SONOMA COUNTY WATER AGENCY

DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT PHASE II

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2	GENERAL NOTES AND LEGEND
3	EXISTING CONDITIONS
4	SITE PLAN OVERVIEW AND PLAN SHEET KEY
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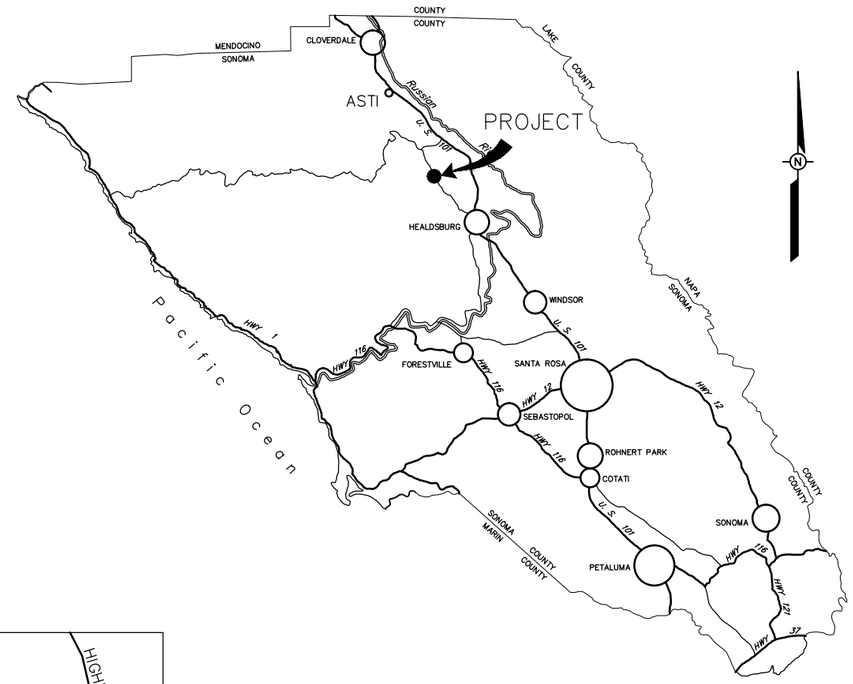
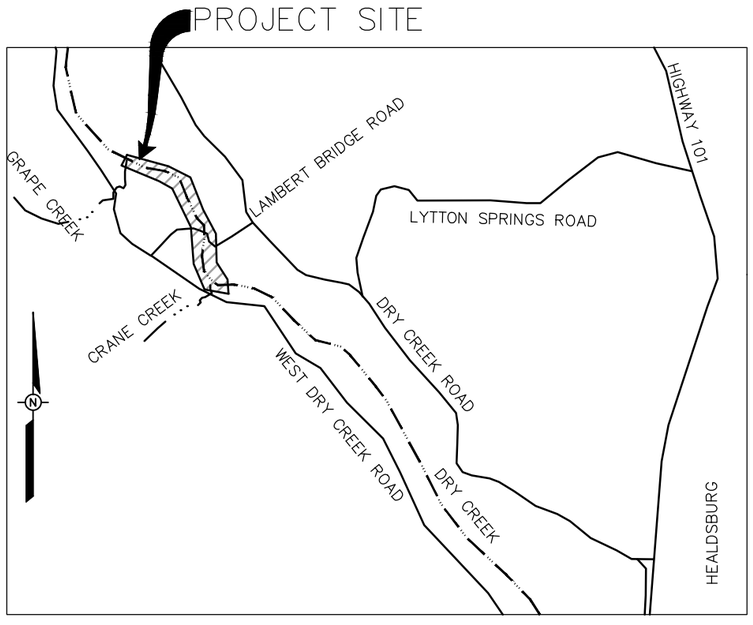


LOCATION MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

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CIVIL
STATE OF CALIFORNIA

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY
		RECORD INFORMATION	

SONOMA COUNTY WATER AGENCY

SCALE:
DATE : 1/23/2013
DRAWN : REP
CHECKED : MB

REVIEWED
REVIEWED

DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
LOCATION MAP AND INDEX TO DRAWINGS

FILE NAME: 7345
CONTRACT NUMBER: 45–6.1–7#3
DRAWING NUMBER:
SHEET 1 OF 46

COORDINATION CHECK | ORIG REL | DATE | CIVIL | ELECT | MECH | TECH WR | INSPECTION | OPERATIONS | SURVEY
REV

MICROFILM DATE

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PLAN LEGEND

- EXISTING GRADE (EG)
- EXISTING CONTOURS (1 FT.)
- PROPOSED CONTOURS (1 FT.)
- EDGE OF WATER, MAY 2010 (TYP.)
- ACCESS CORRIDOR
- CONSTRUCTION EASEMENT (TYP.)
- OH — OH — OVERHEAD POWER LINE
- 233+00 DRY CREEK ALIGNMENT
- PARCEL BOUNDARY
- SILT FENCE
- ×126.0 SPOT ELEVATION, FINISH GRADE
- POWER POLE
- INGRESS/EGRESS
- STORM DRAIN OUTFALL (SDO)
- (E) PUMP
- TEMPORARY DEWATERING WELL
- LARGE WOODY DEBRIS (LWD)
- LOG JAM
- POOL LWD
- SLOPE LWD
- SLASH
- BACKWATER CHANNEL LWD
- FLOODPLAIN LWD
- EXISTING STRUCTURES
- STAGING AREA
- EXISTING ROAD
- CONSTRUCTED RIFFLE
- BOULDER FIELD
- BOULDER CLUSTER
- WATER SURFACE ELEVATION
- SLOPE BREAK
- SUBGRADE EXCAVATION
- LIMIT OF FINSH GRADE
- TYPE 1 BANK STABILIZATION
- TYPE 2 BANK STABILIZATION
- TYPE 3 BANK STABILIZATION
- TYPE 4 BANK STABILIZATION
- COMPACTED SELECT SOIL
- COMPACTED SELECT FILL
- BACKFILL NATIVE SUBSTRATE

ABBREVIATIONS

CFS	CUBIC FEET PER SECOND	N.I.C.	NOT IN CONTRACT
CMP	CORRUGATED METAL PIPE	NTS	NOT TO SCALE
D.B.H.	DIAMETER BREAST HEIGHT	O.C.	ON CENTER
EG	EXISTING GRADE	OH	OVERHEAD
(E)	EXISTING	OHW	ORDINARY HIGH WATER
FES	FABRIC ENCAPSULATED SOIL LIFT	PDSCS	PUMP DISCHARGE SEDIMENT CONTROL SYSTEM
FG	FINISHED GRADE	SDO	STORM DRAIN OUTFALL
HDPE	HIGH DENSITY POLYETHYLENE	STA	STATION
I.E.	INVERT ELEVATION	(TYP)	TYPICAL
LWD	LARGE WOODY DEBRIS		
(N)	NEW		

TYPICAL SECTION AND DETAIL LETTERING SYSTEM

SECTIONS AND DETAILS CUT ON SHEET NO. 12 TO BE FOUND ON SHEET NO. 15: A / 15 — SECTION OR DETAIL LETTER; SHEET ON WHICH IT APPEARS

ON SHEET NO. 15 THIS SECTION IS SHOWN AS: SECTION A / 12 — SECTION OR DETAIL LETTER; SHEET FROM WHICH SECTION WAS CUT

SECTIONS AND DETAILS TO BE FOUND ON SAME SHEET AS CUT: A / —

TYPICAL SECTION IMPROVEMENTS — X / X

TYPICAL SECTION–PROJECT GRADING — STA: XX+XX

GENERAL NOTES

1. UNITS: FEET
2. HORIZONTAL DATUM: CALIFORNIA STATE PLANE COORDINATES (NAD83) ZONE 2, US SURVEY FEET
3. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM (NAVD), 1988 US SURVEY FEET.
4. PROJECT BENCHMARKS:

PT	NORTHING	EASTING	ELEVATION	DESCRIPTIONS
DC–03	2001363.832	6296702.537	146.48	2 IN. DIA. BRASS DISK
DC–04	2001308.733	6295880.366	142.712	2 IN. DIA. BRASS DISK

5. STATIONING : ALL STATIONING REPRESENTS HORIZONTAL MEASUREMENT AT ALIGNMENT OF CONSTRUCTION.
6. ORIENTATION : RIGHT AND LEFT DIRECTIONS ARE FROM CENTERLINE LOOKING DOWNSTREAM.
7. UTILITIES : THE OWNER, TO THE BEST OF ITS ABILITY, HAS DELINEATED ON THE DRAWINGS ALL UTILITY INSTALLATIONS TO BE ENCOUNTERED WITHIN THE LIMITS OF WORK. SUCH INFORMATION IS BASED UPON INFORMATION FURNISHED TO OWNER BY THE UTILITY OWNERS, AND THE OWNER DOES NOT EITHER EXPRESSLY OR BY IMPLICATION GUARANTEE THAT UTILITY INSTALLATIONS WILL BE FOUND AT THE LOCATIONS OR DEPTHS INDICATED. THE OWNER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE INFORMATION SHOWN OR THE INADVERTENT OMISSION OF ANY SUCH INFORMATION.
8. PARCEL DATA : OBTAINED FROM OWNER ON FEBRUARY 16, 2012.
9. TOPOGRAPHY : BASED ON LIDAR MAPPING COLLECTED NOVEMBER 2008 BY PICTOMETRY, INC. SUPPLEMENTED WITH GROUND SURVEY BY INTER–FLUVE, INC. COLLECTED MAY 2010 AND OWNER SEPTEMBER 2012.

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	SURVEY	OPERATIONS	INSPECTION	TECH WR	MECH	ELECT	CIVIL	DATE	ORIG REL	REV
COORDINATION CHECK										
MICROFILM DATE										

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REGISTERED PROFESSIONAL ENGINEER MICHAEL F. BURKE C 62986 EXP 06/30/14 CIVIL STATE OF CALIFORNIA

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

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REVIEWED

DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT

GENERAL NOTES AND LEGEND

FILE NAME: 7345
CONTRACT NUMBER: 45–6.1–7#3
DRAWING NUMBER:
SHEET 2 OF 46

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REVIEWED

DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
EXISTING CONDITIONS

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 3 OF 46

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REVIEWED

DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT

SITE PLAN OVERVIEW AND PLAN SHEET KEY

FILE NAME: 7345
CONTRACT NUMBER: 45–6.1–7#3
DRAWING NUMBER:
SHEET 4 OF 46

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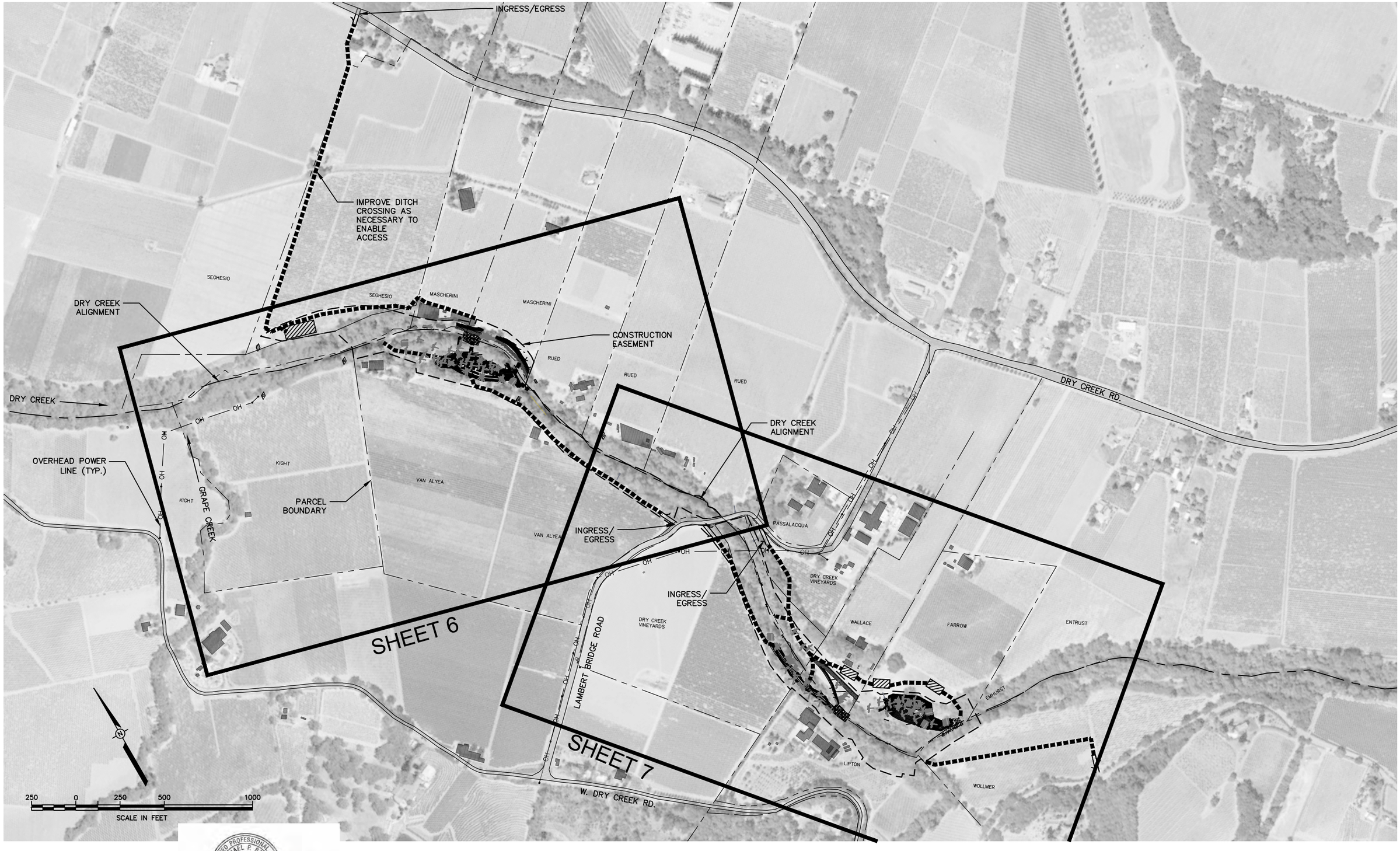

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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
ACCESS AND STAGING OVERVIEW

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 5 OF 46

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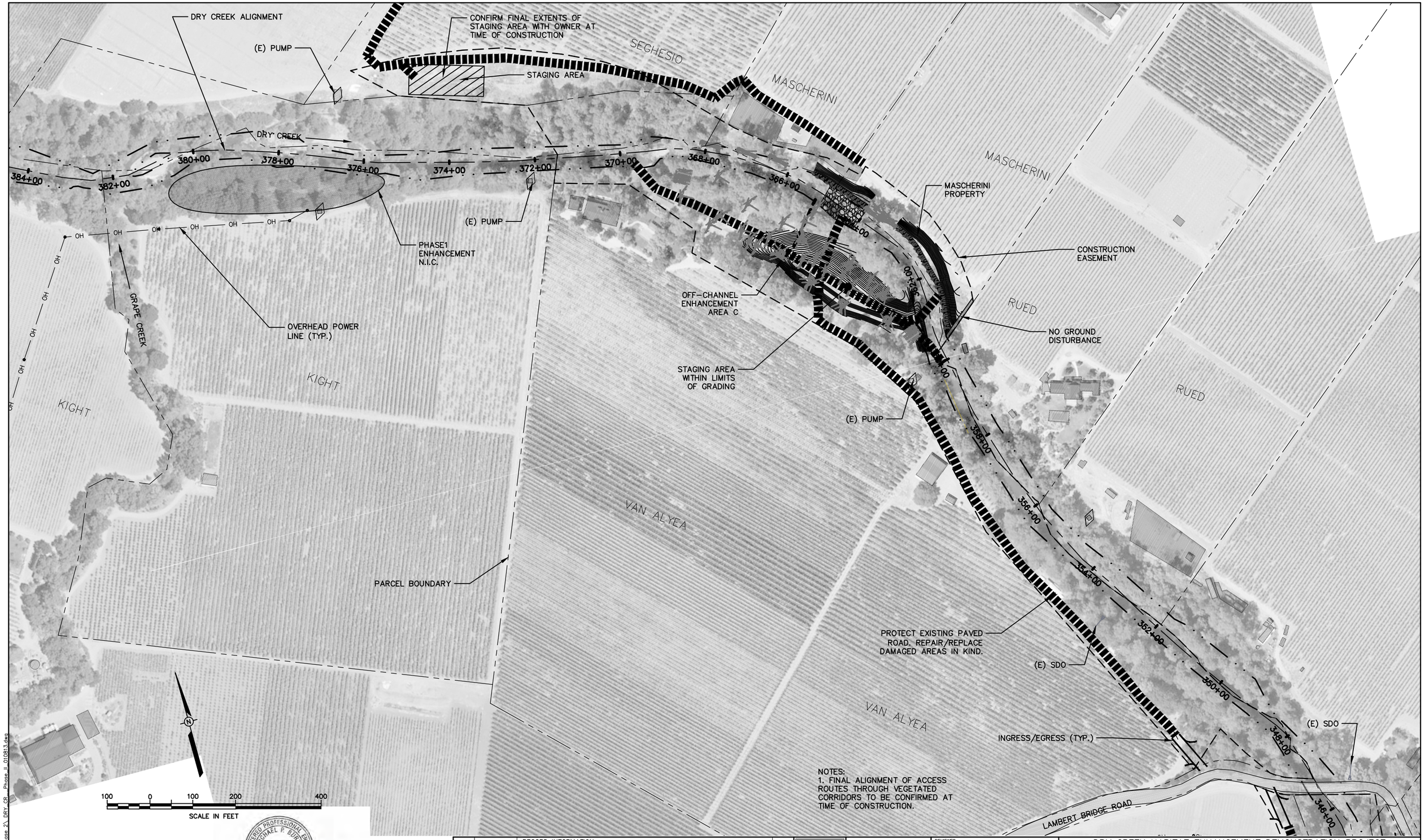

NOTES:
1. FINAL ALIGNMENT OF ACCESS ROUTES THROUGH VEGETATED CORRIDORS TO BE CONFIRMED AT TIME OF CONSTRUCTION.

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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
ACCESS AND STAGING PLAN – UPPER HALF

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 6 OF 46

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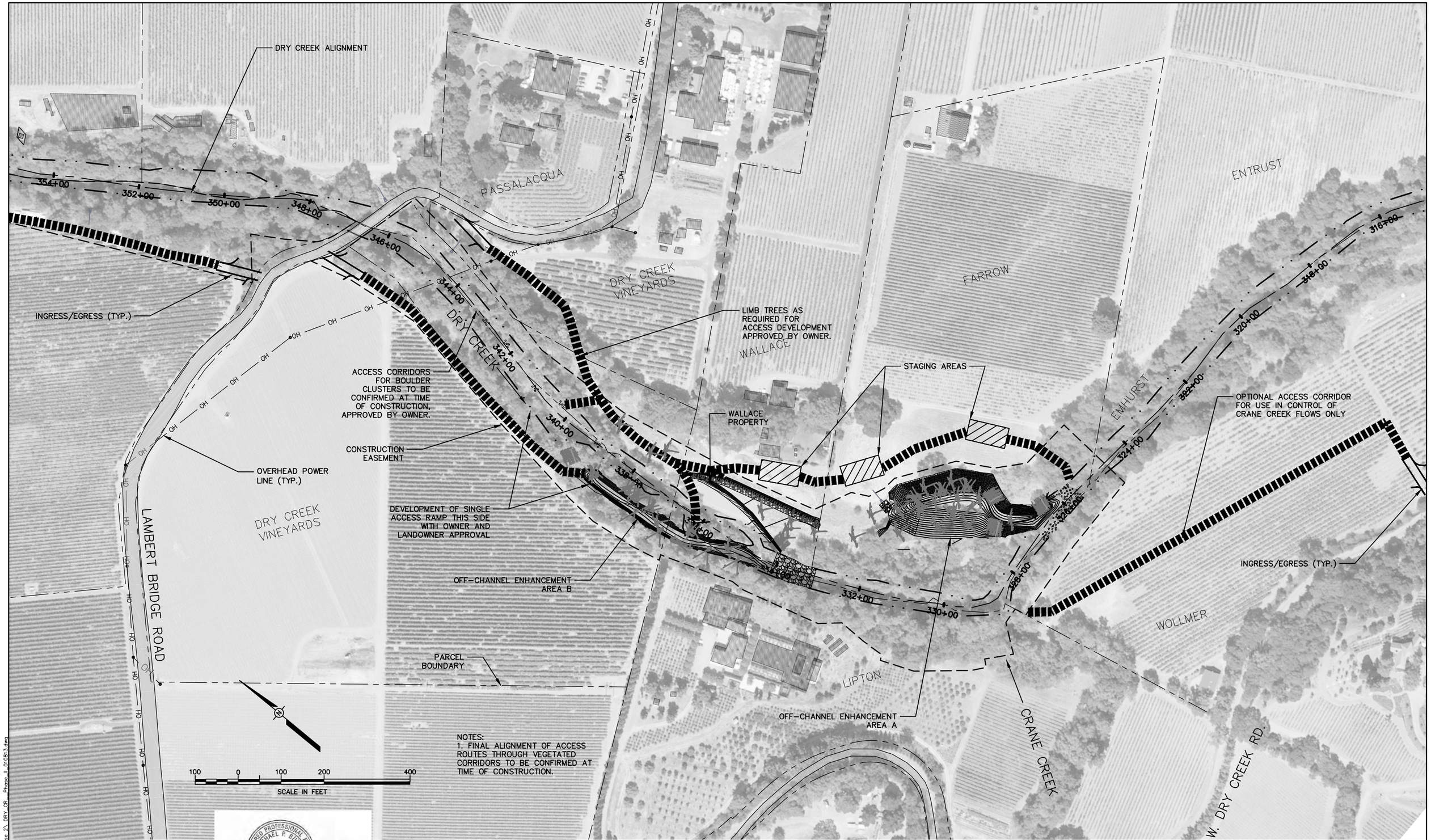

NOTES:
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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
ACCESS AND STAGING PLAN – LOWER HALF

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 7 OF 46

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STATION 338+00 TO 340+00
INSTALL 1 BOULDER CLUSTER
LOCATIONS AS DIRECTED BY OWNER
(1/30)

(N) OUTFALL SCOUR PROTECTION (1/46)

OFF-CHANNEL ENHANCEMENT
AREA A
SEE SHEETS 11-13

CONSTRUCTION EASEMENT (TYP.)

WALLACE PROPERTY
SEE SHEETS 14-16

(E) SDO

BANK STABILIZATION (1/31) TYPE 1

BACKWATER CHANNEL
LWD (TYP.) (1/40)

BANK
STABILIZATION
TYPE 2 (2/31)

BANK
STABILIZATION
TYPE 3 (3/31) (4/31)

DRY CREEK

(1/41) SLOPE
LWD, TYP.

OFF-CHANNEL ENHANCEMENT
AREA B
SEE SHEETS 17-19

(N) BOULDER FIELD (TYP.) (2/30)

FLOODPLAIN (2/39)
LWD, TYP.

(2/40) POOL
ENHANCEMENT
LWD, TYP.

LOG JAM, TYP. (1/39)

(N)CONSTRUCTED
RIFFLE (TYP.)
(1/29)

DRY CREEK
ALIGNMENT

EDGE OF WATER,
MAY 2010 (TYP.)

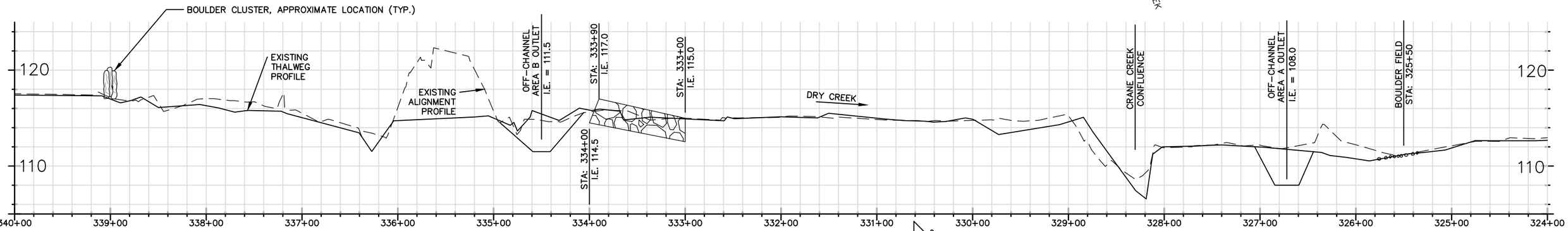
CRANE CREEK

N

50 0 50 100 200
SCALE IN FEET

NOTES:

1. MATERIAL QUANTITIES DEPICTED ARE SCHEMATIC ONLY. REFERENCE SUMMARY TABLE ON SHEET 41 FOR TARGET MATERIAL QUANTITIES AT EACH LOG JAM AND LWD STRUCTURE.
2. LOCATION OF ACCESS RAMPS TO WORK AREA TO BE CONFIRMED AT TIME OF CONSTRUCTION.
3. FINAL ALIGNMENT OF ACCESS ROUTES THROUGH VEGETATED CORRIDORS TO BE CONFIRMED AT TIME OF CONSTRUCTION.
4. ALL AREAS DISTURBED BY GRADING TO BE HYDROSEEDED FOLLOWING CONSTRUCTION.



MAIN CHANNEL PROFILE

REGISTERED PROFESSIONAL ENGINEER
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BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
MAIN CHANNEL PLAN AND PROFILE
– STA. 324+00 TO 340+00

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 8 OF 46

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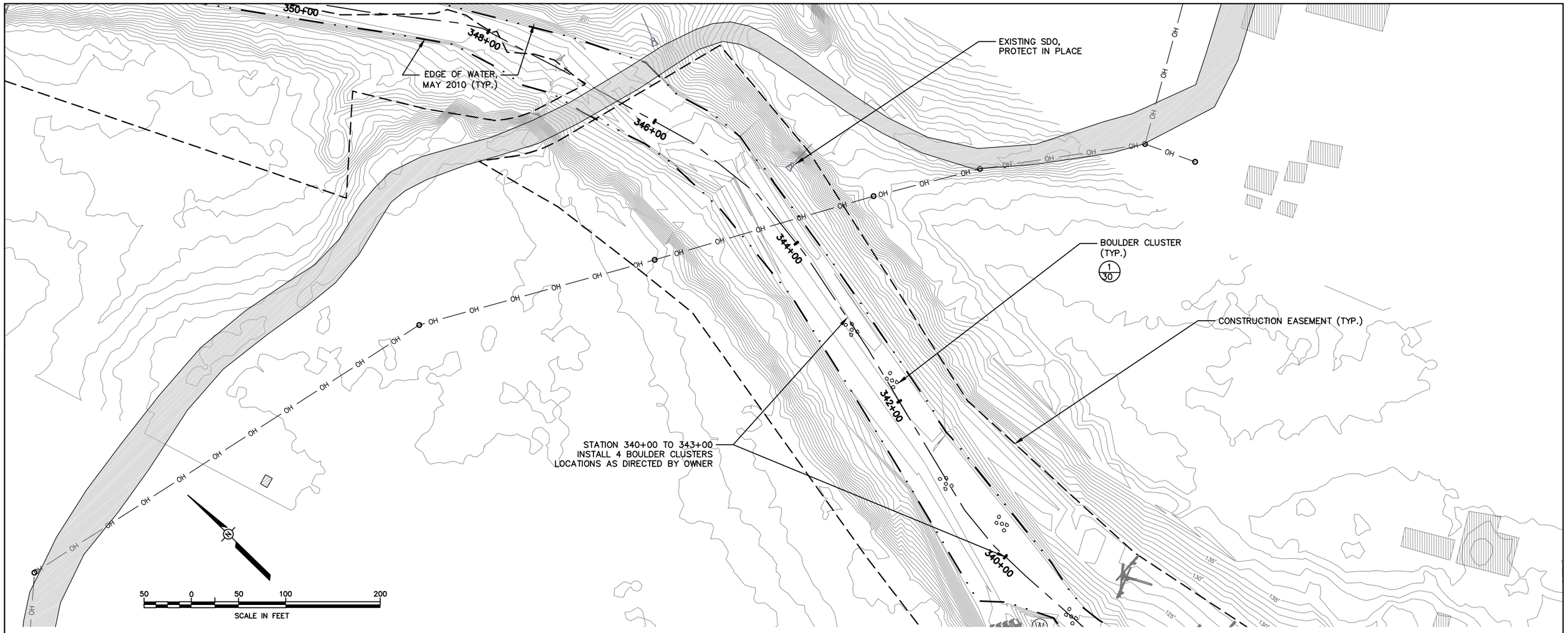

NOTES:

1. FINAL ALIGNMENT OF ACCESS ROUTES THROUGH VEGETATED CORRIDORS TO BE DETERMINED AT TIME OF CONSTRUCTION.

MAIN CHANNEL PROFILE

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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
MAIN CHANNEL PLAN AND PROFILE – STA. 340+00 TO 346+00

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 9 OF 46

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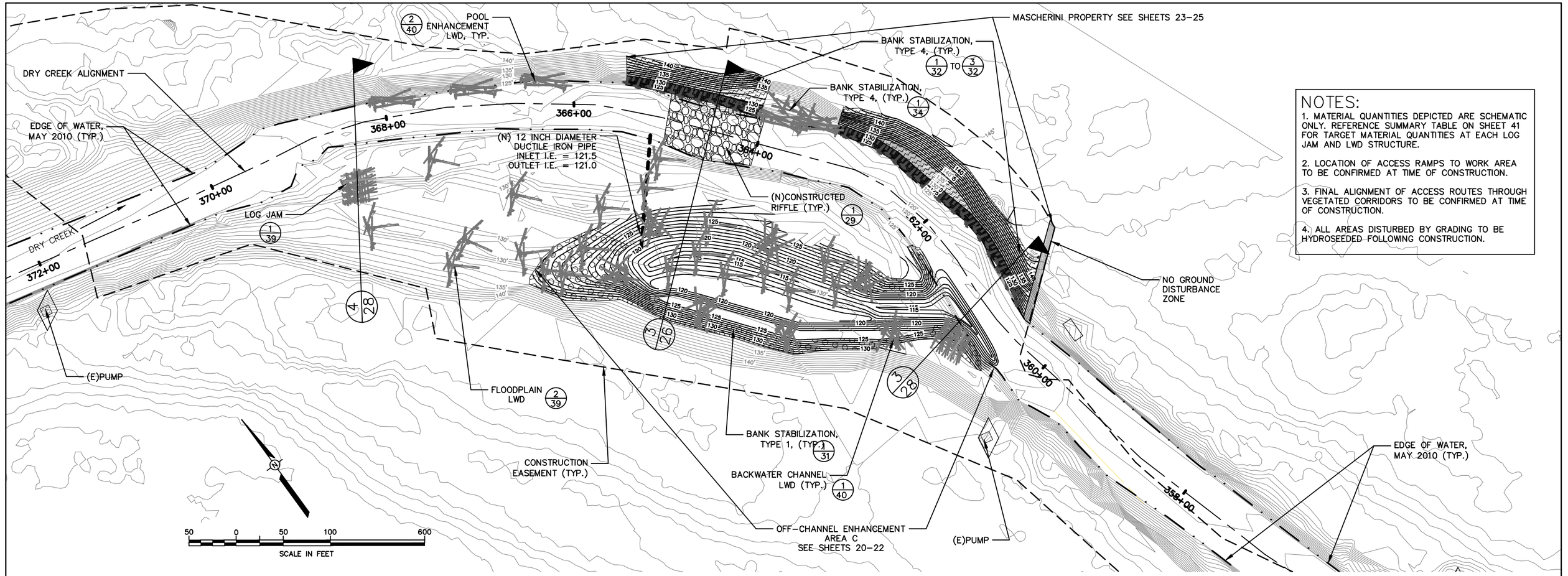

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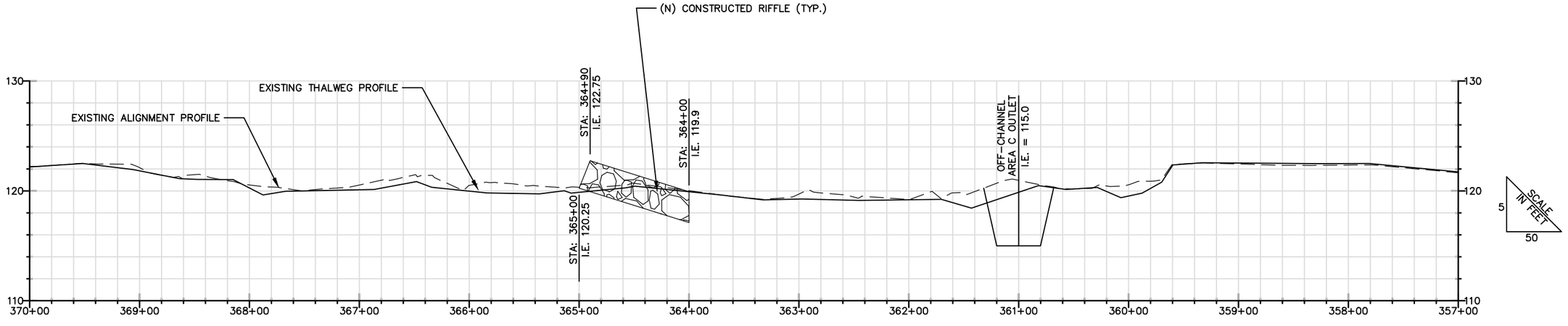

MAIN CHANNEL PROFILE

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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
MAIN CHANNEL PLAN AND PROFILE
– STA. 357+00 TO 370+00

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 10 OF 46

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NOTES:

1. LOCATION OF ACCESS RAMPS TO WORK AREA TO BE CONFIRMED AT TIME OF CONSTRUCTION.

2. FINAL ALIGNMENT OF ACCESS ROUTES THROUGH VEGETATED CORRIDORS TO BE CONFIRMED AT TIME OF CONSTRUCTION.

3. ALL AREAS DISTURBED BY GRADING TO BE HYDROSEEDED FOLLOWING CONSTRUCTION.

20 0 20 40 80
SCALE IN FEET

CONSTRUCTION EASEMENT (TYP.)

