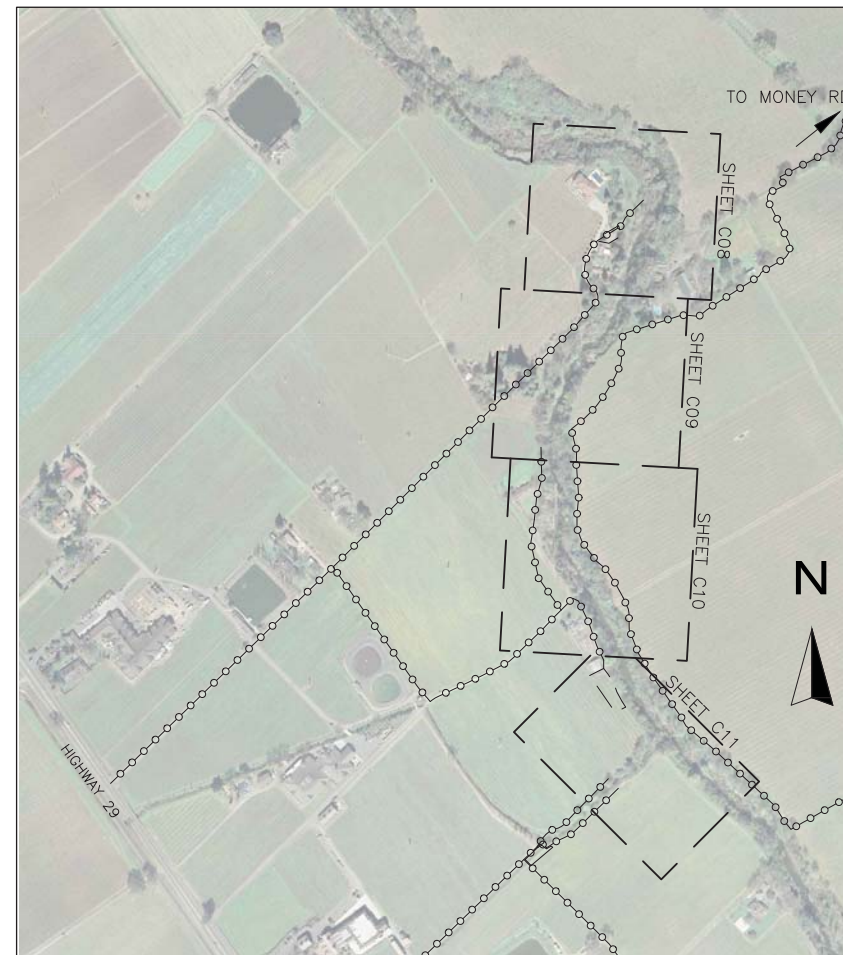


NAPA RIVER-RUTHERFORD REACH RESTORATION PROJECT, REACH 8 B/C PW-13-29 NAPA COUNTY, CALIFORNIA



VICINITY MAP
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LOCATION MAP
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INDEX OF SHEETS

- G01 TITLE SHEET
- G02 ABBREVIATIONS, LEGEND, AND PROJECT NOTES
- G03 GENERAL NOTES & SURVEY CONTROL
- G04 CHANNEL BASELINE CONTROL TABLE
- G05 PROJECT LAYOUT & SECTIONS KEY PLAN
- D01 DEMOLITION, ACCESS, & STAGING STA 55+00 TO STA 65+00
- D02 DEMOLITION, ACCESS, & STAGING STA 47+00 TO STA 55+00
- D03 DEMOLITION, ACCESS, & STAGING STA 38+00 TO STA 47+00
- D04 DEMOLITION, ACCESS, & STAGING STA 30+00 TO STA 38+00
- C01 GRADING PLAN STA 55+00 TO STA 65+00
- C02 GRADING PLAN STA 47+00 TO STA 55+00
- C03 GRADING PLAN STA 38+00 TO STA 47+00
- C04 GRADING PLAN - BELLA OAKS (STA 30+50 TO 38+00)
- C05 GRADING SECTIONS: BENCH 1
- C06 GRADING SECTIONS: BSSR 1 AND BENCH 2
- C07 GRADING SECTIONS: BSSR 3
- C08 GRADING SECTIONS: BENCH 3
- C09 GRADING SECTIONS: BELLA OAKS CONFLUENCE
- C10 DETAILS - BIOTECHNICAL FEATURES & STABILIZATION STRUCTURES SCHEDULE
- C11 DETAILS - LARGE WOODY STRUCTURES (LWS)
- C12 DETAILS - BOULDER CLUSTER & LOW PROFILE LOG STRUCTURE
- C13 DETAILS - RIVER GRADE CONTROL STRUCTURE
- C14 DETAILS - RIVER GRADE CONTROL STRUCTURE SECTIONS
- C15 DETAILS - BELLA OAKS CONFLUENCE ROUGHENED CHANNEL & STEP POOL
- L01 EROSION CONTROL PLAN & IRRIGATION DETAILS
- L02 IRRIGATION PLAN STA 55+00 TO STA 65+00
- L03 IRRIGATION PLAN STA 47+00 TO STA 55+00
- L04 IRRIGATION PLAN STA 38+00 TO STA 47+00
- L05 IRRIGATION PLAN STA 30+50 TO STA 38+00



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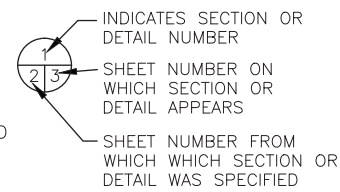
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GENERAL NOTES

1. TOPOGRAPHIC CONDITIONS BASED ON NAPA COUNTY LIDAR (APRIL, 2007) AND DOBLE THOMAS SURVEY (NOVEMBER, 2010). DETAILED TOPOGRAPHIC SURVEY PERFORMED BY DOBLE THOMAS IS LIMITED TO STA 65+00 TO STA 71+00, APPROXIMATELY.
2. REVEGETATION PLANS INCLUDING VEGETATION MANAGEMENT AND IRRIGATION ARE PROVIDED UNDER SEPARATE CONTRACT.
3. TREE PRESERVATION IS A PRIORITY TO MAINTAIN CANOPY COVER. CLUSTERS OF (E) MATURE TREES TO BE PRESERVED AS TREE ISLANDS AS NOTED.
4. REACH 8 PROJECT ELEMENTS REFLECT COUNTY REVIEW AND LANDOWNER INPUT.
5. GRADE CONTROL STRUCTURES ARE DIAGRAMMATIC AND ARE SHOWN FOR ILLUSTRATION PURPOSES ONLY. THE LOCATIONS OF THE STRUCTURES ARE BASED ON EXISTING KNICKPOINTS AND ACTIVE INCISION IN THE CHANNEL PROFILE. ACTUAL STRUCTURE DIMENSIONS WILL BE ADJUSTED IN THE FIELD BUT WILL NOT EXCEED THE DIMENSIONS SHOWN.
6. CONSTRUCTION ACCESS AND STAGING FOR REACH 8 PROJECT ARE PRELIMINARY TO BE CONFIRMED AND REVISED IN FUTURE PHASES.

ABBREVIATIONS

AC	ASPHALTIC CONCRETE	NIC	NOT IN CONTRACT
APPROX	APPROXIMATE	NTS	NOT TO SCALE
BSSR	BANK STABILIZATION & SEDIMENT REMOVAL	OC	ON CENTER
CL	CENTERLINE	PIP	PROTECT IN PLACE
DBH	DIAMETER BREAST HEIGHT	POC	POINT OF CONNECTION
DEMO	DEMOLISH	PWA	PHILIP WILLIAMS & ASSOCIATES
DS	DOWNSTREAM	ROW	RIGHT OF WAY
ELEV	ELEVATION	RC	RELATIVE COMPACTION
(E)	EXISTING	SPECS	SPECIFICATIONS
EG	EXISTING GRADE	STA	STATION
FG	FINISHED GRADE	3:1	SLOPE, HORIZONTAL:VERTICAL
FL	FLOW LINE	TBD	TO BE DETERMINED
FT	FOOT, FEET	(TYP)	TYPICAL
GB	GRADE BREAK	US	UPSTREAM
LWS	LARGE WOOD STRUCTURE	VAR	VARIES
MAX	MAXIMUM	VIF	VERIFY IN FIELD
MIN	MINIMUM		
(N)	NEW		



LEGEND

	EXISTING GRADE (PROFILE & SECTION)
	DESIGN GRADE
	APPROX PARCEL BOUNDARY
	MATCHLINE/SHEET OUTLINES
	GRADING LIMITS
	PROJECT LIMITS
	THALWEG
	APPROX CUT/FILL BOUNDARY (NOT USED)
	CONSTRUCTION ACCESS, OUTSIDE GRADING LIMITS
	CONSTRUCTION ACCESS, WITHIN GRADING LIMITS
	EXISTING WATERLINE
	APPROX TREELINE
	NEW CONTOUR LINE
	EXISTING CONTOUR LINE
	EXISTING GROUND (SECTION)
	EXCAVATION (SECTION)
	FILL (PLAN & SECTION)
	VINEYARD TOPSOIL OR PLANTING SOIL
	AGGREGATE ROAD BASE
	AC PAVEMENT

LEGEND (CONT.)

	DEMO TREE
	CAR BODY (TO BE REMOVED)
	WILLOW BAFFLE
	LARGE WOODY DEBRIS
	ROOT WAD
	BOULDER CLUSTER
	POINT OF CONNECTION
	ROCK TOE PROTECTION
	BRUSH MAT
	LIVE POLE PLANTING
	STAGING
	VINEYARD REMOVAL
	FLOW DIRECTION
	SPOT ELEVATION
	BENCHMARK
	CONTROL POINT
	EXISTING UTILITY

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SHEET TITLE: GENERAL NOTES & ABBREVIATIONS

PROJECT: NAPA RIVER RESTORATION RUTHERFORD REACH 8 - PHASE 4B & C

PREPARED FOR:

NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD ST, SUITE 201
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APPROVED:

DESIGNED: J. BLOMBERG
R. BROWN

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C053102

SCALE: AS SHOWN

DATE: FEBRUARY, 2013

SHEET:

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GENERAL NOTES

GENERAL

- CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE COUNTY AND ITS REPRESENTATIVES HARMLESS FROM ANY AND ALL LIABILITY, REAL AND/OR ALLEGED, IN CONJUNCTION WITH THE PERFORMANCE OF THIS PROJECT.
- A SET OF SIGNED WORKING DRAWINGS AND A SET OF SPECIFICATIONS WILL BE KEPT ON THE JOB SITE AT ALL TIMES ON WHICH ALL CHANGES OR VARIATIONS IN THE WORK, INCLUDING ALL EXISTING UTILITIES, ARE TO BE RECORDED AND/OR CORRECTED DAILY AND SUBMITTED TO THE COUNTY ENGINEER WHEN THE WORK TO BE DONE IS COMPLETED.
- CONTRACTOR SHALL CONTACT THE COUNTY'S DIRECTOR OF PUBLIC WORKS, OR HIS/HER DESIGNEE, TO ARRANGE A PRE-CONFERENCE FOR THE PURPOSE OF REVIEWING JOB REQUIREMENTS AND COUNTY PROCEDURES.
- ALL MATERIAL SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
- ALL WORKMANSHIP AND MATERIALS FOR BOTH ON-SITE AND OFF-SITE IMPROVEMENTS SHALL CONFORM TO THE LATEST EDITION OF THE COUNTY OF NAPA PUBLIC WORKS DEPARTMENT ROAD AND STREET STANDARDS AND THE LATEST EDITION OF THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS AND STANDARD PLANS. THE ON-SITE IMPROVEMENTS SHALL BE INSPECTED BY THE COUNTY PUBLIC WORKS INSPECTORS.
- CONTRACTOR SHALL NOTIFY THE COUNTY OF NAPA DIRECTOR OF PUBLIC WORKS OR HIS DESIGNEE AT LEAST 72 HOURS PRIOR TO COMMENCEMENT OF ANY PART OF WORK.
- CONTRACTOR SHALL PROVIDE AND MAINTAIN SUFFICIENT TEMPORARY BARRICADES TO PROVIDE FOR THE SAFETY OF THE STAFF AND GENERAL PUBLIC TO THE SATISFACTION OF THE PUBLIC WORKS DIRECTOR.

PROTECTION OF EXISTING CONDITIONS

- CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY AND ALL DAMAGES TO EXISTING VEGETATION, STRUCTURES AND UTILITIES DURING CONSTRUCTION.
- PROTECT ALL EXISTING IMPROVEMENTS AND VEGETATION NOT SLATED FOR DEMOLITION. PLACE TEMPORARY FENCING, FLAGGING OR EQUIVALENT AT THE WATER DIVERSION, PERIMETER OF ALL VEGETATED AREAS AND/OR INDIVIDUAL TREES TO BE PRESERVED, AND ANY OTHER IMPROVEMENTS ONSITE.
- PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL REVIEW ALL TREE AND OTHER PROTECTION FENCING WITH THE OWNER'S REPRESENTATIVE, AND FIELD ADJUST THE LIMITS AS DIRECTED.

UTILITIES

- CONTRACTOR SHALL NOTIFY ALL PUBLIC OR PRIVATE UTILITY COMPANIES 48 HOURS PRIOR TO COMMENCEMENT OF WORK ADJACENT TO EXISTING UTILITY LINES.
- CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT (USA) AT 1-800-227-2600 PRIOR TO START OF ANY CONSTRUCTION.
- LOCATIONS OF UTILITIES AND FACILITIES SHOWN ARE APPROXIMATE AND FOR GENERAL INFORMATION ONLY. CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES AS NEEDED FOR VERIFICATION.
- CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UTILITIES AND PROTECT THROUGHOUT CONSTRUCTION.

ENVIRONMENTAL PROTECTION

- CONTRACTOR SHALL CONDUCT ALL GRADING OPERATIONS IN SUCH MANNER AS TO PRECLUDE WIND BLOWN DIRT AND DUST AND RELATED DAMAGE TO NEIGHBORING PROPERTIES. SUFFICIENT WATERING TO CONTROL DUST IS REQUIRED AT ALL TIMES. CONTRACTOR SHALL ASSUME LIABILITY FOR CLAIMS RELATED TO WIND BLOWN MATERIAL. IF THE DUST CONTROL IS INADEQUATE AS DETERMINED BY THE PUBLIC WORKS DIRECTOR OR HIS DESIGNATED REPRESENTATIVE, THE CONSTRUCTION WORK SHALL BE TERMINATED UNTIL CORRECTIVE MEASURES ARE TAKEN.
- CONTRACTOR SHALL ELIMINATE OR MINIMIZE NON-STORM DISCHARGE FROM THE CONSTRUCTION SITE TO STORM DRAINS AND OTHER WATER BODIES. ALL CONSTRUCTION ACTIVITIES SHALL BE PERFORMED IN A MANNER THAT MINIMIZES, TO THE MAXIMUM EXTENT PRACTICABLE, ANY POLLUTANTS ENTERING DIRECTLY OR INDIRECTLY INTO GROUND WATER. ALL MATERIALS THAT COULD CAUSE WATER POLLUTION (i.e., MOTOR OIL, FUELS, PAINTS, ETC.) SHALL BE STORED AND USED IN A MANNER THAT WILL NOT CAUSE ANY POLLUTION. ALL DISCARDED MATERIAL AND ANY ACCIDENTAL SPILLS SHALL BE REMOVED AND DISPOSED OF AT AN APPROVED DISPOSAL SITE.
- CONTRACTOR SHALL PROVIDE TO THE PUBLIC WORKS DEPARTMENT ANY CHANGES PROPOSED FOR THE PROJECT'S EROSION CONTROL PLAN AND SHALL PROVIDE A SCHEDULE FOR IMPLEMENTATION OF CONTROL MEASURES. CONTRACTOR SHALL MEET WITH COUNTY PUBLIC WORKS STAFF PRIOR TO OCTOBER 1 TO REVIEW STATUS OF PROJECT'S EROSION CONTROL AND WATER POLLUTION MEASURES.
- CONTRACTOR SHALL SUBMIT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) THAT PROVIDES, AT A MINIMUM, THE EROSION CONTROL MEASURES SHOWN ON SHEET R01. THE SWPPP SHALL COMPLY WITH THE NEW CONSTRUCTION GENERAL STORMWATER PERMIT (2009-009-DWQ). THE PROJECT SHOULD BE ASSUMED TO BE IN THE 'L.U.P. TYPE 3' CATEGORY. CONTRACTOR SHALL MAINTAIN A COPY OF THE SWPPP ONSITE AT ALL TIMES, AND SHALL UPDATE THE SWPPP REGULARLY AS NEEDED TO RESPOND TO SITE CONDITIONS.
- THE CONTRACTOR SHALL UTILIZE BEST MANAGEMENT PRACTICES TO PREVENT EROSION, SEDIMENT AND HAZMAT RUNOFF FROM THE CONSTRUCTION SITE.
- THE OWNER HAS OBTAINED PERMITS FROM RESOURCE AGENCIES FOR THIS PROJECT (SEE SPECS). COMPLY WITH ALL PERMIT REQUIREMENTS FOR PROTECTION OF WATER QUALITY, WILDLIFE AND VEGETATION. COOPERATE WITH THE ACTIVITIES OF THE COUNTY'S BIOLOGIST AND COMPLY WITH ALL REQUIRED NOTIFICATIONS.
- DURING GRADING, THE CONTRACTOR SHALL PROVIDE AN ONSITE MONITOR TO MAKE SURE THE GRADING LIMITS ARE CLEAR OF RED-LEGGED FROG AND OTHER PROTECTED WILDLIFE.
- CONSTRUCTION OF THE BOULDER GRADE CONTROL STRUCTURE, LOG STRUCTURES, AND ROCK TOE PROTECTION REQUIRES WORK IN THE ACTIVE CHANNEL, INCLUDING DEWATERING AND FLOW DIVERSION. COMPLY WITH PERMIT REQUIREMENTS FOR WILDLIFE AND WATER QUALITY PROTECTION (SEE SPECS).

TREE PROTECTION

- ONLY TREES GREATER THAN 12" DIAMETER ARE SHOWN ON THE PLANS.
- CONTRACTOR TO PROTECT ALL TREES, EXCEPT THOSE SLATED FOR REMOVAL, REGARDLESS OF SIZE. SEE ALSO NOTES 9 AND 10 ABOVE.

CULTURAL RESOURCES

- THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY IF CULTURAL RESOURCES ARE ENCOUNTERED DURING EXCAVATION FOR ANY PHASE OF THE PROJECT, AND THAT PORTION OF WORK SHALL BE HALTED UNTIL A CULTURAL RESOURCE CONSULTANT HAS EVALUATED THE SITUATION.

USE OF SITE

- THE PROJECT SITE IS ON PRIVATE PROPERTY. THE CONTRACTOR SHALL ONLY USE SITE ACCESS ROUTES TO THE SITE AS NOTED ON THE DRAWINGS.
- STAGING, STORAGE AND TEMPORARY STOCKPILING SHALL BE LIMITED TO THE AREAS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL ONLY OPERATE EQUIPMENT WITHIN THE LIMITS OF GRADING, THE AREA BETWEEN THE NEW AND EXISTING BERM, AND ALONG APPROVED ACCESS ROUTES WITHIN THE SITE.
- DRAWINGS SHOW SUGGESTED ACCESS ROUTES WITHIN THE SITE. THE CONTRACTOR SHALL LIMIT ITS ACCESS TO THESE LOCATIONS, AND/OR ALTERNATIVE ROUTE(S) AS APPROVED IN WRITING BY THE OWNER'S REPRESENTATIVE.

TRAFFIC CONTROL

- ALL TRAFFIC CONTROL REQUIRED FOR CONSTRUCTION ACTIVITIES SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE CALTRANS TRAFFIC MANUAL. FOR ALL LANE CLOSURES AND DETOURS, A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE COUNTY OF NAPA FOR REVIEW AND APPROVAL AT LEAST FIVE (5) WORKING DAYS BEFORE THE SCHEDULE CLOSURE.

TOPOGRAPHIC DATA AND MAPPING

- THE TOPOGRAPHIC SURVEY IS BASED ON LIDAR DATA COLLECTED BY AIRBORNE1 OF EL SEGUNDO, CA ON 3/22/07. TOPOGRAPHIC INFORMATION FOR BENCH GRADING WAS SUPPLEMENTED BY GROUND SURVEY PERFORMED BY DOBLE THOMAS & ASSOCIATES IN NOV TO DEC 2009. BENCHMARKS ARE BASED ON GROUND SURVEYS COMPLETED BY DOBLE THOMAS & ASSOCIATES OF NAPA, CA.
- THE EXISTING GRADE REFLECTS SITE CONDITIONS AT THE TIME OF THE SURVEYS. CONTRACTOR SHOULD VERIFY GRADES PRIOR TO COMMENCING WORK AND SHALL REPORT ANY DISCREPANCY BETWEEN DESIGN DRAWINGS AND FIELD CONDITIONS IMMEDIATELY TO THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL NOT COMMENCE WITH GRADING UNTIL THE DISCREPANCY IS RESOLVED.
- HORIZONTAL CONTROL IS CALIFORNIA STATE PLANE ZONE II (NAD83) IN US FT. VERTICAL CONTROL IS NAVD88.
- CONTRACTOR SHALL VERIFY AND CHECK EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL VERIFY LOCATIONS, LEVELS DISTANCES, AND FEATURES THAT MAY AFFECT THE WORK. SHOULD EXISTING CONDITIONS DIFFER FROM THOSE SHOWN OR INDICATED, OR IF IT APPEARS THAT THESE PLANS, STANDARD SPECIFICATION, AND SPECIAL PROVISIONS DO NOT ADEQUATELY DETAIL THE WORK TO BE DONE, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONTINUING WITH ANY RELATED WORK. NO ALLOWANCE WILL BE MADE IN HIS/HER BEHALF FOR ANY EXTRA EXPENSE RESULTING FROM FAILURE OR NEGLECT IN DETERMINING THE CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED. NOTED DIMENSION SHALL TAKE PRECEDENCE OVER SCALE.

EARTHWORK

- A GEOTECHNICAL REPORT WAS PREPARED BY HULTGREN-TILLIS ENGINEERS FOR THIS PROJECT. WORK SHALL BE PERFORMED WITH CONSTRUCTION EQUIPMENT THAT IS COMPATIBLE FOR SOIL CONDITIONS. SEE SPECS.
- RESTORE ALL DISTURBED AREAS BY SEEDING AND APPLYING EROSION CONTROL MEASURES PER THE DRAWINGS AND SPECS. RESTORE ALL ACCESS ROUTES TO ORIGINAL GRADES AND CONDITION.

