YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS PROJECT

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

PREPARED BY:

CBEC ECO ENGINEERING

1 SEE DUCKS UNLIMITED YOLO BYPASS WILDLIFE AREA PLAN SET

PROJECT LOCATION MAP

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03	SUB-PROJECT 1 - I-80 DITCH GRADING STA 0+00 TO 20+50
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1 SEE DUCKS UNLIMITED YOLO BYPASS WILDLIFE AREA PLAN SET

EARTHWORK SUMMARY TABLE				
SUB-PROJECT NO.	SUB-PROJECT NAME	CUT (BCY)	FILL (CCY)	NET (BCY)
1	DRAINAGE IMPROVEMENTS AT RICE CORNER	3019	4812	3397 <FILL>
3	DRAINAGE IMPROVEMENTS AT THE Y	5104	1477	3135 <CUT>
5	PARKER POND	1141	659	262 <CUT>
	TOTALS	9264	6948	0 <BALANCED>

NOTES:

1. *EARTHWORK VALUES ACCOUNT FOR A 25% SHRINKAGE FACTOR (I.E., BCY *0.75 = CCY).*
2. *FILL VALUES DO NOT INCLUDE THE VOLUME OF CRUSHED AGGREGATE BASE FOR ROAD PAVING, ESTIMATED AT 120 CY*

SCALE BARS

0 100 200 300 FEET

1" = 100'

PREPARED BY: cbec eco engineering

ISSUE DESCRIPTION
100% DESIGN

ISSUE DATE APRIL 2017

DESIGNED SD
DRAWN DT/WL
CHECKED CC

FOR DRAWING APPROVALS SEE ----------

YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

COVER

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET **G-01**
DWG ------
REV 0

PREPARED WITH MWD BRDR DATE: 01/29/2009

PEN TABLE: ----

PLOT TIME: 1/9/2017 4:47 PM

FILEPATH: C:\USERS\D.TU\DOCUMENTS\PROJECTS 2015\15-1025_YBWA_DESIGN\CAD_DWGS\PRODUCTION

FILE NAME: G-01 - COVER_2011_RR.DWG

SCALE BARS

0 800 1600 2400 FEET

1" = 800'

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ISSUE DESCRIPTION

100% DESIGN

ISSUE DATE APRIL 2017

DESIGNED SD

DRAWN DT/WL

CHECKED CC

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YOLO BYPASS WILDLIFE AREA
HABITAT AND DRAINAGE IMPROVEMENTS

SHEET LAYOUT PLAN

SFCWA CONTRACT # 143939

CBEC PROJECT # 15-1025

SHEET **G-02**

DWG ------ REV 0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB

PLOT TIME: 1/9/2017 4:47 PM

FILEPATH: C:\USERS\D.TU\DOCUMENTS\PROJECTS 2015\15-1025_YBWA_DESIGN\CAD_DWGS\PRODUCTION

FILE NAME: SHEET_LAYOUT_PLAN.DWG

SCALE BARS

0 800 1600 2400 FEET

1" = 800'

PREPARED BY:

cbec eco engineering

ISSUE DESCRIPTION

100% DESIGN

ISSUE DATE APRIL 2017

DESIGNED SD

DRAWN DT/WL

CHECKED CC

FOR DRAWING APPROVALS SEE

YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SITE ACCESS AND STAGING PLAN

SFCWA CONTRACT # 143939

CBEC PROJECT # 15-1025

SHEET **G-03**

DWG ------

REV 0

PREPARED WITH MWD BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB

PLOT TIME: 1/9/2017 4:48 PM

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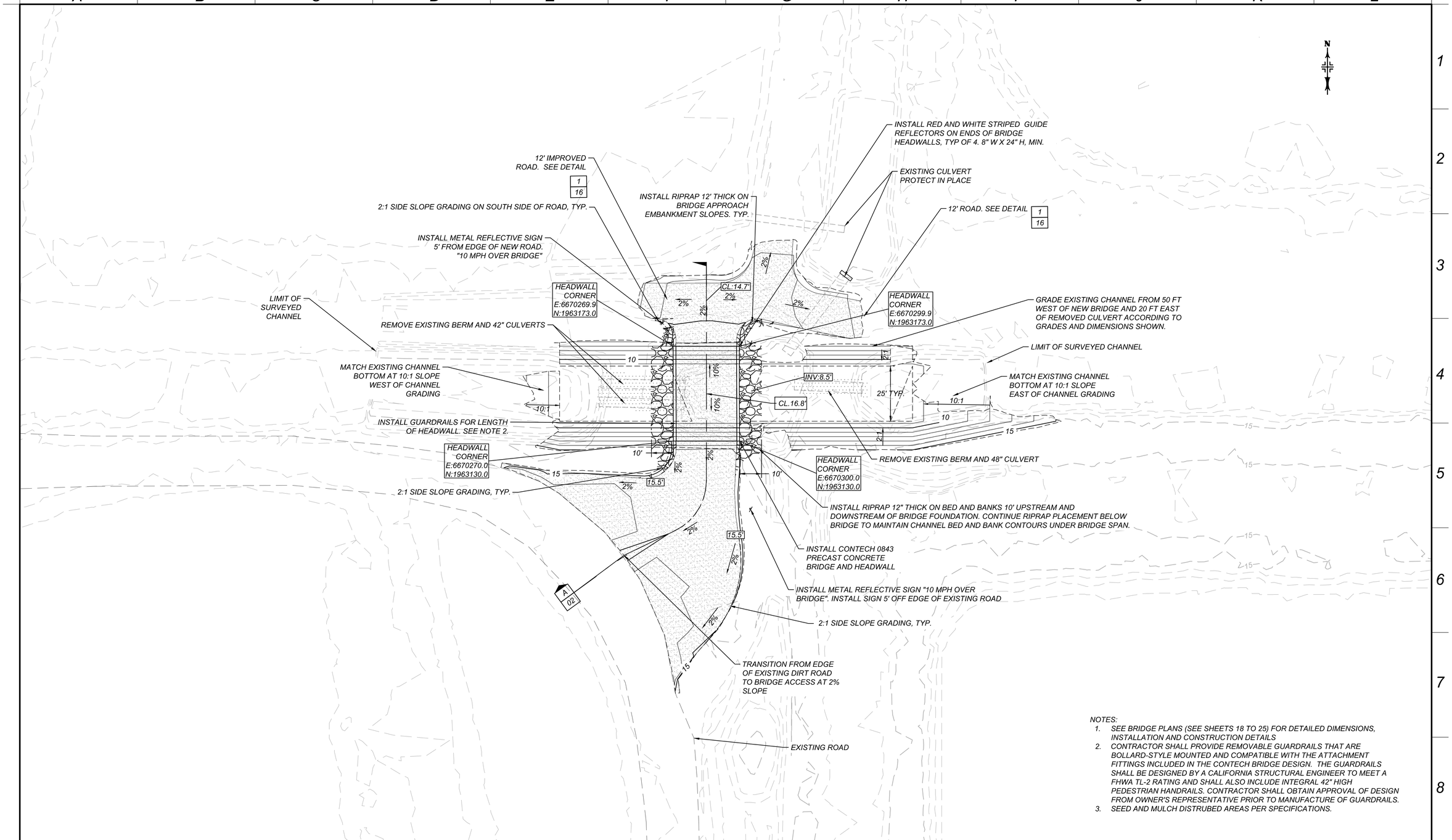
FILE NAME: G-03 - SITE_ACCESS_PLAN.DWG



NOTES:

1. SEE BRIDGE PLANS (SEE SHEETS 18 TO 25) FOR DETAILED DIMENSIONS, INSTALLATION AND CONSTRUCTION DETAILS
2. CONTRACTOR SHALL PROVIDE REMOVABLE GUARDRAILS THAT ARE BOLLARD-STYLE MOUNTED AND COMPATIBLE WITH THE ATTACHMENT FITTINGS INCLUDED IN THE CONTECH BRIDGE DESIGN. THE GUARDRAILS SHALL BE DESIGNED BY A CALIFORNIA STRUCTURAL ENGINEER TO MEET A FHWA TL-2 RATING AND SHALL ALSO INCLUDE INTEGRAL 42" HIGH PEDESTRIAN HANDRAILS. CONTRACTOR SHALL OBTAIN APPROVAL OF DESIGN FROM OWNER'S REPRESENTATIVE PRIOR TO MANUFACTURE OF GUARDRAILS.
3. SEED AND MULCH DISTRUBED AREAS PER SPECIFICATIONS.

SCALE BARS

0 20 40 60 FEET

1" = 20'

PREPARED BY:

cbec eco engineering

ISSUE DESCRIPTION

100% DESIGN

ISSUE DATE APRIL 2017

DESIGNED SD

DRAWN DT/WL

CHECKED CC

FOR DRAWING APPROVALS SEE

YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 1 RICE CORNER GRADING PLAN

SFCWA CONTRACT # 143939

CBEC PROJECT # 15-1025

SHEET **01**

DWG ------ REV 0

PREPARED WITH MWD BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB

PLOT TIME: 1/9/2017 4:50 PM

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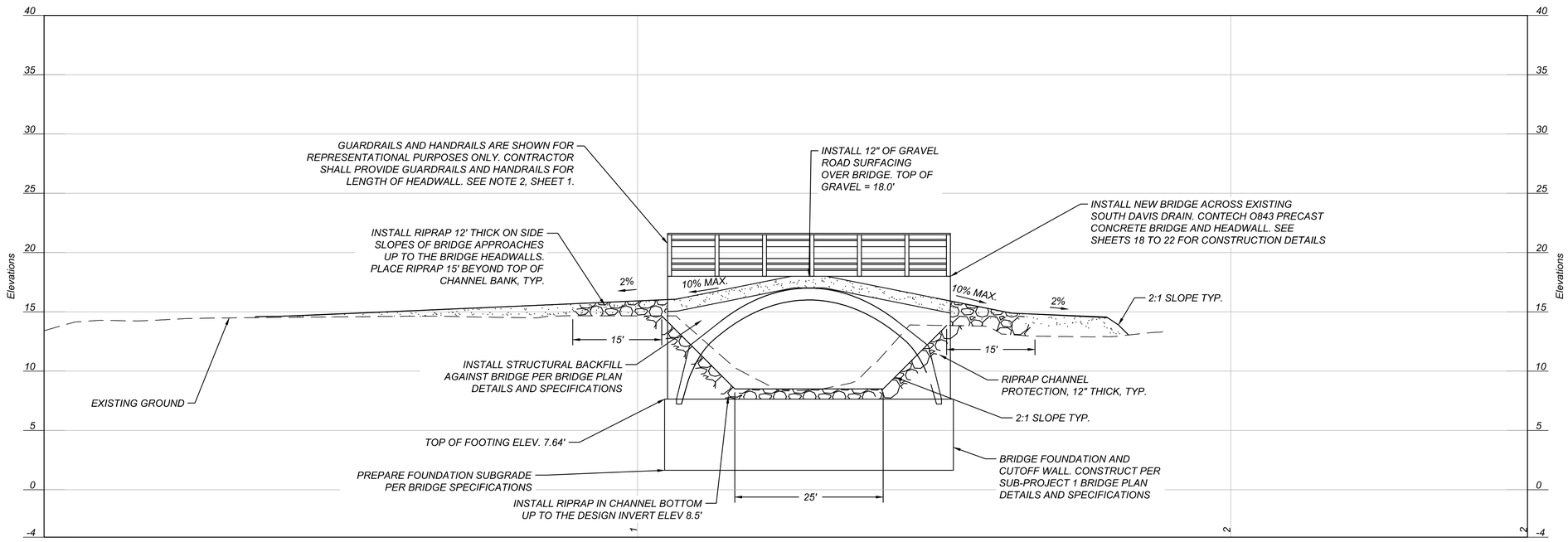

