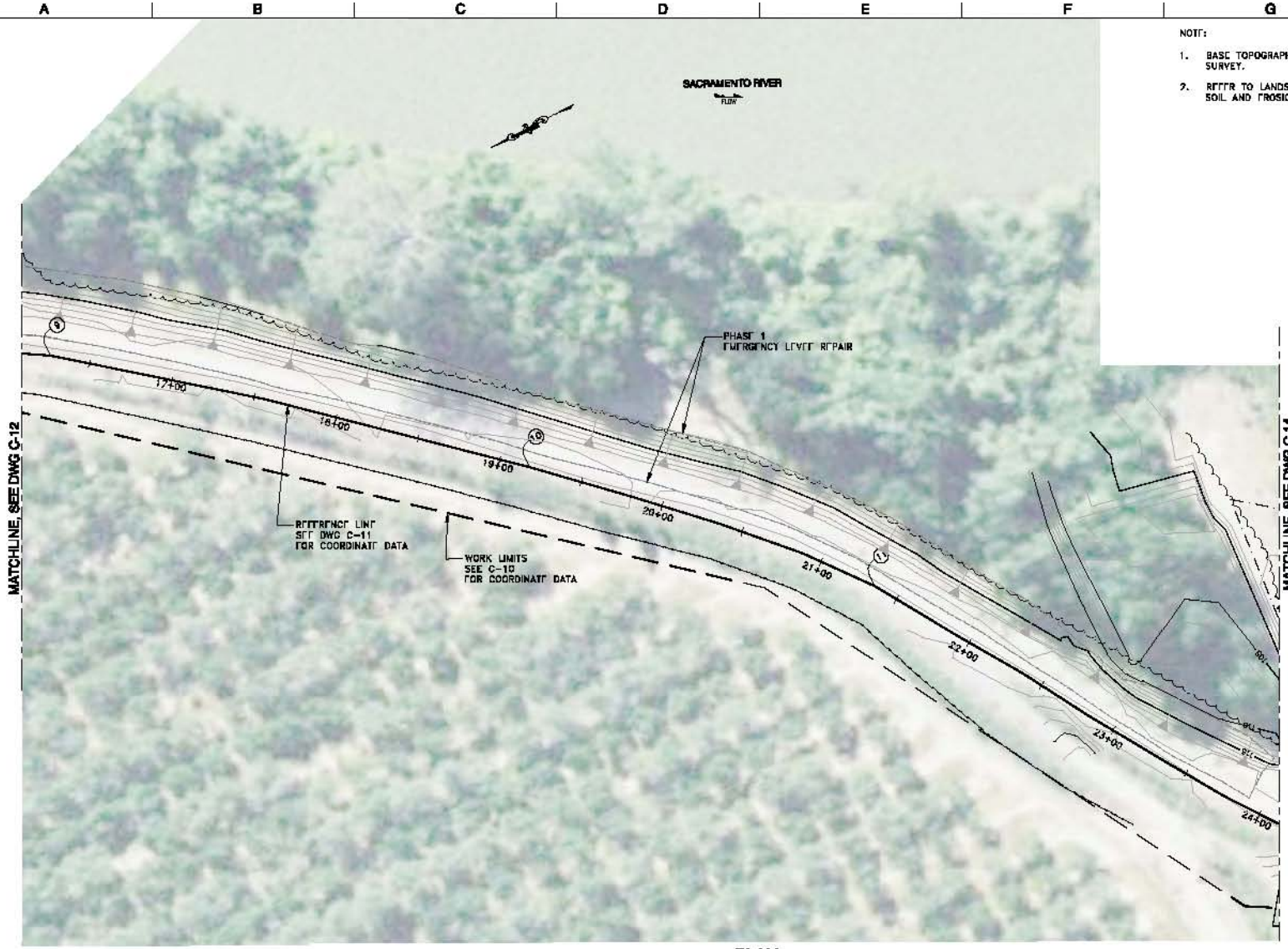
SCALE: 1" =30'

REV	DATE	DESCRIPTION	DWN.	APPD	DESIGNED L. BERNALDEZ; DRAWN L. BERNALDEZ; CHECKED W. TIRADOS REG. CE. NO. 75108	APPROVAL RECOMMENDED H. BERGER REG. CE. NO. 36107; APPROVAL BY S. SALAH-NARS REG. CE. NO. 30445	URS	REVIEWED REG. CE. NO. 56069; APPROVAL RECOMMENDED REG. CE. NO. 67771; APPROVED PROJECT MANAGER REG. CE. NO. 54579	DATE	STATE OF CALIFORNIA THE RESOURCES AGENCY DEPARTMENT OF WATER RESOURCES DIVISION OF ENGINEERING FLOOD MANAGEMENT	STATE EMERGENCY EROSION REPAIR PROJECT EMERGENCY LEVEE EROSION REPAIR – PHASE II BEAR RIVER-MILE 1.2L & SACRAMENTO RIVER-MILE 99.5R & 187.0R SACRAMENTO RIVER-MILE 182.0, RIGHT BANK LAYOUT PLAN, SHEET 2 OF 6	SPEC NO. 07-10; DRAWING NO. C-12; REV. SHEET NO. 015

Apr 29, 2007 - 7:59pm
H:\CADD\Current\DWR\NWR Levee Repair\Phase 2\Sac\BR_RM182\BR_C-12\C-12.dwg

NOTE:

1. BASE TOPOGRAPHY IS FROM DWR'S 2007 (MARCH) SURVEY.
2. REFER TO LANDSCAPE DRAWINGS FOR PLACEMENT OF AG SOIL AND EROSION CONTROL FABRIC.



PLAN

SCALE: 1" = 30'

REV	DATE	DESCRIPTION	DWN.	APPD

DESIGNED: L. BERNALDEZ
DRAWN: L. BERNALDEZ
CHECKED: W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED: H. BERGER, REG. CE. NO. 36107
APPROVAL BY: S. SALAH-NARS, REG. CE. NO. 50445

URS

REVIEWED: DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54573

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
SACRAMENTO RIVER-MILE 182.0, RIGHT BANK
LAYOUT PLAN, SHEET 3 OF 6

SPEC NO. 07-10
DRAWING NO. C-13
REV. SHEET NO. 016

Wed, 2-Berndez
H:\CADD\Current\CVV-SR\RIVER Levee Repair\Phase 2\Sac182_RR\182-RL-C-11to14.dwg

NOTE:

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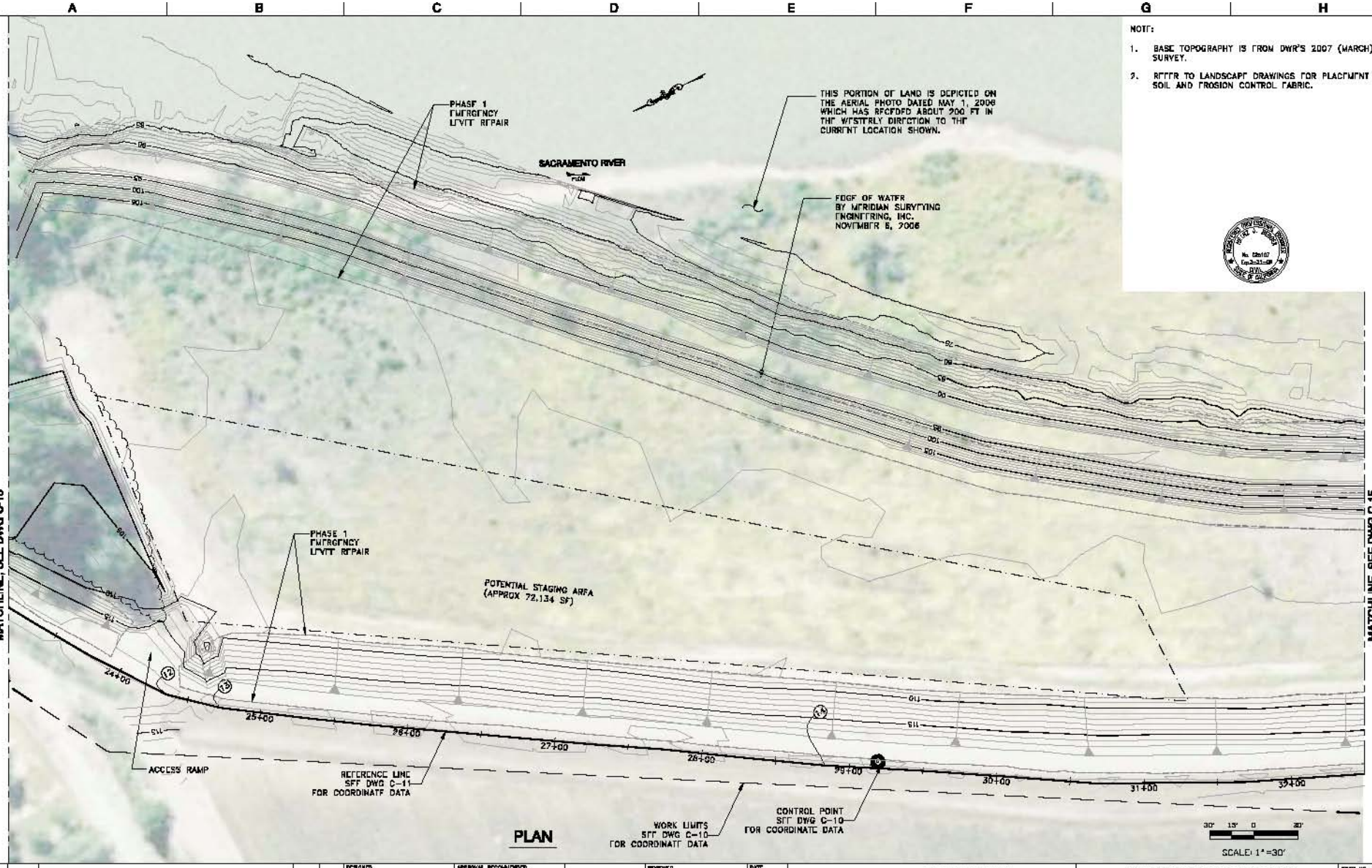
2. REFER TO LANDSCAPE DRAWINGS FOR PLACEMENT OF AG SOIL AND EROSION CONTROL FABRIC.



PLAN

REV	DATE	DESCRIPTION	DWN.	APPR

DESIGNED: L. BERNALDEZ
DRAWN: L. BERNALDEZ
CHECKED: W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED: H. BERGER, REG. CE. NO. 36107
APPROVAL BY: S. SALAH-NARES, REG. CE. NO. 30445

URS

SURVEYED: DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
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STATE OF CALIFORNIA
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STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 182.0R
SACRAMENTO RIVER-MILE 182.0, RIGHT BANK
LAYOUT PLAN, SHEET 4 OF 6

SPEC NO. 07-10
DRAWING NO. C-14
REV. SHEET NO. 017

Usa_p-bernaldez Apr 29, 2007 - 7:08am
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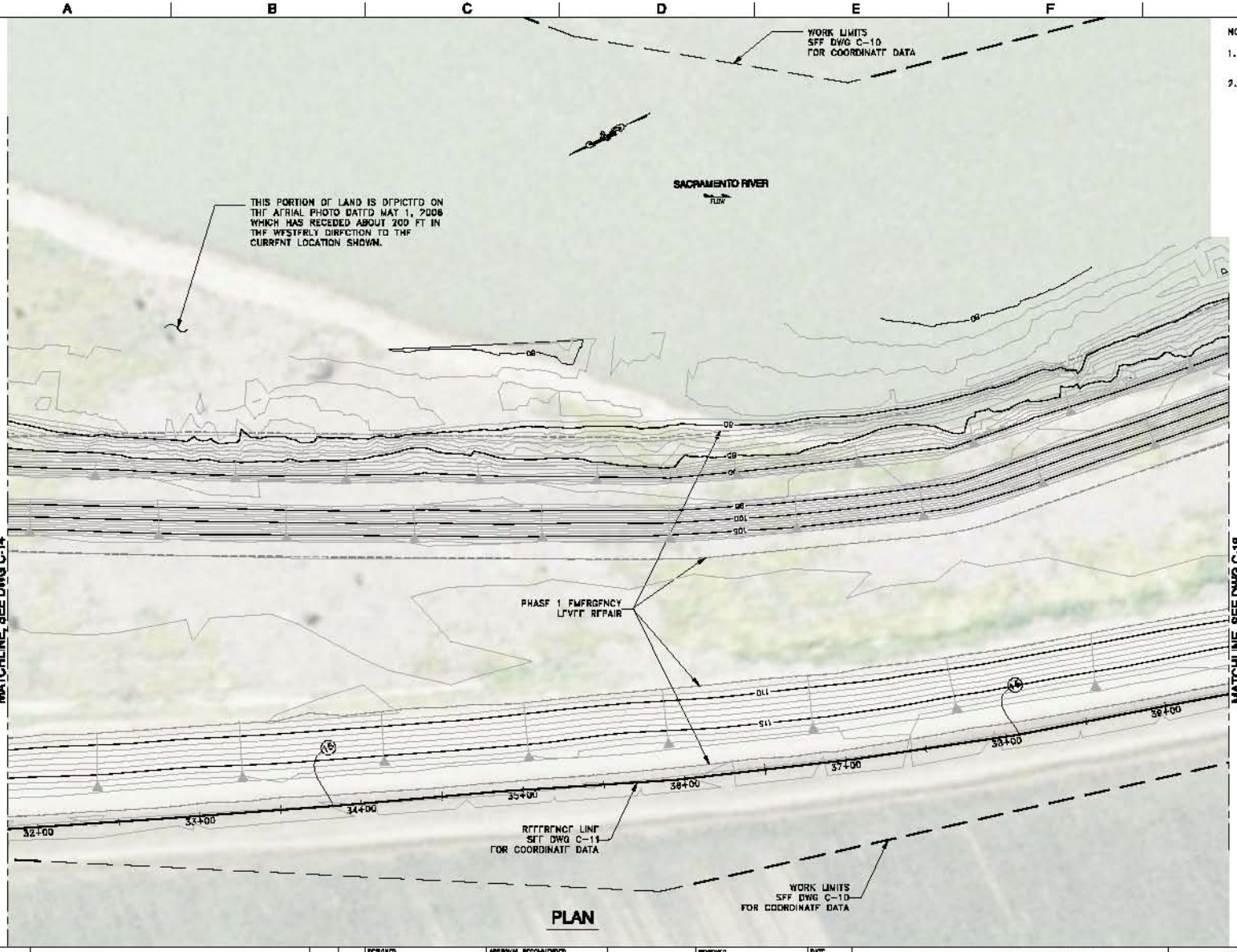

NOTE:

1. BASE TOPOGRAPHY IS FROM DWR'S 2007 (MARCH) SURVEY.
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PLAN

REV	DATE	DESCRIPTION	DWN.	APPR

DESIGNED L. BERNALDEZ
DRAWN L. BERNALDEZ
CHECKED W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED H. BERGER
REG. CE. NO. 36107
APPROVAL BY S. SALAH-NARES
REG. CE. NO. 50445

URS

REVIEWED DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
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STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
SACRAMENTO RIVER-MILE 182.0, RIGHT BANK
LAYOUT PLAN, SHEET 5 OF 6

SHEET NO. 07-10
DRAWING NO. C-16
REV. SHEET NO. 016

Wed, 2-Sep-2008 Apr 29, 2007 - 7:01pm
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NOTE:

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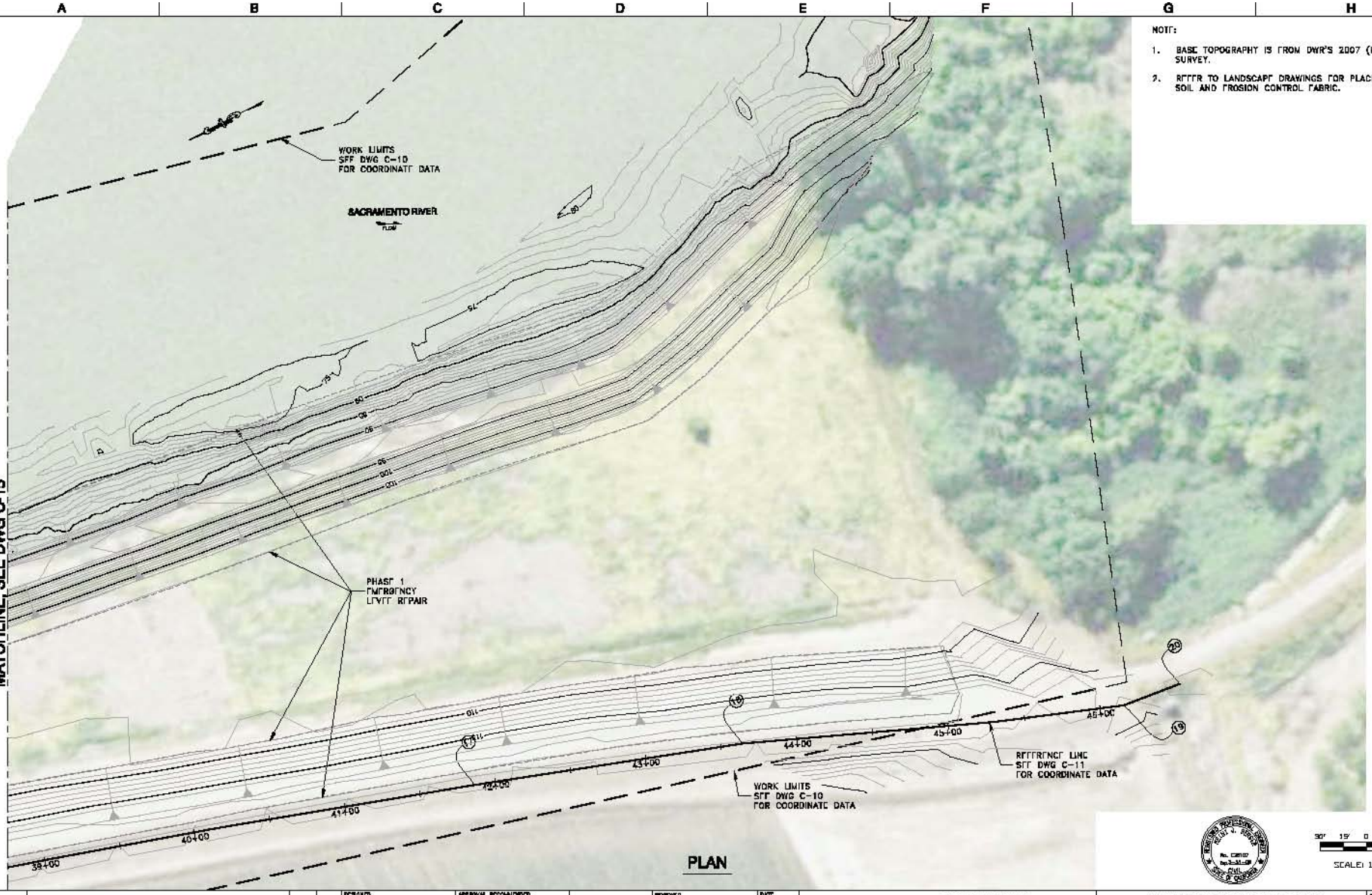

PLAN

SCALE: 1" = 30'

REV	DATE	DESCRIPTION	DWN.	APPR

DESIGNED: L. BERNALDEZ
DRAWN: L. BERNALDEZ
CHECKED: W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED: H. BERGER, REG. CE. NO. 36107
APPROVAL BY: S. SALAH-NARE, REG. CE. NO. 50445

URS

REVIEWED: DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

STATE OF CALIFORNIA
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STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
SACRAMENTO RIVER-MILE 182.0, RIGHT BANK
LAYOUT PLAN, SHEET 6 OF 6

SPEC NO. 07-10
DRAWING NO. C-16
REV. SHEET NO. 019

Wed, 2-Berndez Apr 29, 2007 - 7:08pm
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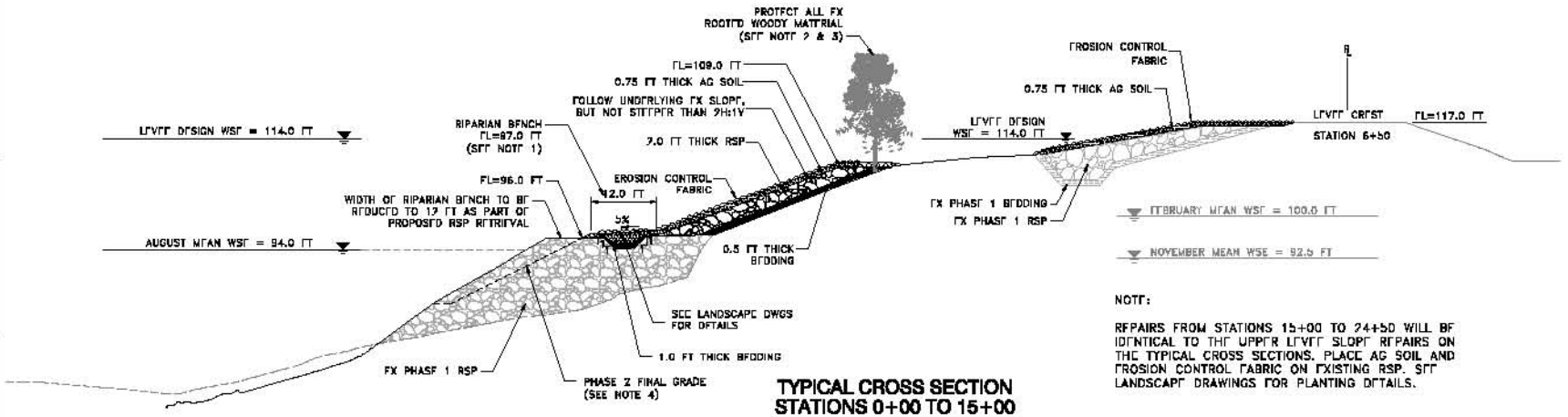
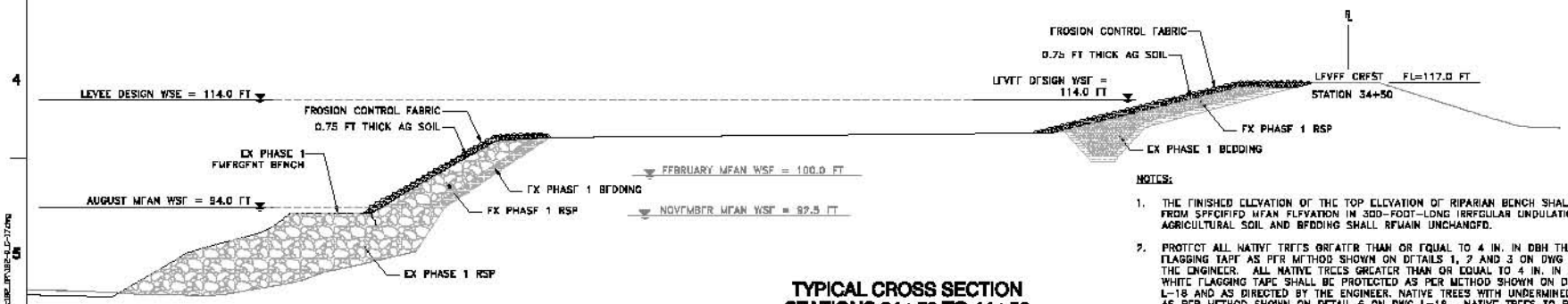


TYPICAL CROSS SECTION STATIONS 0+00 TO 15+00

NTS

NOTE:

REPAIRS FROM STATIONS 15+00 TO 24+50 WILL BE IDENTICAL TO THE UPPER LEVEE SLOPE REPAIRS ON THE TYPICAL CROSS SECTIONS. PLACE AG SOIL AND EROSION CONTROL FABRIC ON EXISTING RSP. SEE LANDSCAPE DRAWINGS FOR PLANTING DETAILS.



TYPICAL CROSS SECTION STATIONS 24+50 TO 44+50

NTS

NOTES:

1. THE FINISHED ELEVATION OF THE TOP ELEVATION OF RIPARIAN BENCH SHALL BE VARIED BY +/- 1 FOOT FROM SPECIFIED MEAN ELEVATION IN 300-FOOT-LONG IRREGULAR UNDULATIONS. THICKNESS OF AGRICULTURAL SOIL AND BEDDING SHALL REMAIN UNCHANGED.
2. PROTECT ALL NATIVE TREES GREATER THAN OR EQUAL TO 4 IN. IN DBH THAT ARE MARKED WITH BLUE FLAGGING TAPE AS PER METHOD SHOWN ON DETAILS 1, 2 AND 3 ON DWG L-18 AND AS DIRECTED BY THE ENGINEER. ALL NATIVE TREES GREATER THAN OR EQUAL TO 4 IN. IN DBH THAT ARE MARKED WITH WHITE FLAGGING TAPE SHALL BE PROTECTED AS PER METHOD SHOWN ON DETAILS 4 AND 5 ON DWG L-18 AND AS DIRECTED BY THE ENGINEER. NATIVE TREES WITH UNDERMINED ROOTS SHALL BE PROTECTED AS PER METHOD SHOWN ON DETAIL 6 ON DWG L-18. NATIVE TREES TO BE PROTECTED INCLUDE OAKS, WILLOWS, OREGON ASH, WHITE ALDER, BOX ELDER SYCAMORE, COTTONWOOD, WALNUT, BUTTONBUSH AND ELDERBERRY.
3. NO AG FILL SHALL BE PLACED WITHIN A 6-FOOT RADIUS OF TREES TO REMAIN. SEE LANDSCAPE DWGS.
4. VOIDS IN RSP ON UPPER SLOPE SHALL BE FILLED MANUALLY WITH AGRICULTURAL SOIL TO MAXIMUM DEPTH PRACTICAL.
5. CONTRACTOR SHALL RE-SHAPE THE ROCK SLOPE PROTECTION BELOW THE RIPARIAN BENCH TO THE TOE OF SLOPE OF FINAL SURFACE GRADE LINE. THE SLOPE SHALL BE RE-SHAPED TO A 1.5:1 SLOPE. THE RSP THAT IS REMOVED MAY BE USED AS A RESOURCE FOR THE UPPER SLOPE RSP.