STA: 4+14
STA: 3+63
STA: 3+17
STA: 2+64
STA: 2+25
STA: 1+58
STA: 1+15
STA: 0+80
STA: 0+51

(E) SDO

(N) BOULDER FIELD (TYP.) 2/30

(N) OUTFALL SCOUR PROTECTION 1/46

FINAL LIMIT OF CLEARING IN TREE AND FLOODPLAIN AREA TO BE CONFIRMED AT TIME OF CONSTRUCTION, WITH APPROVAL OF OWNER.

BLEND TO EXISTING GRADE ALONG LIMIT OF FINISH GRADING

EDGE OF WATER, MAY 2010 (TYP.)

REMOVE UP TO 20 TREES FROM OFF-CHANNEL AREA A, WITH DBH UP TO 18 IN.

LIMIT OF FINISH GRADING

DRY CREEK

DRY CREEK ALIGNMENT

332+00
4+50
4+00
3+00
2+00
1+00
0+00
326+00
328+00

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BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

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SCALE:
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REVIEWED
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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
OFF-CHANNEL ENHANCEMENT AREA A – GRADING PLAN

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 11 OF 46

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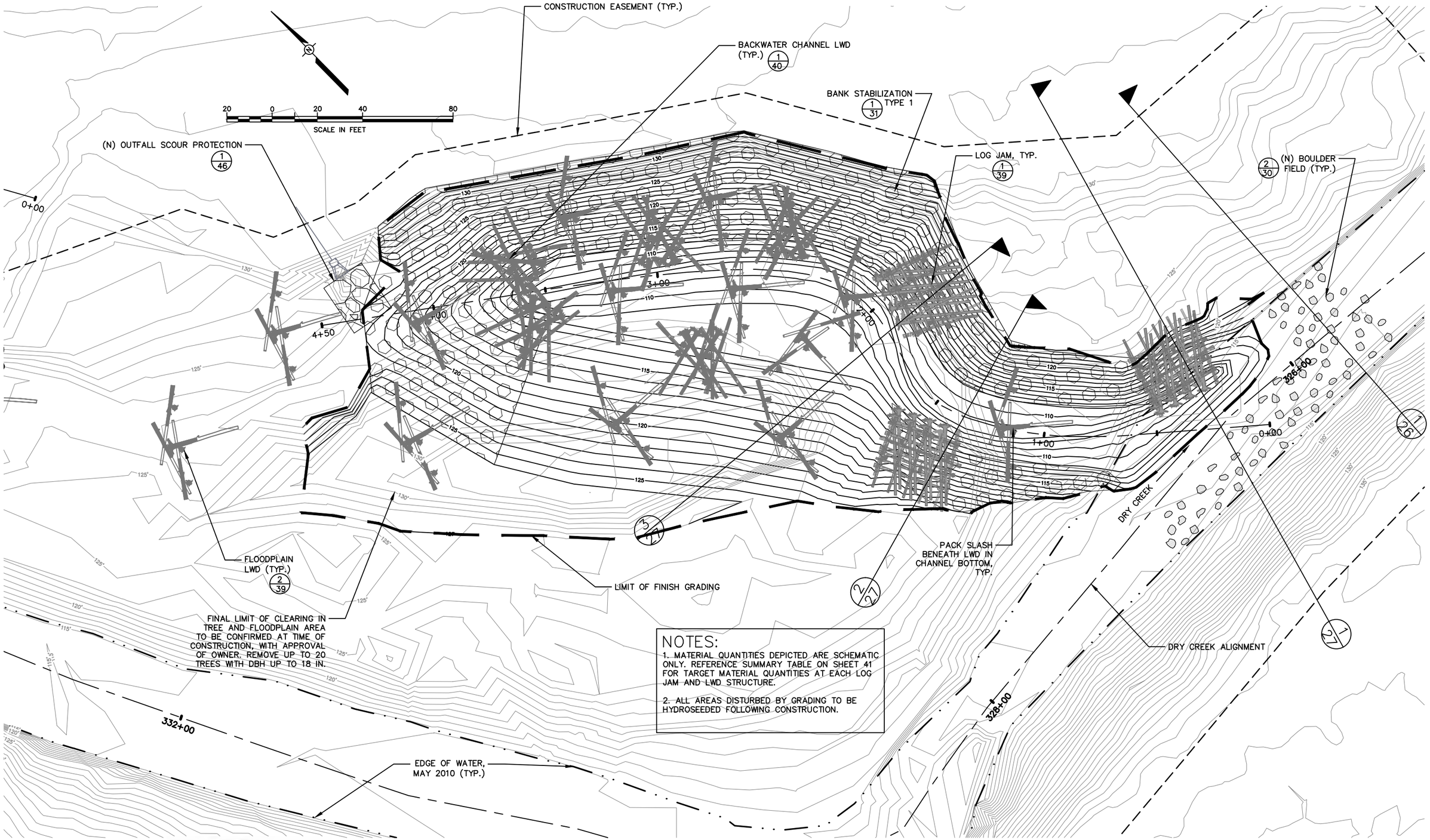

NOTES:

1. MATERIAL QUANTITIES DEPICTED ARE SCHEMATIC ONLY. REFERENCE SUMMARY TABLE ON SHEET 41 FOR TARGET MATERIAL QUANTITIES AT EACH LOG JAM AND LWD STRUCTURE.

2. ALL AREAS DISTURBED BY GRADING TO BE HYDROSEEDED FOLLOWING CONSTRUCTION.

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REGISTERED PROFESSIONAL ENGINEER MICHAEL P. BURKE C 62986 EXP. 06/30/14 CIVIL STATE OF CALIFORNIA

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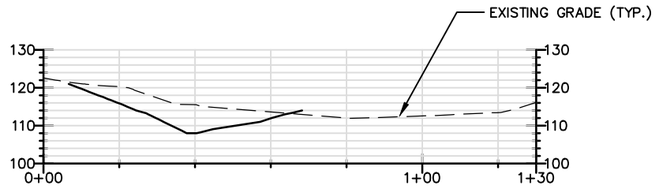
SONOMA COUNTY WATER AGENCY

SCALE:
DATE : 1/23/2013
DRAWN : REP
CHECKED : MB

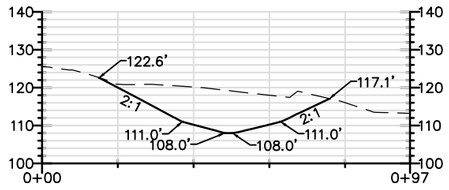
REVIEWED
REVIEWED

DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
OFF-CHANNEL ENHANCEMENT AREA A – LWD AND BANK TREATMENT PLAN

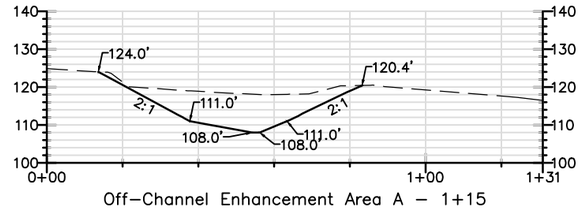
FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 12 OF 46



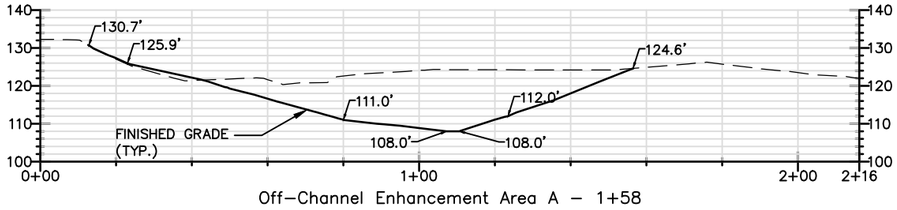
Off–Channel Enhancement Area A – Sta 0+51



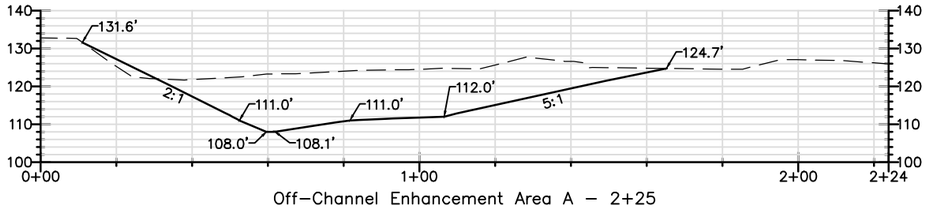
Off–Channel Enhancement Area A – Sta 0+80



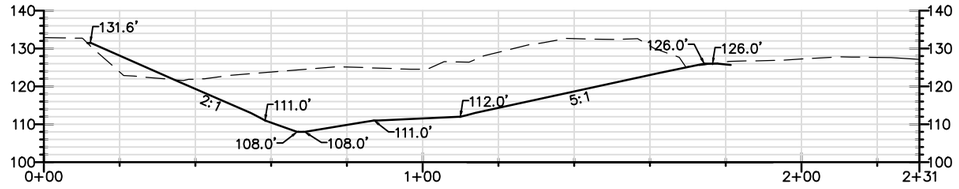
Off–Channel Enhancement Area A – 1+15



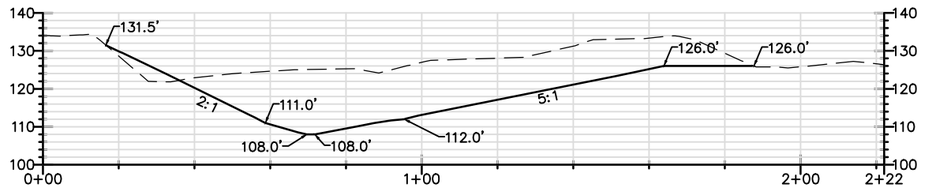
Off–Channel Enhancement Area A – 1+58



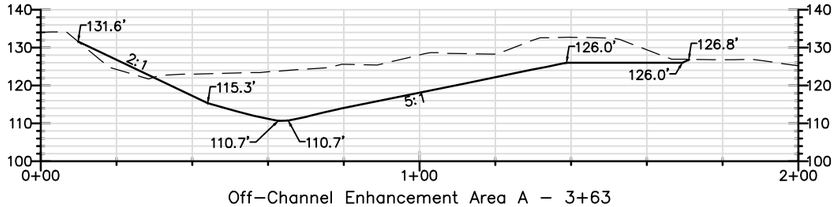
Off–Channel Enhancement Area A – 2+25



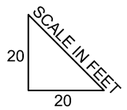
Off–Channel Enhancement Area A – 2+64

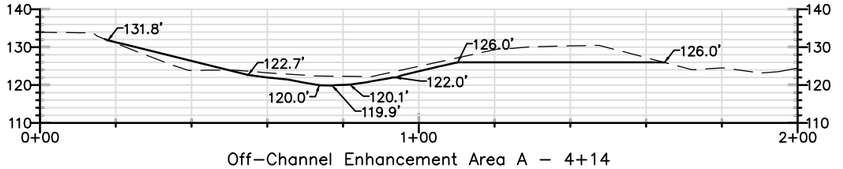


Off–Channel Enhancement Area A – 3+17



Off–Channel Enhancement Area A – 3+63





Off–Channel Enhancement Area A – 4+14

NOTE:
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EXP 06/30/14
CIVIL
STATE OF CALIFORNIA

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

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SONOMA COUNTY WATER AGENCY

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CHECKED : MB

REVIEWED
REVIEWED

DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
OFF–CHANNEL ENHANCEMENT AREA A – GRADING CROSS SECTIONS

FILE NAME: 7345
CONTRACT NUMBER: 45–6.1–7#3
DRAWING NUMBER:
SHEET 13 OF 46

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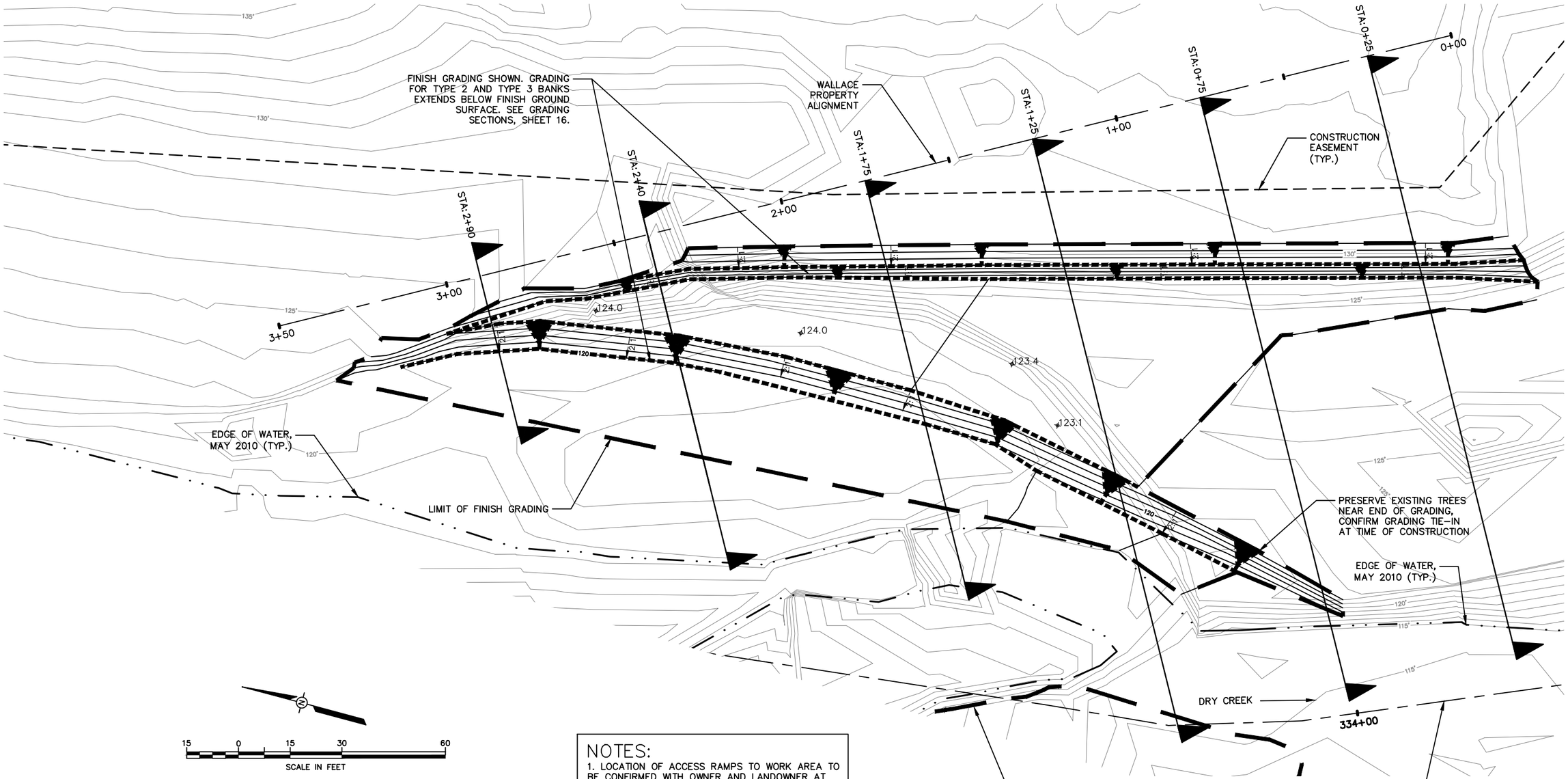

NOTES:

1. LOCATION OF ACCESS RAMPS TO WORK AREA TO BE CONFIRMED WITH OWNER AND LANDOWNER AT TIME OF CONSTRUCTION.
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SONOMA COUNTY WATER AGENCY

SCALE:
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CHECKED : MB

REVIEWED
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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
WALLACE PROPERTY – GRADING PLAN

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 14 OF 46

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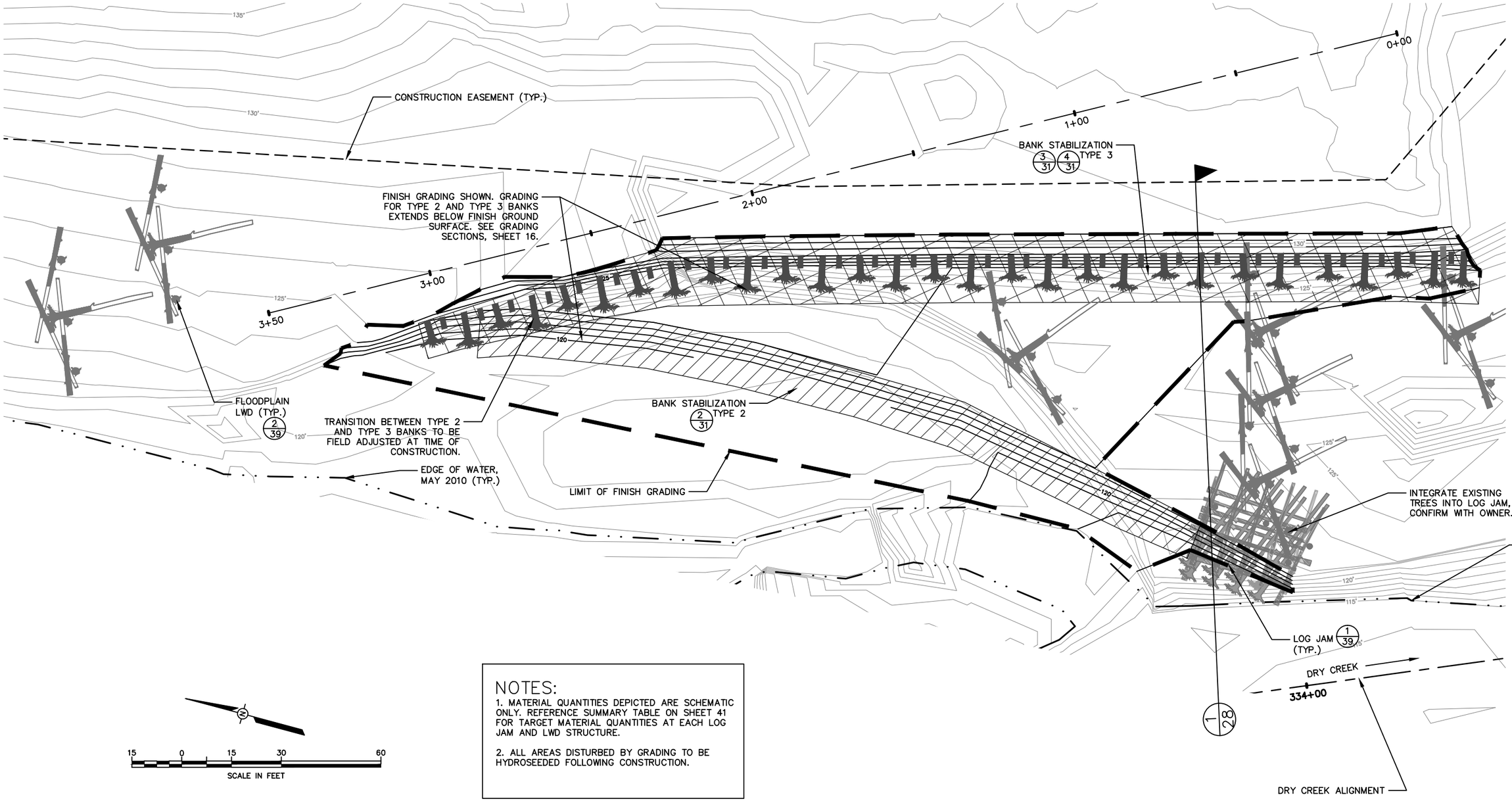

NOTES:

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15 0 15 30 60

SCALE IN FEET

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SONOMA COUNTY WATER AGENCY

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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
WALLACE PROPERTY – LWD AND BANK TREATMENT PLAN

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 15 OF 46

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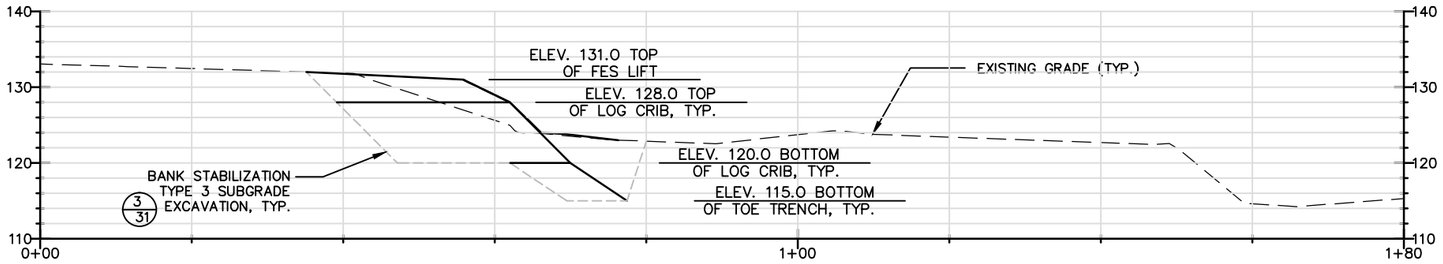
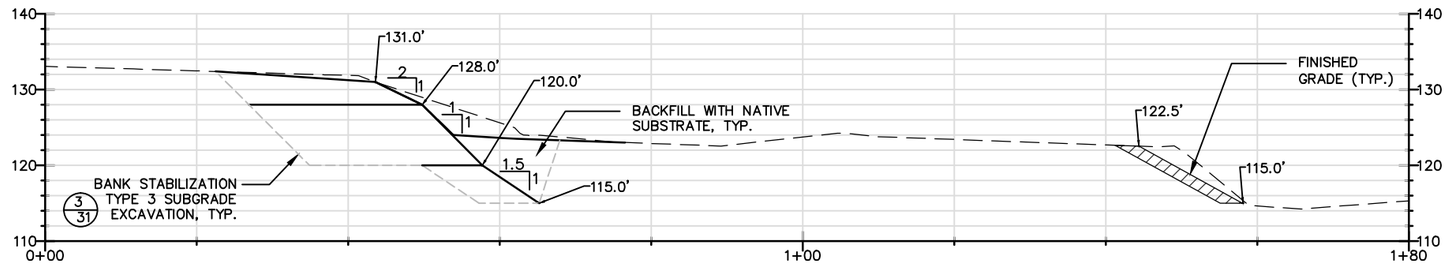


Wallace Property Sta. 0+25



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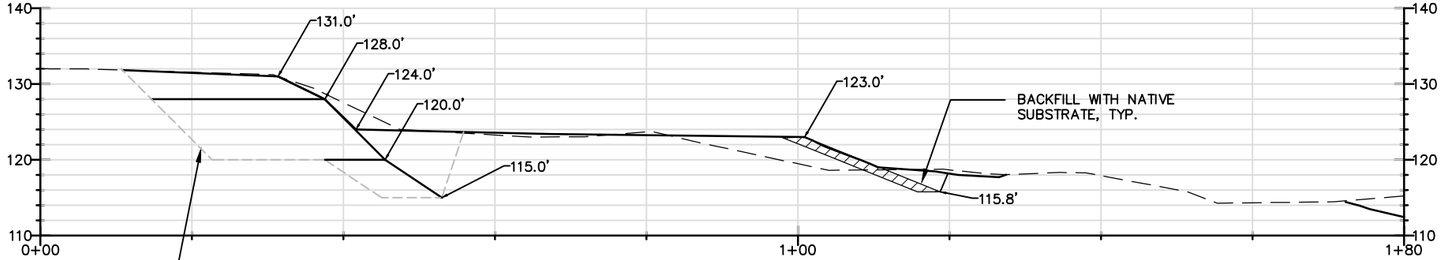
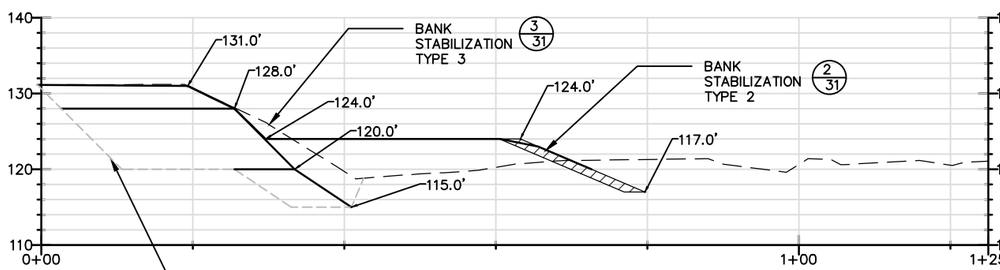


Wallace Property Sta. 1+25



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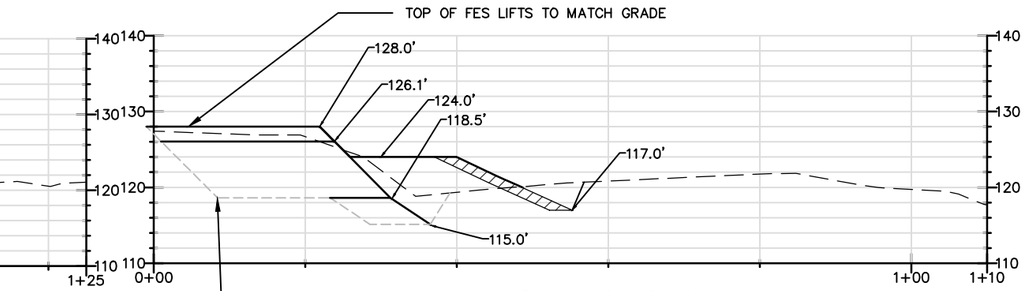

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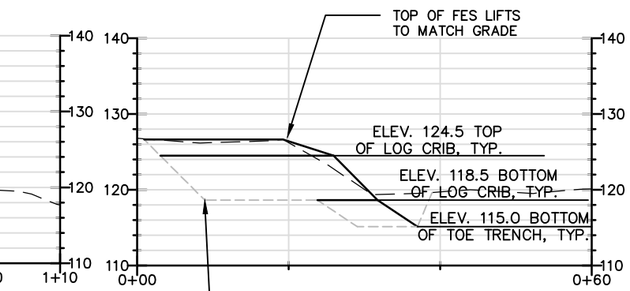
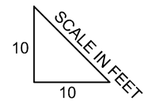


Wallace Property Sta. 2+90



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CIVIL
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SONOMA COUNTY WATER AGENCY

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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
WALLACE PROPERTY –
GRADING CROSS SECTIONS

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 16 OF 46

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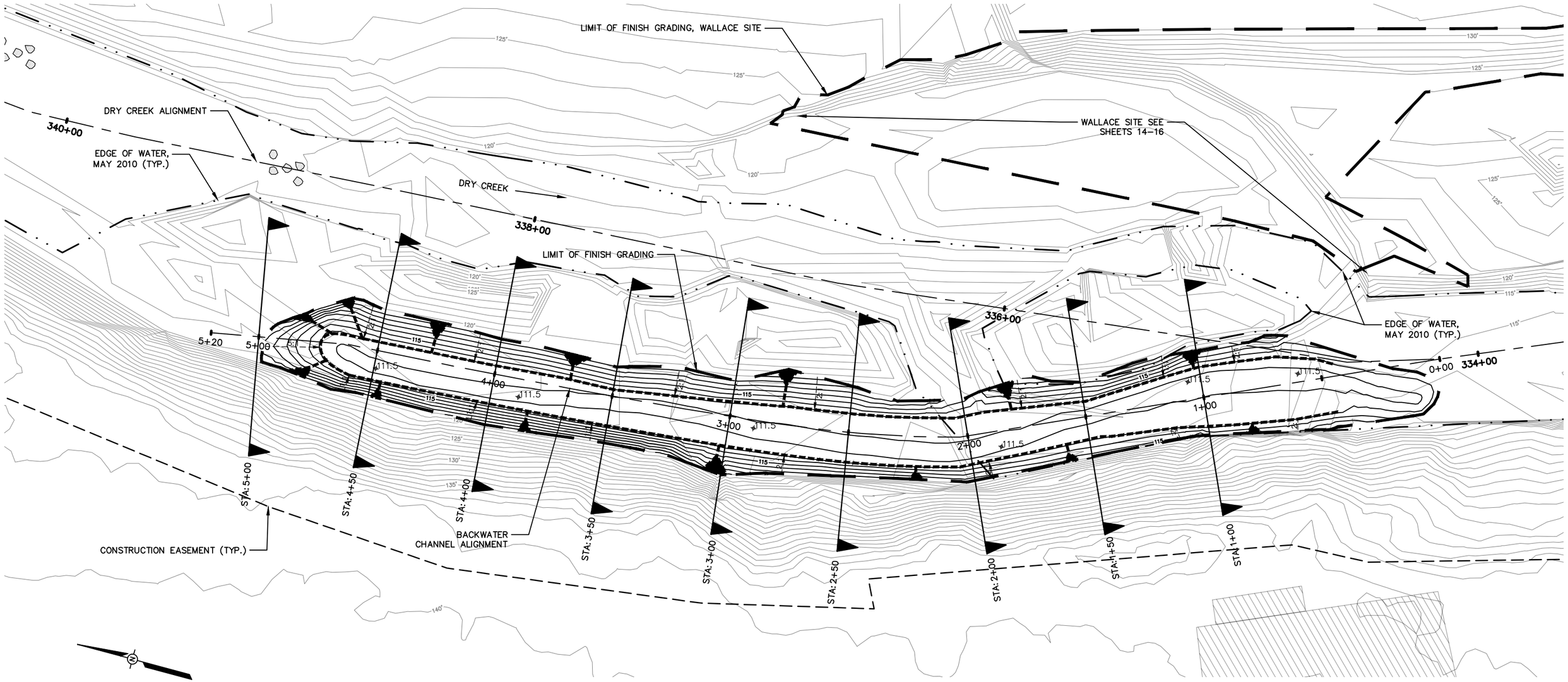

20 0 20 40 80

SCALE IN FEET

NOTES:

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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
OFF–CHANNEL ENHANCEMENT AREA B – GRADING PLAN

FILE NAME: 7345
CONTRACT NUMBER: 45–6.1–7#3
DRAWING NUMBER:
SHEET 17 OF 46

D:\work\Dry_Creek\Phase 2\ DRY_CR_ Phase II_ 010813.dwg

DRY CREEK ALIGNMENT

340+00

EDGE OF WATER, MAY 2010 (TYP.)