SECTION	A
H:1"=10',V:1"=5'	01

SCALE BARS

HORIZ. 0 10 20 30 FEET — 1" = 10'

VERT. 0 5 10 20 FEET — 1" = 5'

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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 1 RICE CORNER BRIDGE SECTION

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET 02
DWG ------ REV 0

PREPARED WITH MWD BRDR DATE: 01/29/2009

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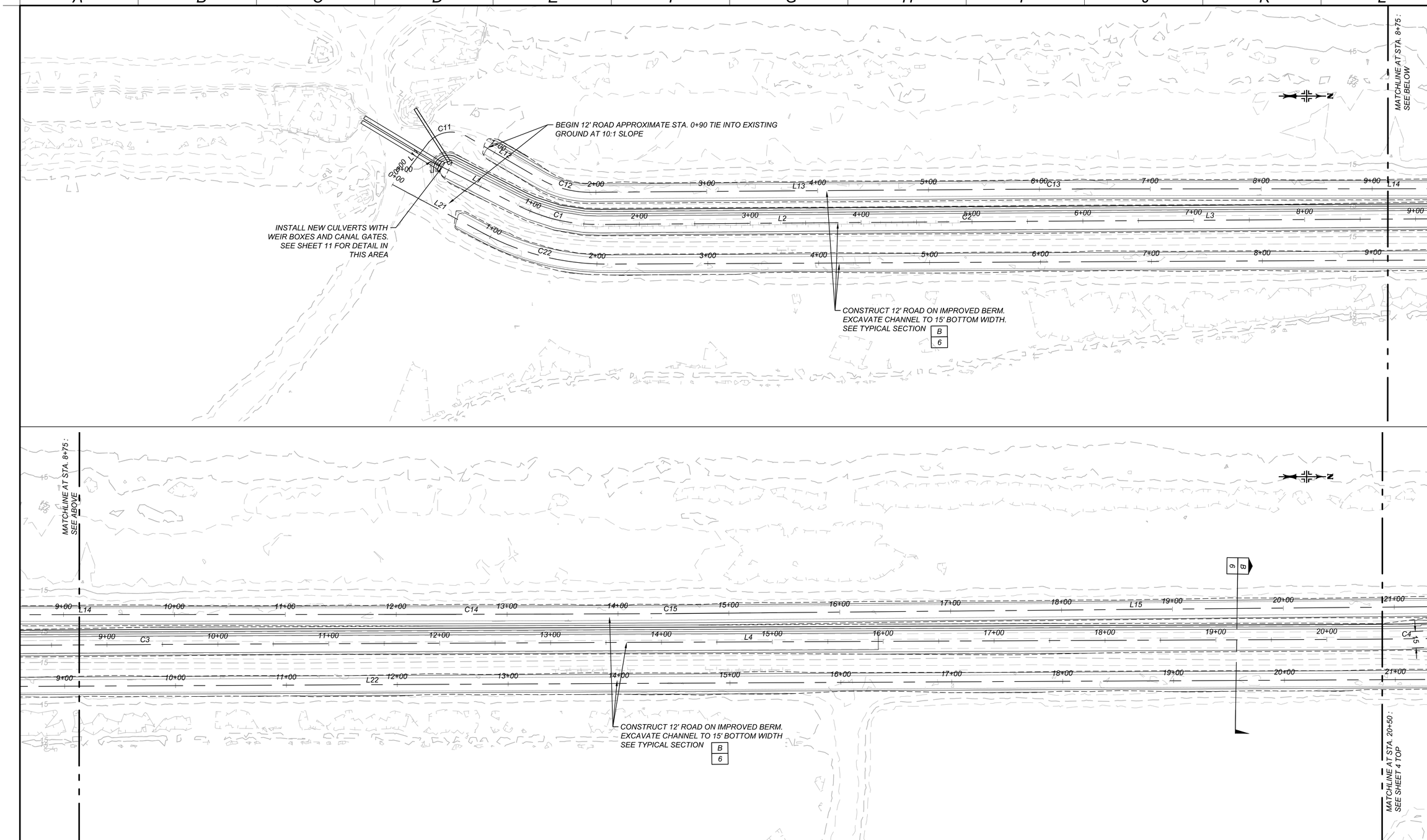

SCALE BARS

0 40 80 120 FEET

1" = 40'

PREPARED BY:

cbec eco engineering

ISSUE DESCRIPTION
100% DESIGN

ISSUE DATE APRIL 2017

DESIGNED SD
DRAWN DT/WL
CHECKED CC

FOR DRAWING APPROVALS SEE ----------

YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 1
I-80 DITCH GRADING STA 0+00 TO 20+50

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET 03
DWG ------
REV 0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

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SCALE BARS

0 40 80 120 FEET

1" = 40'

PREPARED BY:

cbec eco engineering

ISSUE DESCRIPTION
100% DESIGN

ISSUE DATE APRIL 2017

DESIGNED SD
DRAWN DT/WL
CHECKED CC

FOR DRAWING APPROVALS SEE ----------

YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 1
I-80 DITCH GRADING STA 20+50 TO 44+25

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET **04**
DWG ------
REV 0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

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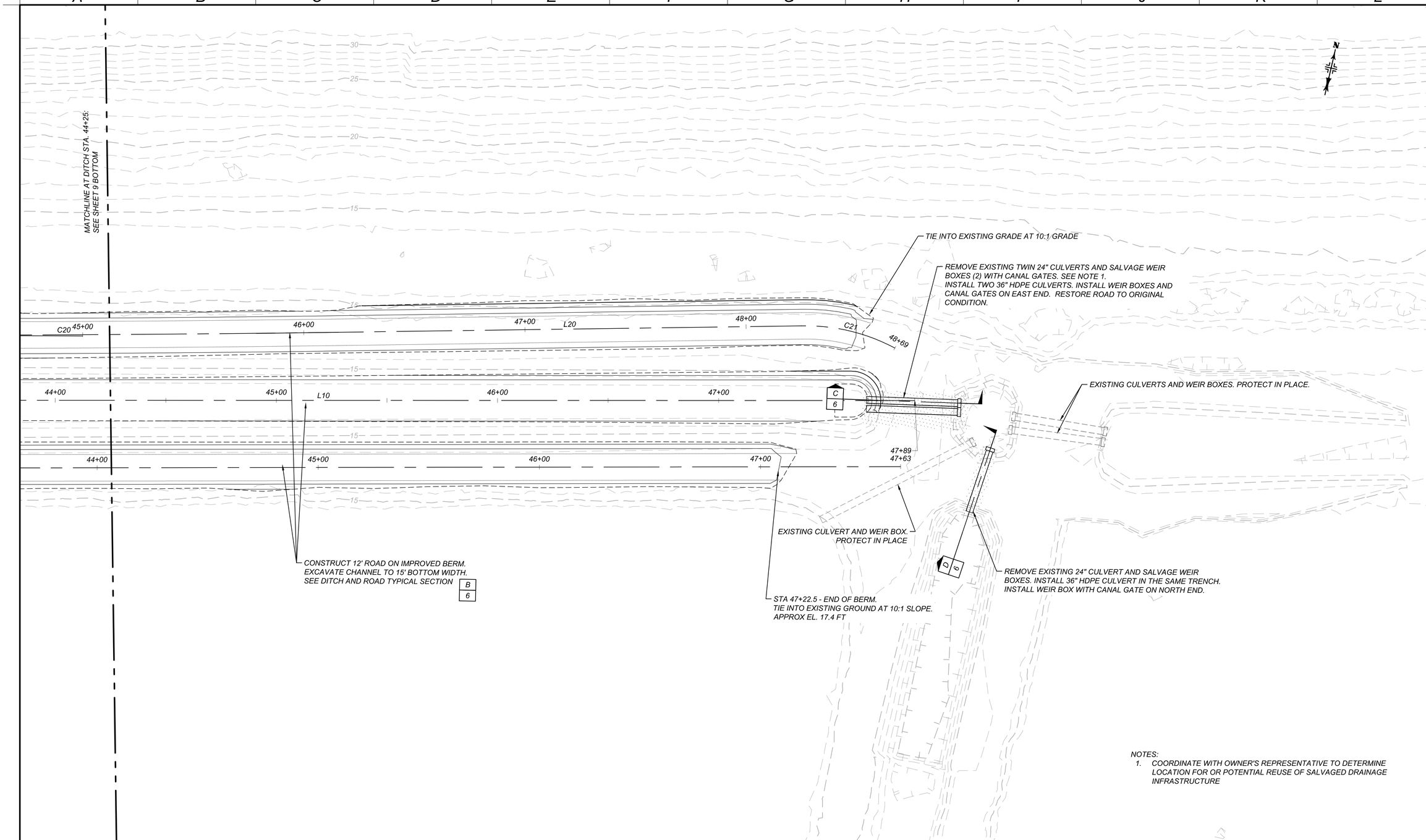


NOTES:

1. COORDINATE WITH OWNER'S REPRESENTATIVE TO DETERMINE LOCATION FOR OR POTENTIAL REUSE OF SALVAGED DRAINAGE INFRASTRUCTURE

SCALE BARS

0 20 40 60 FEET

1" = 20'

PREPARED BY:

cbec eco engineering

ISSUE DESCRIPTION
100% DESIGN

ISSUE DATE APRIL 2017

DESIGNED	SD	FOR DRAWING APPROVALS SEE
DRAWN	DT/WL	----------
CHECKED	CC	

YOLO BYPASS WILDLIFE AREA
HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 1
CULVERT IMPROVEMENTS PLAN

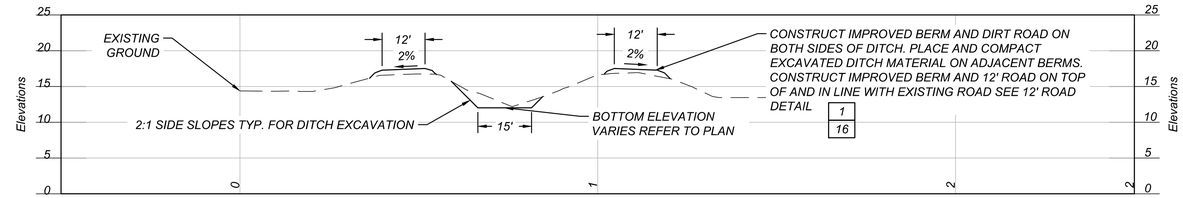
SFCWA CONTRACT #	143939
CBEC PROJECT #	15-1025
SHEET	05
DWG	------
REV	0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB PLOT TIME: 1/9/2017 4:56 PM FILEPATH: C:\USERS\D.TU\DOCUMENTS\PROJECTS 2015\15-1025_YBWA_DESIGN\CAD_DWGS\PRODUCTION FILE NAME: SP01_I80_03.DWG