SURVEY CONTROL

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
50	1925385.17	6445790.194	140.22	SURVEY SPIKE
51	1925325.582	6445708.121	138.20	3/8" Rebar
52	1924571.93	6446324.336	135.94	3/8" Rebar
53	1924674.897	6446223.296	136.27	3/8" Rebar
61	1926476.017	6445748.09	143.65	SURVEY MARK
62	1926589.228	6445849.569	143.37	3/8" Rebar
63	1927024.731	6446082.932	134.41	3/8" Rebar
64	1926916.005	6445980.964	143.94	3/8" Rebar
75	1925358.378	6445831.706	139.70	3/8" Rebar
77	1926449.425	6445776.635	142.92	3/8" Rebar
78	1924573.181	6446368.636	136.00	3/8" Rebar
125	1927219.709	6445920.489	139.51	TBAR 5520CP
126	1927197.423	6446016.894	136.53	TBAR 5520CP
127	1927154.679	6446055.99	135.62	TBAR 5520CP
128	1927100.933	6446080.226	135.83	TBAR 5520CP
129	1927406.582	6445928.152	144.84	TBAR N/T
130	1927342.192	6446099.441	143.49	TBAR 5520CP
131	1927173.825	6446240.422	143.27	1/2" Rebar
132	1927149.6	6446244.491	143.47	TBAR N/T
133	1927162.422	6446049.392	136.15	3/8" Rebar
134	1927054.533	6446082.28	134.46	TBAR 5520CP
135	1927003.662	6446072.754	134.93	SPK
136	1926987.411	6446074.832	136.48	TBAR 5520CP
137	1926945.372	6446073.265	130.01	TBAR N/T
138	1926934.278	6446029.349	135.82	TBAR N/T
139	1926789.889	6445789.802	143.69	3/8" Rebar
140	1926638.795	6445949.956	144.33	TBAR N/T
141	1926640.642	6445848.349	144.12	TBAR N/T
142	1926578.792	6445902.972	143.08	TBAR N/T
143	1926515.799	6445815.583	143.31	TBAR N/T
144	1926714.503	6445971.659	144.84	TBAR N/T
145	1926598.919	6446055.122	144.96	TBAR N/T
146	1926367.485	6445744.344	142.92	TBAR N/T
147	1926312.484	6445710.344	142.27	TBAR N/T
148	1926240.749	6445687.008	142.83	TBAR N/T
149	1926146.867	6445655.166	142.15	TBAR N/T
152	1927166.246	6445841.456	146.53	3/8" Rebar
161	1927201.34	6445781.99	144.31	3/8" Rebar
162	1927196.232	6445832.139	145.19	3/8" Rebar
163	1927205.64	6445891.286	142.17	3/8" Rebar
167	1926304.441	6445844.906	142.97	TBAR N/T
168	1926067.639	6445651.837	141.45	TBAR N/T
169	1926067.479	6445640.946	141.99	FND1/2
170	1925995.239	6445646.478	141.13	TBAR N/T
171	1925891.638	6445670.637	141.05	TBAR N/T
172	1925808.49	6445679.238	139.33	TBAR N/T
173	1925755.967	6445686.031	136.18	TBAR N/T
174	1926451.253	6445977.361	144.82	TBAR N/T
175	1925752.065	6445653.284	140.77	FORMSTKGPS125
176	1925753.186	6445810.58	140.71	3/8" Rebar
177	1925658.03	6445662.17	139.67	TBAR N/T
178	1925542.852	6445696.342	139.88	TBAR N/T
179	1925460.518	6445754.598	139.87	TBAR N/T
180	1925519.741	6445893.28	138.85	TBAR N/T
181	1925395.974	6445801.288	139.90	TBAR N/T
182	1925275.685	6445881.752	139.22	TBAR N/T
183	1925096.045	6445959.712	137.20	TBAR N/T
184	1925148.535	6446072.813	138.33	TBAR N/T
185	1924867.983	6446068.685	137.57	TBAR N/T
186	1924800.469	6446119.067	137.25	TBAR N/T
187	1924895.346	6446225.558	138.39	TBAR N/T
188	1925116.043	6446084.3	137.29	3/8" Rebar
189	1924760.1	6446176.258	138.22	TBAR N/T
190	1924726.131	6446209.981	137.12	TBAR N/T
191	1924649.331	6446281.858	136.67	TBAR N/T
192	1924609.927	6446319.056	136.19	TBAR N/T
193	1924526.611	6446406.435	136.04	TBAR N/T
194	1924673.837	6446451.985	137.28	TBAR N/T
196	1924696.679	6446001.343	136.12	SPK
268	1927195.021	6445974.441	138.42	3/8" Rebar
269	1926837.353	6446003.068	143.79	TBAR N/T
271	1925172.385	6445911.71	139.24	SPK
272	1925652.85	6445618.761	139.96	SPK
273	1925873.96	6445676.473	141.16	3/8" Rebar
274	1925021.714	6445973.93	137.84	3/8" Rebar
275	1924947.293	6446018.172	137.46	3/8" Rebar



PREPARED BY: GENERAL NOTES & SURVEY CONTROL
PROJECT: NAPA RIVER RESTORATION RUTHERFORD REACH 8 - PHASE 4B & C

PREPARED FOR: NAPA COUNTY DEPARTMENT OF PUBLIC WORKS 1195 THIRD ST, SUITE 201 Napa, CA 94559

APPROVED:
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SCALE: AS SHOWN
DATE: FEBRUARY, 2013
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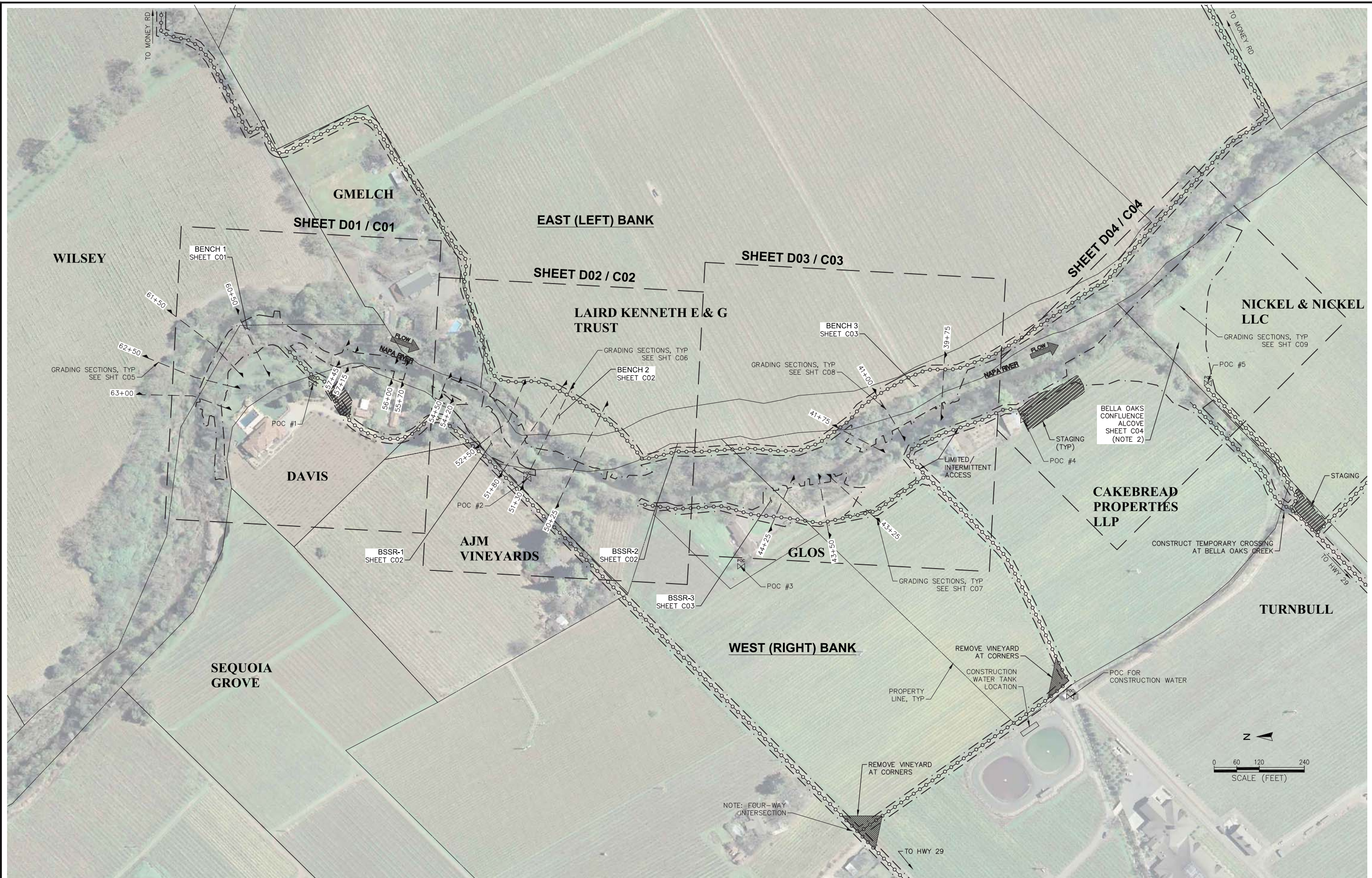
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3 OF 29

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NAPA RIVER CHANNEL ALIGNMENT							
	BEGIN STA	BEGIN EASTING	BEGIN NORTHING	LINE BEARING	LINE/CURVE DIST.	CURVE RADIUS	DELTA ANGLE
L51	67+49.72	6445530.2	1927263.3	S85° 22' 55"E	23.8		
C51	67+25.95	6445553.8	1927261.4		1.3	12.3	5° 52' 24"
L52	67+24.69	6445555.1	1927261.3	N88° 44' 41"E	29.4		
C52	66+95.31	6445584.5	1927262.0		0.7	12.3	3° 14' 47"
L53	66+94.61	6445585.2	1927262.0	N85° 29' 54"E	57.3		
C53	66+37.35	6445642.3	1927266.5		1.8	12.3	8° 21' 34"
L54	66+35.56	6445644.0	1927266.8	N77° 08' 19"E	39.6		
C54	65+96	6445682.6	1927275.6		2.1	12.3	9° 58' 35"
L55	65+93.85	6445684.6	1927276.2	N67° 09' 44"E	63.0		
C55	65+30.85	6445742.7	1927300.7		1.1	12.3	4° 57' 01"
L56	65+29.79	6445743.7	1927301.1	N72° 06' 45"E	20.2		
C56	65+09.61	6445762.9	1927307.3		1.8	12.3	8° 34' 25"
L57	65+07.76	6445764.7	1927307.7	N80° 41' 11"E	14.4		
C57	64+93.35	6445778.9	1927310.0		3.1	12.3	14° 21' 49"
L58	64+90.26	6445782.0	1927310.1	S84° 57' 00"E	19.1		
C58	64+71.19	6445801.0	1927308.5		3.4	12.3	15° 57' 43"
L59	64+67.76	6445804.3	1927307.7	S88° 59' 18"E	37.8		
C59	64+29.92	6445839.6	1927294.1		2.3	12.3	10° 43' 07"
L60	64+27.61	6445841.9	1927293.5	S79° 42' 25"E	25.1		
C60	64+02.52	6445866.5	1927289.0		2.7	12.3	12° 28' 20"
L61	63+99.84	6445869.2	1927288.8	N87° 49' 15"E	15.5		
C61	63+84.30	6445884.7	1927289.4		2.4	12.3	11° 16' 40"
L62	63+81.87	6445887.1	1927289.7	N76° 32' 36"E	23.8		
C62	63+58.05	6445910.3	1927295.3		1.5	12.3	7° 07' 38"
L63	63+56.51	6445911.8	1927295.6	N83° 40' 14"E	25.1		
C63	63+31.46	6445936.7	1927298.3		0.8	12.3	3° 47' 15"
L64	63+30.64	6445937.5	1927298.4	N87° 27' 29"E	28.9		
C64	63+01.71	6445966.4	1927299.7		0.8	12.3	3° 54' 51"
L65	63+00.87	6445967.3	1927299.7	S88° 37' 41"E	28.2		
C65	62+72.64	6445995.5	1927299.0		2.5	12.3	11° 46' 03"
L66	62+70.11	6445998.0	1927298.7	S76° 51' 37"E	18.1		
C66	62+51.97	6446015.7	1927294.6		2.0	12.3	9° 28' 10"
L67	62+49.93	6446017.6	1927293.9	S67° 23' 28"E	31.0		
C67	62+18.92	6446046.2	1927282.0		0.7	12.3	3° 13' 45"
L68	62+18.22	6446046.9	1927281.7	S64° 09' 42"E	30.8		
C68	61+87.42	6446074.6	1927268.3		1.1	12.3	5° 14' 37"
L69	61+86.29	6446075.6	1927267.8	S58° 55' 05"E	26.0		
C69	61+60.31	6446097.8	1927254.3		1.3	12.3	6° 08' 54"
L70	61+58.99	6446098.9	1927253.6	S52° 46' 11"E	22.9		
C70	61+36.05	6446117.2	1927239.7		1.4	12.3	6° 34' 21"
L71	61+34.64	6446118.3	1927238.8	S46° 11' 50"E	18.9		
C71	61+15.73	6446131.9	1927225.7		1.1	12.3	5° 06' 43"
L72	61+14.63	6446132.7	1927224.9	S41° 05' 07"E	27.8		
C72	60+86.87	6446150.9	1927204.0		2.3	12.3	10° 42' 19"
L73	60+84.56	6446152.3	1927202.1	S30° 22' 48"E	16.5		
C73	60+68.06	6446160.6	1927187.9		2.1	12.3	9° 44' 15"
L74	60+65.97	6446161.5	1927186.0	S20° 38' 33"E	47.8		
C74	60+18.18	6446178.4	1927141.3		1.9	12.3	8° 50' 47"
L75	60+16.28	6446178.9	1927139.5	S11° 47' 47"E	19.1		
C75	59+97.19	6446182.8	1927120.8		1.5	12.3	6° 49' 39"

NAPA RIVER CHANNEL ALIGNMENT							
	BEGIN STA	BEGIN EASTING	BEGIN NORTHING	LINE BEARING	LINE/CURVE DIST.	CURVE RADIUS	DELTA ANGLE
L76	59+95.72	6446183.0	1927119.3	S4° 58' 08"E	18.6		
C76	59+77.15	6446184.6	1927100.8		1.5	12.3	7° 10' 53"
L77	59+75.61	6446184.7	1927099.3	S2° 12' 45"W	16.1		
C77	59+59.48	6446184.0	1927083.2		1.5	12.3	6° 46' 43"
L78	59+58.02	6446183.9	1927081.7	S8° 59' 28"W	21.7		
C78	59+36.27	6446180.5	1927060.2		1.5	12.3	6° 45' 33"
L79	59+34.82	6446180.2	1927058.8	S15° 45' 01"W	53.5		
C79	58+81.36	6446165.7	1927007.4		2.2	12.3	10° 26' 55"
L80	58+79.12	6446164.9	1927005.3	S26° 11' 56"W	26.0		
C80	58+53.12	6446153.4	1926981.9		1.1	12.3	5° 19' 54"
L81	58+51.97	6446152.9	1926980.9	S20° 52' 02"W	22.8		
C81	58+29.19	6446144.8	1926959.6		1.9	12.3	8° 52' 05"
L82	58+27.29	6446144.0	1926957.9	S29° 44' 07"W	12.6		
C82	58+14.67	6446137.7	1926946.9		2.6	12.3	11° 53' 16"
L83	58+12.12	6446136.3	1926944.9	S41° 37' 23"W	19.1		
C83	57+92.97	6446123.5	1926930.6		1.2	12.3	5° 29' 52"
L84	57+91.79	6446122.7	1926929.7	S47° 07' 15"W	35.3		
C84	57+56.47	6446096.8	1926905.6		1.2	12.3	5° 37' 45"
L85	57+55.26	6446096.0	1926904.8	S41° 29' 30"W	21.4		
C85	57+33.87	6446081.8	1926888.8		1.5	12.3	6° 57' 38"
L86	57+32.37	6446080.9	1926887.6	S34° 31' 51"W	13.2		
C86	57+19.17	6446073.4	1926876.7		2.4	12.3	11° 10' 32"
L87	57+16.77	6446072.3	1926874.6	S23° 21' 20"W	20.3		
C87	56+96.43	6446064.2	1926856.0		1.8	12.3	8° 19' 47"
L88	56+94.64	6446063.6	1926854.3	S15° 01' 32"W	34.9		
C88	56+59.72	6446054.5	1926820.5		1.1	12.3	5° 14' 01"
L89	56+58.59	6446054.2	1926819.5	S20° 15' 34"W	29.7		
C89	56+28.85	6446043.9	1926791.6		1.0	12.3	4° 40' 47"
L90	56+27.84	6446043.5	1926790.6	S24° 56' 21"W	19.3		
C90	56+08.53	6446035.4	1926773.1		1.9	12.3	8° 37' 37"
L91	56+06.68	6446034.5	1926771.5	S33° 33' 57"W	21.5		
C91	55+85.17	6446022.6	1926753.6		1.4	12.3	6° 31' 04"
L92	55+83.77	6446021.9	1926752.4	S27° 02' 53"W	13.3		
C92	55+70.44	6446015.8	1926740.5		2.1	12.3	9° 42' 57"
L93	55+68.35	6446015.0	1926738.6	S17° 19' 56"W	7.2		
C93	55+61.11	6446012.9	1926731.7		3.4	12.3	16° 00' 15"
L94	55+57.67	6446012.3	1926728.3	S1° 19' 41"W	7.8		
C94	55+49.82	6446012.1	1926720.4		1.5	12.3	7° 05' 55"
L95	55+48.30	6446012.2	1926718.9	S5° 46' 15"E	14.1		
C95	55+34.17	6446013.6	1926704.9		1.6	12.3	7° 20' 24"
L96	55+32.59	6446013.9	1926703.3	S13° 06' 38"E	19.9		
C96	55+12.64	6446018.4	1926683.9		3.5	12.3	16° 26' 24"
L97	55+09.11	6446018.7	1926680.4	S3° 19' 45"W	14.6		
C97	54+94.52	6446017.8	1926665.8		3.8	12.3	17° 31' 56"
L98	54+90.75	6446017.1	1926662.1	S20° 51' 41"W	24.5		
C98	54+66.24	6446008.3	1926639.2		0.5	12.3	2° 31' 34"
L99	54+65.70	6446008.1	1926638.7	S23° 23' 15"W	38.7		
C99	54+26.97	6445992.8	1926603.2		1.8	12.3	8° 29' 31"
L100	54+25.14	6445992.2	1926601.5	S14° 53' 44"W	40.7		
C100	53+84.47	6445981.7	1926562.1		0.8	12.3	3° 31' 01"

NAPA RIVER CHANNEL ALIGNMENT							
	BEGIN STA	BEGIN EASTING	BEGIN NORTHING	LINE BEARING	LINE/CURVE DIST.	CURVE RADIUS	DELTA ANGLE
L101	53+83.71	6445981.5	1926561.4	S18° 24' 45"W	31.1		
C101	53+52.57	6445971.6	1926531.9		4.1	12.3	18° 54' 19"
L102	53+48.51	6445969.8	1926528.3	S37° 19' 03"W	29.8		
C102	53+18.73	6445951.7	1926504.6		1.5	12.3	6° 44' 56"
L103	53+17.28	6445950.8	1926503.5	S44° 03' 59"W	48.8		
C103	52+68.52	6445916.8	1926468.5		2.7	12.3	12° 20' 00"
L104	52+65.86	6445914.8	1926466.8	S56° 23' 59"W	21.4		
C104	52+44.51	6445897.0	1926455.0		3.3	12.3	15° 20' 50"
L105	52+41.21	6445894.1	1926453.5	S71° 44' 50"W	21.0		
C105	52+20.18	6445874.1	1926446.9		4.7	12.3	21° 48' 30"
L106	52+15.49	6445870.0	1926444.7	S49° 56' 19"W	20.0		
C106	51+95.49	6445854.7	1926431.8		3.2	12.3	14° 39' 39"
L107	51+92.33	6445852.6	1926429.5	S35° 16' 40"W	30.1		
C107	51+62.22	6445835.2	1926404.9		1.9	12.3	8° 48' 15"
L108	51+60.33	6445834.2	1926403.3	S26° 28' 25"W	38.5		
C108	51+21.84	6445817.1	1926368.8		1.5	12.3	6° 55' 09"
L109	51+20.35	6445816.3	1926367.5	S33° 23' 35"W	44.3		
C109	50+76.06	6445791.9	1926330.6		2.8	12.3	13° 02' 09"
L110	50+73.26	6445790.7	1926328.1	S20° 21' 26"W	41.0		
C110	50+32.23	6445776.4	1926289.6		1.2	12.3	5° 36' 50"
L111	50+31.03	6445775.9	1926288.5	S25° 58' 16"W	68.4		
C111	49+62.60	6445746.0	1926227.0		1.6	12.3	7° 16' 12"
L112	49+61.04	6445745.4	1926225.5	S18° 42' 04"W	57.2		
C112	49+03.81	6445727.0	1926171.3		1.4	12.3	6° 25' 33"
L113	49+02.43	6445726.7	1926170.0	S12° 16' 31"W	35.5		
C113	48+66.89	6445719.1	1926135.3		2.1	12.3	9° 48' 16"
L114	48+64.78	6445718.8	1926133.2	S2° 28' 14"W	33.1		
C114	48+31.72	6445717.4	1926100.2		1.6	12.3	7° 17' 13"
L115	48+30.16	6445717.2	1926098.6	S9° 45' 27"W	29.8		
C115	48+00.32	6445712.2	1926069.2		1.4	12.3	6° 24' 32"
L116	47+98.95	6445712.0	1926067.8	S3° 20' 55"W	24.5		
C116	47+74.41	6445710.6	1926043.3		1.2	12.3	5° 31' 02"
L117	47+73.22	6445710.6	1926042.1	S2° 10' 07"E	40.7		
C117	47+32.47	6445712.1	1926001.4		1.1	12.3	5° 10' 44"
L118	47+31.36	6445712.2	1926000.3	S7° 20' 51"E	40.3		
C118	46+91.09	6445717.4	1925960.4		1.5	12.3	7° 03' 32"
L119	46+89.57	6445717.7	1925958.9	S14			



NOTES:
 1. SEE SHEETS C05 TO C09 FOR GRADING SECTIONS.
 2. SEE SHEET C04 FOR BELLA OAKS CREEK STATIONING.
 3. POINT OF CONNECTION (POC) LOCATIONS APPROX., VIF.