DRY CREEK

338+00

LOG JAM (TYP.) (1/39)

5+20

5+00

4+00

3+00

2+00

1+00

0+00

334+00

336+00

MINIMAL BACKFILL OF BACKWATER LWD TO ALLOW FLOW THROUGH

LIMIT OF FINISH GRADING, WALLACE SITE

WALLACE SITE SEE SHEETS 14–16

EDGE OF WATER, MAY 2010 (TYP.)

(2/39)

BACKWATER CHANNEL LWD (TYP.) (1/40)

LIMIT OF FINISH GRADING

BACKWATER CHANNEL ALIGNMENT

CONSTRUCTION EASEMENT (TYP.)

(1/41) SLOPE LWD, TYP.

PACK SLASH BENEATH LWD IN CHANNEL BOTTOM, TYP.

(2/40) POOL ENHANCEMENT LWD, TYP.

FLOODPLAIN LWD (2/39)

(1/39)

20 0 20 40 80

SCALE IN FEET

NOTES:

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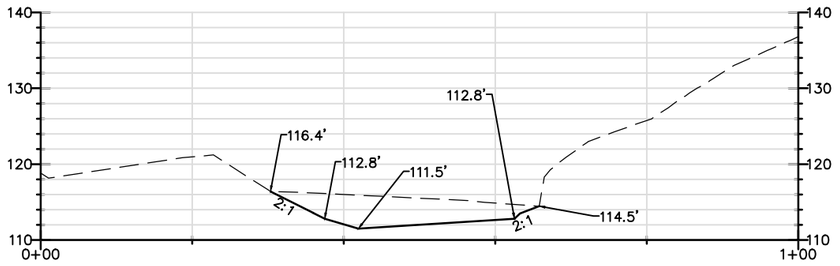
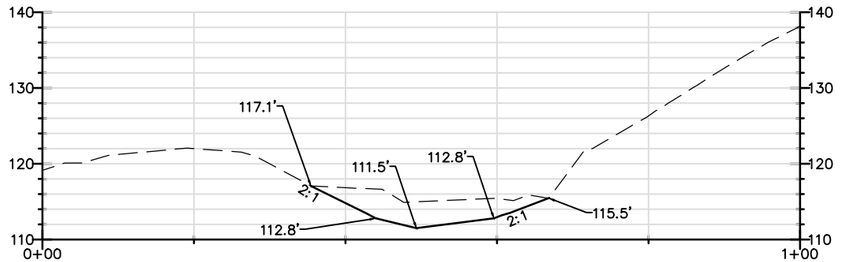
DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT

OFF–CHANNEL ENHANCEMENT AREA B – LWD AND BANK TREATMENT PLAN

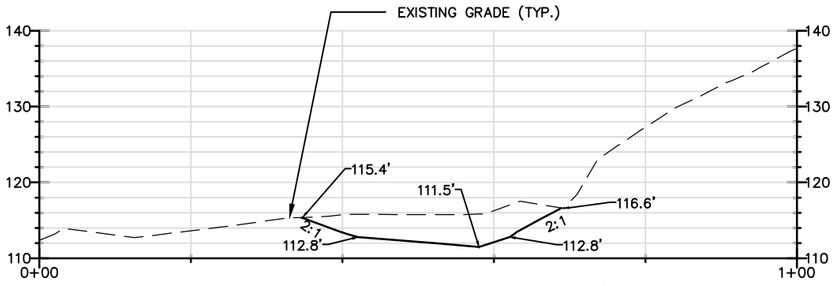
FILE NAME: 7345
CONTRACT NUMBER: 45–6.1–7#3
DRAWING NUMBER:
SHEET 18 OF 46



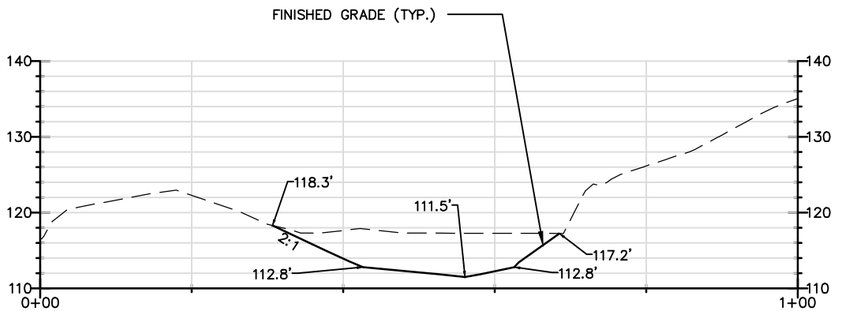
Off–Channel Enhancement Area B – 1+00



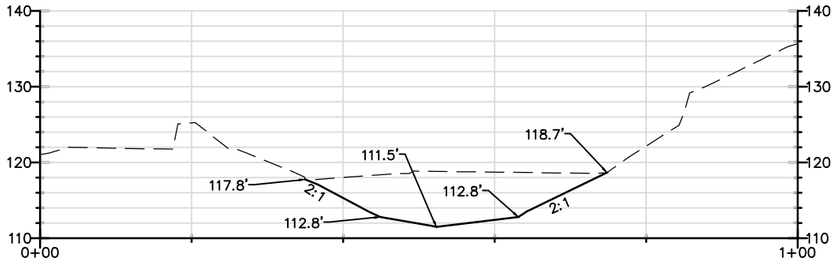
Off–Channel Enhancement Area B – 1+50



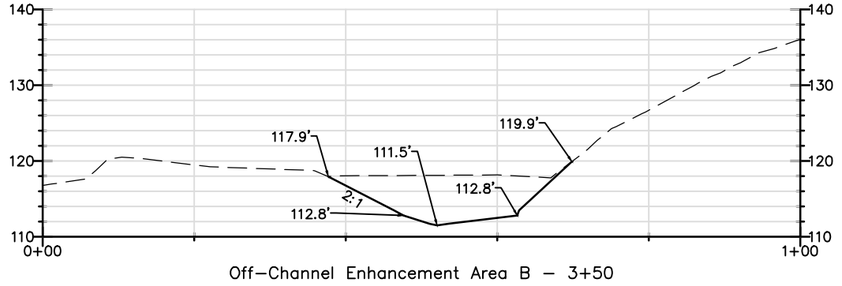
Off–Channel Enhancement Area B – 2+00



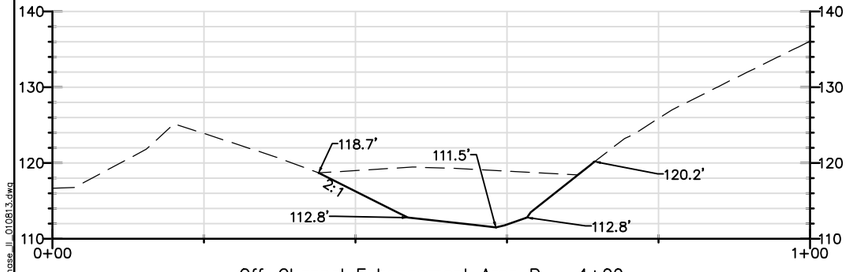
Off–Channel Enhancement Area B – 2+50



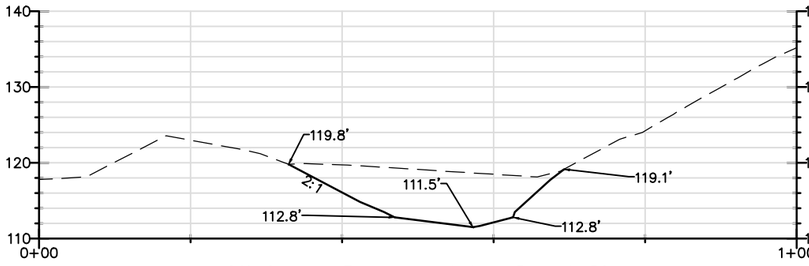
Off–Channel Enhancement Area B – 3+00



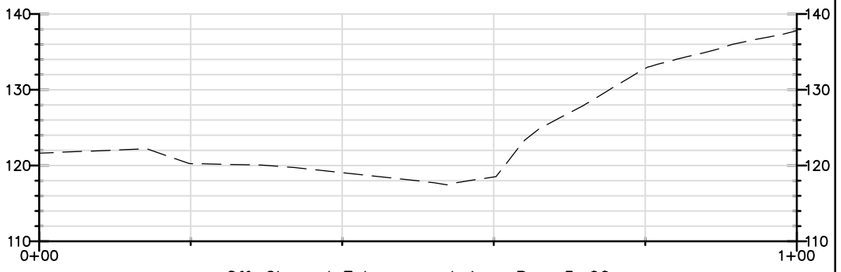
Off–Channel Enhancement Area B – 3+50



Off–Channel Enhancement Area B – 4+00



Off–Channel Enhancement Area B – 4+50



Off–Channel Enhancement Area B – 5+00

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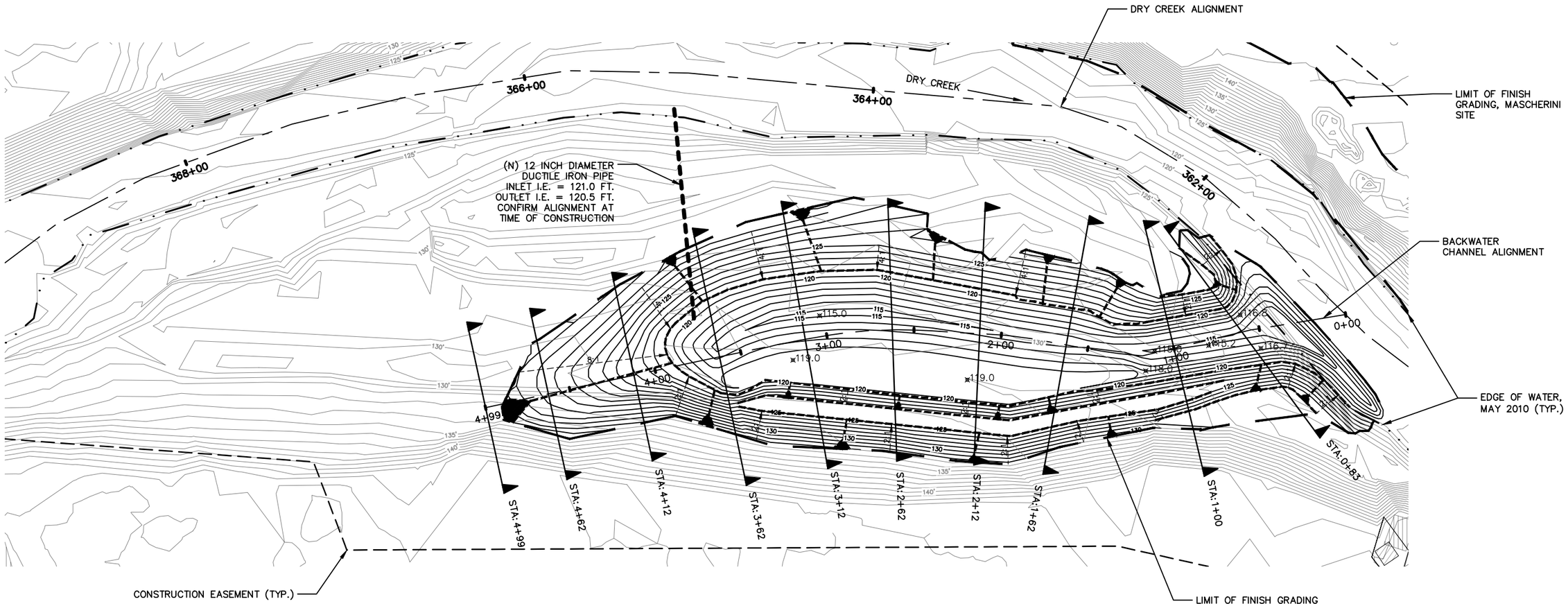
DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
OFF–CHANNEL ENHANCEMENT AREA B – GRADING CROSS SECTIONS

FILE NAME: 7345
CONTRACT NUMBER: 45–6.1–7#3
DRAWING NUMBER:
SHEET 19 OF 46



NOTES:

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30 0 30 60 120

SCALE IN FEET

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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
OFF-CHANNEL ENHANCEMENT AREA C - GRADING PLAN

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 20 OF 46

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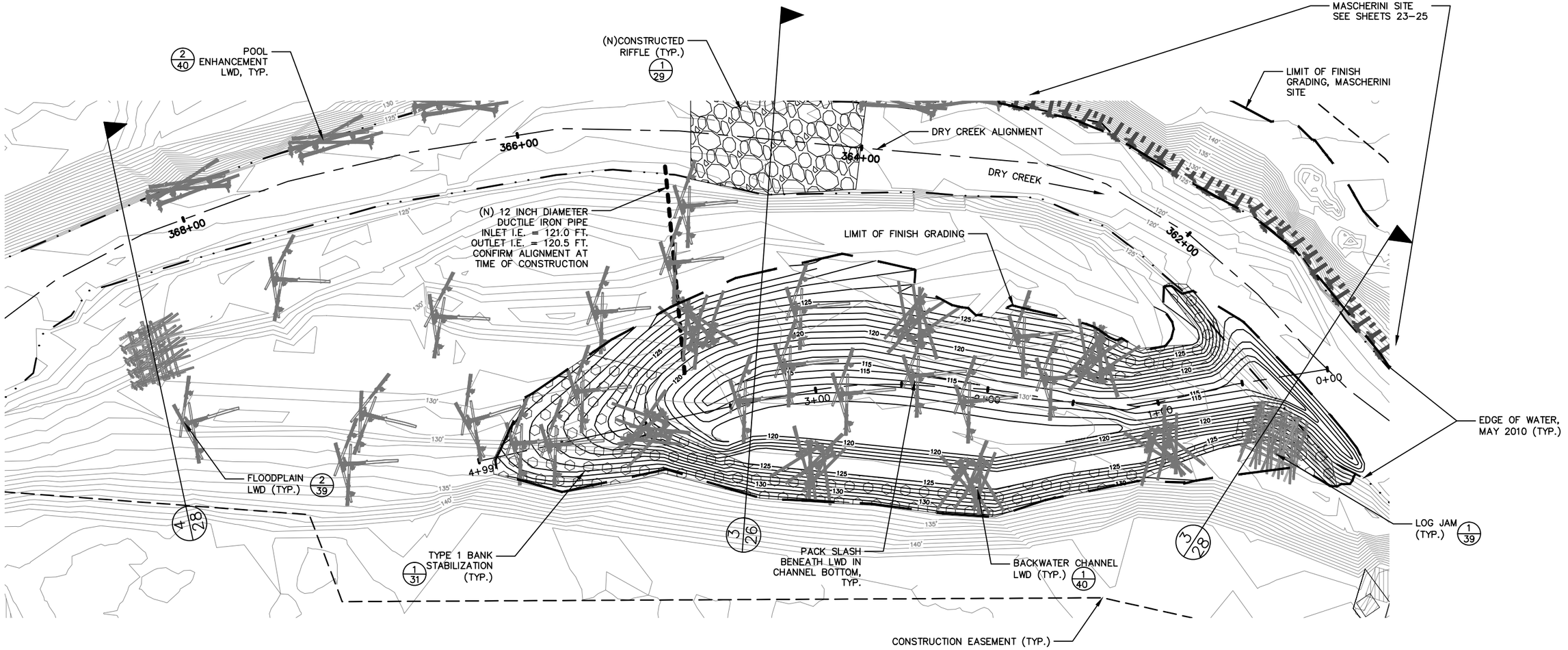

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SCALE IN FEET

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CHECKED : MB

REVIEWED
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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
OFF-CHANNEL ENHANCEMENT AREA C - LWD AND BANK TREATMENT PLAN

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 21 OF 46

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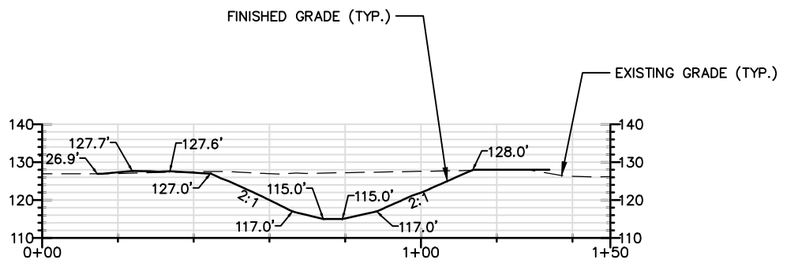
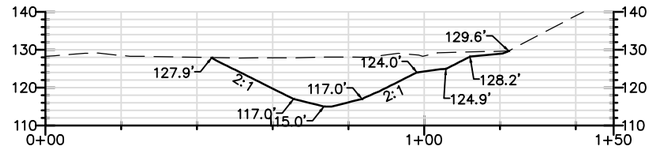
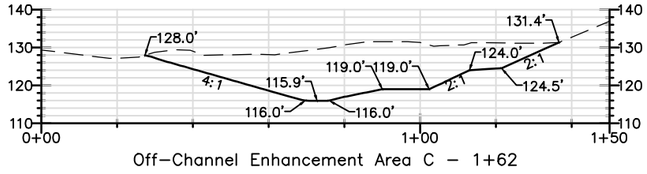


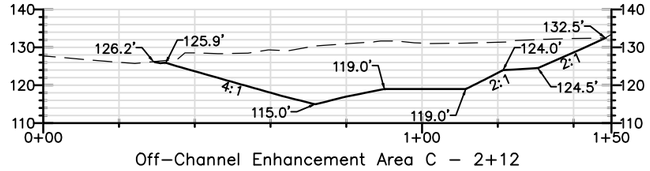
Off–Channel Enhancement Area C – 0+83



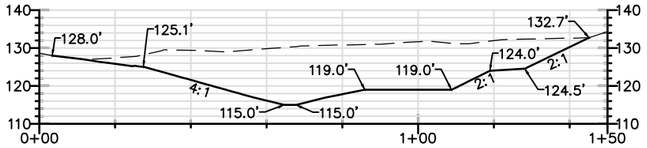
Off–Channel Enhancement Area C – 1+00



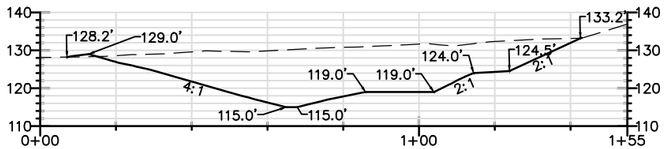
Off–Channel Enhancement Area C – 1+62



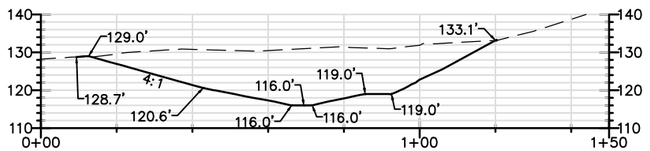
Off–Channel Enhancement Area C – 2+12



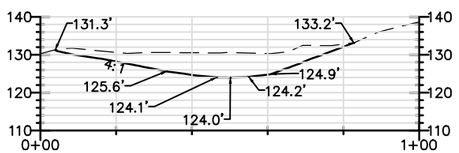
Off–Channel Enhancement Area C – 2+62



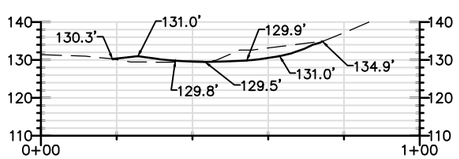
Off–Channel Enhancement Area C – 3+12



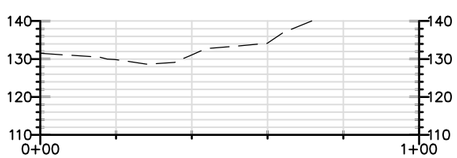
Off–Channel Enhancement Area C – 3+62



Off–Channel Enhancement Area C – 4+12



Off–Channel Enhancement Area C – 4+62



Off–Channel Enhancement Area C – 4+99

NOTE:
1. GRADING CROSS SECTIONS ARE ORIENTED LOOKING DOWNSTREAM FROM LEFT TO RIGHT. THE STATIONING ORIGIN FOR EACH SECTION IS AT THE EXTREME LEFT END OF THE SECTION CUT LINE.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL F. BURKE
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EXP 06/30/14
CIVIL
STATE OF CALIFORNIA

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY
		RECORD INFORMATION	

SONOMA COUNTY WATER AGENCY

SCALE:
DATE : 1/23/2013
DRAWN : REP
CHECKED : MB

REVIEWED
REVIEWED

DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
OFF–CHANNEL ENHANCEMENT AREA C – GRADING CROSS SECTIONS

FILE NAME: 7345
CONTRACT NUMBER: 45–6.1–7#3
DRAWING NUMBER:
SHEET 22 OF 46

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EXISTING STRUCTURES

REMOVE 36 IN. DBH COTTONWOOD TREE

PRESERVE EXISTING LAUREL TREE

CONSTRUCTION EASEMENT

LIMIT OF FINISH GRADING

PRESERVE EXITING TREES AT TOE OF UPPER SLOPE. BLEND SLOPE TO EXISTING GRADES.

MASCHERINI BASELINE

REMOVE UP TO 25 TREES, UP TO 18 IN. DBH

RUED

PARCEL BOUNDARY

DRY CREEK

EDGE OF WATER, MAY 2010 (TYP.)

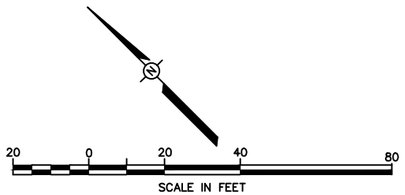
PARCEL BOUNDARY (TYP.)

(N)CONSTRUCTED RIFFLE (TYP.) (2/29)

DRY CREEK ALIGNMENT

NO GROUND DISTURBANCE ZONE

8 FT.



NOTES:

1. LOCATION OF ACCESS RAMPS TO WORK AREA TO BE CONFIRMED AT TIME OF CONSTRUCTION.
2. FINAL ALIGNMENT OF ACCESS ROUTES THROUGH VEGETATED CORRIDORS TO BE CONFIRMED AT TIME OF CONSTRUCTION.
3. ALL AREAS DISTURBED BY GRADING TO BE HYDROSEEDED FOLLOWING CONSTRUCTION.
4. PROPERTY OWNER WILL REMOVE AND REPLACE IMPROVEMENTS WHICH ARE IN CONFLICT WITH INSTALLATION OF THE WORK.

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BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY
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SONOMA COUNTY WATER AGENCY

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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
MASCHERINI PROPERTY – GRADING PLAN

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 23 OF 46

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EXISTING STRUCTURES

BANK STABILIZATION, TYPE 4, (TYP.) (1/32) TO (3/32)

CONSTRUCTION EASEMENT

LIMIT OF FINISH GRADING

BANK STABILIZATION, TYPE 4, (TYP.) (1/32) TO (3/32)

BANK PROTECTION WITH NO GRADING (TYP.) (1/34)

DRY CREEK

PARCEL BOUNDARY

RUED

EDGE OF WATER, MAY 2010 (TYP.)

FLOODPLAIN LWD (TYP.) (2/39)

(N)CONSTRUCTED RIFFLE (TYP.) (1/29)

DRY CREEK ALIGNMENT

NO GROUND DISTURBANCE ZONE

6+00 5+00 4+00 3+00 2+00 1+00 0+00

366+00 364+00 362+00 360+00

20 0 20 40 80

SCALE IN FEET

NOTES:

1. MATERIAL QUANTITIES DEPICTED ARE SCHEMATIC ONLY. REFERENCE SUMMARY TABLE ON SHEET 41 FOR TARGET MATERIAL QUANTITIES AT EACH LOG JAM AND LWD STRUCTURE.