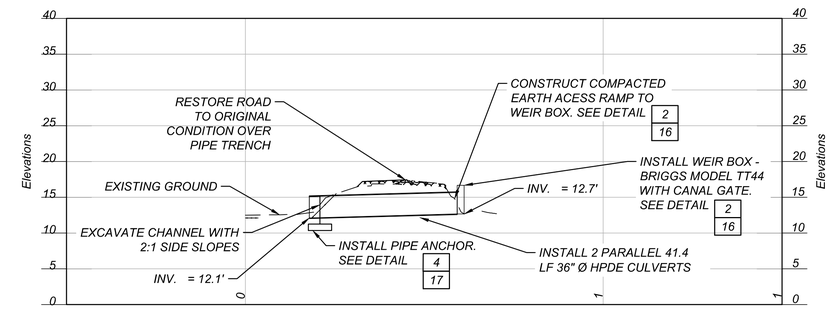
SUBPROJECT 1: I-80 DITCH IMPROVEMENTS CENTERLINE GEOMETRY TABLE						
NUMBER	START STA	LENGTH	START COORDINATES	RADIUS	END COORDINATES	END STATION
L1	0+00.0	87.8	E:6667727.8 N:1965465.7		E: 6667767.5 N: 1965544.0	0+87.8
C1	0+87.8	75.3	E:6667767.5 N:1965544.0	157.5	E: 6667784.6 N: 1965616.6	1+63.1
L2	1+63.1	331.7	E:6667784.6 N:1965616.6		E: 6667781.9 N: 1965948.3	4+94.8
C2	4+94.8	1.4	E:6667781.9 N:1965948.3	1287.8	E: 6667781.9 N: 1965949.7	4+96.2
L3	4+96.2	437.0	E:6667781.9 N:1965949.7		E: 6667778.8 N: 1966386.6	9+33.1
C3	9+33.1	2.4	E:6667778.8 N:1966386.6	1169.0	E: 6667778.8 N: 1966389.0	9+35.6
L4	9+35.6	1085.6	E:6667778.8 N:1966389.0		E: 6667773.3 N: 1967474.6	20+21.2
C4	20+21.2	101.6	E:6667773.3 N:1967474.6	5634.4	E: 6667771.9 N: 1967576.2	21+22.7
C5	21+22.7	48.4	E:6667771.9 N:1967576.2	69.6	E: 6667787.0 N: 1967621.1	21+71.1
C6	21+71.1	48.5	E:6667787.0 N:1967621.1	70.5	E: 6667827.5 N: 1967646.1	22+19.7
L5	22+19.7	451.8	E:6667827.5 N:1967646.1		E: 6668269.4 N: 1967739.8	26+71.5
C7	26+71.5	0.0	E:6668269.4 N:1967739.8	4.7	E: 6668269.4 N: 1967739.8	26+71.5
L6	26+71.5	59.0	E:6668269.4 N:1967739.8		E: 6668327.2 N: 1967751.9	27+30.5
C8	27+30.5	59.8	E:6668327.2 N:1967751.9	1864.2	E: 6668385.5 N: 1967765.1	27+90.3
L7	27+90.3	370.0	E:6668385.5 N:1967765.1		E: 6668745.1 N: 1967852.5	31+60.3
C9	31+60.3	83.1	E:6668745.1 N:1967852.5	5831.5	E: 6668826.0 N: 1967871.5	32+43.4
L8	32+43.4	824.0	E:6668826.0 N:1967871.5		E: 6669629.4 N: 1968054.6	40+67.4
C10	40+67.4	1.2	E:6669629.4 N:1968054.6	507.1	E: 6669630.5 N: 1968054.9	40+68.6
L9	40+68.6	185.3	E:6669630.5 N:1968054.9		E: 6669811.1 N: 1968096.5	42+53.9
C11	42+53.9	0.1	E:6669811.1 N:1968096.5	722.7	E: 6669811.2 N: 1968096.5	42+54.0
L10	42+54.0	534.7	E:6669811.2 N:1968096.5		E: 6670332.2 N: 1968216.6	47+88.6

SUBPROJECT 1: I-80 DITCH IMPROVEMENTS RIGHT BERM GEOMETRY TABLE						
NUMBER	START STA	LENGTH	START COORDINATES	RADIUS	END COORDINATES	END STATION
L21	0+00.0	93.0	E:6667748.7 N:1965430.9		E: 6667792.6 N: 1965512.9	0+93.0
C23	0+93.0	116.8	E:6667792.6 N:1965512.9	234.9	E: 6667820.4 N: 1965625.1	2+09.8
L22	2+09.8	1935.5	E:6667820.4 N:1965625.1		E: 6667809.4 N: 1967560.5	21+45.3
C24	21+45.3	67.5	E:6667809.4 N:1967560.5	50.0	E: 6667848.2 N: 1967609.5	22+12.8
L23	22+12.8	283.8	E:6667848.2 N:1967609.5		E: 6668124.8 N: 1967673.1	24+96.6
C25	24+96.6	109.3	E:6668124.8 N:1967673.1	42106.3	E: 6668231.3 N: 1967697.7	26+06.0
L24	26+06.0	2157.3	E:6668231.3 N:1967697.7		E: 6670332.7 N: 1968186.0	47+63.3

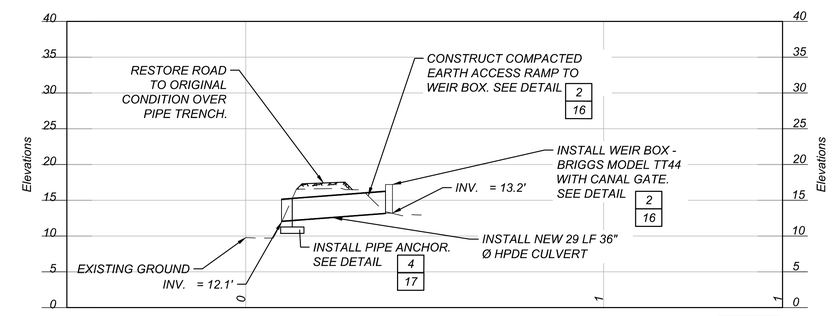


DITCH AND ROAD TYPICAL SECTION — B
H:1"=20',V:1"=10' — 3,4,5

SUBPROJECT 1: I-80 DITCH IMPROVEMENTS LEFT BERM GEOMETRY TABLE						
NUMBER	START STA	LENGTH	START COORDINATES	RADIUS	END COORDINATES	END STATION
L11	0+00.0	31.7	E:6667737.2 N:1965443.3		E: 6667712.0 N: 1965462.4	0+31.7
C12	0+31.7	38.8	E:6667712.0 N:1965462.4	26.8	E: 6667704.9 N: 1965497.3	0+70.5
L12	0+70.5	77.0	E:6667704.9 N:1965497.3		E: 6667743.5 N: 1965563.9	1+47.5
C13	1+47.5	47.4	E:6667743.5 N:1965563.9	89.7	E: 6667755.6 N: 1965609.2	1+94.9
L13	1+94.9	376.1	E:6667755.6 N:1965609.2		E: 6667752.6 N: 1965985.2	5+71.0
C14	5+71.0	83.7	E:6667752.6 N:1965985.2	12497.7	E: 6667752.2 N: 1966068.9	6+54.7
L14	6+54.7	529.4	E:6667752.2 N:1966068.9		E: 6667751.5 N: 1966598.3	11+84.1
C15	11+84.1	167.5	E:6667751.5 N:1966598.3	49254.5	E: 6667751.0 N: 1966765.8	13+51.6
C16	13+51.6	191.8	E:6667751.0 N:1966765.8	36657.4	E: 6667749.6 N: 1966957.6	15+43.3
L15	15+43.3	647.6	E:6667749.6 N:1966957.6		E: 6667743.2 N: 1967605.1	21+90.9
C17	21+90.9	90.9	E:6667743.2 N:1967605.1	66.6	E: 6667795.5 N: 1967670.8	22+81.8
L16	22+81.8	633.1	E:6667795.5 N:1967670.8		E: 6668413.8 N: 1967807.3	29+14.9
C18	29+14.9	93.8	E:6668413.8 N:1967807.3	13027.8	E: 6668505.3 N: 1967827.9	30+08.7
L17	30+08.7	565.1	E:6668505.3 N:1967827.9		E: 6669056.2 N: 1967953.7	35+73.8
C19	35+73.8	52.4	E:6669056.2 N:1967953.7	11040.9	E: 6669107.3 N: 1967965.5	36+26.2
L18	36+26.2	172.5	E:6669107.3 N:1967965.5		E: 6669275.2 N: 1968004.7	37+98.7
C20	37+98.7	204.8	E:6669275.2 N:1968004.7	32988.5	E: 6669474.8 N: 1968050.6	40+03.5
L19	40+03.5	372.0	E:6669474.8 N:1968050.6		E: 6669837.6 N: 1968132.9	43+75.4
C21	43+75.4	240.1	E:6669837.6 N:1968132.9	13554.4	E: 6670071.3 N: 1968188.0	46+15.6
L20	46+15.6	209.4	E:6670071.3 N:1968188.0		E: 6670274.7 N: 1968238.0	48+25.0
C22	48+25.0	43.9	E:6670274.7 N:1968238.0	85.0	E: 6670318.1 N: 1968237.7	48+68.9



SECTION — C
H:1"=20',V:1"=10' — 5



SECTION — D
H:1"=20',V:1"=10' — 5

NOTES:
1. INSTALL CULVERTS, WEIR BOXES AND WEIR BOX ACCESS PER DETAIL 2, SHEET 16.

SCALE BARS
HORIZ. 0 20 40 60 FEET — 1" = 20'
VERT. 0 10 20 30 FEET — 1" = 10'

PREPARED BY: cbec eco engineering

ISSUE DESCRIPTION
100% DESIGN

ISSUE DATE APRIL 2017

DESIGNED SD
DRAWN DT/WL
CHECKED CC
FOR DRAWING APPROVALS SEE ----------

YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 1 CULVERT IMPROVEMENTS SECTION

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET 06
DWG ------ REV 0

PREPARED WITH MWD BRDR DATE: 01/29/2009
PEN TABLE: MWD.CTB
PLOT TIME: 1/9/2017 4:57 PM
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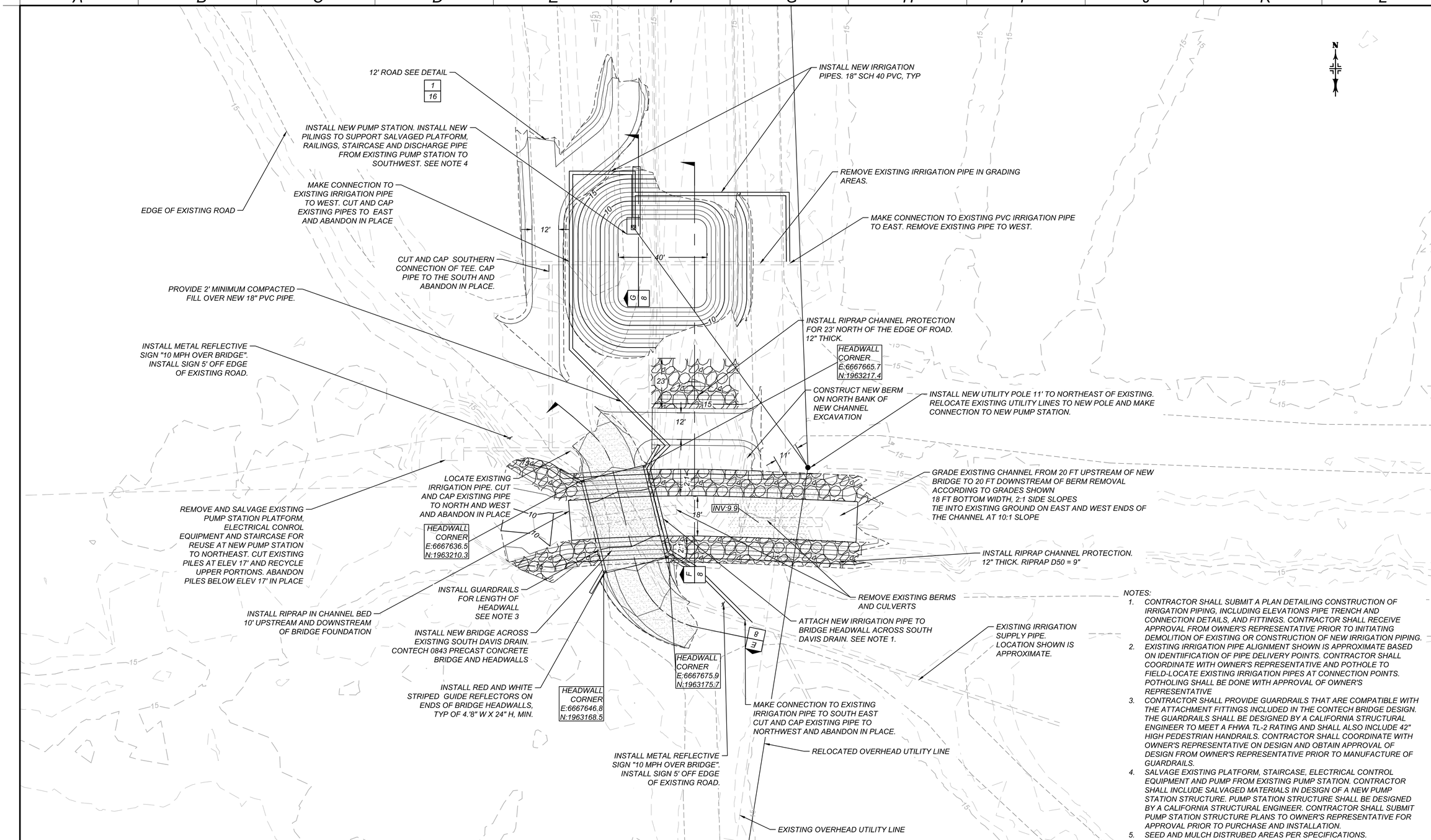

