

**Meeting of the Central Valley Flood Protection Board
November 16, 2012**

Staff Report – Encroachment Permit

**Butte Creek Farms
Boat Ramp/Septic System, Colusa County**

1.0 – ITEM

Consider approval of Permit No. 18802 (Attachment B)

2.0 – APPLICANT

Butte Creek Farms

3.0 – LOCATION

The project is located approximately $\frac{3}{4}$ of a mile downstream of the River Road Bridge on the left (east) bank of the Sacramento River, (Sacramento River, Colusa County, see Attachment A)

4.0 – DESCRIPTION

Applicant proposes to install a boat ramp and associated retaining wall, expansion of an existing parking area along the landside of the levee and restoration and improvement of existing structures and driving and walking surfaces including nineteen concrete pads and utilities at each of the RV sites on the waterside of the levee, also install four 6-inch-diameter casing pipes to carry sewer, water and electrical services to the landside improvements from the existing waterside utility services.

5.0 – PROJECT ANALYSIS

The proposed project is composed of restoration and improvement of previously permitted encroachments. This work is generally maintenance with some minor improvements included. The boat ramp and associated retaining wall are designed to and are compatible with Title 23 standards as is the installation of the four casing pipes

for future utility installation. The permittee will send a submittal, to be approved by the Board, of the utility layout prior to any construction of the utility system.

5.1 – Hydraulic Analysis

A hydraulic analysis was performed that stated there are no significant impacts to water surface elevations or velocities. (See attachment D).

5.2 – Geotechnical Analysis

A geotechnical analysis is not needed for this proposed project.

6.0 – AGENCY COMMENTS AND ENDORSEMENTS

The comments and endorsements associated with this project, from all pertinent agencies are shown below:

- The Department of Water Resources – Flood Management – Sutter Maintenance Yard endorsed the project on July 26, 2012 with conditions attached as Exhibit A which are incorporated into the permit by reference.
- The U.S. Army Corps of Engineers 208.10 comment letter has not been received for this application. Staff anticipates receipt of a letter indicating that the USACE District Engineer has no objection to the project, subject to conditions. Upon receipt of the letter, staff will review to ensure conformity with the permit language and incorporate it into the permit as Exhibit B.

7.0 – CEQA ANALYSIS

Board staff has prepared the following CEQA findings:

The Board, as a responsible agency under CEQA, has reviewed Initial Study Mitigated Negative Declaration (IS/MND) (December 2010, SCH# 2010112006) for the Butte Creek Farms Boat Landing Project prepared by the lead agency, County of Colusa. These documents, including project design, may be viewed or downloaded from the Central Valley Flood Protection Board website at <http://www.cvfpb.ca.gov/meetings/2012/11-16-2012.cfm> under a link for this agenda item. These documents are also available for review in hard copy at the Board and County offices.

Colusa County determined that the project would not have a significant effect on the environment and approved the project on December 13, 2010 and subsequently filed a Notice of Determination with the State Clearinghouse on December 23, 2010. Board staff finds that although the proposed project could have a potentially significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. The project proponent has incorporated mandatory mitigation measures into the project plans to avoid identified impacts or to mitigate such impacts to a point where no significant impacts will occur. These mitigation measures are included in the project proponent's IS/MND and address impacts to air quality, biological resources, cultural resources, geology and soils, hydrology and water quality, hazards and hazardous materials, and transportation and traffic. The description of the mitigation measures are further described in the adopted IS/MND.

8.0 – SECTION 8610.5 CONSIDERATIONS

1. Evidence that the Board admits into its record from any party, State or local public agency, or nongovernmental organization with expertise in flood or flood plain management:

The Board will make its decision based on the evidence in the permit application and attachments, this staff report, and any other evidence presented by any individual or group.

2. The best available science that related to the scientific issues presented by the executive officer, legal counsel, the Department or other parties that raise credible scientific issues.

The accepted industry standards for the work proposed under this permit as regulated by Title 23 have been applied to the review of this permit.

3. Effects of the decision on the on the facilities of the State Plan of Flood Control, and consistency of the proposed project with the Central Valley Flood Protection Plan as adopted by Board Resolution 2012-25 on June 29, 2012:

The proposed boat ramp, retaining wall and associated facilities will have an insignificant effect on facilities of the State Plan of Flood Control and the project is consistent with the Central Valley Flood Protection Plan.

4. Effects of reasonable projected future events, including, but not limited to, changes in hydrology, climate, and development within the applicable watershed:

Effects to the proposed project from reasonable projected future events will be negligible.

9.0 – STAFF RECOMMENDATION

Staff recommends that the Board adopt the CEQA findings, approve the permit conditioned upon receipt of a favorable U.S. Army Corps of Engineers comment letter and direct staff to file a Notice of Determination with the State Clearinghouse.

10.0 – LIST OF ATTACHMENTS

- A. Location Maps and photos
- B. Draft Permit No. 18802
- C. Project Drawings
- D. Hydraulic Analysis Letter

Design Review:	Steve Dawson
Hydraulic Review:	Steve Dawson
Environmental Review:	James Herota/Andrea Mauro
Document Review:	Mitra Emami, P.E./Len Marino, P.E.

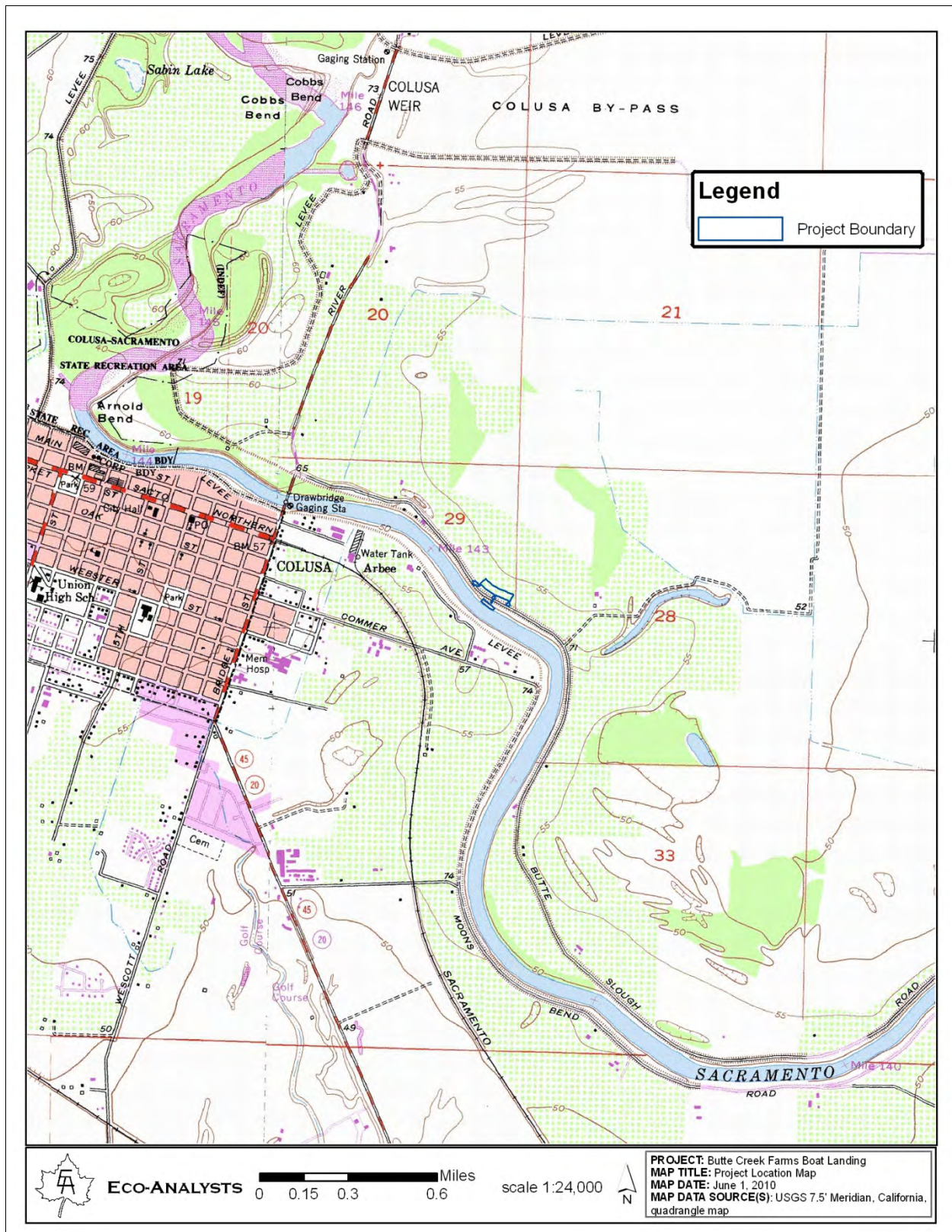


Figure 2. Location Map

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DRAFT

STATE OF CALIFORNIA
THE RESOURCES AGENCY
THE CENTRAL VALLEY FLOOD PROTECTION BOARD

PERMIT NO. 18802 BD**This Permit is issued to:**

Butte Creek Farms
50 Sunrise Boulevard
Colusa, California 95932

Installation of a boat ramp and associated retaining wall, expansion of an existing parking area along the landside of the levee and restoration and improvement of existing structures and driving and walking surfaces including 19 concrete pads and utilities at each of the RV sites on the waterside of the levee. Also to install 4 6-inch-diameter casing pipes to carry sewer, water and electrical services to the landside improvements from the existing waterside utility services. The project is located on the left bank of the Sacramento River, approximately 3/4 of a mile downstream of the River Road Bridge in Colusa County. (Section 29, T16N, R1W, MDB&M, Maintenance Area 1, Sacramento River, Colusa County).

NOTE: Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

(SEAL)

Dated: _____

Executive Officer

GENERAL CONDITIONS:

ONE: This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

TWO: Only work described in the subject application is authorized hereby.

THREE: This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

FOUR: The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

FIVE: Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

SIX: This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

SEVEN: It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

EIGHT: This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

NINE: The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

TEN: The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

ELEVEN: The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

TWELVE: Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

SPECIAL CONDITIONS FOR PERMIT NO. 18802 BD

THIRTEEN: All work approved by this permit shall be in accordance with the submitted drawings and specifications except as modified by special permit conditions herein. No further work, other than that approved by this permit, shall be done in the area without prior approval of the Central Valley Flood Protection Board.

FOURTEEN: The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of the Department of Water Resources - Flood Management - Sutter Maintenance Yard or any other agency responsible for maintenance.

FIFTEEN: Upon receipt of a signed copy of the issued (not approved only) permit the permittee shall contact the Department of Water Resources by telephone, (916) 574-0609, and submit the enclosed postcard to schedule a preconstruction conference. Failure to do so at least 10 working days prior to start of work may result in delay of the project.

SIXTEEN: The Central Valley Flood Protection Board, Department of Water Resources, and the Department of Water Resources - Flood Management - Sutter Maintenance Yard shall not be held liable for any damages to the permitted encroachment(s) resulting from flood fight, operation, maintenance, inspection, or emergency repair.

SEVENTEEN: The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central

Valley Flood Protection Board may remove the encroachment(s) at the permittee's expense.

EIGHTEEN: The permittee should contact the U.S. Army Corps of Engineers, Sacramento District, Regulatory Branch, 1325 J Street, Sacramento, California 95814, telephone (916) 557-5250, as compliance with Section 10 of the Rivers and Harbors Act and/or Section 404 of the Clean Water Act may be required.

NINETEEN: The permittee shall be responsible for repair of any damages to the project levee and other flood control facilities due to construction, operation, or maintenance of the proposed project.

TWENTY: The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California; including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

TWENTY-ONE: The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages related to the Central Valley Flood Protection Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

TWENTY-TWO: If the project, or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board and Department of Water Resources, at the permittee's or successor's cost and expense.

TWENTY-THREE: No construction work of any kind shall be done during the flood season from November 1 to April 15 without prior approval of the Central Valley Flood Protection Board.

TWENTY-FOUR: The permitted encroachment(s) shall not interfere with operation and maintenance of the flood control project. If the permitted encroachment(s) are determined by any agency responsible for operation or maintenance of the flood control project to interfere, the permittee shall be required, at permittee's cost and expense, to modify or remove the permitted encroachment(s) under direction of the Central Valley Flood Protection Board or Department of Water Resources. If the permittee does not comply, the Central Valley Flood Protection Board may modify or remove the encroachment(s) at the permittee's expense.

TWENTY-FIVE: During demolition of the project, any and all anticipated or unanticipated conditions encountered which may impact levee integrity or flood control shall be brought to the attention of the Flood Project Inspector immediately and prior to continuation. Any encountered abandoned encroachments shall be completely removed or properly abandoned under the direction of the Flood Project Integrity and Inspection Branch Inspector or the Department of Water Resources Inspector (use one only).

TWENTY-SIX: The top of driven piles shall be a minimum distance of 2 feet above the design flood plane elevation of 66.0 feet, NGV Datum.

TWENTY-SEVEN: The proposed floating facilities shall be properly anchored to prevent detachment from the anchoring system during periods of high water.

TWENTY-EIGHT: The levee crown roadway shall be kept clear for vehicular traffic and parking shall be prohibited at all times.

TWENTY-NINE: No materials or equipment shall be stored on the levee section.

THIRTY: In the event existing revetment on the channel bank or levee section is disturbed or displaced, it shall be restored to its original condition upon completion of the proposed installation.

THIRTY-ONE: Imported material shall be used when developing the access ramps on the levee section, and no cuts shall remain in the levee section upon completion.

THIRTY-TWO: Prior to placement of fill against the levee slope and within 10 feet of the levee toe, all surface vegetation shall be removed to a depth of 6 inches. Organic soil and roots larger than 1-1/2 inches in diameter shall be removed to a depth of 3 feet.

THIRTY-THREE: Fill on the levee slope shall be keyed into the existing levee section with each lift.

THIRTY-FOUR: Any excavations made in the levee section or within 10 feet of the levee toes shall be backfilled in 4- to 6-inch layers with impervious material with 20 percent or more passing the No. 200 sieve, a plasticity index of 8 or more, and a liquid limit of less than 50 and free of lumps or stones exceeding 3 inches in greatest dimension, vegetative matter, or other unsatisfactory material. Backfill material shall be compacted in 4- to 6-inch layers to a minimum of 90 percent relative compaction as measured by ASTM Method D1557-91.

THIRTY-FIVE: Compaction tests by a certified soils laboratory will be required to verify compaction of backfill within the levee section or within 10 feet of the levee toe.

THIRTY-SIX: The proposed access ramp shall be graded to direct all surface drainage away from the levee section.

THIRTY-SEVEN: The access ramps shall be surfaced with a minimum of 4 inches of compacted, Class 2, aggregate base (Caltrans Specification 26-1.02A).

THIRTY-EIGHT: Aggregate base material shall be compacted to a relative compaction of not less than 95 percent per ASTM Method D1557-91, with a moisture content sufficient to obtain the required compaction.