REV	DATE	DESCRIPTION	DWN.	APPR

DESIGNED L. BERNALDEZ
DRAWN L. BERNALDEZ
CHECKED W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED H. BERGER REG. CE. NO. 36107
APPROVAL BY S. SALAH-NARS REG. CE. NO. 50445

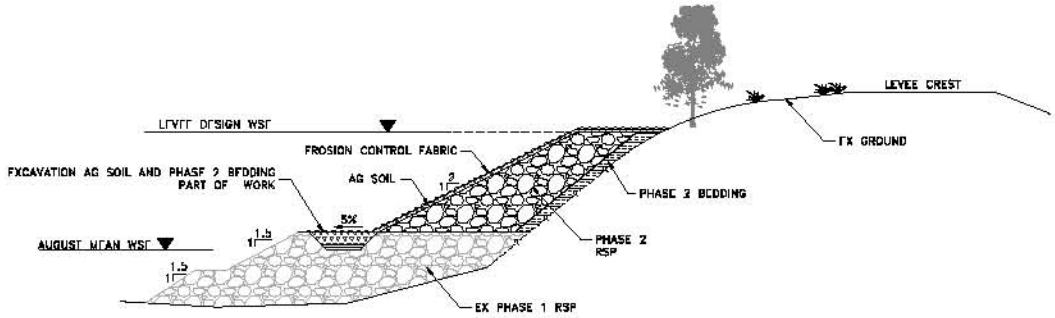
URS

REVIEWED
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

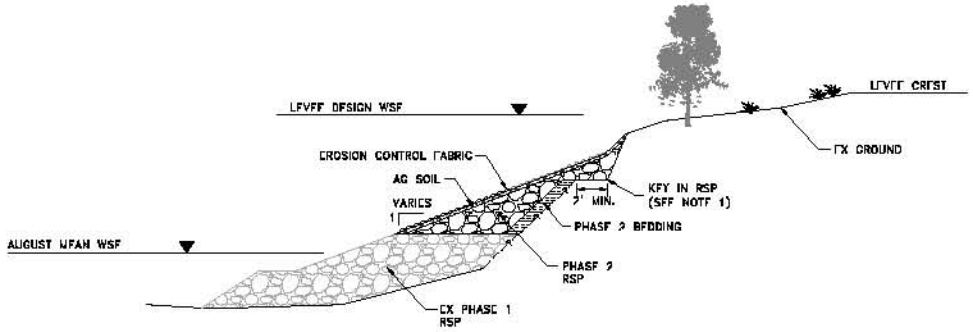
STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
SACRAMENTO RIVER-MILE 182.0, RIGHT BANK
TYPICAL REPAIR SECTIONS

SPEC NO. 07-10
DRAWING NO. C-17
REV. SHEET NO. 020



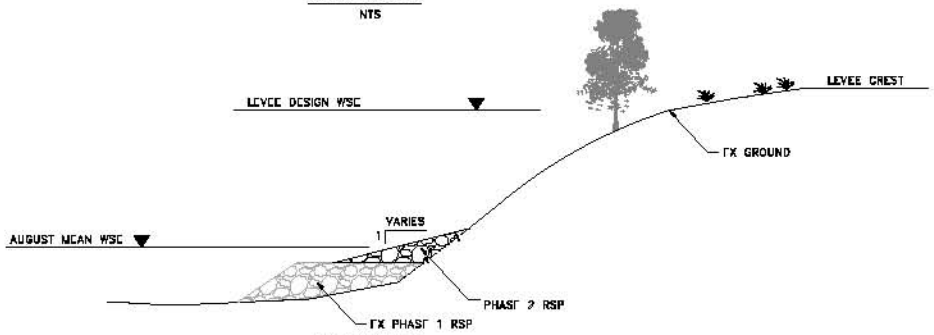
SECTION A

NTS



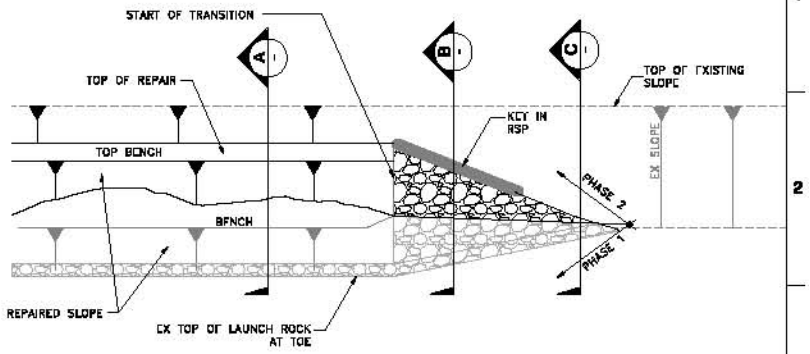
SECTION B

NTS



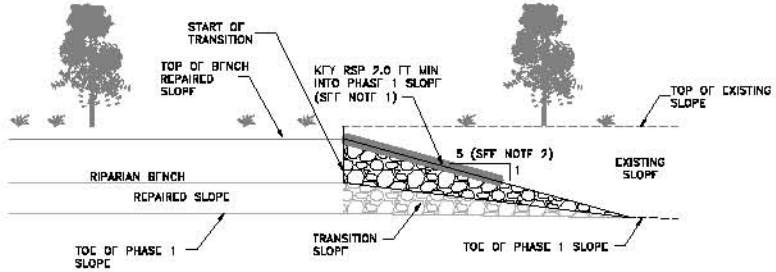
SECTION C

NTS



TRANSITION DETAIL PLAN VIEW

NTS



TRANSITION DETAIL ELEVATION

NTS

NOTES:

1. KEY RSP A MINIMUM OF 2.0 FT INTO EXISTING GROUND IN TRANSITION ZONES ABOVE RIPARIAN BENCH.
2. TRANSITION SLOPE SHALL BE 5:1 AS SHOWN UNLESS OTHERWISE SPECIFIED ON LAYOUT PLANS.

REV	DATE	DESCRIPTION	DWN.	APPR

DESIGNED: L. BERNALDEZ
DRAWN: L. BERNALDEZ
CHECKED: W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED: H. BERGER, REG. CE. NO. 36107
APPROVAL BY: S. SALAH-NARS, REG. CE. NO. 50445

URS

REVIEWED: DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER–MILE 1.2L &
SACRAMENTO RIVER–MILE 99.5R & 187.0R

TRANSITION SECTIONS AND DETAILS

SPEC NO. 07-10
DRAWING NO. C-18
REV. SHEET NO. 021

Usa_p-bernaldez Apr 29, 2007 - 7:05pm
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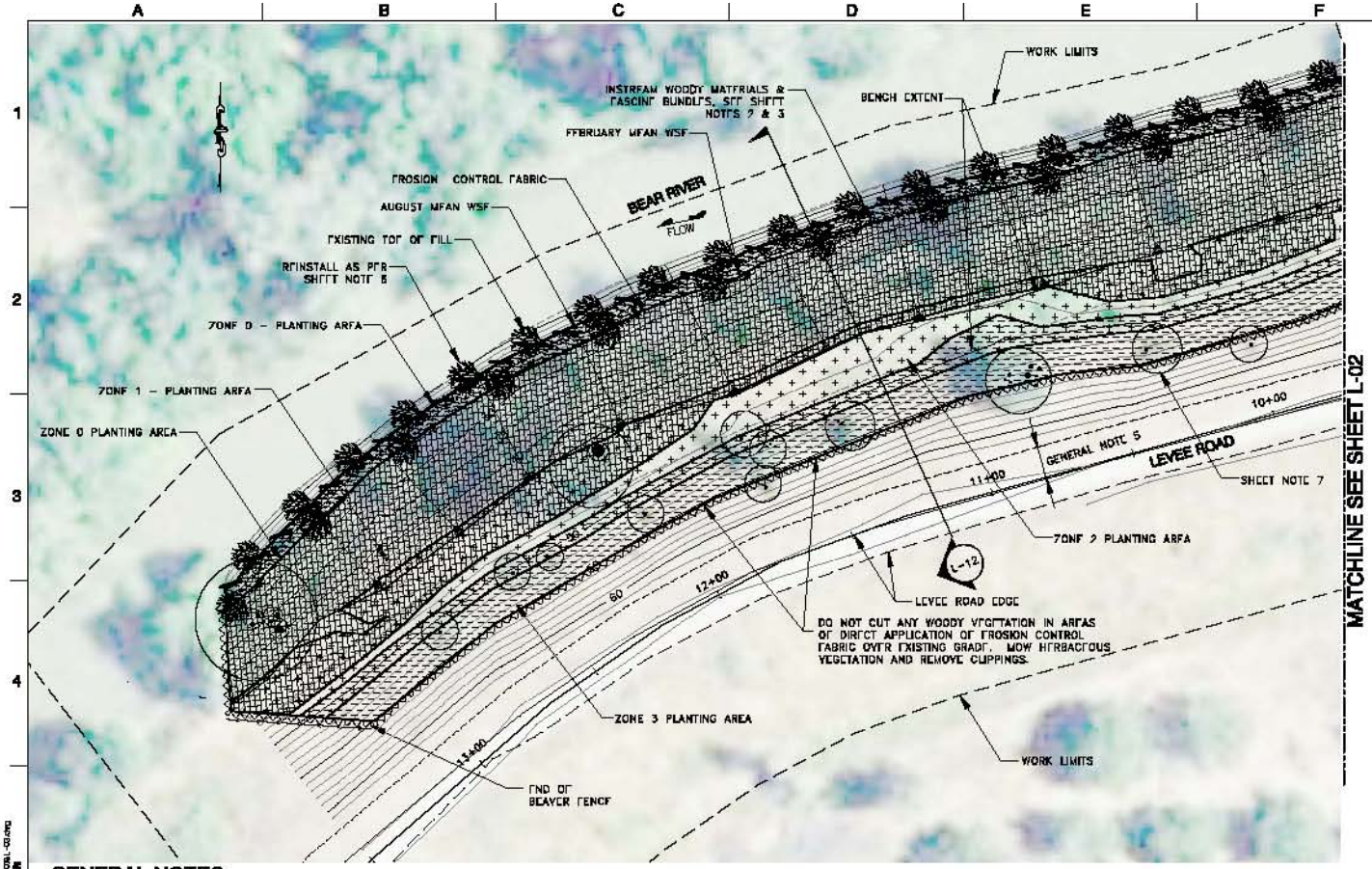


SHEET NOTES

1. SEE DWGS L-17, L-18, L-19, L-20 AND L-21 FOR LANDSCAPE DETAILS.
2. EMBED INSTREAM WOODY MATERIALS INTO SLOPE @ 24 FT O.C. @ AUGUST MEAN WSE AS SHOWN ON DETAIL 6/L-17 TO ACHIEVE 40% LINEAR COVERAGE.
3. EMBED FASCINE BUNDLES INTO SLOPE @ 12 FT O.C. @ AUGUST MEAN WSE AS SHOWN ON DETAILS 5 & 8/L-17.
4. CHAIN INSTREAM WOODY MATERIALS @ 40 FT O.C. AT FEBRUARY MEAN WSE AS SHOWN IN DETAILS 1 & 2/L-21 TO ACHIEVE 40% LINEAR COVERAGE. PLACE IWMs ON TOP OF EROSION FABRIC AND AG SOIL PARALLEL WITH RIVER BANK, CROWNS POINTING DOWNSTREAM. AVOID DISTURBING EX NATIVE TREES TO REMAIN.
5. FENCE ALL VALLEY ELDERBERRY SHRUBS BY INSTALLING ESA FENCE 20' OUTSIDE OF THE SHRUBS' DRIPLINE. PROTECT VALLEY ELDERBERRIES AS SHOWN IN DETAILS 1, 2 & 3 ON DRAWING L-20. NO VEHICLES, EQUIPMENT AND MATERIAL STORAGE OR MOVEMENT SHALL BE ALLOWED WITHIN THE ESA FENCE AREAS.
6. CUT EXISTING IWMs 30" FROM GROUND. RE-ATTACH CANOPIES TO STUMPS AS SHOWN IN DETAIL 6/L-21
7. PLACE EROSION CONTROL FABRIC WOOD STAKES @ 4 FT O.C. AND PENETRATE 6 IN. UNDER DRIPLINE OF EXISTING TREES OUTSIDE OF RSP.

GENERAL NOTES

1. NO VEHICLES OR EQUIPMENT SHALL BE OPERATED OR MATERIALS STORED WITHIN THE DRIPLINE AREAS OF EX TREES TO REMAIN. IF THESE ACTIVITIES ARE NECESSARY FOR THE COMPLETION OF WORK, WITH APPROVAL, THE CONTRACTOR SHALL PLACE 8"X4'X1½" PLYWOOD OR 6"X8'X½" STEEL PLATE OVER THE ENTIRE GROUND AREA WITHIN THE TREE DRIPLINE. ANY ACTIVITY WITHIN DRIPLINE AREAS OF EX TREES SHALL BEGIN ONLY UPON ENGINEER'S APPROVAL.
2. TREE PROTECTION AREAS SHALL BE CIRCULAR AREAS WITH THE TREE BASE IN THE CENTER AND A 8-FOOT RADIUS AS SHOWN ON DETAILS 1 & 4/L-18. DO NOT FILL VOIDS IN RSP WITH AG SOIL OR PLACE AG SOIL ON TOP OF RSP WITHIN TREE PROTECTION AREAS.
3. PROTECT ALL NATIVE TREES 4 IN. DBH OR GREATER. ALL OTHER NATIVE VEGETATION SHALL BE PROTECTED TO MAXIMUM EXTENT POSSIBLE. TREES MARKED WITH BLUE FLAGGING TAPE SHALL BE PROTECTED W/PLYWOOD BOXES AS SHOWN ON DETAILS 1, 2 & 3/L-18. TREES MARKED WITH WHITE FLAGGING TAPE SHALL BE PROTECTED W/4X4 WRAP AS SHOWN ON DETAILS 4 & 5/L-18. NATIVE TREES WITH UNDERMINED ROOTS SHALL BE PROTECTED AS SHOWN ON DETAIL 6/L-18. NATIVE TREES TO BE PROTECTED INCLUDE OAKS, WILLOWS, OREGON ASH, WHITE ALDER, BOX ELDER, SYCAMORE, COTTONWOOD, WALNUT, BUTTONBUSH, ELDERBERRY AND OTHERS AS DIRECTED BY ENGINEER.
4. NO NATIVE TREES SHALL BE REMOVED 4 IN. DBH OR GREATER. REMOVE ALL INVASIVE EXOTIC PLANTS SUCH AS BLACK LOCUST, EDIBLE FIG, GIANT REED GRASS, TAMARISK AND OTHERS AS DIRECTED AND AS APPROVED BY ENGINEER, INCLUDING THEIR STUMPS OR ROOT SYSTEM TO MINIMUM 18 IN. DEPTH AND 5 FT RADIUS.
5. DO NOT PLANT SHRUBS OR TREES WITHIN 15 FT OF TRAVELED WAY.
6. PROVIDE BEAVER FENCE ALONG THE RIVER AND THE SIDE EDGES OF PLANTING AREAS. DO NOT PROVIDE BEAVER FENCE ALONG THE TOP EDGE OF PLANTING AREAS.
7. DO NOT REMOVE ANY BRANCHES FROM INSTREAM WOODY MATERIALS (IWMs). TRIMMING OF IWM SHALL BE ALLOWED ONLY AS SPECIFIED IN SECTION 02815 OF THE CONTRACT SPECIFICATIONS.
8. WHERE FEASIBLE, UTILIZE EX WILLOWS TO BE REMOVED (INSIDE REPAIR AREA) SMALLER THAN 4 IN. DBH TO PREPARE FASCINE BUNDLES AS SHOWN IN DETAIL 4/L-21.
9. RESTORE AREAS IMPACTED BY ANY CONSTRUCTION ACTIVITIES TO PRE-CONSTRUCTION CONDITION. AS A MINIMUM, SCARIFY COMPACTED SOIL BY CROSS-RIPPING OR APPROVED METHOD TO 6 IN. MINIMUM AND 10 IN. MAXIMUM DEPTH AND RE-SEED WITH NATIVE GRASS SEED MIX.

20' 10' 0 20'
SCALE: 1" =20'

REV	DATE	DESCRIPTION	DWN	APPR

DESIGNED: G. STRNAD, REG. NO. LA. 4298
DRAWN: A. BEYTRA
CHECKED: T. KLUBER, REG. NO. LA. 4399
APPROVAL RECOMMENDED: G. STRNAD, REG. NO. LA. 4298
APPROVAL BY: S. SALAH-MARE, REG. CE. NO. 50445

URS

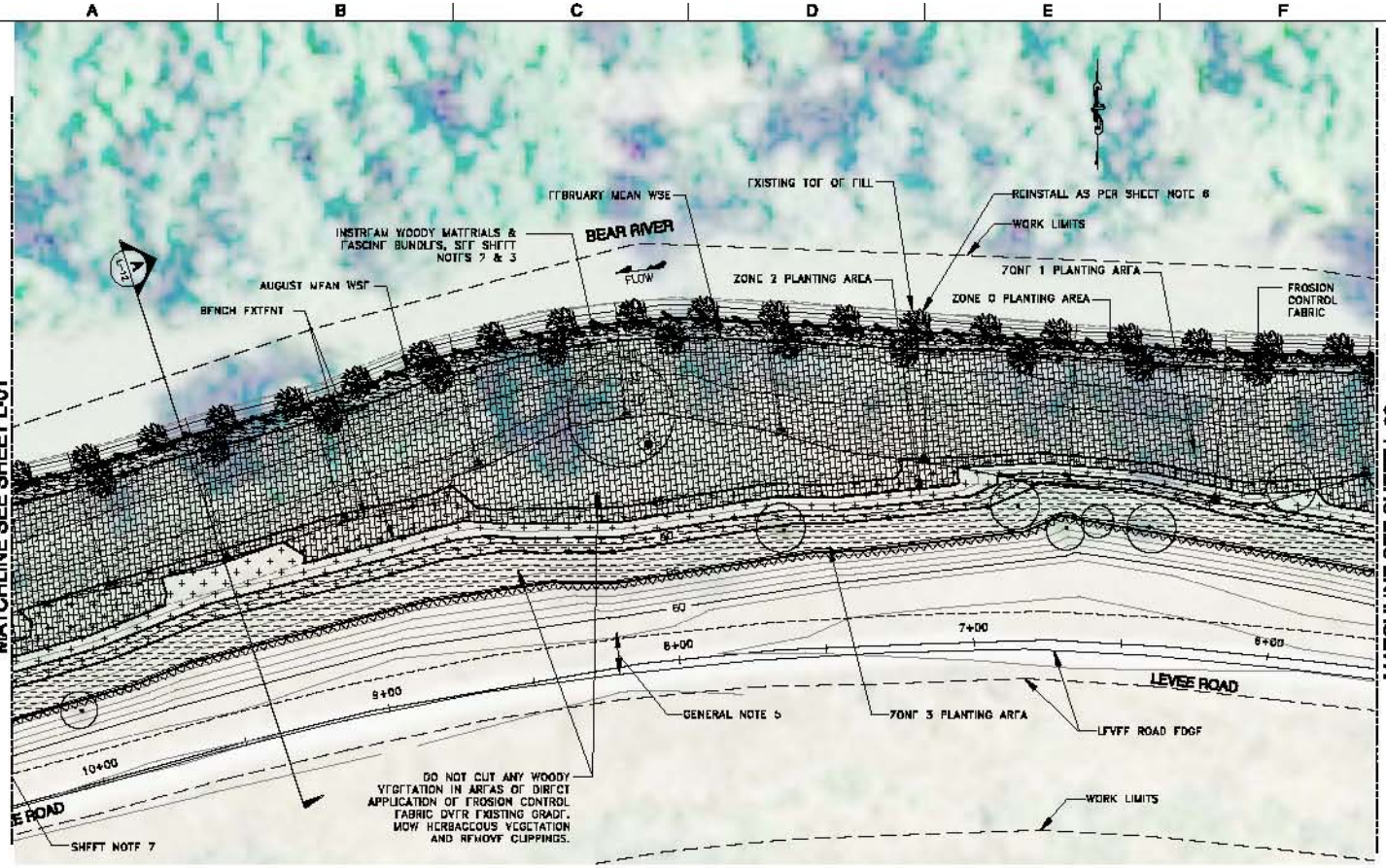
REVIEWED: DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54573

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
BEAR RIVER-MILE 1.2 LEFT BANK
PLANTING PLAN, SHEET 1 OF 3

SPEC NO. 07-10
DRAWING NO. L-01
REV. SHEET NO. 022

12-31-08



SHEET NOTES

1. SEE DWGS L-17, L-18, L-19 AND L-20 FOR LANDSCAPE DETAILS.
2. EMBED INSTREAM WOODY MATERIALS INTO SLOPE @ 24 FT O.C. @ AUGUST MEAN WSE AS SHOWN ON DETAIL 6/L-17 TO ACHIEVE 40% LINEAR COVERAGE.
3. EMBED FASCINE BUNDLES INTO SLOPE @ 12 FT O.C. @ AUGUST MEAN WSE AS SHOWN ON DETAIL 5 & 6/L-17.
4. CHAIN INSTREAM WOODY MATERIALS @ 40 FT O.C. AT FEBRUARY MEAN WSE AS SHOWN IN DETAILS 1 & 2/L-21 TO ACHIEVE 40% LINEAR COVERAGE. PLACE IWMs ON TOP OF EROSION FABRIC AND AG SOIL PARALLEL WITH RIVER BANK, CROWNS POINTING DOWNSTREAM. AVOID DISTURBING EX NATIVE TREES TO REMAIN.
5. FENCE ALL VALLEY ELDERBERRY SHRUBS BY INSTALLING ESA FENCE 20' OUTSIDE OF THE SHRUBS' DRIPLINE. PROTECT VALLEY ELDERBERRIES AS SHOWN IN DETAILS 1, 2 AND 3 ON DRAWING L-20. NO VEHICLES, EQUIPMENT AND MATERIAL STORAGE OR MOVEMENT, EXCEPT FOR THE HAND PLACEMENT OF COBBLES, SHALL BE ALLOWED WITHIN THE ESA FENCE AREAS.
6. CUT EXISTING IWMs 30" FROM GROUND. RE-ATTACH CANOPIES TO STUMPS AS SHOWN IN DETAIL 6/L-21
7. PLACE EROSION CONTROL FABRIC WOOD STAKES @ 4 FT O.C. AND PENETRATE 6 IN. UNDER DRIPLINE OF EXISTING TREES OUTSIDE OF RSP.

GENERAL NOTES

1. NO VEHICLES OR EQUIPMENT SHALL BE OPERATED OR MATERIALS STORED WITHIN THE DRIPLINE AREAS OF EX TREES TO REMAIN. IF THESE ACTIVITIES ARE NECESSARY FOR THE COMPLETION OF WORK, WITH APPROVAL, THE CONTRACTOR SHALL PLACE 8'X4'X1½" PLYWOOD OR 6'X8'X½" STEEL PLATE OVER THE ENTIRE GROUND AREA WITHIN THE TREE DRIPLINE. ANY ACTIVITY WITHIN DRIPLINE AREAS OF EX TREES SHALL BEGIN ONLY UPON ENGINEER'S APPROVAL.
2. TREE PROTECTION AREAS SHALL BE CIRCULAR AREAS WITH THE TREE BASE IN THE CENTER AND A 8-FOOT RADIUS AS SHOWN ON DETAILS 1 & 4/L-18. DO NOT FILL VOIDS IN RSP WITH AG SOIL OR PLACE AG SOIL ON TOP OF RSP WITHIN TREE PROTECTION AREAS.
3. PROTECT ALL NATIVE TREES 4 IN. DBH OR GREATER. ALL OTHER NATIVE VEGETATION SHALL BE PROTECTED TO MAXIMUM EXTENT POSSIBLE. TREES MARKED WITH BLUE FLAGGING TAPE SHALL BE PROTECTED W/PLYWOOD BOXES AS SHOWN ON DETAILS 1, 2 & 3/L-18. TREES MARKED WITH WHITE FLAGGING TAPE SHALL BE PROTECTED W/4X4 WRAP AS SHOWN ON DETAILS 4 & 5/L-18. NATIVE TREES WITH UNDERMINED ROOTS SHALL BE PROTECTED AS SHOWN ON DETAIL 6/L-18. NATIVE TREES TO BE PROTECTED INCLUDE OAKS, WILLOWS, OREGON ASH, WHITE ALDER, BOX ELDER, SYCAMORE, COTTONWOOD, WALNUT, BUTTONBUSH, ELDERBERRY AND OTHERS AS DIRECTED BY ENGINEER.
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5. DO NOT PLANT SHRUBS OR TREES WITHIN 15 FT OF TRAVELED WAY.
6. PROVIDE BEAVER FENCE ALONG THE RIVER AND THE SIDE EDGES OF PLANTING AREAS. DO NOT PROVIDE BEAVER FENCE ALONG THE TOP EDGE OF PLANTING AREAS.
7. DO NOT REMOVE ANY BRANCHES FROM INSTREAM WOODY MATERIALS (IWMs). TRIMMING OF IWM SHALL BE ALLOWED ONLY AS SPECIFIED IN SECTION 02815 OF THE CONTRACT SPECIFICATIONS.
8. WHERE FEASIBLE, UTILIZE EX WILLOWS TO BE REMOVED (INSIDE REPAIR AREA) SMALLER THAN 4 IN. DBH TO PREPARE FASCINE BUNDLES AS SHOWN IN DETAIL 4/L-21.
9. RESTORE AREAS IMPACTED BY ANY CONSTRUCTION ACTIVITIES TO PRE-CONSTRUCTION CONDITION. AS A MINIMUM, SCARIFY COMPACTED SOIL BY CROSS-RIPPING OR APPROVED METHOD TO 5 IN. MINIMUM AND 10 IN. MAXIMUM DEPTH AND RE-SEED WITH NATIVE GRASS SEED MIX.

20' 10' 0 20'
SCALE 1" =20'

REV	DATE	DESCRIPTION	DWN	APPD

DESIGNED G. STRNAD REG. NO. LA. 4295
DRAWN A. BEYTRA
CHECKED T. KLUBER REG. LA. NO. 4389
APPROVAL RECOMMENDED G. STRNAD REG. LA. NO. 4295
APPROVAL BY S. SALAH-WARS REG. CE. NO. 50445

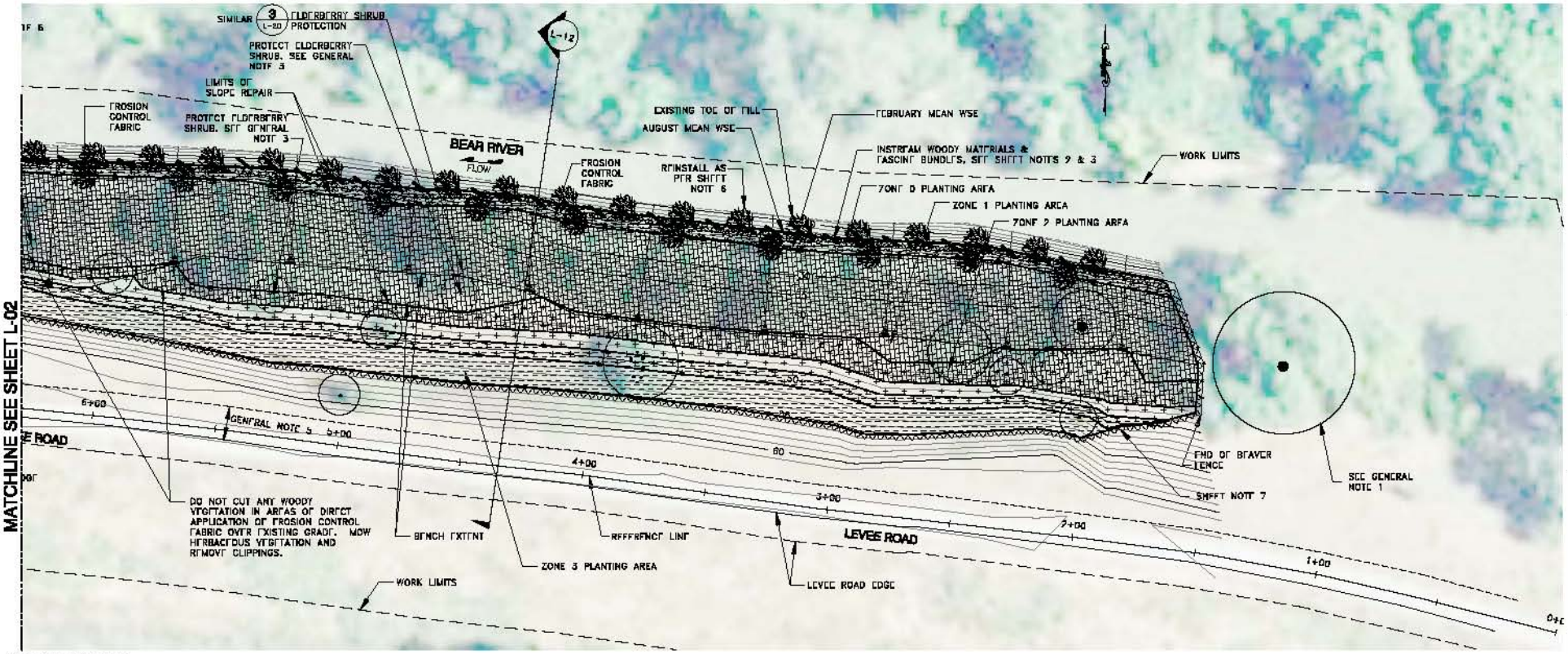
URS

REVIEWED DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 57771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L, &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
BEAR RIVER-MILE 1.2 LEFT BANK
PLANTING PLAN, SHEET 2 OF 3

SPEC NO. 07-10
DRAWING NO. L-02
REV. SHEET NO. 023



SHEET NOTES

1. SEE DWGS L-17, L-18, L-19 AND L-20 FOR LANDSCAPE DETAILS.
2. EMBED INSTREAM WOODY MATERIALS INTO SLOPE @ 24 FT O.C. @ AUGUST MEAN WSE AS SHOWN ON DETAIL 6/L-17 TO ACHIEVE 40% LINEAR COVERAGE.
3. EMBED FASCINE BUNDLES INTO SLOPE @ 12 FT O.C. @ AUGUST MEAN WSE AS SHOWN ON DETAIL 5 & 6/L-17.
4. CHAIN INSTREAM WOODY MATERIALS @ 40 FT O.C. AT FEBRUARY MEAN WSE AS SHOWN IN DETAILS 1 & 2/L-21 TO ACHIEVE 40% LINEAR COVERAGE. PLACE IWMs ON TOP OF EROSION FABRIC AND AG SOIL PARALLEL WITH RIVER BANK, CROWNS POINTING DOWNSTREAM. AVOID DISTURBING EX NATIVE TREES TO REMAIN.
5. FENCE ALL VALLEY ELDERBERRY SHRUBS BY INSTALLING FSA FENCE 20' OUTSIDE OF THE SHRUBS' DRIPLINE. PROTECT VALLEY ELDERBERRIES AS SHOWN IN DETAILS 1, 2 AND 3 ON DRAWING L-20. NO VEHICLES, EQUIPMENT AND MATERIAL STORAGE OR MOVEMENT, EXCEPT FOR THE HAND PLACEMENT OF COBBLES, SHALL BE ALLOWED WITHIN THE FSA FENCE AREAS.
6. CUT EXISTING IWMs 30" FROM GROUND. RE-ATTACH CANOPIES TO STUMPS AS SHOWN IN DETAIL 6/L-21
7. PLACE EROSION CONTROL FABRIC WOOD STAKES @ 4 FT O.C. AND PENETRATE 6 IN. UNDER DRIPLINE OF EXISTING TREES OUTSIDE OF RSP.