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MATCHLINE STA 55+00 - SEE SHEET D02

TREE REMOVAL

BENCH 1 - DAVIS	
POINT NUMBER	DESCRIPTION
2242	12" WILLOW
2293	16" WILLOW
2319	12" WILLOW
2675	18" WILLOW

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NOT FOR CONSTRUCTION**



PREPARED BY:
DEMOLITION, ACCESS, AND STAGING
 STA 55+00 TO STA 65+00
 PROJECT
NAPA RIVER RESTORATION
 RUTHERFORD REACH 8 - PHASE 4B & C

PREPARED FOR:
NAPA COUNTY
 DEPARTMENT OF PUBLIC WORKS
 1195 THIRD ST, SUITE 201
 Napa, CA 94559

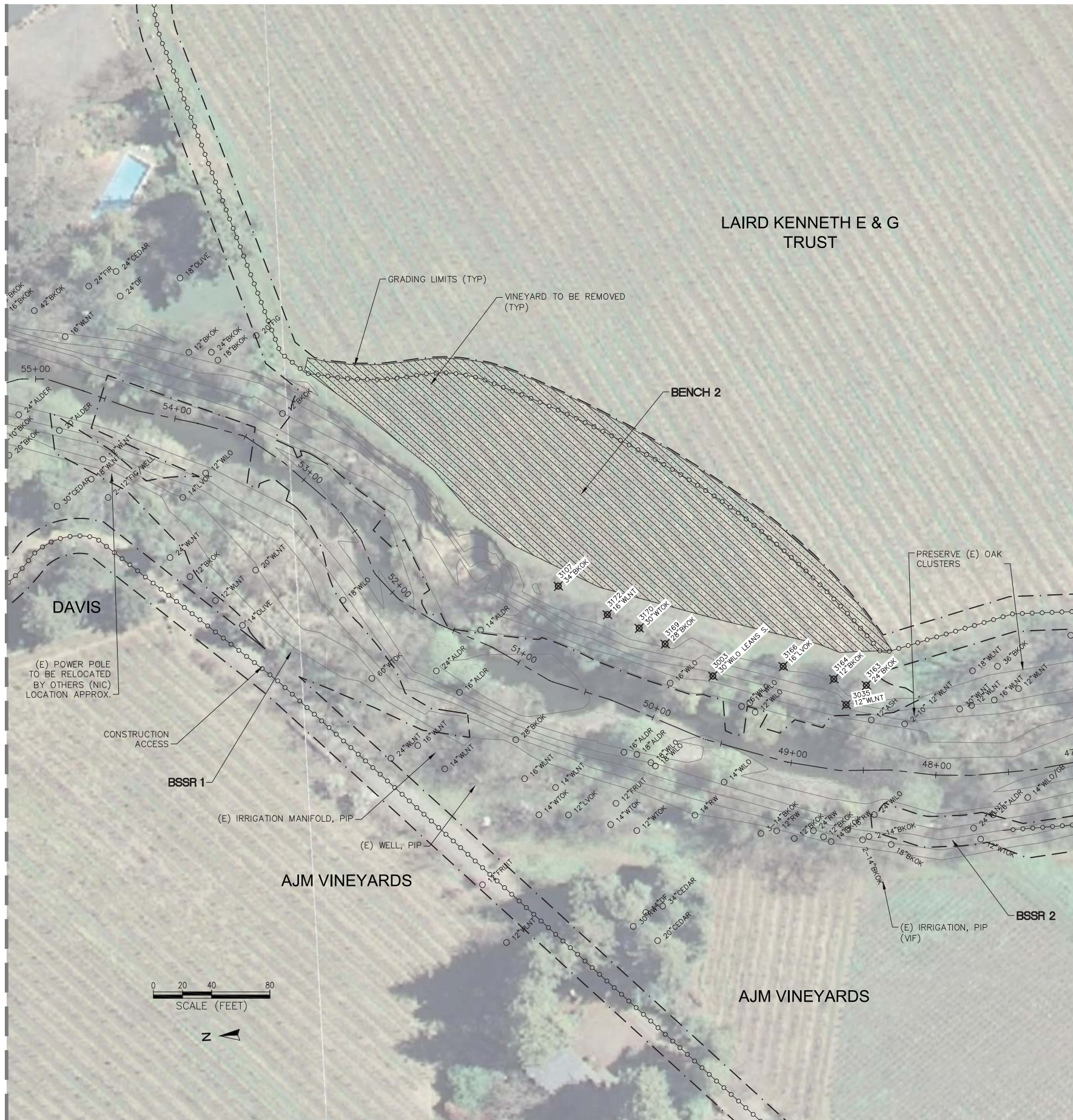
APPROVED
 DESIGNED J. BLOMBERG
 R. BROWN
 DRAWN B. TANAKA
 INCHARGE A. BORGONOVO
 C053102
 SCALE AS SHOWN
 DATE FEBRUARY, 2013
 SHEET

D01

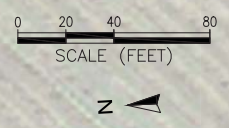
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MATCHLINE STA 54+50 - SEE SHEET D01

MATCHLINE STA 47+00 - SEE SHEET D03



TREE REMOVAL	
BENCH 2 - LAIRD	
POINT NUMBER	DESCRIPTION
3003	30" WILLOW LEANS SOUTH
3035	12" BLACK WALNUT
3107	34" BLACK OAK
3163	24" BLACK OAK
3164	12" BLACK OAK
3166	16" LIVE OAK
3169	28" BLACK OAK
3170	30" WHITE OAK
3172	16" BLACK WALNUT



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TREE REMOVAL

BENCH 3 - LAIRD	
POINT NUMBER	DESCRIPTION
3467	16" BLACK WALNUT
3468	18" BLACK OAK
3469	12" 18" BLACK OAK
3470	14" LIVE OAK
3471	16" LIVE OAK
3472	16" LIVE OAK
3518	18" BLACK WALNUT
3526	12" WHITE OAK
3527	16" WHITE OAK
3689	18" LIVE OAK
3690	16" BLACK OAK
3691	20" LIVE OAK
3692	12" BLACK OAK
3693	36" LIVE OAK
3694	20" LIVE OAK
3695	28" LIVE OAK
3696	20" LIVE OAK
3697	12" LIVE OAK
3699	16" BLACK OAK
3700	28" LIVE OAK
3705	14" LIVE OAK
3706	12" BLACK OAK
3707	14" BLACK OAK
3708	18" LIVE OAK
3709	18" LIVE OAK

BSSR 3 - CAKEBREAD	
POINT NUMBER	DESCRIPTION
3331	20" COTTONWOOD
3338	12" COTTONWOOD
3339	12" COTTONWOOD
3340	14" COTTONWOOD
3341	14" COTTONWOOD
3342	14" COTTONWOOD
3343	12" COTTONWOOD
3344	14" COTTONWOOD
3345	14" BLACK WALNUT
3346	16" ASH

MATCHLINE STA 47+00 - SEE SHEET D02



MATCHLINE STA 38+00 - SEE SHEET D04

PREPARED BY:

650 Kenny Street, Suite 900
San Francisco, CA 94108
415.263.2300 phone
www.esa-pwa-llc.com

SHEET TITLE
**DEMOLITION, STAGING, AND ACCESS
STA TO 38+00 TO 47+00**

PROJECT
**NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4B & C**

PREPARED FOR:

**NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD ST, SUITE 201
Napa, CA 94559**

APPROVED

DESIGNED J. BLOMBERG
R. BROWN

DRAWN B. TANAKA

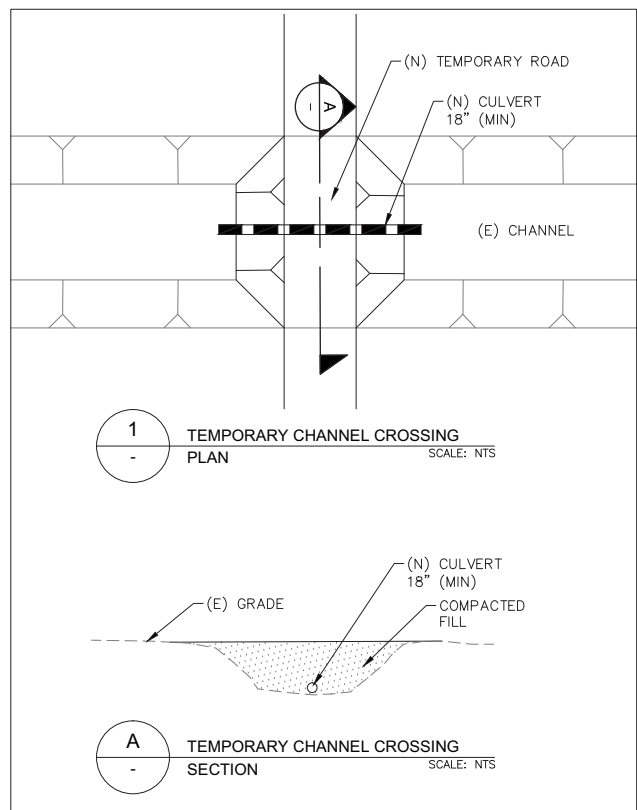
INCHARGE A. BORGONOVO
C053102

SCALE AS SHOWN

DATE FEBRUARY, 2013

SHEET

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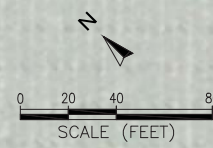


MATCHLINE STA 38+00 - SEE SHEET D03



TREE REMOVAL

POINT NUMBER	DESCRIPTION
3638	14" ALDER
3639	16" ALDER
3640	12" ALDER
3669	12" BLACK OAK
3880	16" BLACK OAK
3881	24" BLACK OAK
3882	16" BLACK OAK
3945	14" BLACK OAK
3980	24" BLACK WALNUT
4027	16" BLACK OAK
4033	2-12" BLACK WALNUT
4039	18" WHITE OAK
4041	20" BLACK OAK
4042	18" LIVE OAK
4043	14" BLACK OAK
4048	2-12" FRUIT TREE
4049	22" WHITE OAK
5090	24" 16" WILLOW
5091	28" WILLOW
5098	26" WILLOW
5105	18" 22" WILLOW
5109	20" EUCALYPTUS
5112	12" WILLOW
5113	14" WILLOW
5114	20" WILLOW



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PREPARED BY:
ESA PWA
650 Kenny Street, Suite 900
San Francisco, CA 94108
415.263.2300 phone
www.esa-pwa.com

SHEET TITLE
**DEMOLITION, STAGING, AND ACCESS
STA TO 30+00 TO 38+00**

PROJECT
**NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4B & C**

PREPARED FOR:
**NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD ST, SUITE 201
Napa, CA 94559**

APPROVED

DESIGNED J. BLOMBERG
R. BROWN

DRAWN B. TANAKA

INCHARGE A. BORGONOVO
C053102

SCALE AS SHOWN

DATE FEBRUARY, 2013

SHEET

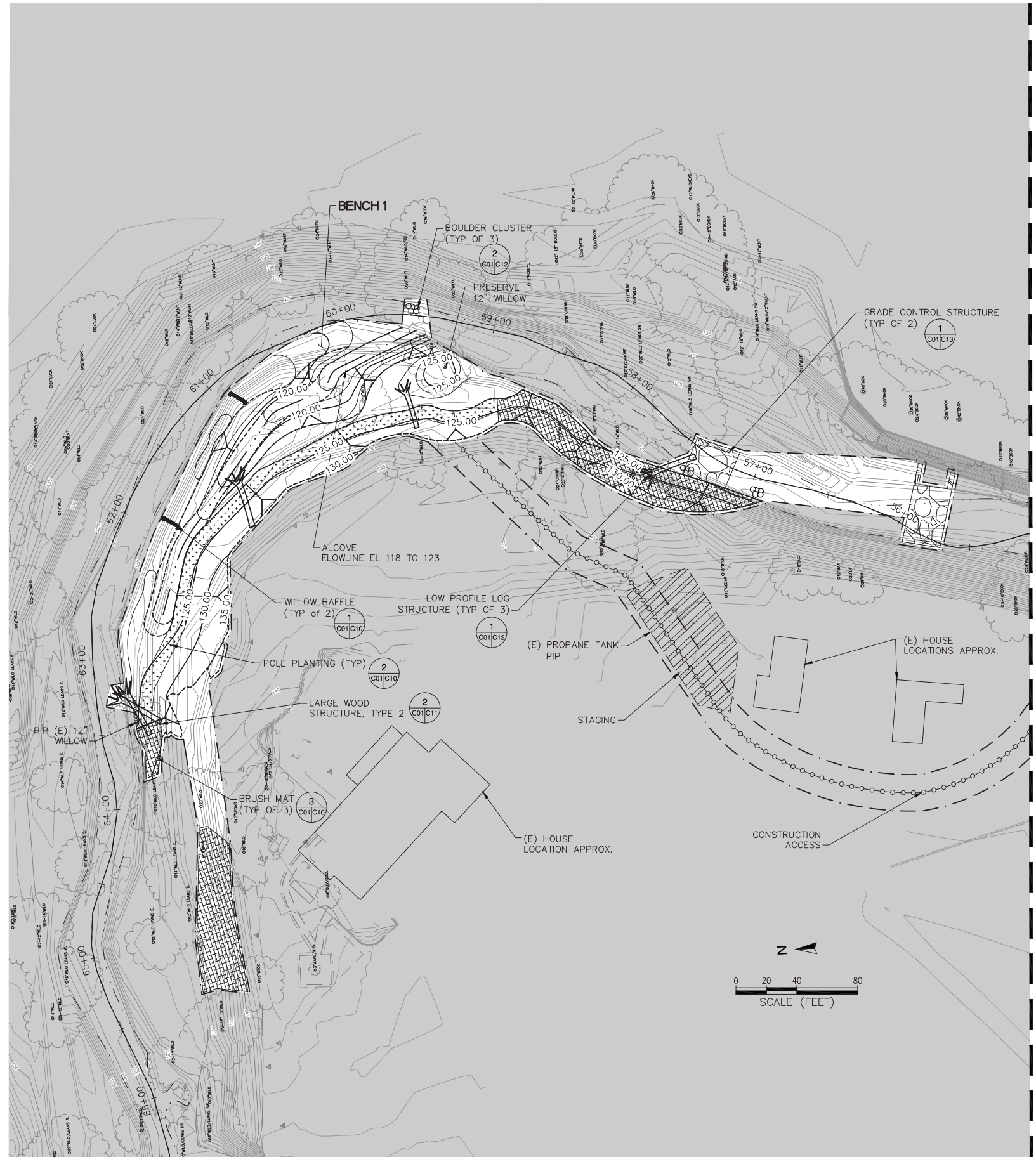
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SHEET NOTES

1. INSTALL AND MAINTAIN SILT FENCE ALONG THE TOP OF THE ACTIVE CHANNEL BANK FOR ALL GRADING AREAS. (FENCE NOT SHOWN ON DRAWINGS.) REMOVE BY OCT 15TH.
2. PRIOR TO COMMENCING CONSTRUCTION, INSTALL SILT FENCE AND TREE PRESERVATION FENCING.
3. CONTRACTOR SHALL CLEAR AND GRUB ALL AREAS TO BE GRADED.
4. PRIOR TO COMMENCING EARTHWORK, PERFORM CONSTRUCTION STAKING FOR REVIEW, ADJUSTMENT (IF NEEDED) AND APPROVAL BY OWNER'S REPRESENTATIVE.
5. SEE SCHEDULE ON SHEET C10 FOR APPROXIMATE STATIONING OF ALL LOG, ROCK AND BIOTECHNICAL STRUCTURES. PRIOR TO INSTALLATION, FIELD STAKE ALL STRUCTURES FOR REVIEW, ADJUSTMENT (IF NEEDED) AND APPROVAL BY OWNER'S REPRESENTATIVE.
6. ALL GRADED AREAS AND OTHER AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED BY SEEDING AND APPLYING EROSION CONTROL MEASURES. SEE SHEET C16 AND SPECS.
7. LW STRUCTURES SHOWN SIMPLIFIED FOR CLARITY. SEE SHEET C11 AND C12 FOR DETAILS OF LOG STRUCTURES.



MATCHLINE STA 55+00 - SEE SHT C02



PREPARED BY: **ESA PWA**
 SHEET TITLE: **GRADING PLAN**
 STA 55+00 TO 65+00
 PROJECT: **NAPA RIVER RESTORATION**
RUTHERFORD REACH 8 - PHASE 4B & C

PREPARED FOR:
NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
 1195 THIRD ST, SUITE 201
 Napa, CA 94559

APPROVED: _____
 DESIGNED: J. BLOMBERG
 R. BROWN
 DRAWN: B. TANAKA
 INCHARGE: A. BORGONOVO
 C053102
 SCALE: AS SHOWN
 DATE: FEBRUARY, 2013
 SHEET: _____

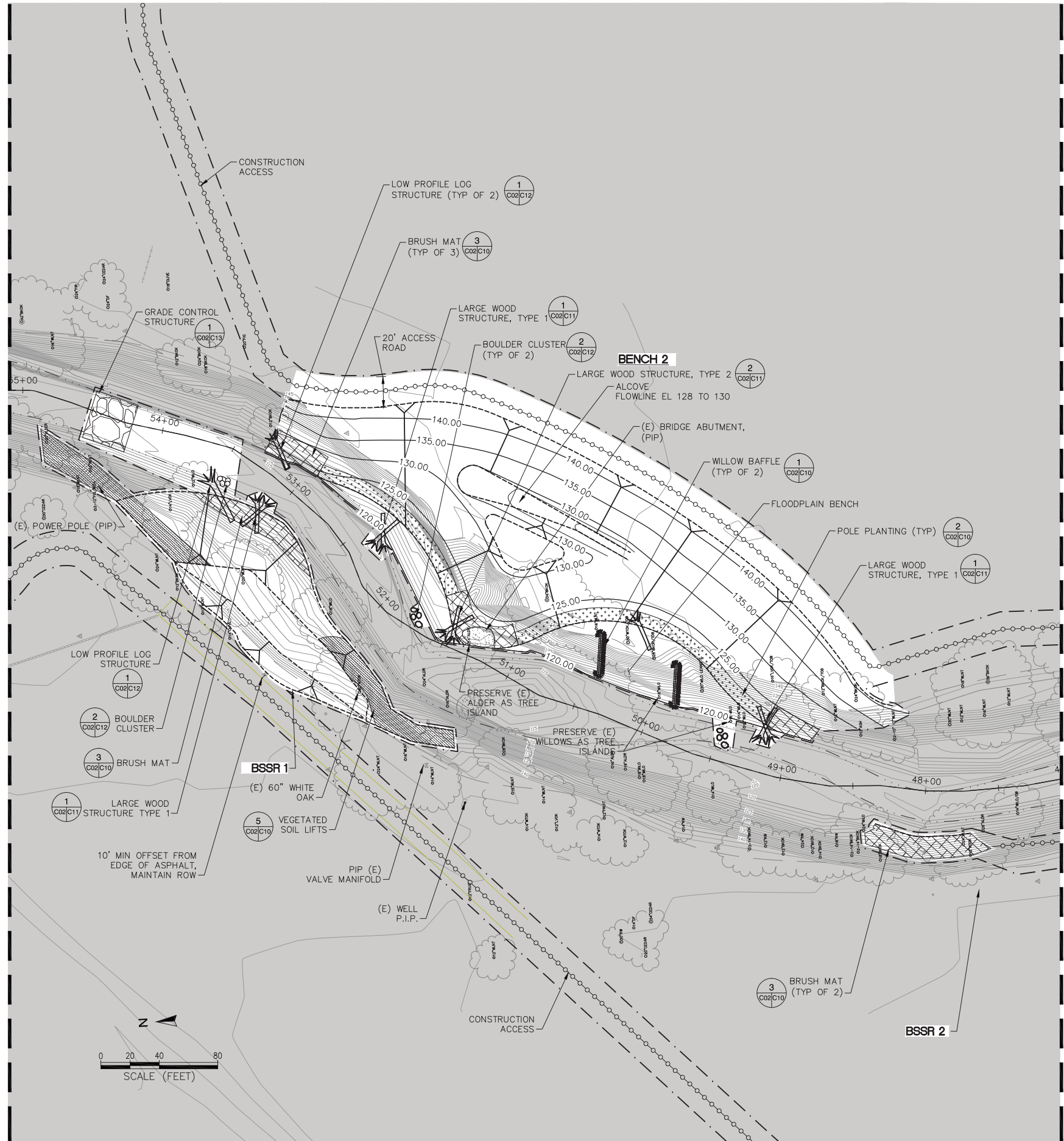
C01
 10 OF 29

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SHEET NOTES

1. INSTALL AND MAINTAIN SILT FENCE ALONG THE TOP OF THE ACTIVE CHANNEL BANK FOR ALL GRADING AREAS. (FENCE NOT SHOWN ON DRAWINGS.) REMOVE BY OCT 15TH.
2. PRIOR TO COMMENCING CONSTRUCTION, INSTALL SILT FENCE AND TREE PRESERVATION FENCING.
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6. ALL GRADED AREAS AND OTHER AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED BY SEEDING AND APPLYING EROSION CONTROL MEASURES. SEE SHEET C16 AND SPECS.
7. LW STRUCTURES SHOWN SIMPLIFIED FOR CLARITY. SEE SHEET C11 AND C12 FOR DETAILS OF LOG STRUCTURES.

MATCHLINE STA 54+50 - SEE SHT C01



MATCHLINE STA 47+00 - SEE SHT C03

**100% DRAFT
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PREPARED BY: **ESA PWA**

SHEET TITLE: **GRADING PLAN
STA 47+00 TO 55+00**

PROJECT: **NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4B & C**

PREPARED FOR:

**NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD ST, SUITE 201
Napa, CA 94559**

APPROVED:

DESIGNED: J. BLOMBERG
R. BROWN

DRAWN: B. TANAKA

INCHARGE: A. BORGONOVO
C053102

SCALE: AS SHOWN

DATE: FEBRUARY, 2013

SHEET

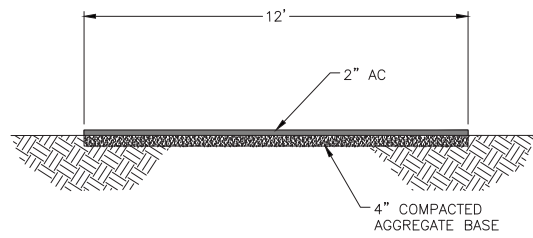
C02

11 OF 29

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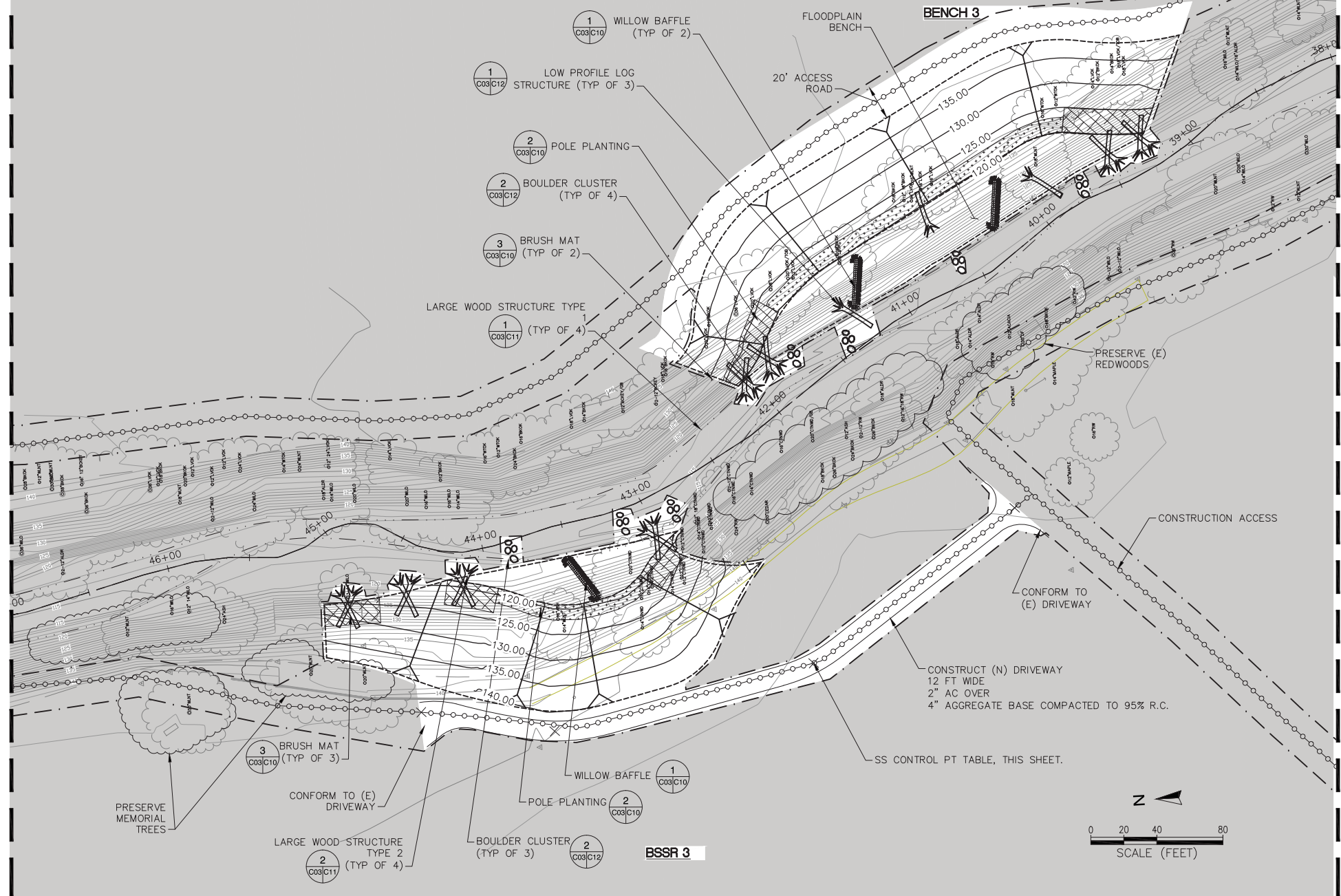
SHEET NOTES

1. INSTALL AND MAINTAIN SILT FENCE ALONG THE TOP OF THE ACTIVE CHANNEL BANK FOR ALL GRADING AREAS. (FENCE NOT SHOWN ON DRAWINGS.) REMOVE BY OCT 15TH.
2. PRIOR TO COMMENCING CONSTRUCTION, INSTALL SILT FENCE AND TREE PRESERVATION FENCING.
3. CONTRACTOR SHALL CLEAR AND GRUB ALL AREAS TO BE GRADED.
4. PRIOR TO COMMENCING EARTHWORK, PERFORM CONSTRUCTION STAKING FOR REVIEW, ADJUSTMENT (IF NEEDED) AND APPROVAL BY OWNER'S REPRESENTATIVE.
5. SEE SCHEDULE ON SHEET C10 FOR APPROXIMATE STATIONING OF ALL LOG, ROCK AND BIOTECHNICAL STRUCTURES. PRIOR TO INSTALLATION, FIELD STAKE ALL STRUCTURES FOR REVIEW, ADJUSTMENT (IF NEEDED) AND APPROVAL BY OWNER'S REPRESENTATIVE.
6. ALL GRADED AREAS AND OTHER AREAS DISTURBED BY CONSTRUCTION SHALL BE RESTORED BY SEEDING AND APPLYING EROSION CONTROL MEASURES. SEE SHEET C16 AND SPECS.
7. LW STRUCTURES SHOWN SIMPLIFIED FOR CLARITY. SEE SHEET C11 AND C12 FOR DETAILS OF LOG STRUCTURES.