NOTES:

1. CONTRACTOR SHALL SUBMIT A PLAN DETAILING CONSTRUCTION OF IRRIGATION PIPING, INCLUDING ELEVATIONS PIPE TRENCH AND CONNECTION DETAILS, AND FITTINGS. CONTRACTOR SHALL RECEIVE APPROVAL FROM OWNER'S REPRESENTATIVE PRIOR TO INITIATING DEMOLITION OF EXISTING OR CONSTRUCTION OF NEW IRRIGATION PIPING.
2. EXISTING IRRIGATION PIPE ALIGNMENT SHOWN IS APPROXIMATE BASED ON IDENTIIFICATION OF PIPE DELIVERY POINTS. CONTRACTOR SHALL COORDINATE WITH OWNER'S REPRESENTATIVE AND POTHOLE TO FIELD-LOCATE EXISTING IRRIGATION PIPES AT CONNECTION POINTS. POTHOLING SHALL BE DONE WITH APPROVAL OF OWNER'S REPRESENTATIVE
3. CONTRACTOR SHALL PROVIDE GUARDRAILS THAT ARE COMPATIBLE WITH THE ATTACHMENT FITTINGS INCLUDED IN THE CONTECH BRIDGE DESIGN. THE GUARDRAILS SHALL BE DESIGNED BY A CALIFORNIA STRUCTURAL ENGINEER TO MEET A FHWA TL-2 RATING AND SHALL ALSO INCLUDE 42" HIGH PEDESTRIAN HANDRAILS. CONTRACTOR SHALL COORDINATE WITH OWNER'S REPRESENTATIVE ON DESIGN AND OBTAIN APPROVAL OF DESIGN FROM OWNER'S REPRESENTATIVE PRIOR TO MANUFACTURE OF GUARDRAILS.
4. SALVAGE EXISTING PLATFORM, STAIRCASE, ELECTRICAL CONTROL EQUIPMENT AND PUMP FROM EXISTING PUMP STATION. CONTRACTOR SHALL INCLUDE SALVAGED MATERIALS IN DESIGN OF A NEW PUMP STATION STRUCTURE. PUMP STATION STRUCTURE SHALL BE DESIGNED BY A CALIFORNIA STRUCTURAL ENGINEER. CONTRACTOR SHALL SUBMIT PUMP STATION STRUCTURE PLANS TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION.
5. SEED AND MULCH DISTRUBED AREAS PER SPECIFICATIONS.

SCALE BARS

0 20 40 60 FEET

1" = 20'

PREPARED BY:

cbec eco engineering

ISSUE DESCRIPTION

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ISSUE DATE APRIL 2017

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FOR DRAWING APPROVALS SEE

YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 3 THE Y IMPROVEMENT PLAN

SFCWA CONTRACT # 143939

CBEC PROJECT # 15-1025

SHEET 07

DWG ------

REV 0

PREPARED WITH MWD BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB

PLOT TIME: 1/9/2017 4:59 PM

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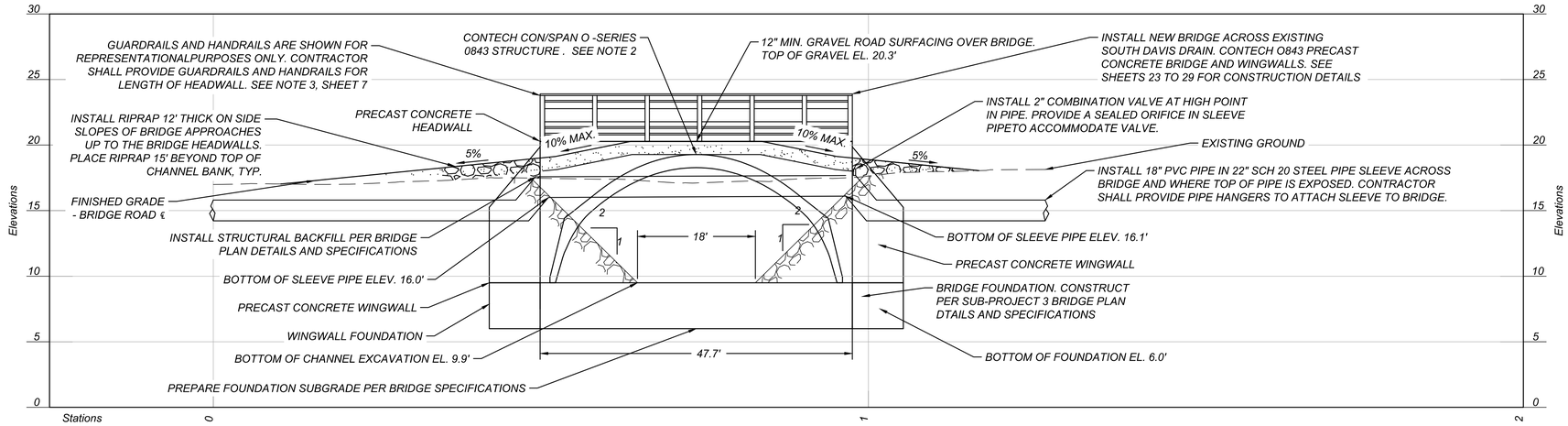
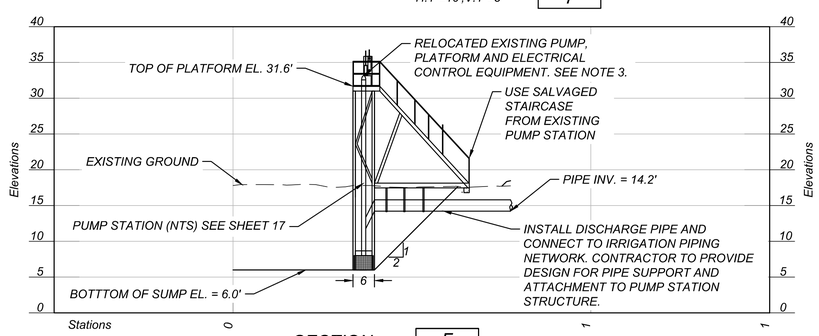
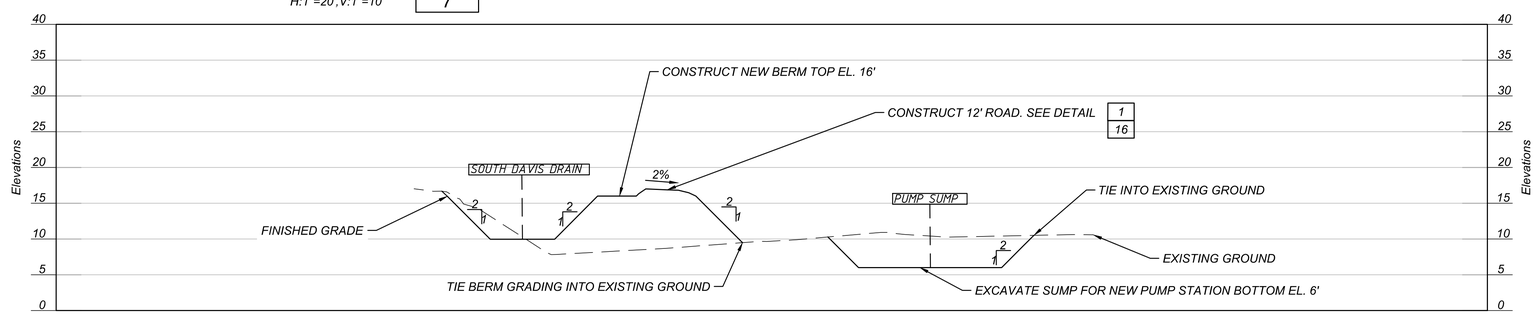


SECTION E 7
H:1"=10',V:1"=5'



SECTION F 7
H:1"=20',V:1"=10'



SECTION G 7
H:1"=20',V:1"=10'

NOTES:
1. INSTALL CULVERTS, WEIR BOXES AND WEIR BOX ACCESS DETAIL 2, SHEET 16.
2. SEE BRIDGE PLAN FOR DETAILS OF PRECAST CONCRETE BRIDGE, WINGWALLS, CAST-IN-PLACE FOUNDATION, AND BACKFILL RERQUIREMENTS
3. SALVAGE EXISTING PLATFORM, STAIRCASE, ELECTRICAL CONTROL EQUIPMENT, DISCHARGE PIPE AND PUMP FROM EXISTING PUMP STATION. CONTRACTOR SHALL INCLUDE SALVAGED MATERIALS IN DESIGN OF A NEW PUMP STATION STRUCTURE. PUMP STATION STRUCTURE SHALL BE DESIGNED BY A CALIFORNIA STRUCTURAL ENGINEER. CONTRACTOR SHALL SUBMIT PUMP STATION STRUCTURE PLANS TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO PURCHASE AND INSTALLATION.