GENERAL NOTES

1. NO VEHICLES OR EQUIPMENT SHALL BE OPERATED OR MATERIALS STORED WITHIN THE DRIPLINE AREAS OF EX TREES TO REMAIN. IF THESE ACTIVITIES ARE NECESSARY FOR THE COMPLETION OF WORK, WITH APPROVAL, THE CONTRACTOR SHALL PLACE 8'X4'X1½" PLYWOOD OR 8'X6'X½" STEEL PLATE OVER THE ENTIRE GROUND AREA WITHIN THE TREE DRIPLINE. ANY ACTIVITY WITHIN DRIPLINE AREAS OF EX TREES SHALL BEGIN ONLY UPON ENGINEER'S APPROVAL.
2. TREE PROTECTION AREAS SHALL BE CIRCULAR AREAS WITH THE TREE BASE IN THE CENTER AND A 5-FOOT RADIUS AS SHOWN ON DETAILS 1 & 4/L-18. DO NOT FILL VOIDS IN RSP WITH AG SOIL OR PLACE AG SOIL ON TOP OF RSP WITHIN TREE PROTECTION AREAS.
3. PROTECT ALL NATIVE TREES 4 IN. DBH OR GREATER. ALL OTHER NATIVE VEGETATION SHALL BE PROTECTED TO MAXIMUM EXTENT POSSIBLE. TREES MARKED WITH BLUE FLAGGING TAPE SHALL BE PROTECTED W/PLYWOOD BOXES AS SHOWN ON DETAILS 1, 2 & 3/L-18. TREES MARKED WITH WHITE FLAGGING TAPE SHALL BE PROTECTED W/4X4 WRAP AS SHOWN ON DETAILS 4 & 5/L-18. NATIVE TREES WITH UNDERMINED ROOTS SHALL BE PROTECTED AS SHOWN ON DETAIL 6/L-18. NATIVE TREES TO BE PROTECTED INCLUDE OAKS, WILLOWS, OREGON ASH, WHITE ALDER, BOX ELDER, SYCAMORE, COTTONWOOD, WALNUT, BUTTONBUSH, ELDERBERRY AND OTHERS AS DIRECTED BY ENGINEER.
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5. DO NOT PLANT SHRUBS OR TREES WITHIN 15 FT OF TRAVELED WAY.
6. PROVIDE BEAVER FENCE ALONG THE RIVER AND THE SIDE EDGES OF PLANTING AREAS. DO NOT PROVIDE BEAVER FENCE ALONG THE TOP EDGE OF PLANTING AREAS.
7. DO NOT REMOVE ANY BRANCHES FROM INSTREAM WOODY MATERIALS (IWMs). TRIMMING OF IWM SHALL BE ALLOWED ONLY AS SPECIFIED IN SECTION 02915 OF THE CONTRACT SPECIFICATIONS.
8. WHERE FEASIBLE, UTILIZE EX WILLOWS TO BE REMOVED (INSIDE REPAIR AREA) SMALLER THAN 4 IN. DBH TO PREPARE FASCINE BUNDLES AS SHOWN IN DETAIL 4/L-21.
9. RESTORE AREAS IMPACTED BY ANY CONSTRUCTION ACTIVITIES TO PRE-CONSTRUCTION CONDITION. AS A MINIMUM, SCARIFY COMPACTED SOIL BY CROSS-RIPPING OR APPROVED METHOD TO 6 IN. MINIMUM AND 10 IN. MAXIMUM DEPTH AND RE-SEED WITH NATIVE GRASS SEED MIX.

LANDSCAPE ARCHITECT — STATE OF CALIFORNIA — 12-31-08

20' 10' 0 20'
SCALE: 1" =20'

REV	DATE	DESCRIPTION	DWN	APPD

DESIGNED: G. STRAND, REG. NO. LA. 4295
DRAWN: A. OIVERA
CHECKED: F. KLUBER, REG. LA. NO. 4389
APPROVAL RECOMMENDED: G. STRAND, REG. LA. NO. 4295
APPROVAL BY: S. SALAM-MARS, REG. CE. NO. 50445

URS

REVIEWED: DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 57771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L, &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
BEAR RIVER-MILE 1.2 LEFT BANK
PLANTING PLAN, SHEET 3 OF 3

SPEC NO. 07-10
DRAWING NO. L-03
REV. SHEET NO. 024

Usa_p-hernandez
Apr 29, 2007 - 9:06am
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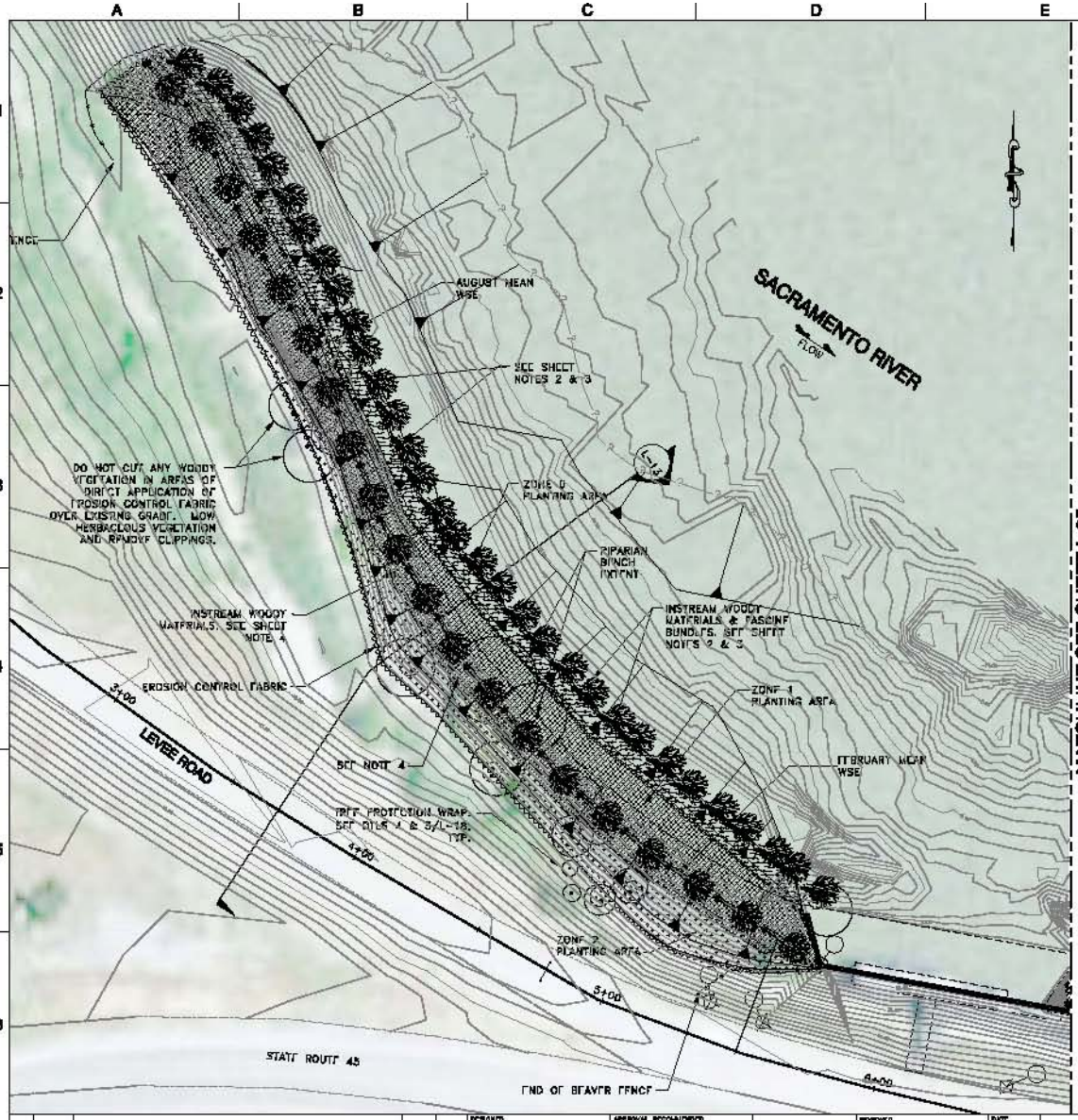


SHEET NOTES

1. SEE DWGS L-17, L-18, L-19, L-20 AND L-21 FOR LANDSCAPE DETAILS.
2. EMBED INSTREAM WOODY MATERIALS INTO SLOPE @ 12 FT O.C. @ AUGUST MEAN WSE AS SHOWN ON DETAILS 5 & 6/L-17 TO ACHIEVE 80% LINEAR COVERAGE.
3. EMBED FASCINE BUNDLES INTO SLOPE @ 12 FT O.C. @ AUGUST MEAN WSE AS SHOWN ON DETAILS 5 & 6/L-17.
4. CHAIN INSTREAM WOODY MATERIAL @ 20 FT O.C. AT FEBRUARY MEAN WSE AS SHOWN ON DETAILS 1 & 2/L-21 TO ACHIEVE 80% LINEAR COVERAGE. AVOID DISTURBING EXISTING NATIVE TREES TO BE SAVED.

GENERAL NOTES

1. NO VEHICLE, EQUIPMENT OR MATERIAL STORAGE OR CONSTRUCTION ACTIVITY SHALL OCCUR WITHIN THE DRIPLINE AREAS OF EX TREES TO REMAIN. IF THESE ACTIVITIES ARE NECESSARY FOR THE COMPLETION OF WORK, THE CONTRACTOR SHALL PLACE 8'X4'X1½" PLYWOOD OR 8'X6'X½" STEEL PLATE OVER THE ENTIRE GROUND AREA WITHIN THE TREE DRIPLINE. ANY ACTIVITY WITHIN DRIPLINE AREAS OF EX TREES SHALL BEGIN ONLY UPON ENGINEER'S APPROVAL.
2. TREE PROTECTION AREAS SHALL BE CIRCULAR AREAS WITH THE TREE BASE IN THE CENTER AND A 6-FOOT RADIUS AS SHOWN ON DETAILS 1 & 4/L-18. DO NOT FILL VOIDS IN RSP WITH AG SOIL OR PLACE AG SOIL ON TOP OF RSP WITHIN TREE PROTECTION AREAS.
3. PROTECT ALL NATIVE TREES 4 IN. DBH OR GREATER. ALL OTHER NATIVE VEGETATION SHALL BE PROTECTED TO THE MAXIMUM EXTENT FEASIBLE. TREES MARKED WITH BLUE FLAGGING TAPE SHALL BE PROTECTED W/PLYWOOD BOXES AS SHOWN ON DETAILS 1, 2 & 3/L-18. TREES MARKED WITH WHITE FLAGGING TAPE SHALL BE PROTECTED W/4X4 WRAP AS SHOWN ON DETAILS 4 & 5/L-18. NATIVE TREES WITH UNDERMINED ROOTS SHALL BE PROTECTED AS SHOWN ON DETAIL 6/L-18. NATIVE TREES TO BE PROTECTED INCLUDE OAKS, WILLOWS, OREGON ASH, WHITE ALDER, BOXELDER, SYCAMORE, COTTONWOOD, WALNUT, BUTTONBUSH, ELDERBERRY AND OTHERS AS DIRECTED BY ENGINEER.
4. NO NATIVE TREES SHALL BE REMOVED, 4 IN. DBH OR GREATER. REMOVE ALL INVASIVE EXOTIC PLANTS SUCH AS BLACK LOCUST, EDIBLE FIG, GIANT REED GRASS, TAMARISK AND OTHERS AS DIRECTED AND AS APPROVED BY ENGINEER, INCLUDING THEIR STUMPS OR ROOT SYSTEM TO MINIMUM 18 IN. DEPTH AND 5 FT RADIUS.
5. DO NOT PLANT SHRUBS OR TREES WITHIN 15 FT OF TRAVELED WAY.
6. PROVIDE BEAVER FENCE ALONG THE RIVER AND THE SIDE EDGES OF PLANTING AREAS. DO NOT PROVIDE BEAVER FENCE ALONG THE TOP EDGE OF PLANTING AREAS.
7. DO NOT REMOVE ANY BRANCHES FROM INSTREAM WOODY MATERIALS (IWMs). TRIMMING OF IWM SHALL BE ALLOWED ONLY AS SPECIFIED IN SECTION 07915 OF THE CONTRACT SPECIFICATIONS.
8. WHERE FEASIBLE, UTILIZE EX WILLOWS TO BE REMOVED (INSIDE REPAIR AREA) SMALLER THAN 4 IN. DBH TO PREPARE FASCINE BUNDLES AS SHOWN IN DETAIL 4/L-21.
9. RESTORE AREAS IMPACTED BY ANY CONSTRUCTION ACTIVITIES TO PRE-CONSTRUCTION CONDITION. AS A MINIMUM, SCARIFY COMPACTED SOIL BY CROSS-RIPPING OR APPROVED METHOD TO 6 IN. MINIMUM AND 10 IN. MAXIMUM DEPTH AND RE-SEED WITH NATIVE GRASS SEED MIX.

20' 15' 0 20'
SCALE: 1" =20'

REV	DATE	DESCRIPTION	DWN	APPD

DESIGNED: G. STRNAD, REG. NO. LA. 4295
DRAWN: C. MUSTO, REG. LA. NO. 5214
CHECKED: E. KOLBER, REG. LA. NO. 4389
APPROVAL RECOMMENDED: G. STRNAD, REG. LA. NO. 4295
APPROVAL BY: S. SALAM-MARS, REG. CE. NO. 50445

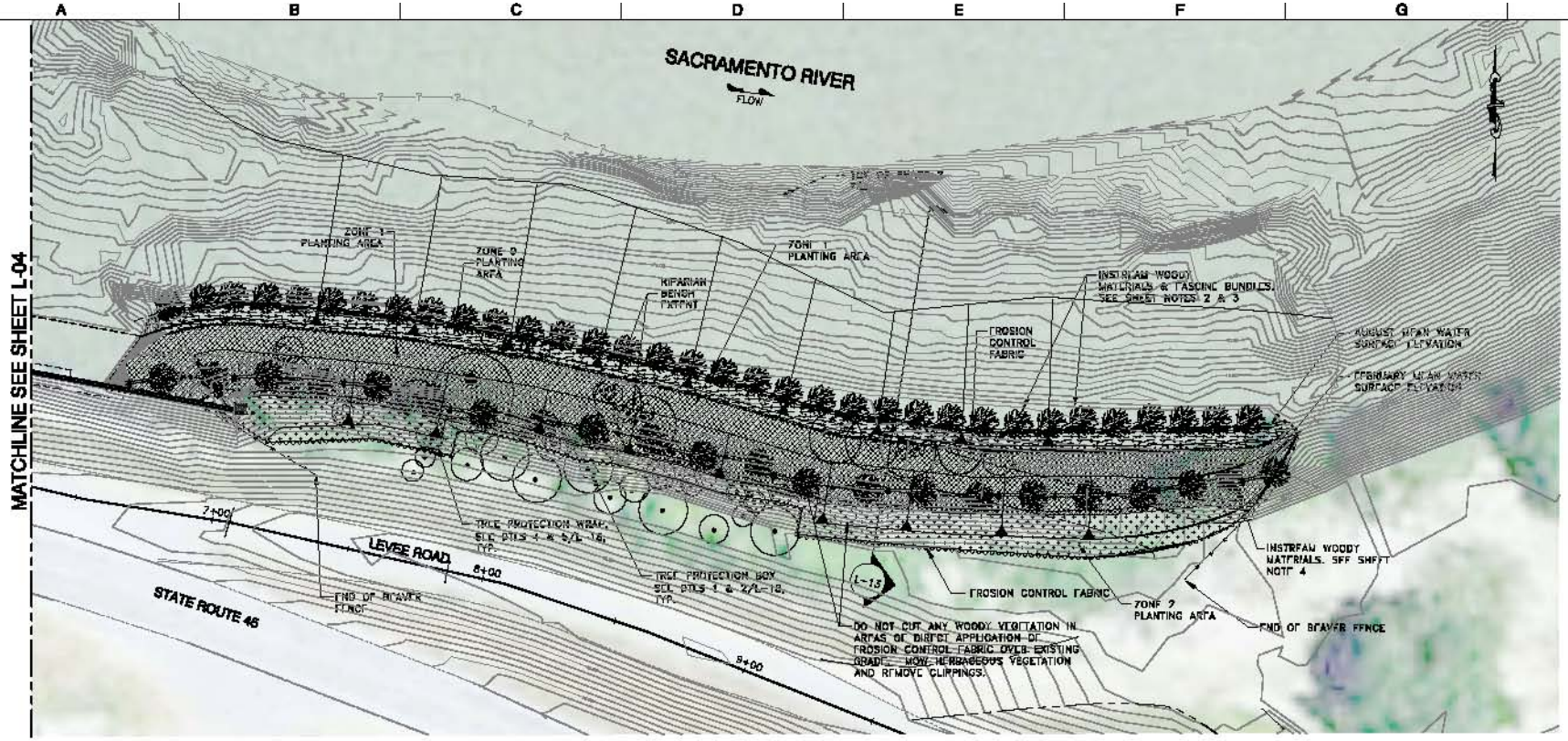
URS

REVIEWED: DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 57771
APPROVED PROJECT MANAGER
REG. CE. NO. 54573

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
SACRAMENTO RIVER-MILE 99.5, RIGHT BANK
LANDSCAPE PLAN, 1 OF 2

SPEC NO. 07-10
DRAWING NO. L-04
REV. SHEET NO. 025



SHEET NOTES

1. SEE DWGS L-17, L-18, L-19, L-20 AND L-21 FOR LANDSCAPE DETAILS.
2. EMBED INSTREAM WOODY MATERIALS INTO SLOPE @ 17 FT O.C. @ AUGUST MEAN WSE AS SHOWN ON DETAILS 5 & 6/L-17 TO ACHIEVE 80% LINEAR COVERAGE.
3. EMBED FASCINE BUNDLES INTO SLOPE @ 12 FT O.C. @ AUGUST MEAN WSE AS SHOWN ON DETAILS 5 & 6/L-17.
4. CHAIN INSTREAM WOODY MATERIAL @ 20 FT O.C. AT FEBRUARY MEAN WSE AS SHOWN ON DETAILS 1 & 7/L-21 TO ACHIEVE 80% LINEAR COVERAGE. AVOID DISTURBING EXISTING NATIVE TREES TO BE SAVED.

GENERAL NOTES

1. NO VEHICLES OR EQUIPMENT SHALL BE OPERATED OR MATERIALS STORED WITHIN THE DRIPLINE AREAS OF EX TREES TO REMAIN. IF THESE ACTIVITIES ARE NECESSARY FOR THE COMPLETION OF WORK, WITH APPROVAL, THE CONTRACTOR SHALL PLACE 8'X4'X1½" PLYWOOD OR 6'X6'X¼" STEEL PLATE OVER THE ENTIRE GROUND AREA WITHIN THE TREE DRIPLINE. ANY ACTIVITY WITHIN DRIPLINE AREAS OF EX TREES SHALL BEGIN ONLY UPON ENGINEER'S APPROVAL.
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3. PROTECT ALL NATIVE TREES 4 IN. DBH OR GREATER. ALL OTHER NATIVE VEGETATION SHALL BE PROTECTED TO MAXIMUM EXTENT POSSIBLE. TREES MARKED WITH BLUE FLAGGING TAPE SHALL BE PROTECTED W/PLYWOOD BOXES AS SHOWN ON DETAILS 1, 2 & 3/L-18. TREES MARKED WITH WHITE FLAGGING TAPE SHALL BE PROTECTED W/4X4 WRAP AS SHOWN ON DETAILS 4 & 5/L-18. NATIVE TREES WITH UNDERMINED ROOTS SHALL BE PROTECTED AS SHOWN ON DETAIL 6/L-18. NATIVE TREES TO BE PROTECTED INCLUDE OAKS, WILLOWS, OREGON ASH, WHITE ALDER, BOX ELDER, SYCAMORE, COTTONWOOD, WALNUT, BUTTONBUSH, ELDERBERRY AND OTHERS AS DIRECTED BY ENGINEER.
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6. PROVIDE BEAVER FENCE ALONG THE RIVER AND THE SIDE EDGES OF PLANTING AREAS. DO NOT PROVIDE BEAVER FENCE ALONG THE TOP EDGE OF PLANTING AREAS.
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8. WHERE FEASIBLE, UTILIZE EX WILLOWS TO BE REMOVED (INSIDE REPAIR AREA) SMALLER THAN 4 IN. DBH TO PREPARE FASCINE BUNDLES AS SHOWN IN DETAIL 4/L-21.
9. RESTORE AREAS IMPACTED BY ANY CONSTRUCTION ACTIVITIES TO PRE-CONSTRUCTION CONDITION. AS A MINIMUM, SCARIFY COMPACTED SOIL BY CROSS-RIPPING OR APPROVED METHOD TO 8 IN. MINIMUM AND 10 IN. MAXIMUM DEPTH AND RE-SEED WITH NATIVE GRASS SEED MIX.

20' 15' 0 20'
SCALE: 1" =20'

REV	DATE	DESCRIPTION	DWN	APPD

DESIGNED: G. STRAND, REG. NO. LA. 4295
DRAWN: C. UNUSTO, REG. LA. NO. 5214
CHECKED: C. KLUGER, REG. LA. NO. 4389
APPROVAL RECOMMENDED: G. STRAND, REG. LA. NO. 4295
APPROVAL BY: S. SALAM-MARS, REG. CE. NO. 50445

URS

REVIEWED: DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 59771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
SACRAMENTO RIVER-MILE 99.5, RIGHT BANK
LANDSCAPE PLAN, 2 OF 2

SPEC NO. 07-10
DRAWING NO. L-05
REV. SHEET NO. 026

Usa_p-barnaldez Apr 29, 2007 - 3:08pm
H:\CADD\Current\CVW-SR\RIGHT Levee Repair\Phase 2\Sac79_187.99-99L_4-9R_03.dwg

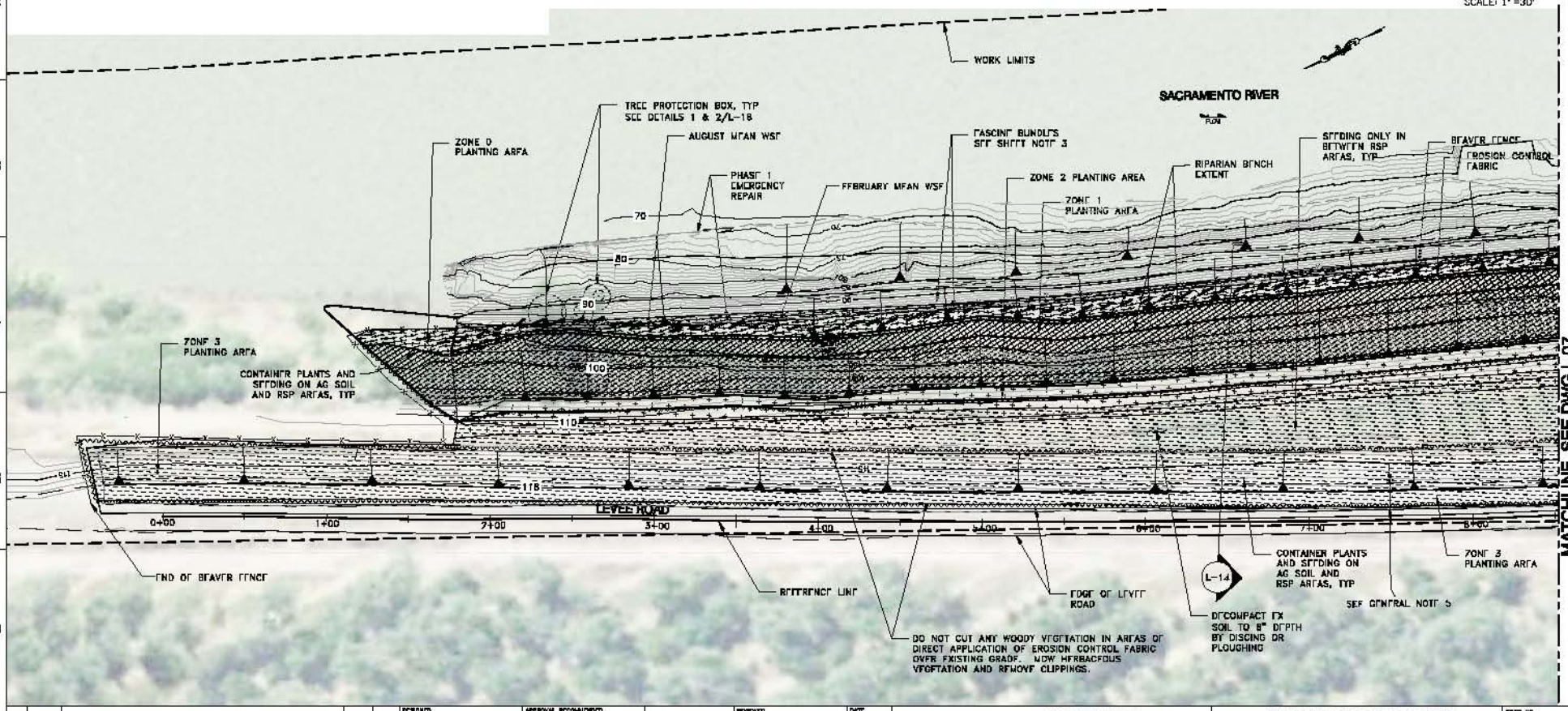
SHEET NOTES

1. SEE DWGS L-17, L-18, L-19, L-20 AND L-21 FOR LANDSCAPE DETAILS.
2. EMBED FASCINE BUNDLES INTO SLOPE @ 12 FT O.C. @ AUGUST MEAN WSE AS SHOWN ON DETAIL 5 & 8/L-17.
3. FENCE ALL VALLEY ELDERBERRY SHRUBS BY INSTALLING ESA FENCE 20' OUTSIDE OF THE SHRUBS' DRIPLINES. PROTECT VALLEY ELDERBERRIES AS SHOWN IN DETAILS 1, 2 AND 3 ON DRAWING L-20. NO VEHICLES, EQUIPMENT AND MATERIAL STORAGE OR MOVEMENT, EXCEPT FOR THE HAND PLACEMENT OF COBBLES, SHALL BE ALLOWED WITHIN THE ESA FENCE AREAS.
4. PLACE EROSION CONTROL FABRIC WOOD STAKES @ 4 FT O.C. AND PENETRATE 6 IN. UNDER DRIPLINE OF EXISTING TREES OUTSIDE OF RSP.