DRIVEWAY
TYPICAL SECTION NTS

MATCHLINE STA 47+00 - SEE SHT C02



MATCHLINE STA 38+00 - SEE SHT C04

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NOT FOR CONSTRUCTION**

PREPARED BY:

650 Kearny Street, Suite 900
San Francisco, CA 94108
415.263.2300 phone
www.pwa-1td.com

SHEET TITLE: GRADIN PLAN
STA 38+00 TO 47+00

PROJECT: NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4B & C

PREPARED FOR:

NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD ST, SUITE 201
Napa, CA 94559

APPROVED:

DESIGNED: J. BLOMBERG
R. BROWN

DRAWN: B. TANAKA

INCHARGE: A. BORGONOVO
C053102

SCALE: AS SHOWN

DATE: FEBRUARY, 2013

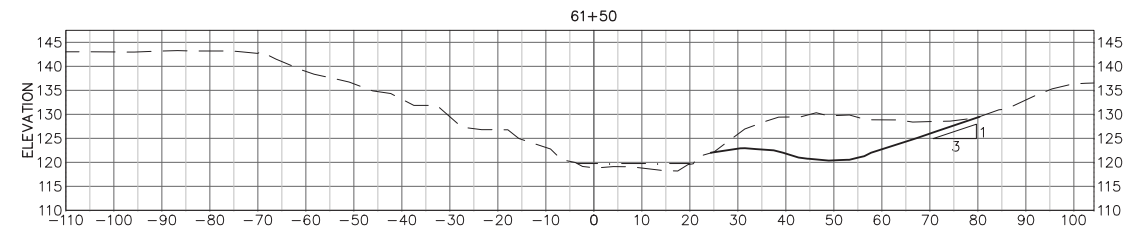
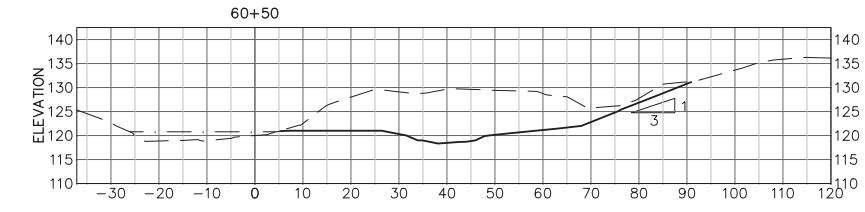
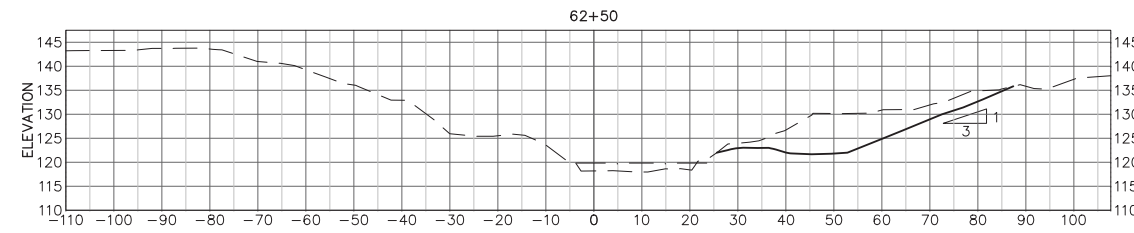
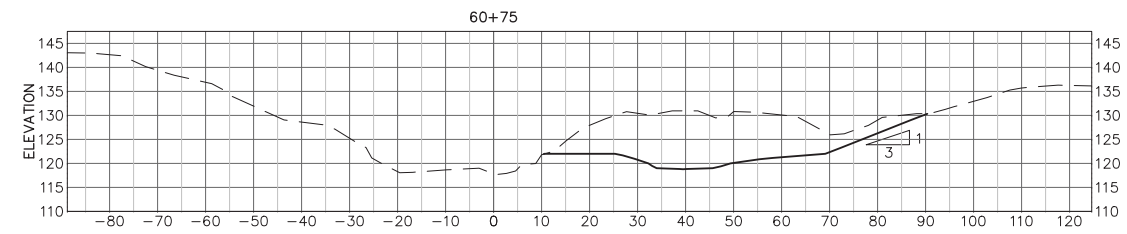
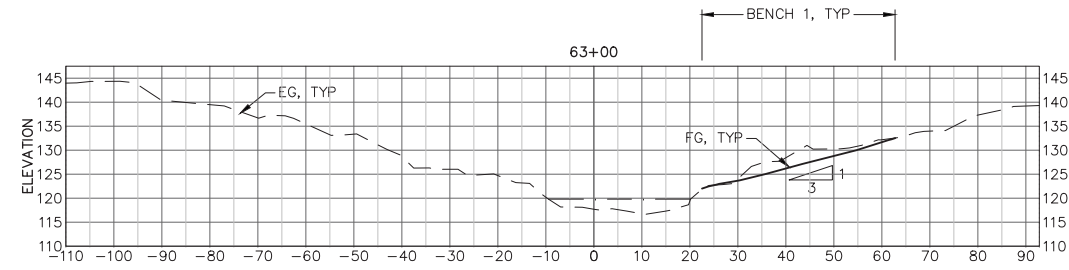
SHEET:

C03

12 OF 29

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BENCH 1
60+50 TO 63+00

SCALE:
HORIZ: 1" = 20'
VERT: 1" = 20'

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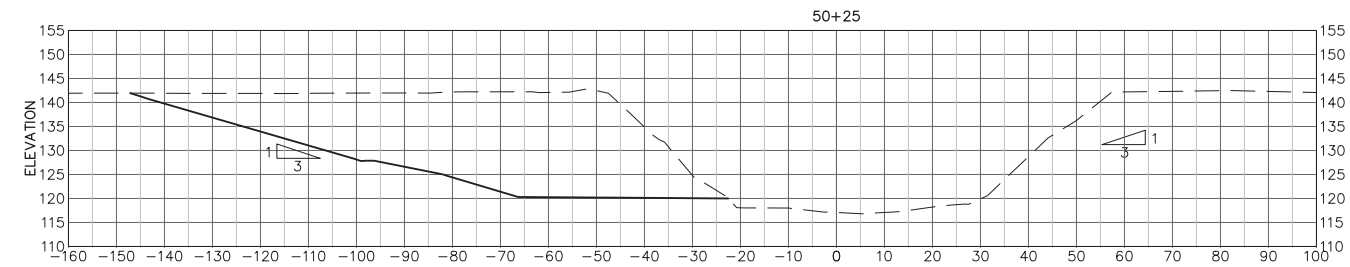
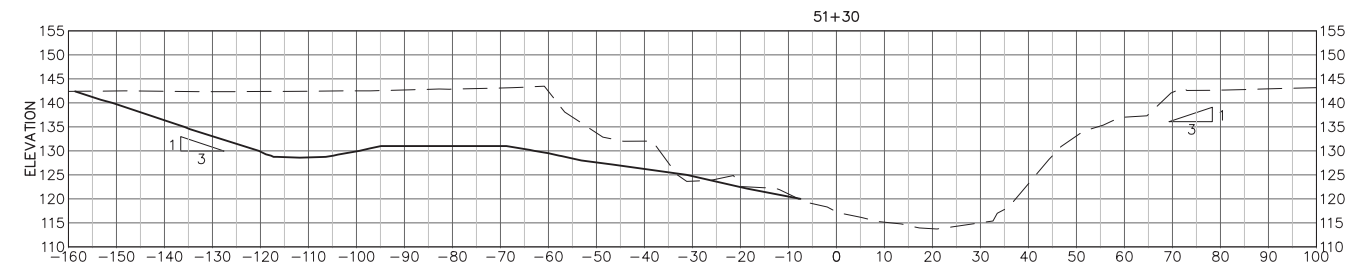
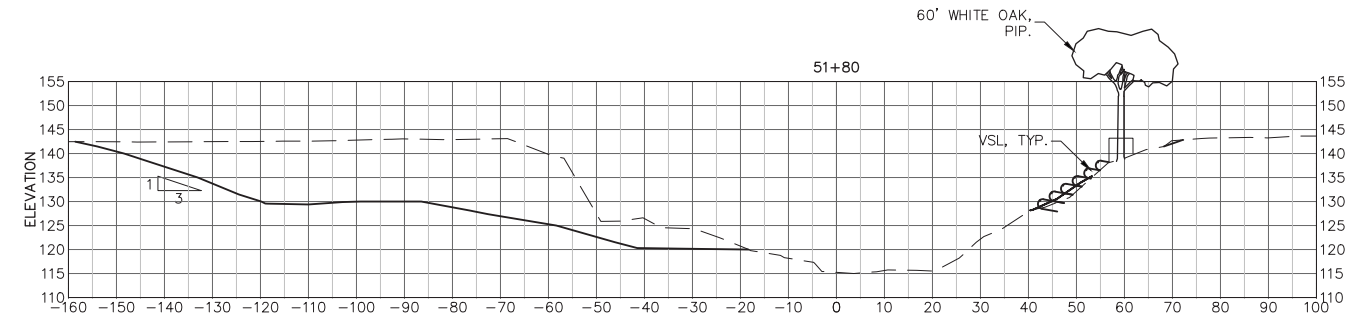
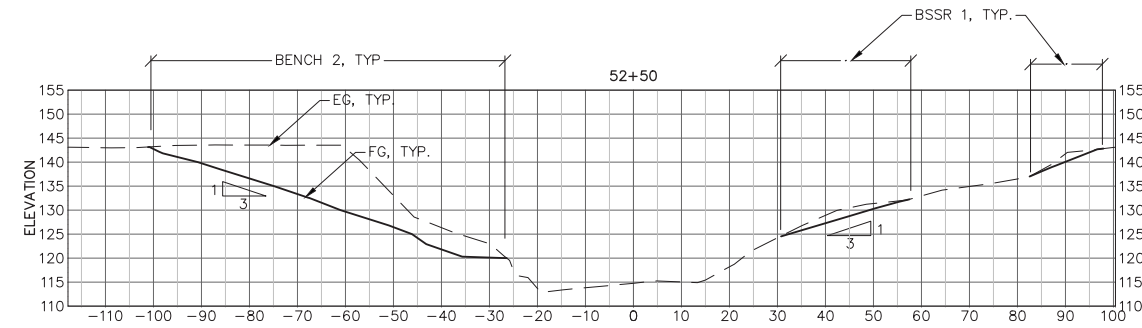
PREPARED BY: **ESA PWA**
 550 Kenny Street, Suite 900
 San Francisco, CA 94108
 Phone: 415.262.2303
 Fax: 415.262.2303
 www.pwa-ltd.com

SHEET TITLE: **GRADING SECTIONS
BENCH 1**
 PROJECT: **NAPA RIVER RESTORATION
RUTHERFORD REACH 8**

PREPARED FOR: **NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD ST, SUITE 201
Napa, CA 94559**

APPROVED: _____
 DESIGNED: J. BLOMBERG
 R. BROWN
 DRAWN: B. TANAKA
 INCHARGE: A. BORGONOVO
 C053102
 SCALE: AS SHOWN
 DATE: FEB. 2012
 SHEET:

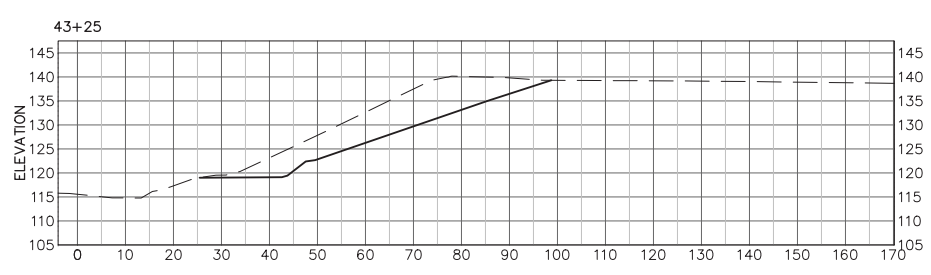
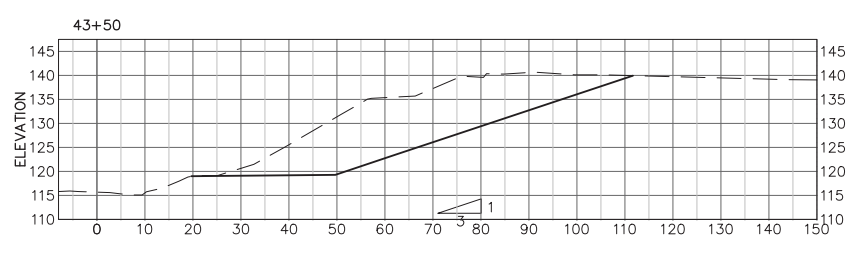
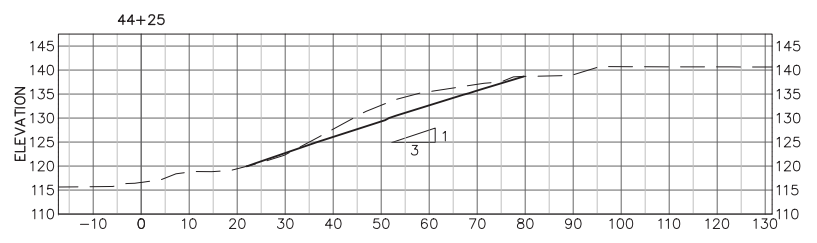
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BSSR 4 AND BENCH 3
50+00 TO 53+00
SCALE:
HORIZ: 1" = 20'
VERT: 1" = 20'

100% DRAFT
NOT FOR CONSTRUCTION

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BSSR 3
43+25 | 44+25
SCALE:
HORIZ: 1" = 20'
VERT: 1" = 20'

**100% DRAFT
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PREPARED BY:
ESA PWA
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SHEET TITLE
**GRADING SECTIONS
BSSR 3**
PROJECT
NAPA RIVER RESTORATION
RUTHERFORD REACH 8

PREPARED FOR:
NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD ST, SUITE 201
Napa, CA 94559

APPROVED

DESIGNED
J. BLOMBERG
R. BROWN

DRAWN
B. TANAKA

INCHARGE
A. BORGONOVO
C053102

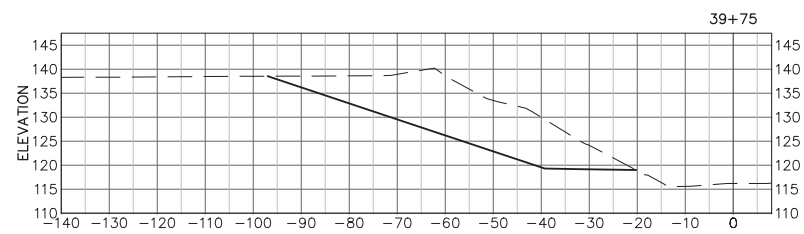
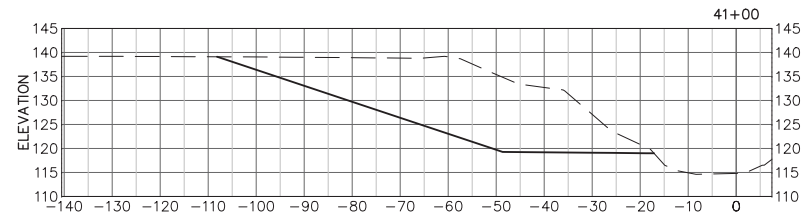
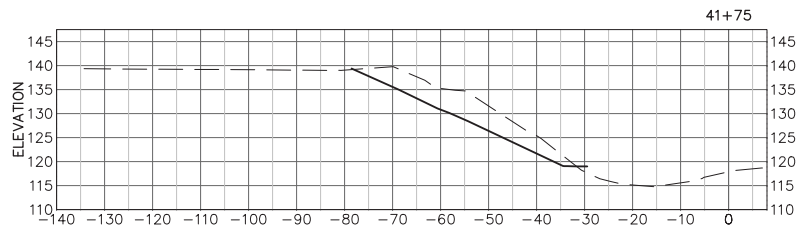
SCALE
AS SHOWN

DATE
SEPT 2012

SHEET

C07
16 OF 29

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BENCH 3
39+75 TO 41+75
SCALE:
HORIZ: 1" = 20'
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**100% DRAFT
NOT FOR CONSTRUCTION**

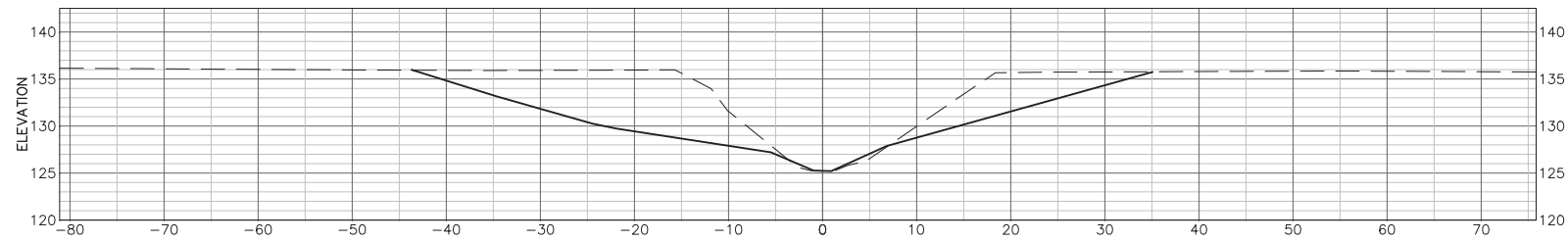
PREPARED BY:
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SHEET TITLE
**GRADING SECTIONS
BENCH 3**
PROJECT
**NAPA RIVER RESTORATION
RUTHERFORD REACH 8**

PREPARED FOR:
**NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD ST, SUITE 201
Napa, CA 94559**

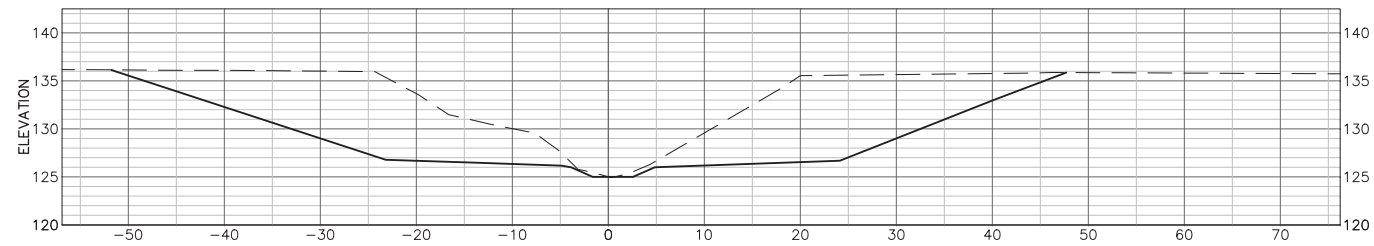
APPROVED
DESIGNED J. BLOMBERG
R. BROWN
DRAWN B. TANAKA
INCHARGE A. BORGONOVO
C053102
SCALE AS SHOWN
DATE SEPT 2012
SHEET

C0
17 OF 29



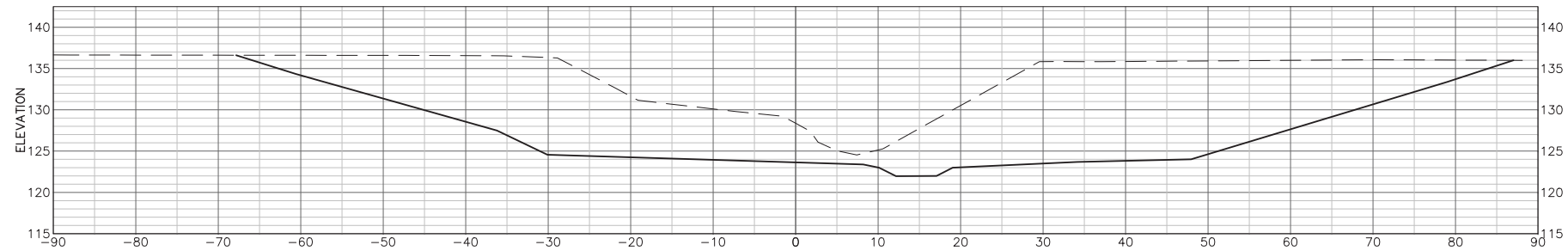
A
POOL 2
STA 3+37

SCALE:
HORIZ. 1" = 10'
VERT. 1" = 10'



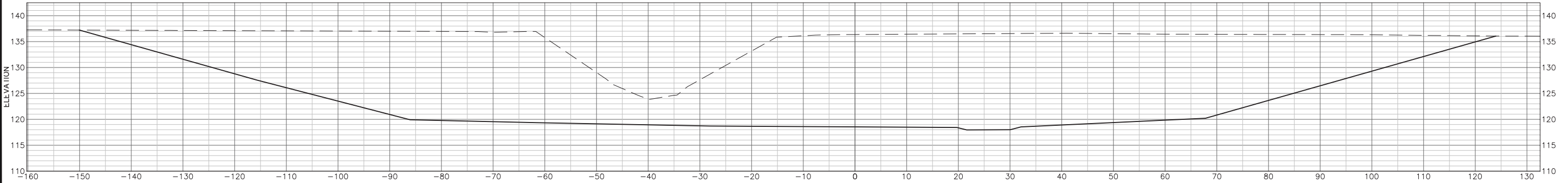
B
POOL 2
STA 3+25

SCALE:
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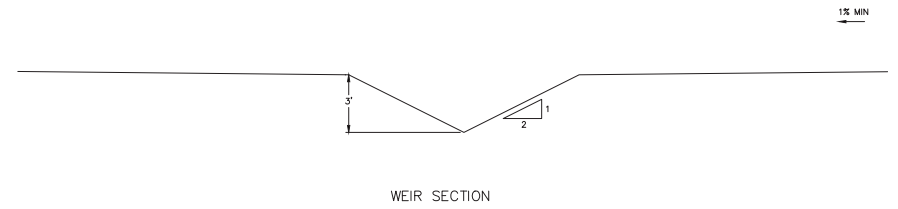
C
POOL 1
STA 2+60

SCALE:
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VERT. 1" = 10'