THIRTY-NINE: Cleared trees and brush shall be completely burned or removed from the floodway, and downed trees or brush shall not remain in the floodway during the flood season from November 1 to April 15.

FORTY: The casing pipes shall be placed as shown on the submitted drawings

FORTY-ONE: The invert of the casing pipes through the levee section shall be above the design flood plane elevation of 66.0 feet, NGV Datum.

FORTY-TWO: The casing pipes shall be installed through the levee section at a right angle to the centerline of the levee.

FORTY-THREE: The project site shall be restored to at least the condition that existed prior to commencement of work.

FORTY-FOUR: The permittee shall replant or reseed the levee slopes to restore sod, grass, or other non-woody ground covers if damaged during project work.

FORTY-FIVE: Revetment shall be uniformly placed and properly transitioned into the bank, levee slope, or adjacent revetment and in a manner which avoids segregation.

FORTY-SIX: Revetment shall be quarry stone and shall meet the following grading (where appropriate) or as shown on the submitted drawings:

Quarry Stone

Stone Size	Percent Passing
15 inches;	100
8 inches;	80-95
6 inches;	45-80
4 inches;	15-45
2 inches;	0-15

FORTY-SEVEN: The revetment shall not contain any reinforcing steel, floatable, or objectionable material. Asphalt or other petroleum-based products may not be used as fill or erosion protection on the levee section or within the floodway.

FORTY-EIGHT: Objects connected to the dock shall be properly secured to prevent detachment during periods of high water.

FORTY-NINE: The permittee shall be responsible for removing all boats or other objects moored to the dock upon receiving notification to do so from the Central Valley Flood Protection Board, Department of Water Resources, or any other federal, State, or local agency having applicable authority.

FIFTY: Debris that may accumulate on the permitted encroachment(s) and related facilities shall be cleared off and disposed of outside the floodway after each period of high water.

FIFTY-ONE: In the event that levee or bank erosion injurious to the adopted plan of flood control occurs at or adjacent to the permitted encroachment(s), the permittee shall repair the eroded area and propose measures, to be approved by the Central Valley Flood Protection Board, to prevent

further erosion.

FIFTY-TWO: The permittee shall comply with all conditions set forth in the letter from the Department of Water Resources - Flood Management - Sutter Maintenance Yard dated July 26, 2012, which is attached to this permit as Exhibit A and is incorporated by reference.

FIFTY-THREE: The permittee shall comply with all conditions set forth in the letter from the Department of the Army (U.S. Army Corps of Engineers, Sacramento District) dated November XX, 2012, which is attached to this permit as Exhibit B and is incorporated by reference.

FIFTY-FOUR: Any additional encroachment(s) on the levee section or waterward berm, require an approved permit from the Central Valley Flood Protection Board and shall be in compliance with the Central Valley Flood Protection Board's regulations (Title 23 California Code of Regulations).

FIFTY-FIVE: The permittee shall submit to the Central Valley Flood Protection Board detailed plans indicating the types, location, and method of installing the proposed utility lines prior to their installation. The plans shall also indicate the location of any proposed fuel storage tanks, septic tanks, or any other proposed utilities.

**APPLICATION FOR A CENTRAL VALLEY FLOOD PROTECTION BOARD
ENCROACHMENT PERMIT****Application No.** _____

(For Official Use Only)

1. Description of proposed work:

Installation of a boat ramp and improvements to existing structures, including modification of a septic system to move the leach field further from the Sacramento River. The septic system will require boring through the road base of Butte Slough Road, situated on the levee, to allow a 4"-8" line to pass above the levee to the eastern (upland) side.

2. Location Colusa County, in Section 29 ,

Township: 16N (N)
(S), Range 1W (W), M. D. B. & M.

3. Butte Creek Farms of 50 Sunrise Blvd.
Name of Applicant Address

Colusa CA 95932 (530) 458-2118
City State Zip Code Telephone Number

Fax Number

4. Endorsement: (of Reclamation District)

We, the Trustees of Department of Water Resources – Flood Management – Sutter Maintenance Yard

Name and District Number

approve this plan, subject to the following conditions:

☐ Conditions listed on back of this form☒ Conditions Attached☐ No Conditions

Xavier Hull 7/26/12 _____
Trustee Date Trustee Date

5. Names and addresses of adjacent property owners sharing a common boundary with the land upon which the contents of this application apply. If additional space is required, list names and addresses on back of the application form or an attached sheet.

See attachment B: Adjacent Properties

Name

Address

Zip Code

CONDITIONS
DWR, Sutter Maintenance Yard

RE: Permit Application for Encroachment – Butte Creek Farms – Colusa County

1. The proposed encroachment is subject to all conditions and requirements of the US Army Corp of Engineers regarding encroachments placed on or at the toe of a levee.
2. The proposed encroachment is subject to all conditions and requirements of the Central Valley Flood Protection Board.

LEGEND

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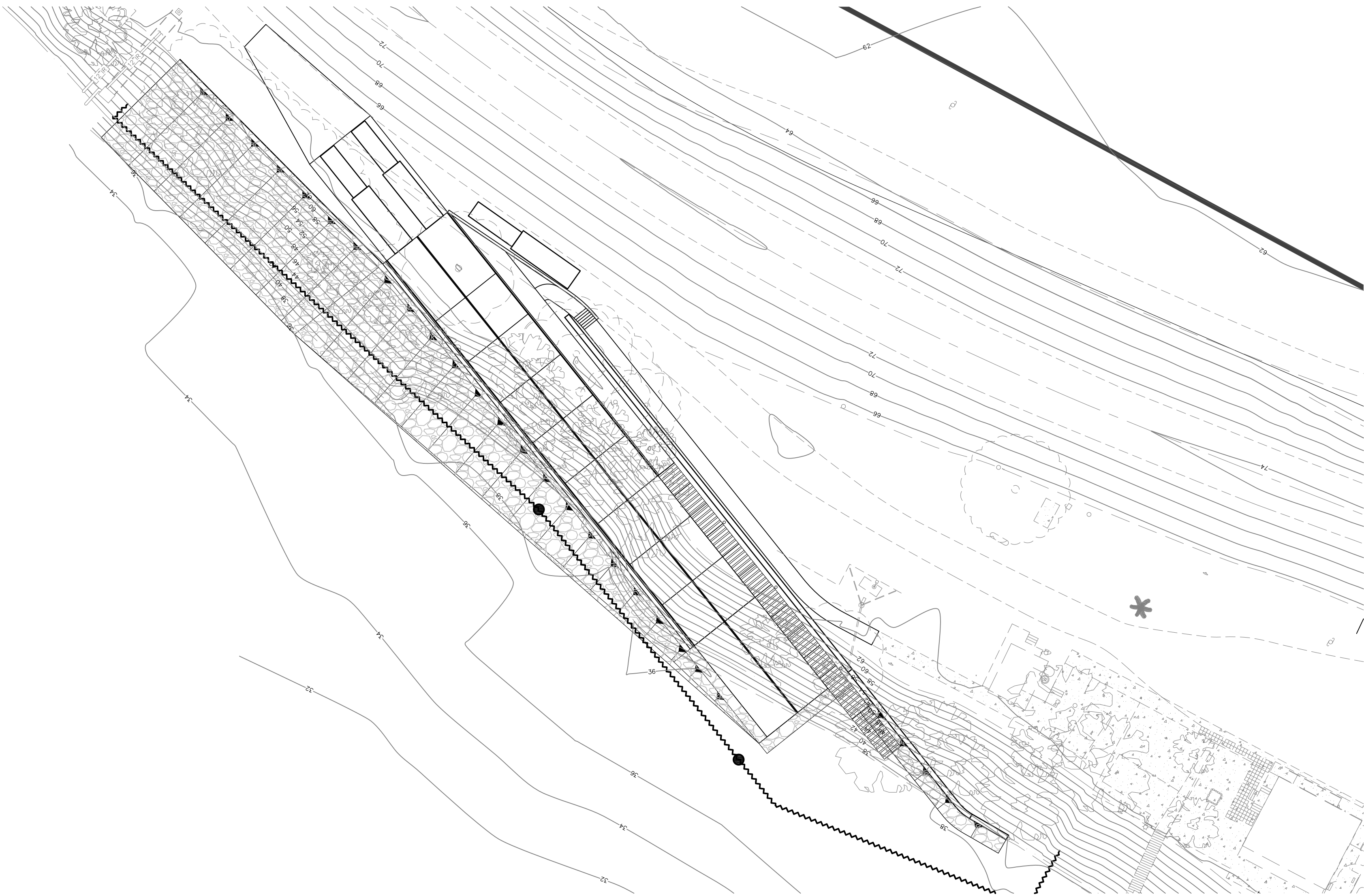
EXISTING TREES
(DRIP LINES DEPICTED)

PROPOSED CURB, GUTTER & SIDEWALK



BUTTE CREEK FARMS BOAT RAMP IMPROVEMENT PROJECT IMPROVEMENT PLANS

COLUSA COUNTY, CALIFORNIA
CONTRACT # 11-208
MAY 10, 2012



BASIS OF BEARINGS

THE BASIS OF BEARINGS OF THIS PLAT MAP IS THE CALIFORNIA COORDINATE SYSTEM, ZONE 2, ORIGINATING AT CDH STATION "SLOUGH".

VERTICAL DATUM:

THE ELEVATION DATUM OF THIS PROJECT WAS ESTABLISHED VIA AN OFF-SITE BENCHMARK "R.M. 2" USED BY "THE UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY WATER RESOURCES DIVISION", DESCRIBED AS A "STANDARD BRASS TABLET SET IN CONCRETE SIDEWALK RIGHT BANK END, DOWNSTREAM SIDE, ON BRIDGE" WHERE RIVER ROAD CROSSES THE SACRAMENTO RIVER, IN THE CITY OF COLUSA, STATE OF CALIFORNIA, HAVING AN ELEVATION OF 78.038 (NAVD88).

ABBREVIATIONS:

- AC - ASPHALT CONCRETE

AB - AGGREGATE BASE

BOW - BOTTOM OF WALL

C & G - CURB & GUTTER

CL - CENTER LINE

CP - CONTROL POINT

CULV - CULVERT

DI - DRAINAGE INLET

EL - ELEVATION

EP - EDGE OF PAVEMENT

EX - EXISTING

F - FENCE

FS - FINISH SURFACE

FL - FLOW LINE

INV - INVERT

JP - JOINT POLE

LIP - LIP OF GUTTER
- MON - MONUMENT

NIC - NOT IN CONTRACT

OG - ORIGINAL GROUND

PK - PK NAIL

PL - PROPERTY LINE

PP - POWER POLE

RG - ROUGH GRADE

ROW - RIGHT-OF-WAY

SD - STORM DRAIN

STA - STATION

TOE - TOE OF SLOPE

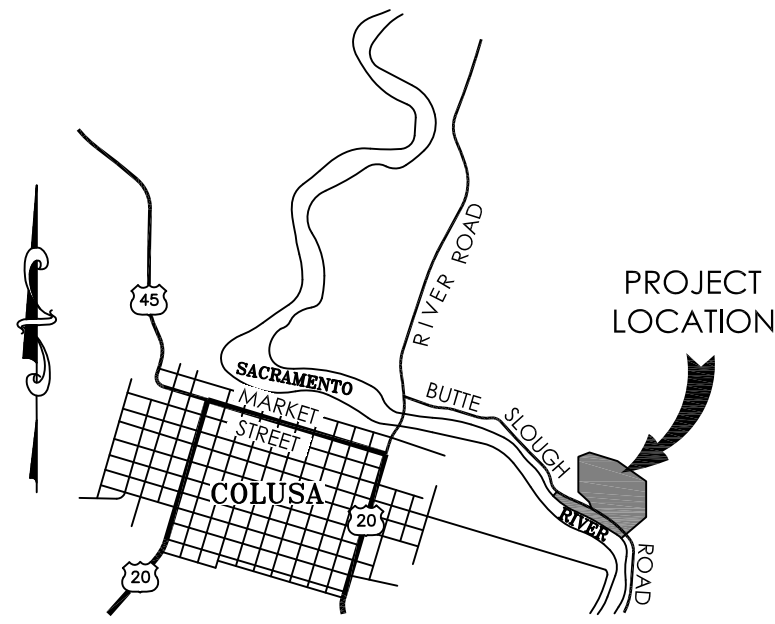
TOP - TOP OF SLOPE

TOPO - GROUND ELEVATION

TOW - TOP OF WALL

TP - TELEPHONE POLE

TYP - TYPICAL



VICINITY MAP
NOT TO SCALE

VICINITY MAP
NOT TO SCALE

SHEET INDEX

1. COVER
2. GENERAL NOTES
3. SITE PLAN
4. PLAN AND PROFILE
5. DETAILS PLAN
6. DETAILS PLAN
7. PARKING LOT & ENTRANCE/EXIT PLAN

CALIFORNIA ENGINEERING COMPANY, INC.
PREPARED BY OR UNDER THE DIRECTION OF:

DAVID L. SWARTZ, PE # C52840, PLS # LS8401
OFFICER IN CHARGE
PE EXP. 12/31/12, PLS EXP. 6/30/12

DATE

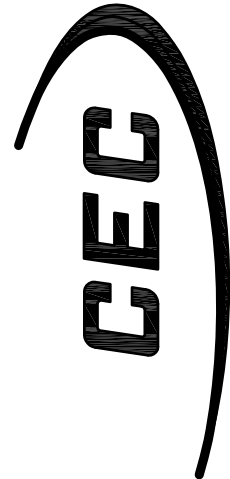
BUTTE CREEK FARMS

TITLE

BUTTE CREEK FARMS BOAT RAMP IMPROVEMENT PROJECT

PROJECT NUMBER
11-208

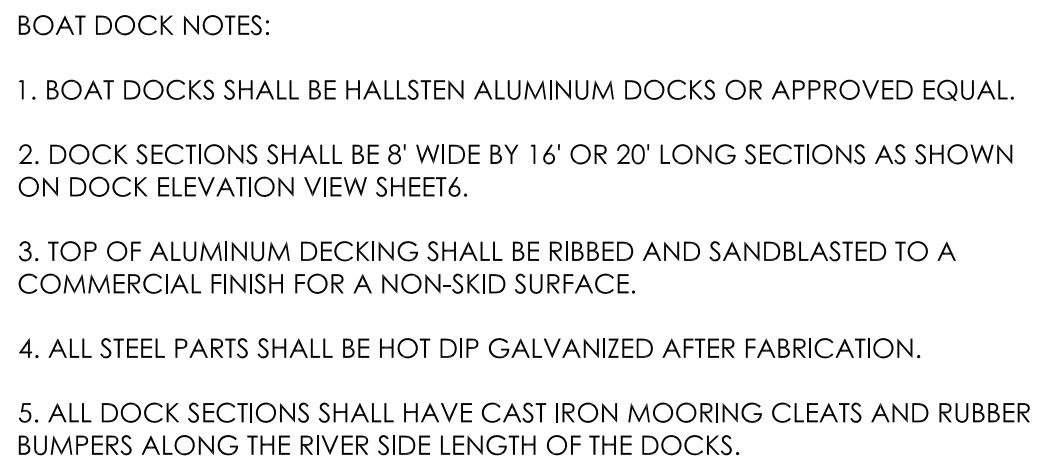
SHEET 1 OF 7



Office (530) 751-0952
Fax (530) 751-0953
1110 Civic Center Blvd., Suite 404
Yuba City, CA 95993