GENERAL NOTES

1. NO VEHICLES OR EQUIPMENT SHALL BE OPERATED OR MATERIALS STORED WITHIN THE DRIPLINE AREAS OF EX TREES TO REMAIN. IF THESE ACTIVITIES ARE NECESSARY FOR THE COMPLETION OF WORK, WITH APPROVAL, THE CONTRACTOR SHALL PLACE 8'X4'X1½" PLYWOOD OR 8'X8'X½" STEEL PLATE OVER THE ENTIRE GROUND AREA WITHIN THE TREE DRIPLINE. ANY ACTIVITY WITHIN DRIPLINE AREAS OF EX TREES SHALL BEGIN ONLY UPON ENGINEER'S APPROVAL.
2. TREE PROTECTION AREAS SHALL BE CIRCULAR AREAS WITH THE TREE BASE IN THE CENTER AND A 6-FOOT RADIUS AS SHOWN ON DETAILS 1 & 4/L-18. DO NOT FILL VOIDS IN RSP WITH AG SOIL OR PLACE AG SOIL ON TOP OF RSP WITHIN TREE PROTECTION AREAS.
3. PROTECT ALL NATIVE TREES 4 IN. DBH OR GREATER. ALL OTHER NATIVE VEGETATION SHALL BE PROTECTED TO MAXIMUM EXTENT POSSIBLE. TREES MARKED WITH BLUE FLAGGING TAPE SHALL BE PROTECTED W/PLYWOOD BOXES AS SHOWN ON DETAILS 1, 2 & 3/L-18. TREES MARKED WITH WHITE FLAGGING TAPE SHALL BE PROTECTED W/4X4 WRAP AS SHOWN ON DETAILS 4 & 5/L-18. NATIVE TREES WITH UNDERMINED ROOTS SHALL BE PROTECTED AS SHOWN ON DETAIL 6/L-18. NATIVE TREES TO BE PROTECTED INCLUDE OAKS, WILLOWS, OREGON ASH, WHITE ALDER, BOX ELDER, SYCAMORE, COTTONWOOD, WALNUT, BUTTONBUSH, ELDERBERRY AND OTHERS AS DIRECTED BY ENGINEER.
4. NO NATIVE TREES SHALL BE REMOVED 4 IN. DBH OR GREATER. REMOVE ALL INVASIVE EXOTIC PLANTS SUCH AS BLACK LOCUST, EDIBLE FIG, GIANT REED GRASS, TAMARISK AND OTHERS AS DIRECTED AND AS APPROVED BY ENGINEER, INCLUDING THEIR STUMPS OR ROOT SYSTEM TO MINIMUM 18 IN. DEPTH AND 5 FT RADIUS.
5. DO NOT PLANT SHRUBS OR TREES WITHIN 15 FT OF TRAVELED WAY.
6. PROVIDE BEAVER FENCE ALONG THE RIVER AND THE SIDE EDGES OF PLANTING AREAS. DO NOT PROVIDE BEAVER FENCE ALONG THE TOP EDGE OF PLANTING AREAS.
7. DO NOT REMOVE ANY BRANCHES FROM INSTREAM WOODY MATERIALS (IWMs). TRIMMING OF IWM SHALL BE ALLOWED ONLY AS SPECIFIED IN SECTION 02915 OF THE CONTRACT SPECIFICATIONS.
8. WHERE FEASIBLE, UTILIZE EX WILLOWS TO BE REMOVED (INSIDE REPAIR AREA) SMALLER THAN 4 IN. DBH TO PREPARE FASCINE BUNDLES AS SHOWN IN DETAIL 4/L-21.
9. RESTORE AREAS IMPACTED BY ANY CONSTRUCTION ACTIVITIES TO PRE-CONSTRUCTION CONDITION. AS A MINIMUM, SCARIFY COMPACTED SOIL BY CROSS-RIPPING OR APPROVED METHOD TO 6 IN. MINIMUM AND 10 IN. MAXIMUM DEPTH AND RE-SEED WITH NATIVE GRASS SEED MIX.

30' 15' 0 30'
SCALE: 1"=30'



REV	DATE	DESCRIPTION	DSIG.	APPR

DESIGNED: G. STRAND, REG. NO. LA. 4890
DRAWN: L. BERNALDEZ
CHECKED: T. KLUBERE, REG. LA. NO. 4380
APPROVAL RECOMMENDED: G. STRAND, REG. LA. NO. 4890
APPROVAL BY: S. SALAH-MARE, REG. CE. NO. 50445

URS

REVIEWED: DATE
REG. CE. NO. 56089
APPROVAL RECOMMENDED
REG. CE. NO. 59771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
SACRAMENTO RIVER-MILE 182.0, RIGHT BANK
PLANTING PLAN, SHEET 1 OF 6

SPEC NO. 07-10
DRAWING NO. L-06
SHT. 027

Use_r-bernalez
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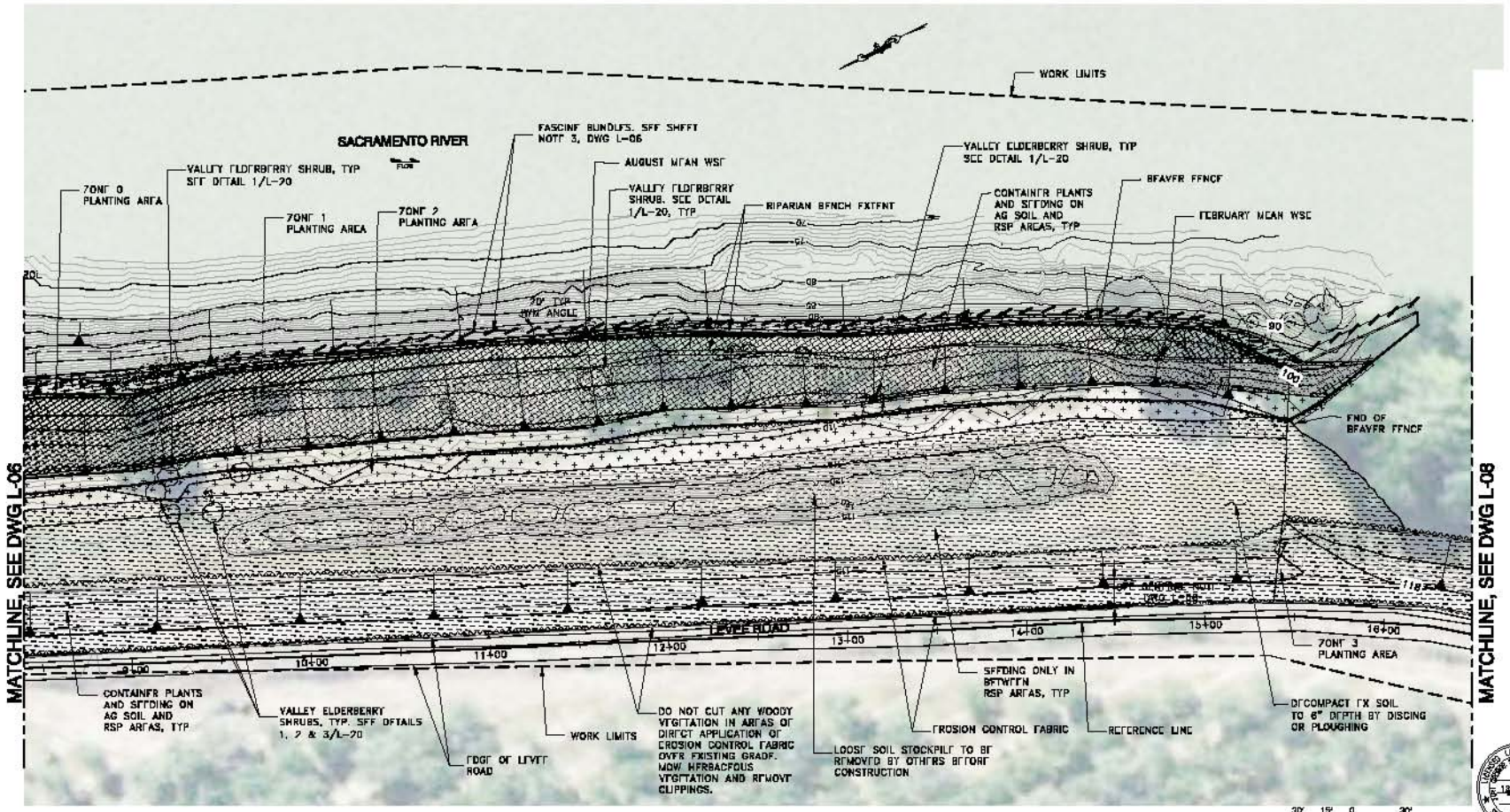
Apr 24, 2007 - 10:06am



REV	DATE	DESCRIPTION	DWN.	APPD

DESIGNED
G. STRAND
REG. NO. LA. 4295
DRAWN
L. STRAUBLOK
CHECKED
T. KLUSER
REG. LA. NO. 4389

APPROVAL RECOMMENDED
G. STRAND
REG. LA. NO. 4295
APPROVAL BY
S. SALAH-NAME
REG. CE. NO. 50445

URS

REVIEWED
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 57771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

DATE

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
SACRAMENTO RIVER-MILE 182.0, RIGHT BANK
PLANTING PLAN, SHEET 2 OF 6

SPEC NO. 07-10
DRAWING NO. L-07
SHEET NO. 026

LICENSED LANDSCAPE ARCHITECT
12-21-09
STATE OF CALIFORNIA

Usa_p-barnaldez
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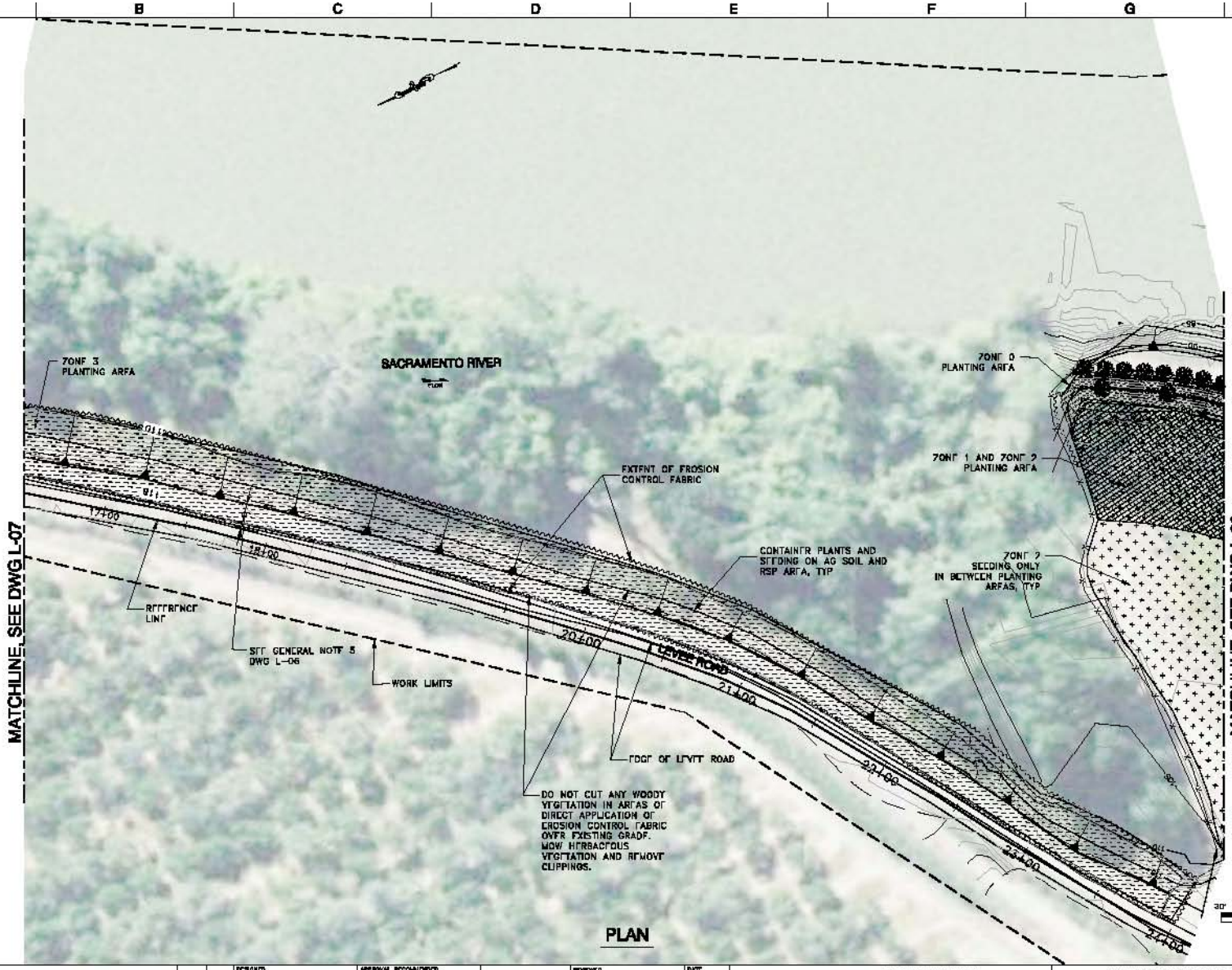
Apr 23, 2007 - 3:58pm



REV	DATE	DESCRIPTION	DWN.	APPR

DESIGNED
G. STENAD
REG. NO. LA. 4295
DRAWN
L. STENALDIT
CHECKED
T. KLUSER
REG. LA. NO. 4389

APPROVAL RECOMMENDED
G. STENAD
REG. LA. NO. 4295
APPROVAL BY
S. SALAIN-WARE
REG. CE. NO. 50445

URS

REVIEWED
DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 59771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
SACRAMENTO RIVER-MILE 182.0, RIGHT BANK
PLANTING PLAN, SHEET 3 OF 6

SPEC NO. 07-10
DRAWING NO. L-09
REV. SHEET NO. 029

Usa_p-bernaldez
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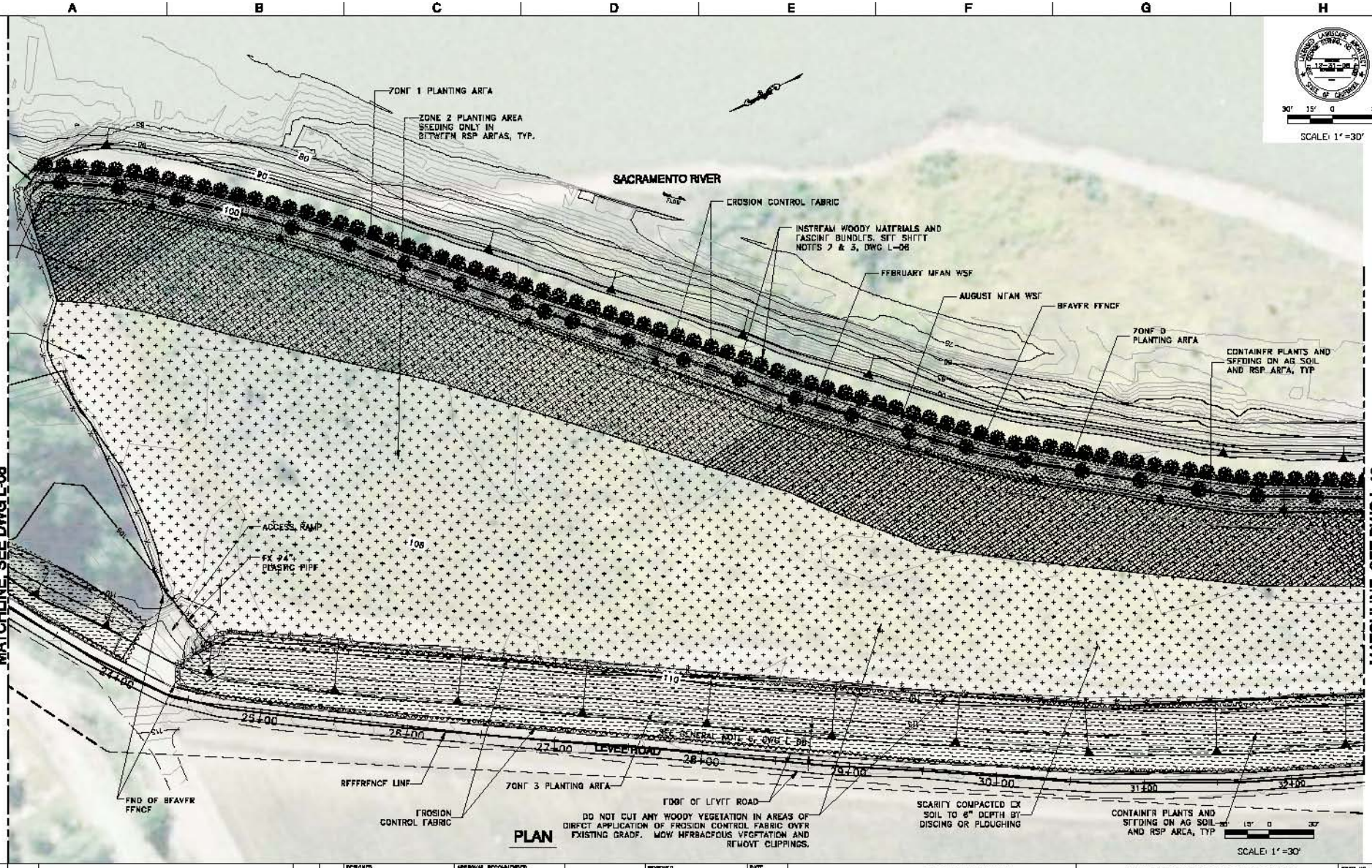

PLAN

REVISIONS					
REV	DATE	DESCRIPTION	DWN	APPD	

DESIGNED: G. STENAD, REG. NO. LA. 4295
DRAWN: L. BERNALDEZ
CHECKED: T. KLUSER, REG. LA. NO. 4389
APPROVAL RECOMMENDED: G. STENAD, REG. NO. LA. 4295
APPROVAL BY: S. SALAH-WARE, REG. CE. NO. 50445

URS

REVIEWED: DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 57771
APPROVED PROJECT MANAGER
REG. CE. NO. 54573

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L & SACRAMENTO RIVER-MILE 99.5R & 187.0R
SACRAMENTO RIVER-MILE 182.0, RIGHT BANK
PLANTING PLAN, SHEET 4 OF 6

SPEC NO. 07-10
DRAWING NO. L-09
SHEET NO. 030

Usa_p-bernaldez
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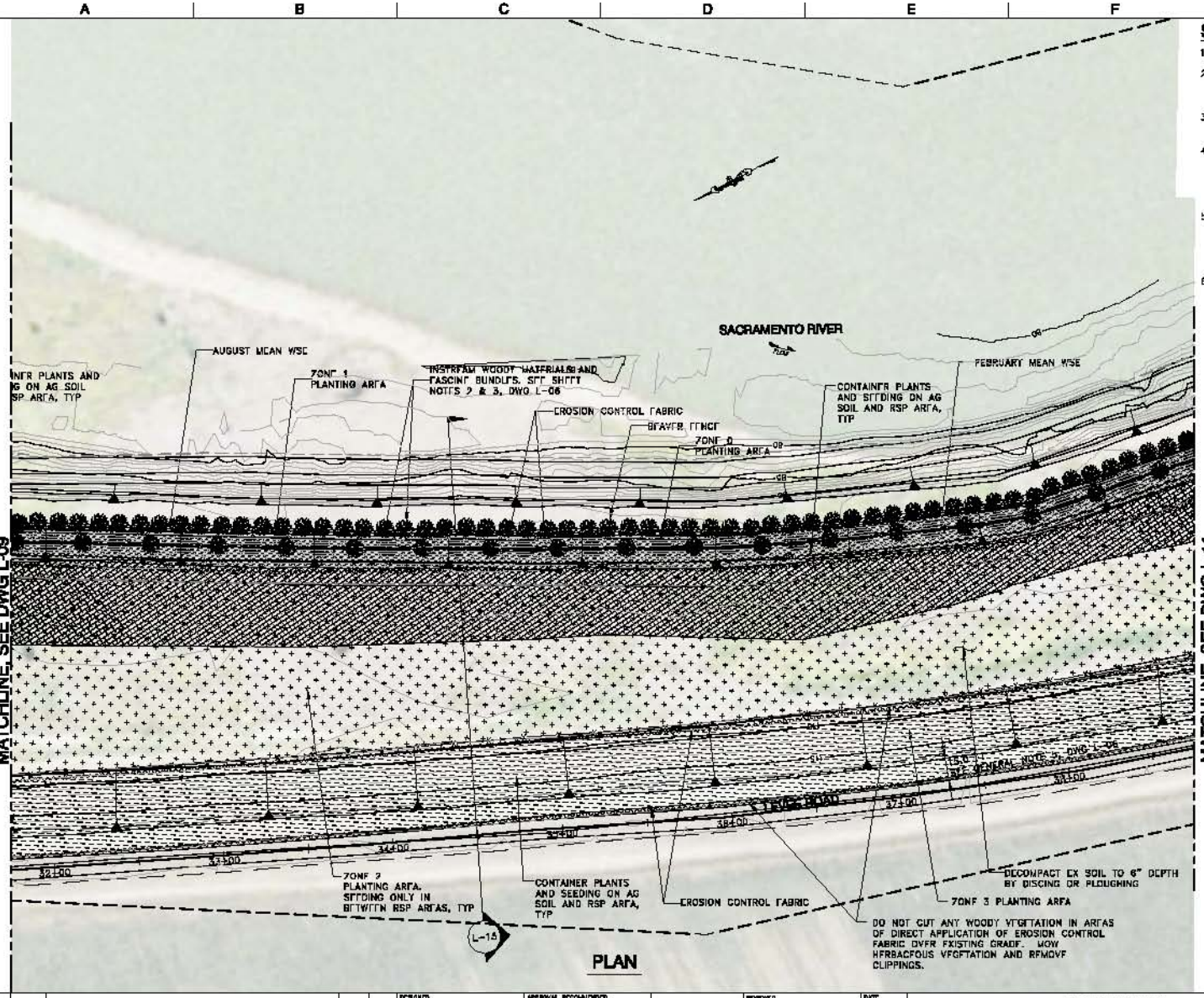
Apr 23, 2007 - 3:52pm



SHEET NOTES

1. SEE DWGS L-17, L-18, L-19, L-20 AND L-21 FOR LANDSCAPE DETAILS.
2. BETWEEN STA 23+50 AND STA 36+00, EMBED INSTREAM WOODY MATERIALS INTO SLOPE @ 12 FT O.C. @ AUGUST MEAN WSE AS SHOWN ON DETAIL 6/L-17 TO ACHIEVE 80% LINEAR COVERAGE.
3. EMBED FASCINE BUNDLES INTO SLOPE @ 12 FT O.C. @ AUGUST MEAN WSE AS SHOWN ON DETAIL 5 & 6/L-17.
4. BETWEEN STA 23+50 AND STA 36+00, CHAIN INSTREAM WOODY MATERIALS @ 20 FT O.C. AT FEBRUARY MEAN WSE AS SHOWN IN DETAILS 1 & 2/L-21 TO ACHIEVE 80% LINEAR COVERAGE. PLACE IWMs ON TOP OF EROSION FABRIC AND AG SOIL PARALLEL WITH RIVER BANK, CROWNS POINTING DOWNSTREAM. AVOID DISTURBING EX NATIVE TREES TO REMAIN.
5. FENCE ALL VALLEY ELDERBERRY SHRUBS BY INSTALLING CSA FENCE 20' OUTSIDE OF THE SHRUBS' DRIPLINES. PROTECT VALLEY ELDERBERRIES AS SHOWN IN DETAILS 1, 2 AND 3 ON DRAWING L-20. NO VEHICLES, EQUIPMENT AND MATERIAL STORAGE OR MOVEMENT, EXCEPT FOR THE HAND PLACEMENT OF COBBLES, SHALL BE ALLOWED WITHIN THE CSA FENCE AREAS.
6. PLACE EROSION CONTROL FABRIC WOOD STAKES @ 4 FT O.C. AND PENETRATE 6 IN. UNDER DRIPLINE OF EXISTING TREES OUTSIDE OF RSP.

30' 15' 0 30'
SCALE: 1"=30'

12-31-08

REV	DATE	DESCRIPTION	DWN	APPR

DESIGNED: G. STERNAD, REG. NO. LA. 4295; DRAWN: L. STERNALDKT; CHECKED: T. KLUSER, REG. LA. NO. 4389

APPROVAL RECOMMENDED: G. STERNAD, REG. NO. LA. 4295; APPROVAL BY: S. SALAM-WARE, REG. CE. NO. 50445

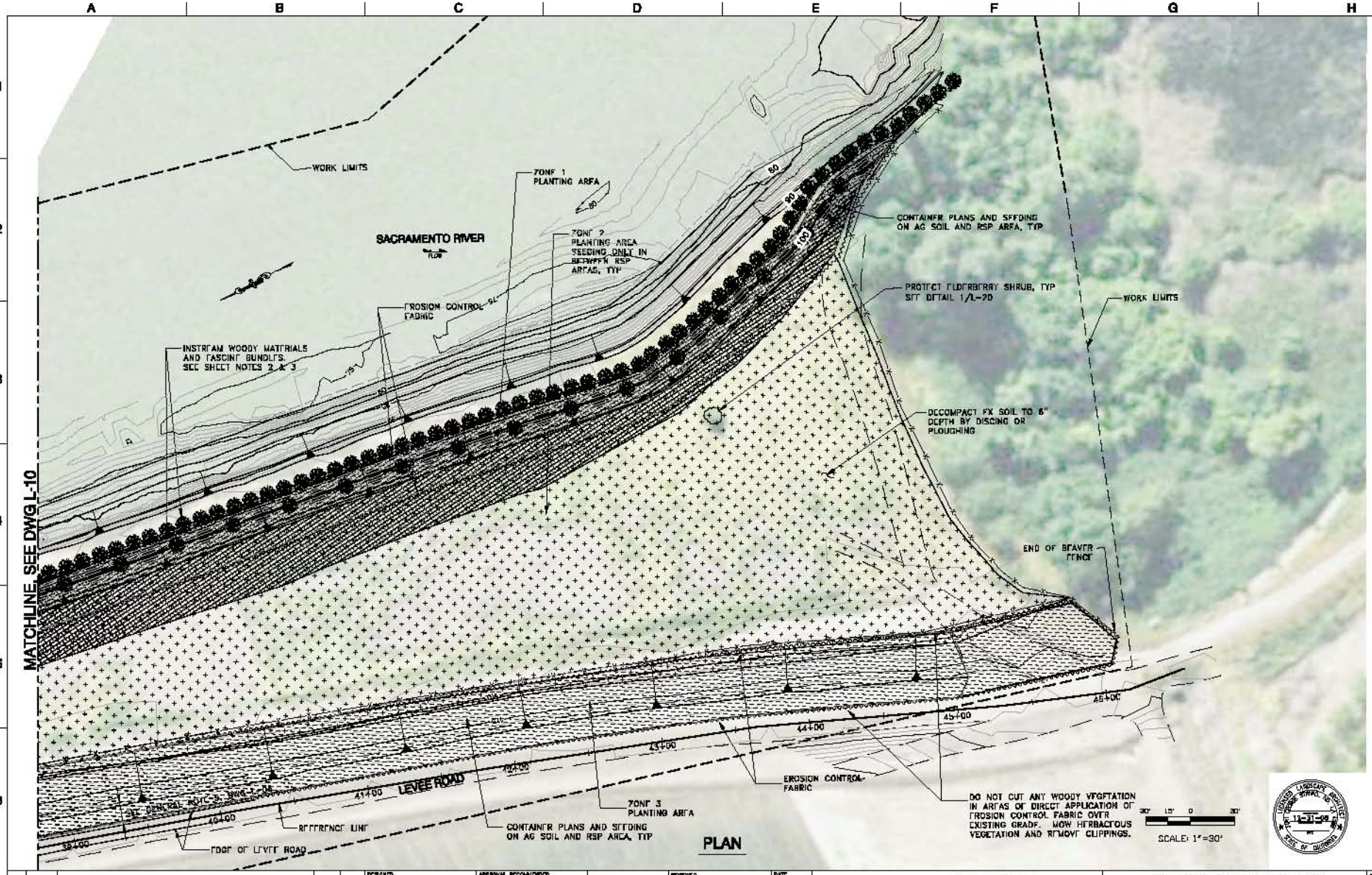
URS

REVIEWED: REG. CE. NO. 56069; APPROVAL RECOMMENDED: REG. CE. NO. 57771; APPROVED PROJECT MANAGER: REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
SACRAMENTO RIVER-MILE 182.0, RIGHT BANK
PLANTING PLAN, SHEET 5 OF 6