2. ALL AREAS DISTURBED BY GRADING TO BE HYDROSEEDED FOLLOWING CONSTRUCTION.

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SONOMA COUNTY WATER AGENCY

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REVIEWED

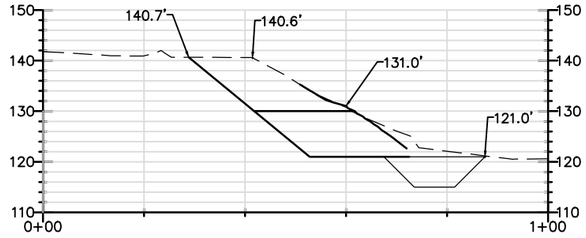
DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
MASCHERINI PROPERTY – LWD AND BANK TREATMENT PLAN

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3

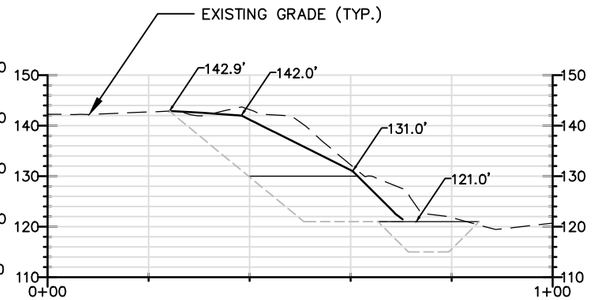
DRAWING NUMBER:

SHEET 24 OF 46

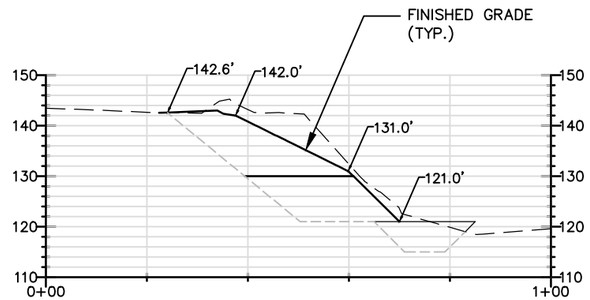
D:\work\Dry Creek\Phase 2\ DRY_CR_ Phase_II_010813.dwg



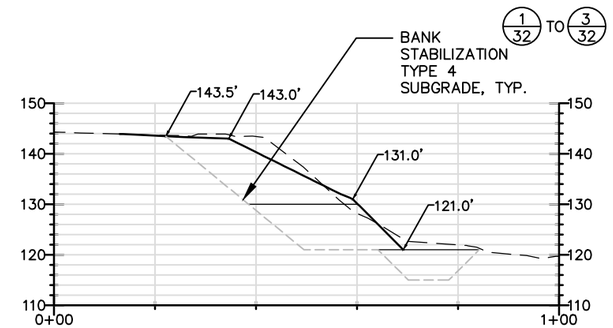
Mascherini Property Sta. 0+42



Mascherini Property Sta. 0+77



Mascherini Property Sta. 1+20



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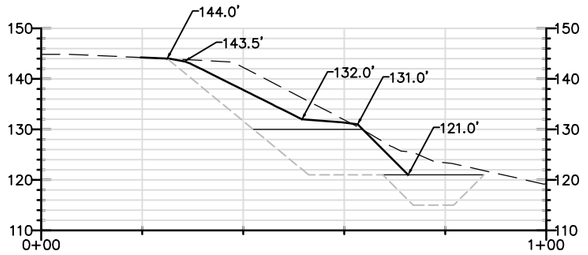
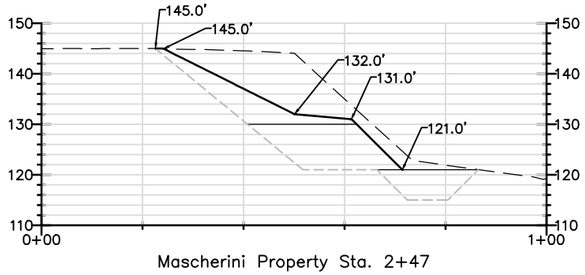
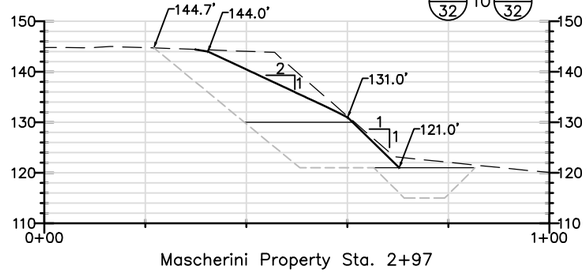


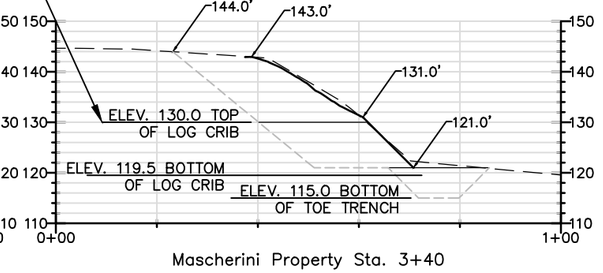
Mascherini Property Sta. 2+00



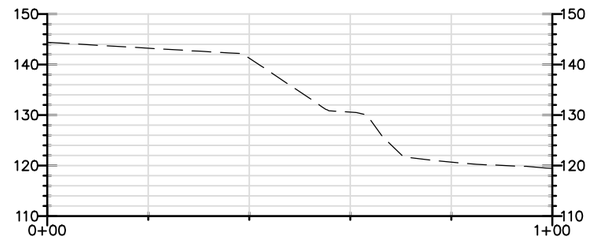
Mascherini Property Sta. 2+47



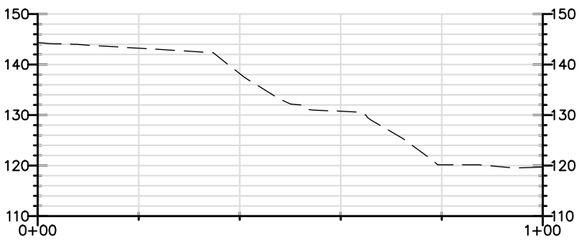
Mascherini Property Sta. 2+97



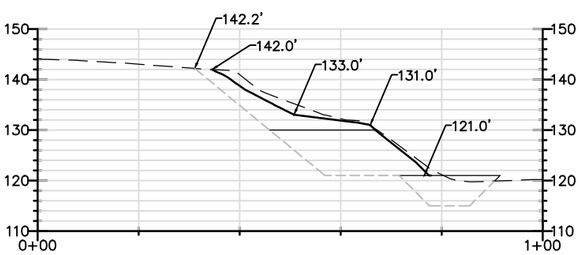
Mascherini Property Sta. 3+40



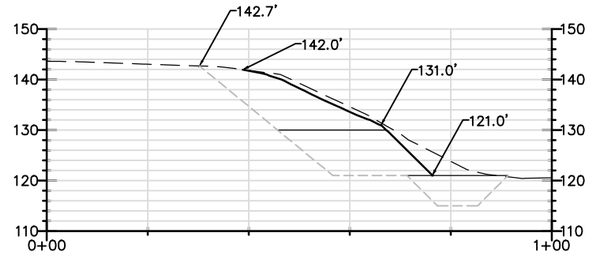
Mascherini Property Sta. 3+80



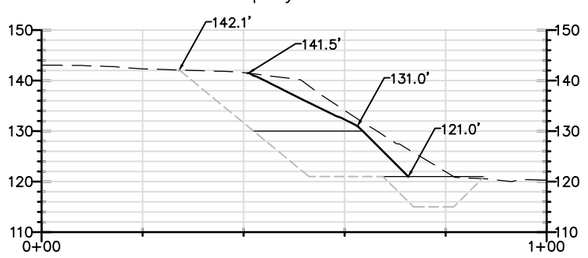
Mascherini Property Sta. 4+20



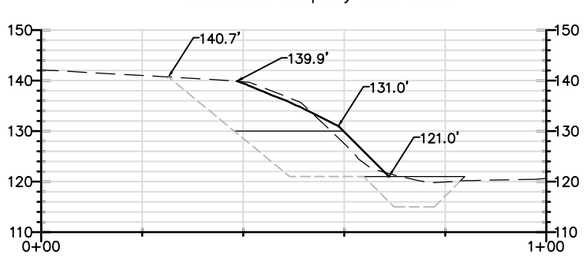
Mascherini Property Sta. 4+58



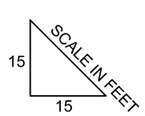
Mascherini Property Sta. 5+00



Mascherini Property Sta. 5+36



Mascherini Property Sta. 5+86



NOTE:
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BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY
		RECORD INFORMATION	

SONOMA COUNTY WATER AGENCY

SCALE:
DATE : 1/23/2013
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CHECKED : MB

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REVIEWED

DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
MASCHERINI PROPERTY – GRADING CROSS SECTIONS

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 25 OF 46

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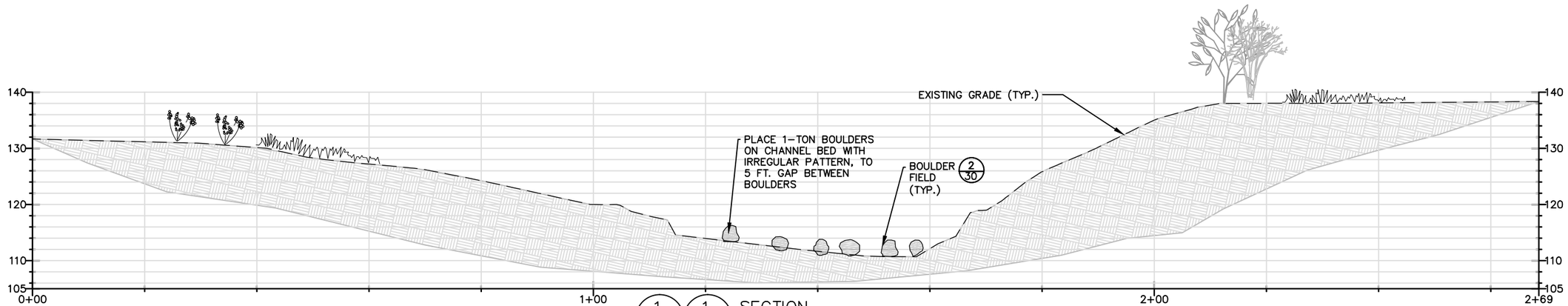
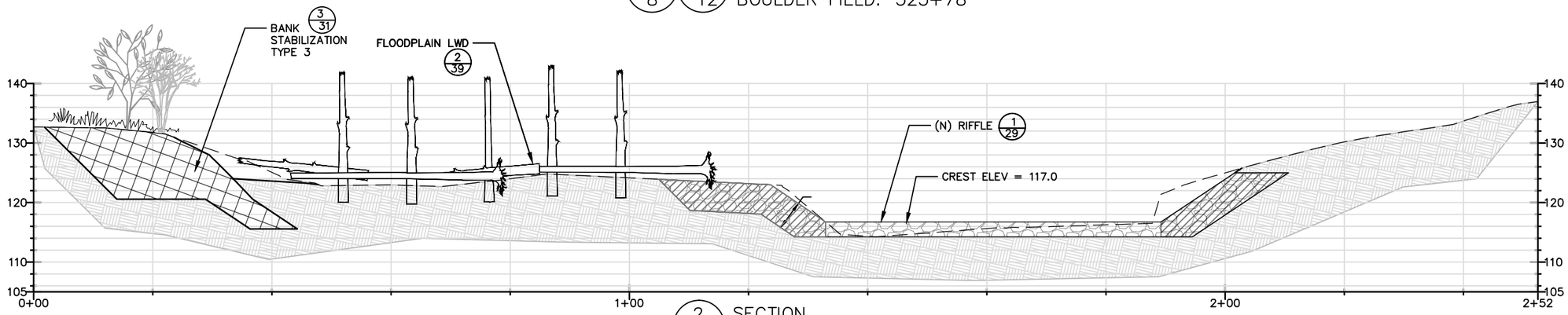


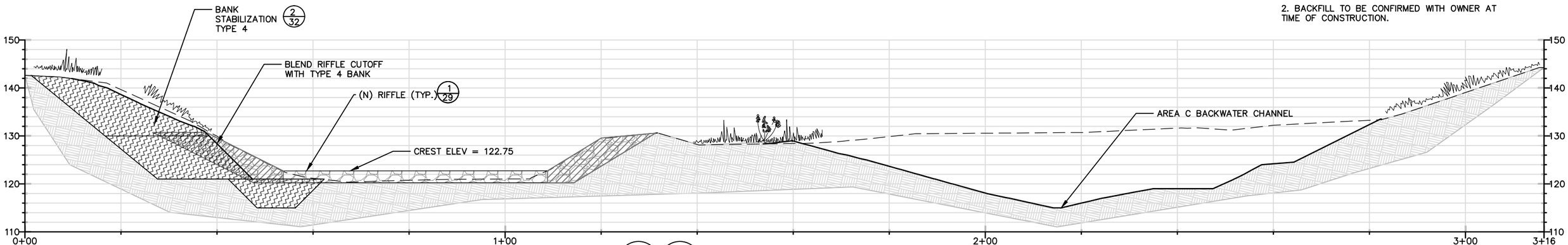
1/8 1/12 SECTION
BOULDER FIELD: 325+78



2/8 SECTION
RIFFLE: 333+95

NOTES:
1. CROSS SECTIONS ARE ORIENTED LOOKING DOWNSTREAM FROM LEFT TO RIGHT. THE STATIONING ORIGIN FOR EACH SECTION IS AT THE EXTREME LEFT END OF THE SECTION CUT LINE.

2. BACKFILL TO BE CONFIRMED WITH OWNER AT TIME OF CONSTRUCTION.



3/10 3/21 SECTION
RIFFLE STA: 364+52

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BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

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SONOMA COUNTY WATER AGENCY

SCALE:
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CHECKED: MB

REVIEWED
REVIEWED

DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
SECTIONS – BOULDER FIELD AND RIFFLES

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 26 OF 46

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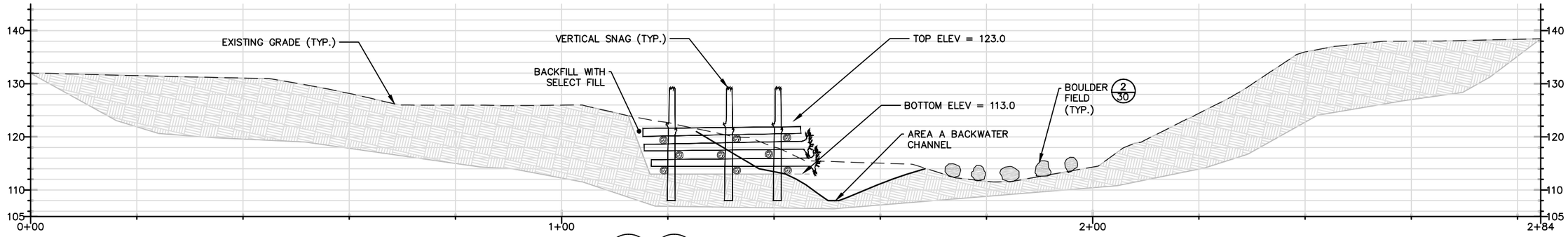
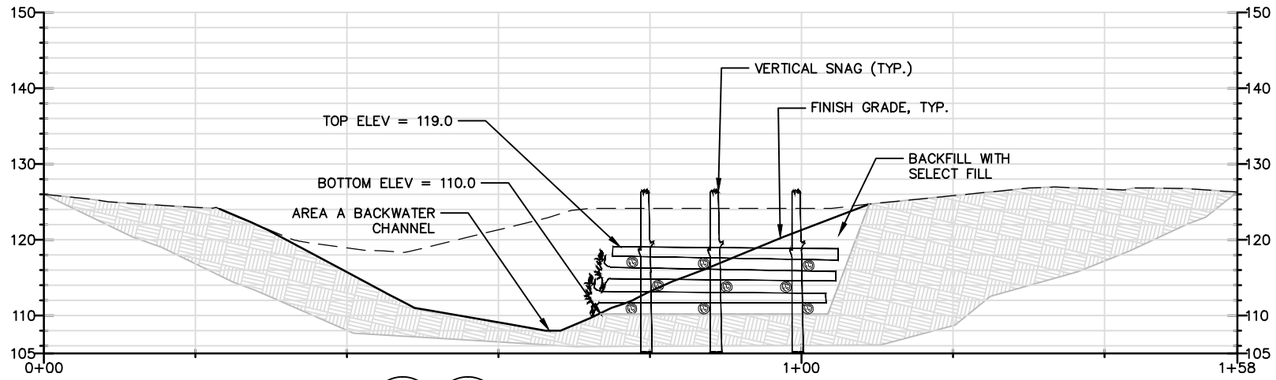
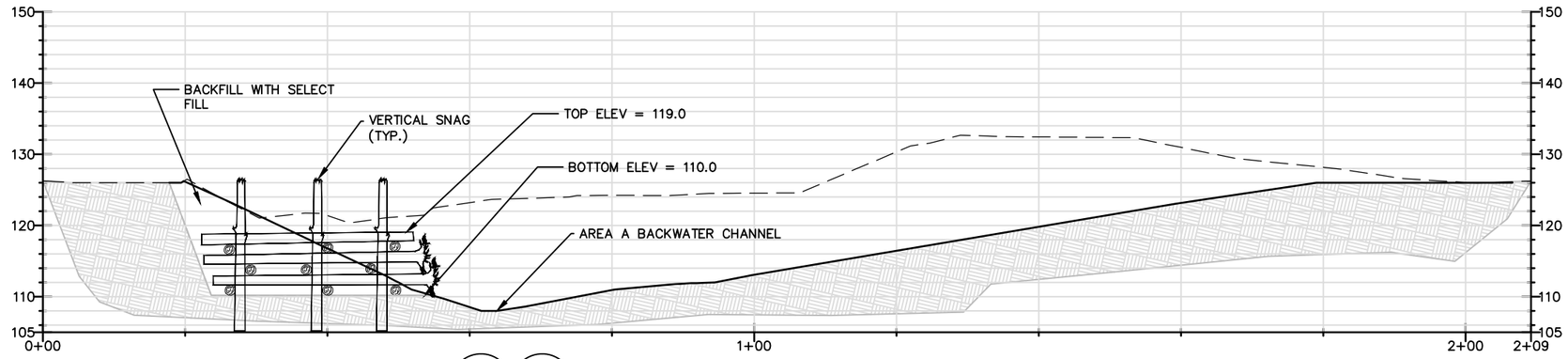


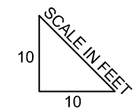
1/12 1/8 SECTION
LOG JAM STA: 326+42



2/12 2/8 SECTION
LOG JAM IN OFF-CHANNEL A, STA: 1+36



3/12 3/8 SECTION
LOG JAM IN OFF-CHANNEL A, STA: 1+86



NOTES:
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2. BACKFILL TO BE CONFIRMED WITH OWNER AT TIME OF CONSTRUCTION.

3. SEE SHEET 39 FOR GENERAL LWD INSTALLATION NOTES.

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BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

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REVIEWED

DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
SECTIONS – LOG JAMS (1 OF 2)

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 27 OF 46

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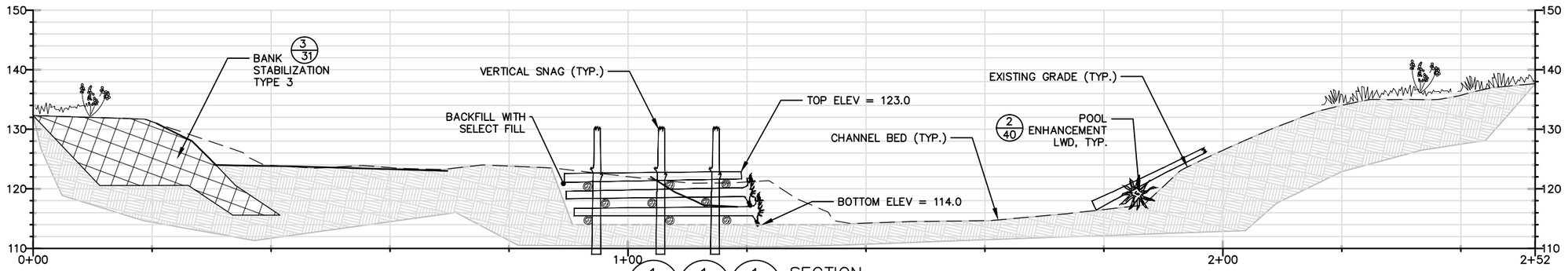
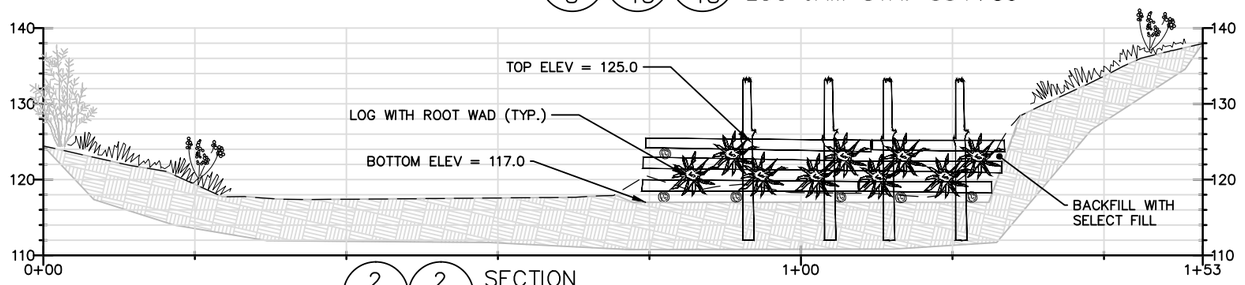
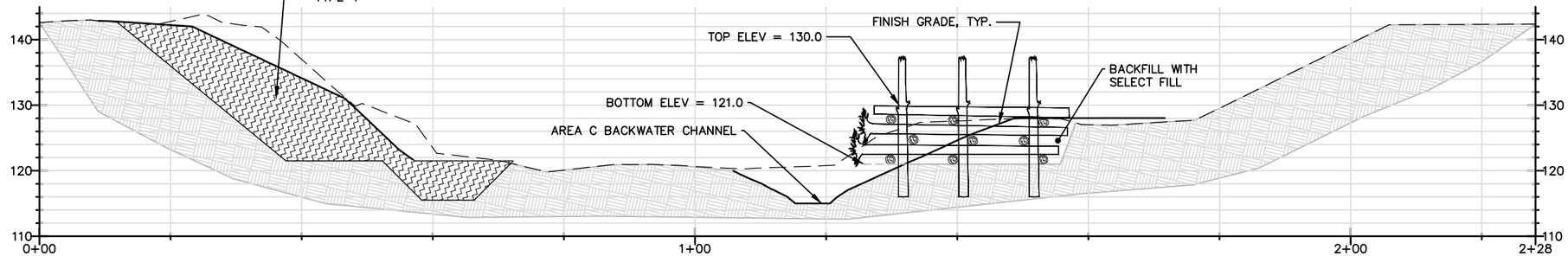


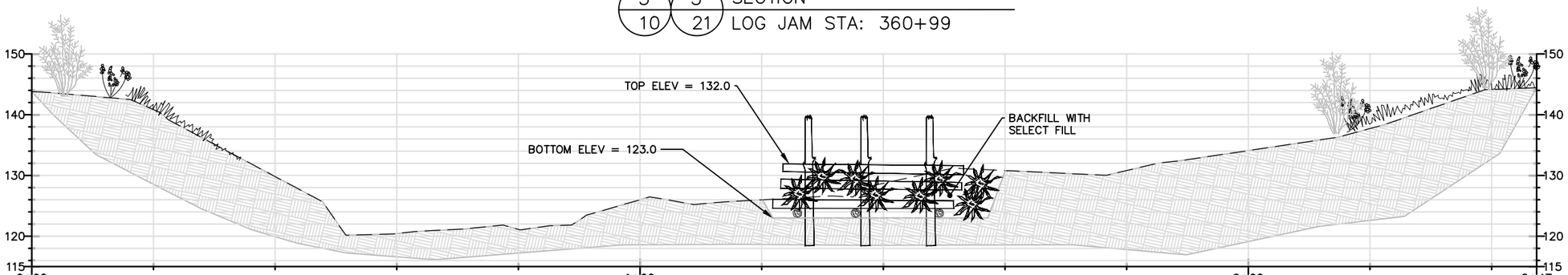
1/8 1/15 1/18 SECTION
LOG JAM STA: 334+39



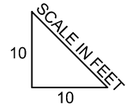
2/8 2/18 SECTION
LOG JAM STA: 339+48



3/10 3/21 SECTION
LOG JAM STA: 360+99



4/10 4/21 SECTION
LOG JAM STA: 368+34



NOTES:
1. CROSS SECTIONS ARE ORIENTED LOOKING DOWNSTREAM FROM LEFT TO RIGHT. THE STATIONING ORIGIN FOR EACH SECTION IS AT THE EXTREME LEFT END OF THE SECTION CUT LINE.

2. BACKFILL TO BE CONFIRMED WITH OWNER AT TIME OF CONSTRUCTION.

3. SEE SHEET 39 FOR GENERAL LWD INSTALLATION NOTES.

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MICHAEL P. BURKE
C 62986
EXP 06/30/14
CIVIL
STATE OF CALIFORNIA

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY
		RECORD INFORMATION	

SONOMA COUNTY WATER AGENCY

SCALE:
DATE : 1/23/2013
DRAWN : REP
CHECKED : MB

REVIEWED
REVIEWED

DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
SECTIONS – LOG JAMS (2 OF 2)

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 28 OF 46

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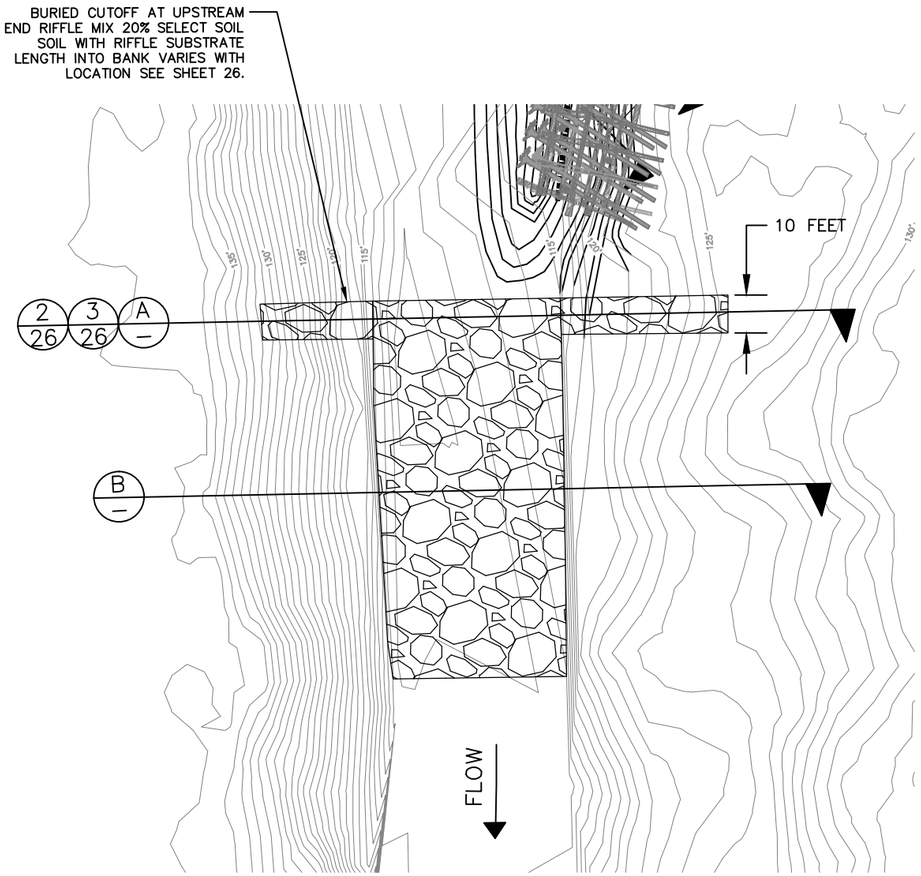
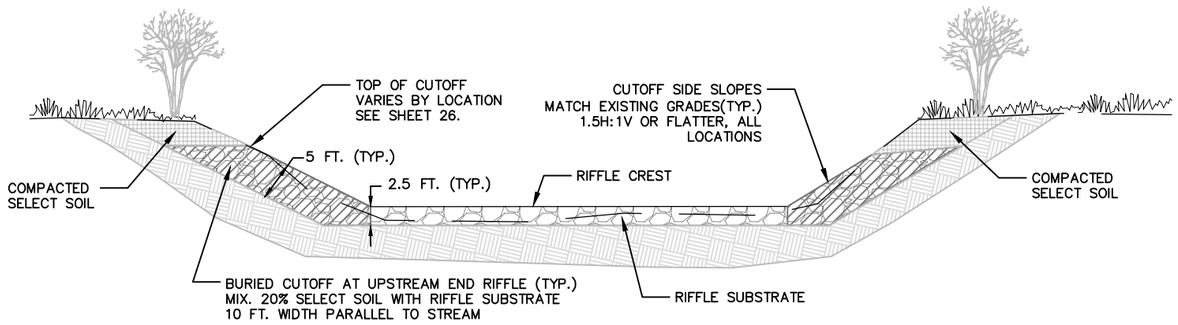
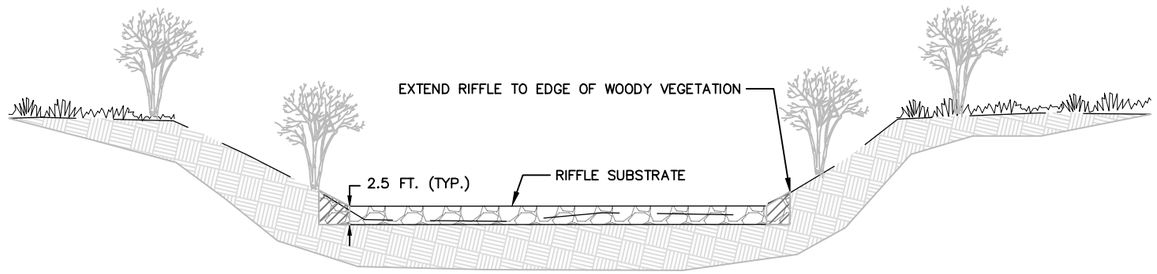


1/8 1/10 1/23 1/24 1/26 TYPICAL PLAN
RIFFLE CONSTRUCTION
SCALE: 1 IN. = 20 FT.



A/– TYPICAL SECTION
RIFFLE CREST
SCALE: 1 IN. = 10 FT.



B/– TYPICAL SECTION
RIFFLE (NON-CREST)
SCALE: 1 IN. = 10 FT.