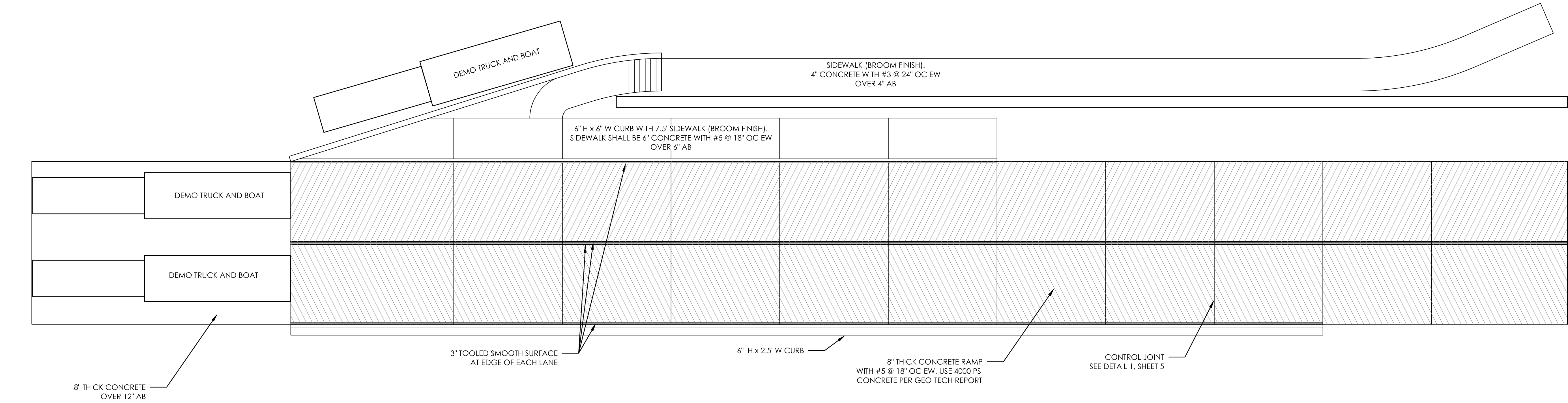
Engineering - Planning - Surveying - Community Development
www.cec.com

<div>CEC GENERAL NOTES:</div> <div><div><div>1. THE CONSTRUCTION CONTRACTOR AGREES THAT CONSTRUCTION WILL PROCEED IN ACCORDANCE WITH GENERALLY ACCEPTED PRACTICES. THE CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND THE CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD CONSULTING ENGINEER AND COUNTY OF YUBA HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT. EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE ENGINEER OR COLUSA COUNTY.</div><div>2. THE CONTRACTOR SHALL NOTIFY THE COUNTY PUBLIC WORKS DEPARTMENT 72-HOURS PRIOR TO COMMENCING WORK AND 24-HOURS PRIOR TO RESUMPTION AFTER INTERRUPTION.</div><div>3. THE CONTRACTOR SHALL OBTAIN A BUSINESS LICENSE AND ALL NECESSARY ENCROACHMENT PERMITS FOR THE PROJECT, PAY ALL APPLICATION FEES AND BE IN RECEIPT OF SUCH PERMITS AND APPROVED PLANS PRIOR TO THE BEGINNING OF CONSTRUCTION.</div><div>4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL CURRENTLY APPLICABLE SAFETY LAWS OF ANY JURISDICTIONAL BODIES. FOR MORE INFORMATION, PLEASE CONTACT THE STATE INDUSTRIAL SAFETY DEPARTMENT (916-455-5818).</div><div>5. THE CONTRACTOR SHALL BE HELD RESPONSIBLE TO SEE THAT ALL SUBCONTRACTORS AND SUPPLIERS HAVE CURRENT BUSINESS LICENSES. THE WORK WILL NOT BE ACCEPTED FOR COMPLETION UNTIL THE CONTRACTOR SUBMITS A COMPLETE LIST WITH LICENSE NUMBERS TO THE COUNTY PUBLIC WORKS DEPARTMENT.</div><div>6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE EXISTING PUBLIC AND PRIVATE IMPROVEMENTS WITHIN AND ADJACENT TO THE WORK AND SHALL ADEQUATELY BARRICADE PROJECT TO KEEP THE GENERAL PUBLIC FROM THE SITE. ANY DAMAGE TO PUBLIC OR PRIVATE IMPROVEMENTS SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR TO COLUSA COUNTY STANDARDS.</div><div>7. THE TYPES, LOCATIONS, SIZES AND/OR DEPTH OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE PLANS WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, LOCATION, SIZE AND DEPTH OF SUCH UNDERGROUND UTILITIES. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL UNDERGROUND FACILITIES, HOWEVER, THE ENGINEER CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF EXISTENCE OF OTHER BURIED OBJECTS OR UTILITIES WHICH MAY BE ENCOUNTERED BUT WHICH ARE NOT SHOWN ON THESE PLANS. IF NO ELEVATION IS SHOWN ON THE PLANS, THE CONTRACTOR SHALL ASSUME THE ELEVATION UNKNOWN. THE CONTRACTOR IS HEREBY NOTIFIED THAT HE IS RESPONSIBLE FOR VERIFICATION, VIA POTHOLING, OF THE LOCATION OF ALL UTILITIES AT THE CONSTRUCTION SITE. IN THE EVENT THAT SUBSTANTIAL DISCREPANCIES ARE FOUND, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER FOR DIRECTION AND ALLOW A MINIMUM OF 2 WORKING DAYS FOR A CHANGE TO BE MADE, COORDINATED AND APPROVED.</div><div>8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPORTING ALL CONFLICTS, ERRORS, OMISSIONS, ETC. TO THE COUNTY IMMEDIATELY UPON DISCOVERY. IF SO DIRECTED BY THE COUNTY, THE CONTRACTOR SHALL STOP WORK UNTIL MITIGATIONS CAN BE MADE. ANY COSTS INCURRED RESULTING FROM THE CONTRACTOR'S FAILURE TO STOP WORK AS DIRECTED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.</div><div>9. THE CONTRACTOR SHALL AT ALL TIMES COORDINATE HIS WORK WITH THAT OF OTHERS ON THE SITE. THE CONTRACTOR SHALL HAVE A RESPONSIBLE PARTY, WHO SHALL HAVE THE AUTHORITY TO REPRESENT AND ACT FOR THE CONTRACTOR, ON THE JOB SITE DURING ALL WORKING HOURS.</div><div>10. THE COUNTY OF COLUSA IS A MEMBER OF THE UNDERGROUND SERVICE ALERT (U.S.A.) ONE CALL SYSTEM. THE CONTRACTORS SHALL NOTIFY THE U.S.A. CENTER 48-HOURS IN ADVANCE OF PERFORMING ANY EXCAVATION WORK BY CALLING 1-800-227-2600 (EXCAVATION IS DEFINED AS BEING 18 OR MORE INCHES IN DEPTH BELOW THE EXISTING SURFACE).</div><div>11. THE CONTRACTOR SHALL MARK IN WHITE PAINT ALL AREAS TO BE EXCAVATED PRIOR TO CONTACTING U.S.A.</div><div>12. ALL WORK SHALL BE IN ACCORDANCE WITH THE COUNTY'S NOISE ORDINANCE.</div><div>13. IN THE EVENT HISTORICAL, ARCHAEOLOGICAL OR PALEONTOLOGICAL RESOURCES ARE ACCIDENTALLY DISCOVERED DURING CONSTRUCTION, ALL GRADING ACTIVITY IN THE IMMEDIATE AREA SHALL CEASE AND MATERIALS AND THEIR SURROUNDINGS SHALL NOT BE ALTERED OR COLLECTED. A QUALIFIED ARCHEOLOGIST SHALL BE CONSULTED IMMEDIATELY TO MAKE AN EVALUATION. AVOIDANCE MEASURES OR APPROPRIATE MITIGATION SHALL BE COMPLETED ACCORDING TO CEQA GUIDELINES. THE STATE OFFICE OF HISTORIC PRESERVATION HAS ISSUED RECOMMENDATIONS FOR THE PREPARATIONS OF ARCHEOLOGICAL RESOURCE MANAGEMENT REPORTS WHICH SHALL BE USED AS GUIDELINES. IF ANY BONE IS DISCOVERED WHICH APPEARS TO BE HUMAN, CALIFORNIA LAW MANDATES THAT THE COUNTY CORONER AND THE NATIVE AMERICAN HERITAGE COMMISSION BE CONTACTED.</div><div>14. CONTRACTOR SHALL PROVIDE THE ENGINEER WITH SUBMITTALS FOR ALL MATERIALS TO BE USED. THE SUBMITTALS SHALL BE DELIVERED TO THE DEPARTMENT OF PUBLIC WORKS A MINIMUM OF TWO (2) WEEKS PRIOR TO THE PRE-CONSTRUCTION CONFERENCE.</div><div>15. CERTIFICATION FOR CONFORMANCE WITH THE COUNTY OF COLUSA DEPARTMENT OF PUBLIC WORKS STANDARDS WILL BE REQUIRED OF ALL MATERIAL USED ON THE PROJECT UNLESS SPECIFICALLY WAIVED BY THE COUNTY.</div><div>16. INTERMEDIATE TRENCH BACK FILL SHALL BE IN MAXIMUM LIFTS OF 12" AND SHALL HAVE A MINIMUM RELATIVE COMPACTION OF 90% OR AS DIRECTED BY THE SOILS ENGINEER. COMPACTION SHALL BE BY MECHANICAL MEANS.</div><div>17. PRIOR TO THE BEGINNING OF EARTHWORK THE CONTRACTOR SHALL CLEAR ALL ROOTS, ORGANIC MATTER, DEBRIS, PAVING, CURB, AND VEGETATION DESIGNATED TO BE SAVED, FROM THE AREA WITHIN WHICH EXCAVATION AND GRADING ARE TO BE CONDUCTED OR STORAGE OF EXCAVATED MATERIALS OR FILL IS TO BE MADE. VEGETATION CLEARED FROM THESE AREAS SHALL BE DISPOSED OF BY THE CONTRACTOR, AND INCLUDED IN THE COST OF CLEARING AND GRUBBING.</div><div>18. DIMENSIONS SHOWN ON PLANS ARE TO CENTERLINE OF PIPE, UNLESS OTHERWISE NOTED.</div><div>19. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES.</div><div>20. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THESE PLANS AND SPECIFICATIONS, COUNTY OF COLUSA DEPARTMENT OF PUBLIC WORKS IMPROVEMENT STANDARD & DRAWINGS, AND TO THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS AND SPECIFICATIONS, LATEST EDITION. THE CONTRACTOR SHALL OBTAIN A COPY OF THE COUNTY'S IMPROVEMENT AND CONSTRUCTION STANDARDS PRIOR TO CONSTRUCTION. IN THE ABSENCE OF A SPECIFICATION FOR AN ITEM IN THESE PLANS, THE COUNTY OF COLUSA STANDARD PLANS AND SPECIFICATIONS, OR THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD PLANS AND SPECIFICATIONS SHALL APPLY FOR GENERAL CONSTRUCTION SERVICES.</div><div>21. IN THE EVENT THERE IS A DISCREPANCY OR TYPOGRAPHICAL ERROR WITHIN THESE PLANS, OR REQUEST FOR INFORMATION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY FOR DIRECTION. THE CONTRACTOR IS HEREBY NOTIFIED THAT THE ENGINEER SHALL BE ALLOWED A MINIMUM OF TWO WORKING DAYS TO ADDRESS THE ISSUE.</div></div></div>		<div>CEC GENERAL NOTES:</div> <div><div>22. ONLY SIGNED PLANS BY ALL PARTIES INVOLVED SHALL BE CONSIDERED APPROVED. THE CONTRACTOR SHALL NOT BEGIN WORK BEFORE THE PLANS HAVE BEEN APPROVED. THE CONTRACTOR SHALL HAVE ALL PERMITS AND APPROVED PLANS ON-SITE AT ALL TIMES DURING CONSTRUCTION.</div><div>23. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WORK WITH ALL SUBCONTRACTORS AND UTILITY COMPANIES.</div><div>24. ADJACENT STREET FRONTAGES SHALL BE SWEEPED AT LEAST ONCE A DAY TO REMOVE SILT AND OTHER DIRT WHICH IS EVIDENT FROM CONSTRUCTION ACTIVITIES.</div><div>25. ALL TESTING IS THE RESPONSIBILITY OF THE CONTRACTOR AND ALL REQUIRED TESTS SHALL BE COORDINATED AND APPROVED BY THE ENGINEER AND THE COUNTY OF COLUSA.</div><div>26. ADDITIONAL NOTES AND DETAILS ARE LOCATED ON THE FOLLOWING SHEETS.</div><div>27. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL LOCAL, STATE, AND FEDERAL APPROVALS AND PERMITS ASSOCIATED WITH WORK SHOWN ON THESE PLANS, AND ASSUMES ALL LIABILITY ASSOCIATED THEREWITH.</div><div>28. CONTRACTOR IS RESPONSIBLE FOR RELOCATION OF ALL UTILITIES WITHIN THE LIMITS OF NEW CONSTRUCTION, SHEET 1 FOR CONTRACT INFORMATION. CONTRACTOR SHALL COORDINATE WITH ENGINEER PRIOR TO BEGINNING WORK.</div><div>29. CONTRACTOR IS RESPONSIBLE FOR CLEARING, GRUBBING AND DEMOLITION OF EXISTING IMPROVEMENTS WITHIN LIMITS OF NEW CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH ENGINEER PRIOR TO BEGINNING WORK.</div><div>30. THE CONTRACTOR IS RESPONSIBLE FOR ANY DEMOLITION, WHICH IS CONSIDERED TO BE PAID FOR IN THE VARIOUS ITEMS OF THE BID.</div></div> <div>CONSTRUCTION STAKING NOTES:</div> <div><div>1. THE SURVEYOR FOR THIS PROJECT SHALL PROVIDE ONE (1) SET OF CONSTRUCTION STAKES FOR LINE AND GRADE UNLESS OTHERWISE REQUESTED BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING MONUMENTS AND OTHER SURVEY MARKERS DURING CONSTRUCTION. ALL SUCH MONUMENTS OR MARKERS DESTROYED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.</div><div>2. IN THE EVENT OF A DISAGREEMENT OR DESTROYED STAKE OR MONUMENT, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE SURVEYOR PRIOR TO ANY FURTHER CONSTRUCTION.</div><div>3. THE CONTRACTOR SHALL GIVE THE SURVEYOR 72-HOURS NOTICE PRIOR TO EACH PHASE OF CONSTRUCTION OR IN THE EVENT OF NEEDED RESTAKING.</div><div>4. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING MONUMENTS AND OTHER SURVEY MARKERS.</div><div>5. PRIOR TO COMMENCING WORK, COUNTY INSPECTORS SHALL RECEIVE TWO COPIES OF CUT SHEETS.</div><div>6. THE CONTRACTOR SHALL HAVE THE SITE STAKED PRIOR TO CONSTRUCTION OF ANY IMPROVEMENTS TO ENSURE PROPER ALIGNMENTS AND ELEVATIONS.</div></div>	<div>GRADING NOTES:</div> <div><div>1. GRADING SHALL CONFORM TO CHAPTER 70 UBC, LATEST EDITION, AND TO COUNTY REQUIREMENTS.</div><div>2. ALL COMPACTION TESTING SHALL BE PERFORMED BY A LICENSED GEOTECHNICAL ENGINEER IN ACCORDANCE WITH COUNTY SPECIFICATIONS AND BE PAID FOR BY THE CONTRACTOR. THOSE TESTS WITHIN THE RIGHT-OF-WAY SHALL BE APPROVED BY THE COUNTY OF YUBA AND ALL TESTING OUTSIDE THE RIGHT-OF-WAY CERTIFIED BY THE SOILS ENGINEER FOR THE PROJECT. THE RESULTS OF SOIL COMPACTION TESTING SHALL BE SUBMITTED TO THE COUNTY. ENGINEER SHALL BE NOTIFIED 48 HOURS IN ADVANCE WHEN COMPACTION TESTS ARE NEEDED, TO COORDINATE TESTS.</div><div>3. ALL UNSUITABLE AND SURPLUS MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE JOB SITE.</div><div>4. SUFFICIENT EQUIPMENT SHALL BE AVAILABLE TO PROVIDE DUST CONTROL AT ALL TIMES DURING CONSTRUCTION. A WATER TRUCK SHALL BE USED, WHEN REQUIRED, TO MAINTAIN ADEQUATE DUST CONTROL. AREAS SURROUNDING THE WORK SHALL BE KEPT CLEAN AND RETURNED TO ORIGINAL CONDITION UPON COMPLETION OF CONTRACT.</div><div>5. WINTERIZATION NOTE *THE FOLLOWING ARE REQUIRED IF GRADING AND CLEARING IMPROVEMENTS ARE INCOMPLETE BY OCTOBER 15TH: EROSION PROTECTION ON SLOPES 10:1 OR STEEPER AND SWALES WITH SLOPES 2 SHALL LEAVE THE PROJECT AREA. GRADE GUTTER SAG POINTS TO DRAIN. PROVIDE FOR DRAINAGE OF IMPROVEMENTS. PREVENT SEDIMENTATION IN EXISTING STORM DRAIN SYSTEM AND CLEAN PIPES PER SECTION SS60-05 (CAL-TRANS SPECS). SEAL OFF ALL SANITARY SEWER CONNECTION TO EXISTING SYSTEMS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN WINTERIZATION FACILITIES AT ALL TIMES OR UNTIL IMPROVEMENTS ARE FINAL.</div><div>6. ALL EROSION CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.</div><div>7. TARPULINS OR OTHER EFFECTIVE COVERS SHALL BE USED ON ALL STOCKPILED EARTH MATERIAL AND ON HAUL TRUCKS TO MINIMIZE DUST.</div><div>8. THE COUNTY SHALL HAVE THE AUTHORITY TO STOP ALL GRADING OPERATIONS, IF, IN OPINION OF COUNTY STAFF, INADEQUATE DUST CONTROL MEASURES ARE BEING PRACTICED OR EXCESSIVE WIND CONDITIONS CONTRIBUTE TO FUGITIVE DUST EMISSIONS.</div><div>9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING CONSTRUCTION VEHICLES LEAVING THE SITE ON A DAILY BASIS TO PREVENT DUST, SILT, AND DIRT FROM BEING RELEASED OR TRACKED OFFSITE.</div><div>10. PRIOR TO INITIATING CLEARING AND GRUBBING ALL PROTECTIVE FENCING SHALL BE INSTALLED.</div></div>	<div><div>PROJECT NUMBER</div><div>11-208</div></div> <div><div>SHEET 2 OF 7</div></div>	<div><div>CEC</div><div>Engineering - Planning - Surveying - Community Development</div><div>www.cec.state.net</div></div> <div><div>Office (530) 751-0952</div><div>Fax (530) 751-0953</div><div>1110 Civic Center Blvd., Suite 404</div><div>Yuba City, CA 95993</div></div> <div><div>DATE: MAY 10 2012</div><div>SCALE: NO SCALE</div><div>DRAWN BY: A. VASQUEZ</div><div>DESIGNED BY: A. VASQUEZ</div><div>CHECKED BY: D. SWARTZ</div></div> <div><div>NO.</div><div>DATE</div><div>DESCRIPTION</div></div>
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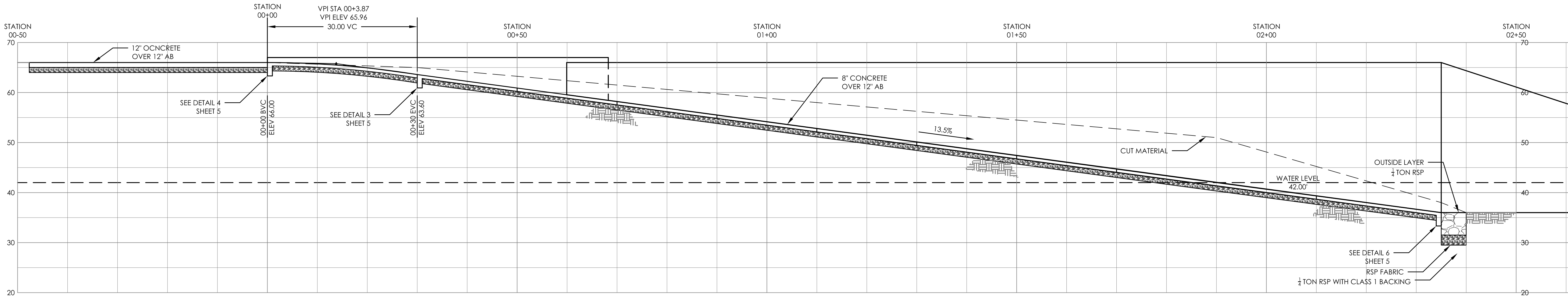