SPEC NO. 07-10
DRAWING NO. L-10
REV. SHEET NO. 031



PLAN

REV	DATE	DESCRIPTION	DWN.	APPR

DESIGNED
G. STRNAD
REG. NO. LA. 4295
DRAWN
L. BRENALDEZ
CHECKED
T. KLUSER
REG. LA. NO. 4295

APPROVAL RECOMMENDED
G. STRNAD
REG. LA. NO. 4295
APPROVAL BY
S. SALAH-WARE
REG. CE. NO. 50445

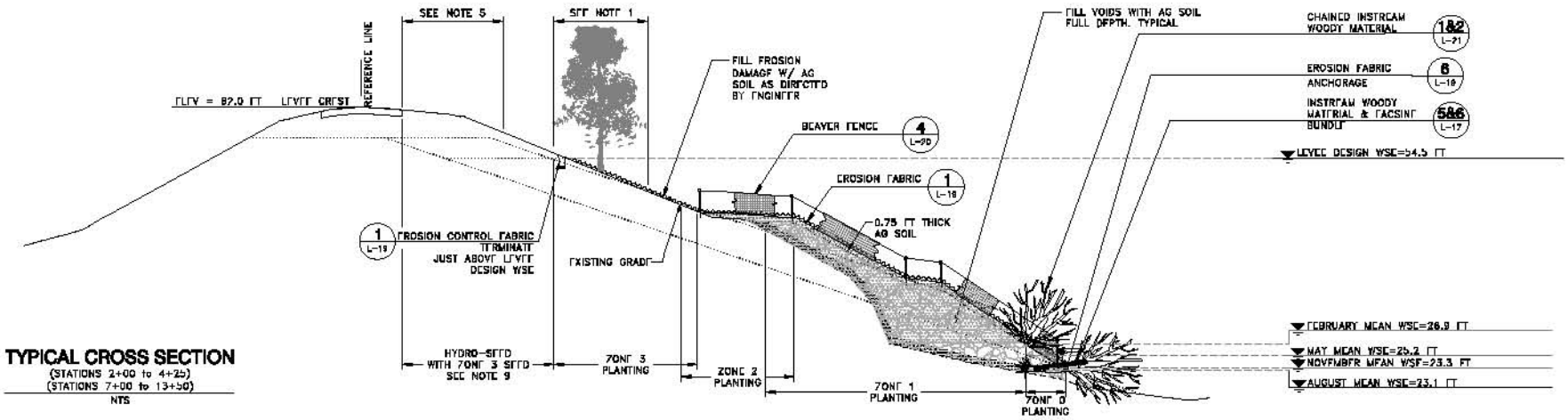
URS

REVIEWED
DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 59771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
SACRAMENTO RIVER-MILE 182.0, RIGHT BANK
PLANTING PLAN, SHEET 6 OF 6

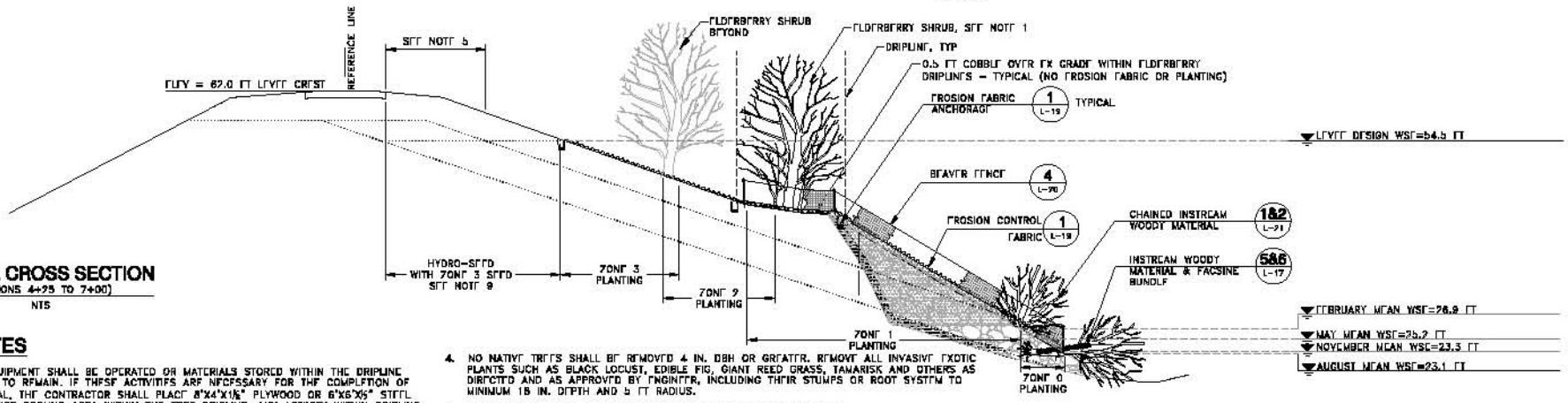
SPEC NO. 07-10
DRAWING NO. L-11
REV. SHEET NO. 032



TYPICAL CROSS SECTION

(STATIONS 2+00 to 4+25)
(STATIONS 7+00 to 13+50)

NTS



TYPICAL CROSS SECTION

(STATIONS 4+25 TO 7+00)

NTS

GENERAL NOTES

1. NO VEHICLES OR EQUIPMENT SHALL BE OPERATED OR MATERIALS STORED WITHIN THE DRIPLINE AREAS OF EX TREES TO REMAIN. IF THESE ACTIVITIES ARE NECESSARY FOR THE COMPLETION OF WORK, WITH APPROVAL, THE CONTRACTOR SHALL PLACE 8'X4'X1½" PLYWOOD OR 6'X6'X6" STEEL PLATE OVER THE ENTIRE GROUND AREA WITHIN THE TREE DRIPLINE. ANY ACTIVITY WITHIN DRIPLINE AREAS OF EX TREES SHALL BEGIN ONLY UPON ENGINEER'S APPROVAL.
2. TREE PROTECTION AREAS SHALL BE CIRCULAR AREAS WITH THE TREE BASE IN THE CENTER AND A 6-FOOT RADIUS AS SHOWN ON DETAILS 1 & 4/L-18. DO NOT FILL VOIDS IN RSP WITH AG SOIL OR PLACE AG SOIL ON TOP OF RSP WITHIN TREE PROTECTION AREAS.
3. PROTECT ALL NATIVE TREES 4 IN. DBH OR GREATER. ALL OTHER NATIVE VEGETATION SHALL BE PROTECTED TO MAXIMUM EXTENT POSSIBLE. TREES MARKED WITH BLUE FLAGGING TAPE SHALL BE PROTECTED W/PLYWOOD BOXES AS SHOWN ON DETAILS 1, 2 & 3/L-18. TREES MARKED WITH WHITE FLAGGING TAPE SHALL BE PROTECTED W/4X4 WRAP AS SHOWN ON DETAILS 4 & 5/L-18. NATIVE TREES WITH UNDERMINED ROOTS SHALL BE PROTECTED AS SHOWN ON DETAIL 6/L-18. NATIVE TREES TO BE PROTECTED INCLUDE OAKS, WILLOWS, OREGON ASH, WHITE ALDER, BOX ELDER, SYCAMORE, COTTONWOOD, WALNUT, BUTTONBUSH, ELDERBERRY AND OTHERS AS DIRECTED BY ENGINEER.
4. NO NATIVE TREES SHALL BE REMOVED 4 IN. DBH OR GREATER. REMOVE ALL INVASIVE EXOTIC PLANTS SUCH AS BLACK LOCUST, EDIBLE FIG, GIANT REED GRASS, TAMARISK AND OTHERS AS DIRECTED AND AS APPROVED BY ENGINEER, INCLUDING THEIR STUMPS OR ROOT SYSTEM TO MINIMUM 18 IN. DEPTH AND 5 FT RADIUS.
5. DO NOT PLANT SHRUBS OR TREES WITHIN 15 FT OF TRAVELED WAY.
6. PROVIDE BEAVER FENCE ALONG THE RIVER AND THE SIDE EDGES OF PLANTING AREAS. DO NOT PROVIDE BEAVER FENCE ALONG THE TOP EDGE OF PLANTING AREAS.
7. DO NOT REMOVE ANY BRANCHES FROM INSTREAM WOODY MATERIALS (IWMs). TRIMMING OF IWM SHALL BE ALLOWED ONLY AS SPECIFIED IN SECTION 02915 OF THE CONTRACT SPECIFICATIONS.
8. WHERE FEASIBLE, UTILIZE EX WILLOWS TO BE REMOVED (INSIDE REPAIR AREA) SMALLER THAN 4 IN. DBH TO PREPARE FASCINE BUNDLES AS SHOWN IN DETAIL 4/L-21.
9. RESTORE AREAS IMPACTED BY ANY CONSTRUCTION ACTIVITIES TO PRE-CONSTRUCTION CONDITION. AS A MINIMUM, SCARIFY COMPACTED SOIL BY CROSS-RIPPING OR APPROVED METHOD TO 6 IN. MINIMUM AND 10 IN. MAXIMUM DEPTH AND RE-SEED WITH NATIVE GRASS SEED MIX.

REV	DATE	DESCRIPTION	DES.	APPD

DESIGNED G. STRNAD REG. LA. NO. 4300
DRAWN B. PRASAD
CHECKED T. KLUBERT REG. LA. NO. 4389
APPROVAL RECOMMENDED G. STRNAD REG. LA. NO. 4394
APPROVAL BY S. SALAM-MARS REG. CE. NO. 50445

URS

REVIEWED DATE
REG. CE. NO. 56089
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR - PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.58 & 187.08

BEAR RIVER-MILE 1.2, LEFT BANK LANDSCAPE CROSS-SECTIONS

SPEC NO. 07-10
DRAWING NO. L-12
REV. SHEET NO. 033

Urs_p-barnaldez
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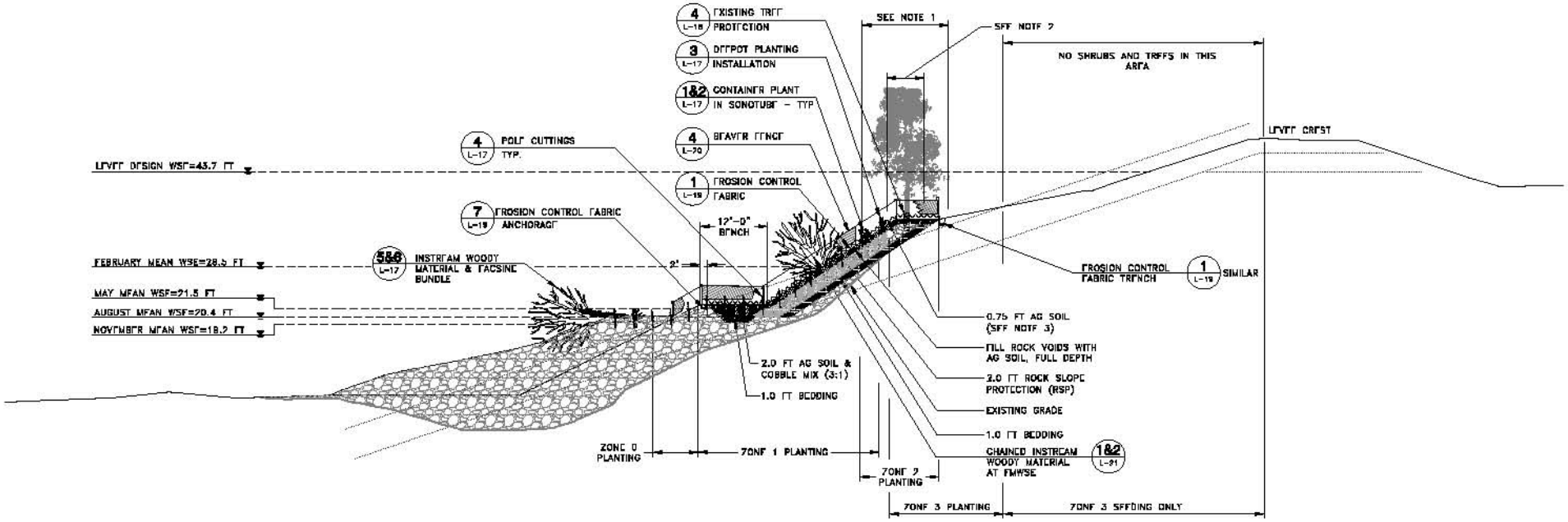
Apr 23, 2007 - 3:56pm



CROSS SECTION A @ STA. 3+70 & 7+50

NTS

GENERAL NOTES

1. NO VEHICLES OR EQUIPMENT SHALL BE OPERATED OR MATERIALS STORED WITHIN THE DRIPLINE AREAS OF EX TREES TO REMAIN. IF THESE ACTIVITIES ARE NECESSARY FOR THE COMPLETION OF WORK, WITH APPROVAL, THE CONTRACTOR SHALL PLACE 8'X4'X½" PLYWOOD OR 8'X8'X⅝" STEEL PLATE OVER THE ENTIRE GROUND AREA WITHIN THE TREE DRIPLINE. ANY ACTIVITY WITHIN DRIPLINE AREAS OF EX TREES SHALL BEGIN ONLY UPON ENGINEER'S APPROVAL.

2. TREE PROTECTION AREAS SHALL BE CIRCULAR AREAS WITH THE TREE BASE IN THE CENTER AND A 6-FOOT RADIUS AS SHOWN ON DETAILS 1 & 4/L-18. DO NOT FILL VOIDS IN RSP WITH AG SOIL OR PLACE AG SOIL ON TOP OF RSP WITHIN TREE PROTECTION AREAS.

3. PROTECT ALL NATIVE TREES 4 IN. DBH OR GREATER. ALL OTHER NATIVE VEGETATION SHALL BE PROTECTED TO MAXIMUM EXTENT POSSIBLE. TREES MARKED WITH BLUE FLAGGING TAPE SHALL BE PROTECTED W/PLYWOOD BOXES AS SHOWN ON DETAILS 1, 2 & 3/L-18. TREES MARKED WITH WHITE FLAGGING TAPE SHALL BE PROTECTED W/4X4 WRAP AS SHOWN ON DETAILS 4 & 5/L-18. NATIVE TREES WITH UNDERMINED ROOTS SHALL BE PROTECTED AS SHOWN ON DETAIL 5/L-18. NATIVE TREES TO BE PROTECTED INCLUDE OAKS, WILLOWS, OREGON ASH, WHITE ALDER, BOX ELDER, SYCAMORE, COTTONWOOD, WALNUT, BUTTONBUSH, ELDERBERRY AND OTHERS AS DIRECTED BY ENGINEER.

4. NO NATIVE TREES SHALL BE REMOVED 4 IN. DBH OR GREATER. REMOVE ALL INVASIVE EXOTIC PLANTS SUCH AS BLACK LOCUST, EDIBLE FIG, GIANT REED GRASS, TAMARISK AND OTHERS AS DIRECTED AND AS APPROVED BY ENGINEER, INCLUDING THEIR STUMPS OR ROOT SYSTEM TO MINIMUM 18 IN. DEPTH AND 5 FT RADIUS.

5. DO NOT PLANT SHRUBS OR TREES WITHIN 15 FT OF TRAVELED WAY.

6. PROVIDE BEAVER FENCE ALONG THE RIVER AND THE SIDE EDGES OF PLANTING AREAS. DO NOT PROVIDE BEAVER FENCE ALONG THE TOP EDGE OF PLANTING AREAS.

7. DO NOT REMOVE ANY BRANCHES FROM INSTREAM WOODY MATERIALS (IWMs). TRIMMING OF IWM SHALL BE ALLOWED ONLY AS SPECIFIED IN SECTION 02915 OF THE CONTRACT SPECIFICATIONS.

8. WHERE FEASIBLE, UTILIZE EX WILLOWS TO BE REMOVED (INSIDE REPAIR AREA) SMALLER THAN 4 IN. DBH TO PREPARE FASCINE BUNDLES AS SHOWN IN DETAIL 4/L-21.

9. RESTORE AREAS IMPACTED BY ANY CONSTRUCTION ACTIVITIES TO PRE-CONSTRUCTION CONDITION. AS A MINIMUM, SCARIFY COMPACTED SOIL BY CROSS-RIPPING OR APPROVED METHOD TO 5 IN. MINIMUM AND 10 IN. MAXIMUM DEPTH AND RE-SEED WITH NATIVE GRASS SEED MIX.

REV	DATE	DESCRIPTION	DWN	APPD

DESIGNED G. STRNAD REG. LA. NO. 4398
DRAWN B. PRASAD
CHECKED T. KLUBERT REG. LA. NO. 4398
APPROVAL RECOMMENDED G. STRNAD REG. LA. NO. 4398
APPROVAL BY S. SALAIH-MARS REG. CE. NO. 56445

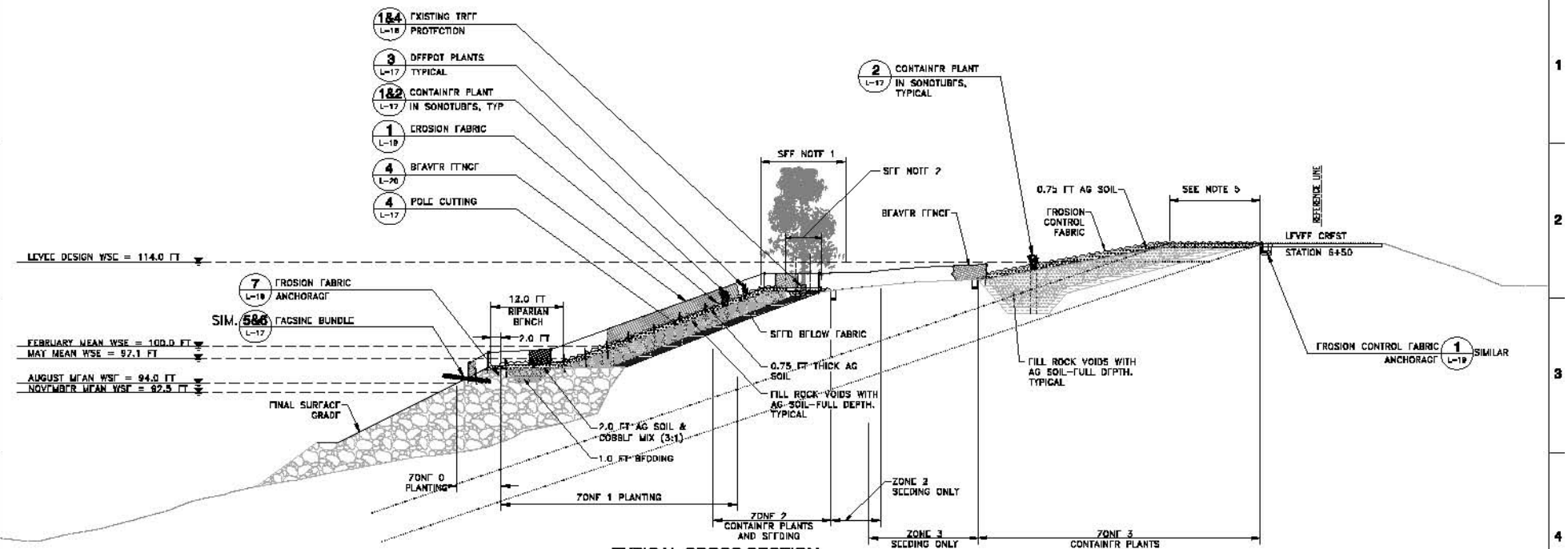
URS

REVIEWED DATE
REG. CE. NO. 56089
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR - PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5 & 187.0R
SACRAMENTO RIVER-MILE 99.5, RIGHT BANK
LANDSCAPE CROSS-SECTION

SPEC NO. 07-10
DRAWING NO. L-13
REV. SHEET NO. 034



TYPICAL CROSS SECTION

(STATIONS 2+00 TO 15+00)

NTS

A L-08

GENERAL NOTES

1. NO VEHICLES OR EQUIPMENT SHALL BE OPERATED OR MATERIALS STORED WITHIN THE DRIPLINE AREAS OF EX TREES TO REMAIN. IF THESE ACTIVITIES ARE NECESSARY FOR THE COMPLETION OF WORK, WITH APPROVAL, THE CONTRACTOR SHALL PLACE 8'X4'X1½" PLYWOOD OR 8'X8'X½" STEEL PLATE OVER THE ENTIRE GROUND AREA WITHIN THE TREE DRIPLINE. ANY ACTIVITY WITHIN DRIPLINE AREAS OF EX TREES SHALL BEGIN ONLY UPON ENGINEER'S APPROVAL.
2. TREE PROTECTION AREAS SHALL BE CIRCULAR AREAS WITH THE TREE BASE IN THE CENTER AND A 8-FOOT RADIUS AS SHOWN ON DETAILS 1 & 4/L-18. DO NOT FILL VOIDS IN RSP WITH AG SOIL OR PLACE AG SOIL ON TOP OF RSP WITHIN TREE PROTECTION AREAS.
3. PROTECT ALL NATIVE TREES 4 IN. DBH OR GREATER. ALL OTHER NATIVE VEGETATION SHALL BE PROTECTED TO MAXIMUM EXTENT POSSIBLE. TREES MARKED WITH BLUE FLAGGING TAPE SHALL BE PROTECTED W/PLYWOOD BOXES AS SHOWN ON DETAILS 1, 2 & 3/L-18. TREES MARKED WITH WHITE FLAGGING TAPE SHALL BE PROTECTED W/4X4 WRAP AS SHOWN ON DETAILS 4 & 5/L-18. NATIVE TREES WITH UNDERMINED ROOTS SHALL BE PROTECTED AS SHOWN ON DETAIL 6/L-18. NATIVE TREES TO BE PROTECTED INCLUDE OAKS, WILLOWS, OREGON ASH, WHITE ALDER, BOX ELDER, SYCAMORE, COTTONWOOD, WALNUT, BUTTONBUSH, ELDERBERRY AND OTHERS AS DIRECTED BY ENGINEER.
4. NO NATIVE TREES SHALL BE REMOVED 4 IN. DBH OR GREATER. REMOVE ALL INVASIVE EXOTIC PLANTS SUCH AS BLACK LOCUST, EDIBLE FIG, GIANT REED GRASS, TAMARISK AND OTHERS AS DIRECTED AND AS APPROVED BY ENGINEER, INCLUDING THEIR STUMPS OR ROOT SYSTEM TO MINIMUM 18 IN. DEPTH AND 5 FT RADIUS.
5. DO NOT PLANT SHRUBS OR TREES WITHIN 15 FT OF TRAVELED WAY.
6. PROVIDE BEAVER FENCE ALONG THE RIVER AND THE SIDE EDGES OF PLANTING AREAS. DO NOT PROVIDE BEAVER FENCE ALONG THE TOP EDGE OF PLANTING AREAS.
7. DO NOT REMOVE ANY BRANCHES FROM INSTREAM WOODY MATERIALS (IWMs). TRIMMING OF IWM SHALL BE ALLOWED ONLY AS SPECIFIED IN SECTION 02915 OF THE CONTRACT SPECIFICATIONS.
8. WHERE FEASIBLE, UTILIZE EX WILLOWS TO BE REMOVED (INSIDE REPAIR AREA) SMALLER THAN 4 IN. DBH TO PREPARE FASCINE BUNDLES AS SHOWN IN DETAIL 4/L-21.
9. RESTORE AREAS IMPACTED BY ANY CONSTRUCTION ACTIVITIES TO PRE-CONSTRUCTION CONDITION. AS A MINIMUM, SCARIFY COMPACTED SOIL BY CROSS-RIPPING OR APPROVED METHOD TO 6 IN. MINIMUM AND 10 IN. MAXIMUM DEPTH AND RE-SEED WITH NATIVE GRASS SEED MIX.

REV	DATE	DESCRIPTION	DSGN	APPD

DESIGNED G. STRNAD REG. NO. LA. 4395
DRAWN L. BERNALDEZ
CHECKED T. KLUBERT REG. LA. NO. 4389
APPROVAL RECOMMENDED G. STRNAD REG. LA. NO. 4394
APPROVAL BY S. SALAIN-MARS REG. CE. NO. 50445
REVIEWED DATE
REG. CE. NO. 56088
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

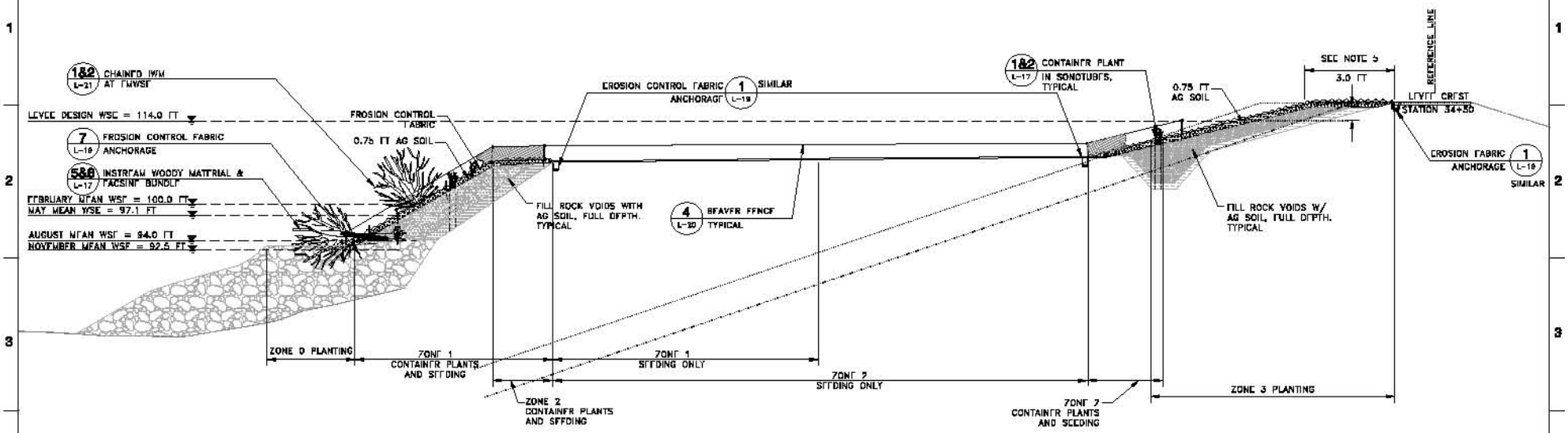
URS

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L & SACRAMENTO RIVER-MILE 99.5R & 187.0R

SACRAMENTO RIVER-MILE 182.0, RIGHT BANK
LANDSCAPE CROSS-SECTION, SHEET 1 OF 2

SPEC NO. 07-10
DRAWING NO. L-14
REV. SHEET NO. 035



TYPICAL CROSS SECTION

(STATIONS 22+00 TO 49+00)

NTS

B L-10

GENERAL NOTES

1. NO VEHICLES OR EQUIPMENT SHALL BE OPERATED OR MATERIALS STORED WITHIN THE DRIPLINE AREAS OF EX TREES TO REMAIN. IF THESE ACTIVITIES ARE NECESSARY FOR THE COMPLETION OF WORK, WITH APPROVAL, THE CONTRACTOR SHALL PLACE 8'X4'X1½" PLYWOOD OR 6'X6'X⅜" STEEL PLATE OVER THE ENTIRE GROUND AREA WITHIN THE TREE DRIPLINE. ANY ACTIVITY WITHIN DRIPLINE AREAS OF EX TREES SHALL BEGIN ONLY UPON ENGINEER'S APPROVAL.

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5. DO NOT PLANT SHRUBS OR TREES WITHIN 15 FT OF TRAVELED WAY.

6. PROVIDE BEAVER FENCE ALONG THE RIVER AND THE SIDE EDGES OF PLANTING AREAS. DO NOT PROVIDE BEAVER FENCE ALONG THE TOP EDGE OF PLANTING AREAS.

7. DO NOT REMOVE ANY BRANCHES FROM INSTREAM WOODY MATERIALS (IWMs). TRIMMING OF IWM SHALL BE ALLOWED ONLY AS SPECIFIED IN SECTION 02815 OF THE CONTRACT SPECIFICATIONS.

8. WHERE FEASIBLE, UTILIZE EX WILLOWS TO BE REMOVED (INSIDE REPAIR AREA) SMALLER THAN 4 IN. DBH TO PREPARE FASCINE BUNDLES AS SHOWN IN DETAIL 4/L-21.

9. RESTORE AREAS IMPACTED BY ANY CONSTRUCTION ACTIVITIES TO PRE-CONSTRUCTION CONDITION. AS A MINIMUM, SCARIFY COMPACTED SOIL BY CROSS-RIPPING OR APPROVED METHOD TO 6 IN. MINIMUM AND 10 IN. MAXIMUM DEPTH AND RE-SEED WITH NATIVE GRASS SEED MIX.