20 0 20 40 80
SCALE IN FEET

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		RECORD INFORMATION	

SONOMA COUNTY WATER AGENCY

SCALE:
DATE : 1/23/2013
DRAWN : REP
CHECKED : MB
REVIEWED
REVIEWED

DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
TYPICAL DETAILS – RIFFLES

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 29 OF 46

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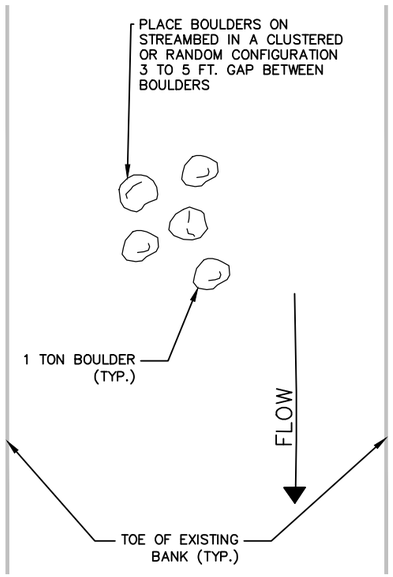
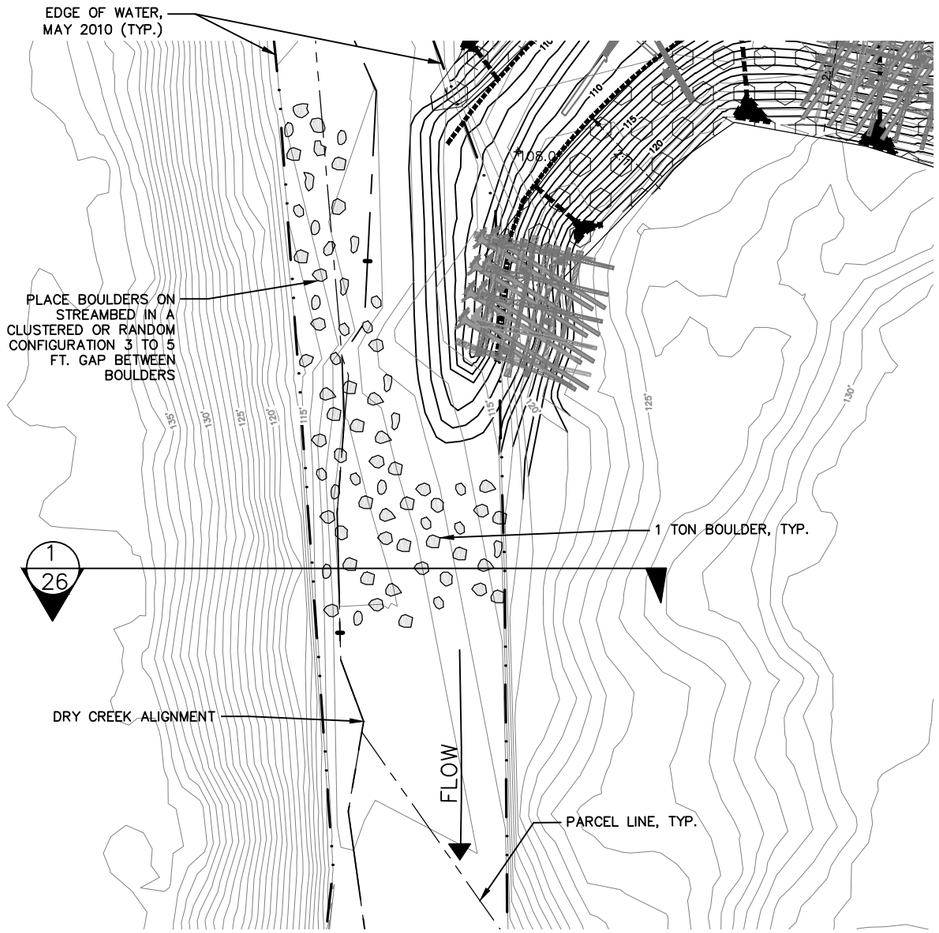


1/8 1/9 TYPICAL PLAN
BOULDER CLUSTER
SCALE: 1 IN. = 10 FT.

10 0 10 20 40
SCALE IN FEET

NOTE:

1. FINAL LOCATION, ALIGNMENT AND CONFIGURATION OF BOULDER CLUSTERS TO BE CONFIRMED AT TIME OF CONSTRUCTION, APPROVAL BY OWNER.



2/8 2/11 2/12 2/26 DETAIL PLAN
BOULDER FIELD
SCALE: 1 IN. = 20 FT.

20 0 20 40 80
SCALE IN FEET

NOTE:

1. FINAL LOCATION, ALIGNMENT AND CONFIGURATION OF BOULDER FIELD TO BE CONFIRMED AT TIME OF CONSTRUCTION, APPROVAL BY OWNER.

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BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY
		RECORD INFORMATION	

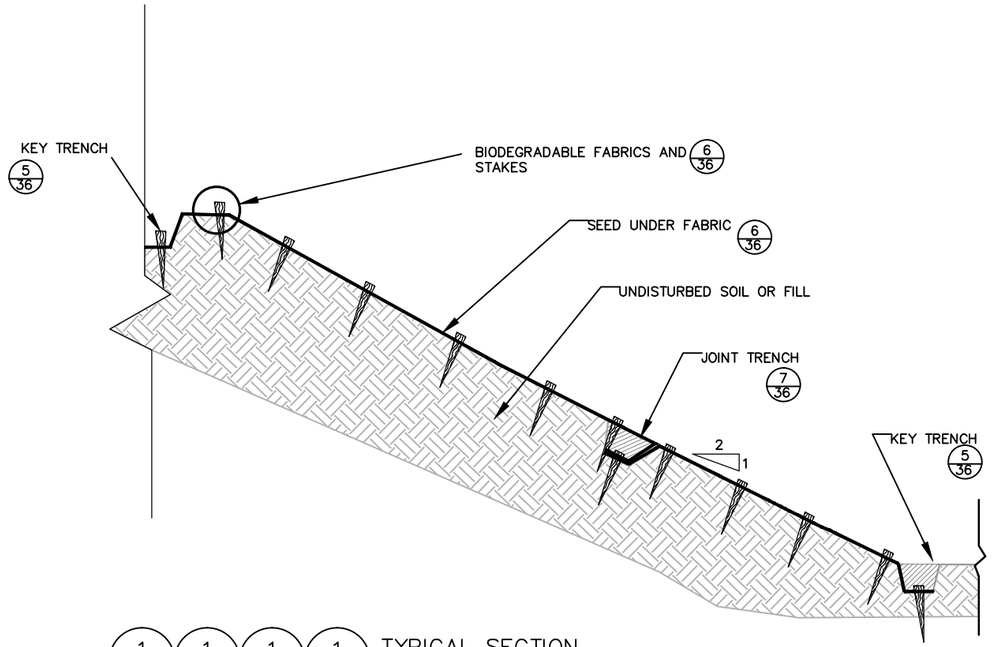
SONOMA COUNTY WATER AGENCY

SCALE:
DATE : 1/23/2013
DRAWN : REP
CHECKED : MB

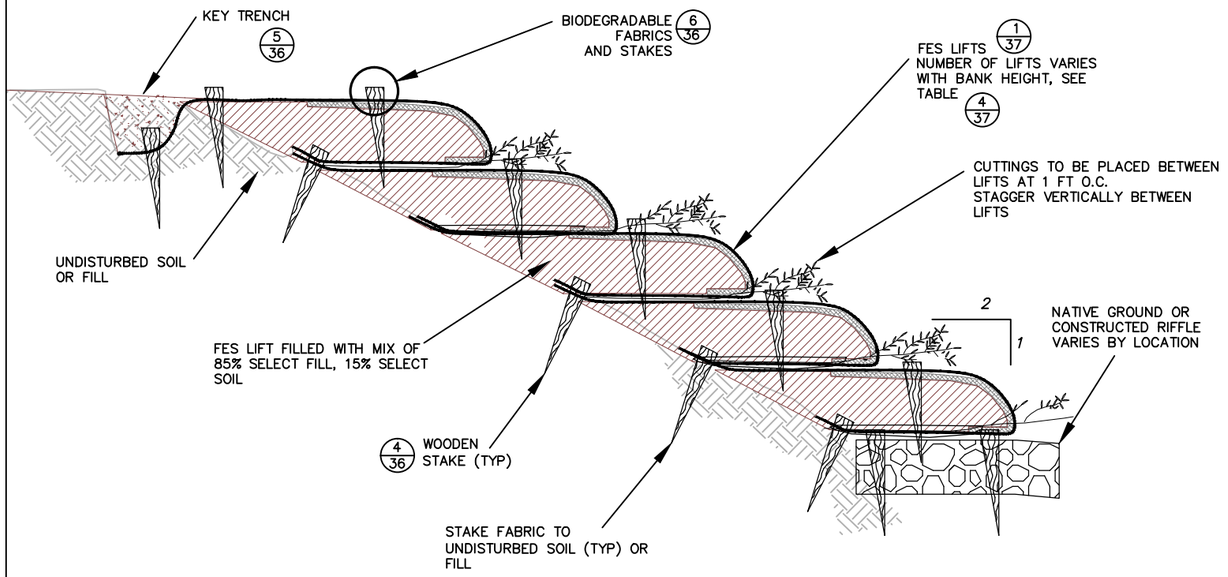
REVIEWED
REVIEWED

DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
TYPICAL DETAILS – BOULDER CLUSTER AND BOULDER FIELD

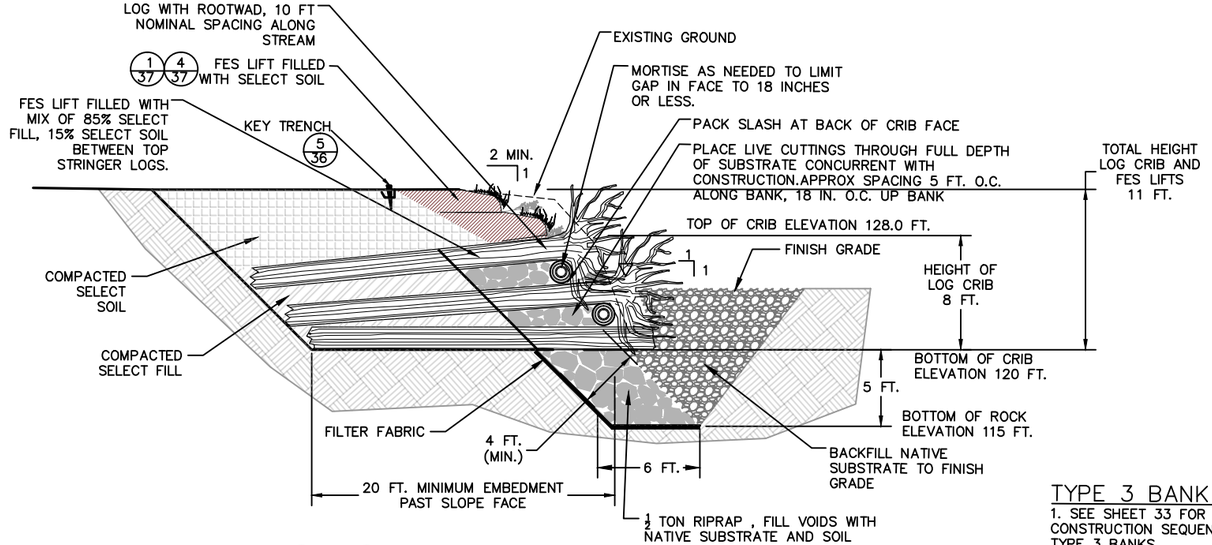
FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 30 OF 46



1/8 1/10 1/12 1/21 TYPICAL SECTION
BANK CONSTRUCTION, TYPE 1
NTS



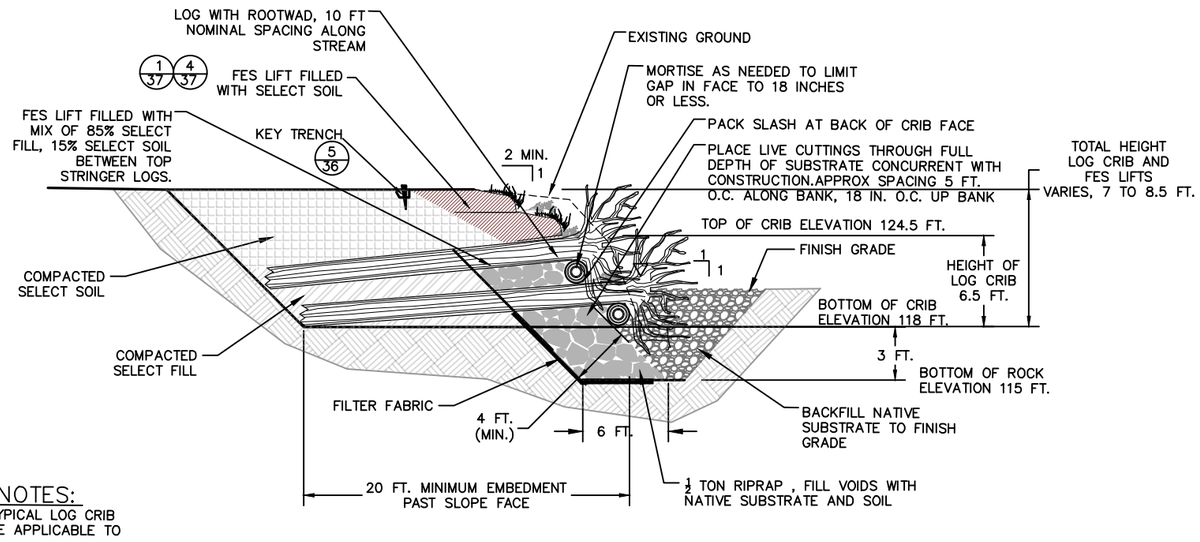
2/8 2/15 2/16 TYPICAL SECTION
BANK CONSTRUCTION, TYPE 2
NTS



3/8 3/15 3/16 3/26 3/28 TYPICAL SECTION
BANK CONSTRUCTION, TYPE 3
WALLACE PROPERTY STA. 0+00 TO 2+30
SCALE: 1 IN. = 5 FT.

TYPE 3 BANK NOTES:

1. SEE SHEET 33 FOR TYPICAL LOG CRIB CONSTRUCTION SEQUENCE APPLICABLE TO TYPE 3 BANKS.
2. SEE SHEET 39 FOR GENERAL LWD INSTALLATION NOTES.
3. 25% OF LOGS WITH ROOTWADS SHALL PROJECT AT LEAST 8 FT. PAST NEAT LINE OF BANK.
4. TRANSITION TREATMENT FROM STA. 2+30 TO 2+40.



4/15 4/16 TYPICAL SECTION
BANK CONSTRUCTION, TYPE 3
WALLACE PROPERTY STA. 2+40 TO 3+05
SCALE: 1 IN. = 5 FT.

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BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
TYPICAL DETAILS – TYPE 1–3 BANK

FILE NAME: 7345
CONTRACT NUMBER: 45–6.1–7#3
DRAWING NUMBER:
SHEET 31 OF 46

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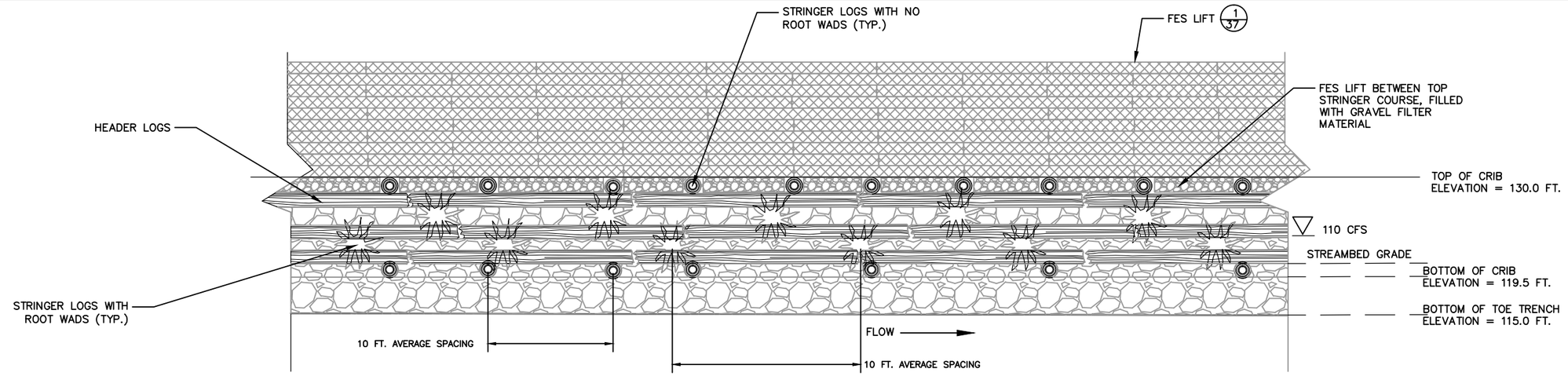
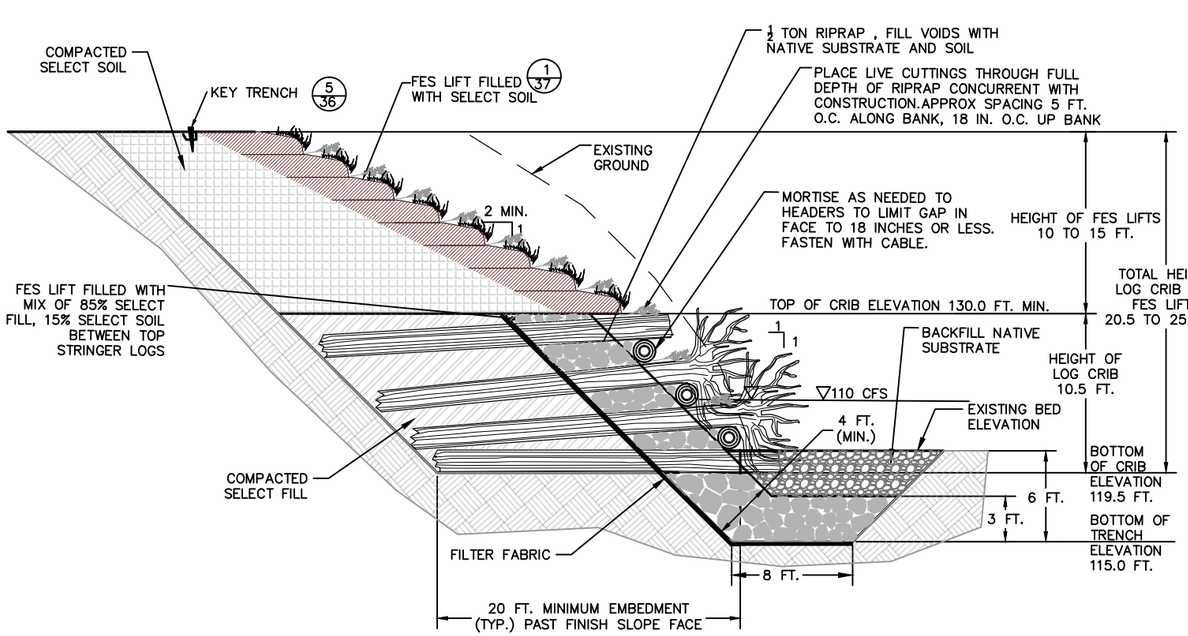
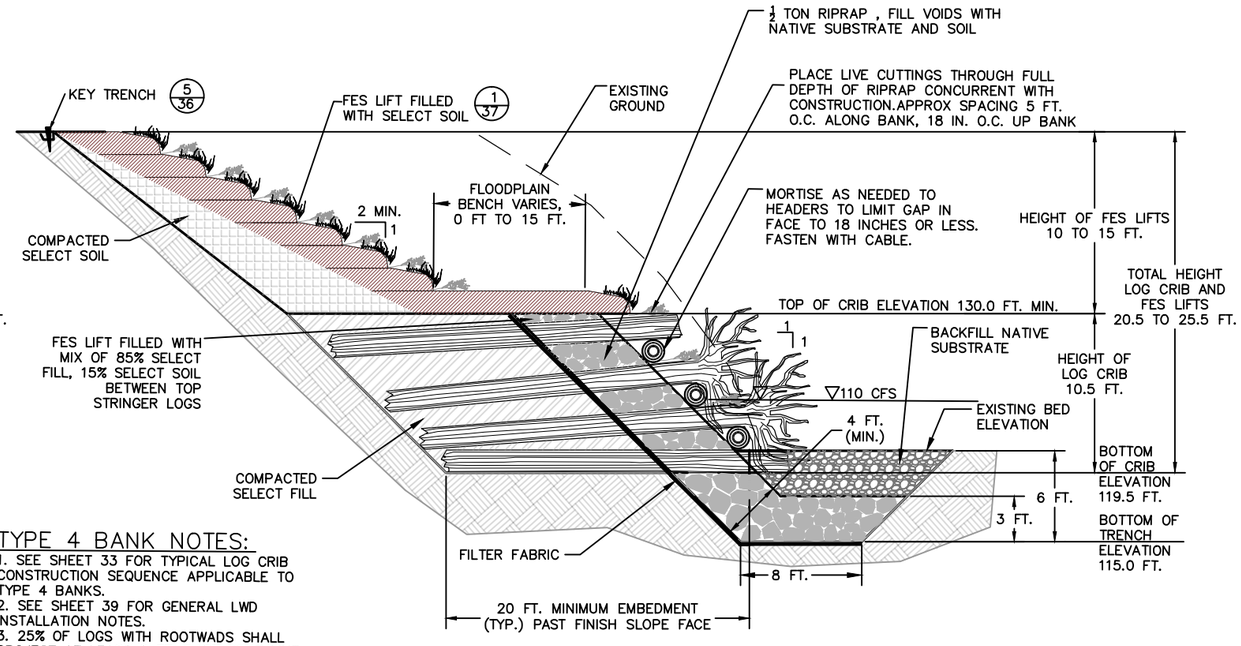


1/10 1/24 1/25 TYPICAL ELEVATION VIEW
BANK CONSTRUCTION, TYPE 4
NTS



2/10 2/24 2/25 2/26 TYPICAL SECTION
BANK CONSTRUCTION, TYPE 4 WITH NO BENCH
STA: 0+55 TO 1+55, 3+00 TO 3+60, 5+00 TO 6+15
SCALE: 1 IN. = 5 FT.



TYPE 4 BANK NOTES:
1. SEE SHEET 33 FOR TYPICAL LOG CRIB CONSTRUCTION SEQUENCE APPLICABLE TO TYPE 4 BANKS.
2. SEE SHEET 39 FOR GENERAL LWD INSTALLATION NOTES.
3. 25% OF LOGS WITH ROOTWADS SHALL PROJECT AT LEAST 8 FT. PAST NEAT LINE OF BANK.

3/10 3/24 3/25 TYPICAL SECTION
BANK CONSTRUCTION, TYPE 4 WITH BENCH
STA: 0+20 TO 0+55, 1+55 TO 3+00, 4+40 TO 5+00
SCALE: 1 IN. = 5 FT.

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BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
TYPICAL DETAILS – TYPE 4 BANK (1 OF 4)

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 32 OF 46

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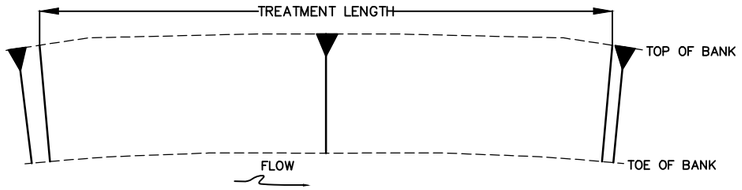
STEP 1.

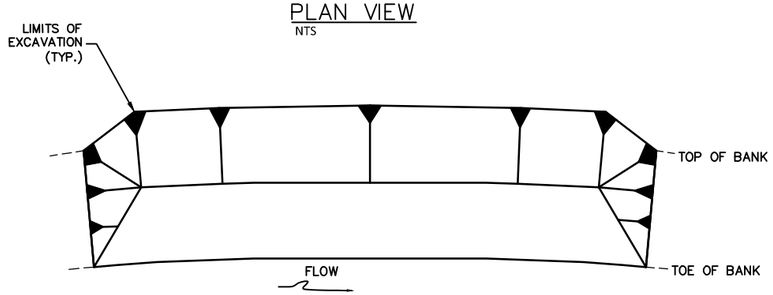
1. CLEAR SITE WITHIN LIMITS OF TREATMENT. AVOID TREES DESIGNATED FOR PRESERVATION.



PLAN VIEW
NTS

STEP 2.

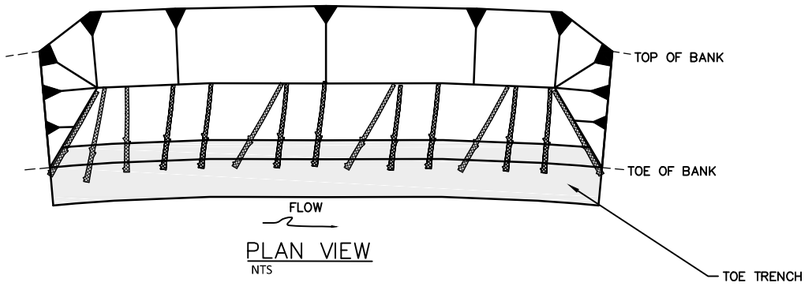
1. EXCAVATE SUBGRADE TO TOP ELEVATION FOR BOTTOM COURSE OF LOGS.



PLAN VIEW
NTS

STEP 3.

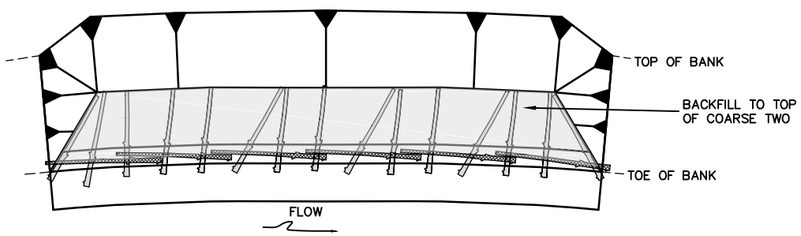
1. EXCAVATE AND INSTALL TOE TRENCH. BACKFILL TRENCH WITH NATIVE SUBSTRATE.
2. INSTALL LWD COURSE 1 (STRINGERS) BY TRENCHING EACH LOG INTO SUBGRADE TO DESIGN DEPTH.
3. ANGLE LWD AT END TERMINATIONS TO EXTEND TO THE FULL LIMITS OF BANK TREATMENT.



PLAN VIEW
NTS

STEP 4.

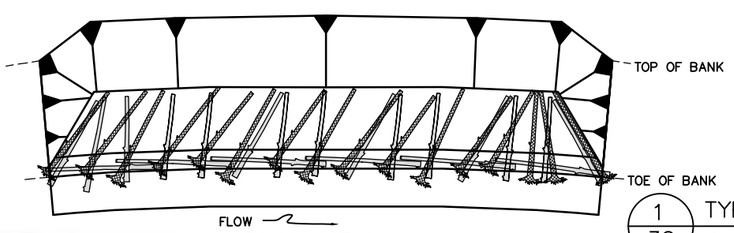
1. INSTALL AND CABLE LWD COURSE 2 (HEADERS).
2. PACK SLASH AGAINST BANK SIDE OF CRIB FORMED BY LWD COURSES 1 AND 2.
3. ALTERNATELY INSTALL LIVE CUTTINGS, SELECT FILL, FILTER FABRIC, GRAVEL FILTER, AND SUBSTRATE BACKFILL TO TOP OF LWD COURSE 2.



PLAN VIEW
NTS

STEP 5.

1. INSTALL AND CABLE LWD COURSE 3 (STRINGERS). 25% OF LWD WITH ROOTWADS SHALL EXTEND AT LEAST 8 FEET PAST THE NEAT LINE OF THE BANK INTO THE CHANNEL.
2. ANGLE LWD AT END TERMINATIONS TO EXTEND TO THE FULL LIMITS OF BANK TREATMENT AND BLEND TO EXISTING GRADE.

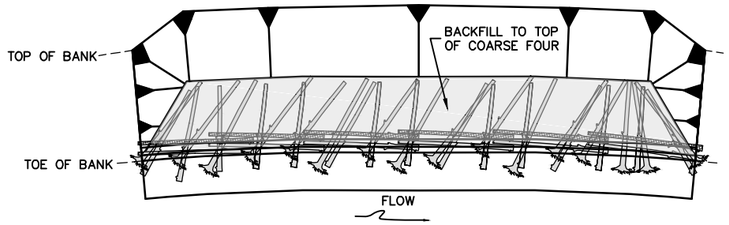


PLAN VIEW
NTS

1/32 TYPICAL CONSTRUCTION SEQUENCE
BANK CONSTRUCTION TYPE 4
SCALE: 1 IN. = 20 FT.

STEP 6.

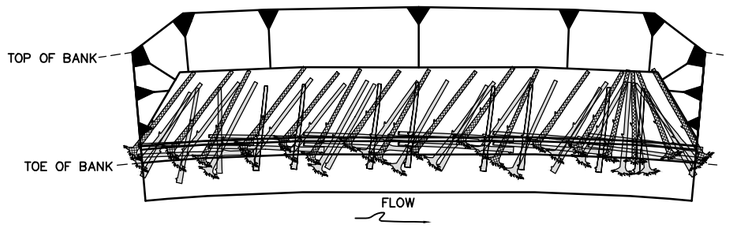
1. INSTALL AND CABLE LWD COURSE 4 (HEADERS).
2. PACK SLASH AGAINST BANK SIDE OF CRIB FORMED BY LWD COURSES 3 AND 4.
3. ALTERNATELY INSTALL LIVE CUTTINGS, SELECT FILL, FILTER FABRIC, GRAVEL FILTER, AND SUBSTRATE BACKFILL TO TOP OF LWD COURSE 4.



PLAN VIEW
NTS

STEP 7.

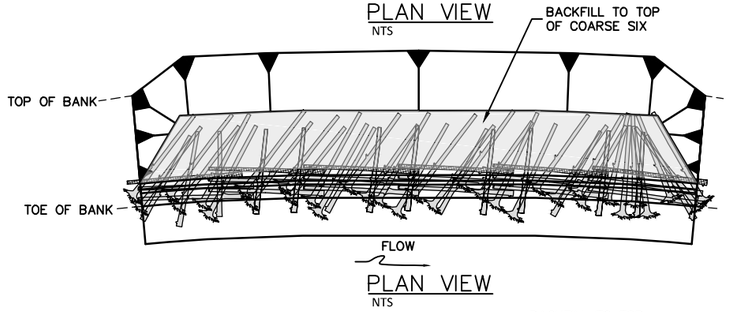
1. INSTALL AND CABLE LWD COURSE 5 (STRINGERS). 25% OF LWD WITH ROOTWADS SHALL EXTEND AT LEAST 8 FEET PAST THE NEAT LINE OF THE BANK INTO THE CHANNEL.
2. ANGLE LWD AT END TERMINATIONS TO EXTEND TO THE FULL LIMITS OF BANK TREATMENT AND BLEND TO EXISTING GRADE.



PLAN VIEW
NTS

STEP 8.