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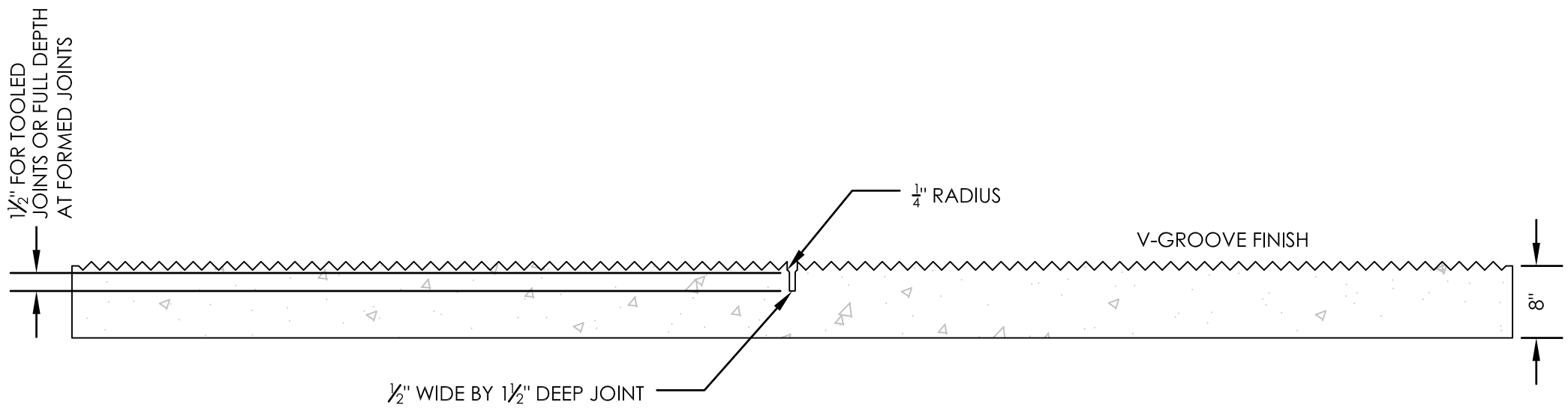
RAMP PLAN 1" = 10'



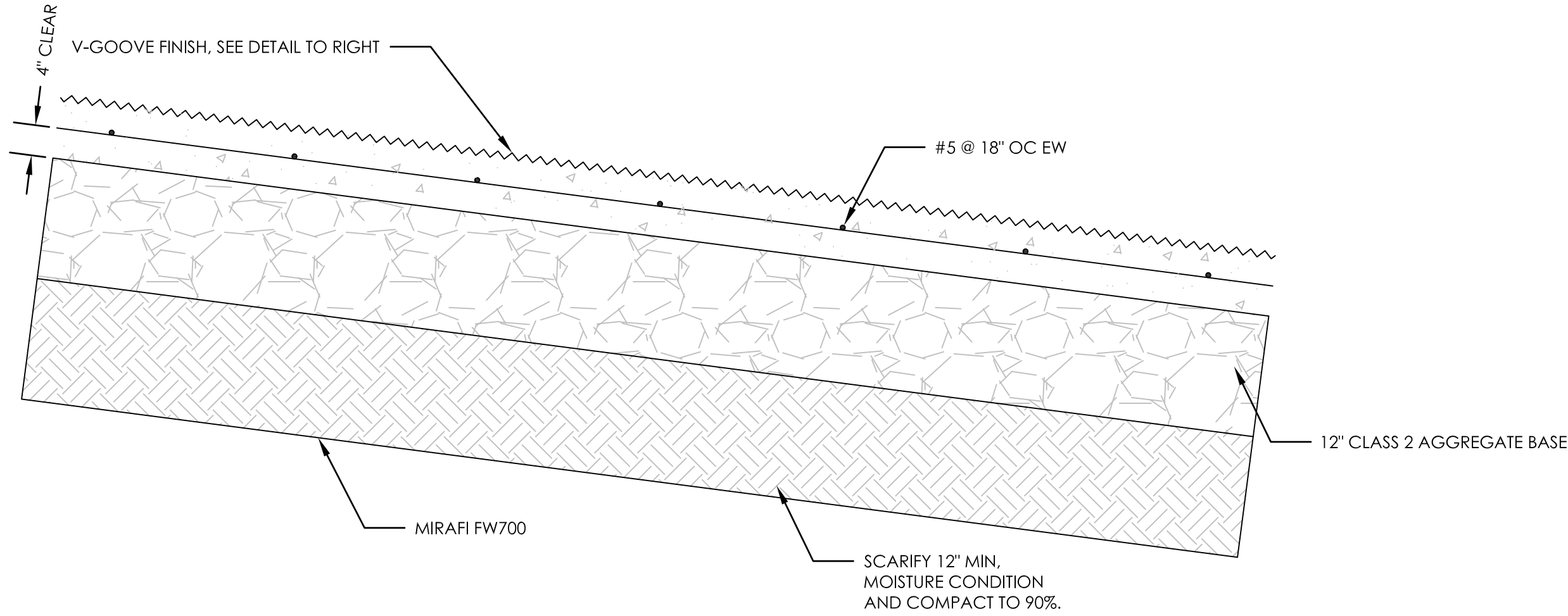
RAMP PROFILE 1" = 10' H/V

PROJECT NUMBER 11-208		BUTTE CREEK FARMS		 Office (530) 751-0952 Fax (530) 751-0953 1110 Civic Center Blvd. Yuba City, CA 95993		DATE: MAY 10, 2012 SCALE: 1" = 10' DRAWN BY: A. VASQUEZ DESIGNED BY: A. VASQUEZ CHECKED BY: D. SWARTZ		NO. DATE DESCRIPTION	
SHEET 4 OF 7		BUTTE CREEK FARMS BOAT RAMP IMPROVEMENT PROJECT		Engineering - Planning - Surveying - Community Development www.cecusa.net					

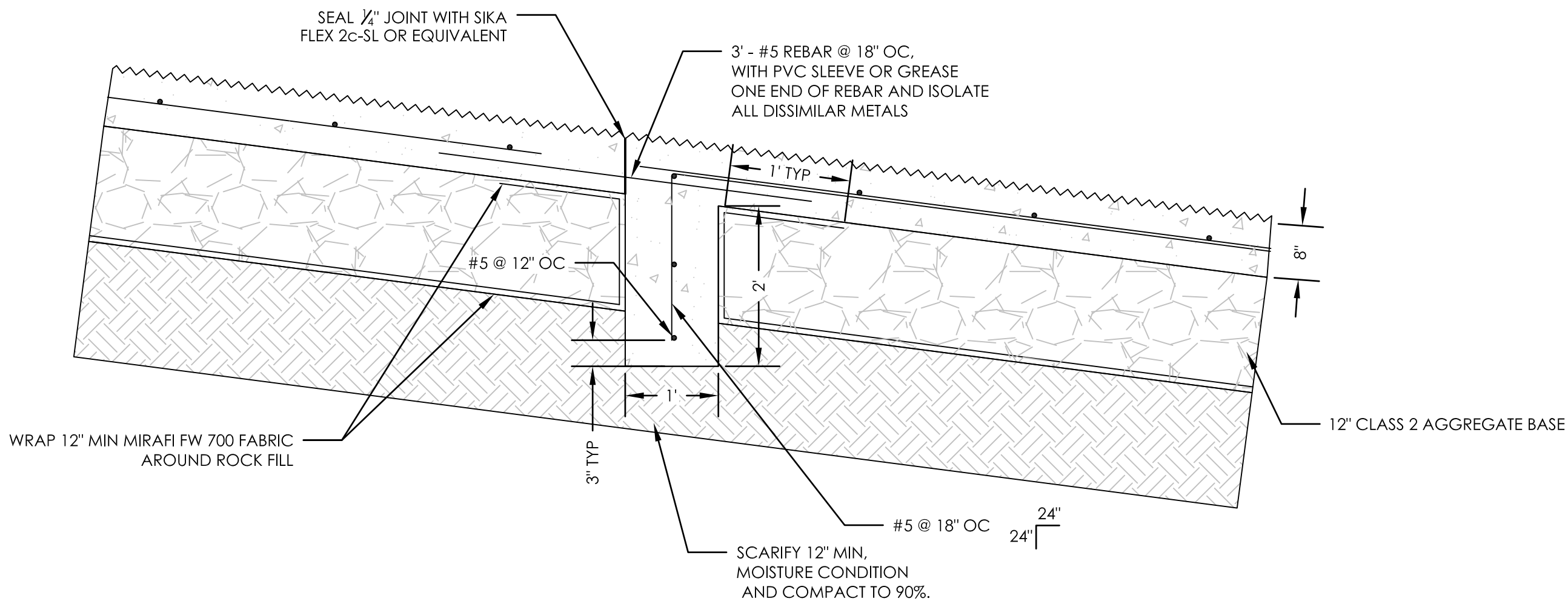
P:\11-208\Eng\mpPins\11-208_Details.dwg Jun 18, 2012-08:12 am AVasquez