REV	DATE	DESCRIPTION	DES.	APPD

DESIGNED G. STRNAD REG. NO. LA. 4388
DRAWN L. GRIMALDICZ
CHECKED T. KLUBERT REG. LA. NO. 4388
APPROVAL RECOMMENDED G. STRNAD REG. LA. NO. 4388
APPROVAL BY S. SALAH-MARR REG. CE. NO. 38445

URS

REVIEWED DATE
REG. CE. NO. 56089
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R

SACRAMENTO RIVER-MILE 182.0, RIGHT BANK
LANDSCAPE CROSS-SECTION, SHEET 2 OF 2

SPEC NO. 07-10
DRAWING NO. L-16
REV. SHEET NO. 036

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PLANTING SCHEDULE – DWR LEVEE REPAIR

ZONE	ZONE & ELEVATION (FT ABOVE AUGUST MEAN WATER SURFACE LEVEL) BEA 1.2L	SAC 99.5R	SAC 187.0R	BOTANICAL NAME	COMMON NAME	PROPAGATION METHOD	SIZE	REMARKS	(BEA 1.2L) AREA (ACRE)	AMOUNTS	(SAC 99.5R) AREA (ACRE)	AMOUNTS	(SAC 187.0R) AREA (ACRE)	AMOUNTS
ZONE 0	0 FT TO 3.5 FT (Q1.5)	0 FT TO 2-4 FT	0 FT TO 2-4 FT	JUNCUS EFFUSUS	SOFT RUSH	CONTAINER	PEAT POT	SAC 187.0R EMERGENT BENCH ONLY	0.17	-	0.13	-	0.34	-
				JUNCUS XIPHIOIDES	IRIS-LEAVED RUSH	CONTAINER	PEAT POT			-		-		-
				PHRAGMITES AUSTRALIS	COMMON REED	CONTAINER	PEAT POT			-		-		-
				SCIRPUS ACUTUS	COMMON TULE	CONTAINER	PEAT POT			-		-		-
				SCIRPUS CALIFORNICUS	CALIFORNIA BULRUSH	CONTAINER	PEAT POT			-		-		-
				SALIX LAEVIGATA, S. LUCIDA ssp. LASIANDRA	WILLOW SPECIES	FASCINE BUNDLES	DO NOT TRIM	EMBED INTO RIPRAP @ 12' O.C. AS SHOWN ON DTL 5 & 6 ON DWG L-17		103		67		313
				SALIX LAEVIGATA, S. LUCIDA ssp. LASIANDRA	WILLOW SPECIES	POLE CUTTINGS	DO NOT TRIM	SPACE 3' O.C. STAGGERED		809		840		1533
ZONE 1 (RIPARIAN BENCH)	5.5 FT TO 21 FT (Q2)	2 - 4 FT TO 13 ± Q 1-5	2 - 4 FT TO 13 ± Q 1-5	CEPHALANTHUS OCCIDENTALIS VAR. CALIFORNICUS	CALIFORNIA BUTTONBUSH	CONTAINER	T8	PLANT @ 10 FT O.C. INSTALL TOGETHER IN SONOTUBE AS PER DTL 1&2/L-17	0.54	130	0.16	84	1.57	343
				HOITA MACROSTACHYA	LARGE LEATHER ROOT	CONTAINER	T4			130		84		345
				LEERSIA ORYZOIDES	RICE CUTGRASS	CONTAINER	DP	CLUSTER BY SPECIES @ 3 FT O.C. / PLANT IN LOWER AREAS OF ZONE 1		374		110		1088
				EUTHAMIA OCCIDENTALIS	WESTERN GOLDENROD	CONTAINER	DP			374		110		1088
				ELEOCHARIS MACROSTACHYA	COMMON SPIKERUSH	CONTAINER	DP			374		110		1088
				JUNCUS BALTICUS	BALTIC RUSH	CONTAINER	DP			374		110		1088
				JUNCUS EFFUSUS	SOFT RUSH	CONTAINER	DP			374		110		1088
				JUNCUS XIPHIOIDES	IRIS-LEAVED RUSH	CONTAINER	DP			374		110		1088
				SALIX LAEVIGATA, S. LUCIDA, ssp. S. LASIANDRA	WILLOW SPECIES	POLE CUTTINGS	DO NOT TRIM			374		110		1088
				CAREX BARBARAE	SANTA BARBARA SEDGE	CONTAINER	D8	CLUSTER BY SPECIES @ 3 FT O.C. / PLANT IN HIGHER AREAS OF ZONE 1 ON HIGHEST PARTS AND ABOVE RIPARIAN BENCH	0.78	919	0.26	312	2.85	1365
				POLYGONUM HYDROPIPEROIDES	WATERPEPPER	CONTAINER	D8			919		312		1365
				EQUISETUM LAEVIGATUM	SMOOTH HORSETAIL	CONTAINER	D8			919		312		1365
				ACER NEGUNDO	BOXELDER	CONTAINER	T8	AVERAGE 20 FT O.C. INSTALL IN PRE-SET, MARKED SONOTUBES AS PER DTL 1&2/L-17.		21		7		42
				ALNUS RHOMBIFOLIA	WHITE ALDER	CONTAINER	T8			21		7		42
				FRAXINUS LATIFOLIA	OREGON ASH	CONTAINER	T8			21		7		42
				PLATANUS RACEMOSA	WESTERN SYCAMORE	CONTAINER	T8			21		7		42
				SALIX LAEVIGATA, S. LUCIDA ssp. LASIANDRA	WILLOW SPECIES	POLE CUTTINGS	DO NOT TRIM	SPACE 3' O.C., STAGGERED		919		312		1365
				AGROSTIS EXARATA	SPIKE BENTGRASS	SEED	NA	10 LBS/AC	1.30	13.0	0.42	4.2	4.49	44.2
				CAREX BARBARAE	SANTA BARBARA SEDGE	SEED	NA	5 LBS/AC		6.5		2.1		22.1
				DESCHAMPSIA ELONGATA	SLENDER HAIRGRASS	SEED	NA	10 LBS/AC		13.0		4.2		44.2
				DISTICHLIS SPICATA	SALTGRASS	SEED	NA	10 LBS/AC		15.0		4.2		44.2
				EUTHAMIA OCCIDENTALIS	WESTERN GOLDENROD	SEED	NA	5 LBS/AC		6.5		2.1		22.1
				HELIOTROPIUM CURASSAVICUM	SALT HELIOTROPE	SEED	NA	5 LBS/AC		6.8		2.1		22.1
				HORDEUM BRACHYANTHERUM SSP. BRACHYANTHERUM	MEADOW BARLEY	SEED	NA	10 LBS/AC		13.0		4.2		44.2
				JUNCUS EFFUSUS	SOFT RUSH	SEED	NA	10 LBS/AC		13.0		4.2		44.2
				LYCOPUS AMERICANUS	AMERICAN BUGLEWEED	SEED	NA	5 LBS/AC		6.5		2.1		22.1
				PASPALUM DISTICHUM	KNOTGRASS	SEED	NA	10 LBS/AC		13.0		4.2		44.2
ZONE 2 (MIDDLE BANK SLOPE)	19 FT TO 25 FT (Q10)	13 FT TO 18 FT	12 FT TO 17 FT	APOCYNUM CANNABINUM	CLASPING LEAF DOGBANE	CONTAINER	T4	AVERAGE 10 FT O.C. (AVERAGE 17 FT O.C. AT SAC 182.0) STAGGERED PLANT IN SONOTUBES AS PER DTL 1&2/L-17	0.57	55	0.20	24	8.80	110
				BACCHARIS SALICIFOLIA	MULE FAT	CONTAINER	T4			55		24		110
				CORNUS SERICEA	RED TWIG DOGWOOD	CONTAINER	T4			55		24		110
				POPULUS FREMONTII	FREMONT COTTONWOOD	CONTAINER	T8	INSTALL IN SONOTUBES AS PER DTL 1&2/L-19. AVERAGE 50 FT O.C. (AVERAGE 50 FT O.C. AT SAC 182.0)		32		24		110
				ARTEMISIA DOUGLASIANA	MUGWORT	CONTAINER	DP	AVERAGE 3 FT O.C. STAGGERED INSTALL IN SOIL-FILLED CREVICES IN RIPRAP AS PER DTL 3/L-17		551		184		711
				CAREX BARBARAE	SANTA BARBARA SEDGE	CONTAINER	DP			551		184		711
				CAREX PRAEGRACILIS	DEER SEDGE	CONTAINER	DP			551		184		711
				LEYMUS TRITICOIDES	CREEPING WILDRYE	CONTAINER	DP			551		184		711
				SALIX LASIOLEPIS, S. GOODDINGII, S. EXIGUA	WILLOW SPECIES	POLE CUTTINGS	DO NOT TRIM	SPACE 3' O.C. STAGGERED		551		184		711
				AGROSTIS EXARATA	SPIKE BENTGRASS	SEED	NA	5 LBS/AC	0.57	2.8	0.20	1.0	8.80	44.0
				AMBROSIA PSILOSTACHYA	WESTERN RAGWEED	SEED	NA	5 LBS/AC		2.8		1.0		44.0
				ARTEMISIA DOUGLASIANA	MUGWORT	SEED	NA	5 LBS/AC		2.8		1.0		44.0
				BACCHARIS SALICIFOLIA	MULE FAT	SEED	NA	5 LBS/AC		2.8		1.0		44.0
				DESCHAMPSIA CAESPITOSA	TUFTED HAIRGRASS	SEED	NA	5 LBS/AC		2.8		1.0		44.0
				DESCHAMPSIA ELONGATA	SLENDER HAIRGRASS	SEED	NA	5 LBS/AC		2.8		1.0		44.0
				DESCHAMPSIA DANTHONIOIDES	ANNUAL HAIRGRASS	SEED	NA	5 LBS/AC		2.8		1.0		44.0
				ELYMUS TRACHYCAULUS	SLENDER WHEATGRASS	SEED	NA	5 LBS/AC		2.8		1.0		44.0
				HORDEUM BRACHYANTHERUM SSP. BRACHYANTHERUM	MEADOW BARLEY	SEED	NA	10 LBS/AC		5.7		2.0		88.0
				HORDEUM DEPRESSUM	DWARF BARLEY	SEED	NA	5 LBS/AC		2.8		1.0		44.0
				JUNCUS PATENS	COMMON RUSH	SEED	NA	5 LBS/AC		2.8		1.0		44.0
				LEYMUS TRITICOIDES	CREEPING WILDRYE	SEED	NA	20 LBS/AC		11.4		4.0		178.0
				MARAH FABACEOUS	WILD CUCUMBER	SEED	NA	5 LBS/AC		2.8		1.0		44.0
ZONE 3 (UPPER SLOPE)	23 FT TO TOP OF REPAIR	18 FT TO TOP OF REPAIR	18 FT TO TOP OF REPAIR	BACCHARIS PILULARIS	COYOTE BRUSH	CONTAINER	T4	AVERAGE 15 FT O.C. (AVERAGE 25 FT O.C. AT SAC 187.0) STAGGERED INSTALL IN SONOTUBES AS SPEC DTL 1&2/L-17, NOTE 3	0.44	40	0	-	5.56	72
				RHAMNUS TOMENTELLA OR CALIFORNICA	HOARY COFFEEBERRY OR CALIFORNIA COFFEEBERRY	CONTAINER	T4			40		-		72
				QUERCUS LOBATA	VALLEY OAK	CONTAINER	T8	INSTALL IN SONOTUBES AS PER DTL 1&2/L-17 IN RIPRAP OR SOIL. AVERAGE 30 FT O.C. (AVERAGE 50 FT O.C. AT SAC 187.0)		40		-		72
				ACHILLEA MILLEFOLIUM	COMMON YARROW	SEED	NA	5 LBS/AC	0.44	2.2	0	-	5.66	27.8
				ELYMUS GLAUCUS	BLUE WILDRYE	SEED	NA	5 LBS/AC		2.2		-		27.8
				ELYMUS TRACHYCAULUS	SLENDER WHEATGRASS	SEED	NA	5 LBS/AC		2.2		-		27.8
				ESCHSCHOLZIA CALIFORNICA	CALIFORNIA POPPY	SEED	NA	5 LBS/AC		2.2		-		27.8
				HETEROTHECA GRANDIFLORA	TELEGRAPH WEED	SEED	NA	5 LBS/AC		2.2		-		27.8
				HORDEUM BRACHYANTHERUM SSP. CALIFORNICUM	CALIFORNIA BARLEY	SEED	NA	5 LBS/AC		2.2		-		27.8
				LOTUS PURSHIANUS	SPANISH LOTUS	SEED	NA	5 LBS/AC		2.2		-		27.8
				LUPINUS BICOLOR	MINIATURE LUPINE	SEED	NA	5 LBS/AC		2.2		-		27.8
				MELICA CALIFORNICA	CALIFORNIA ONION GRASS	SEED	NA	5 LBS/AC		2.2		-		27.8
				NASSELLA PULCHRA	PURPLE NEEDLE GRASS	SEED	NA	10 LBS/AC		4.4		-		55.6
				POA SECUNDA SSP. SECUNDA	ONE SIDED BLUEGRASS	SEED	NA	10 LBS/AC		4.4		-		55.6
				TRIFOLIUM WILDENOVII	TOMCAT CLOVER	SEED	NA	5 LBS/AC		2.2		-		27.8
				VULPIA MICROSTACHYS	SMALL FESCUE	SEED	NA	5 LBS/AC		2.2		-		27.8

CONTAINER PLANT, POLE CUTTING, FASCINE BUNDLE QUANTITIES, SEED QUANTITY GIVEN IN POUNDS OF PURE LIVE SEED

NOTES:

1. INSTALL PLANT MATERIALS IN QUANTITIES AS SHOWN ON DRAWINGS.
2. NO PLANT, CUTTING OR SEED SPECIES OR VARIETY CAN BE SUBSTITUTED, ALTERED OR DELETED FROM THIS PROJECT WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.
3. DO NOT PLANT SHRUBS OR TREES WITHIN 15 FT OF ROAD PAVEMENT EDGE.

ABBREVIATIONS:

D8 – DEEPOT 16 = 2 IN DIA x 7 IN LONG (16 CU IN)

DP – DEEPOT 40 = 2.5 IN DIA x 10 IN LONG (40 CU IN)

T4 – TREEPOT 4 = 4 IN SQ x 14 IN LONG (180 CU IN)

T8 – TREEPOT 8 = 8 IN SQ x 18 IN LONG (550 CU IN)

NA – NOT APPLICABLE

LICENSED LANDSCAPE ARCHITECT, 12-31-08, STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	SUB.	APPD

DESIGNED: G. STRNAD, REG. LA. NO. 4296
DRAWN: L. BERNALDEZ
CHECKED: E. KLUBER, REG. LA. NO. 4389
APPROVAL RECOMMENDED: G. STRNAD, REG. LA. NO. 4296
APPROVAL BY: S. SALAH-MARS, REG. CE. NO. 50446

URS

REVIEWED: REG. CE. NO. 56069 — DATE:
APPROVAL RECOMMENDED: REG. CE. NO. 62771
APPROVED PROJECT MANAGER: REG. CE. NO. 54573

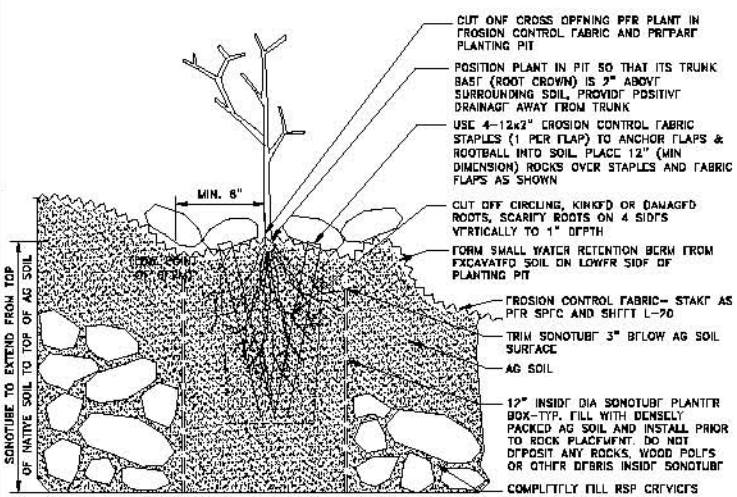
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L, & SACRAMENTO RIVER-MILE 99.5R & 187.0R

PLANTING SCHEDULE

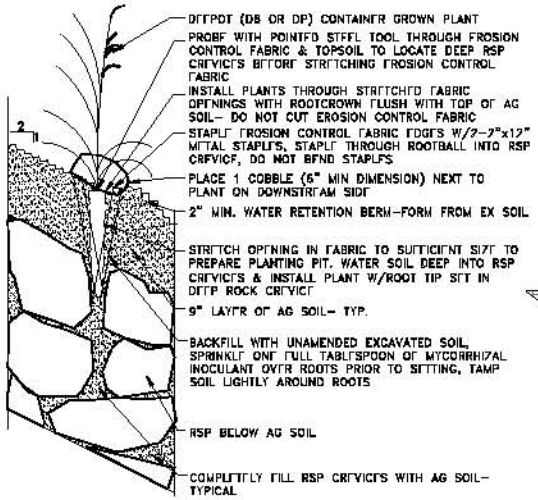
SPEC NO. 07-10
DRAWING NO. L-16
REV.
SHEET NO. 037

Uno_o-bernaldez Apr 23, 2007 - 3:56pm
H:\CADD\Current\ENV-3\FAR\DWR Levee Repair\Levee Repair\Phase 2\General\L-16.dwg



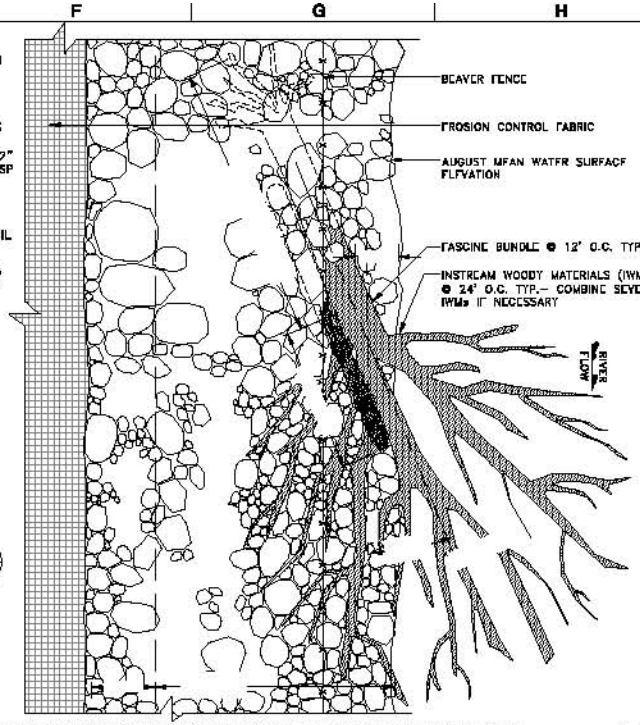
TREEPOT CONTAINER PLANT INSTALLATION

NTS — SECTION 1 / L-17



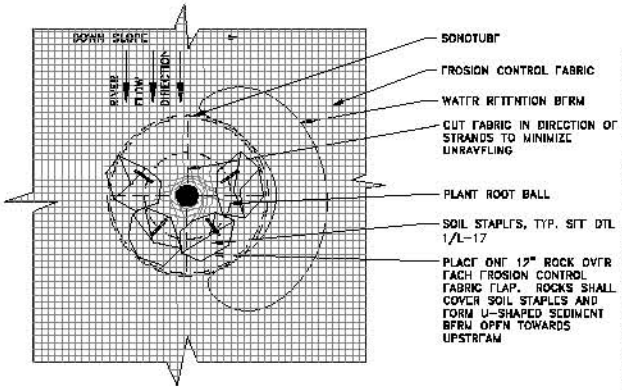
DEEPOT CONTAINER PLANT INSTALLATION

NTS — 3 / L-17



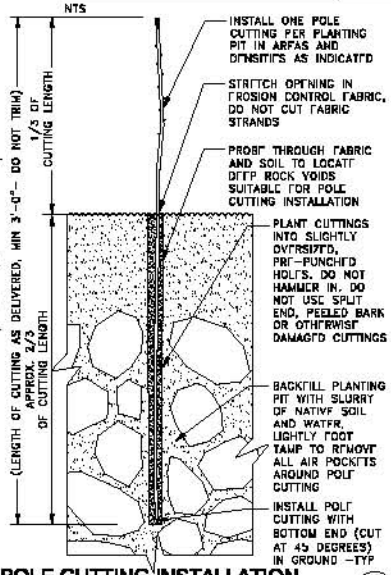
INSTREAM WOODY MATERIAL AND FASCINE BUNDLE

NTS — PLAN 5 / L-17



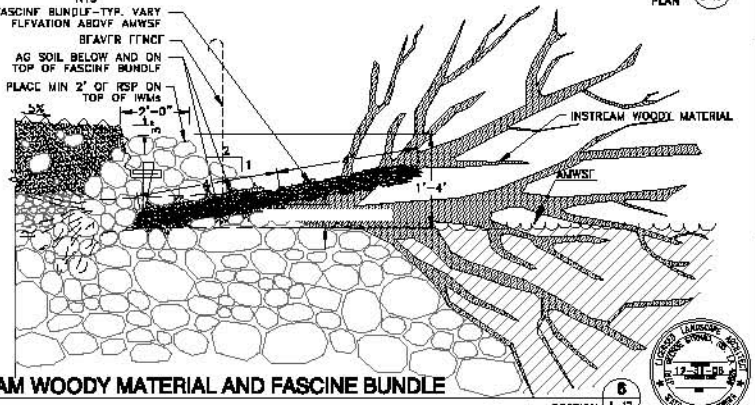
TREEPOT CONTAINER PLANT INSTALLATION

NTS — PLAN 2 / L-17



POLE CUTTING INSTALLATION

NTS — 4 / L-17



INSTREAM WOODY MATERIAL AND FASCINE BUNDLE

NTS — SECTION 6 / L-17

REV	DATE	DESCRIPTION	DWN	APPD

DESIGNED: G. STRNAD, REG. NO. LA. 4295 — DRAWN: W. CARSON, REG. LA. NO. 5214 — CHECKED: F. KUNDER, REG. LA. NO. 4389

APPROVAL RECOMMENDED: G. STRNAD, REG. LA. NO. 4295 — APPROVAL BY: S. SALAH-WARS, REG. CE. NO. 50445

URS

REVIEWED — DATE — REG. CE. NO. 56069 — APPROVAL RECOMMENDED — REG. CE. NO. 52771 — APPROVED PROJECT MANAGER — REG. CE. NO. 54573

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR - PHASE II
BEAR RIVER-MILE 1.2L & SACRAMENTO RIVER-MILE 99.5R & 187.0R

PLANTING DETAILS

SPEC NO. 07-10 — DRAWING NO. L-17 — REV. — SHEET NO. 038

Usa_p-barnolds
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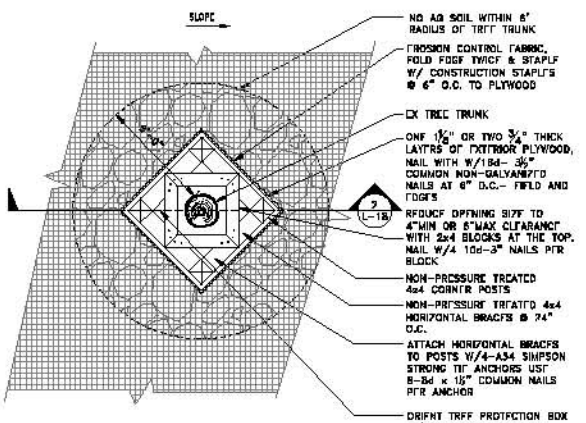
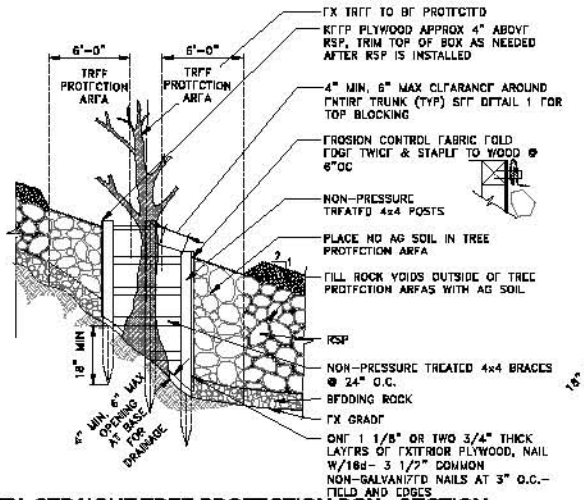
Apr 29, 2007 - 3:56pm



EX STRAIGHT TREE PROTECTION BOX - PLAN

NTS

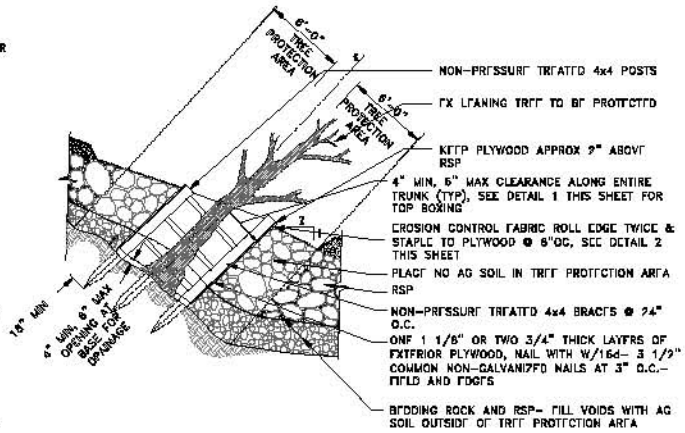
1 L-18



EX STRAIGHT TREE PROTECTION BOX - SECTION

NTS

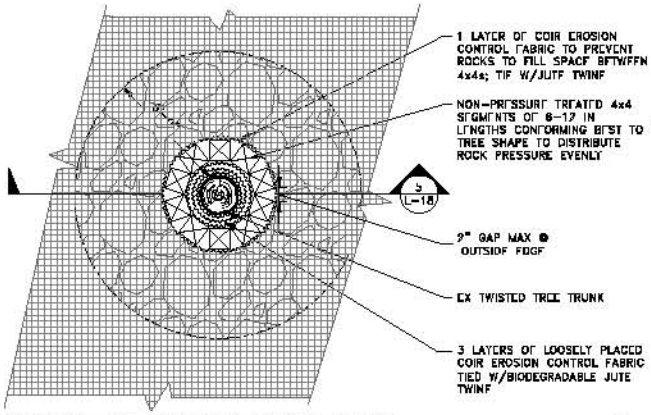
2 L-18



EX LEANING TREE PROTECTION BOX - SECTION

SCALE: 1/2"=1'-0"

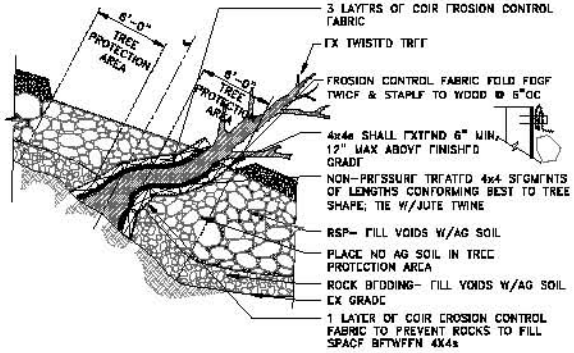
3 L-18



EX TWISTED TREE PROTECTION - PLAN

SCALE: 1"=1'-0"