SCALE BARS

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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 3 THE Y GRADING SECTIONS

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET 08
DWG ------ REV 0

PREPARED WITH MWD BRDR DATE: 01/29/2009
PEN TABLE: MWD.CTB
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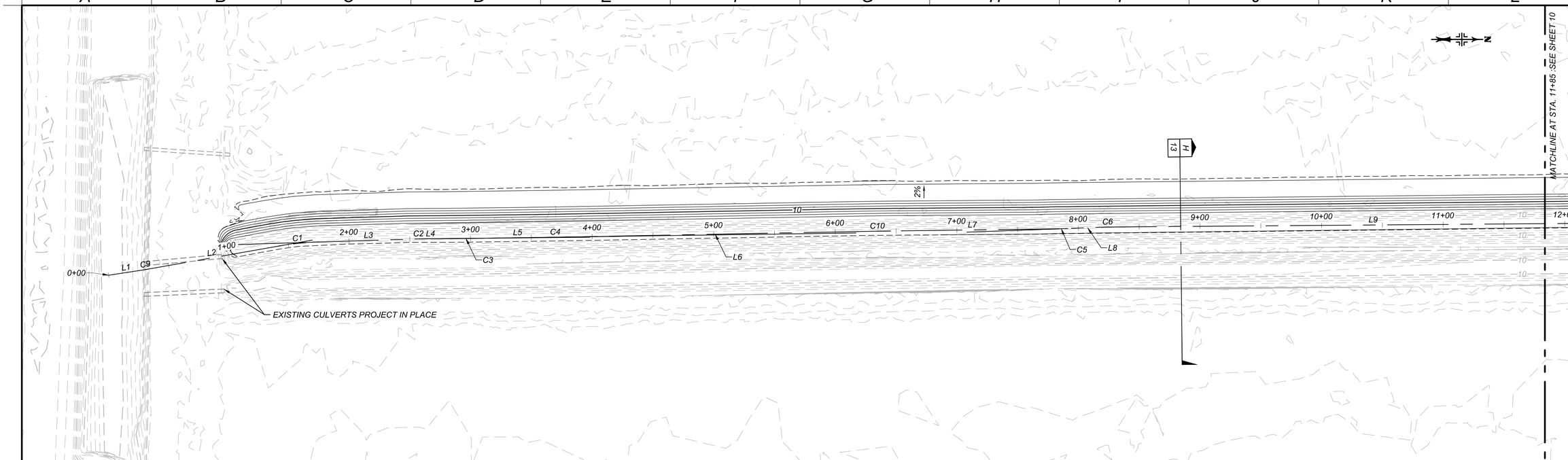

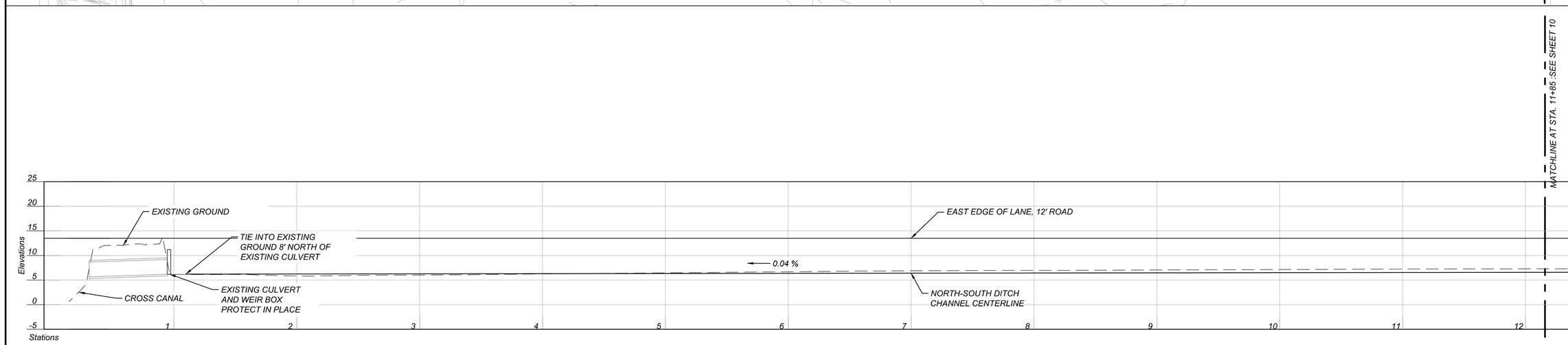

NOTES:
1. SEE SECTION H, SHEET 13 FOR TYPICAL DITCH GRADING GEOMETRY
2. SEE SHEET 13 FOR DITCH CENTERLINE GEOMETRY

SCALE BARS

HORIZ. 0 40 80 120 FEET
1" = 40'

VERT. 0 10 20 30 FEET
1" = 10'

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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 3
N-S DITCH GRADING STA 0+00 TO 11+85

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET **09**
DWG ------
REV 0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB
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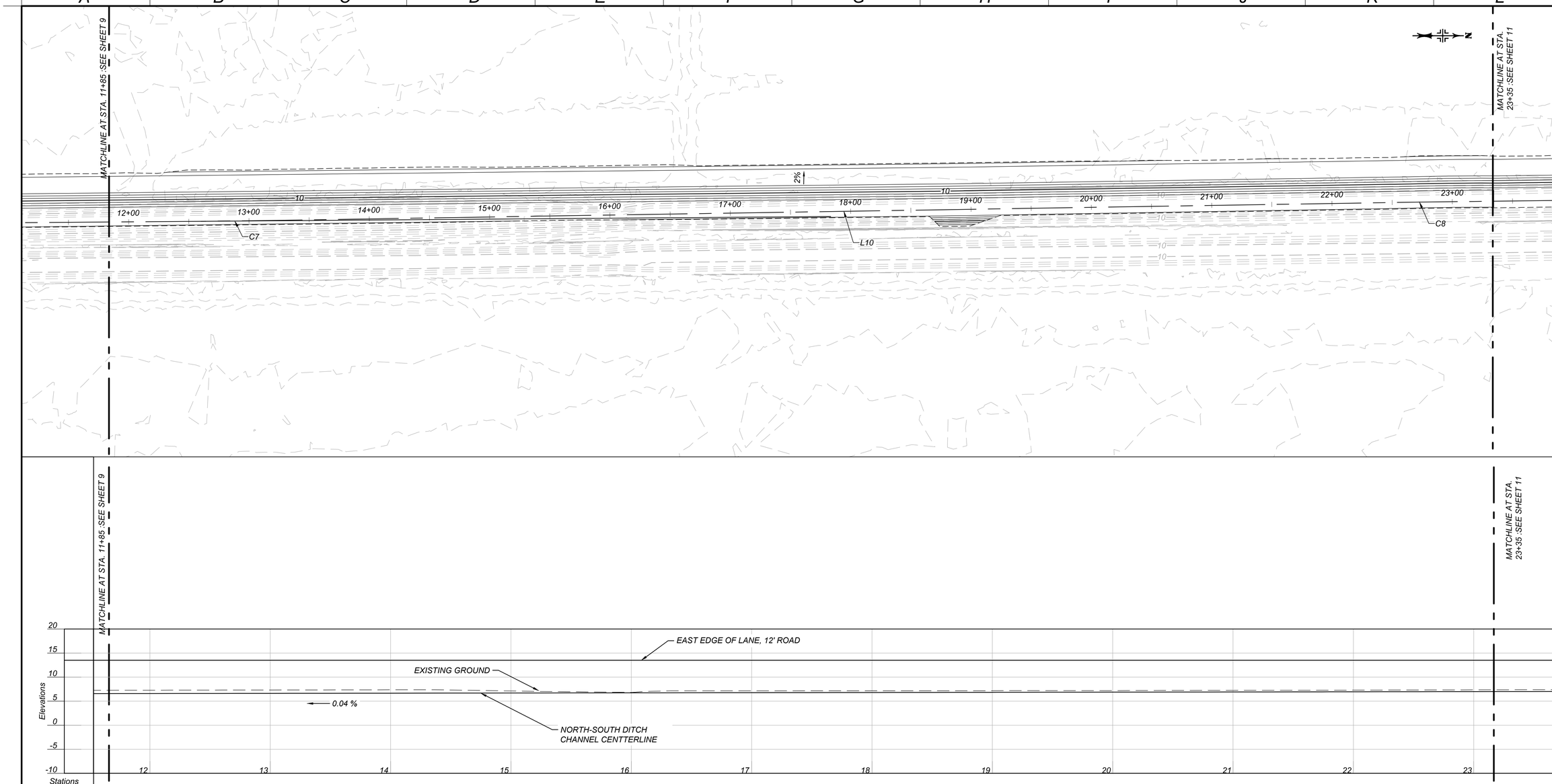

NOTES:
1. SEE SECTION H, SHEET 13 FOR TYPICAL DITCH GRADING GEOMETRY
2. SEE SHEET 13 FOR DITCH CENTERLINE GEOMETRY

SCALE BARS

HORIZ. 0 40 80 120 FEET
1" = 40'

VERT. 0 10 20 30 FEET
1" = 10'

PREPARED BY: cbec eco engineering

ISSUE DESCRIPTION
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ISSUE DATE APRIL 2017

DESIGNED SD
DRAWN DT/WL
CHECKED CC

FOR DRAWING APPROVALS SEE

YOLO BYPASS WILDLIFE AREA
HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 3
N-S DITCH GRADING STA11+85 TO 23+35

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET **10**
DWG ------
REV 0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

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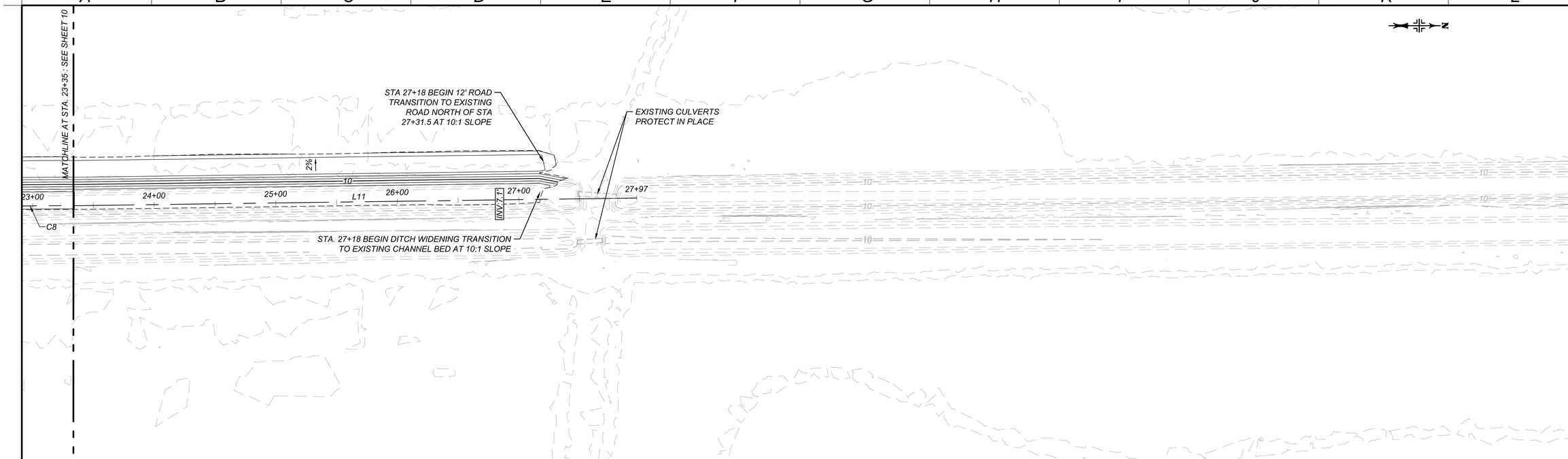

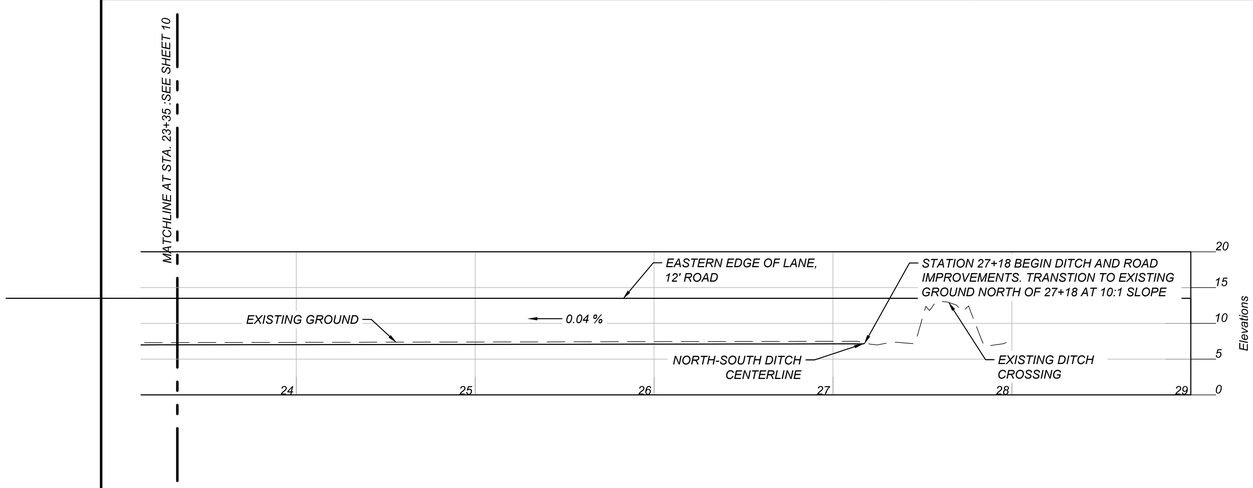

NOTES:
1. SEE SECTION H, SHEET 13 FOR TYPICAL DITCH GRADING GEOMETRY.
2. SEE SHEET 13 FOR DITCH CENTERLINE GEOMETRY.