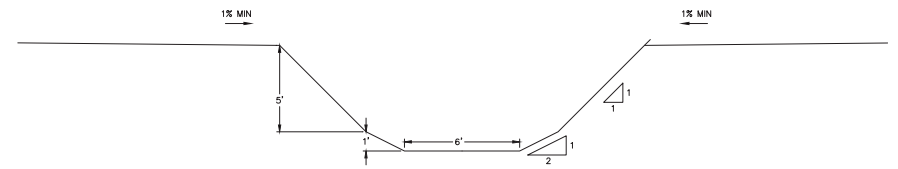


D
FLOODPLAIN
STA 1+65

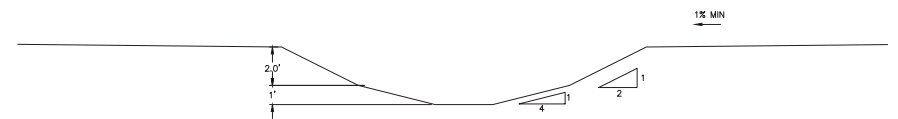
SCALE:
HORIZ. 1" = 10'
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WEIR SECTION



POOL SECTION



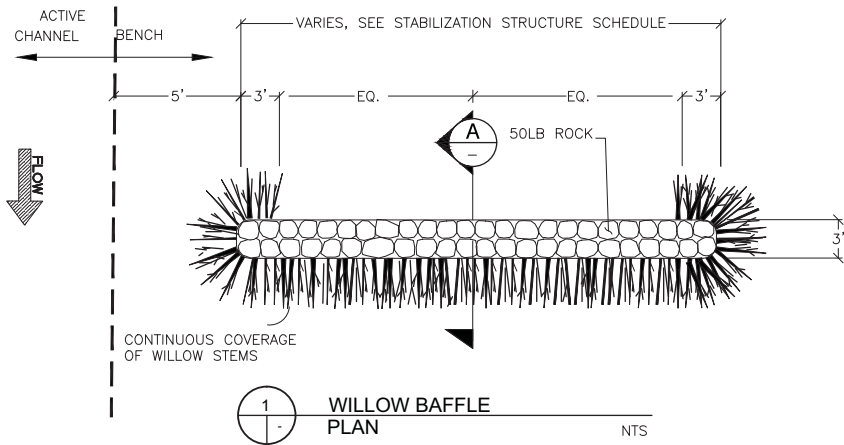
ROUGHENED CHANNEL SECTION

BELLA OAKS CONFLUENCE
TYPICAL GRADING SECTIONS

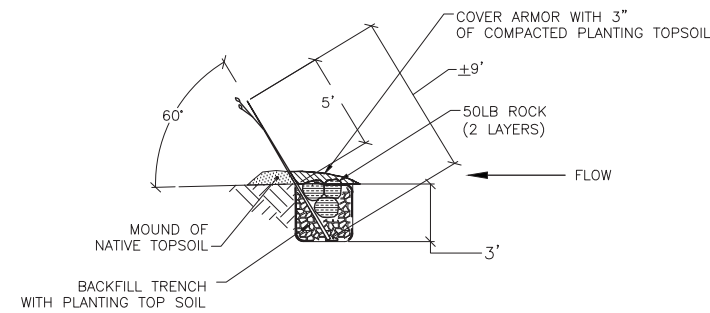
SCALE:
HORIZ. 1" = 20'
VERT. 1" = 10'

100% DRAFT
NOT FOR CONSTRUCTION

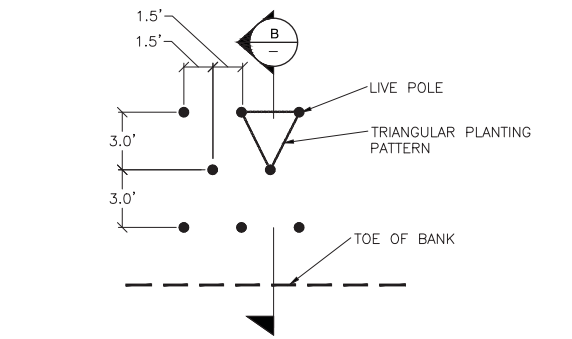
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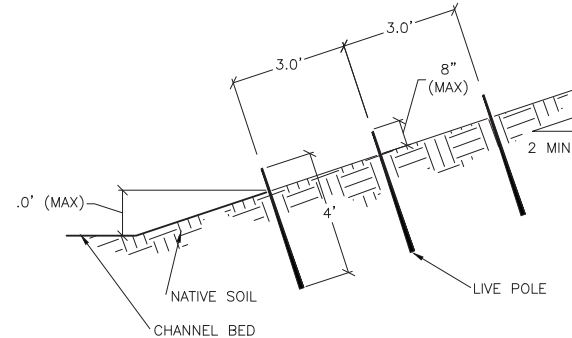
1 WILLOW BAFFLE PLAN NTS



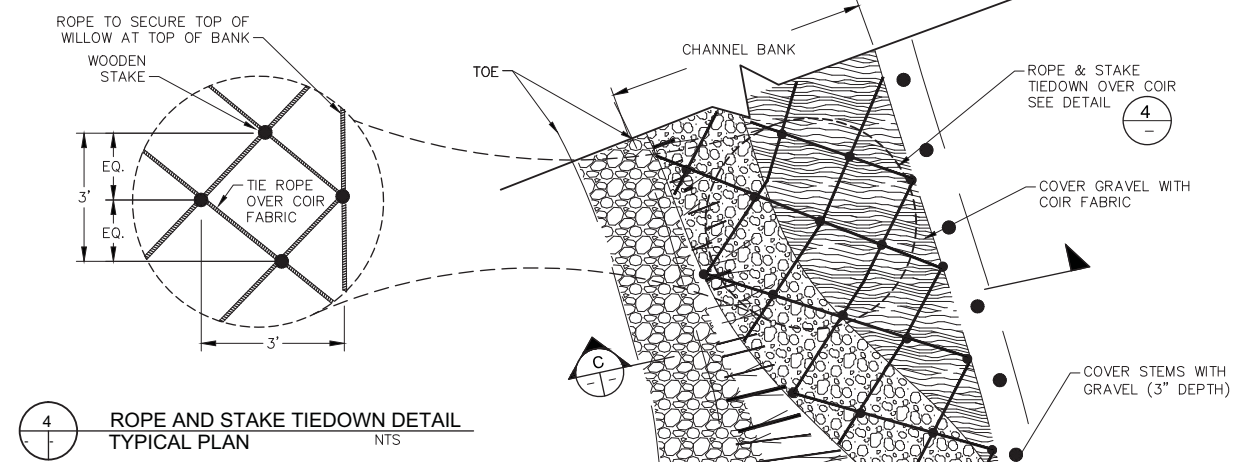
A WILLOW BAFFLE SECTION NTS



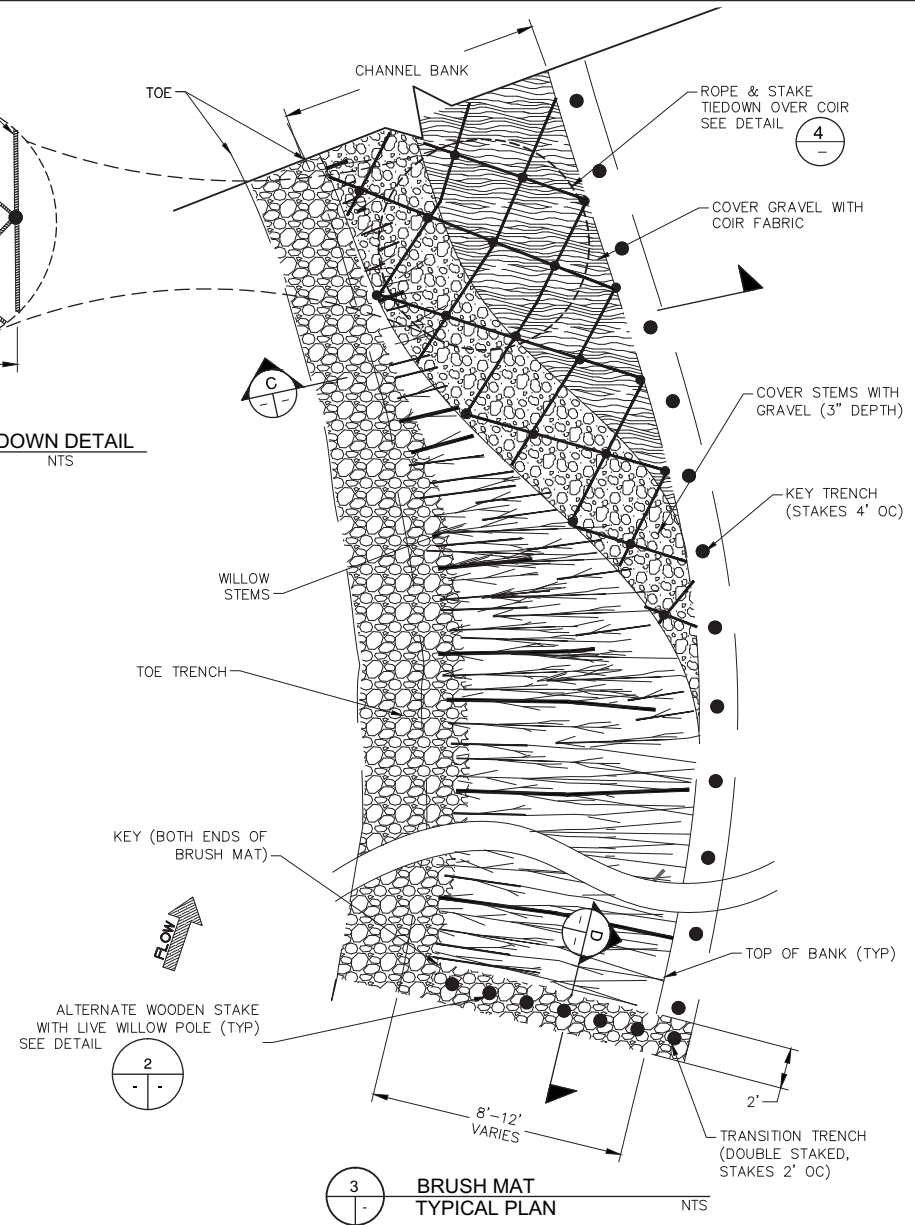
2 LIVE POLE PLANTING PLAN NTS



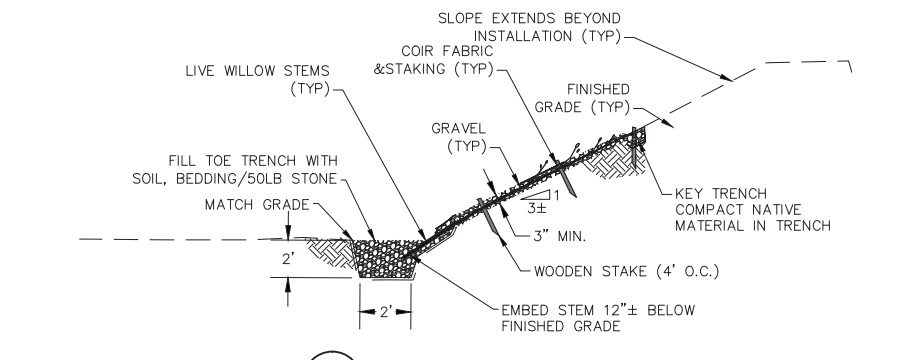
B LIVE POLE PLANTING SECTION NTS



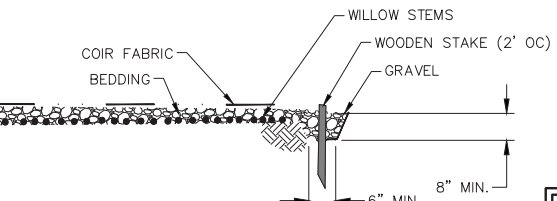
4 ROPE AND STAKE TIEDOWN DETAIL TYPICAL PLAN NTS



3 BRUSH MAT TYPICAL PLAN NTS



C BRUSH MAT TYPICAL SECTION NTS



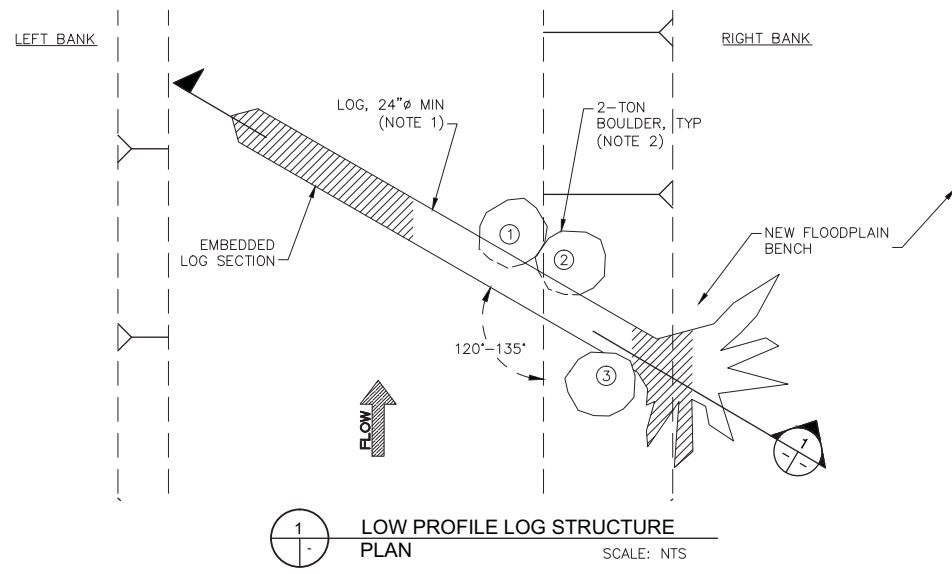
D BRUSH MAT TRANSITION TRENCH TYPICAL CROSS SECTION NTS

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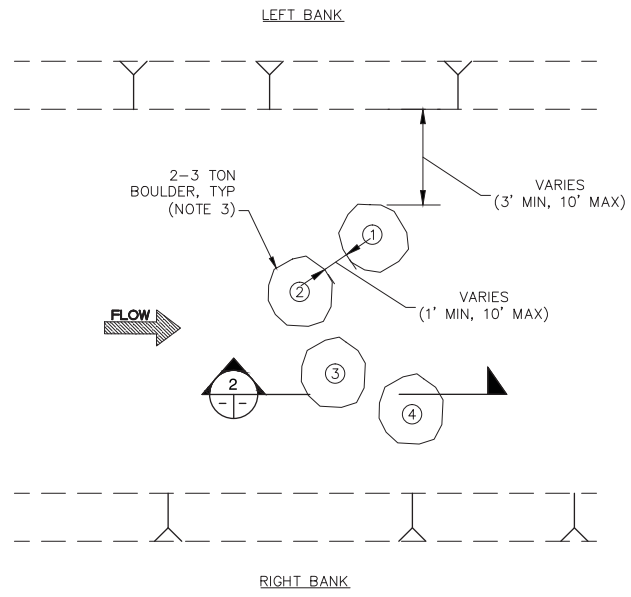
TREATMENT	STATION/RANGE	BANK	ELEVATION RANGE	WIDTH
BENCH #2	STA 63+85 TO STA 56+90	RIGHT		
BRUSH MAT	63+85 TO 63+50		125 TO 129	-
LARGE WOODY DEBRIS TYPE II	63+40		-	-
WILLOW BAFFLE	61+95		-	12
LOW PROFILE LOG STRUCTURE	61+40		-	-
WILLOW BAFFLE	60+95		-	16
LOW PROFILE LOG STRUCTURE	59+55		-	-
BOULDER CLUSTER	59+50	CENTER	-	-
LOW PROFILE LOG STRUCTURE	57+55		-	-
BOULDER GRADE CONTROL	57+45 TO 57+15	CENTER	-	-
BOULDER CLUSTER	57+35	CENTER	-	-
BOULDER CLUSTER	56+95	CENTER	-	-
BRUSH MAT	57+20 TO 56+90		118 TO 129	-
BOULDER GRADE CONTROL	56+00 TO 55+70	CENTER	-	-
BOULDER GRADE CONTROL	54+50 TO 54+20	CENTER	-	-
BSSR #4	54+80 TO 51+15	RIGHT		
VEGETATED SOIL LIFT	54+80 TO 53+05		APPROX 125 TO 138	-
BRUSH MAT	53+70 TO 52+35		120 TO 125	-
LOW PROFILE LOG STRUCTURE	53+55		-	-
BOULDER CLUSTER	53+40	CENTER	-	-
VEGETATED SOIL LIFT	52+15 TO 51+15		APPROX 128 TO 142	-
BENCH #3	53+35 TO 48+75	RIGHT		
BRUSH MAT	53+35 TO 52+95		120 TO 130	-
LOW PROFILE LOG STRUCTURE	53+25		-	-
LARGE WOODY DEBRIS TYPE I	52+45		-	-
BOULDER CLUSTER	51+75	CENTER	-	-
BRUSH MAT	51+65 TO 51+05		120 TO 125	-
LARGE WOODY DEBRIS TYPE II	51+45		-	-
WILLOW BAFFLE	50+45		-	30
LOW PROFILE LOG STRUCTURE	50+25		-	-
WILLOW BAFFLE	49+95		-	35
BOULDER CLUSTER	49+45		-	-
BRUSH MAT	49+15 TO 48+80		120 TO 125	-

TREATMENT	STATION/RANGE	BANK	ELEVATION RANGE	WIDTH
BSSR #6	45+20 TO 42+85	RIGHT		
BRUSH MAT	45+15 TO 44+45		124 TO 132	-
BRUSH MAT	44+20 TO 43+95		119 TO 124	-
LARGE WOODY DEBRIS TYPE II	44+15		-	-
BOULDER CLUSTER	43+85		-	-
WILLOW BAFFLE	43+50		-	35
BOULDER CLUSTER	43+15	CENTER	-	-
LARGE WOODY DEBRIS TYPE II	43+00		-	-
BOULDER CLUSTER	42+85		-	15
BRUSH MAT	43+05 TO 42+95		119 TO 124	-
BENCH #4	42+10 TO 39+20	LEFT		
BRUSH MAT	42+10 TO 41+60		120 TO 126	-
LARGE WOODY DEBRIS TYPE I	42+40		-	-
BOULDER CLUSTER	42+00	CENTER	-	-
BOULDER CLUSTER	41+40	CENTER	-	-
LOW PROFILE LOG STRUCTURE	41+30		-	-
WILLOW BAFFLE	41+15		-	30
LOW PROFILE LOG STRUCTURE	40+65		-	-
WILLOW BAFFLE	40+15		-	30
BOULDER CLUSTER	39+95	CENTER	-	-
LOW PROFILE LOG STRUCTURE	39+50		-	-
BOULDER CLUSTER	39+70	CENTER	-	-
LARGE WOODY DEBRIS TYPE I	39+30		-	-
BRUSH MAT	39+70 TO 39+20		120 TO 125	-
BELLA OAKS CONFLUENCE	STA 131+00 TO STA 133+00	RIGHT		
LARGE WOODY DEBRIS TYPE III	133+50		-	-
BRUSH MAT	132+65 TO 133+00	CENTER	140 TO 145	-
LARGE WOODY DEBRIS TYPE II	133+00		-	-
WILLOW BAFFLE	132+50		-	15
WILLOW BAFFLE	131+50		-	15
BRUSH MAT	131+00 TO 131+35		140 TO 145	-

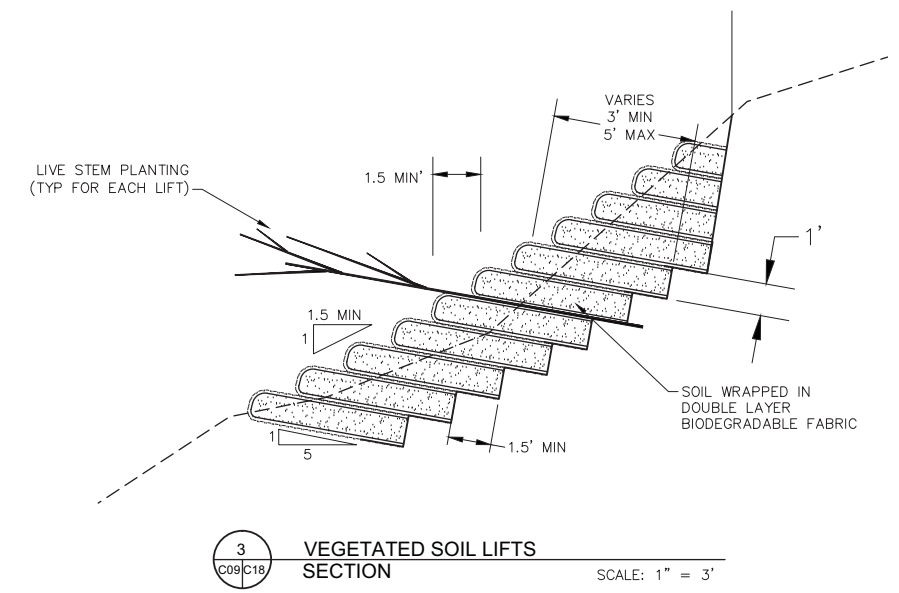
PREPARED BY: **ESA PWA**
 550 Kenny Street, Suite 900
 San Francisco, CA 94108
 415.262.2303 Fax
 www.esa-pwa.com
 SHEET TITLE: **DETAILS - BIOTECHNICAL FEATURES, STABILIZATION STRUCTURES SCHED**
 PROJECT: **NAPA RIVER RESTORATION RUTHERFORD REACH 8 - PHASE 4B & C**
 PREPARED FOR: **NAPA COUNTY DEPARTMENT OF PUBLIC WORKS 1195 THIRD ST, SUITE 201 Napa, CA 94559**
 APPROVED: _____
 DESIGNED: J. BLONBERG, R. BROWN
 DRAWN: B. TANAKA
 INCHARGE: A. BORGONOVO C053102
 SCALE: AS SHOWN
 DATE: FEBRUARY, 2013
 SHEET: **C10**
 19 OF 29



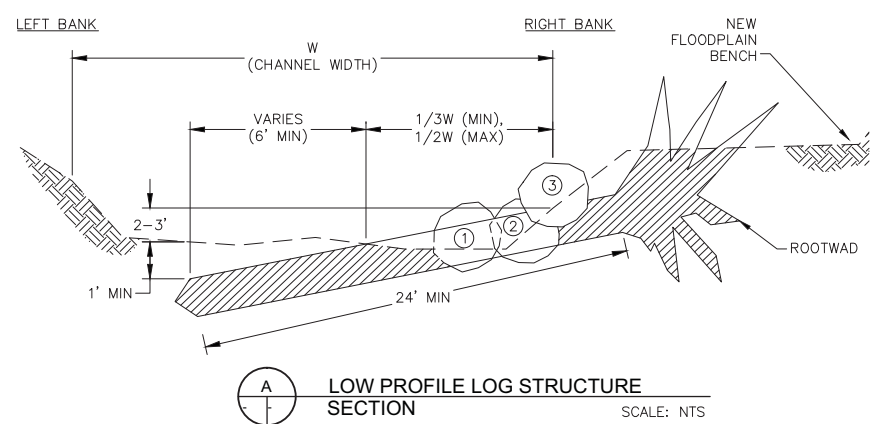
1 LOW PROFILE LOG STRUCTURE PLAN SCALE: NTS