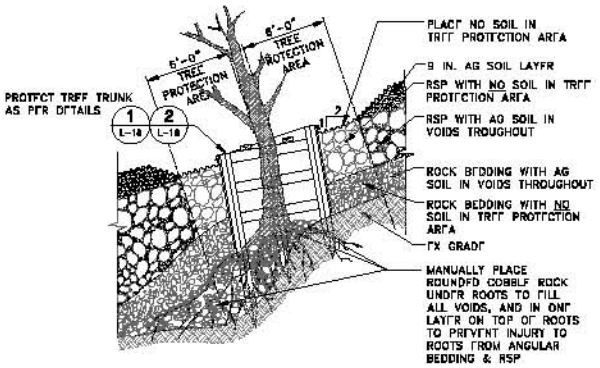
4 L-18



EX TWISTED TREE PROTECTION - SECTION

NTS

5 L-18



EXISTING UNDERMINED TREE REPAIR & PROTECTION

NTS

6 L-18

LICENSED LANDSCAPE ARCHITECT — GARY STRAND — No. 4295 — 12-31-08 — STATE OF CALIFORNIA

REV	DATE	DESCRIPTION	DWN	APPD

DESIGNED: G. STRAND, REG. LA. NO. 4295
DRAWN: W. CARSON
CHECKED: E. KLUBERT, REG. LA. NO. 4389

APPROVAL RECOMMENDED: G. STRAND, REG. LA. NO. 4295
APPROVAL BY: S. SALAR-MARS, REG. CE. NO. 50445

URS

REVIEWED: DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 57771
APPROVED PROJECT MANAGER
REG. CE. NO. 54573

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R

TREE PROTECTION DETAILS

SPEC NO. 07-10
DRAWING NO. L-18
REV.
SHEET NO. 039

Usa_p-bernales
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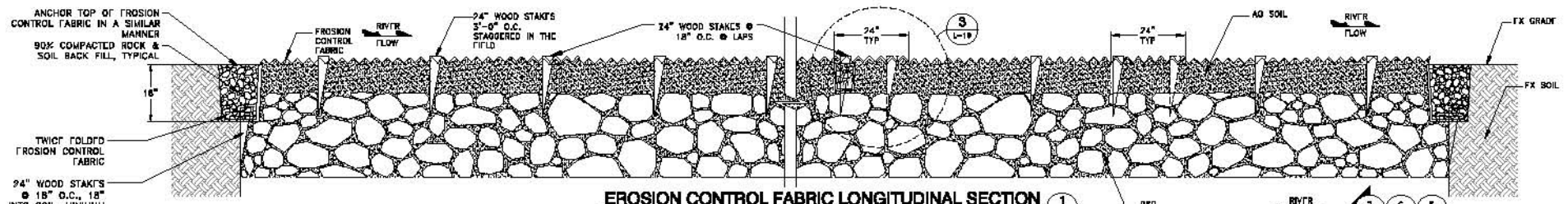
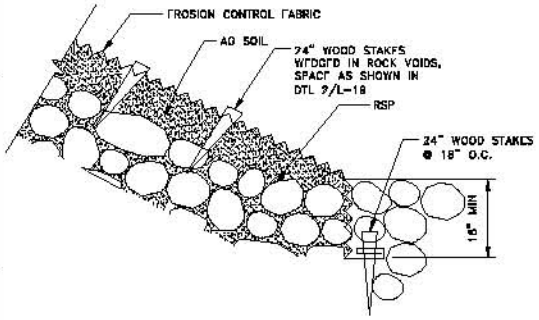
Apr 23, 2007 - 3:52pm



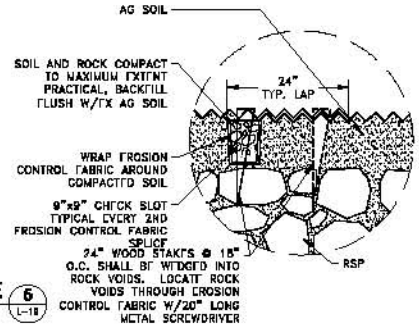
EROSION CONTROL FABRIC LONGITUDINAL SECTION 1 L-19

NTS



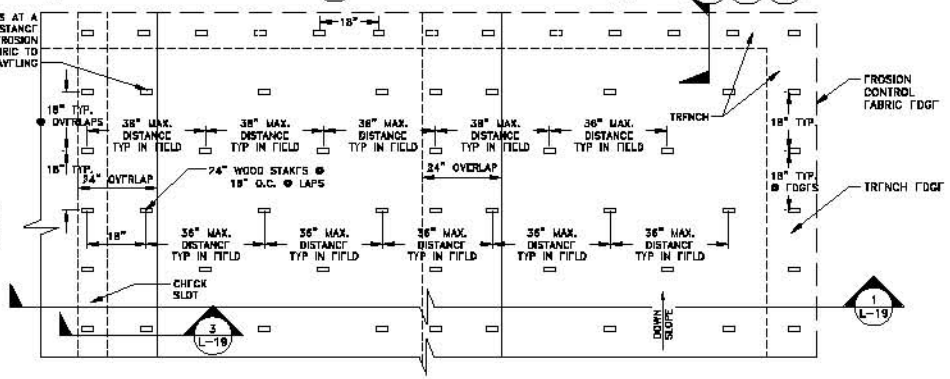
EROSION CONTROL FABRIC ANCHORAGE @ SLOPE TOE WITHOUT RIPARIAN BENCH - TRENCHED 6 L-19

NTS



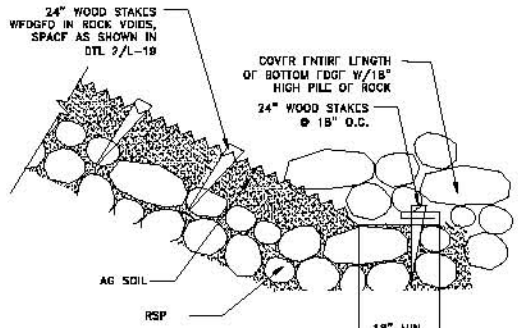
EROSION CONTROL FABRIC @ CHECK SLOT 3 L-19

NTS



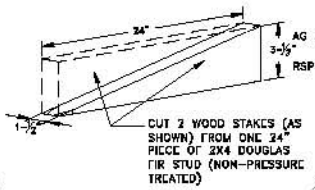
EROSION CONTROL FABRIC STAKING PLAN 2 L-19

NTS



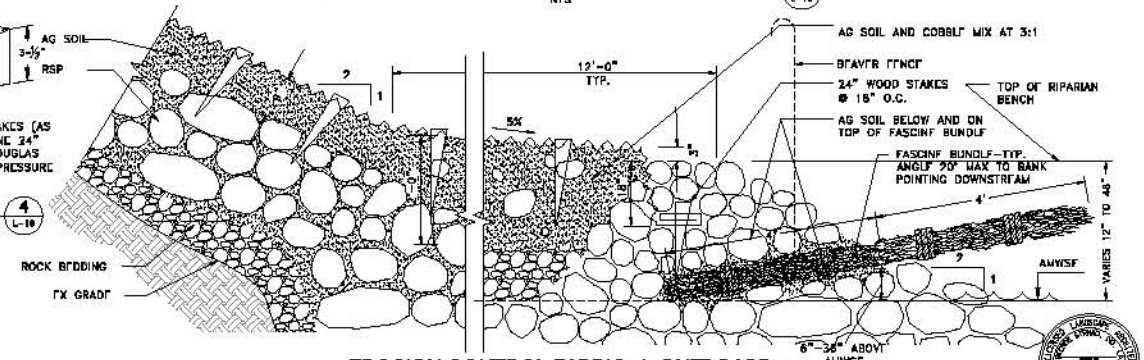
EROSION CONTROL FABRIC ANCHORAGE @ SLOPE TOE WITHOUT RIPARIAN BENCH - ROCK COVERED 6 L-19

NTS



WOOD STAKE 4 L-19

NTS



EROSION CONTROL FABRIC @ OUTBOARD EDGE OF RIPARIAN BENCH 7 L-19

NTS

REV	DATE	DESCRIPTION	DWN	APPD

DESIGNED: G. STRNAD, REG. LA NO. 4296
DRAWN: M. CARSON
CHECKED: K. KLUBER, REG. LA NO. 4289
APPROVAL RECOMMENDED: G. STRNAD, REG. LA NO. 4296; APPROVAL BY: S. SALAH-WARD, REG. CE NO. 66446

URS

REVIEWED: DATE
REG. CE NO. 56069
APPROVAL RECOMMENDED
REG. CE NO. 67771
APPROVED PROJECT MANAGER
REG. CE NO. 54573

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L & SACRAMENTO RIVER-MILE 99.5R & 187.0R

EROSION CONTROL FABRIC INSTALLATION DETAILS

SPEC NO. 07-10
DRAWING NO. L-19
REV. SHEET NO. 040

Usa_p-barnaldez
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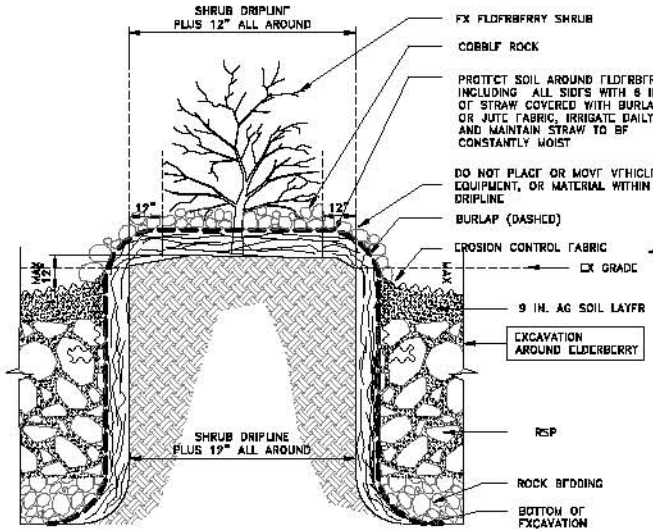
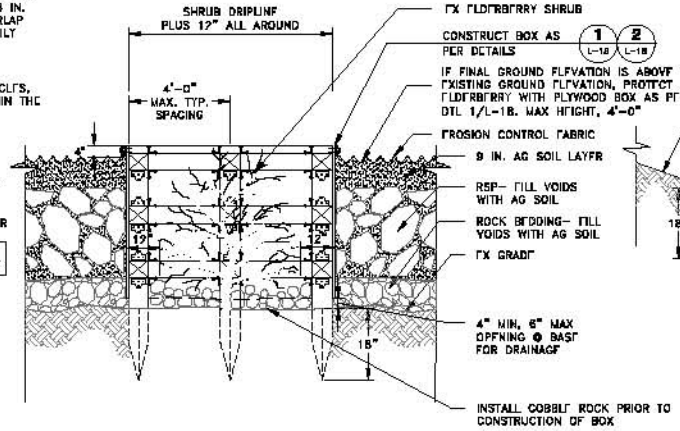
Apr 23, 2007 - 3:52PM



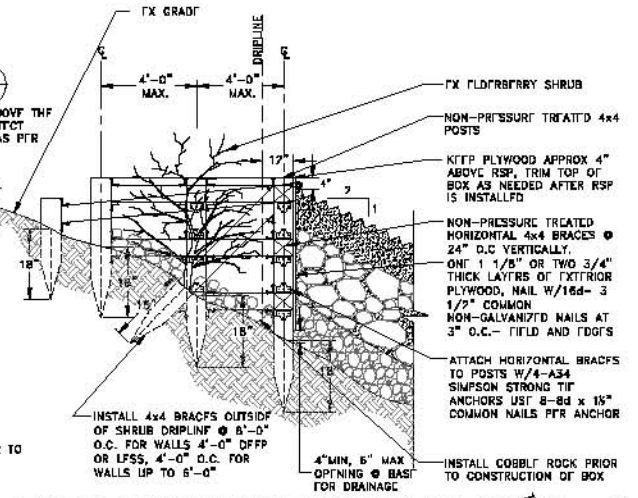
ELDERBERRY SHRUB PROTECTION WHERE EX GRADE IS HIGHER THAN FINISHED GRADE

NTS (1 / L-20)



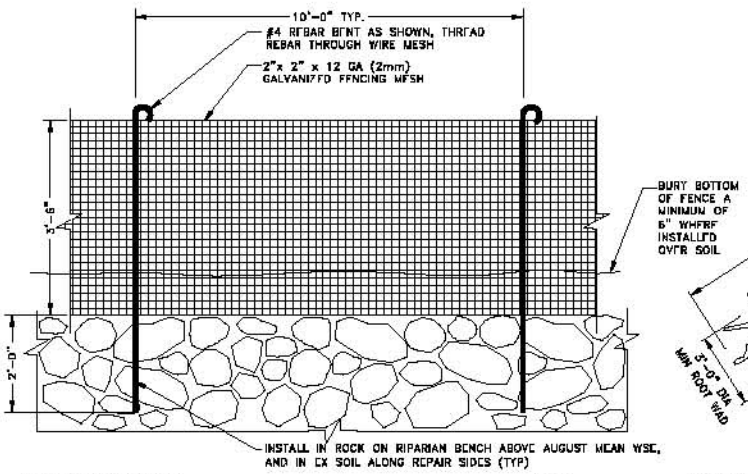
ELDERBERRY SHRUB PROTECTION WHERE EX GRADE IS LOWER THAN FINISHED GRADE

NTS (2 / L-20)



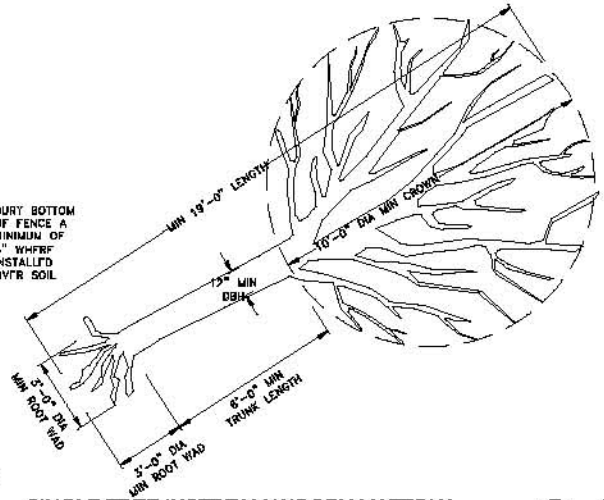
ELDERBERRY SHRUB PROTECTION WHERE EX GRADE IS SLOPED

NTS (3 / L-20)



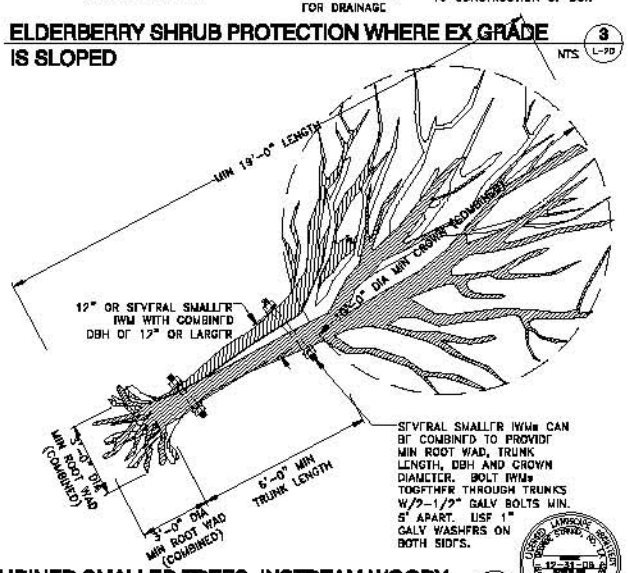
BEAVER FENCE

NTS (4 / L-20)



SINGLE TREE INSTREAM WOODY MATERIAL

NTS (5 / L-20)



COMBINED SMALLER TREES INSTREAM WOODY MATERIAL

NTS (6 / L-20)

REV	DATE	DESCRIPTION	DWN	APPD

DESIGNED G. STRNAD REG. LA NO. 4298
DRAWN W. DAWSON
CHECKED F. KLUBER REG. LA NO. 4380

APPROVAL RECOMMENDED G. STRNAD REG. LA NO. 4298
APPROVAL BY S. SALAN-MARS REG. OF NO. 53446

URS

REVIEWED DATE
REG. OF NO. 56659
APPROVAL RECOMMENDED
REG. OF NO. 57771
APPROVED PROJECT MANAGER
REG. CE NO. 54573

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R

MISCELLANEOUS LANDSCAPE DETAILS
SHEET 1 OF 2

SPEC NO. 07-10
DRAWING NO. L-20
REV.
SHEET NO. 041

Uno_e-bernaldez Apr 03, 2007 - 5:07pm
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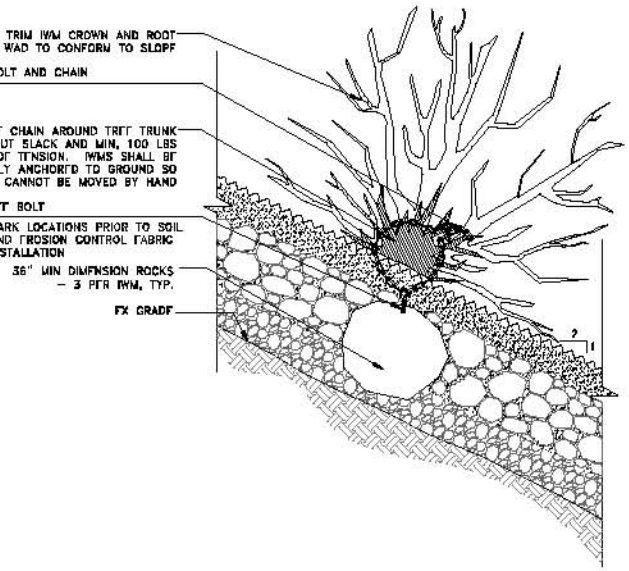
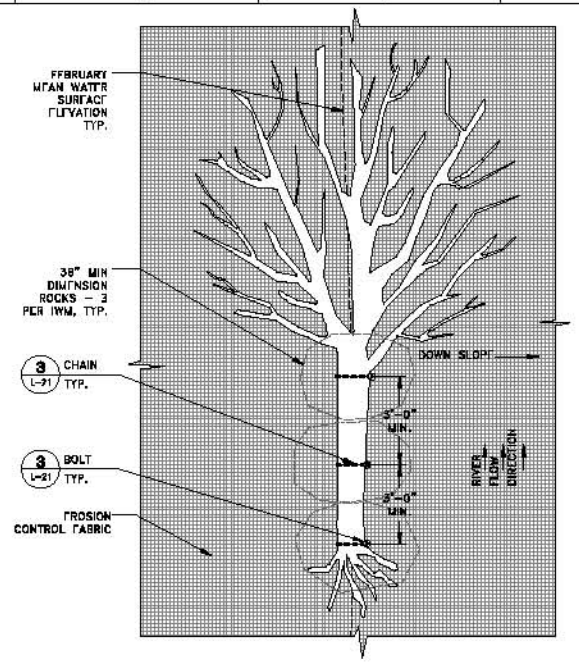


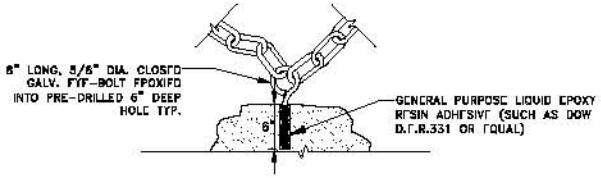
BOULDER-ANCHORED INSTREAM WOODY MATERIAL AT FMWSE

SECTION 1 L-21



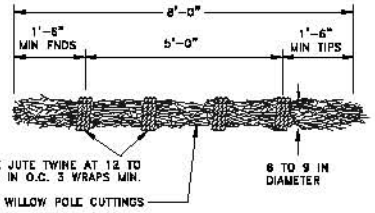
BOULDER-ANCHORED INSTREAM WOODY MATERIAL

PLAN 2 L-21



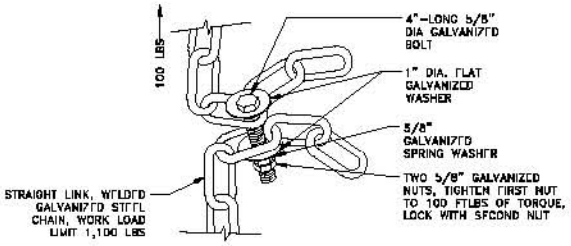
BOULDER-ANCHORED EYE-BOLT

SECTION 3 L-21



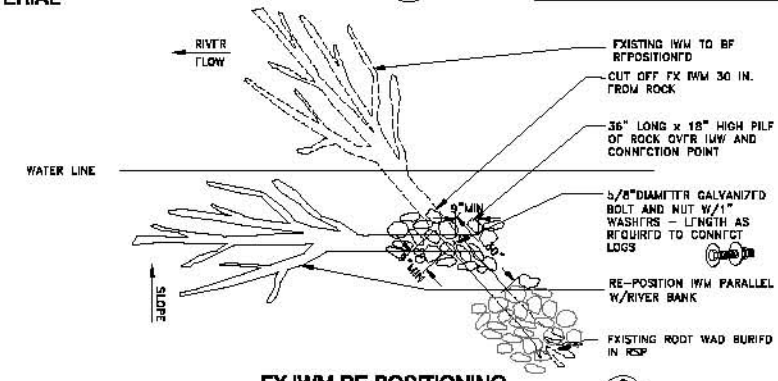
FASCINE BUNDLE

NTS 4 L-21



BOLT AND CHAIN ASSEMBLY

NTS 5 L-21



EX IWM RE-POSITIONING @ BEA 1.2L

NTS 6 L-21

REV	DATE	DESCRIPTION	DWN	APPD

DESIGNED G. STRHAD REG. LA NO. 4786
DRAWN W. CARSON
CHECKED F. KAUBER REG. LA NO. 4380

APPROVAL RECOMMENDED G. STRHAD REG. LA NO. 4786
APPROVAL BY S. SALAM-MARS REG. OF NO. 50446

URS

REVIEWED DATE
REG. OF NO. 56069
APPROVAL RECOMMENDED
REG. OF NO. 59771
APPROVED PROJECT MANAGER
REG. OF NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER–MILE 1.2L &
SACRAMENTO RIVER–MILE 99.5R & 187.0R

MISCELLANEOUS LANDSCAPE DETAILS, SHEET 2 OF 2

SPEC NO. 07-10
DRAWING NO. L-21
REV. SHEET NO. 042

Use_r-barnaldez Apr 23, 2007 - 3:07pm
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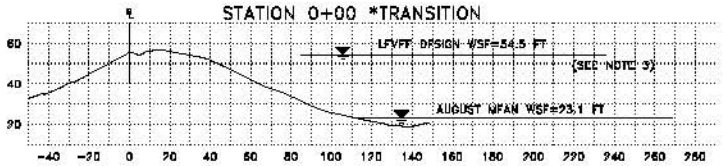

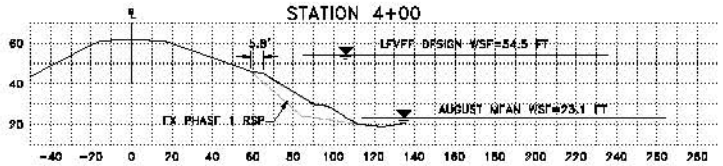

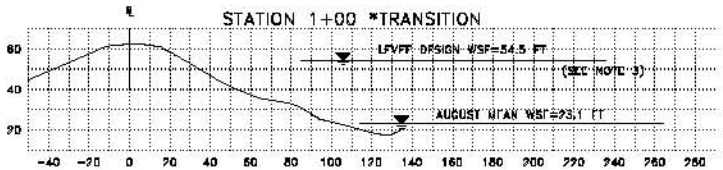

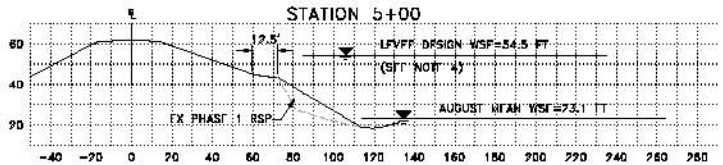

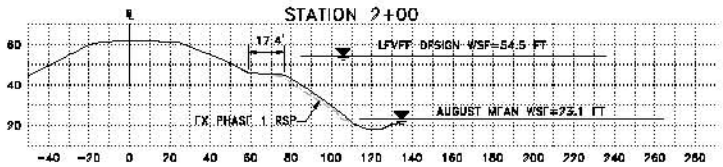

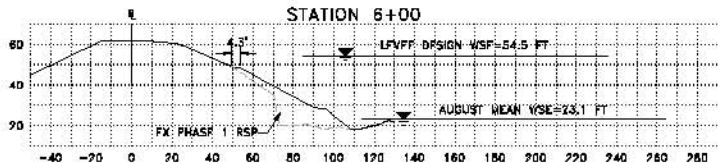

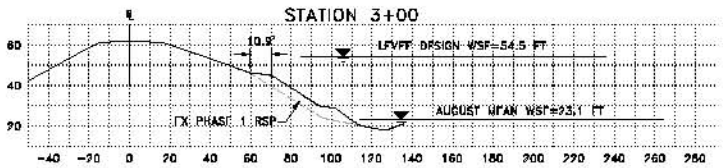

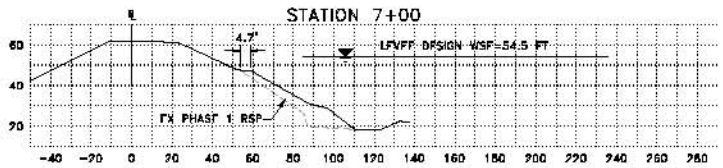

NOTES:

1. CONTRACTOR SHALL COORDINATE USE OF THE STAGING AREA WITH THE ENGINEER.
2. CONTRACTOR SHALL COORDINATE INGRESS/EGRESS WITH DWR AND ENGINEER
3. LENGTH OF TRANSITION ZONES VARIES AND IS DETERMINED BY THE ENGINEER IN THE FIELD.
4. SEE DRAWING NO. C-06. REPAIR AT THIS SECTION ONLY INCLUDES 0.5 FT OF COBBLE AND EROSION CONTROL FABRIC DUE TO THE PRESENCE OF ELDERBERRY SHRUBS.

FOR INFORMATION ONLY

SCALE: 1" = 30'

REV	DATE	DESCRIPTION	DWN.	APPD

DESIGNED N. GONG
DRAWN L. ALA
CHECKED W. TIRADOS
REG. CE. NO. 75108
APPROVAL RECOMMENDED N. BETRITH
REG. CE. NO. 36107
APPROVAL BY S. SALAH-NARS
REG. CE. NO. 30445

URS

REVIEWED DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L, &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
BEAR RIVER-MILE 1.2 LEFT BANK
ENGINEERING CROSS-SECTIONS 1 OF 2

SPEC NO. 07-10
DRAWING NO. REF-01
REV. SHEET NO. 043

Usa_p-bernales2 Apr 29, 2007 - 7:58pm
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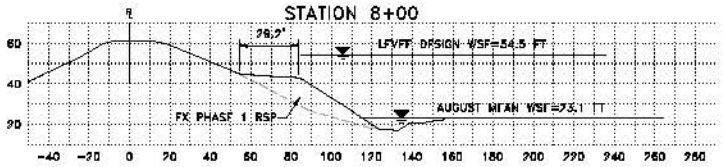

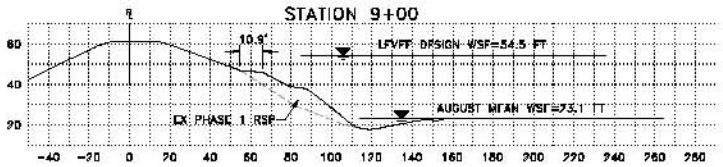

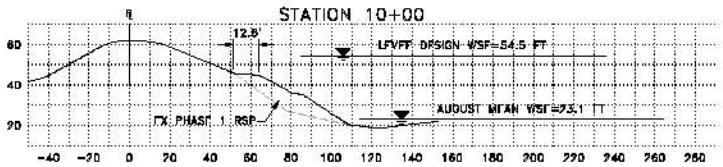

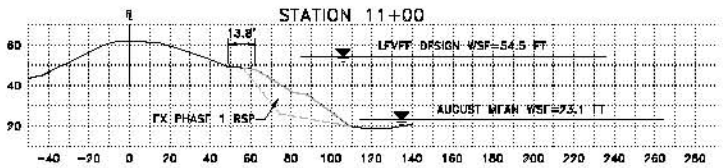

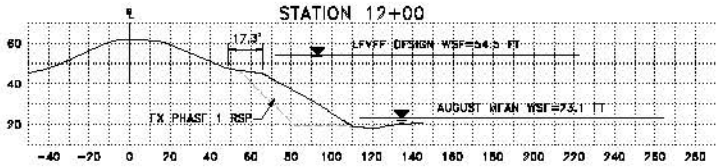

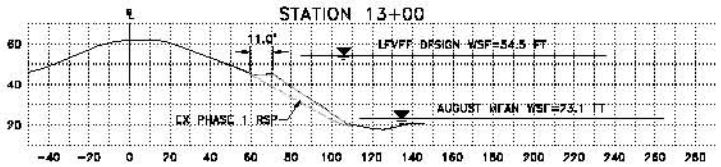

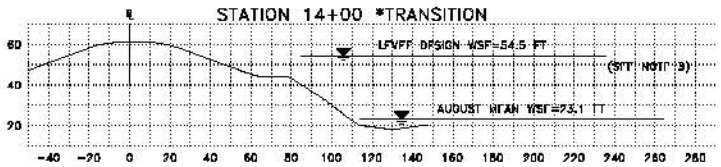

NOTES:

1. CONTRACTOR SHALL COORDINATE USE OF THE STAGING AREA WITH THE ENGINEER.
2. CONTRACTOR SHALL COORDINATE INGRESS/EGRESS WITH DWR AND ENGINEER
3. LENGTH OF TRANSITION ZONES VARIES AND IS DETERMINED BY THE ENGINEER IN THE FIELD.
4. SEE DRAWING NO. C-06. REPAIR AT THIS SECTION ONLY INCLUDES 0.5 FT OF COBBLE AND EROSION CONTROL FABRIC DUE TO THE PRESENCE OF ELDERBERRY SHRUBS.