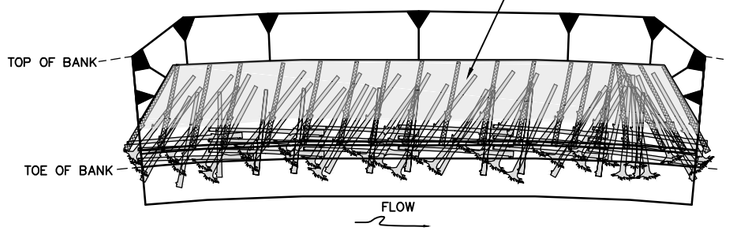
1. INSTALL AND CABLE LWD COURSE 6 (HEADERS).
2. PACK SLASH AGAINST BANK SIDE OF CRIB FORMED BY LWD COURSES 5 AND 6.
3. ALTERNATELY INSTALL LIVE CUTTINGS, SELECT FILL, FILTER FABRIC, GRAVEL FILTER, AND SUBSTRATE BACKFILL TO TOP OF LWD COURSE 6.



PLAN VIEW
NTS

STEP 9.

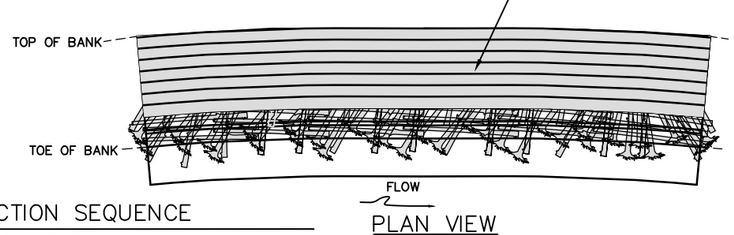
1. INSTALL AND CABLE LWD COURSE 7 (STRINGERS).
2. ANGLE LWD AT END TERMINATIONS TO EXTEND TO THE FULL LIMITS OF BANK TREATMENT AND BLEND TO EXISTING GRADE.
3. BETWEEN COURSE 7 STRINGERS, PLACE LIVE CUTTINGS ON TOP OF COURSE 6 HEADERS.
4. BETWEEN COURSE 7 STRINGERS, INSTALL GRAVEL FILTER MATERIAL IN FES AT BANK FACE.
5. ALTERNATIVELY INSTALL SELECT FILL, FILTER FABRIC, AND GRAVEL FILTER IN REMAINING AREA TO TOP OF LWD COURSE 7.



PLAN VIEW
NTS

STEP 10.

1. ALTERNATELY INSTALL LIVE CUTTINGS AND FES LIFTS TO FINISH UPPER BANK TREATMENT.



PLAN VIEW
NTS

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EXP 06/30/14
CIVIL
STATE OF CALIFORNIA

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

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SONOMA COUNTY WATER AGENCY

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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT

TYPICAL DETAILS – TYPE 4 BANK (2 OF 4)

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3

DRAWING NUMBER:

SHEET 33 OF 46

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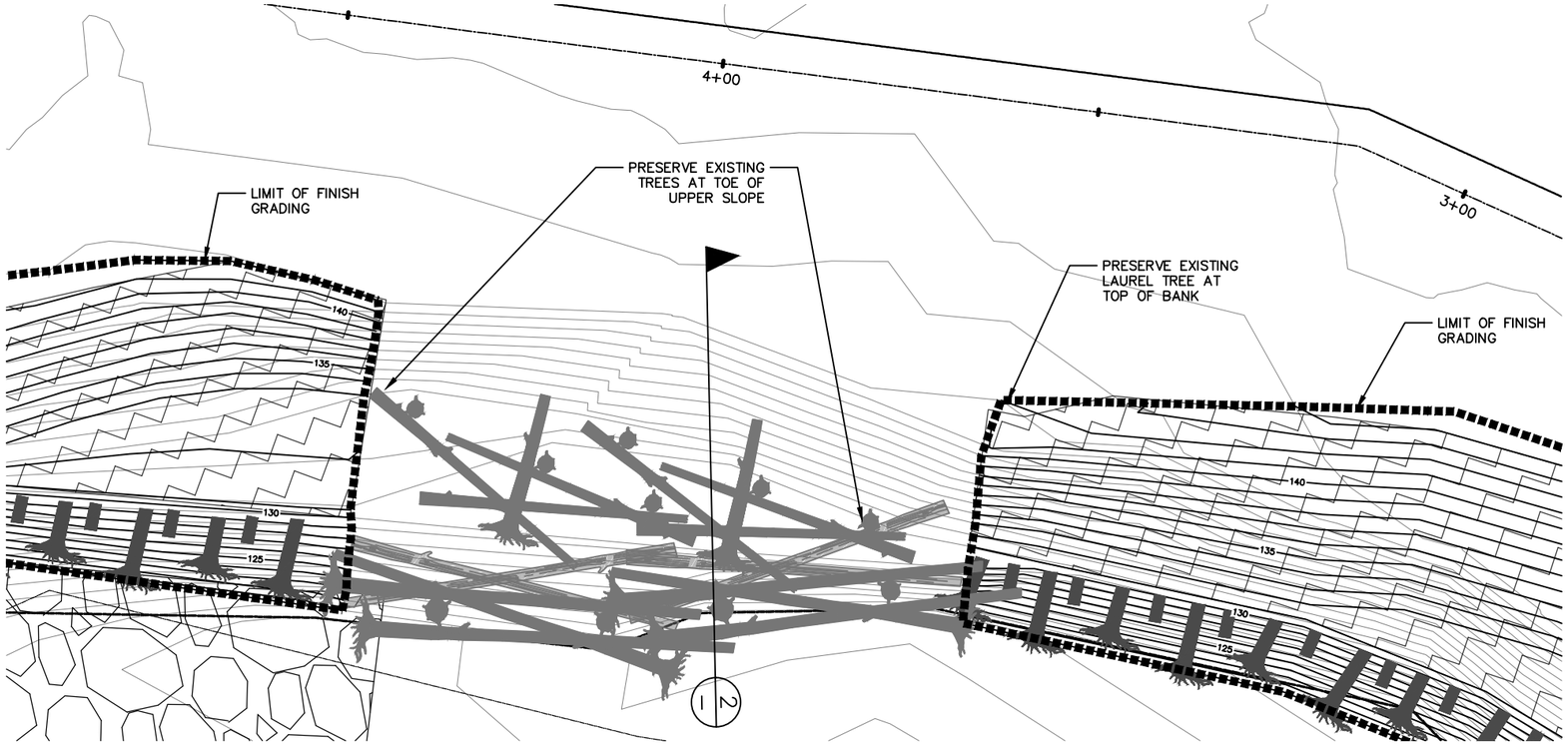
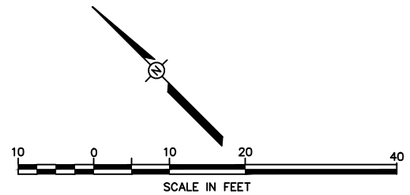
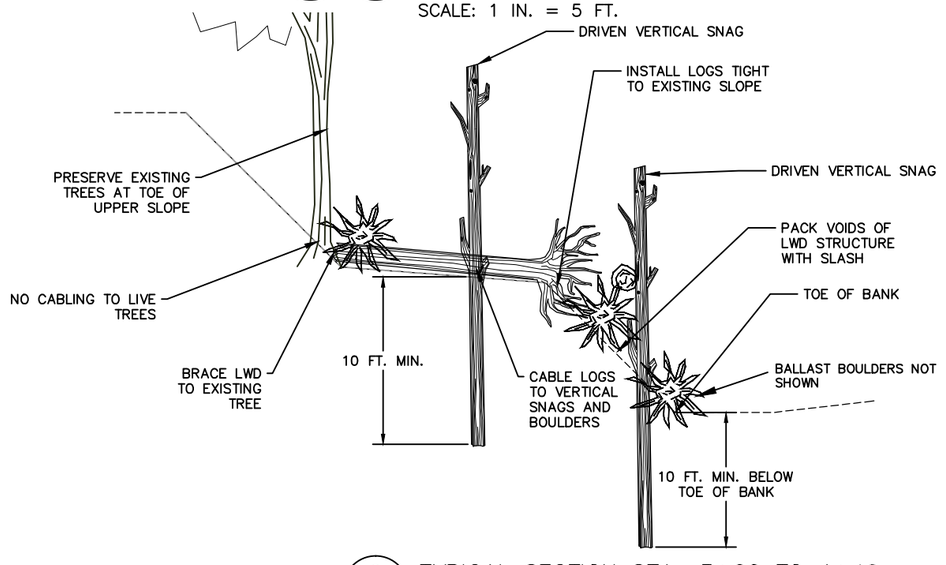




1/10 1/24 PLAN – STA: 3+60 TO 4+40
BANK CONSTRUCTION TYPE 4, NO GRADING
SCALE: 1 IN. = 5 FT.



2/– TYPICAL SECTION STA: 3+60 TO 4+40
BANK CONSTRUCTION TYPE 4
SCALE: 1 IN. = 5 FT.

GENERAL NOTES:
1. SEE SHEET 39 FOR GENERAL LWD INSTALLATION NOTES.

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REVIEWED

DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
TYPICAL DETAILS – TYPE 4 BANK (3 OF 4)

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 34 OF 46

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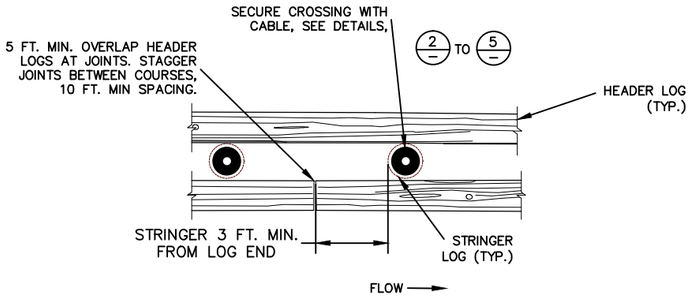
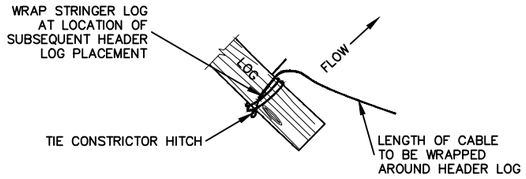
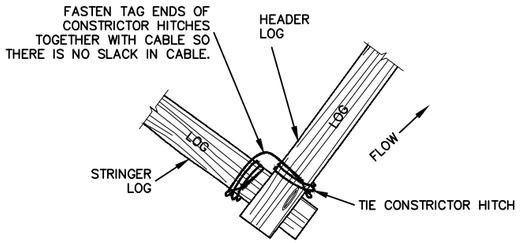


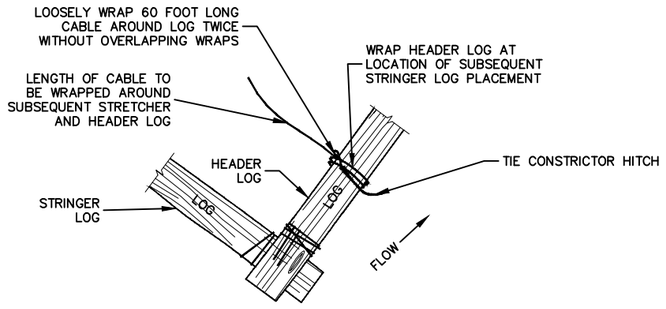
1 — TYPICAL ELEVATION DETAIL
HEADER LOG JOINTS
NTS



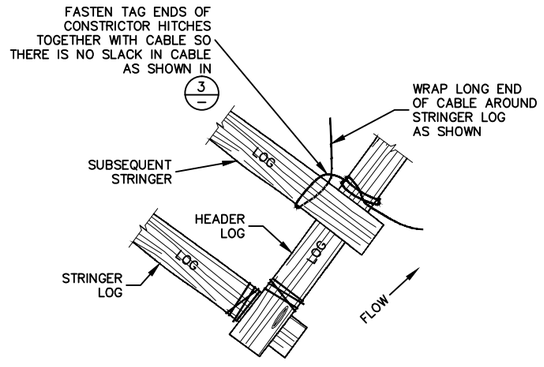
2 — TYPICAL DETAIL
CABLE WRAP SEQUENCE 1
NTS



3 — TYPICAL DETAIL
CABLE WRAP SEQUENCE 2
NTS



4 — TYPICAL DETAIL
CABLE WRAP SEQUENCE 3
NTS



5 — TYPICAL DETAIL
CABLE WRAP SEQUENCE 4
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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT

TYPICAL DETAILS – TYPE 4 BANK (4 OF 4)

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 35 OF 46

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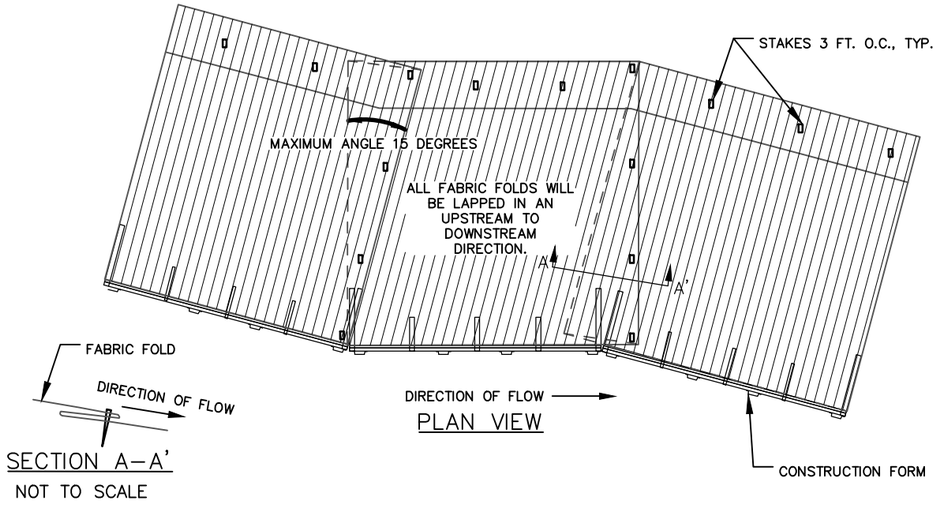
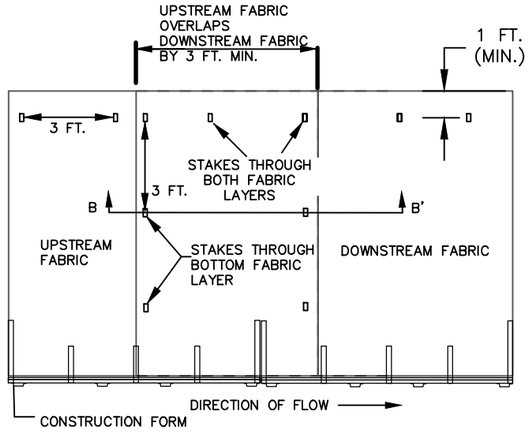


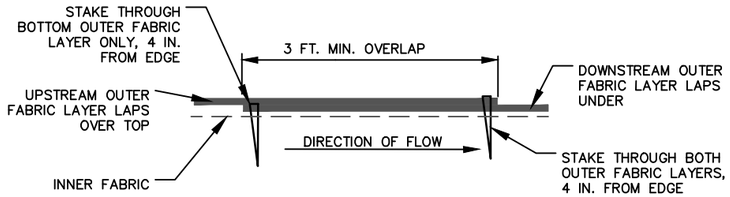
SECTION A–A'
NOT TO SCALE

PLAN VIEW

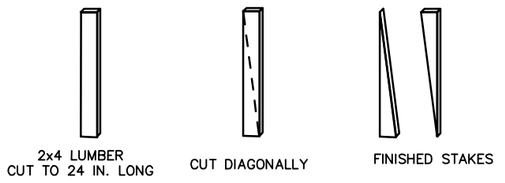
1 / – TYPICAL PLAN DETAIL
FOLDING OF CONTINUOUS OUTER COIR FABRIC AT BENDS
NTS



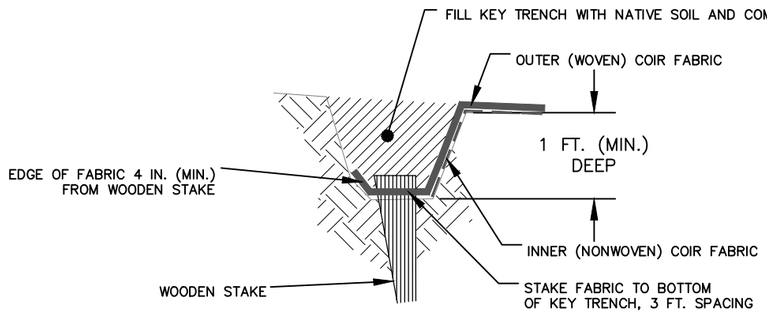
2 / – TYPICAL PLAN DETAIL
OUTER FABRIC JOINING DETAILS
NTS



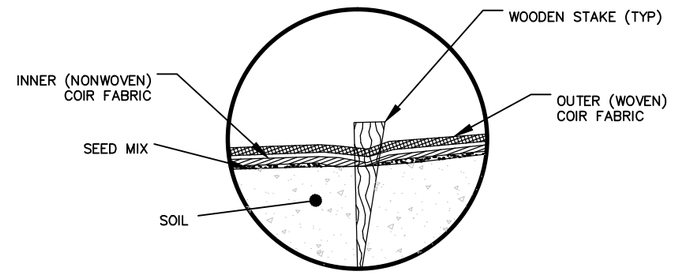
SECTION B–B'
NOT TO SCALE



4 / 31 WOODEN STAKE FABRICATING DETAILS
NTS



5 / 31 5 / 32 KEY TRENCH DETAIL
TRENCH INTO SOIL
NTS



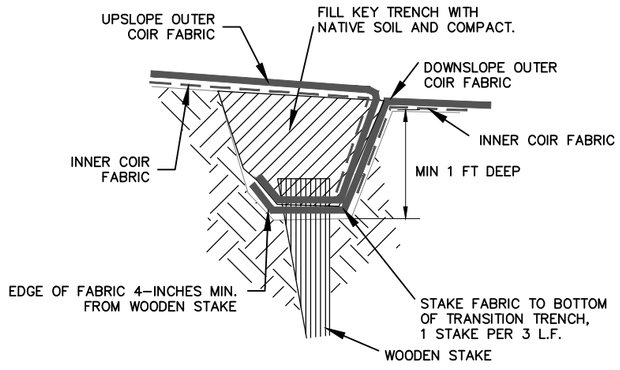
6 / 31 TYPICAL DETAIL
BIODEGRADABLE FABRICS AND STAKES
NTS

GENERAL NOTES ON SECURING COIR FABRIC

1. THE HOLES FOR STAKES SHALL NOT BE PRECUT. ALLOW THE STAKE TO BREAK THE MINIMUM NUMBER OF STRANDS AS IT IS BEING DRIVEN. DRIVE STAKES SO THAT 3 IN. OF THE TOP OF STAKE IS LEFT EXPOSED.

2. FORMS MAY BE ANGLED TO CREATE BENDS IN THE LIFTS AS NEEDED. FABRIC SHALL BE FOLDED AS SHOWN. NO BEND SHALL EXCEED A 15 DEGREE ANGLE. FOLDS SHALL BE MADE IN AN UPSTREAM TO DOWNSTREAM DIRECTION. STAKE THE FOLDS AS SHOWN.

3. OUTER FABRIC ENDS SHALL BE JOINED BY LAPPING THE UPSTREAM PIECE OF FABRIC OVER THE DOWNSTREAM PIECE AS SHOWN. OVERLAPS SHALL BE A MINIMUM OF 3 FEET. INNER FABRIC ENDS SHALL BE BUTTED TOGETHER, NOT OVERLAPPED. OVERLAPS IN OUTER FABRIC SHALL BE STAGGERED FROM LIFT TO LIFT BY A MINIMUM OF 10 FT.



7 / 31 JOINT TRENCH DETAIL
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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
TYPICAL DETAILS – FABRIC INSTALLATION

FILE NAME: 7345
CONTRACT NUMBER: 45–6.1–7#3
DRAWING NUMBER:
SHEET 36 OF 46

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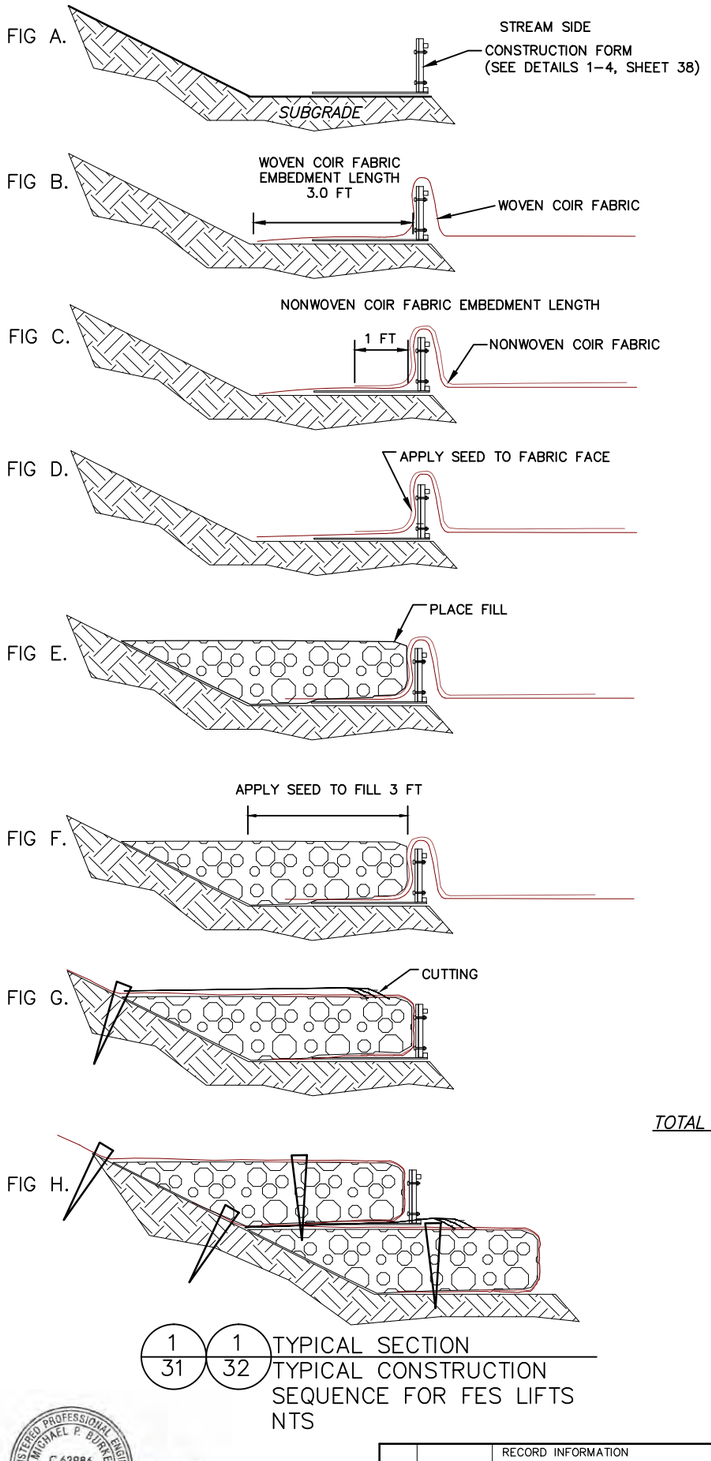

1/31 1/32 TYPICAL SECTION
TYPICAL CONSTRUCTION SEQUENCE FOR FES LIFTS
NTS

FIG 1. PLACE A ROW OF CONSTRUCTION FORMS ALONG DESIRED CHANNEL ALIGNMENT FOR FIRST LIFT.

FIG 2. CONSTRUCT FABRIC WRAP LIFTS ALONG LENGTH OF FIRST SET OF FORMS AND THEN BEGIN PLACEMENT OF FORMS AND CONSTRUCTION OF SECOND LIFT.

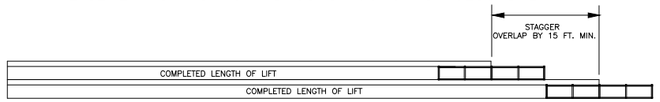

FIG 3. STAGGER FABRIC OVERLAPS A MINIMUM OF 15 IN. BETWEEN LIFTS.

2/– TYPICAL ELEVATION VIEW
CONSTRUCTION SEQUENCE FOR FES LIFTS
NTS

1. FES LIFTS MAY BE CONSTRUCTED IN EITHER AN UPSTREAM OR DOWNSTREAM DIRECTION, AS LONG AS THE FABRIC IS OVERLAPPED IN THE PROPER DIRECTION.

2. EACH LIFT MAY HAVE A UNIQUE FILL COMPOSITION AND VARYING PLACEMENT OF CUTTINGS.

3. PLACE A SERIES OF THREE OR MORE FORMS ON THE GROUND SO THAT THE FORMS FOLLOW THE PROPOSED STREAM BANK ALIGNMENT. BUTT THE ENDS OF THE FORMS TIGHTLY TOGETHER.

4. UNROLL THE WOVEN COIR FABRIC PARALLEL TO THE LONG AXIS OF THE CHANNEL AND POSITION IT SO THAT 3.0 FEET EXTENDS FOR EMBEDMENT ON THE BANK SIDE OF THE FORMS (FIG B), AND A MINIMUM 3 FEET EXTENDS LENGTHWISE BEYOND THE LAST FORM FOR OVERLAP. DRAPE THE REMAINDER OF THE FABRIC OVER THE TOP OF THE FORMS ON THE STREAM SIDE (FIG B).

5. UNROLL THE NONWOVEN COIR FABRIC OVER THE TOP OF THE WOVEN COIR FABRIC AND POSITION IT SO THAT AT LEAST 1 FOOT OF THE INNER FABRIC EXTENDS AS AN EMBEDMENT LENGTH ON THE BANK SIDE OF THE FORMS (FIG C). DRAPE THE REMAINDER OF THE FABRIC OVER THE TOP OF THE FORMS ON THE STREAM SIDE AND ALIGN THE LONG EDGES OF THE COIR FABRICS. STRETCH AND PULL THE FABRIC LAYERS TO REMOVE WRINKLES.

6. APPLY NATIVE SEED MIX TO NONWOVEN COIR FABRIC ALONG VERTICAL EDGE OF LIFT (FIG D). PLACE SPECIFIED FILL OVER THE FABRIC ON THE BANK SIDE OF THE FORMS. LEVEL THE FILL AND COMPACT (FIG E).

7. APPLY NATIVE SEED MIX TO TOP OF FILL FROM THE FRONT OF THE LIFT TO 3 FT BACK FROM FRONT OF THE LIFT (FIG F).

8. FOLD THE LOOSE ENDS OF THE TWO COIR FABRIC LAYERS BACK OVER THE COMPACTED FILL MATERIAL AND STRETCH TIGHTLY TO REMOVE WRINKLES (FIG G). SECURE WITH WOODEN STAKES 1 PER 3 L.F. ALONG THE BACK EDGE AND INTO UNDISTURBED SOIL.

9. REMOVE THE FORMS FROM THE FRONT OF THE COMPLETED LIFTS (DETAIL 2 THIS SHEET). LEAVE THE LAST FORM IN PLACE AT THE END OF THE NEWLY CONSTRUCTED LIFT (DETAIL 2 THIS SHEET). PLACE CUTTINGS ON TOP OF THE FINISHED LAYER FOR THE NEXT LIFT (FIG G). PLACE A SMALL AMOUNT OF SOIL OVER THE CUTTINGS. CAREFULLY RESET THE FORMS ON TOP OF THE FINISHED LAYER FOR THE NEXT LIFT (FIG H) TO AVOID DAMAGING THE CUTTING.

10. PROCEED WITH A NEW SERIES OF LIFTS BY EXTENDING A NEW ROW OF FORMS. OFFSET FORMS TO ESTABLISH THE DESIGN BANK SLOPE BEGINNING AT THE END FORM THAT WAS LEFT IN PLACE, LAY OUT TWO NEW LAYERS OF FABRIC AS PREVIOUSLY DESCRIBED, MAKING SURE TO OVERLAP THE NEW FABRIC LAYERS WITH THE PREVIOUS LAYERS. STAGGER OVERLAPS, BETWEEN ADJACENT LIFTS BY A MINIMUM OF 15 FEET (FIG 2).

11. UPON COMPLETTION OF TOP LIFT, INSTALL KEY TRENCH PARALLEL TO THE BANK AT THE LANDWARD EDGE OF THE WOVEN FABRIC. SEED DETIAL 5 SHEET 36.

12. BACKFILL THE KEY TRENCH WITH NATIVE SOIL AND SMOOTH TO MERGE WITH EXISTING CONTOURS. APPLY SEED MIX TO KEY TRENCH AREA.

3/– TYPICAL SEQUENCE
CONSTRUCTION OF FES LIFTS
NTS

TOTAL VERTICAL BANK HEIGHT (FT)	*NUMBER OF LIFTS*	*TOTAL VERTICAL BANK HEIGHT (FT)*	*NUMBER OF LIFTS*
1.0 TO 1.5	*1*	*9.1 TO 10.5*	*7*
1.6 TO 3.0	*2*	*10.6 TO 12.0*	*8*
3.1 TO 4.5	*3*	*12.1 TO 13.5*	*9*
4.6 TO 6.0	*4*	*13.6 TO 15.0*	*10*
6.1 TO 7.5	*5*		
7.6 TO 9.0	*6*		

4/31 4/32 DETAIL TABLE
NUMBER OF FES LIFTS FOR BANK HEIGHT

FES LIFT NOTES:
1. TOP AND BOTTOM LIFTS SHALL USE 13 FOOT WIDE WOVEN COIR FOR THE OUTER FABRIC. MIDDLE LIFTS SHALL USE 10 FOOT WIDE WOVEN COIR FOR THE OUTER FABRIC.
2. MAXIMUM LIFT HEIGHT IS 18 IN.