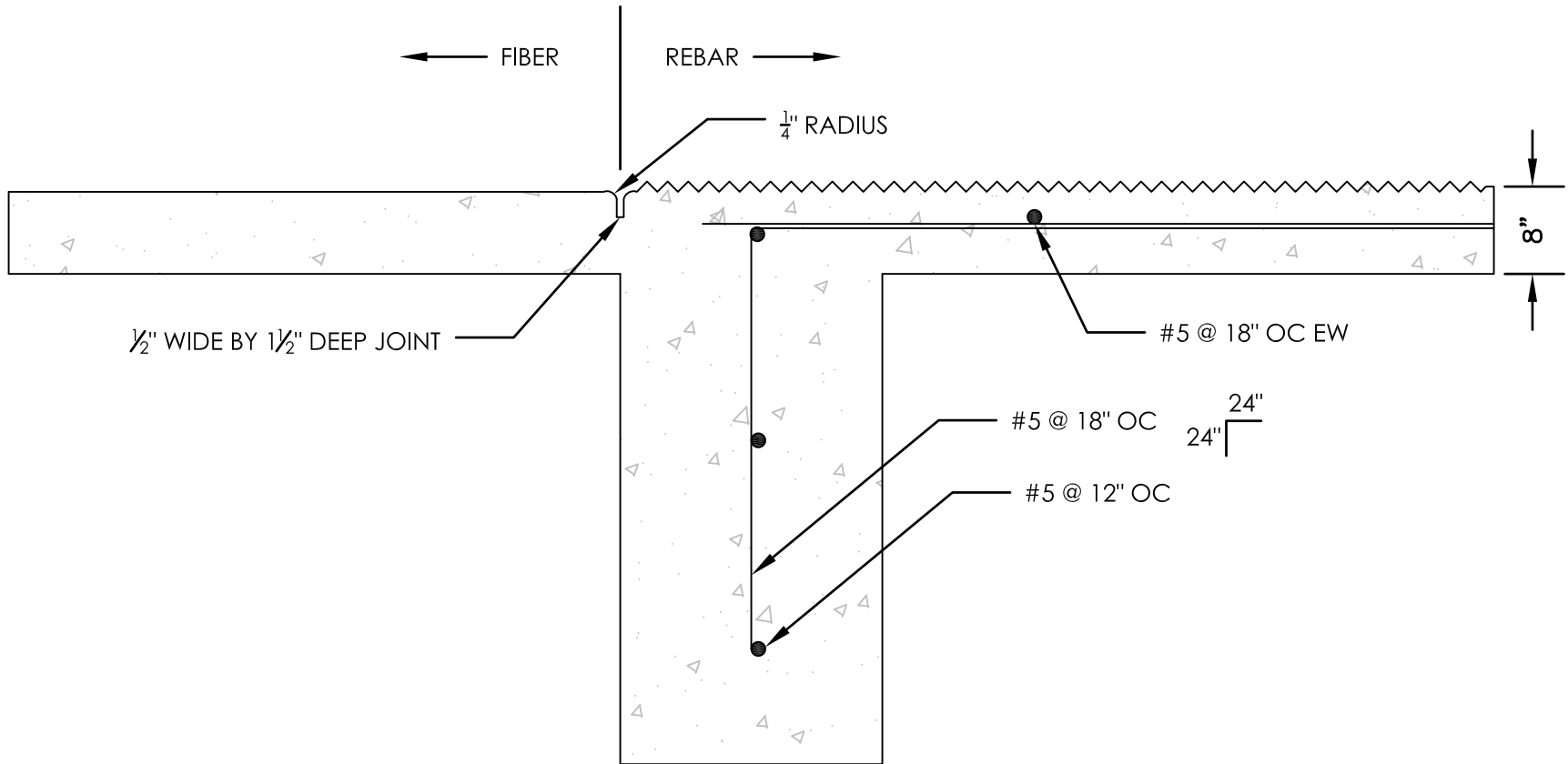
DETAIL 1 - CONTROL JOINT



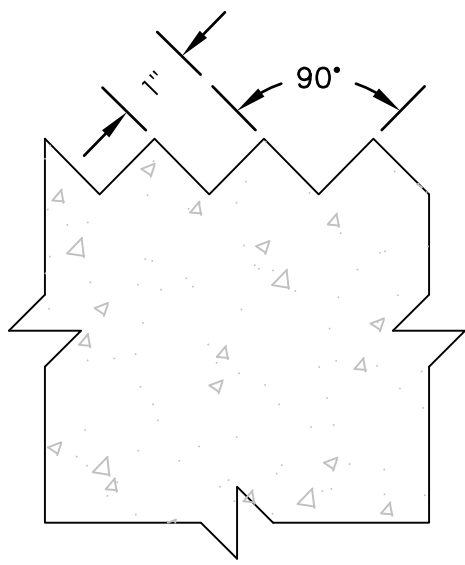
DETAIL 2 - RAMP SLAB



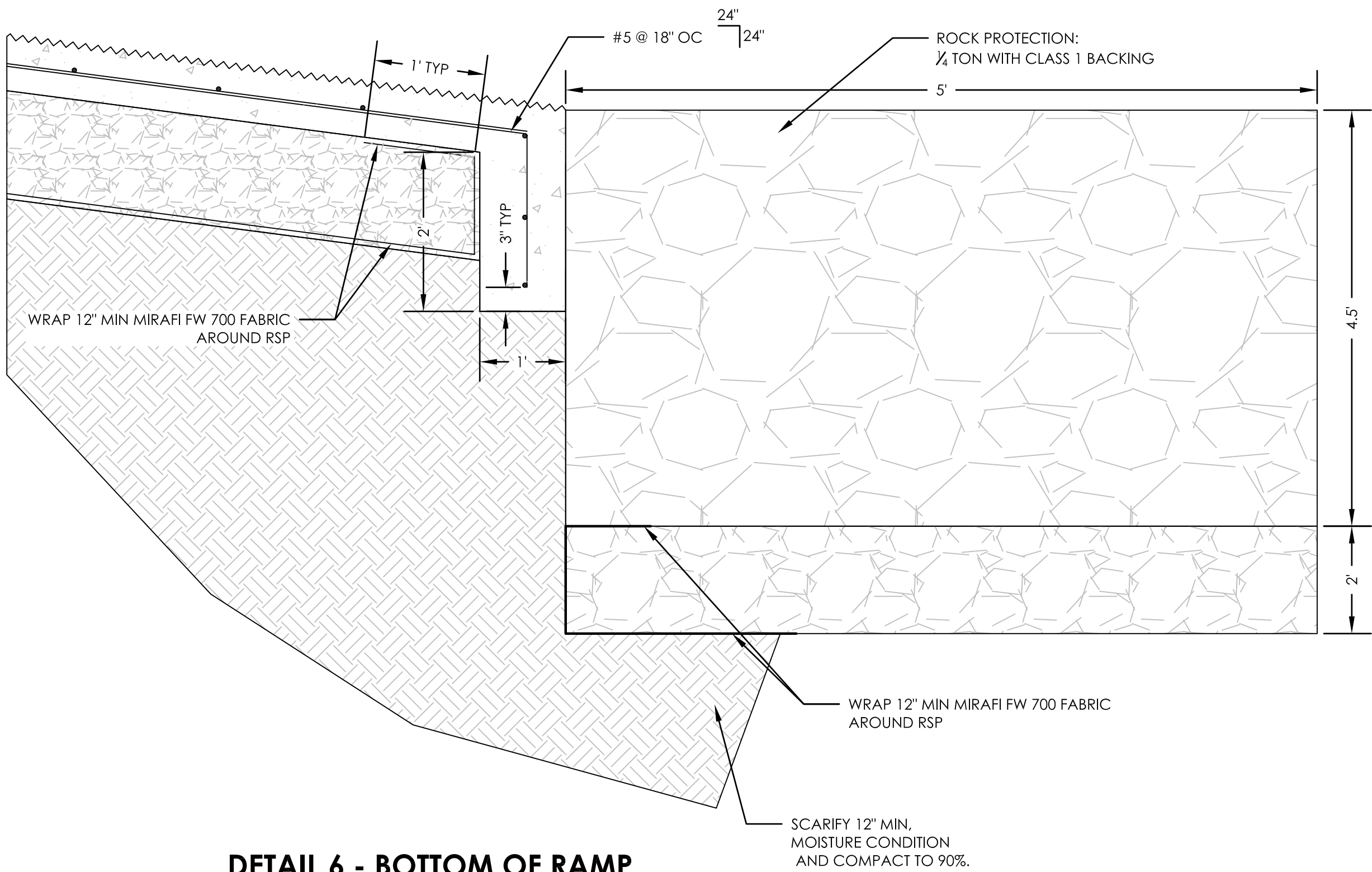
DETAIL 3 - TOP OF RAMP TRANSITION




DETAIL 4 - CONTROL JOINT




ENLARGED V-GROOVE

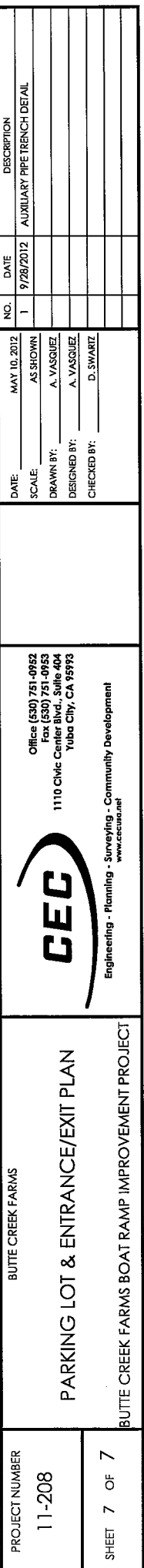


DETAIL 6 - BOTTOM OF RAMP

PROJECT NUMBER 11-208		BUTTE CREEK FARMS		 Office (530) 751-0952 Fax (530) 751-0953 1110 Civic Center Blvd. Yuba City, CA 95993						DATE: <u> </u> MAY 10, 2012		NO.		DATE		DESCRIPTION	
SHEET 5 OF 7		DETAILS		BUTTE CREEK FARMS BOAT RAMP IMPROVEMENT PROJECT						SCALE: <u> </u> NTS							
										DRAWN BY: <u> </u> A. VASQUEZ							
										DESIGNED BY: <u> </u> A. VASQUEZ							
										CHECKED BY: <u> </u> D. SWARTZ							



PROJECT NUMBER 11-208	BUTTE CREEK FARMS		 CEC Office (530) 751-0952 Fax (530) 751-0953 1110 Civic Center Blvd., Suite 404 Yuba City, CA 95993 Engineering - Planning - Surveying - Community Development www.ccecusa.net	DETAILS BUTTE CREEK FARMS BOAT RAMP IMPROVEMENT PROJECT	DATE: MAY 10, 2012	NO.	DATE	DESCRIPTION
	SCALE: 1" = 10'							
	DRAWN BY: A. VASQUEZ							
	DESIGNED BY: A. VASQUEZ							



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STANDARD DETAILS\WELDED WIRE WALL\8' WIDE MATS

STEP 1
PLACE THE FIRST COURSE OF SOIL REINFORCEMENT MATS ON PREPARED FOUNDATION

STEP 2
PLACE THE BACKING MAT AGAINST THE INSIDE FACE OF THE SOIL REINFORCEMENT MAT. CLIP THE SECOND-TO-TOP TRANSVERSE WIRE ON THE BACKING MAT TO THE TOP TRANSVERSE WIRE ON THE SOIL REINFORCEMENT MAT.

INSTALL CONTINUOUS HARDWARE CLOTH, HOG-RING TO THE TOP WIRE ON THE BACKING MAT.

STEP 3
PLACE AND COMPACT THE BACKFILL IN LAYERS AND DENSITIES AS SPECIFIED IN THE PROJECT PLANS. LEAVE A VOID AT THE FACE AS SHOWN.

PLACE THE SECOND COURSE OF SOIL REINFORCEMENT MATS WITH THE BASE LONGITUDINAL WIRES RESTING ON THE TOP TRANSVERSE WIRE OF THE BACKING MAT BELOW. SLIDE THE SOIL REINFORCEMENT MAT INTO ALIGNMENT.

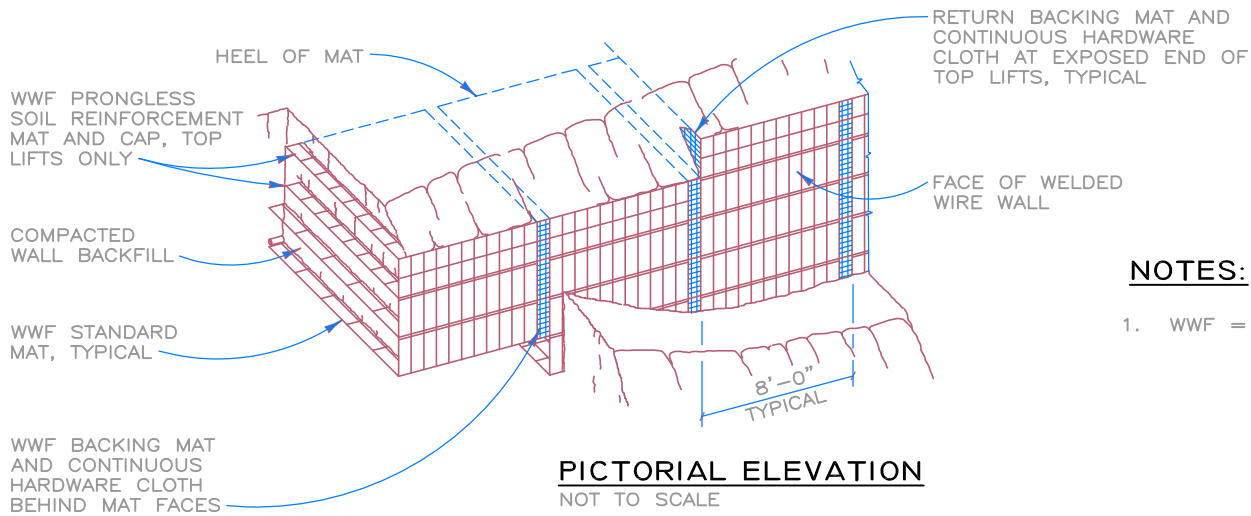
STEP 4
HOOK THE BOTTOM TRANSVERSE WIRE OF THE BACKING MAT OVER THE VERTICAL PRONGS ON THE LOWER MAT. ROTATE THE BACKING MAT TO VERTICAL AND CLIP THE SECOND-TO-TOP TRANSVERSE WIRE ON THE BACKING MAT TO THE TOP WIRE ON THE SOIL REINFORCEMENT MAT.