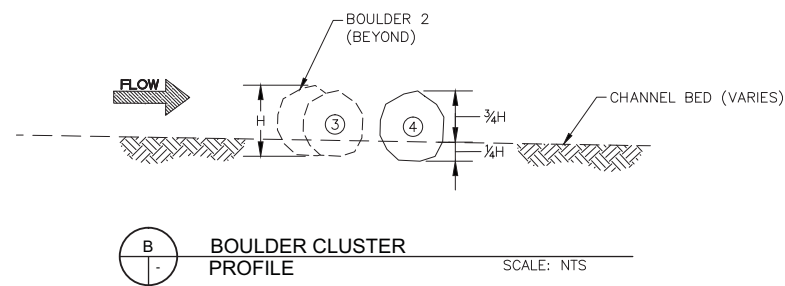
2 BOULDER CLUSTER PLAN SCALE: NTS



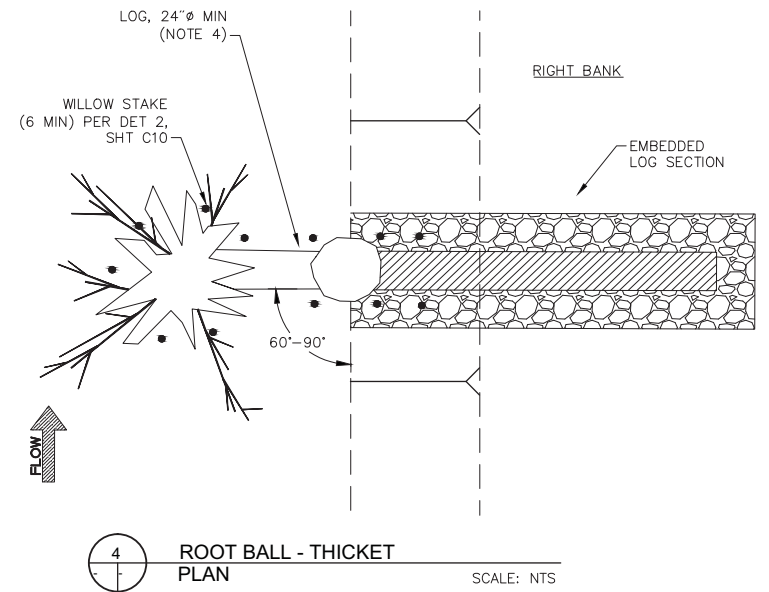
3 VEGETATED SOIL LIFTS SECTION SCALE: 1" = 3'



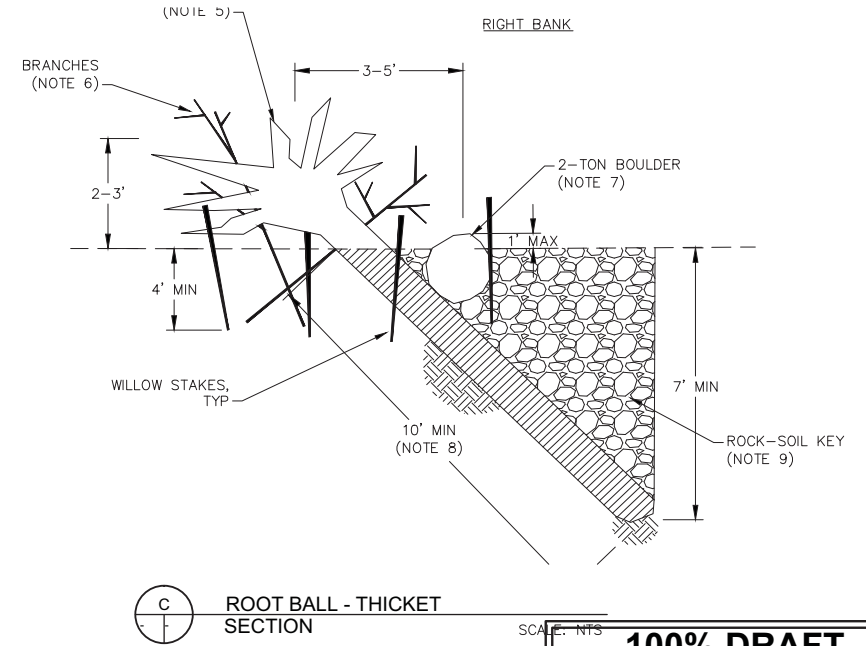
A LOW PROFILE LOG STRUCTURE SECTION SCALE: NTS



B BOULDER CLUSTER PROFILE SCALE: NTS



4 ROOT BALL - THICKET PLAN SCALE: NTS



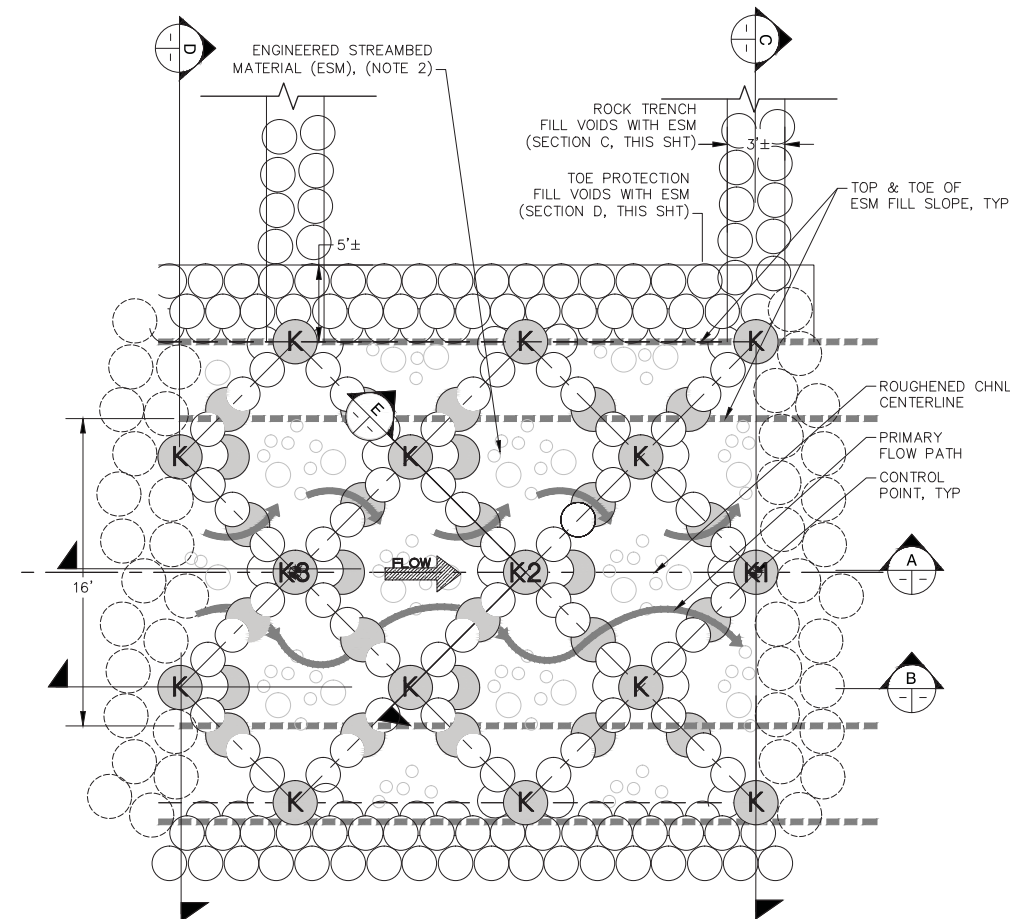
C ROOT BALL - THICKET SECTION SCALE: NTS

SHEET NOTES

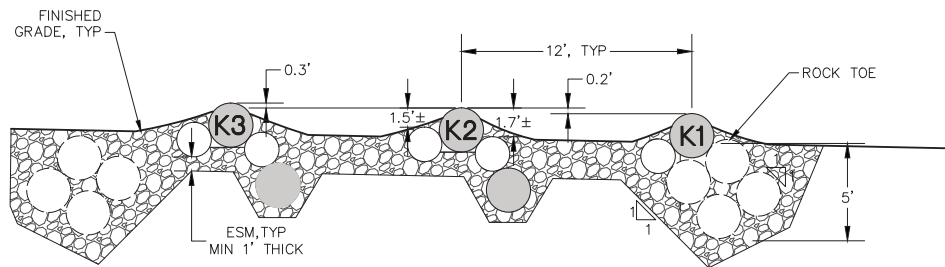
1. LOW PROFILE LOG DETAIL IS SCHEMATIC TO ILLUSTRATE GENERAL PLACEMENT OF MATERIALS. FIELD FIT AND ADJUST AS-NEEDED TO CONFORM TO SITE CONDITIONS AND ACHIEVE INTEGRATION OF MATERIALS.
2. BOULDERS 1 AND 2 SHOWN BEYOND ROOTWAD.
3. BOULDER CLUSTER DETAIL IS SCHEMATIC TO ILLUSTRATE GENERAL CONFIGURATION AND SPACING OF MATERIALS. FIELD FIT AND ADJUST AS-NEEDED TO CONFORM TO SITE CONDITIONS AND ACHIEVE INTENDED FUNCTION.
4. PRIOR TO INSTALLATION, FIELD STAKE LWD STRUCTURE LOCATIONS (LOG ENDPOINTS) FOR REVIEW BY THE OWNER'S REPRESENTATIVE. ALLOW 3 WORKING DAYS FOR REVIEW AND ADJUST STAKES AS DIRECTED.
5. COMPACTOR TO EXERCISE CARE DURING HANDLING OF LOGS DURING HARVEST AND TRANSPORT TO PRESERVE ROOT STRUCTURE.
6. CONTRACTOR TO HARVEST AND PLACE 6-8 BRANCHES ACCEPTABLE SPECIES INCLUDE: LIVE OAK, VALLEY OAK, WHITE OAK OR BLACK WALNUT. MINIMUM BRANCH LENGTH 8', MAXIMUM LENGTH 12', AND MINIMUM EMBEDMENT IS 4'. MINIMUM BASAL DIAMETER IS 4". SMALL TREES MAY ALSO BE USED. PLACE BRANCHES UNDER ROOT BALL.
7. BALLAST MAY BE EITHER ONE 2-TON ROCK OR TWO 1-TON ROCKS AT CONTRACTOR'S OPTION. BALLAST MUST BEAR DIRECTLY UPON LOG, USE ROCK FROM ROCK-SOIL MIX TO ACHIEVE SUPPORT FOR BALLAST. TOP OF BALLAST MAY BE UP TO 1 FOOT ABOVE FINISHED GRADE.
8. DETAIL SHOWS EMBEDMENT DEPTH ASSUMING THE LOG IS THE MINIMUM LENGTH SPECIFIED. IF LONGER LOGS ARE USED, INCREASE EMBEDMENT LENGTH AND DEPTH AS NEEDED TO MEET REQUIREMENTS SHOWN.
9. BACKFILL TRENCH WITH ROCK-SOIL MIX AND COMPACT TO 90% RC. STAKE THE ENDPOINTS OF THE BURIED LOG TO GUIDE BALLAST PLACEMENT.

**100% DRAFT
NOT FOR CONSTRUCTION**

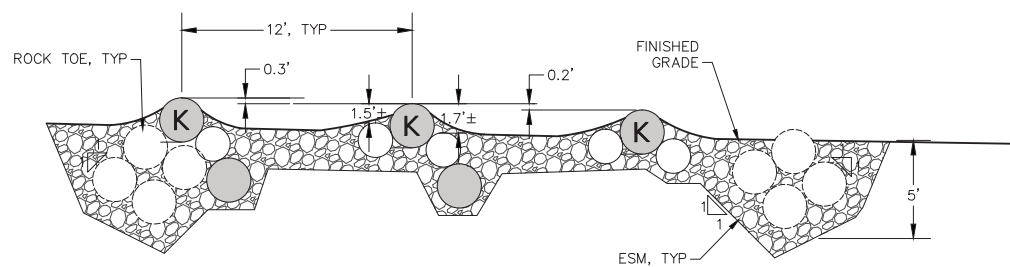
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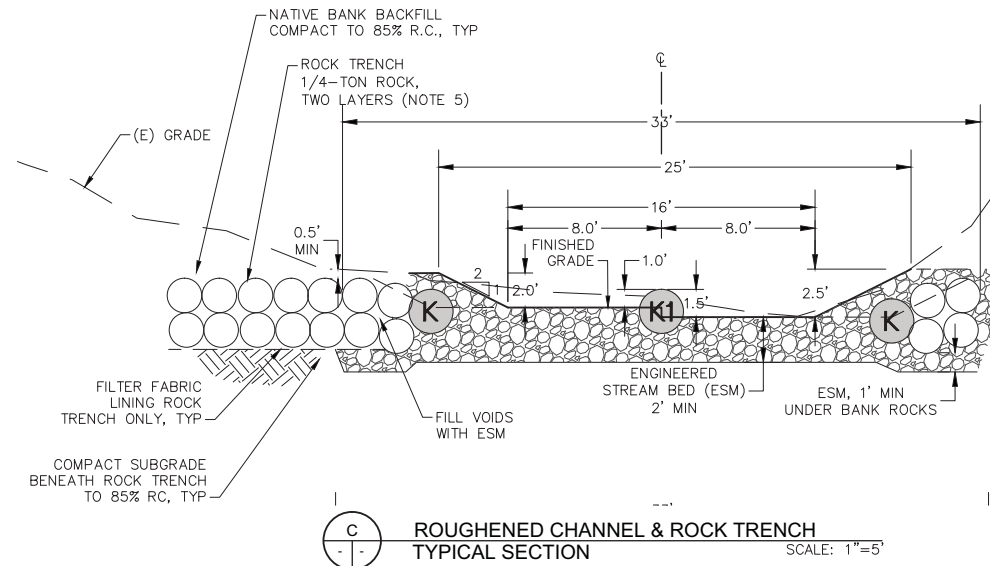
1 ROUGHENED CHANNEL PLAN SCALE: 1"=5'



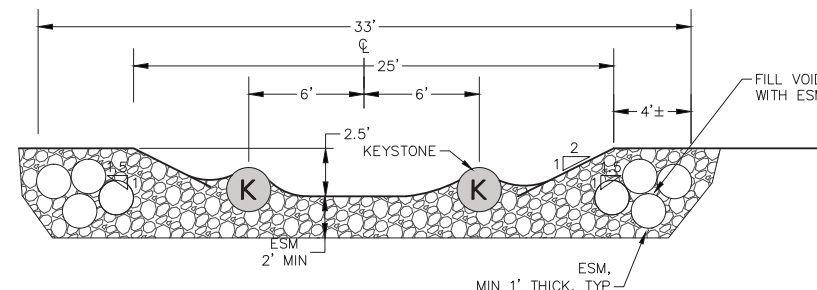
A ROUGHENED CHANNEL PROFILE - CENTERLINE SCALE: 1"=5'



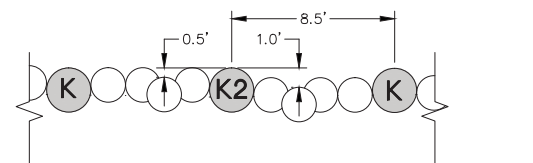
B ROUGHENED CHANNEL PROFILE - OFFSET SCALE: 1"=5'



C ROUGHENED CHANNEL & ROCK TRENCH TYPICAL SECTION SCALE: 1"=5'



D TOE PROTECTION ROUGHENED CHANNEL SCALE: 1"=5'

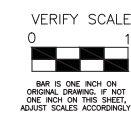


E ROUGHENED CHANNEL CREST SECTION SCALE: 1"=5'

- LEGEND**
- K** KEY STONE 1-TON
 - ROCK TOE 1-TON
 - CREST STONE 200-LB TO 1/4-TON

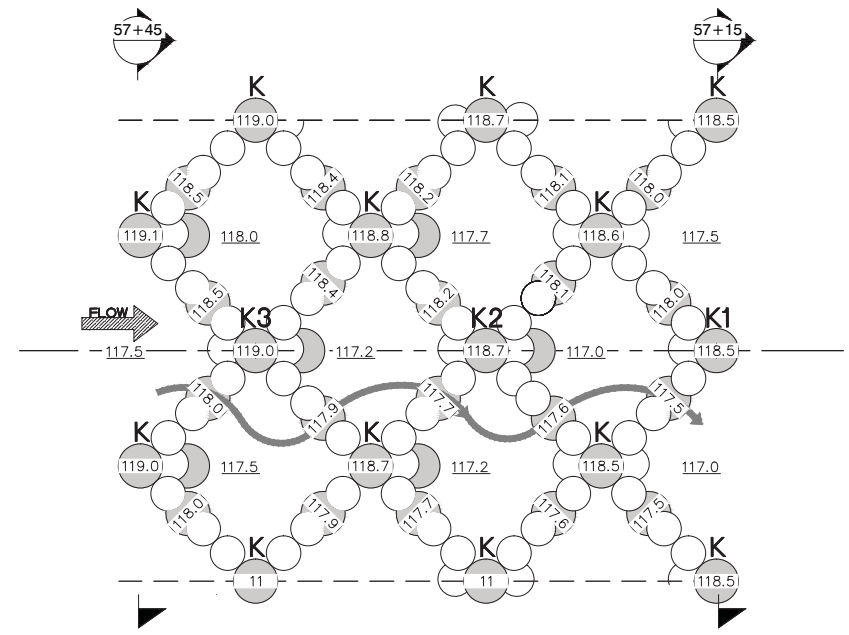
SHEET NOTES

1. CONTRACTOR SHALL ANTICIPATE FLOW DIVERSION AND/OR DEWATERING IS REQUIRED FOR INSTALLATION. COMPLY WITH ALL PERMIT REQUIREMENTS - SEE SPECS.
2. ENGINEERED STREAM BED MATERIAL (ESM) FORMS CELLS WITHIN ROUGHENED CHANNEL MATRIX. EXCAVATE TO SUBGRADE AND FILL WITH ESM.
3. KEY STONE ELEVATIONS SHOWN IN DETAILS 1 THROUGH 3, THIS SHEET.
4. KEY STONES AND CREST STONES SHALL BE PLACED INDIVIDUALLY (CALTRANS METHOD A PLACEMENT). THE CONTRACTOR SHALL SELECT ROCK SIZE, ROTATE ITS PLACEMENT AND/OR EMBED IN THE BEDDING MATERIAL (6 INCHES MAXIMUM) AS NEEDED TO ACHIEVE THE DESIGN GRADES. ROCKS SHALL BE PLACED SUCH THAT THE LONG AXIS IS PARALLEL TO FLOW.
5. ROCK TRENCH TO BE CONSTRUCTED ON UPSTREAM AND DOWNSTREAM END OF ROUGHENED CHANNEL 2.
6. SEE SHEET C14 FOR CONSTRUCTION DETAILS FOR ROUGHENED CHANNELS 1 THROUGH 3.

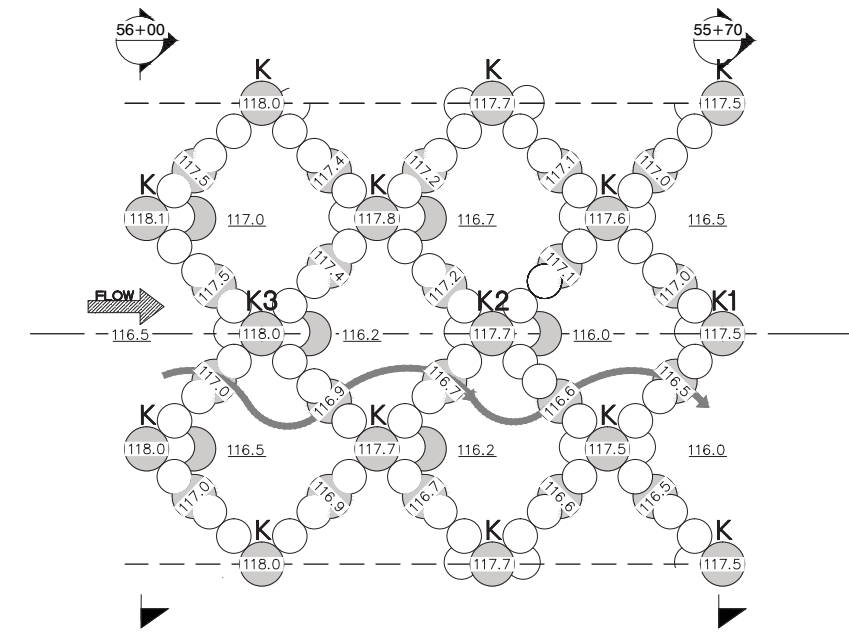


**100% DRAFT
NOT FOR CONSTRUCTION**

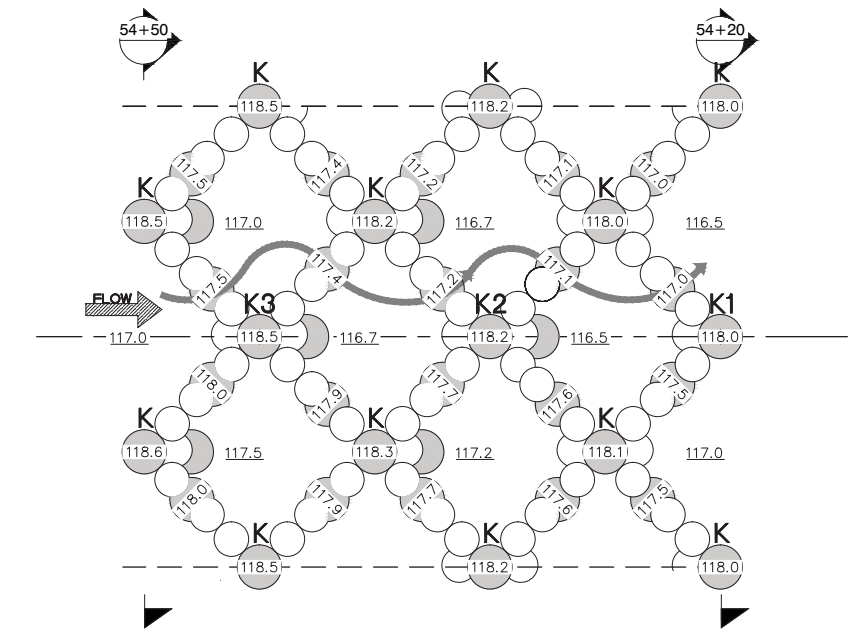
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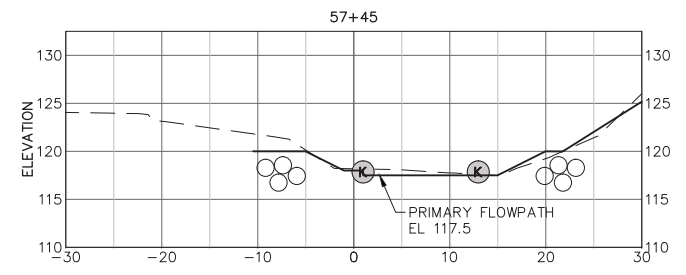
1 ROUGHENED CHANNEL 1
 ELEVATIONS SCALE: 1"=5'



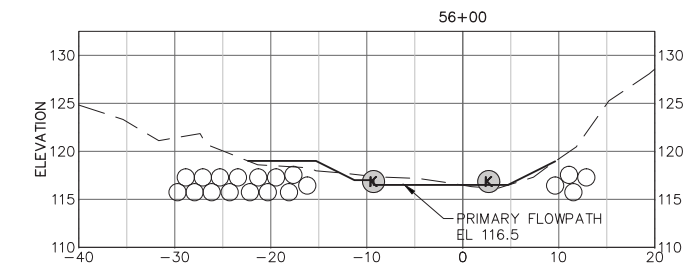
2 ROUGHENED CHANNEL 2
 ELEVATIONS SCALE: 1"=5'



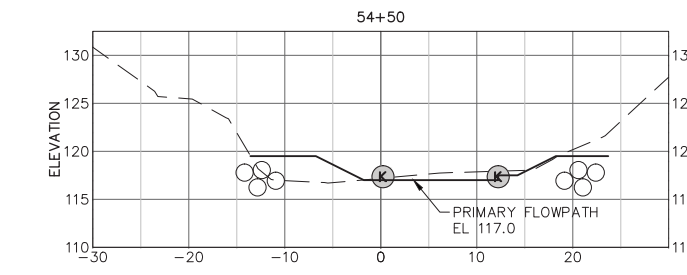
3 ROUGHENED CHANNEL 3
 ELEVATIONS SCALE: 1"=5'



A ROUGHENED CHANNEL 1
 TYPICAL SECTIONS SCALE: 1"=10'



B ROUGHENED CHANNEL 2
 TYPICAL SECTIONS SCALE: 1"=10'



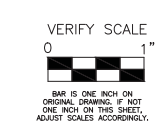
C ROUGHENED CHANNEL 3
 TYPICAL SECTIONS SCALE: 1"=10'

SHEET NOTES

- CONTRACTOR SHALL ANTICIPATE FLOW DIVERSION AND/OR DEWATERING IS REQUIRED FOR INSTALLATION. COMPLY WITH ALL PERMIT REQUIREMENTS - SEE SPECS.
- ENGINEERED STREAM BED MATERIAL (ESM) FORMS CELLS WITHIN ROUGHENED CHANNEL MATRIX. EXCAVATE TO SUBGRADE AND FILL WITH ESM.
- KEY STONE ELEVATIONS SHOWN IN DETAILS 1 THROUGH 3, THIS SHEET.
- KEY STONES AND CREST STONES SHALL BE PLACED INDIVIDUALLY (CALTRANS METHOD A PLACEMENT). THE CONTRACTOR SHALL SELECT ROCK SIZE, ROTATE ITS PLACEMENT AND/OR EMBED IN THE BEDDING MATERIAL (6 INCHES MAXIMUM) AS NEEDED TO ACHIEVE THE DESIGN GRADES. ROCKS SHALL BE PLACED SUCH THAT THE LONG AXIS IS PARALLEL TO FLOW.
- ROCK TRENCH TO BE CONSTRUCTED ON UPSTREAM AND DOWNSTREAM END OF ROUGHENED CHANNEL 2.