FOR INFORMATION ONLY

SCALE: 1" = 30'

REV	DATE	DESCRIPTION	DWN.	APPR

DESIGNED N. GONG
DRAWN L. ALA
CHECKED W. TIRADOS
REG. CE. NO. 75108
APPROVAL RECOMMENDED N. BETRITH REG. CE. NO. 36107
APPROVAL BY S. SALAH-NARS REG. CE. NO. 50445

URS

REVIEWED DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 57771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
BEAR RIVER-MILE 1.2 LEFT BANK
ENGINEERING CROSS-SECTIONS 2 OF 2

SPEC NO. 07-10
DRAWING NO. REF-02
SHEET NO. 044

Wed, p-barnsides Apr 29, 2007 - 7:46pm
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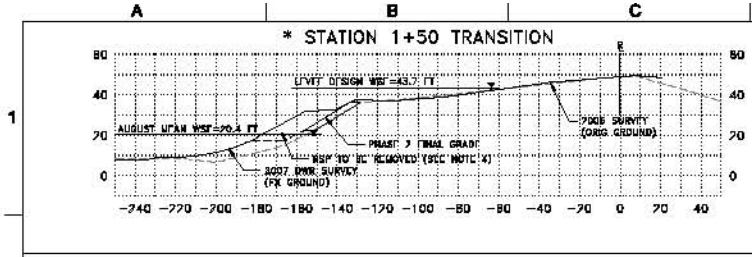
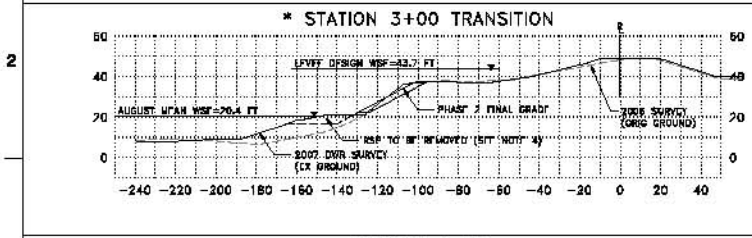
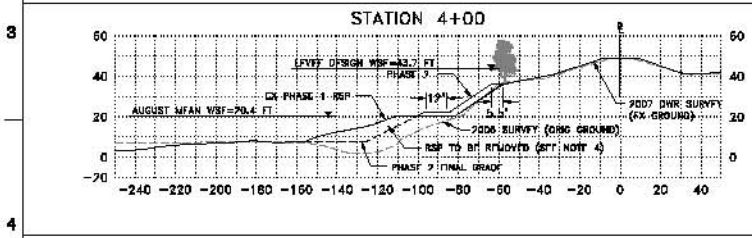
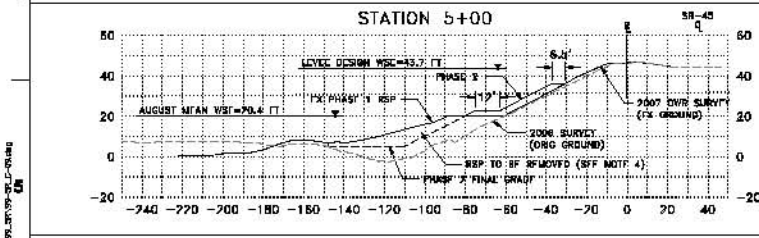
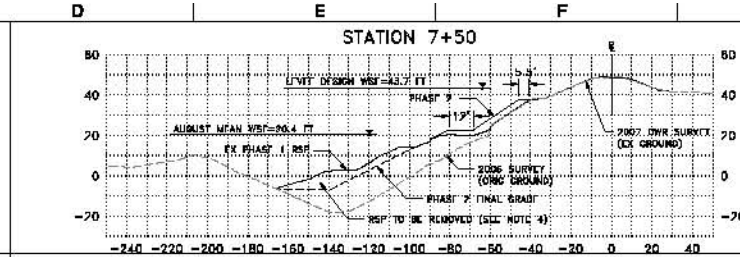
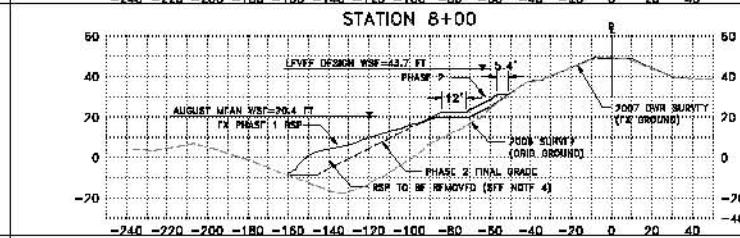


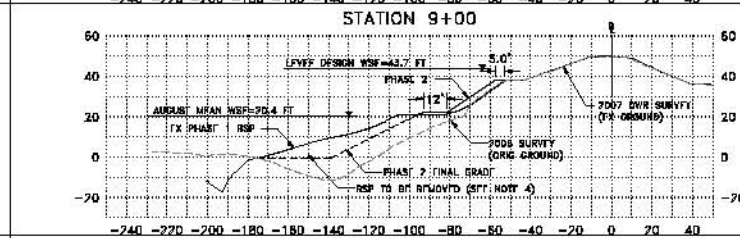


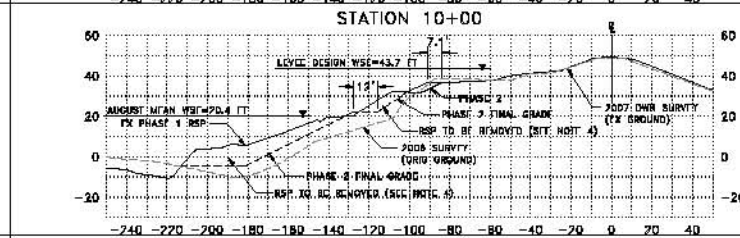


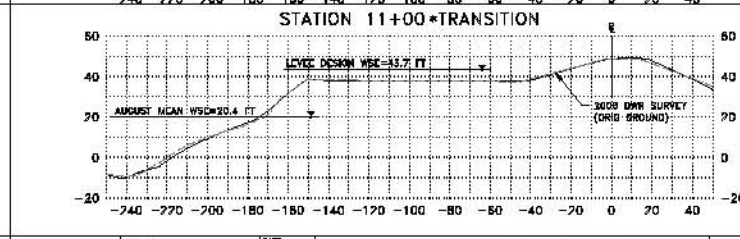












GENERAL NOTES:

1. CONTRACTOR SHALL RE-SHAPE THE RSP BELOW THE RIPARIAN BENCH TO THE NEAR RIVER BOTTOM AND FOLLOW PHASE 2 FINAL GRADE. THE SLOPE SHALL BE RESHAPED TO A 2H:1V SLOPE. THE RSP THAT IS RETRIEVED SHALL BE USED TO CONSTRUCT THE UPPER RSP FILL.

2. DESIGN IS BASED ON DWR'S 2007 PRELIMINARY AS-BUILT SURVEY. THE "AS-BUILT" MEASUREMENTS REFLECT THE AS-BUILT CONDITIONS AT THE TIME OF THE SURVEY. CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING FIELD CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR WILL ALSO BE RESPONSIBLE FOR IMPLEMENTING A CONSTRUCTION QUALITY ASSURANCE PLAN (INCLUDING APPROPRIATE SURVEY CONTROLS) TO MEASURE THE INITIAL RSP SLOPE AND CONFIRM BATHYMETRY MEASUREMENTS TO ENSURE PROPER RSP SLOPE NECESSARY FOR FINAL GRADE. THE CONTRACTOR SHALL NOT ENCROACH ON THE RIVER/CHANNEL BOTTOM.

3. NO WORK TO BE PERFORMED BELOW AND ABOVE HEADWALL, REFER TO DRAWING C-07 AND C-08 FOR TRANSITIONS SECTIONS.

4. DURING RSP RETRIEVAL PROCEDURES, CONTACTOR SHALL NOT ENCROACH ON THE RIVER BOTTOM. TOP OF ROCK TO REMAIN ON RIVER BOTTOM VARIES FROM ELEVATION -8 FEET TO ELEVATION +17 FEET.

5. WORK ABOVE RIPARIAN BENCH (AS PART OF PHASE 2) INCLUDES 0.5 FOOT OF BEDDING, 2 FEET MINIMUM OF RSP AND 0.75 FEET OF AG SOIL. AT STATION 9+00 THROUGH 10+00 (AND OTHER RAMP LOCATIONS OR WHERE EXCESS RSP WAS PLACED). RSP ABOVE RIPARIAN BENCH SHOULD BE RETRIEVED AND REPLACED WITH BEDDING AND RSP AS DEPICTED IN DRAWING C-09.

SCALE: 1" = 30'

FOR INFORMATION ONLY

REV	DATE	DESCRIPTION	DWN	APPD

DESIGNED: D. HADANA
DRAWN: L. ALA
CHECKED: W. TIRADOS
REG. CE. NO. 75108
APPROVAL RECOMMENDED: H. BERGER, REG. CE. NO. 26107
APPROVAL BY: S. SALAH-NARS, REG. CE. NO. 30445

URS

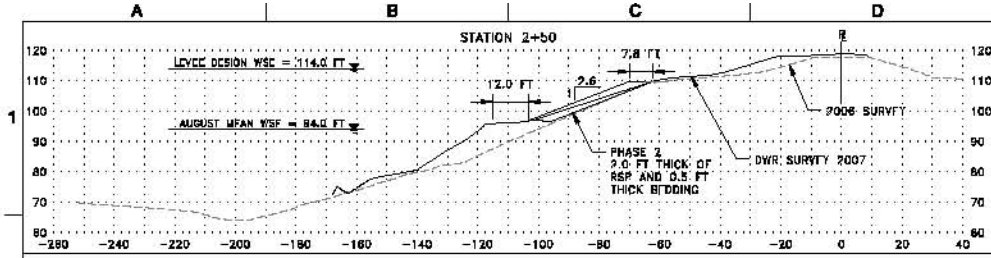
REVIEWED: DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 57771
APPROVED PROJECT MANAGER
REG. CE. NO. 54579

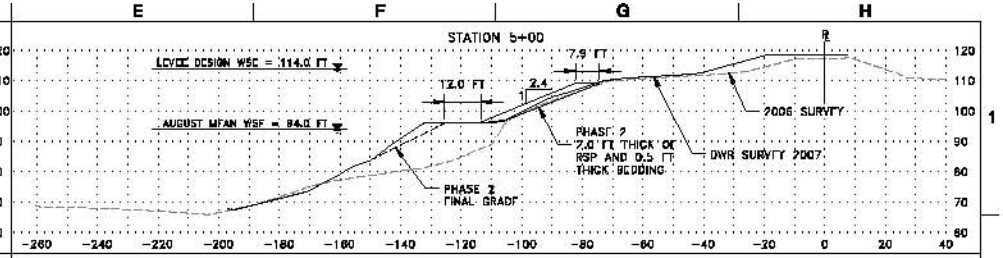
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

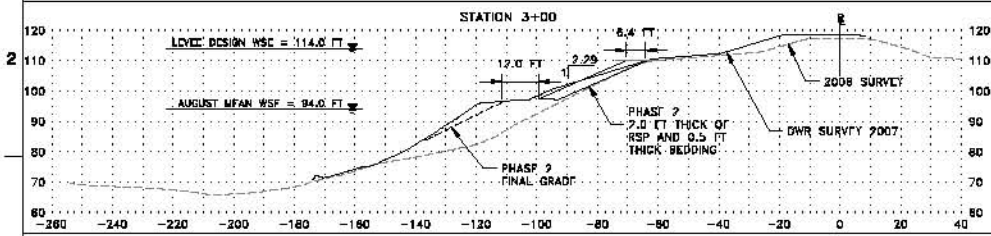
STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L & SACRAMENTO RIVER-MILE 99.5R & 187.0R

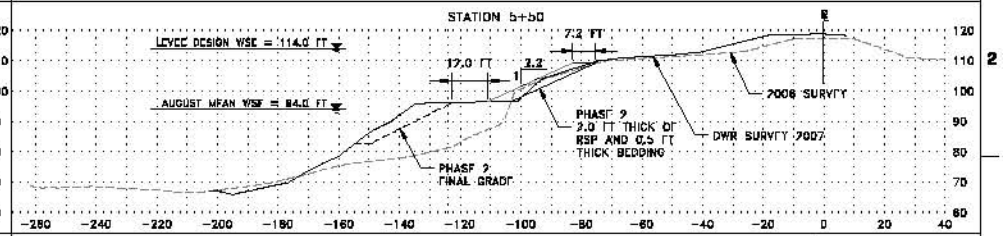
SACRAMENTO RIVER-MILE 99.5, RIGHT BANK ENGINEERING CROSS-SECTIONS

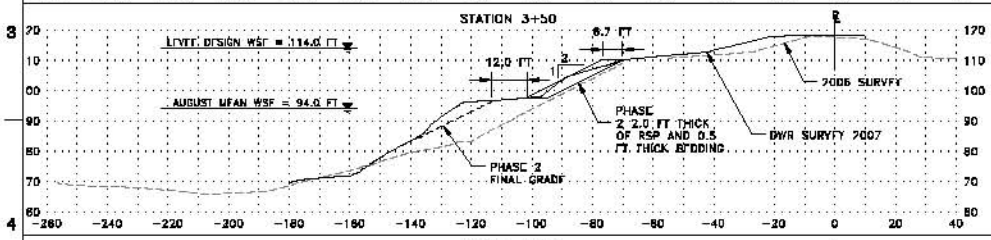
SPEC NO. 07-10
DRAWING NO. REF-03
REV. SHEET NO. 045

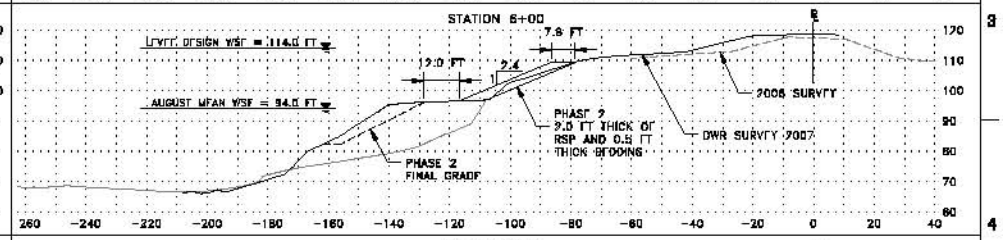


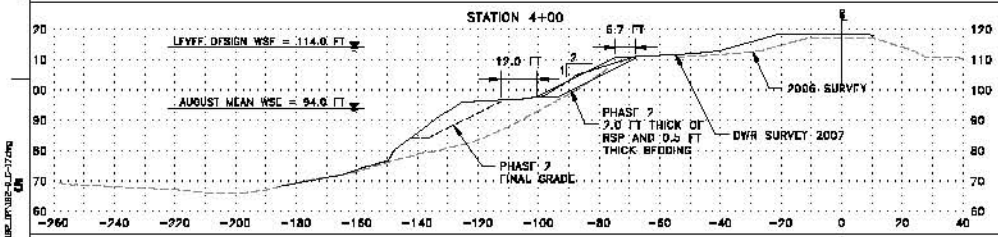


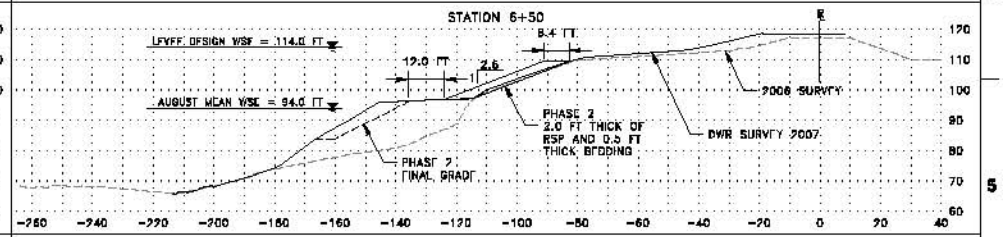


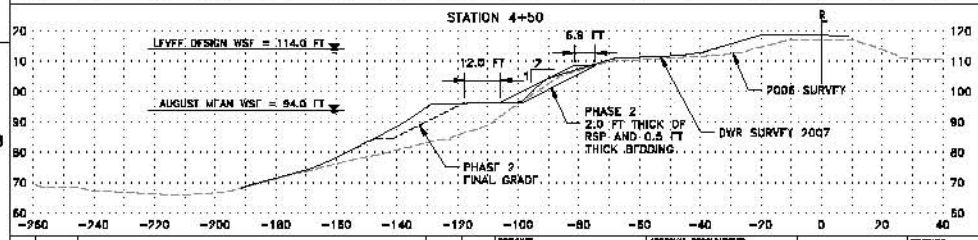












GENERAL NOTES:

1. CONTRACTOR SHALL RE-SHAPE THE RSP BELOW THE RIPARIAN BENCH TO THE NEAR RIVER BOTTOM AND FOLLOW PHASE 2 FINAL GRADE. THE SLOPE SHALL BE RESHAPED TO A 2H:1V SLOPE. THE RSP THAT IS RETRIEVED SHALL BE USED TO CONSTRUCT THE UPPER RSP FILL.
2. DESIGN IS BASED ON DWR'S 2007 PRELIMINARY AS-BUILT SURVEY. THE "AS-BUILT" MEASUREMENTS REFLECT THE AS-BUILT CONDITIONS AT THE TIME OF THE SURVEY. CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING FIELD CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR WILL ALSO BE RESPONSIBLE FOR IMPLEMENTING A CONSTRUCTION QUALITY ASSURANCE PLAN (INCLUDING APPROPRIATE SURVEY CONTROLS) TO MEASURE THE INITIAL RSP SLOPE AND CONFIRM BATHYMETRY MEASUREMENTS TO ENSURE PROPER RSP SLOPE NECESSARY FOR FINAL GRADE. THE CONTRACTOR SHALL NOT ENCROACH ON THE RIVER/CHANNEL BOTTOM.
3. DURING RSP RETRIEVAL PROCEDURES, CONTRACTOR SHALL NOT ENCROACH ON THE RIVER BOTTOM.

FOR INFORMATION ONLY

SCALE: 1" =20'

REV	DATE	DESCRIPTION	DWN.	APPR

DESIGNED: L. BERNALDEZ
DRAWN: L. BERNALDEZ
CHECKED: W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED: H. BERGER, REG. CE. NO. 36107
APPROVAL BY: S. SALAH-NARS, REG. CE. NO. 30445

URS

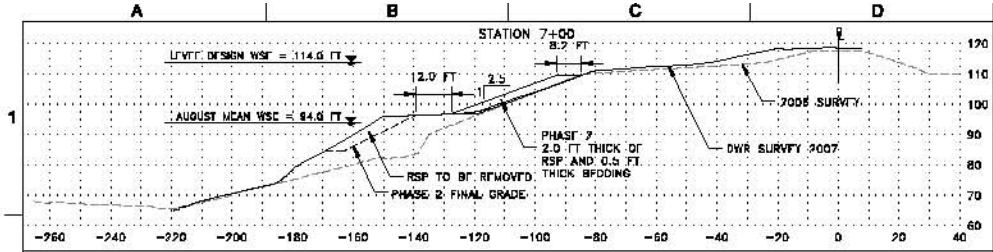
REVIEWED: DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54573

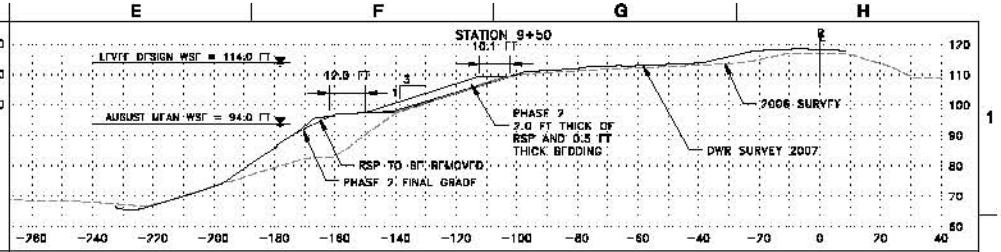
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

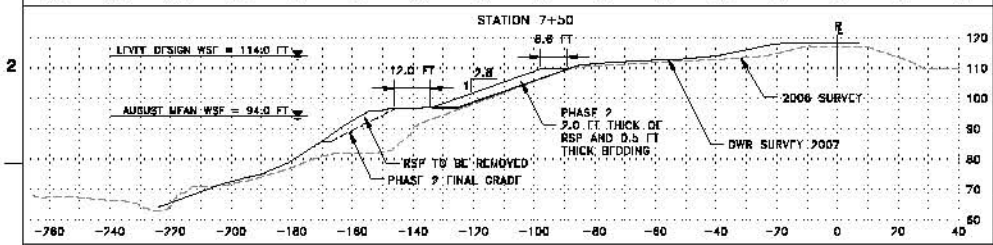
STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
BEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R

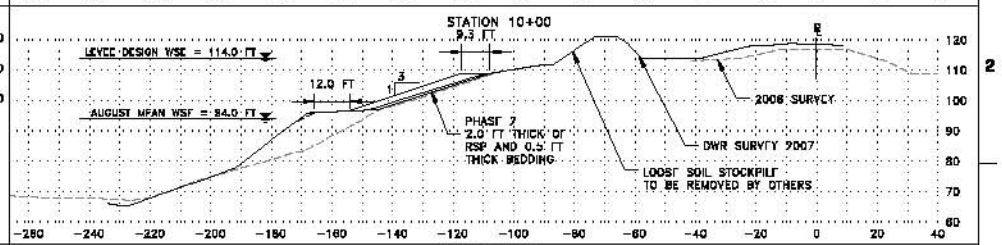
SACRAMENTO RIVER-MILE 182.0, RIGHT BANK
ENGINEERING CROSS-SECTIONS SHEET 1 OF 2

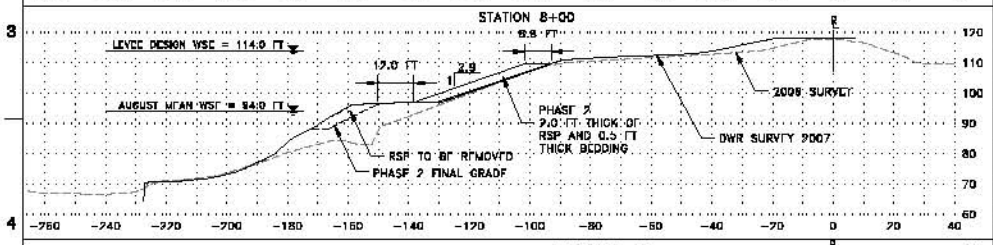
SPEC NO. 07-10
DRAWING NO. REF-04
REV. SHEET NO. 048

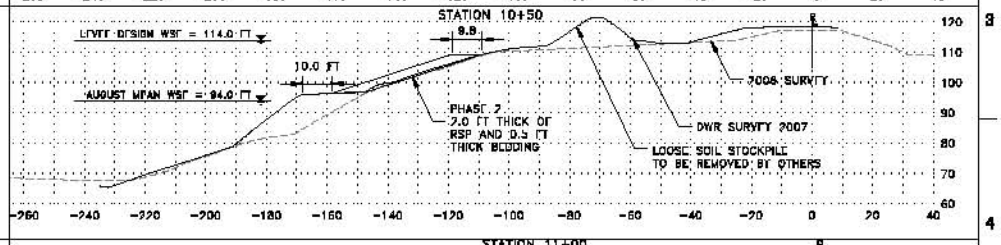


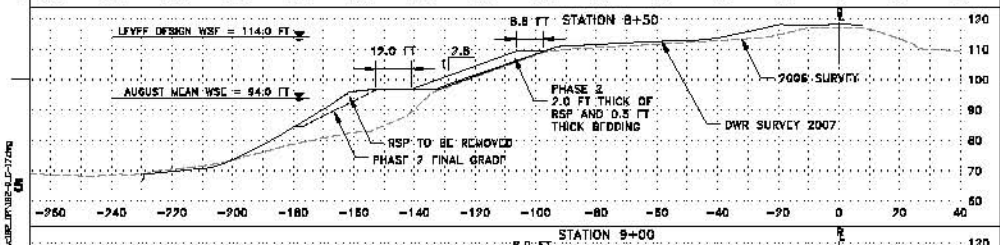


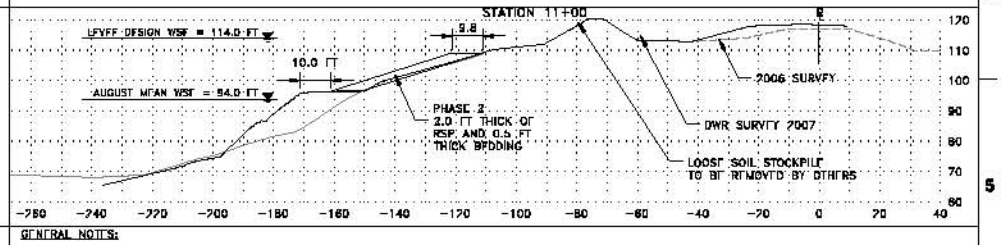


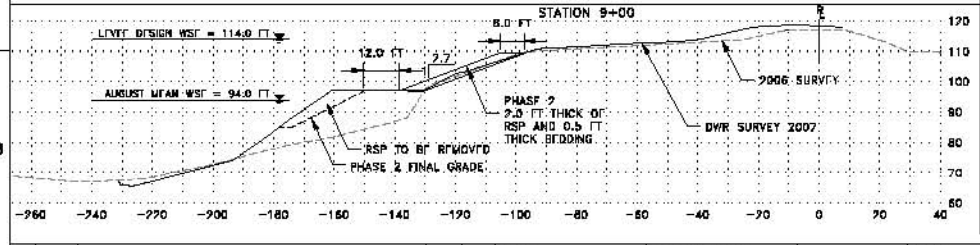












GENERAL NOTES:

1. CONTRACTOR SHALL RE-SHAPE THE RSP BELOW THE RIPARIAN BENCH TO THE NEAR RIVER BOTTOM AND FOLLOW PHASE 2 FINAL GRADE. THE SLOPE SHALL BE RESHAPED TO A 2H:1V SLOPE. THE RSP THAT IS RETRIEVED SHALL BE USED TO CONSTRUCT THE UPPER RSP FILL.
2. DESIGN IS BASED ON DWR'S 2007 PRELIMINARY AS-BUILT SURVEY. THE "AS-BUILT" MEASUREMENTS REFLECT THE AS-BUILT CONDITIONS AT THE TIME OF THE SURVEY. CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING FIELD CONDITIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR WILL ALSO BE RESPONSIBLE FOR IMPLEMENTING A CONSTRUCTION QUALITY ASSURANCE PLAN (INCLUDING APPROPRIATE SURVEY CONTROLS) TO MEASURE THE INITIAL RSP SLOPE AND CONFIRM BATHYMETRY MEASUREMENTS TO ENSURE PROPER RSP SLOPE NECESSARY FOR FINAL GRADE. THE CONTRACTOR SHALL NOT ENCROACH ON THE RIVER/CHANNEL BOTTOM.
3. DURING RSP RETRIEVAL PROCEDURES, CONTRACTOR SHALL NOT ENCROACH ON THE RIVER BOTTOM.

FOR INFORMATION ONLY

SCALE: 1" = 20'

REV	DATE	DESCRIPTION	DWN	APPD

DESIGNED L. BERNALDEZ
DRAWN L. BERNALDEZ
CHECKED W. TIRADOS
REG. CE. NO. 75108

APPROVAL RECOMMENDED H. BERGER REG. CE. NO. 36107
APPROVAL BY S. SALAH-NARE REG. CE. NO. 50445

URS

REVIEWED DATE
REG. CE. NO. 56069
APPROVAL RECOMMENDED
REG. CE. NO. 67771
APPROVED PROJECT MANAGER
REG. CE. NO. 54573

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
DIVISION OF ENGINEERING
FLOOD MANAGEMENT

STATE EMERGENCY EROSION REPAIR PROJECT
EMERGENCY LEVEE EROSION REPAIR – PHASE II
NEAR RIVER-MILE 1.2L &
SACRAMENTO RIVER-MILE 99.5R & 187.0R
SACRAMENTO RIVER-MILE 182.0, RIGHT BANK
ENGINEERING CROSS-SECTIONS SHEET 2 OF 2

SPEC NO. 07-10
DRAWING NO. REF-06
REV. SHEET NO. 047

Usa_p-bernaldez
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Apr 29, 2007 - 7:56pm