STEP 5
INSTALL THE CONTINUOUS HARDWARE CLOTH. PLACE AND COMPACT THE BACKFILL TO THE BASE ELEVATION OF THE NEXT MAT. REPEAT STEPS 3 THROUGH 5 TO THE TOP LIFT.

STEP 6: TOP LIFT
PLACE THE TOP LIFT PRONGLESS MAT, BACKING MAT AND CONTINUOUS HARDWARE CLOTH. PLACE AND COMPACT BACKFILL IN AREA "A". HOOK THE CAP OVER THE MIDDLE TRANSVERSE WIRE ON THE PRONGLESS MAT, AND ROTATE INTO PLACE. BACKFILL "B" TO 1'-6" MIN. COVER OVER THE CAP.

CONSTRUCTION SEQUENCE

NOT TO SCALE

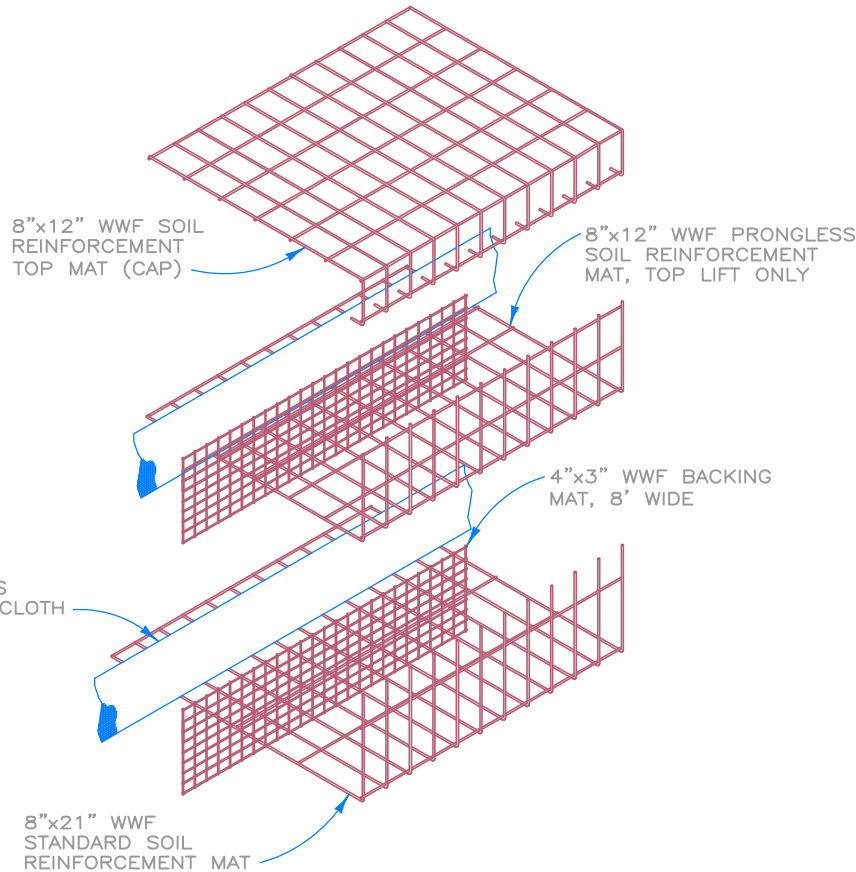


PICTORIAL ELEVATION

NOT TO SCALE

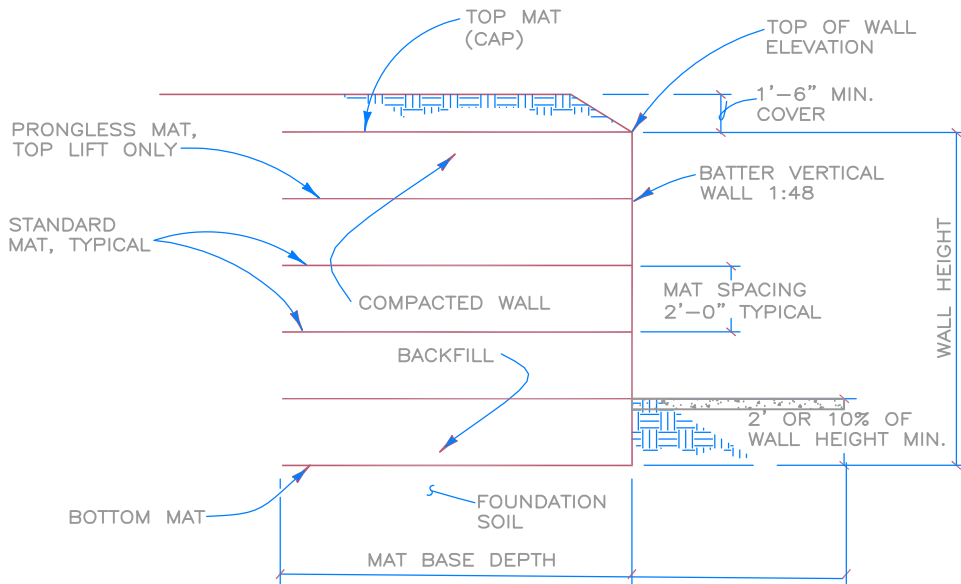
NOTES:

1. WWF = WELDED WIRE FABRIC



WALL COMPONENTS

NOT TO SCALE

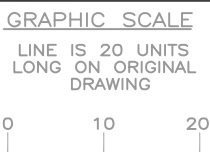


TYPICAL SECTION

NOT TO SCALE



REV.NO.	DATE	BY	DESCRIPTION
1	6/7/12	GG	Original Drwg



PROJ.MGR.
GGG

ENGINEER
GGG

HILFIKER RETAINING WALLS

HW

1902 Hilfiker Lane
Eureka, CA 95503-5711
TOLL-FREE 800.762.8962
PH 707.443.5093 FAX 707.443.2891
WEBSITE www.hilfiker.com E-MAIL info@hilfiker.com

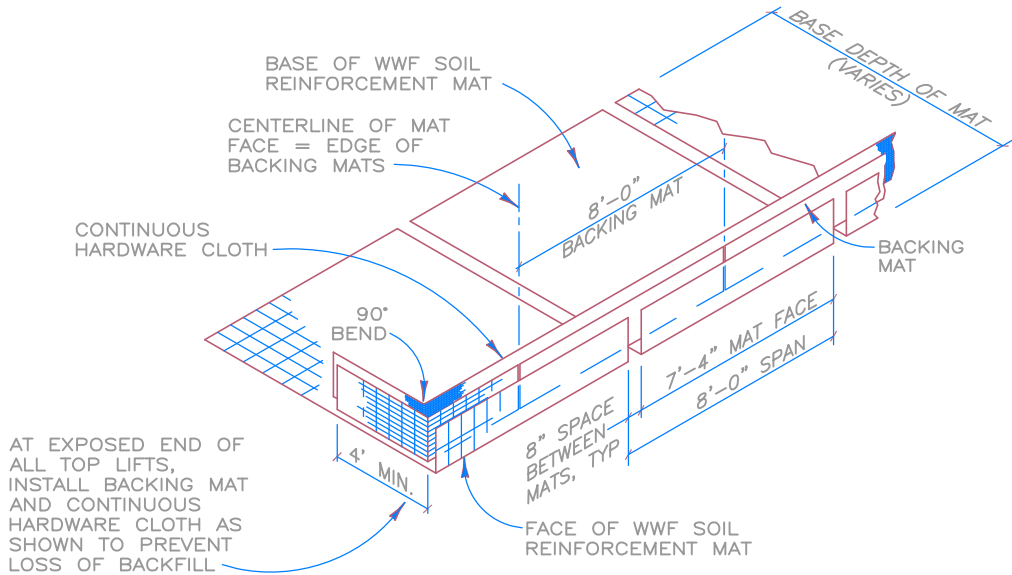
SINCE 1902
QUALITY PRODUCTS

DWG DATE 6/7/12
REVISION DATE
SCALE NOTED

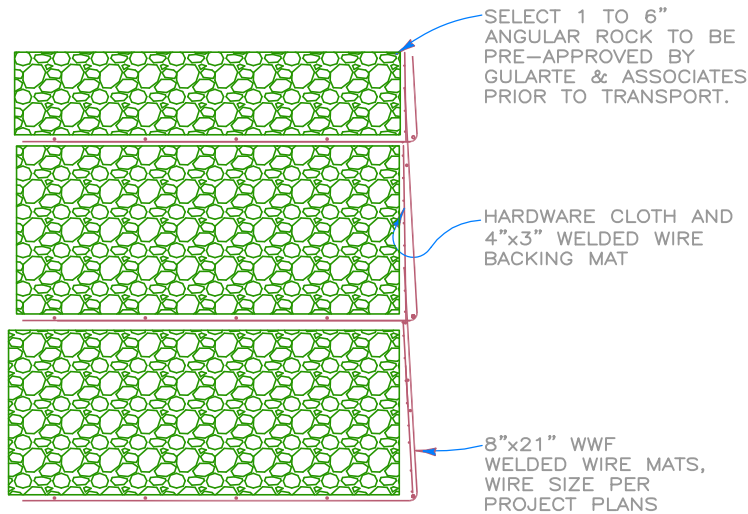
BUTTE CREEK FARMS – BOAT RAMP
WELDED WIRE RETAINING WALL 24" LIFTS
STANDARD DETAILS

PROJECT NO. 3327A
SHEET 1
OF 4

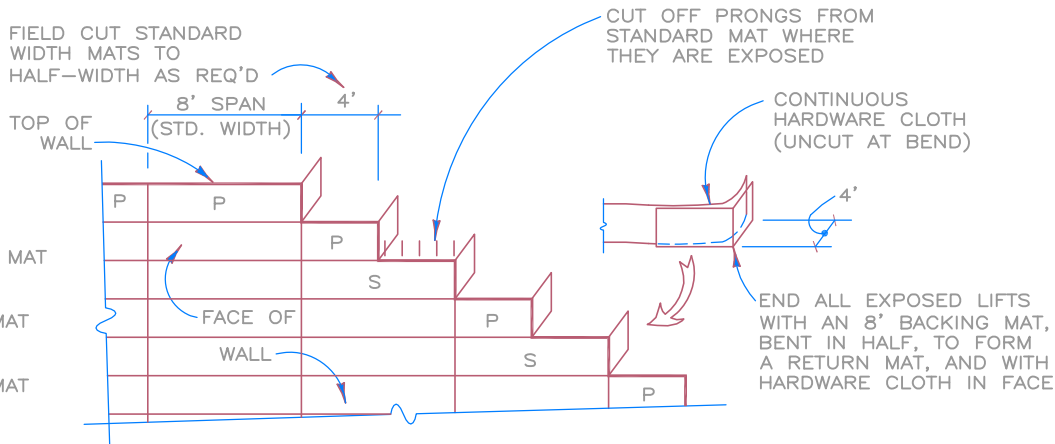
STANDARD DETAILS\WELDED WIRE WALL\8' WIDE MATS



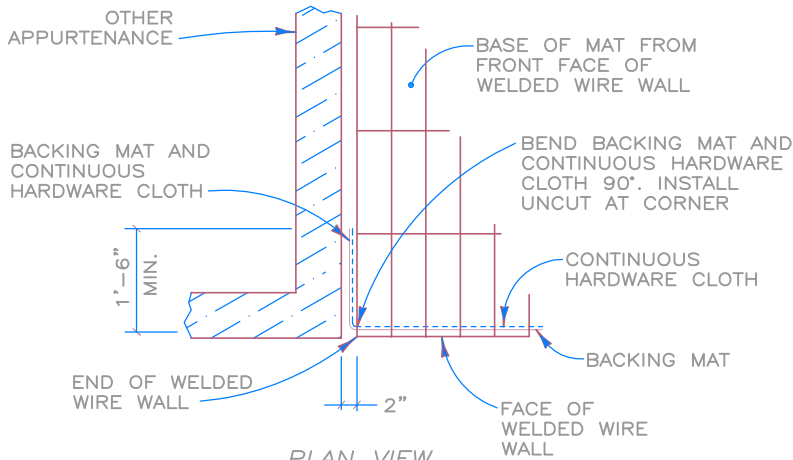
ISOMETRIC VIEW
WELDED WIRE WALL COMPONENTS WITH RETURN MAT
NOT TO SCALE



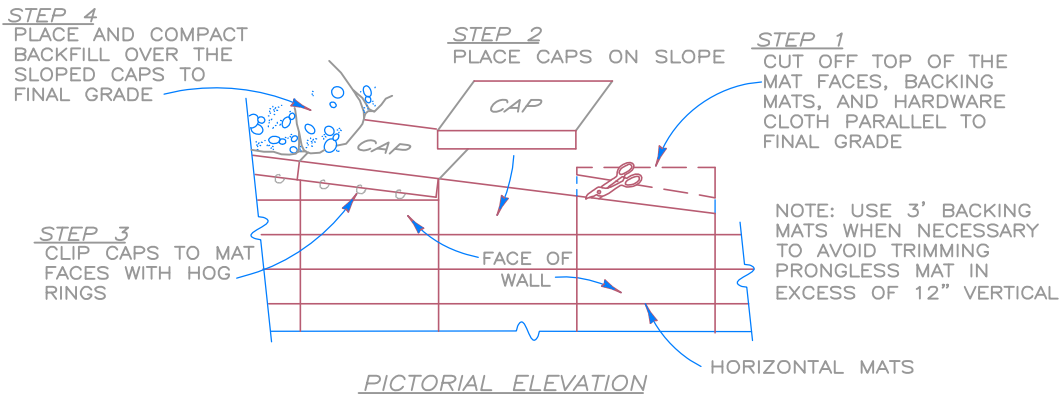
SECTION
ANGULAR ROCK REINFORCING BACKFILL
NOT TO SCALE