SCALE BARS

HORIZ. 0 40 80 120 FEET
1" = 40'

VERT. 0 10 20 30 FEET
1" = 10'

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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 3
N-S DITCH GRADING STA 23+35 TO 27+97

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET 11
DWG ------
REV 0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB
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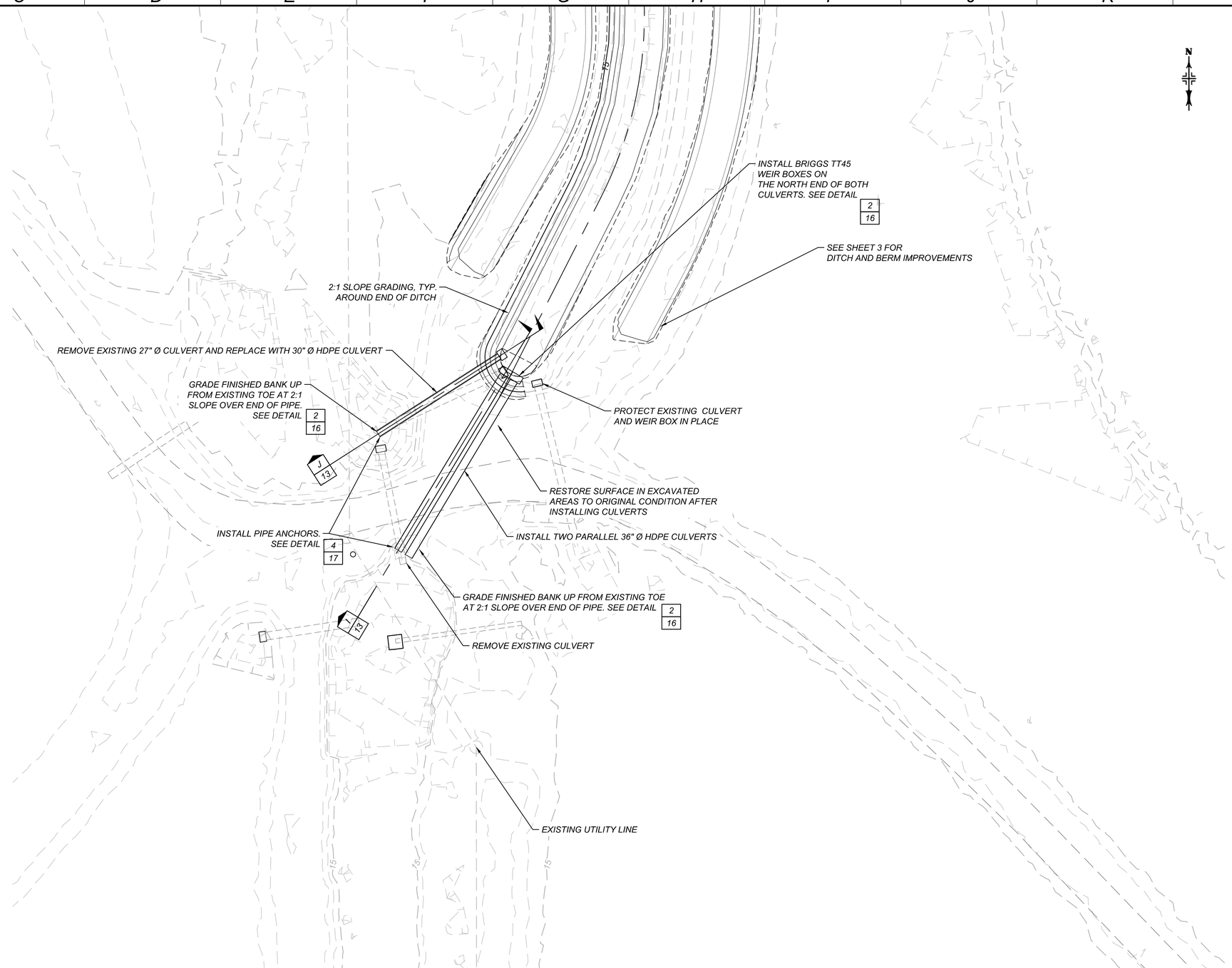
TRIM LINE



SCALE BARS

0 20 40 60 FEET

1" = 20'

PREPARED BY:

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ISSUE DESCRIPTION

100% DESIGN

ISSUE DATE APRIL 2017

DESIGNED SD

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FOR DRAWING APPROVALS SEE

YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 3 CULVERT IMPROVEMENT PLAN

SFCWA CONTRACT # 143939

CBEC PROJECT # 15-1025

SHEET **12**

DWG ------

REV 0

PREPARED WITH MWD BRDR DATE: 01/29/2009

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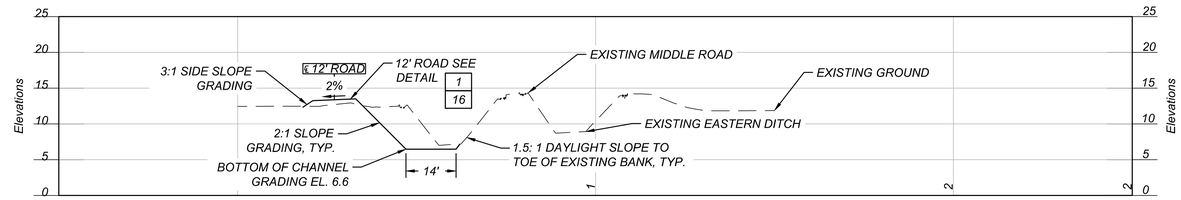
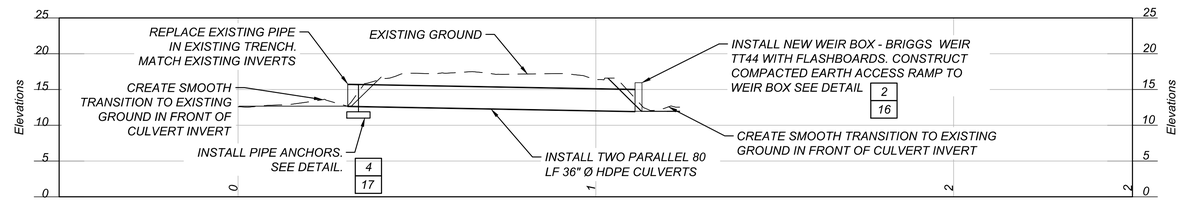
TRIM LINE

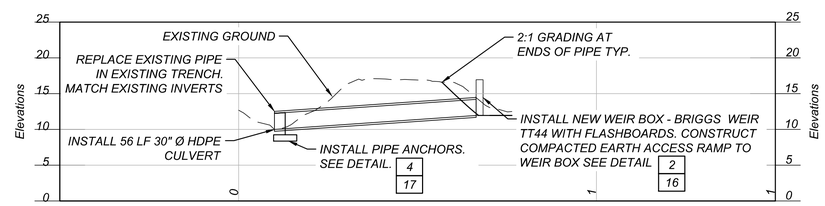
SUBPROJECT 3: NORTH-SOUTH DITCH DRAINAGE IMPROVEMENTS CENTERLINE GEOMETRY TABLE						
NUMBER	START STA	LENGTH	START COORDINATES	RADIUS	END COORDINATES	END STATION
L1	0+00.0	30.0	E:6673038.8 N:1955230.0		E: 6673034.2 N: 1955259.7	0+30.0
C9	0+30.0	2.7	E:6673034.2 N:1955259.7	113.3	E: 6673033.8 N: 1955262.3	0+32.6
L2	0+32.6	108.1	E:6673033.8 N:1955262.3		E: 6673015.0 N: 1955368.8	1+40.8
C1	1+40.8	34.4	E:6673015.0 N:1955368.8	239.1	E: 6673011.4 N: 1955403.0	1+75.2
L3	1+75.2	81.9	E:6673011.4 N:1955403.0		E: 6673008.9 N: 1955484.8	2+57.0
C2	2+57.0	0.7	E:6673008.9 N:1955484.8	30.0	E: 6673008.9 N: 1955485.4	2+57.7
L4	2+57.7	18.7	E:6673008.9 N:1955485.4		E: 6673008.7 N: 1955504.1	2+76.3
C3	2+76.3	39.6	E:6673008.7 N:1955504.1	8390.7	E: 6673008.2 N: 1955543.7	3+15.9
L5	3+15.9	45.6	E:6673008.2 N:1955543.7		E: 6673007.6 N: 1955589.3	3+61.5
C4	3+61.5	16.6	E:6673007.6 N:1955589.3	3563.2	E: 6673007.3 N: 1955605.9	3+78.2
L6	3+78.2	246.0	E:6673007.3 N:1955605.9		E: 6673002.7 N: 1955851.9	6+24.2
C10	6+24.2	21.4	E:6673002.7 N:1955851.9	4029.1	E: 6673002.4 N: 1955873.3	6+45.6
L7	6+45.6	134.9	E:6673002.4 N:1955873.3		E: 6673000.6 N: 1956008.1	7+80.4
C5	7+80.4	10.9	E:6673000.6 N:1956008.1	475.3	E: 6673000.3 N: 1956019.0	7+91.3
L8	7+91.3	32.6	E:6673000.3 N:1956019.0		E: 6672999.1 N: 1956051.5	8+23.8
C6	8+23.8	0.9	E:6672999.1 N:1956051.5	30.0	E: 6672999.1 N: 1956052.4	8+24.7
L9	8+24.7	435.6	E:6672999.1 N:1956052.4		E: 6672995.8 N: 1956487.9	12+60.3
C7	12+60.3	55.8	E:6672995.8 N:1956487.9	6660.2	E: 6672995.1 N: 1956543.8	13+16.1
L10	13+16.1	956.4	E:6672995.1 N:1956543.8		E: 6672979.8 N: 1957500.1	22+72.6
C8	22+72.6	0.3	E:6672979.8 N:1957500.1	30.0	E: 6672979.8 N: 1957500.4	22+72.9
L11	22+72.9	525.6	E:6672979.8 N:1957500.4		E: 6672973.5 N: 1958026.0	27+98.5



TYPICAL NORTH-SOUTH DITCH GRADING — H:1"=20',V:1"=10' — H 9



SECTION I — H:1"=20',V:1"=10' — 12



SECTION J — H:1"=20',V:1"=10' — 12

NOTES:
1. INSTALL CULVERTS, WEIR BOXES AND WEIR BOX ACCESS DETAIL 2, SHEET 16.