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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
TYPICAL DETAILS – FES LIFT (1 OF 2)

FILE NAME: 7345
CONTRACT NUMBER: 45–6.1–7#3
DRAWING NUMBER:
SHEET 37 OF 46

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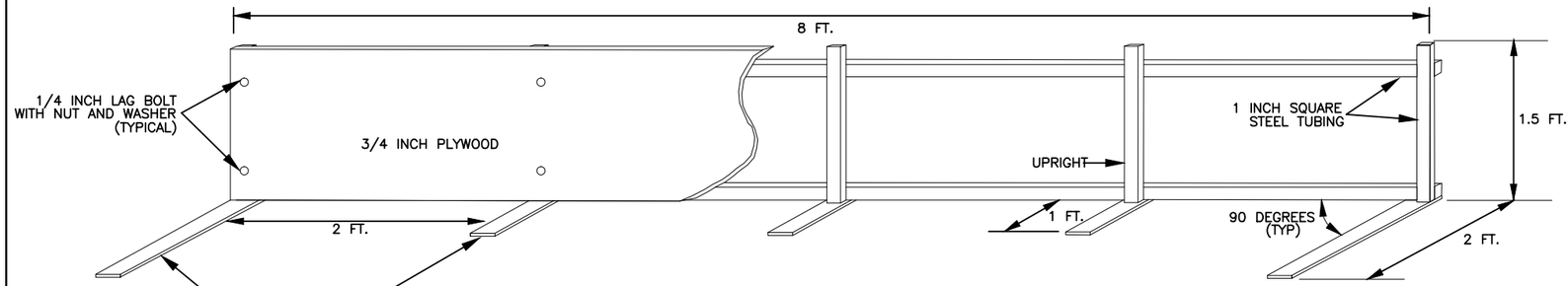
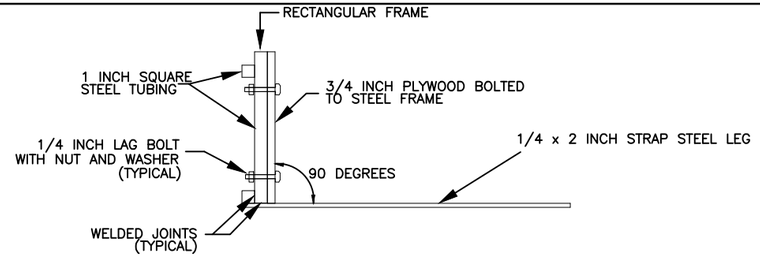
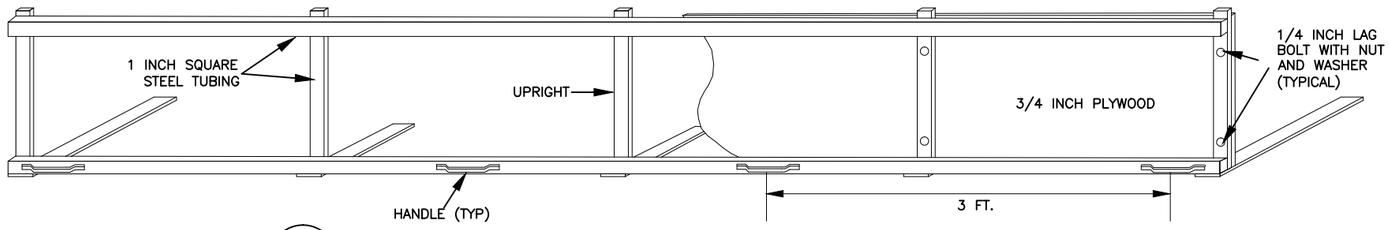


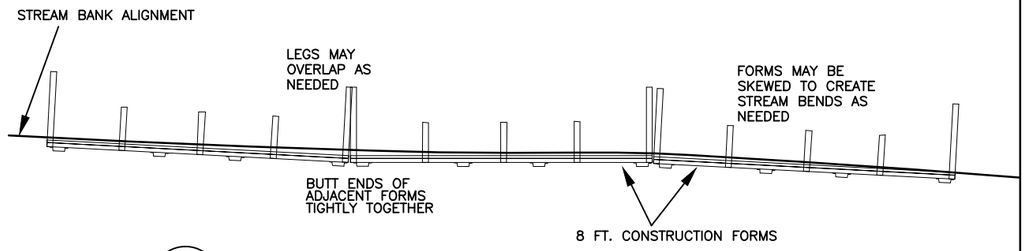
1 TYPICAL DETAIL
FORM FOR FES LIFTS
NTS
ISOMETRIC VIEW FROM REAR



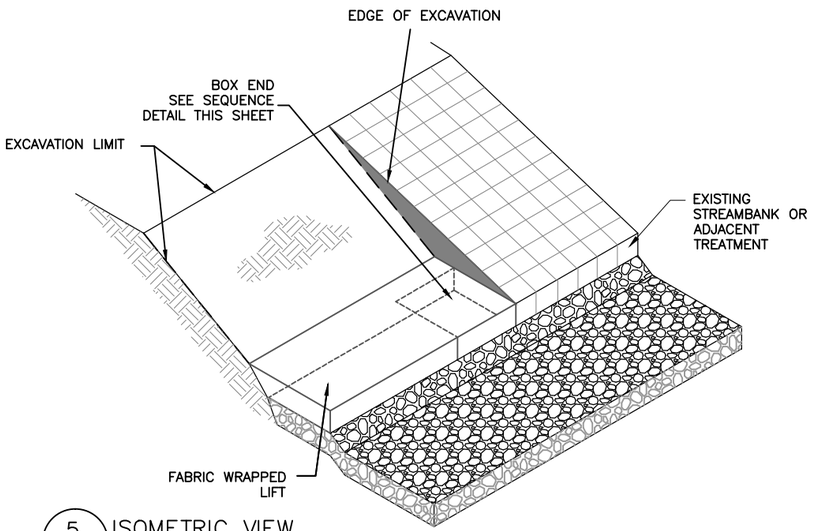
3 TYPICAL SECTION
FORM FOR FES LIFTS
NTS



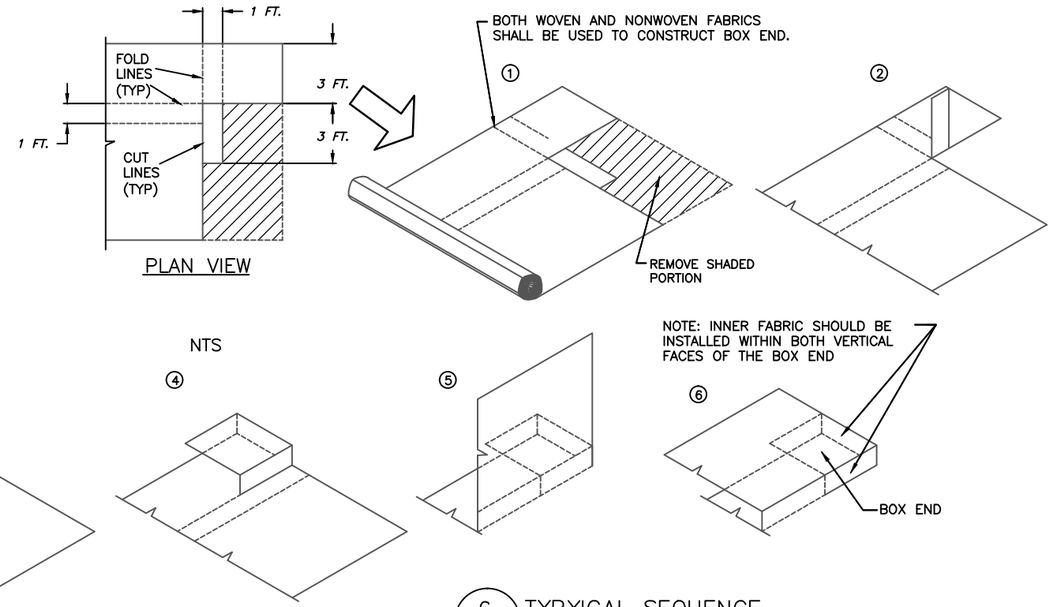
2 TYPICAL ISOMETRIC DETAIL
FABRICATED FORM FOR FES LIFTS
NTS
ISOMETRIC VIEW FROM FRONT



4 TYPICAL PLAN DETAIL
PLACEMENT OF FORMS FOR FES LIFTS
NTS



5 ISOMETRIC VIEW
BOX END AT FES LIFT TERMINATION
NTS



6 TYPYICAL SEQUENCE
BOX END AT FES LIFT TERMINATION
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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
TYPICAL DETAILS – FES LIFT (2 OF 2)

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 38 OF 46

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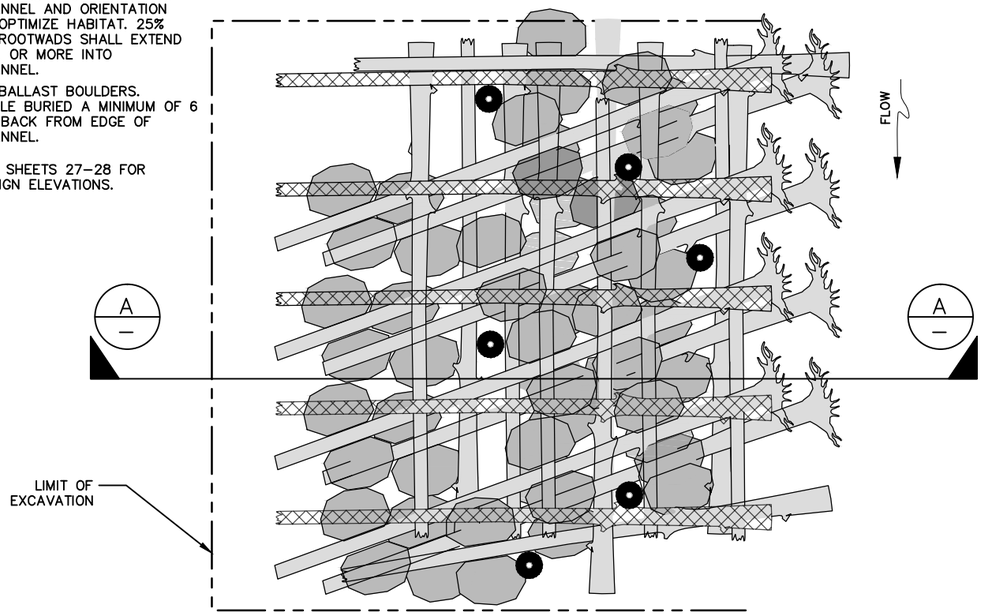
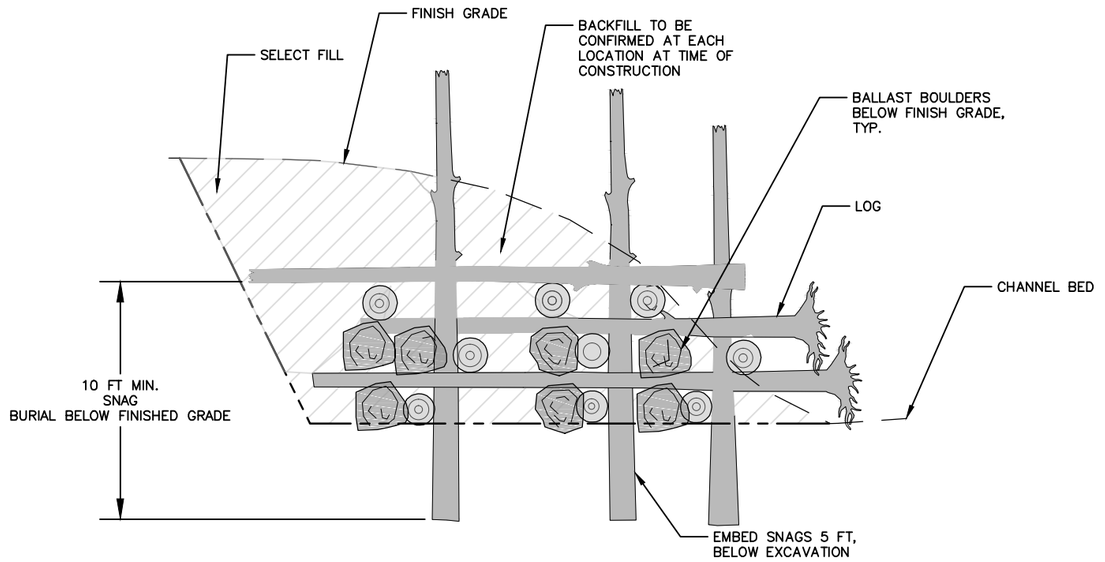
LOG JAM SPECIFIC NOTES:

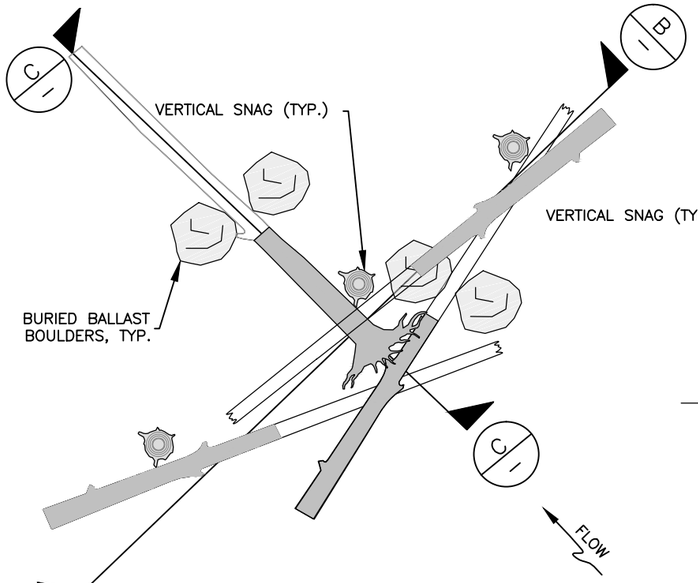
1. VARY LWD PROJECTION INTO CHANNEL AND ORIENTATION TO OPTIMIZE HABITAT. 25% OF ROOTWADS SHALL EXTEND 8FT. OR MORE INTO CHANNEL.
2. TO BALLAST BOULDERS. CABLE BURIED A MINIMUM OF 6 FT. BACK FROM EDGE OF CHANNEL.
3. SEE SHEETS 27–28 FOR DESIGN ELEVATIONS.



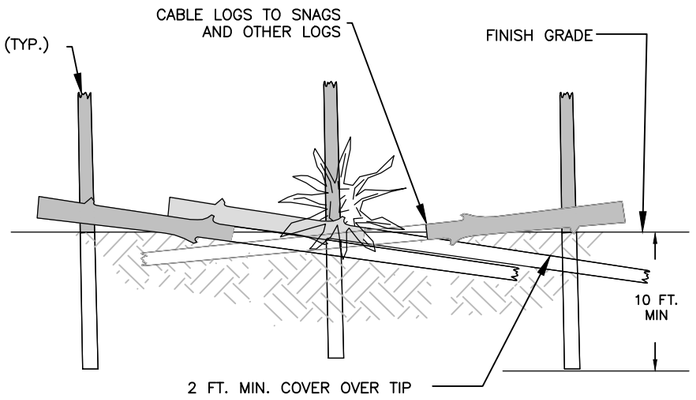
1/8 1/10 1/12 1/15 1/18 1/21 TYPICAL PLAN DETAIL
LOG JAM
NTS



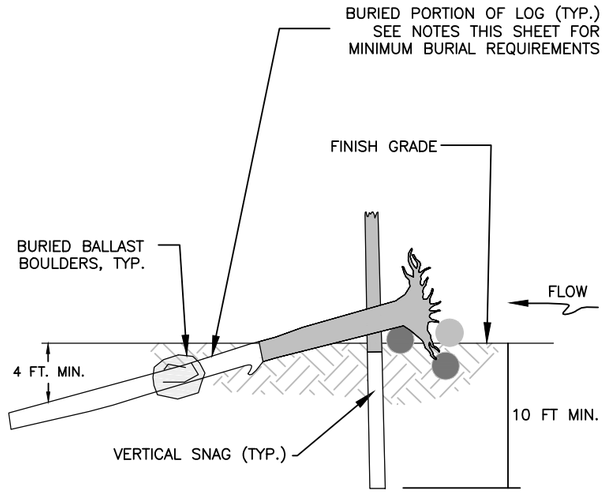
A/– TYPICAL SECTION
LOG JAM



2/8 2/10 2/12 2/18 2/21 2/24 2/26 TYPICAL PLAN
FLOODPLAIN LWD
NTS



B/– TYPICAL ELEVATION VIEW
FLOODPLAIN LWD
NTS



C/– TYPICAL SECTION
FLOODPLAIN LWD
NTS

GENERAL SHEET NOTES:

1. MATERIAL QUANTITIES DEPICTED ARE SCHEMATIC ONLY. REFERENCE SUMMARY TABLE ON SHEET 41 FOR TARGET MATERIAL QUANTITIES AT EACH LOG JAM AND LWD STRUCTURE.
2. SEE GENERAL LWD INSTALLATION NOTES BELOW
3. SEE SHEET 42 FOR LOGJAM CONSTRUCTION SEQUENCE.
4. SEE SHEET 43 FOR FLOODPLAIN LWD CONSTRUCTION SEQUENCE.
5. SEE SHEET 45 FOR CABLING DETAILS.

GENERAL LWD INSTALLATION NOTES:

1. SPECIFIC ORIENTATION OF LWD AND BALLAST MATERIALS MAY VARY FROM TYPICAL DRAWINGS DEPENDING ON SITE CONDITIONS AND SIZE AND SHAPE OF MATERIALS DELIVERED TO THE SITE.
2. OWNER WILL COORDINATE WITH CONTRACTOR DURING PLACEMENT OF LWD TO CONFIRM PLACEMENT, ORIENTATION AND BALLASTING DURING INSTALLATION.
3. LWD WILL BE BALLASTED TO RESIST BUOYANCY BY PARTIAL BURIAL, CABLING TO OTHER LWD, SECURING TO VERTICAL SNAGS OR BOULDERS, OR OTHER METHODS.
4. EXISTING TREES MAY BE SUBSTITUTED FOR SNAGS IN SELECT LOCATIONS, BUT SHALL NOT BE CABLED. SUBSTITUTION ONLY WITH OWNERS APPROVAL.
5. BALLAST BOULDERS TO BE PLACED BELOW FINISH GRADE ONLY.

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LWD DETAILS – LOG JAM AND FLOODPLAIN LWD

FILE NAME: 7345
CONTRACT NUMBER: 45–6.1–7#3
DRAWING NUMBER:
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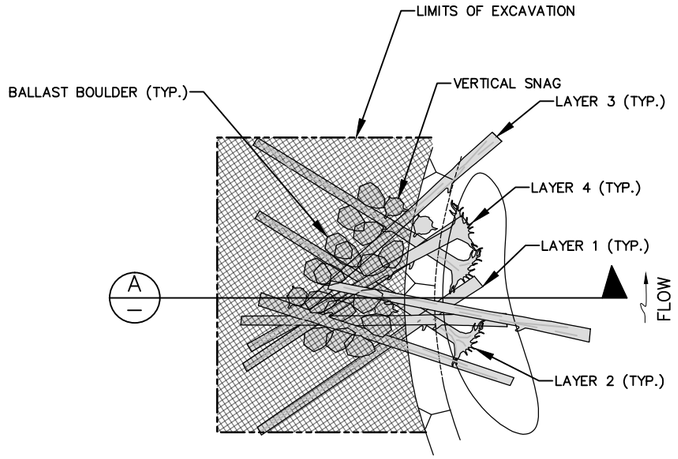
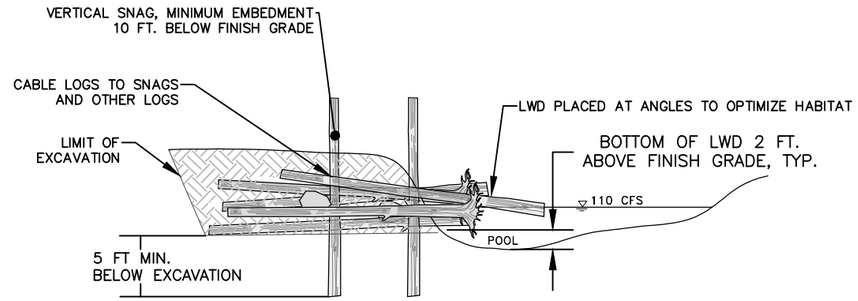


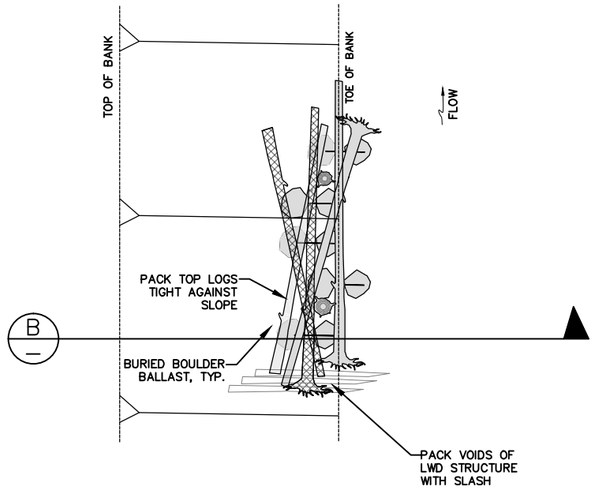
1/8 1/10 1/12 1/18 1/21 TYPICAL PLAN DETAIL
BACKWATER CHANNEL LWD
NTS



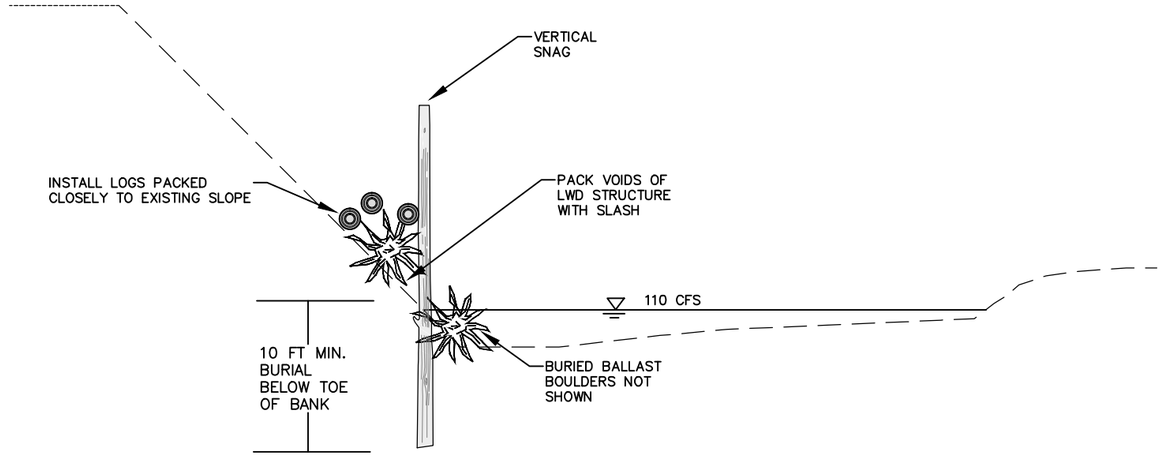
A TYPICAL SECTION
BACKWATER CHANNEL LWD
NTS

GENERAL SHEET NOTES:

1. MATERIAL QUANTITIES DEPICTED ARE SCHEMATIC ONLY. REFERENCE SUMMARY TABLE ON SHEET 41 FOR TARGET MATERIAL QUANTITIES AT EACH LOG JAM AND LWD STRUCTURE.
2. SEE GENERAL LWD INSTALLATION NOTES ON SHEET 39.
3. SEE SHEET 44 FOR BACKWATER CHANNEL LWD TYPICAL CONSTRUCTION SEQUENCE.
4. SEE SHEET 43 FOR TYPICAL POOL LWD CONSTRUCTION SEQUENCE.
5. SEE SHEET 45 FOR TYPICAL CABLING DETAILS.



2/8 2/10 2/18 2/21 2/28 TYPICAL PLAN DETAIL
POOL ENHANCEMENT LWD
NTS



B TYPICAL SECTION
POOL ENHANCEMENT LWD
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LWD DETAILS – BACKWATER CHANNEL AND POOL ENHANCEMENT

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 40 OF 46

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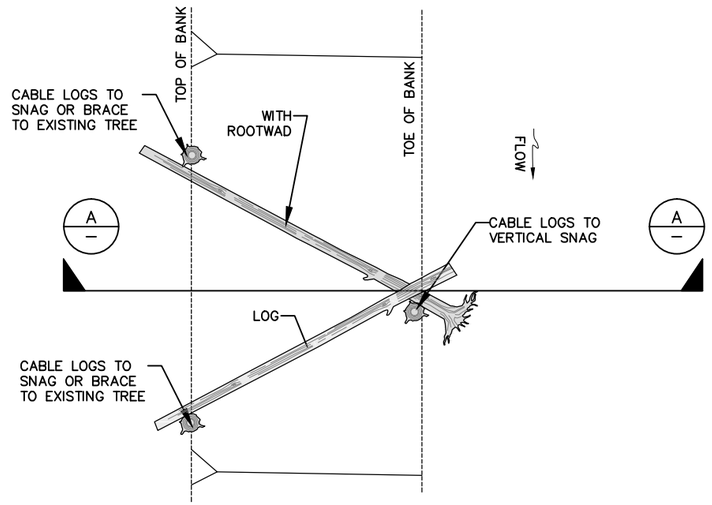
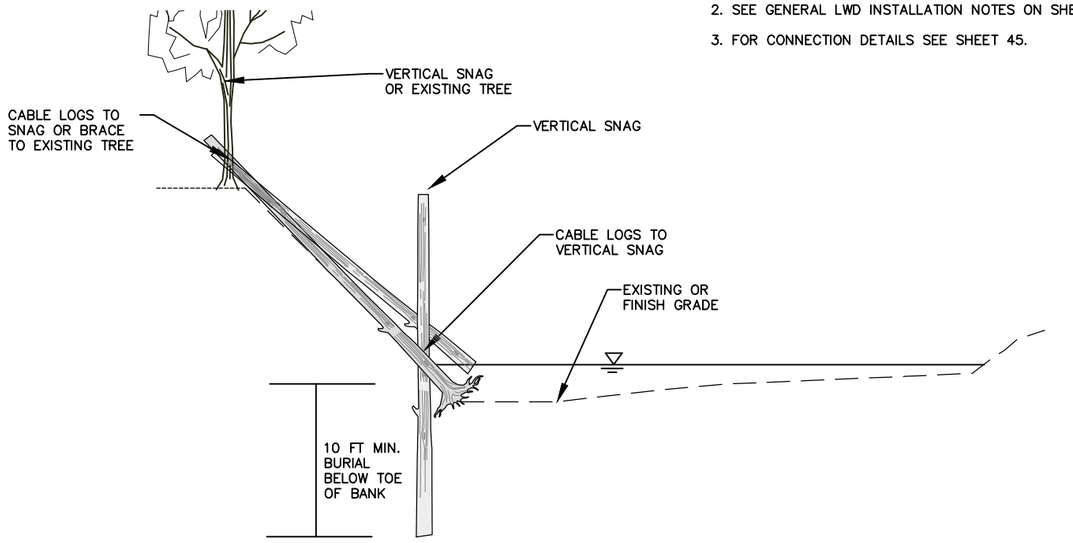


1/8 1/18 TYPICAL PLAN DETAIL
SLOPE LWD



A/– TYPICAL SECTION
SLOPE LWD

GENERAL SHEET NOTES:

1. MATERIAL QUANTITIES DEPICTED ARE SCHEMATIC ONLY. REFERENCE SUMMARY TABLE ON THIS SHEET FOR TARGET MATERIAL QUANTITIES AT EACH LOG JAM AND LWD STRUCTURE.
2. SEE GENERAL LWD INSTALLATION NOTES ON SHEET 39
3. FOR CONNECTION DETAILS SEE SHEET 45.

STATION	TYPE*	NUMBER	LOGS	LOGS WITH ROOTWADS	SNAGS	CABLE ATTACHMENTS	BALLAST BOULDERS
OFF-CHANNEL ENHANCEMENT AREA A							
M326+25**	LJ	1	16	8	6	48	52
A1+50**	LJ	1	16	8	6	48	52
A2+00**	LJ	1	16	8	6	48	52
–	BW	5	30	15	20	90	90
–	FP	13	39	13	39	78	52
–	MISC	–	10	5	10	44	25
TOTAL AREA A			127	57	87	356	323
WALLACE PROPERTY							
M334+00**	LJ	1	16	8	6	48	52
–	TYPE 3***	1	55	65	0	125	0
–	FP	8	24	8	24	48	32
–	MISC	–	15	5	15	50	35
TOTAL WALLACE PROPERTY			110	86	45	271	119
OFF-CHANNEL ENHANCEMENT AREA B							
M340+25**	LJ	1	16	8	6	48	52
–	BW	5	30	15	20	90	90
–	P	1	2	3	2	10	10
–	SL	4	4	4	4	16	0
–	FP	2	6	2	6	12	8
–	MISC	–	10	5	5	30	13
TOTAL AREA B			68	37	43	206	173
OFF-CHANNEL ENHANCEMENT AREA C							
M361+00**	LJ	1	16	8	6	48	52
M368+25**	LJ	1	16	8	6	48	52
–	BW	7	42	21	28	126	126
–	FP	20	60	20	60	120	80
–	MISC	–	15	7	15	50	35
TOTAL AREA C			149	64	115	392	345
MASCHERINI PROPERTY							
–	TYPE 4****	1	165	110	10	330	28
–	MISC	–	10	5	3	30	30
TOTAL MASCHERINI PROPERTY			175	115	13	360	58
MAINSTEM INSTREAM POOL ENHANCEMENTS							
–	P	3	6	9	6	30	30
–	MISC	–	2	3	2	10	10
TOTAL INSTREAM POOL ENHANCEMENTS			8	12	8	40	40
TOTALS			**637**	**371**	**311**	**1625**	**1058**

* LJ: LOG JAM
BW: BACKWATER LWD
FP: FLOODPLAIN LWD
P: POOL ENHANCEMENT LWD
SL: SLOPE PLACEMENT LWD
MISC: SUPPLEMENTAL LWD ALLOWANCE
TYPE 3: TYPE 3 BANK
TYPE 4: TYPE 4 BANK

** TREATMENT LENGTH 40 FT. MEASURED PARALLEL TO LOG JAM FACE
*** TREATMENT LENGTH 315 FT. MEASURED PARALLEL TO TREATMENT FACE
**** TREATMENT LENGTH 515 FT. MEASURED PARALLEL TO TREATMENT FACE

2/– SUMMARY TABLE
LOG JAM AND LWD INSTALLATION QUANTITIES

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REGISTERED PROFESSIONAL ENGINEER MICHAEL F. BURKE C 62985 EXP 06/30/14 CIVIL STATE OF CALIFORNIA

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

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		RECORD INFORMATION	

SONOMA COUNTY WATER AGENCY

SCALE:
DATE : 1/23/2013
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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
LWD DETAILS – SLOPE LWD
AND LWD SUMMARY TABLE

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 41 OF 46

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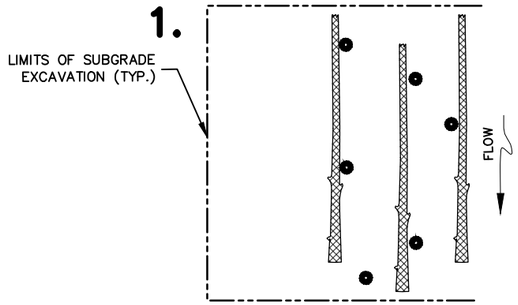
GENERAL SHEET NOTES:

1. MATERIAL QUANTITIES DEPICTED ARE SCHEMATIC ONLY. REFERENCE SUMMARY TABLE ON SHEET 41 FOR TARGET MATERIAL QUANTITIES AT EACH LOG JAM AND LWD STRUCTURE.
2. SEQUENCING PROVIDED TO REFLECT GENERAL LEVEL OF EFFORT FOR LOG JAM CONSTRUCTION.
3. SEE GENERAL LWD CONSTRUCTION NOTES ON SHEET 39.
4. SEE SHEETS 27–28 FOR DESIGN ELEVATIONS FOR EACH LOG JAM.
5. FOR CONNECTION DETAILS SEE SHEET 45.
6. EXISTING TREES MAY BE INTEGRATED INTO LOG JAMS AT SELECT LOCATIONS IF DESIGNATED BY OWNER.