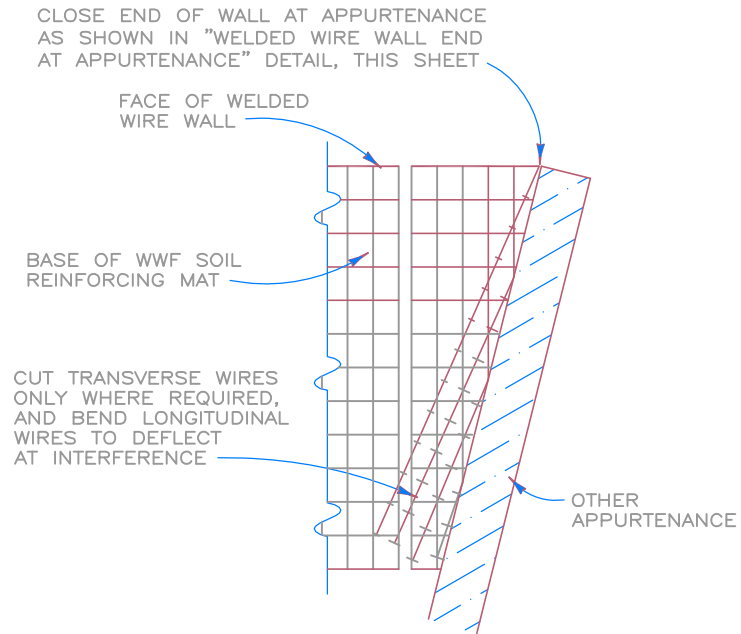
RETURN MATS AND TOP OF WALL DETAIL
NOT TO SCALE



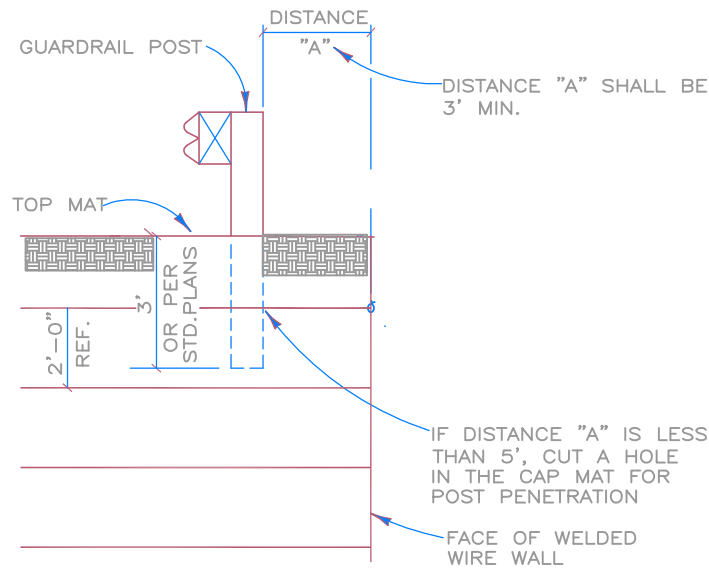
PLAN VIEW
WELDED WIRE WALL END AT OTHER APPURTENANCE
NOT TO SCALE



PICTORIAL ELEVATION
SLOPED CAP MAT DETAIL
NOT TO SCALE



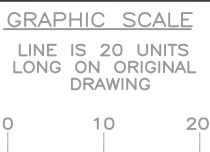
PLAN VIEW
DEFLECTED LONGITUDINAL WIRES
NOT TO SCALE



SECTION
GUARDRAIL DETAIL
NOT TO SCALE
(FENCE DETAIL SIMILAR)



REV.NO.	DATE	BY	DESCRIPTION
1	6/7/12	GG	Original Drwg



PROJ.MGR.
GGG
ENGINEER
GGG

HILFIKER RETAINING WALLS

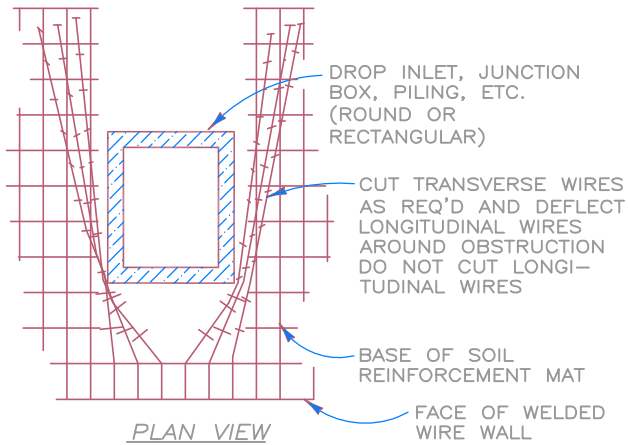
1902 Hilfiker Lane
Eureka, CA 95503-5711
TOLL-FREE 800.762.8962
PH 707.443.5093 FAX 707.443.2891
WEBSITE www.hilfiker.com E-MAIL info@hilfiker.com

DWG DATE
6/7/12
REVISION DATE
SCALE
NOTED

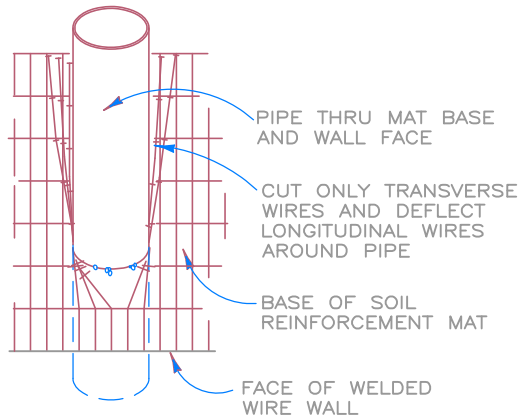
BUTTE CREEK FARMS – BOAT RAMP
WELDED WIRE RETAINING WALL 24" LIFTS
STANDARD DETAILS

PROJECT NO.
3327A
SHEET
2
OF 4

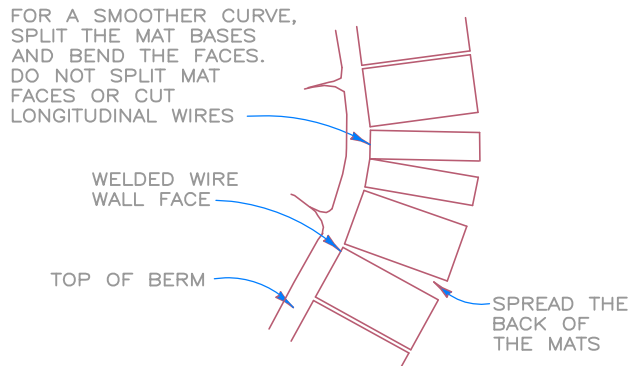
STANDARD DETAILS\WELDED WIRE WALL\8' WIDE MATS



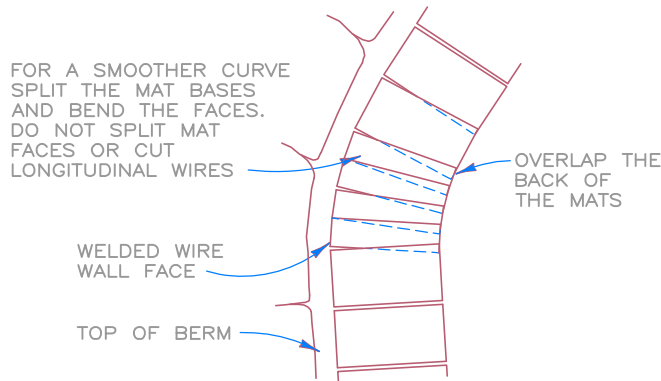
PLAN VIEW
MAT PENETRATION DETAIL
NOT TO SCALE



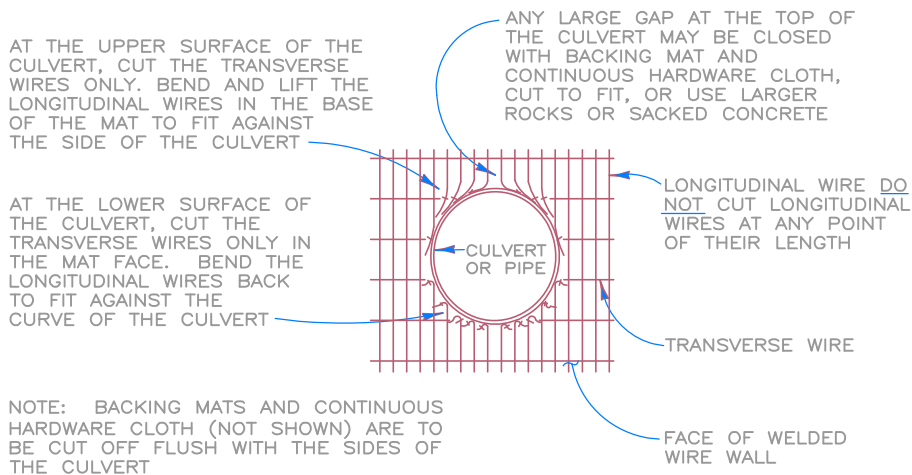
PLAN VIEW
ANGLED PIPE PENETRATION
NOT TO SCALE



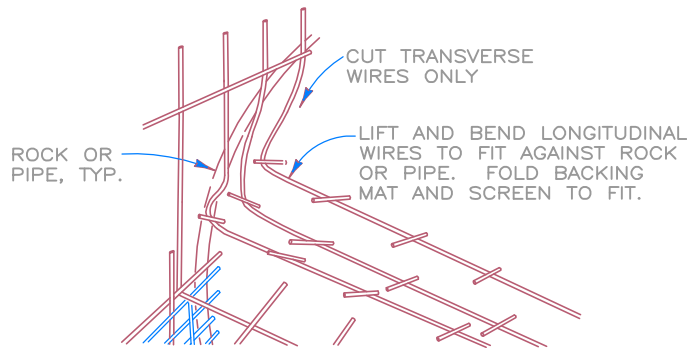
PLAN VIEW
CONCAVE CURVE
NOT TO SCALE



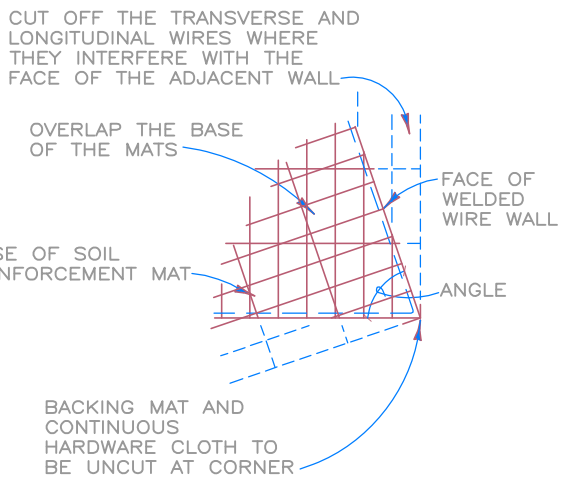
PLAN VIEW
CONVEX CURVE
NOT TO SCALE



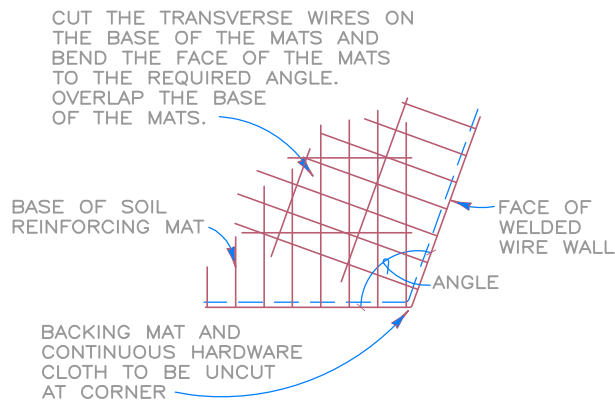
ELEVATION
CULVERT THRU WALL FACE
NOT TO SCALE



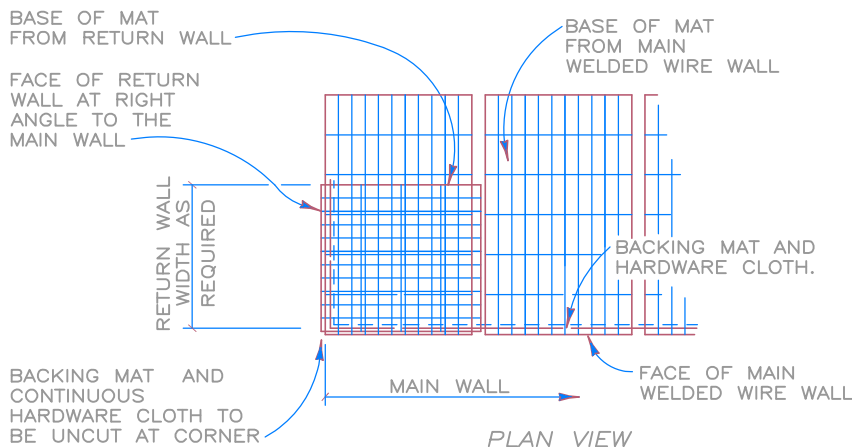
PICTORIAL
FITTING MATS TO OBSTRUCTION
NOT TO SCALE



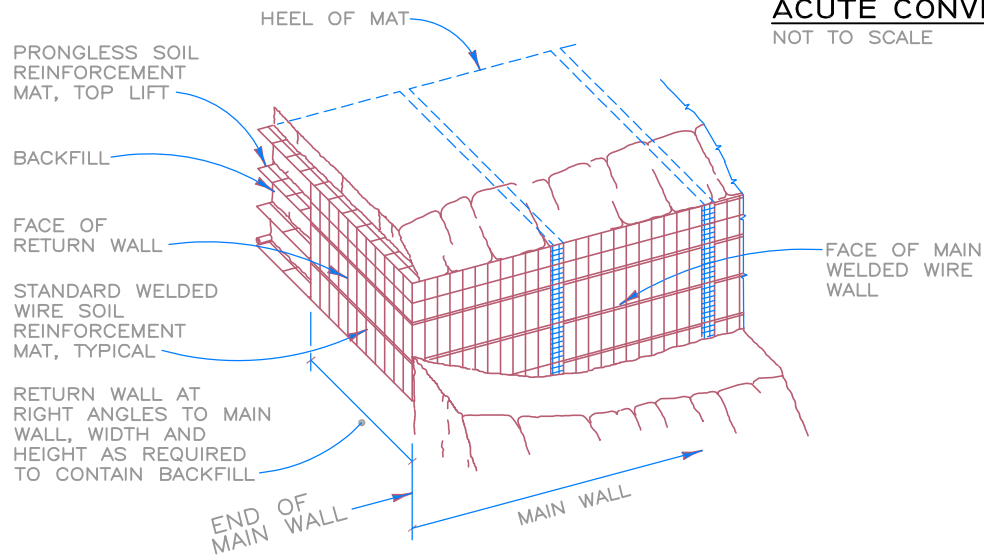
ACUTE CONVEX ANGLE
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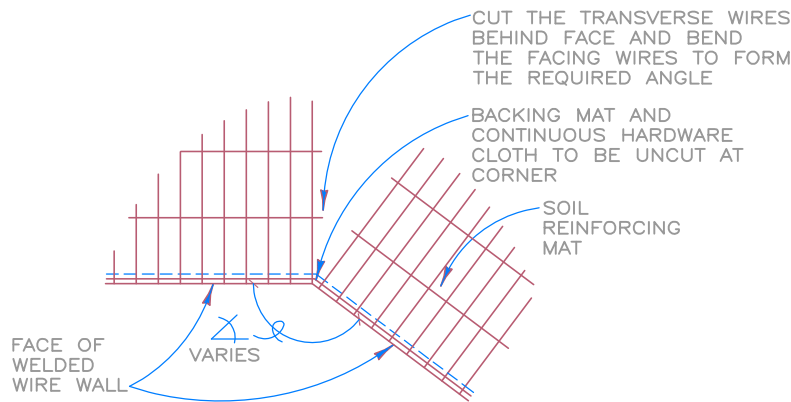
PLAN VIEW
OBTUSE CONVEX ANGLE
NOT TO SCALE