SCALE BARS
HORIZ. 0 20 40 60 FEET — 1" = 20'
VERT. 0 10 20 30 FEET — 1" = 10'

PREPARED BY: cbec eco engineering

ISSUE DESCRIPTION: 100% DESIGN
ISSUE DATE: APRIL 2017

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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS
SUB-PROJECT 3 GRADING AND CULVERT SECTIONS

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET 13
DWG ------ REV 0

PREPARED WITH MWD BRDR DATE: 01/29/2009
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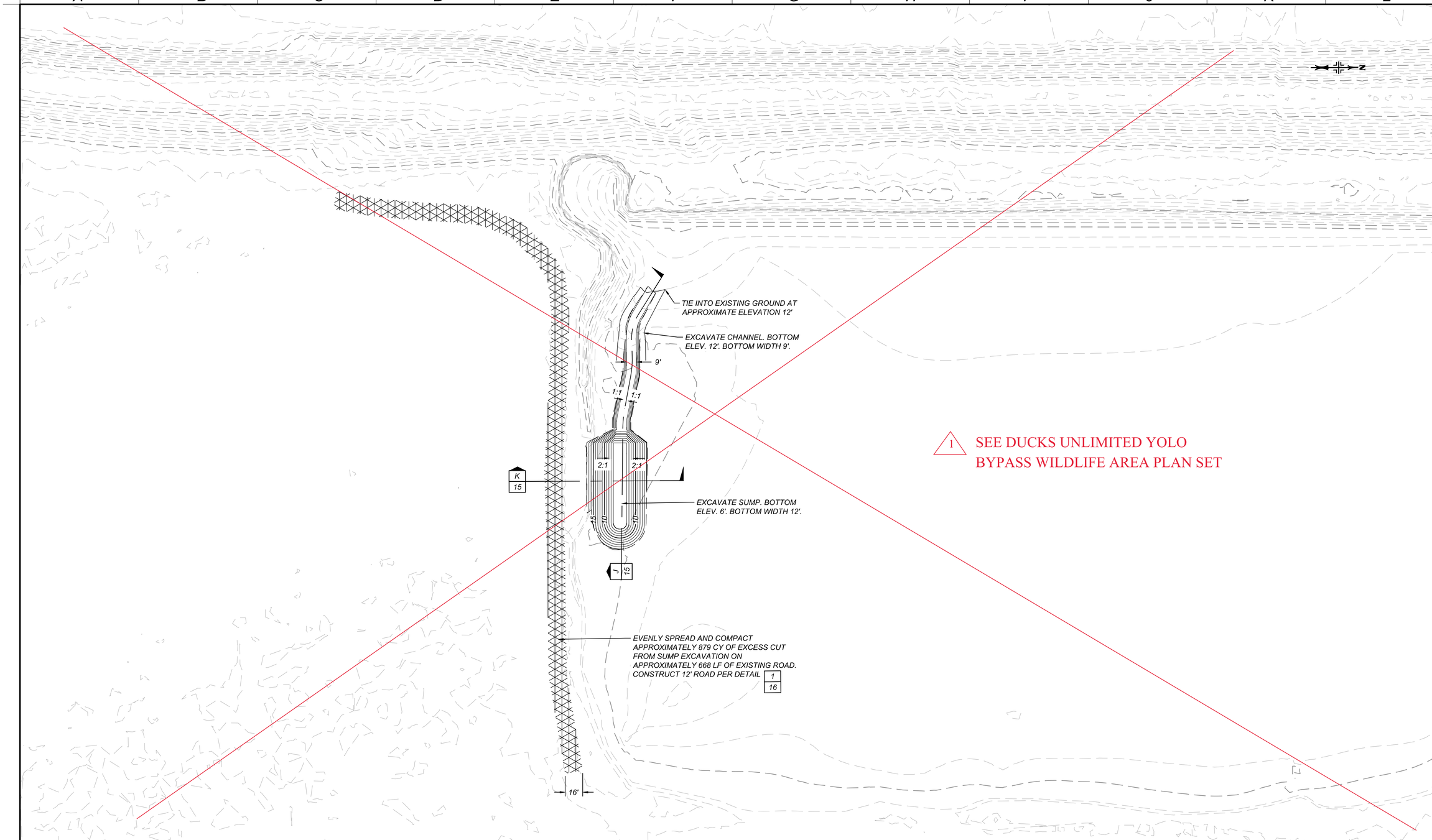

SCALE BARS

0 40 80 120 FEET

1" = 40'

PREPARED BY:

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ISSUE DESCRIPTION
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ISSUE DATE APRIL 2017

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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 5 GRADING PLAN

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET 14
DWG ------
REV 0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

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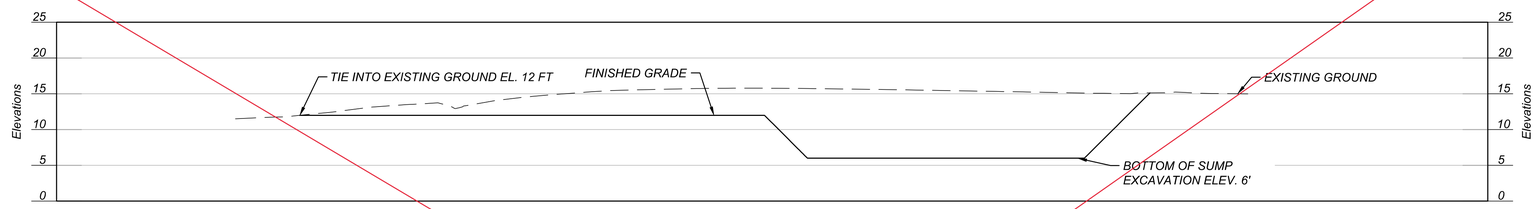
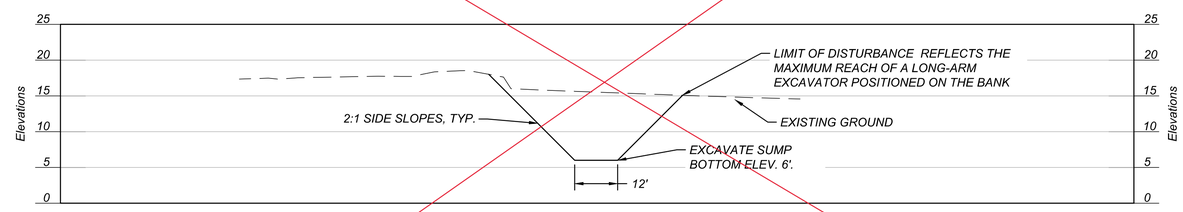


SECTION K 14
H:1" = 20', V:1"=10'



SECTION L 14
H:1" = 20', V:1"=10'

1 SEE DUCKS UNLIMITED YOLO BYPASS WILDLIFE AREA PLAN SET

SCALE BARS
HORZ. 0 20 40 60 FEET
1" = 20'
VERT. 0 10 20 30 FEET
1" = 10'

PREPARED BY: cbec eco engineering

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YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

SUB-PROJECT 5 GRADING SECTIONS

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET 15
DWG ------
REV 0

PREPARED WITH MWD BRDR DATE: 01/29/2009
PEN TABLE: MWD.CTB
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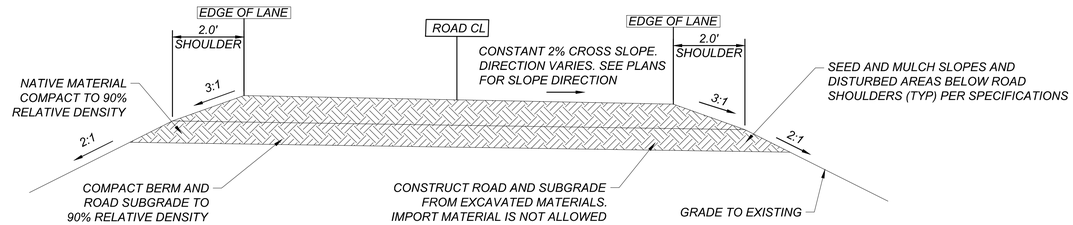
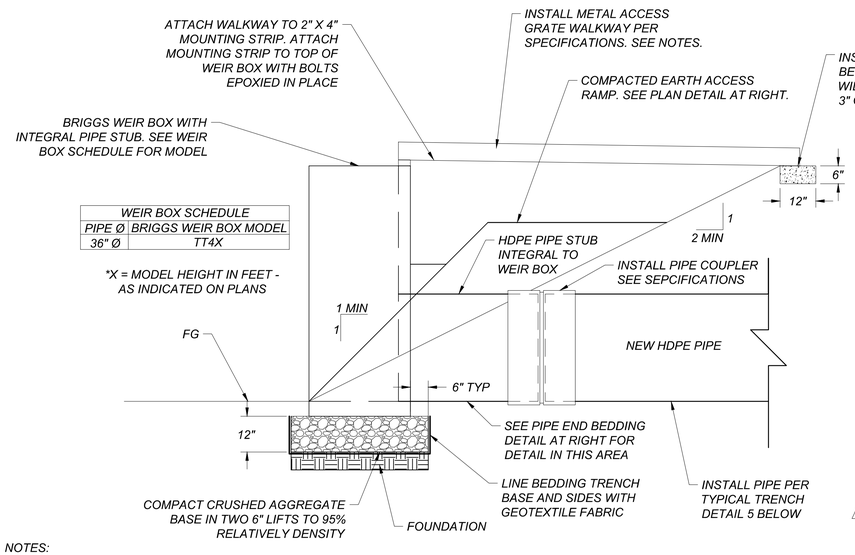


DETAIL 1 - 12' ROAD TYPICAL SECTION

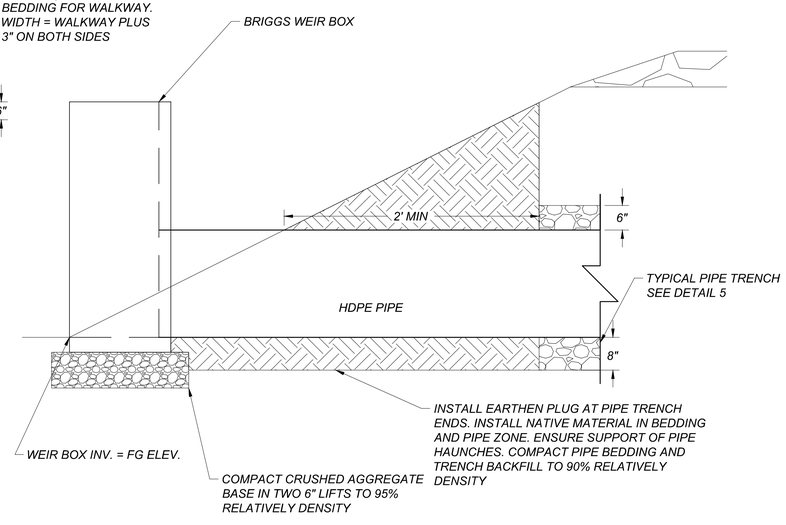


WEIR BOX SCHEDULE	
PIPE Ø	BRIGGS WEIR BOX MODEL
36" Ø	TT4X

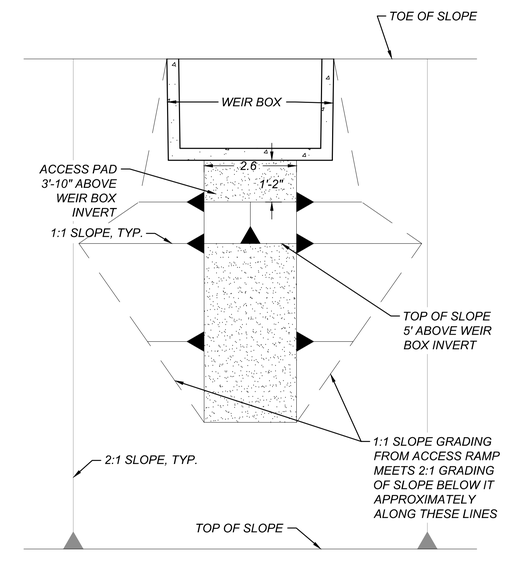
*X = MODEL HEIGHT IN FEET - AS INDICATED ON PLANS