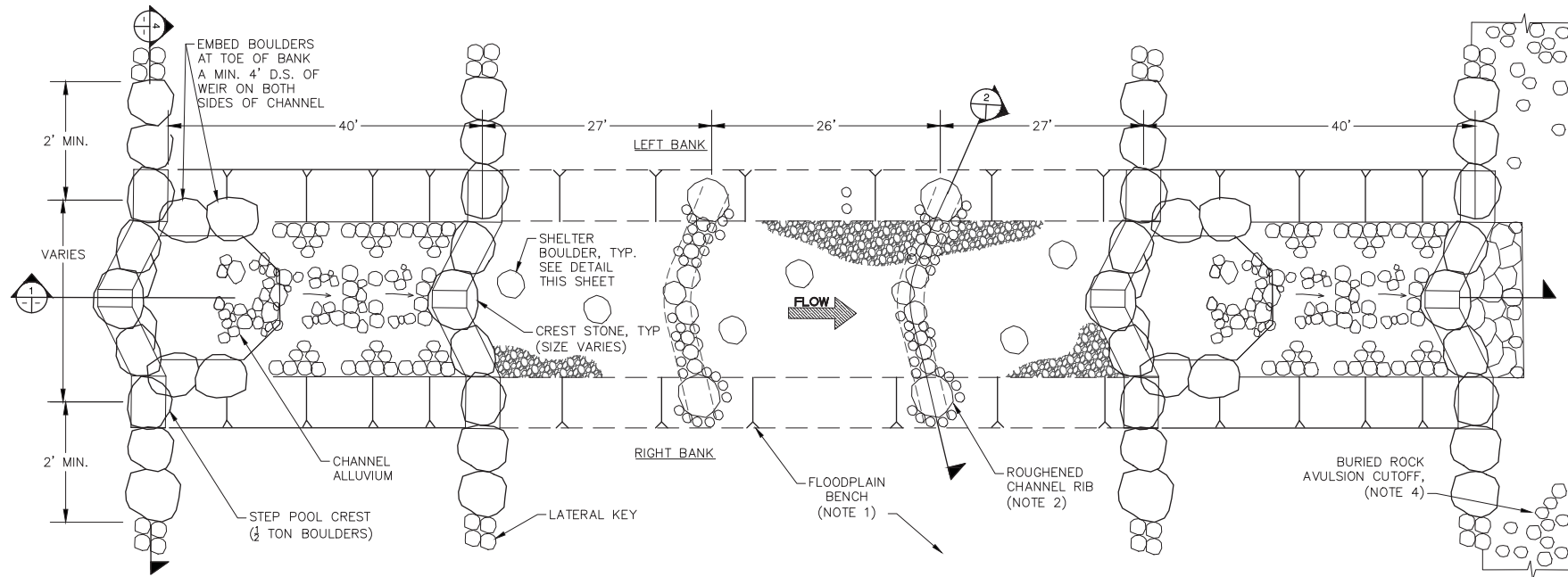
LEGEND

- KEY STONE
1-TON
- CREST STONE
200-LB TO 1/4-TON

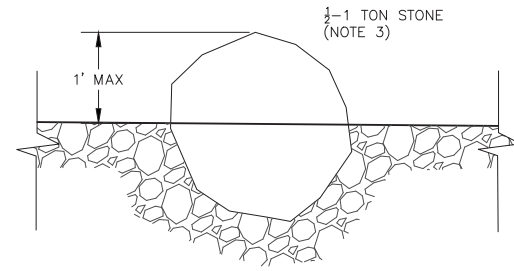


100% DRAFT
NOT FOR CONSTRUCTION

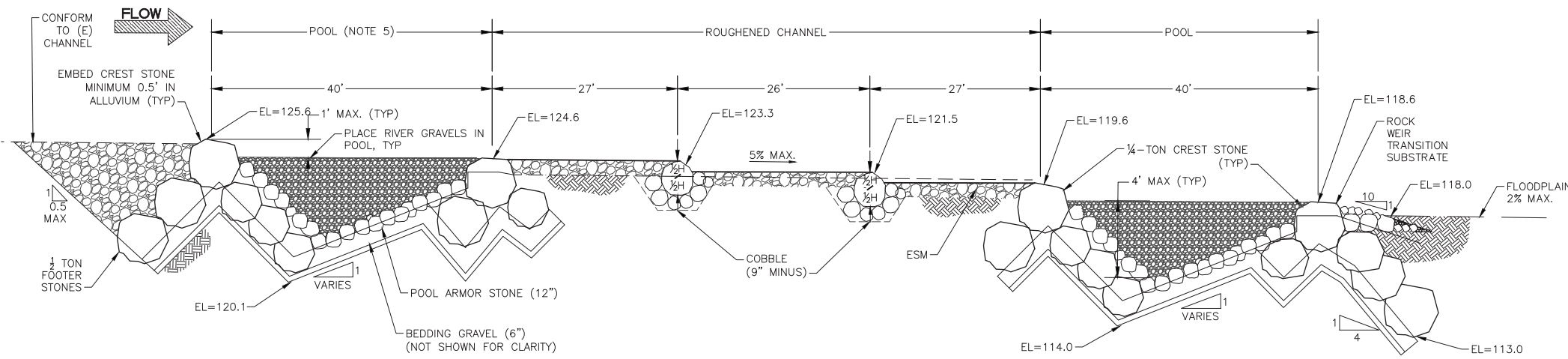
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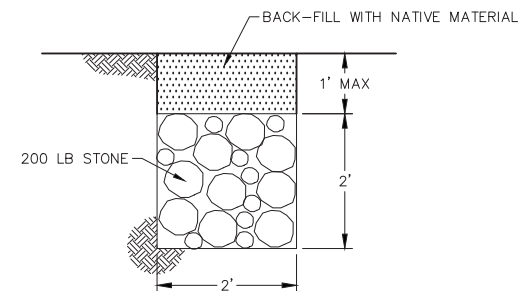
STEP POOL - ROUGHENED CHANNEL STRUCTURE
PLAN SCALE: N.T.S.



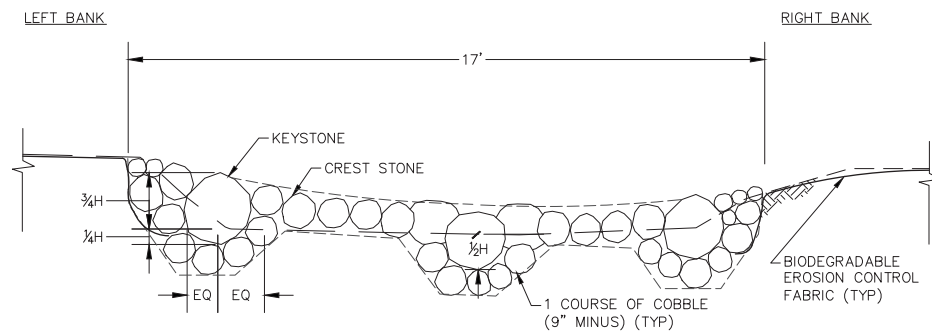
SHELTER BOULDER DETAIL
SCALE: N.T.S.



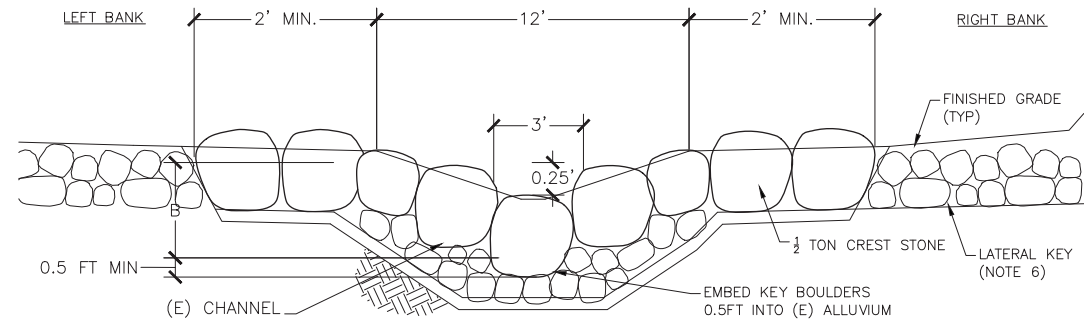
STEP POOL - ROUGHENED CHANNEL STRUCTURE
PROFILE SCALE: N.T.S.



LATERAL KEY DETAIL
SCALE: N.T.S.



ROUGHENED CHANNEL RIB
SECTION SCALE: N.T.S.



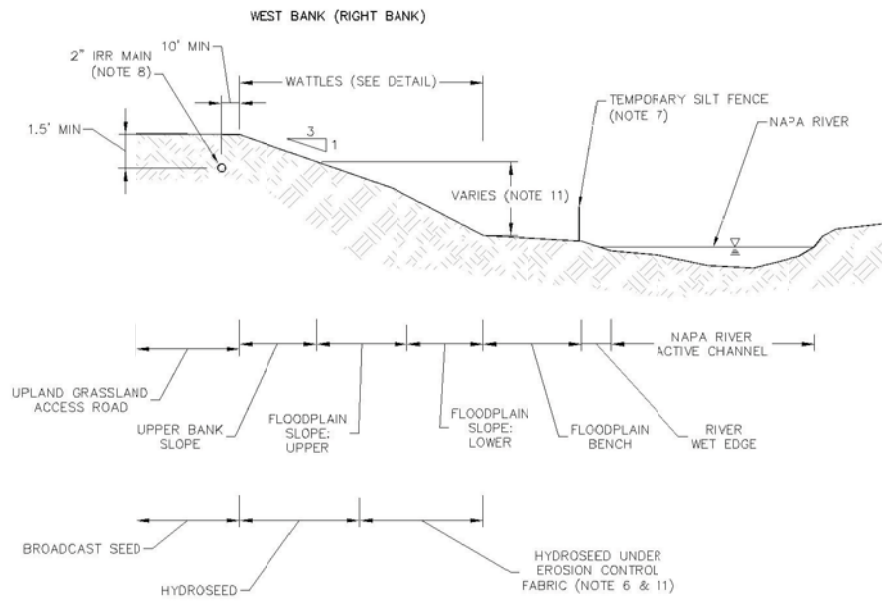
CREST DETAIL
TYPICAL SECTION SCALE: N.T.S.

SHEET NOTES

1. PLACE BIODEGRADABLE EROSION CONTROL FABRIC OVER FLOODPLAIN TO TOE OF (E) SLOPE. SEE SHEET C04 FOR EXTENT.
2. ROUGHENED CHANNEL RIB SHOWN. SEE SHEET C09 FOR GOVERNING DIMENSIONS OF ROUGHENED CHANNEL.
3. PLACE BOULDERS WITHIN A LATERAL DISTANCE OF 4 FEET FROM THE NEW CREEK CENTERLINE.
4. SEE SHEET C04 FOR PLAN VIEW EXTENT AND TYPICAL SECTIONS.
5. CONSTRUCT POOL SEGMENTS SUCH THAT SEALED, WATER TIGHT POOL RESULTS. VIBRATORY COMPACTION AND WATER JETTING MAY BE REQUIRED TO ACHIEVE SEALING OF STRUCTURES.
6. SEE SHEET C04 FOR EXTENT.

**100% DRAFT
NOT FOR CONSTRUCTION**

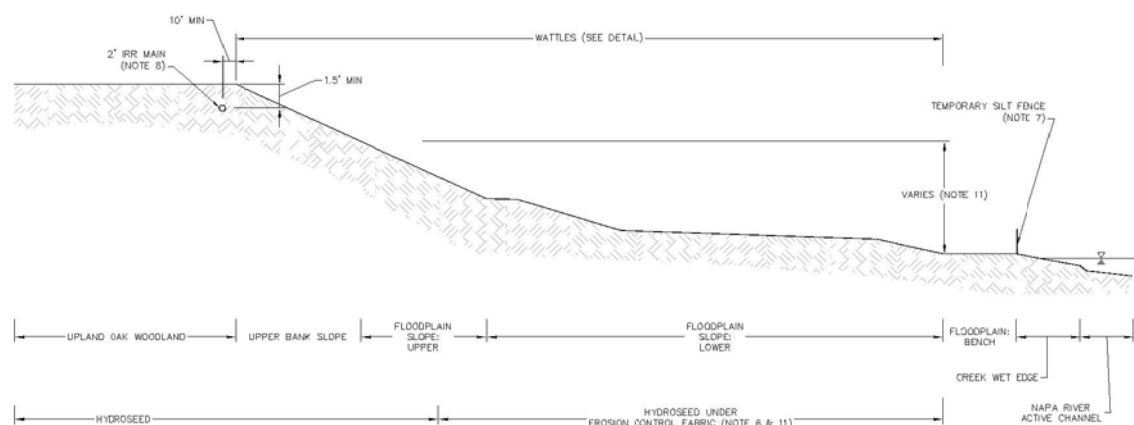
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SEEDING & EROSION CONTROL PLAN

BSSR 3 SCHEMATIC SECTION (NOTE 2)

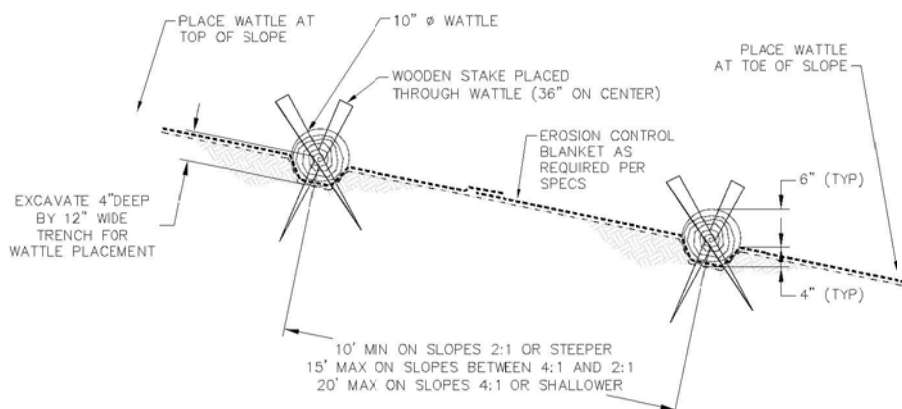
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SEEDING & EROSION CONTROL PLAN

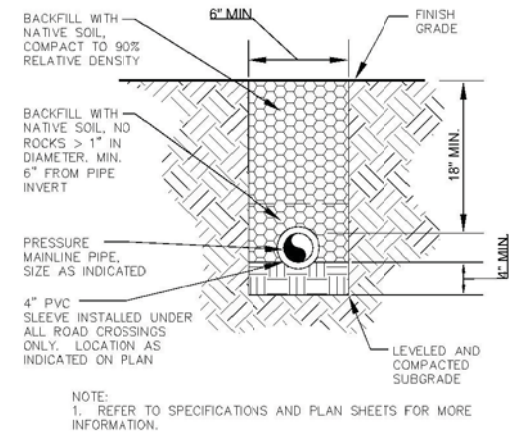
BELLA OAKS CONFLUENCE SCHEMATIC SECTION (NOTE 2)

NTS



WATTLE DETAIL SECTION VIEW

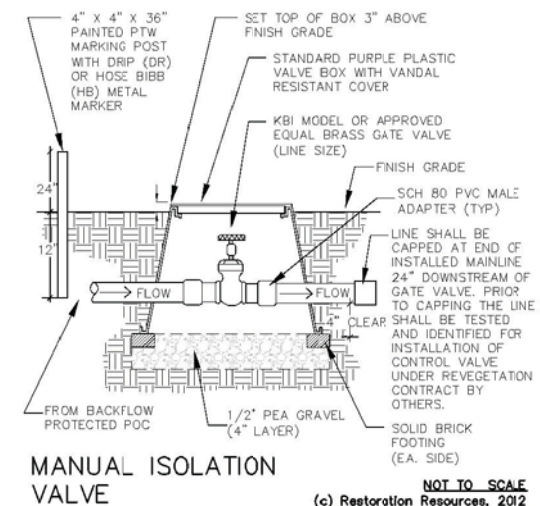
NTS
03
C16



MAIN LINE TRENCHING

NOT TO SCALE
(c) Restoration Resources, 2012

02
C16



MANUAL ISOLATION VALVE

NOT TO SCALE
(c) Restoration Resources, 2012

01
C16

SHEET NOTES

- THIS SHEET SHOWS MINIMUM REQUIRED EROSION CONTROL MEASURES. INSTALL ADDITIONAL MEASURES AS NEEDED FOR SEDIMENT AND EROSION CONTROL AND SWPPP COMPLIANCE.
- THE SECTIONS SHOW DESIGNATIONS OF SEEDING & EROSION CONTROL ZONES FOR GRADED AREAS. HYDROSEED ALL DISTURBED AREAS PER EROSION CONTROL SEEDING MIXES AND RATES TABLE SHOWN ABOVE. FOR MATERIALS AND METHODS REFER TO THE WRITTEN TECHNICAL SPECIFICATIONS.
- UPON COMPLETION OF THE WORK RESTORE STAGING AREA(S) AND ACCESS ROUTES BY APPLYING HYDROSEED (PER TABLE), MYCORRHIZAL INOCULUM, FERTILIZER, GRASS STRAW, MULCH, AND TACKIFIER PER WRITTEN TECHNICAL SPECIFICATIONS.
- SEE SEED MIX TABLE FOR SPECIES, QUANTITIES AND APPLICATION METHOD BY HABITAT ZONE.
- FOR ALL SEEDING AREAS APPLY SEED AT RATES SHOWN PER ZONE WITH MYCORRHIZAL INOCULUM, FERTILIZER, COMMERCIALY AVAILABLE WEED-FREE STRAW/FIBER MULCH, AND ORGANIC TACKIFIER TO ALL DISTURBED AREAS TO ENSURE ADEQUATE EROSION CONTROL PROTECTION. FOR PRODUCT SPECIFICATIONS, RATES, APPLICATION METHOD, AND MANUFACTURER'S RECOMMENDATIONS REFER TO THE WRITTEN TECHNICAL SPECIFICATIONS.
- INSTALL BIODEGRADABLE EROSION CONTROL FABRIC OVER HYDROSEEDING AREA AT LOCATIONS / ELEVATIONS SPECIFIED. SECURE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS, AND THE SPECS (USE MOST STRINGENT REQUIREMENTS).
- INSTALL AND MAINTAIN SILT FENCE ALONG THE TOP OF THE ACTIVE CHANNEL BANK DURING BENCH GRADING. SILT FENCE LOCATIONS SHALL BE VERIFIED BY COUNTY REPRESENTATIVE. REMOVE BY OCTOBER 15TH WITH APPROVAL OF COUNTY REPRESENTATIVE.
- INSTALL IRRIGATION MAINLINES WHERE SHOWN. IRRIGATION MAINLINES SHALL BE LOCATED AT LEAST 5- FEET FROM DRIVABLE PORTION OF TOP OF BANK AND 10' FROM BANK EDGE. IDENTIFY LOCATION OF MAINLINE AND ISOLATION VALVES IN FIELD AND OBTAIN APPROVAL FROM COUNTY REPRESENTATIVE PRIOR TO INSTALLATION. IRRIGATION MAINLINES TO RECEIVE 18-INCHES MINIMUM COVER. BACK-FILL TRENCH TO 90% RELATIVE COMPACTION. MAINLINE SHALL BE SLEEVED UNDER ALL VEHICLE ACCESS CROSSINGS.
- POC LOCATIONS WILL BE CONFIRMED BY OWNERS.
- DISTURBED AREAS WILL BE PLANTED UNDER SEPARATE REVEGETATION CONTRACT. IN THE EVENT THAT CONTRACT SCHEDULES OVERLAP, COOPERATE AND COORDINATE WITH REVEGETATION CONTRACTOR TO ENSURE A SEAMLESS TRANSITION.
- LIMITS OF FLOODPLAIN SLOPE VARY. PRIOR TO SEEDING AND INSTALLATION OF EROSION CONTROL FABRIC, CONTRACTOR SHALL STAKE LIMIT OF FLOODPLAIN BENCHES AND SLOPES AND VERIFY WITH OWNERS' REPRESENTATIVE. EROSION CONTROL FABRIC SHALL BE INSTALLED ON ALL DISTURBED OR CUT FLOODPLAIN SLOPES TO A MINIMUM VERTICAL DIMENSION OF 9- FEET. THE VERTICAL EXTENT OF EROSION CONTROL FABRIC SHALL BE MEASURED FROM THE NEW FLOODPLAIN BENCH ELEVATION.
- ALL EROSION CONTROL WORK AND SEEDING SHALL BE COMPLETED BY OCTOBER 15TH.