PLAN VIEW
RETURN WALL DETAIL
NOT TO SCALE

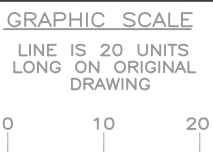


PICTORIAL
RETURN WALL DETAIL
NOT TO SCALE



PLAN VIEW
CONCAVE ANGLE DETAIL
NOT TO SCALE

REV.NO.	DATE	BY	DESCRIPTION
1	6/7/12	GG	Original Drwg

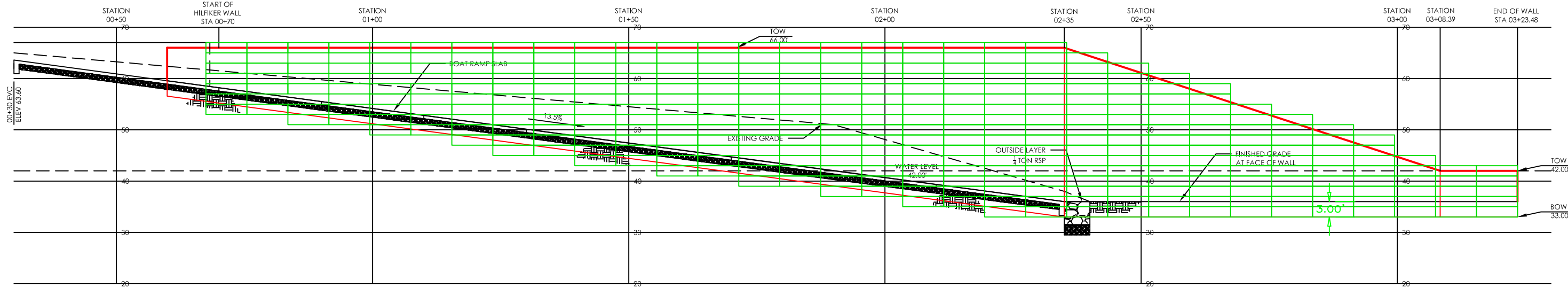
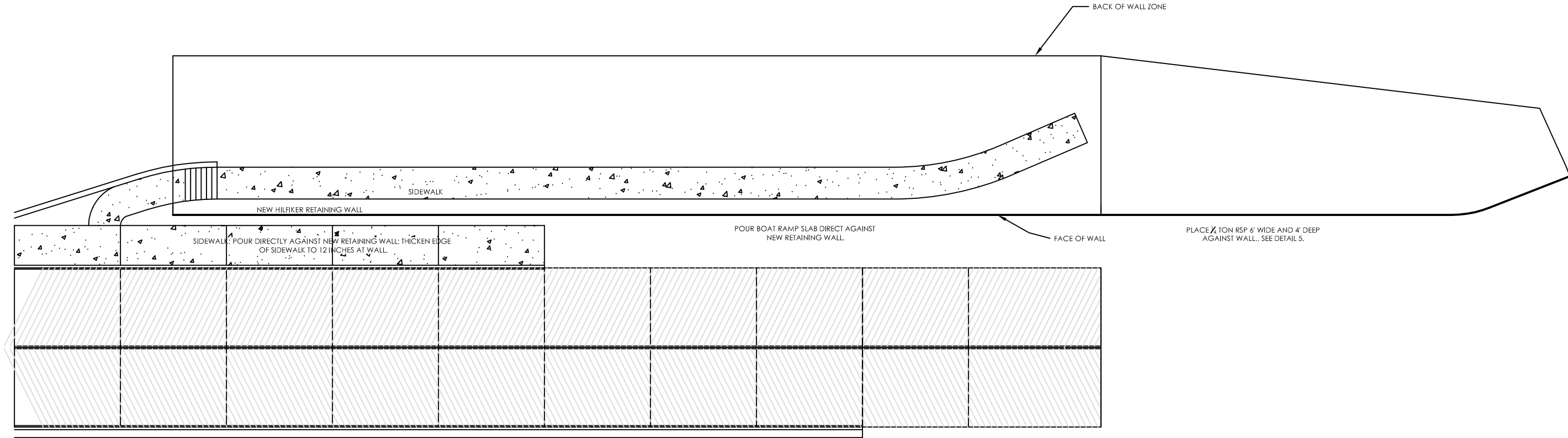


PROJ.MGR.
GGG
ENGINEER
GGG

DWG DATE 6/7/12
REVISION DATE
SCALE NOTED

BUTTE CREEK FARMS – BOAT RAMP
WELDED WIRE RETAINING WALL 24" LIFTS
STANDARD DETAILS

PROJECT NO. 3327A
SHEET 3 OF 4



STANDARD DETAILS\WELDED WIRE WALL\8' WIDE MATS

Gularte
& ASSOCIATES, INC.
Geotechnical Consultants
1049 Nichols Dr. Rocklin, CA 95765
916.626.5577 FAX 916.626.5533

REV.NO.	DATE	BY	DESCRIPTION
1	6/7/12	GG	Original Drwg

GRAPHIC SCALE
LINE IS 20 UNITS LONG ON ORIGINAL DRAWING
0 10 20

PROJ.MGR.
GGG
ENGINEER
GGG

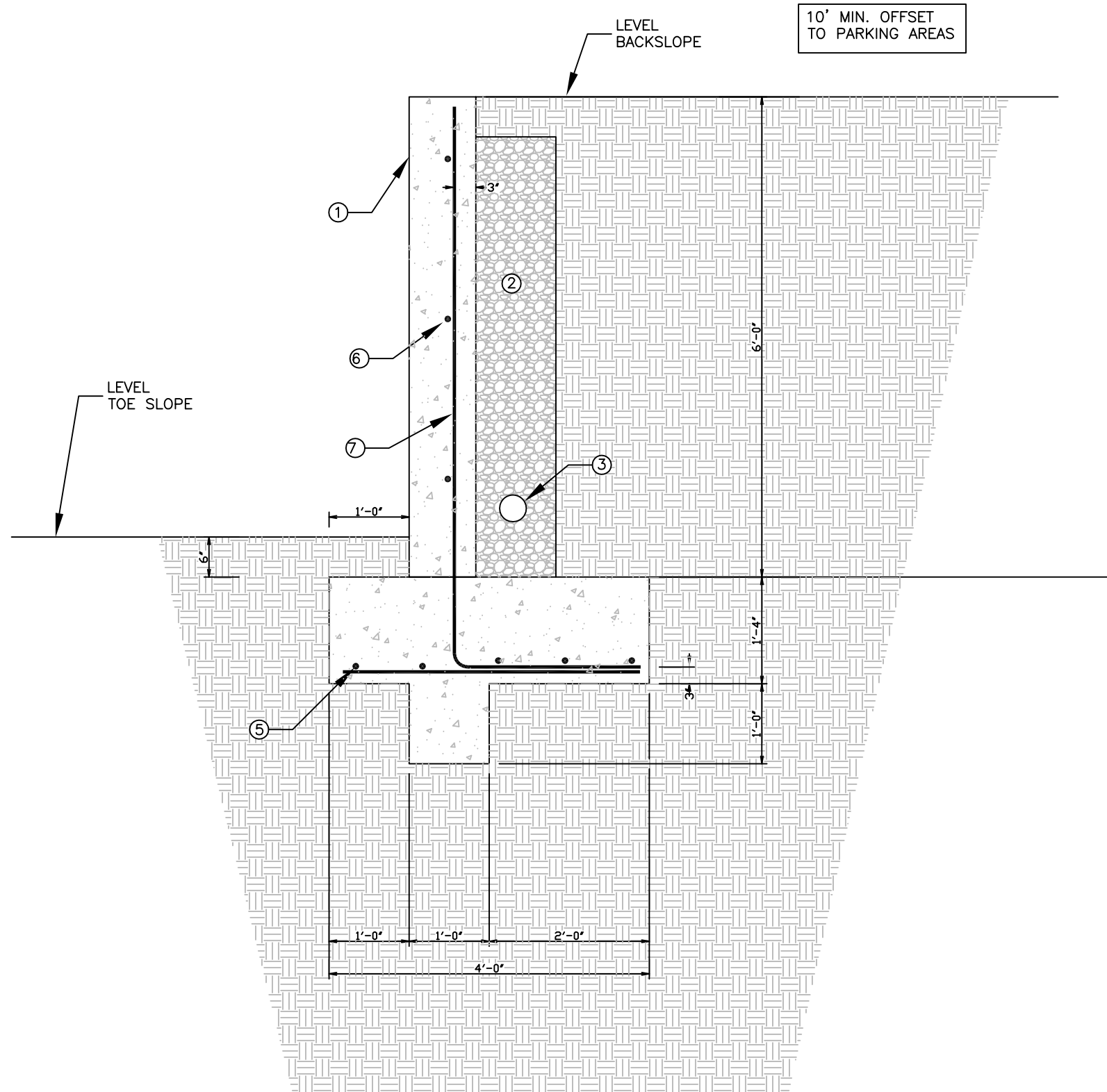
HILFIKER RETAINING WALLS
HW
1902 Hilfiker Lane
Eureka, CA 95503-5711
TOLL-FREE 800.762.8962
PH 707.443.5093 FAX 707.443.2891
WEB SITE www.hilfiker.com E-MAIL info@hilfiker.com
SINCE 1902
QUALITY PRODUCTS

DWG DATE
6/7/12
REVISION DATE
SCALE
NOTED

BUTTE CREEK FARMS — BOAT RAMP
WELDED WIRE RETAINING WALL
24" LIFTS
STANDARD DETAILS

PROJECT NO.
3327A
SHEET
4
OF 4

1. 10" CONCRETE CAST-IN-PLACE
2. (3/4" CLEAN CRUSHED ROCK) W/ LESS THAN 10% PASSING THE NO. 40 SIEVE, 12" WIDE.
3. 4"Ø SCH. 40 PVC OR SDR 35 PERFORATED DRAIN PIPE OUTLET EVERY 50' TO THE NEAREST DRAINAGE AREA. BLACK CORRUGATED PIPE NOT ACCEPTABLE
4. NOT USED
5. #4 HORIZ. @ 10" O.C. AS SHOWN
6. #4 @ 24" HORIZONTAL REINFORCING
7. #5 @ 16" VERTICAL REINFORCING



CAST IN PLACE CONCRETE WALL SPECIFICATIONS

CONCRETE


- ✔ Concrete to have a minimum unconfined compressive strength of 3,000 psi.
- ✔ Slump to be 4 inches +/- 1-inch.
- ✔ Place control joints every 30 lineal feet.
- ✔ Mechanical vibration is required.
- ✔ Concrete pour should commence w/o more than 1 hour interruption during the pour.

REINFORCING STEEL

- ✔ Grade 60 or better.
- ✔ Tolerance for placement, 1-inch.
- ✔ Minimum overlap 30 bar diameters.
- ✔ Double reinforcing steel at openings or penetrations.
- ✔ Secure reinforcing steel every 6 feet horizontally and every 3 feet vertically.
- ✔ Place horizontal rebar outside vertical rebar at corners.
- ✔ Minimum cover 3 inches for footing and 2 inches for stem.

REV.NO.	DATE	BY	DESCRIPTION
1	6/7/12	GG	Original Drwg

GRAPHIC SCALE
LINE IS 20 UNITS
LONG ON ORIGINAL
DRAWING



PROJ.MGR. GGG
ENGINEER GGG

DWG DATE	6/15/12
REVISION DATE	
SCALE	
NOTED	

BUTTE CREEK FARMS — BOAT RAMP
CONCRETE CAST-IN-PLACE RETAINING WALL
STANDARD DETAILS

PROJECT
NO.
3327A

SHEET
5

OF 5

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September 20, 2012

Mitra Emami
 Floodway Protection Section
 Central Valley Protection Board
 3310 El Camino Ave., Rm. 151
 Sacramento, CA 95821

Attention: Mitra Emami, Chief

Subject: Proposed Boat Landing Ramp, Sacramento River, Colusa County

Dear Mitra:

The attached calculations were completed for the installation of a boat ramp along the Sacramento River east of the City of Colusa. The purpose of these calculations are to provide a hydraulic analysis assessing the impacts of the new boat ramp on river flows, namely pre and post water surface elevations and velocities (which may cause scour). The hydraulic analysis analyzed three cross sections around the proposed boat ramp, up stream, mid stream and down stream. The calculations assess the north side of the river, since that is the area concentrating on the work. No work is being done on the south side of the river.

The proposed improvements are placed at a location along the river where the river its self has a bend and created an eddy. This area is very near where the previous boat launch used to be located. The previous boat launch used a crane mechanism with lifted water craft over the river embankment and set them in this aforementioned eddy area, as this water is more stable and does not tend to move the watercraft down river while attempting to launch.

The proposed boat launch facility improvements affect approximately 450 lineal feet of riverbank. The boat ramp itself is approximately 30' wide and will be constructed of Portland cement concrete. The boat ramp will be anchored into the riverbed via a 5' x 6.5' key way which will prevent under washing and erosion underneath the ramp. The river bank, both up and down stream will have rip-rap installed at a slope 1:1 maximum to protect the up and down stream integrity of the river.

The hydraulic calculations focus on potential impacts to the river flow velocities. In the event the river velocities change in this region, it may cause scour, deposition of silt, and/or river elevation changes. We chose to use manning's equation for our calculations, as this equation best represents open channel flow. We used a chart produced by Chow, 1959 and assigned a manning's "n" roughness coefficient of 0.035 to the river bank. This roughness coefficient represents a river conditions for a main channel that is clean, straight, with stones and weeds. We assessed the normal summertime flow condition which represents a water surface elevation

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 1070 W Wood St, Suite D
 Willows, CA 95988

Glenhaven Office
 9445 E Hwy 20
 Glenhaven, CA 95443

September 20, 2012

Proposed Boat Landing Ramp, Sacramento River, Colusa County

Page 2

of approximately 42, along with a mid range condition at water surface elevation 53 and a high flow condition which represents a river elevation of 66. The hydraulic calculations included herewith demonstrate that there is no significant difference in the velocity of river flow between the pre construction and post construction condition.

Conclusion: Assessing the river flows as they relate to the project both preconstruction and post construction at varying river flow elevations, our hydraulic calculations demonstrate that the river elevations, scour, and velocity of flow do not change significantly as a result of this project.

Sincerely,



Alberto Vasquez, PE
Associate Engineer

CC: Rodney Lacey, Botanical and Wetland Specialists