NOTES:
1. WEIR BOXES LESS THAN 5' IN HEIGHT: CONSTRUCT COMPACTED EARTH ACCESS RAMP TO WEIR BOX. SEE COMPACTED EARTH ACCESS RAMP GRADING DETAIL.
2. WEIR BOXES OVER 5' IN HEIGHT: CONSTRUCT STEEL WALKWAY ACCESS TO WEIR BOX. SEE SPECIFICATIONS FOR METAL WALKWAY DESCRIPTION.
3. WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL SCARIFY AND RECOMPACT NATIVE SOILS TO AT LEAST 4" BELOW THE BEDDING, OR EXCAVATE TO A DEPTH REQUIRED BY THE OWNER'S REPRESENTATIVE AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE OWNER'S REPRESENTATIVE.

TYPICAL CONSTRUCTION



PIPE END BEDDING



COMPACTED EARTH ACCESS RAMP GRADING DETAIL

DETAIL 2 - WEIR BOX INSTALLATION DETAIL

SCALE BARS

0 100 200 300 FEET

1" = 100'

PREPARED BY: cbec eco engineering

ISSUE DESCRIPTION
100% DESIGN

ISSUE DATE APRIL 2017

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FOR DRAWING APPROVALS SEE

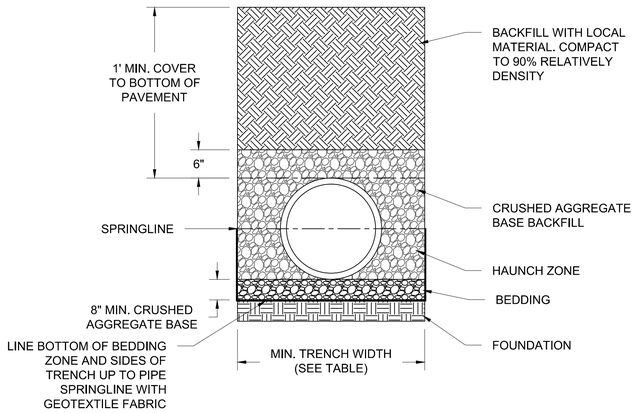
YOLO BYPASS WILDLIFE AREA
HABITAT AND DRAINAGE IMPROVEMENTS

TYPICAL DETAILS 1

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET 16
DWG -------
REV 0

PREPARED WITH MWD
BRDR DATE: 01/29/2009

PEN TABLE: MWD.CTB PLOT TIME: 1/9/2017 5:13 PM FILEPATH: C:\USERS\D.TU\DOCUMENTS\PROJECTS 2015\15-1025_YBWA_DESIGN\CAD_DWGS\PRODUCTION FILE NAME: PROJ08_DETAILS.DWG



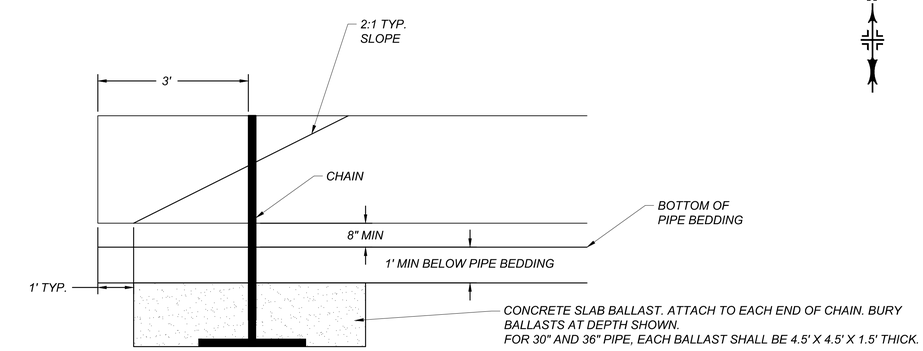
RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
30"	54"
36"	64"

NOTES:

1. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL SCARIFY AND RECOMPACT NATIVE SOILS TO AT LEAST 4" BELOW THE BEDDING, OR EXCAVATE TO A DEPTH REQUIRED BY THE OWNER'S REPRESENTATIVE AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE OWNER'S REPRESENTATIVE.
2. HAUNCH ZONE: COMPACT CRUSHED AGGREGATE BASE IN 8" LIFTS, MOISTURE CONDITION TO NEAR OPTIMUM AND COMPACT TO 95% RELATIVE COMPACTION UP TO THE SPRINGLINE OF THE PIPE.
3. GEOTEXTILE: INSTALL GEOTEXTILE WITH A MINIMUM GRAB STRENGTH OF 200 POUNDS (REED AND GRAHAM RG 200 OR EQUIVALENT). INSTALL GEOTEXTILE IN BASE AND SIDES OF TRENCH UP TO THE SPRINGLINE OF THE PIPE BETWEEN CRUSHED AGGREGATE BASE AND NATIVE SOILS.

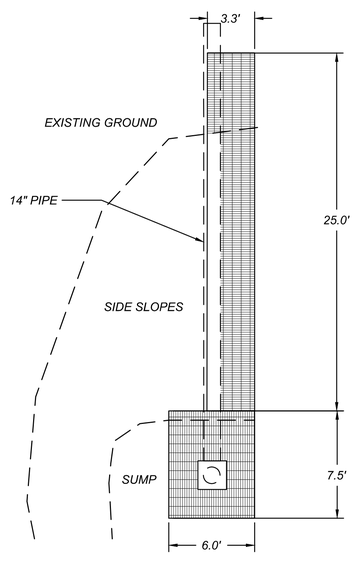
DETAIL 3 - TYPICAL HDPE CULVERT TRENCH DETAIL



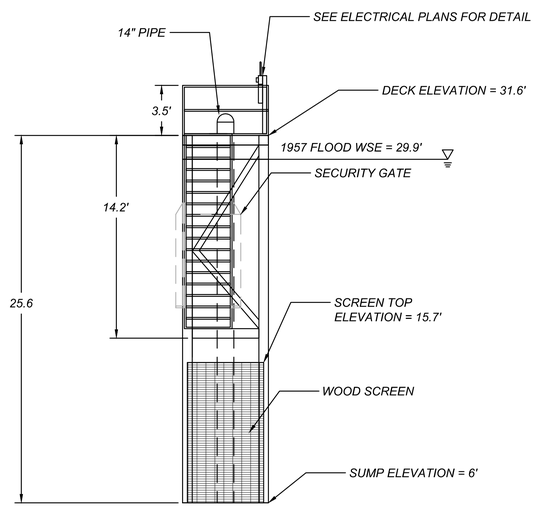
NOTES:

1. PIPE ANCHOR CHAIN SHALL BE 5/8" GRADE 80 ALLOY GALVANIZED CHAIN, MIN.
2. HANG CHAIN OVER PIPE END IN CORRUGATION VALLEY.
3. EMBED END OF CHAIN IN FULL THICKNESS OF CONCRETE. CURL 6' OF CHAIN IN A 2' DIAMETER CIRCLE AT BOTTOM OF EACH CONCRETE ANCHOR

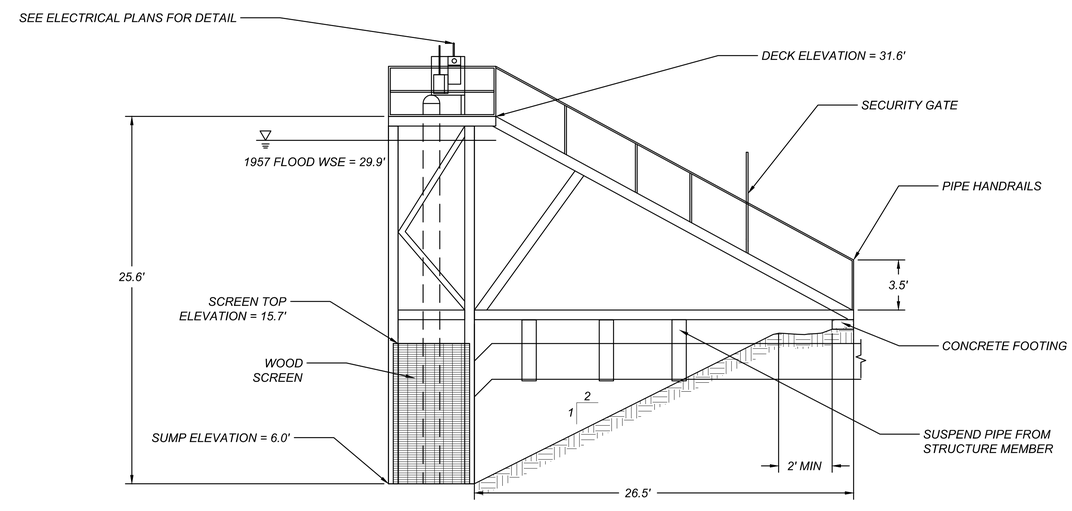
DETAIL 4 - TYPICAL PIPE ANCHOR DETAIL



PLAN VIEW A
H: 1"=5'



NORTH ELEVATION B
H: 1"=5', V: 1"=5'



EAST ELEVATION C
H: 1"=5', V: 1"=5'

NOTES:

1. PUMP STATION STRUCTURE,SCREEN AND PIPE SUPPORTS ARE SHOWN FOR DIMENSIONAL PURPOSES ONLY
2. CONTRATOR SHALL PROVIDE A DESIGN FOR THE PUMP STATION STRUCTURE THAT IS CERTIFIED BY A CALIFORNIA STRUCTURAL ENGINEER

DETAIL 5 - SUB-PROJECT 3 PUMP STATION

SCALE BARS

PREPARED BY: cbec eco engineering

ISSUE DESCRIPTION
100% DESIGN

ISSUE DATE APRIL 2017

DESIGNED SD
DRAWN DT/WL
CHECKED CC

FOR DRAWING APPROVALS SEE

YOLO BYPASS WILDLIFE AREA HABITAT AND DRAINAGE IMPROVEMENTS

TYPICAL DETAILS 2

SFCWA CONTRACT # 143939
CBEC PROJECT # 15-1025
SHEET 17
DWG -------
REV 0

PREPARED WITH MWD
BRDR DATE: 01/29/2009
PEN TABLE: MWD.CTB
PLOT TIME: 1/9/2017 5:13 PM
FILEPATH: C:\USERS\D.TU\DOCUMENTS\PROJECTS 2015\15-1025_YBWA_DESIGN\CAD_DWGS\PRODUCTION
FILE NAME: PROJ08_DETAILS.DWG