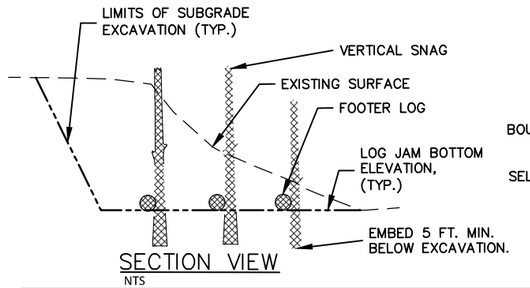
1.



PLAN VIEW
NTS

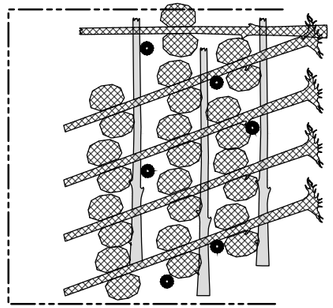
TYPICAL LAYER 1. SEQUENCING

1. PREPARE SITE
2. EXCAVATE TO SUBGRADE.
3. INSTALL LAYER 1 FOOTER LOGS.
4. INSTALL VERTICAL SNAGS



SECTION VIEW
NTS

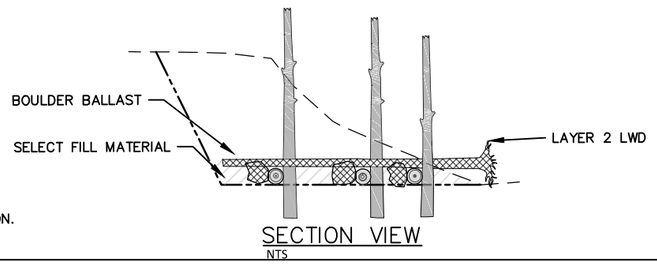
2.



PLAN VIEW
NTS

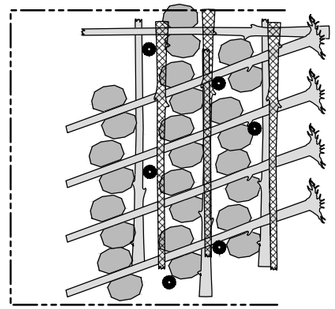
TYPICAL LAYER 2. SEQUENCING

1. INSTALL LAYER 2 LWD.
2. PLACE BOULDERS FOR BALLASTING. BOULDER BALLAST TO BE PLACED AS APPROVED BY OWNER.
3. ANCHOR LAYER 2 LWD TO BOULDER BALLAST WHERE CONNECTIONS ARE AVAILABLE.
4. CABLE LAYER 1 AND 2 LWD MINIMUM 2 CONNECTIONS PER LWD. CONNECTIONS INCLUDE LWD TO LWD, LWD TO SNAG, OR LWD TO BOULDERS.
5. BACKFILL AND COMPACT WITH SELECT FILL MATERIAL TO TOP OF LAYER 1.



SECTION VIEW
NTS

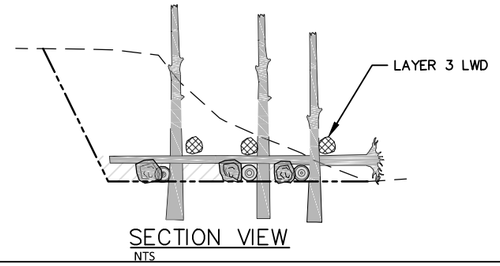
3.



PLAN VIEW
NTS

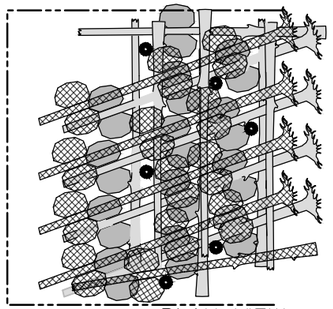
TYPICAL LAYER 3. SEQUENCING

1. INSTALL LAYER 3 HEADER LOGS.



SECTION VIEW
NTS

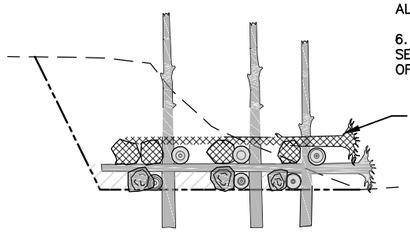
4.



PLAN VIEW
NTS

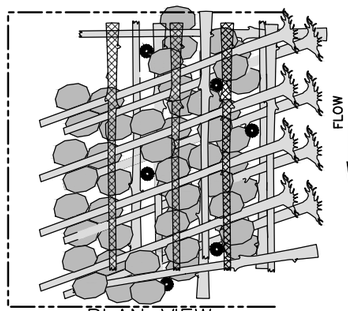
TYPICAL LAYER 4. SEQUENCING

1. INSTALL LAYER 4 LWD.
2. PLACE BOULDERS FOR BALLASTING. BOULDER BALLAST TO BE PLACED AS APPROVED BY OWNER.
3. ANCHOR LAYER 4 LWD TO BOULDER BALLAST WHERE CONNECTIONS ARE AVAILABLE.
4. CABLE LAYER 3 AND 4 LWD. MINIMUM 2 CONNECTIONS PER LWD. CONNECTIONS INCLUDE LWD TO LWD, LWD TO SNAG, OR LWD TO BOULDERS.
5. PACK SLASH INTO VOIDS ALONG LOG JAM FACE.
6. BACKFILL AND COMPACT WITH SELECT FILL MATERIAL TO TOP OF LAYER 3.



SECTION VIEW
NTS

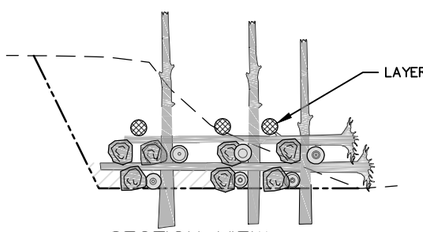
5.



PLAN VIEW
NTS

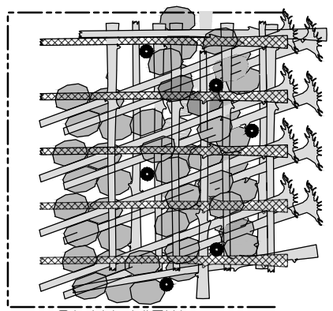
TYPICAL LAYER 5. SEQUENCING

1. INSTALL LAYER 5 LWD.



SECTION VIEW
NTS

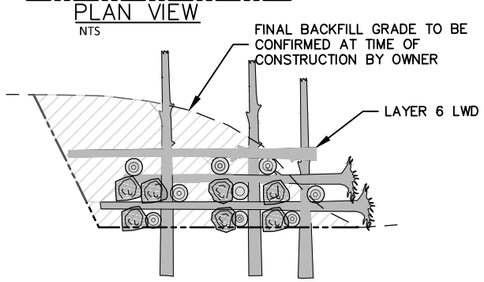
6.



PLAN VIEW
NTS

TYPICAL LAYER 6. SEQUENCING

1. INSTALL LAYER SIX LWD.
2. CABLE LAYER 5 AND 6 LWD. MINIMUM 2 CONNECTIONS PER LWD. CONNECTIONS INCLUDE LWD TO LWD, LWD TO SNAG, OR LWD TO BOULDERS.
3. PACK SLASH INTO VOIDS ALONG LOG JAM FACE.
4. BACKFILL AND COMPACT WITH SELECT FILL. BACKFILL GRADE TO BE CONFIRMED AT TIME OF CONSTRUCTION BY OWNER.



SECTION VIEW
NTS

1 TYPICAL SEQUENCE LOG JAM
NTS

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MICHAEL P. BURKE
C 62986
EXP 06/30/14
CIVIL
STATE OF CALIFORNIA

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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
TYPICAL SEQUENCE DETAILS – LOG JAM

FILE NAME: 7345
CONTRACT NUMBER: 45–6.1–7#3
DRAWING NUMBER:
SHEET 42 OF 46

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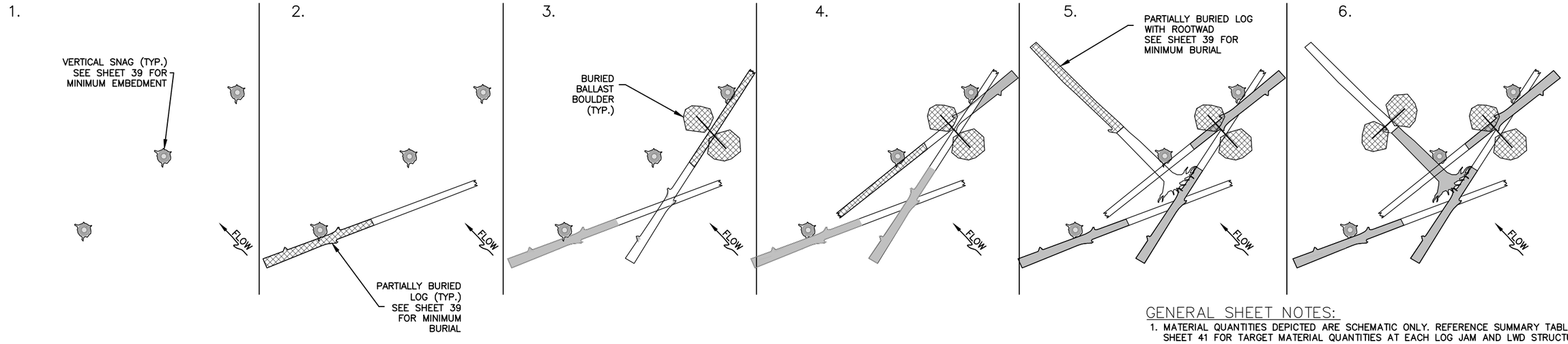
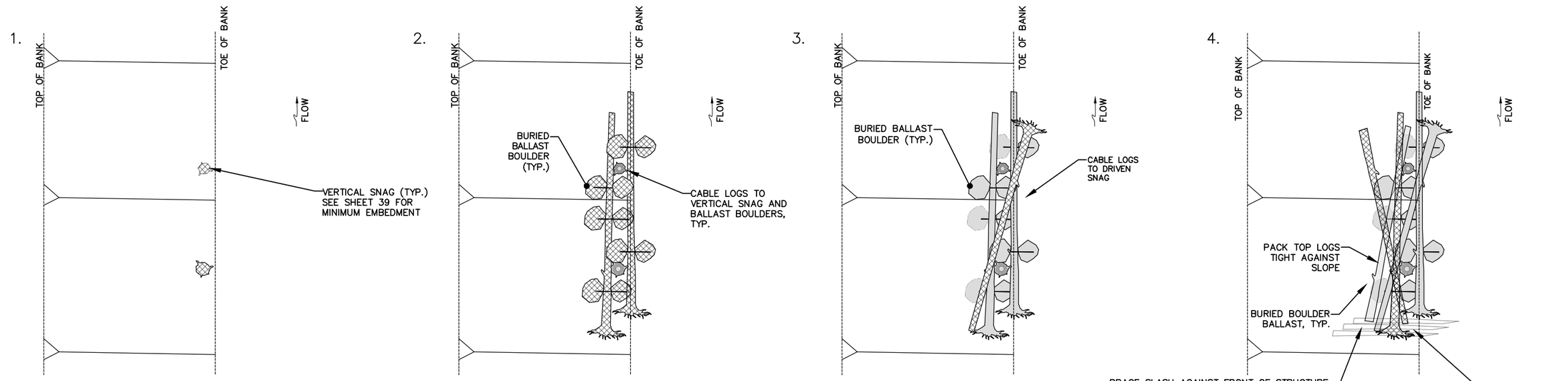


1 TYPICAL SEQUENCE
FLOODPLAIN LWD

GENERAL SHEET NOTES:

1. MATERIAL QUANTITIES DEPICTED ARE SCHEMATIC ONLY. REFERENCE SUMMARY TABLE ON SHEET 41 FOR TARGET MATERIAL QUANTITIES AT EACH LOG JAM AND LWD STRUCTURE.
2. SEQUENCING PROVIDED TO REFLECT GENERAL LEVEL OF EFFORT FOR LWD CONSTRUCTION.
3. SEE GENERAL LWD INSTALLATION NOTES ON SHEET 39
4. SEE SHEET 45 FOR CABLING DETAILS.



2 TYPICAL SEQUENCE
POOL ENHANCEMENT LWD

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EXP: 06/30/14
CIVIL
STATE OF CALIFORNIA

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
TYPICAL SEQUENCE DETAILS – FLOODPLAIN AND POOL ENHANCEMENT LWD

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 43 OF 46

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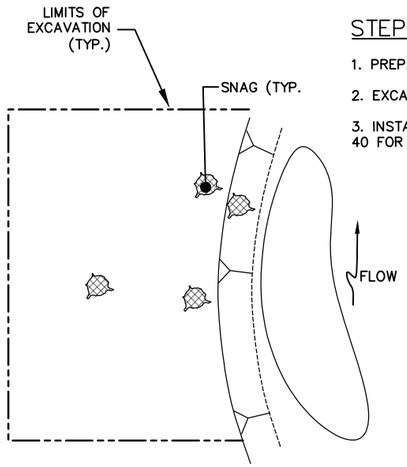
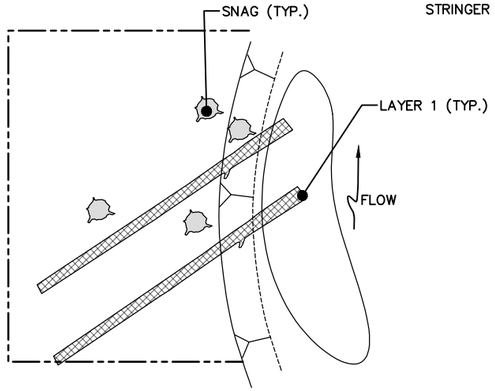


PLAN VIEW
NTS

STEP 1.

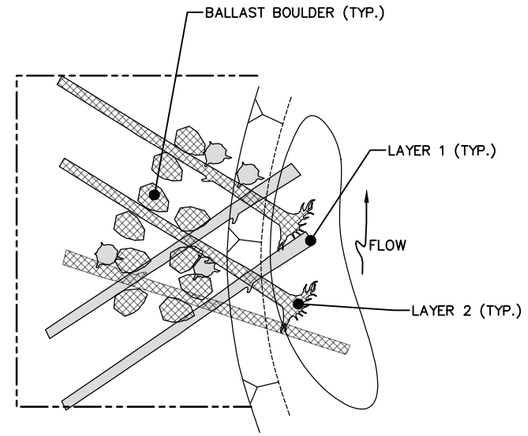
1. PREPARE SITE
2. EXCAVATE TO SUBGRADE.
3. INSTALL SNAGS. SEE SHEET 40 FOR MINIMUM EMBEDMENT



PLAN VIEW
NTS

STEP 2.

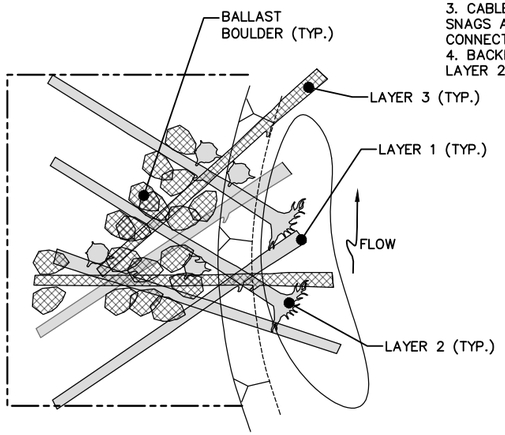
1. INSTALL LAYER 1 STRINGER LOGS



PLAN VIEW
NTS

STEP 3.

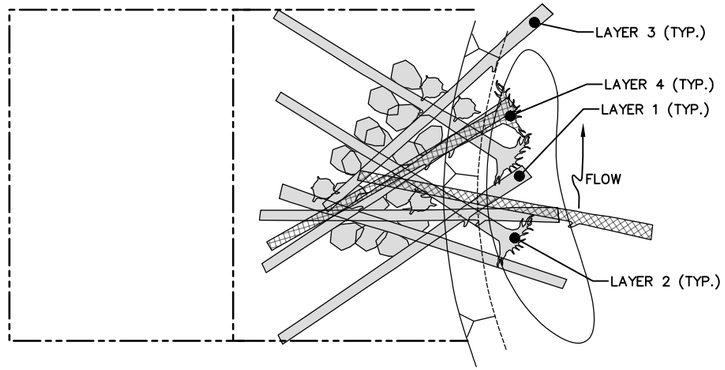
1. INSTALL LAYER 2 LWD.
2. INSTALL ASSOCIATED BOULDERS.
3. CABLE LOGS TO LOGS, SNAGS AND BOULDERS. 2 CONNECTIONS PER LOG.
4. BACKFILL LAYER 1



PLAN VIEW
NTS

STEP 4.

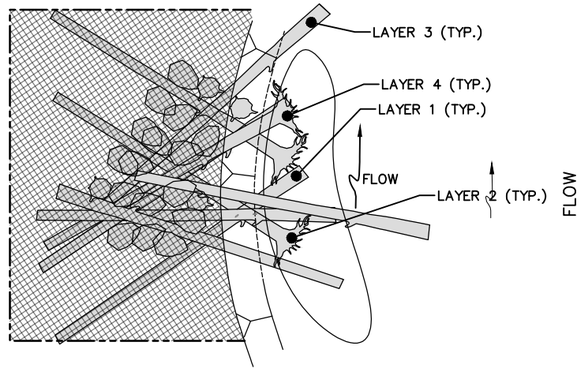
1. INSTALL LAYER 3 LWD.
2.INSTALL ASSOCIATED BOULDERS.
3. CABLE LOGS TO LOGS, SNAGS AND BOULDERS. 2 CONNECTIONS PER LWD.
4. BACKFILL TO TOP OF LAYER 2.



PLAN VIEW
NTS

STEP 5.

1. INSTALL LAYER 4 LWD.
2. CABLE LOGS TO LOGS, SNAGS AND BOULDERS. 2 CONNECTIONS PER LWD.



PLAN VIEW
NTS

STEP 6.

1. BACKFILL WITH SELECT FILL. CONFIRM BACKFILL EXTENT WITH OWNER.

GENERAL SHEET NOTES:

1. MATERIAL QUANTITIES DEPICTED ARE SCHEMATIC ONLY. REFERENCE SUMMARY TABLE ON SHEET 41 FOR TARGET MATERIAL QUANTITIES AT EACH LOG JAM AND LWD STRUCTURE.
2. SEE GENERAL LWD INSTALLATION NOTES ON SHEET 39.
3. SEQUENCING PROVIDED TO REFLECT GENERAL LEVEL OF EFFORT FOR LWD CONSTRUCTION.
4. FOR CONNECTION DETAILS SEE SHEET 45.

1 TYPICAL SEQUENCE BACKWATER LWD
NTS

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REGISTERED PROFESSIONAL ENGINEER MICHAEL F. BURKE C 62985 EXP 06/30/14 CIVIL STATE OF CALIFORNIA

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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
TYPICAL SEQUENCE DETAILS – BACKWATER LWD

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 44 OF 46

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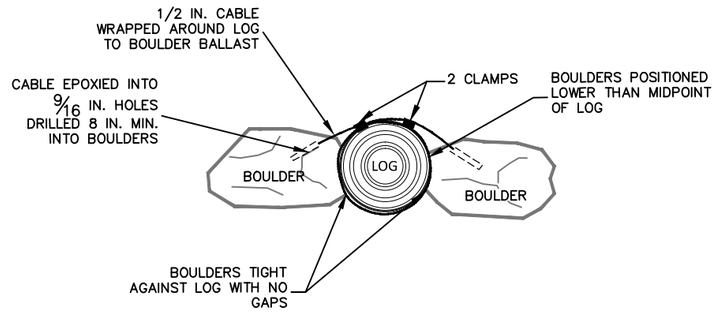
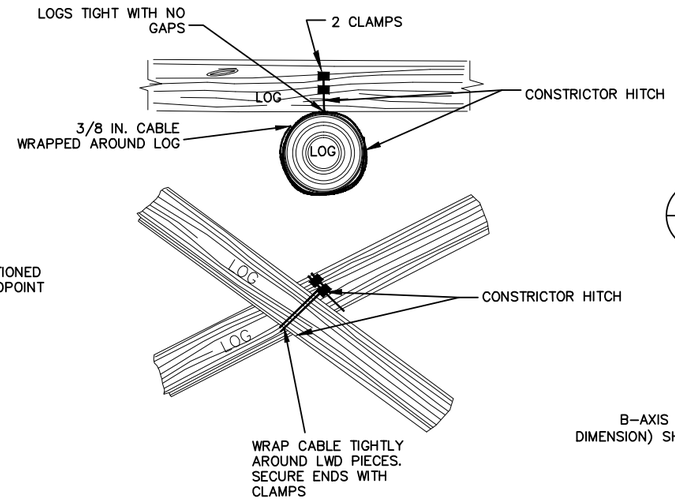
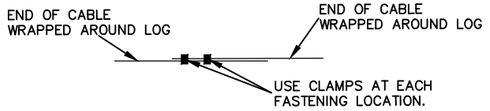


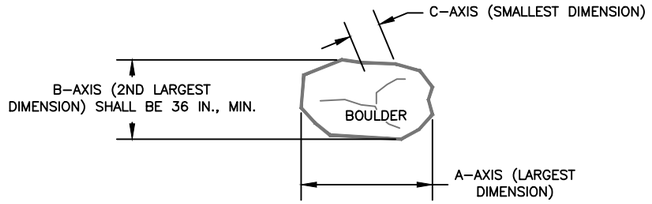
1 / – TYPICAL DETAIL
LOG CABLED TO BOULDERS
NTS



2 / – TYPICAL DETAIL
LOG CABLED TO LOG
NTS



4 / – TYPICAL DETAIL
CABLE SPLICE
NTS



3 / – TYPICAL DETAIL
BALLAST BOULDER
NTS

GENERAL NOTES

1. FINAL POSITIONING OF THE ANCHORED LOG STRUCTURES SHALL BE IN THE APPROXIMATE LOCATION AS SHOWN ON THE PLANS, ADJUSTED TO FIELD CONDITIONS, AND AS APPROVED BY THE BY THE OWNER. CABLING SITES AS APPROVED BY OWNER.
2. NO GAPS SHALL EXIST BETWEEN BOULDERS AND CABLED LWD. NO SLACK SHALL EXIST IN CABLE FOLLOWING EPOXY SET. NO GAPS SHALL EXIST BETWEEN LWD AT LWD TO LWD CONNECTIONS.
3. BOULDER BALLAST AND CABLE CONNECTIONS SHALL BE INSTALLED BELOW FINISH GRADE TO EXTENT PRACTICABLE.

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL P. BURKE
C 62986
EXP: 06/30/14
CIVIL
STATE OF CALIFORNIA

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY
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DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
TYPICAL DETAILS – LWD
CABLING AND BALLASTING

FILE NAME: 7345
CONTRACT NUMBER: 45–6.1–7#3
DRAWING NUMBER:
SHEET 45 OF 46

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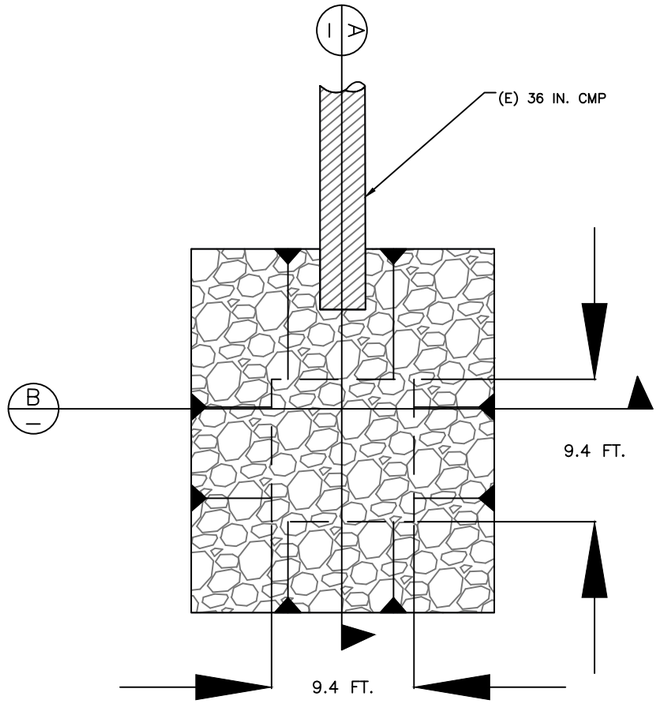
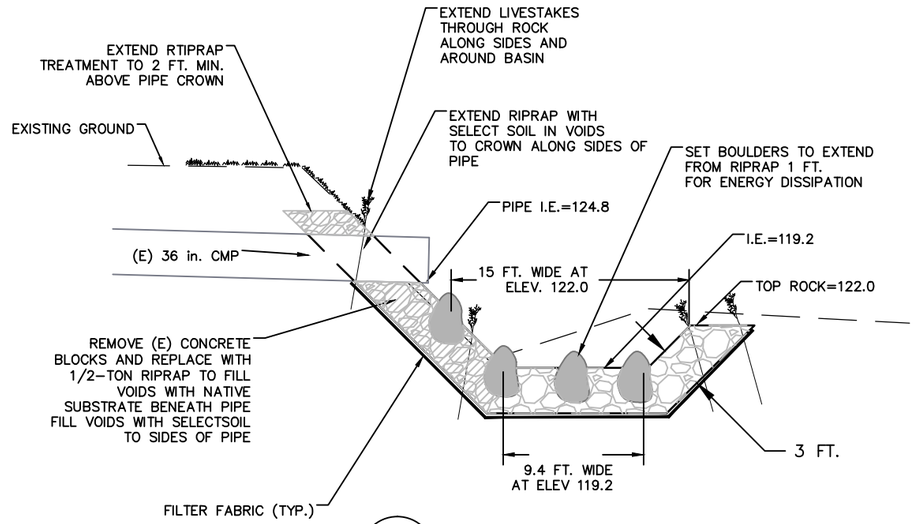
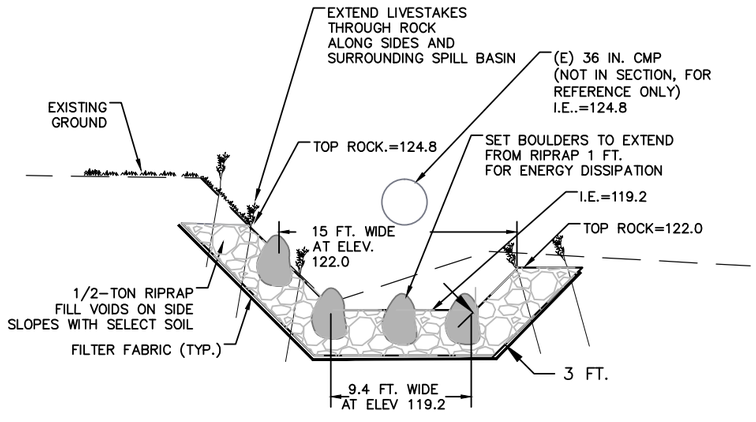


1/8 1/11 1/12 PLAN
SDO SCOUR PROTECTION
NTS



A — SECTION
SDO SCOUR PROTECTION
NTS



B — SECTION
SDO SCOUR PROTECTION
NTS

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REGISTERED PROFESSIONAL ENGINEER MICHAEL P. BURKE C 62986 EXP. 06/30/14 CIVIL STATE OF CALIFORNIA

BAR LENGTH ON ORIGINAL DRAWING EQUALS ONE INCH. ADJUST SCALE ACCORDINGLY

NO.	DATE	REVISION	BY
		RECORD INFORMATION	

SONOMA COUNTY WATER AGENCY

SCALE:
DATE : 1/23/2013
DRAWN : REP
CHECKED : MB

REVIEWED
REVIEWED

DRY CREEK HABITAT ENHANCEMENT DEMONSTRATION PROJECT
DETAILS – SDO SCOUR PROTECTION

FILE NAME: 7345
CONTRACT NUMBER: 45-6.1-7#3
DRAWING NUMBER:
SHEET 46 OF 46

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