EROSION CONTROL SEEDING MIXES AND RATES

Rutherford Reach 8 Phase 4B&C Seed Palette				
Habitat Type: Upland Grassland / Access Route	Acres 1.85			
Biological Name / Common Name	Seeding Method	lbs / ac	Qty	
<i>Elymus glaucus</i> / Blue Wildrye	Hydroseed	8	15	
<i>Eschscholzia californica</i> / California Poppy	Hydroseed	2	4	
<i>Festuca microstachys</i> / Small Fescue	Hydroseed	10	19	
<i>Lupinus bicolor</i> / Miniature Lupine	Hydroseed	4	7	
<i>Stipa pulchra</i> / Purple Needlegrass	Hydroseed	8	15	
Totals		32	60	
Habitat Type: Upper Bank Slope / Upland Oak Woodland	Acres 1.34			
Biological Name / Common Name	Seeding Method	lbs / ac	Qty	
<i>Bromus carinatus</i> / California Brome	Hydroseed	3	4	
<i>Elymus glaucus</i> / Blue Wildrye	Hydroseed	8	11	
<i>Eschscholzia californica</i> / California Poppy	Hydroseed	2	3	
<i>Festuca idahoensis</i> / Idaho Fescue	Hydroseed	6	8	
<i>Festuca microstachys</i> / Small Fescue	Hydroseed	6	8	
<i>Lupinus bicolor</i> / Miniature Lupine	Hydroseed	4	5	
<i>Trifolium wildenovii</i> / Tomcat Clover	Hydroseed	2	3	
Totals		31	42	
Habitat Type: Staging Area	Acres 0.17			
Biological Name / Common Name	Seeding Method	lbs / ac	Qty	
<i>Eschscholzia californica</i> / California Poppy	Hydroseed	2	1	
<i>Lupinus bicolor</i> / Miniature Lupine	Hydroseed	4	1	
<i>Trifolium wildenovii</i> / Tomcat Clover	Hydroseed	2	1	
<i>Triticum X Elymus "Regreen"</i> / Sterile Wheat	Hydroseed	24	4	
Totals		32	7	
Habitat Type: Upper Floodplain Slope	Acres 1.00			
Biological Name / Common Name	Seeding Method	lbs / ac.	lbs. Req.	
<i>Elymus glaucus</i> / Blue Wildrye	Hydroseed	8	8	
<i>Elymus triticoides</i> / Creeping Wildrye	Hydroseed	8	8	
<i>Festuca idahoensis</i> / Idaho Fescue	Hydroseed	6	6	
<i>Hordeum brachyantherum</i> var. <i>californicum</i> / California Meadow Barley	Hydroseed	6	6	
<i>Symphotrichum chilense</i> / Common Aster	Hydroseed	6	6	
Totals		34	34	
Habitat Type: Lower Floodplain Slope	Acres 1.47			
Biological Name / Common Name	Seeding Method	lbs / ac.	lbs. Req.	
<i>Elymus triticoides</i> / Creeping Wildrye	Hydroseed	10	15	
<i>Festuca idahoensis</i> / Idaho Fescue	Hydroseed	4	6	
<i>Hordeum brachyantherum</i> var. <i>brachyantherum</i> / Meadow Barley	Hydroseed	8	12	
<i>Symphotrichum chilense</i> / Common Aster	Hydroseed	6	9	
Totals		28	42	
Habitat Type: Lower Floodplain Bench	Acres 0.80			
Biological Name / Common Name	Seeding Method	lbs / ac.	lbs. Req.	
<i>Elymus triticoides</i> / Creeping Wildrye	Hydroseed	16	13	
<i>Hordeum brachyantherum</i> var. <i>brachyantherum</i> / Meadow Barley	Hydroseed	6	5	
Totals		22	18	

HABITAT ZONES SHALL BE IDENTIFIED AND STAKED IN THE FIELD BY CONTRACTOR. CONTRACTOR SHALL OBTAIN SEEDING LAYOUT APPROVAL FROM THE COUNTY'S REPRESENTATIVE PRIOR TO SEEDING.

PREPARED BY:

3888 CINCINNATI AVENUE
ROCKLIN, CA 95765
TEL 916.408.2990
FAX 916.408.2999
www.restorationresources.net
CALIF. #429252

RESTORATION RESOURCES

SHEET TITLE

EROSION CONTROL PLAN & IRRIGATION DETAILS

PROJECT

NAPA RIVER RESTORATION RUTHERFORD REACH 8 - PHASE 4B&C

PREPARED FOR:

NAPA COUNTY
DEPT OF PUBLIC WORKS
1195 Third St, Suite 201
Napa, CA 94559

DESIGNED R. SWIFT
LPIPER

DRAWN LPIPER

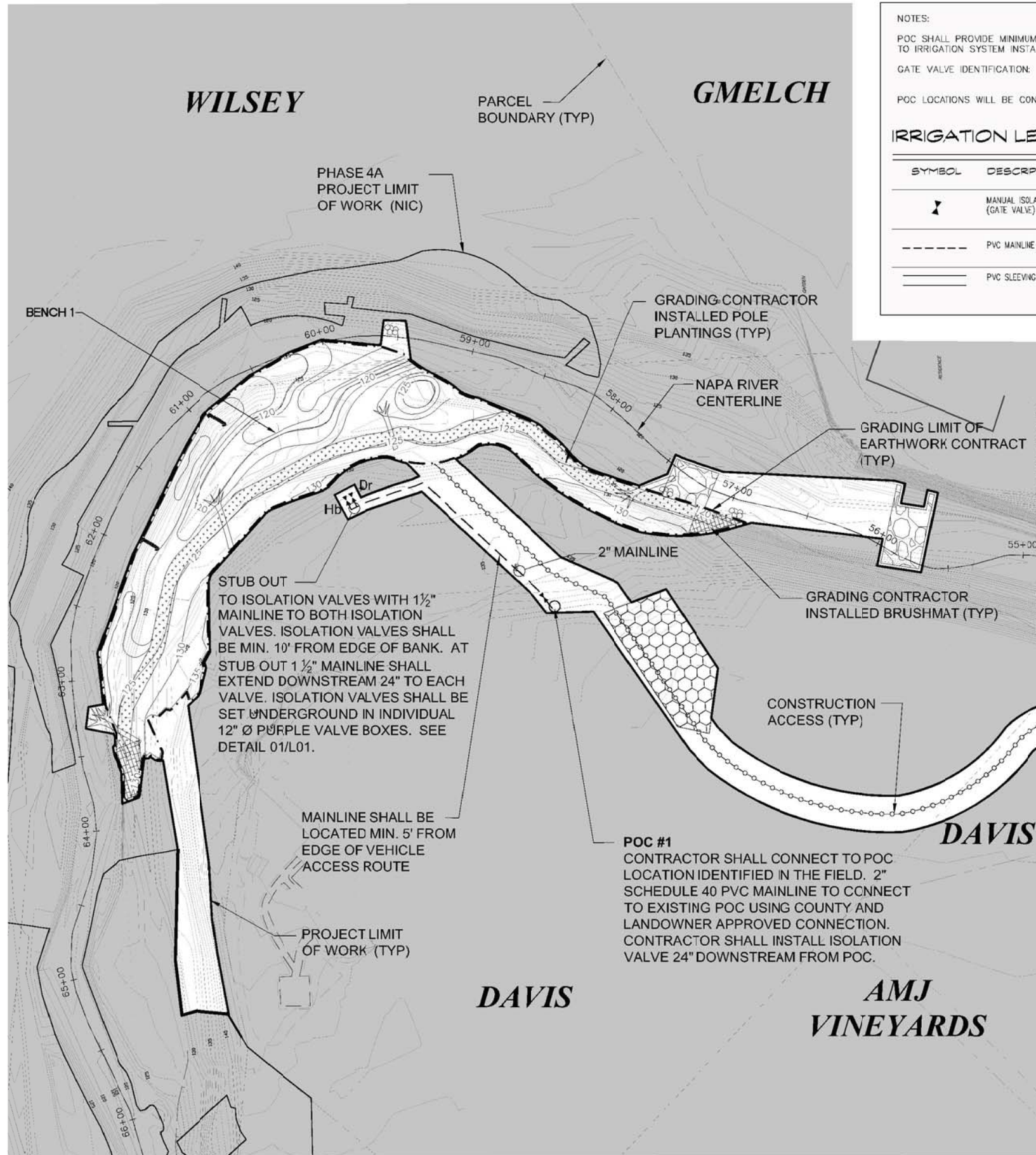
INCHARGE R. SWIFT
PRESIDENT

SCALE AS NOTED

DATE FEB. 2013

SHEET

REGISTERED LANDSCAPE ARCHITECT
LUCAS R. PIFER
No. 5873
Signature: 10-31-14
Renewal Date
Date



NOTES:
 POC SHALL PROVIDE MINIMUM 60 GPM @ 60 PSI. CONTRACTOR SHALL VERIFY PRIOR TO IRRIGATION SYSTEM INSTALLATION.
 GATE VALVE IDENTIFICATION: Dr = VALVE FOR FUTURE DRIP SYSTEM
 Hb = VALVE FOR FUTURE HOSE BIBB SYSTEM
 POC LOCATIONS WILL BE CONFIRMED BY OWNERS.

IRRIGATION LEGEND

SYMBOL	DESCRIPTION	MANUFACTURER / MODEL	DETAIL	REMARKS
	MANUAL ISOLATION VALVE (GATE VALVE)	KBI MODEL OR APPROVED EQUAL BRASS GATE VALVE AS PER DETAIL	01/R01	SIZED ACCORDING TO PIPE SIZE SET IN BOX WITH A 4"x4"x36" PAINTED WOOD MARKER POST
	PVC MAINLINE PIPE (SIZE AS INDICATED)	AS APPROVED	02/R01	1 1/2" - 2" PVC SCH 40
	PVC SLEEVING	AS APPROVED	02/R01	TWICE THE DIAMETER OF PIPE. SEE PLAN FOR LOCATIONS UNDER ACCESS ROAD AS NEEDED. 4" PVC SCH 40

WILSEY

GMELCH

PARCEL BOUNDARY (TYP)

PHASE 4A PROJECT LIMIT OF WORK (NIC)

GRADING CONTRACTOR INSTALLED POLE PLANTINGS (TYP)

NAPA RIVER CENTERLINE

GRADING LIMIT OF EARTHWORK CONTRACT (TYP)

2" MAINLINE

GRADING CONTRACTOR INSTALLED BRUSHMAT (TYP)

CONSTRUCTION ACCESS (TYP)

STUB OUT TO ISOLATION VALVES WITH 1 1/2" MAINLINE TO BOTH ISOLATION VALVES. ISOLATION VALVES SHALL BE MIN. 10' FROM EDGE OF BANK. AT STUB OUT 1 1/2" MAINLINE SHALL EXTEND DOWNSTREAM 24" TO EACH VALVE. ISOLATION VALVES SHALL BE SET UNDERGROUND IN INDIVIDUAL 12" Ø PURPLE VALVE BOXES. SEE DETAIL 01/L01.

MAINLINE SHALL BE LOCATED MIN. 5' FROM EDGE OF VEHICLE ACCESS ROUTE

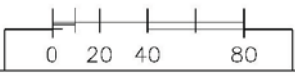
PROJECT LIMIT OF WORK (TYP)

POC #1
 CONTRACTOR SHALL CONNECT TO POC LOCATION IDENTIFIED IN THE FIELD. 2" SCHEDULE 40 PVC MAINLINE TO CONNECT TO EXISTING POC USING COUNTY AND LANDOWNER APPROVED CONNECTION. CONTRACTOR SHALL INSTALL ISOLATION VALVE 24" DOWNSTREAM FROM POC.

DAVIS

AMJ VINEYARDS

DAVIS



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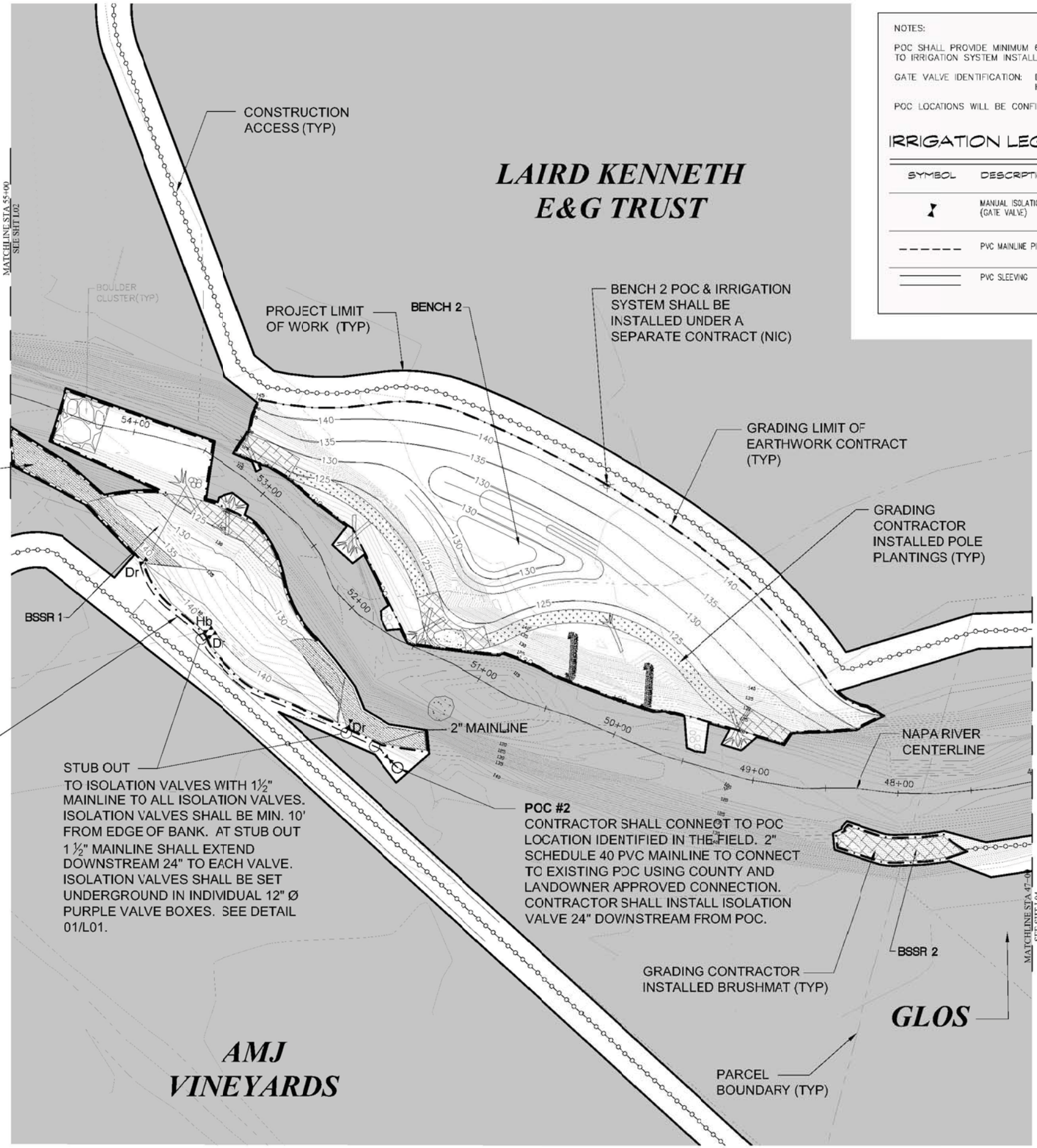
SHEET TITLE
 IRRIGATION PLAN
 STA 55+00 TO 65+00
 PROJECT
 NAPA RIVER RESTORATION
 RUTHERFORD REACH 8 - PHASE 4B&C

PREPARED FOR:
 NAPA COUNTY
 DEPT OF PUBLIC WORKS
 1195 Third St, Suite 201
 Napa, CA 94559



DESIGNED R. SWIFT
 L. PIPER
 DRAWN L. PIPER
 INCHARGE R. SWIFT
 PRESIDENT
 SCALE AS NOTED
 DATE FEB. 2013
 SHEET **L02**
 26 OF 29





**LAIRD KENNETH
E&G TRUST**

NOTES:
 POC SHALL PROVIDE MINIMUM 60 GPM @ 60 PSI. CONTRACTOR SHALL VERIFY PRIOR TO IRRIGATION SYSTEM INSTALLATION.
 GATE VALVE IDENTIFICATION: Dr = VALVE FOR FUTURE DRIP SYSTEM
 Hb = VALVE FOR FUTURE HOSE BIBB SYSTEM
 POC LOCATIONS WILL BE CONFIRMED BY OWNERS.

IRRIGATION LEGEND

SYMBOL	DESCRIPTION	MANUFACTURER / MODEL	DETAIL	REMARKS
	MANUAL ISOLATION VALVE (GATE VALVE)	KBI MODEL OR APPROVED EQUAL BRASS GATE VALVE AS PER DETAIL	01/R01	SIZED ACCORDING TO PIPE SIZE SET IN BOX WITH A 4"x4"x36" PAINTED WOOD MARKER POST
	PVC MAINLINE PIPE (SIZE AS INDICATED)	AS APPROVED	02/R01	1 1/2" - 2" PVC SCH 40
	PVC SLEEVING	AS APPROVED	02/R01	TWICE THE DIAMETER OF PIPE. SEE PLAN FOR LOCATIONS UNDER ACCESS ROAD AS NEEDED. 4" PVC SCH 40

GRADING CONTRACTOR INSTALLED VEGETATED SOIL LIFTS (TYP)

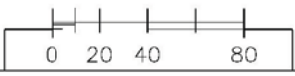
MAINLINE SHALL BE LOCATED MIN. 5' FROM EDGE OF VEHICLE ACCESS ROUTE

STUB OUT TO ISOLATION VALVES WITH 1 1/2" MAINLINE TO ALL ISOLATION VALVES. ISOLATION VALVES SHALL BE MIN. 10' FROM EDGE OF BANK. AT STUB OUT 1 1/2" MAINLINE SHALL EXTEND DOWNSTREAM 24" TO EACH VALVE. ISOLATION VALVES SHALL BE SET UNDERGROUND IN INDIVIDUAL 12" Ø PURPLE VALVE BOXES. SEE DETAIL 01/L01.

POC #2
 CONTRACTOR SHALL CONNECT TO POC LOCATION IDENTIFIED IN THE FIELD. 2" SCHEDULE 40 PVC MAINLINE TO CONNECT TO EXISTING POC USING COUNTY AND LANDOWNER APPROVED CONNECTION. CONTRACTOR SHALL INSTALL ISOLATION VALVE 24" DOWNSTREAM FROM POC.

GRADING CONTRACTOR INSTALLED POLE PLANTINGS (TYP)

GRADING CONTRACTOR INSTALLED BRUSHMAT (TYP)



**AMJ
VINEYARDS**

GLOS

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 www.restorationresources.com
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SHEET TITLE
**IRRIGATION PLAN
 STA 47+00 TO 55+00**
 PROJECT
**NAPA RIVER RESTORATION
 RUTHERFORD REACH 8 - PHASE 4B&C**

PREPARED FOR:
**NAPA COUNTY
 DEPT OF PUBLIC WORKS
 1195 Third St, Suite 201
 Napa, CA 94559**



DESIGNED R. SWIFT
 L. PIPER
 DRAWN L. PIPER
 INCHARGE R. SWIFT
 PRESIDENT
 SCALE AS NOTED
 DATE FEB. 2013
 SHEET



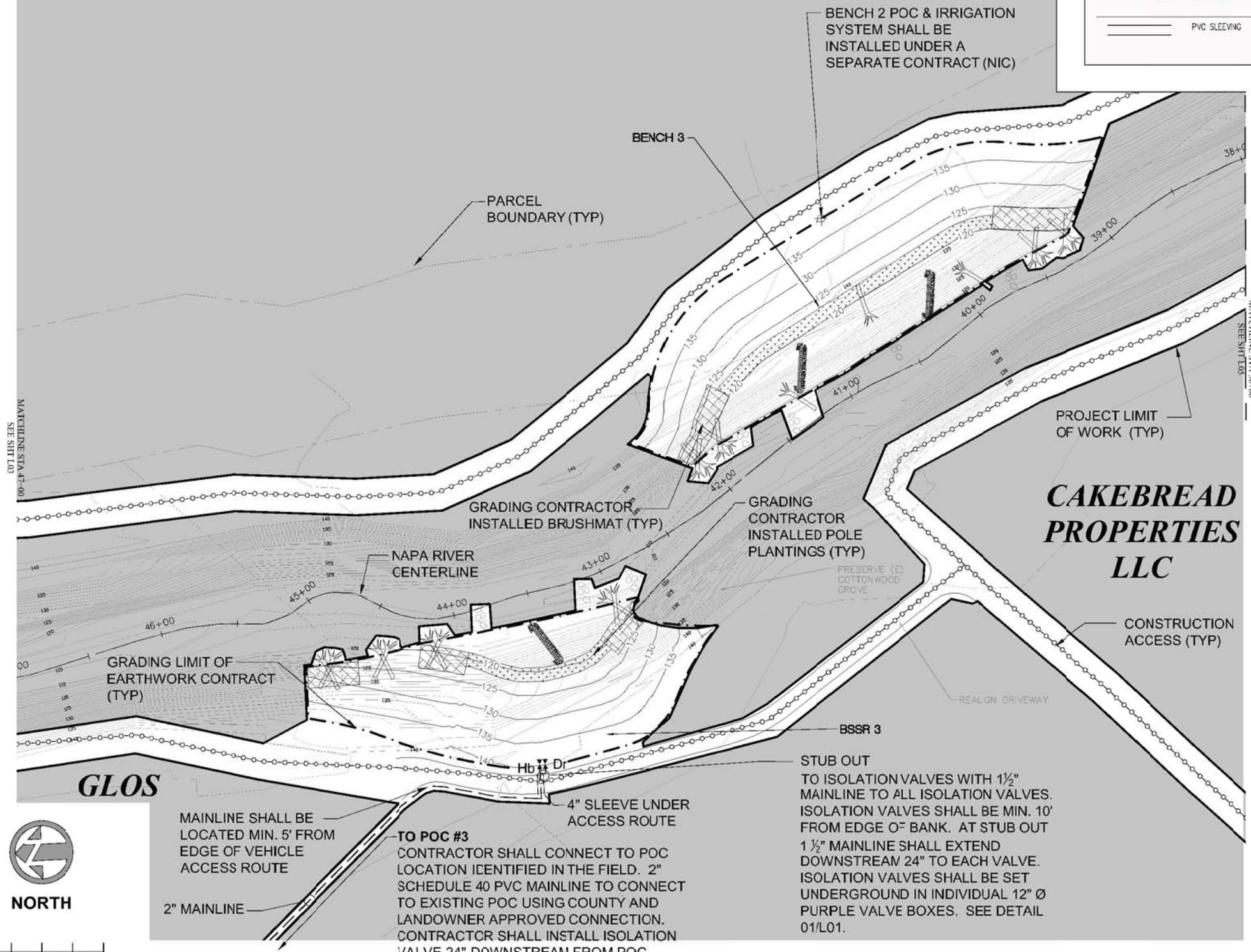
L03
 27 OF 29

**LAIRD KENNETH
E&G TRUST**

NOTES:
 POC SHALL PROVIDE MINIMUM 60 GPM @ 60 PSI. CONTRACTOR SHALL VERIFY PRIOR TO IRRIGATION SYSTEM INSTALLATION.
 GATE VALVE IDENTIFICATION: Dr = VALVE FOR FUTURE DRIP SYSTEM
 Hb = VALVE FOR FUTURE HOSE BIBB SYSTEM
 POC LOCATIONS WILL BE CONFIRMED BY OWNERS.

IRRIGATION LEGEND

SYMBOL	DESCRIPTION	MANUFACTURER / MODEL	DETAIL	REMARKS
	MANUAL ISOLATION VALVE (GATE VALVE)	KBI MODEL OR APPROVED EQUAL BRASS GATE VALVE AS PER DETAIL	01/R01	SIZED ACCORDING TO PIPE SIZE SET IN BOX WITH A 4"x4"x36" PAINTED WOOD MARKER POST
	PVC MAINLINE PIPE (SIZE AS INDICATED)	AS APPROVED	02/R01	1 1/2" - 2" PVC SCH 40
	PVC SLEEVING	AS APPROVED	02/R01	TWICE THE DIAMETER OF PIPE. SEE PLAN FOR LOCATIONS UNDER ACCESS ROAD AS NEEDED. 4" PVC SCH 40



BENCH 2 POC & IRRIGATION SYSTEM SHALL BE INSTALLED UNDER A SEPARATE CONTRACT (NIC)

PARCEL BOUNDARY (TYP)

BENCH 3

PROJECT LIMIT OF WORK (TYP)

**CAKEBREAD
PROPERTIES
LLC**

CONSTRUCTION ACCESS (TYP)

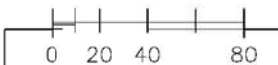
STUB OUT TO ISOLATION VALVES WITH 1 1/2" MAINLINE TO ALL ISOLATION VALVES. ISOLATION VALVES SHALL BE MIN. 10' FROM EDGE OF BANK. AT STUB OUT 1 1/2" MAINLINE SHALL EXTEND DOWNSTREAM 24" TO EACH VALVE. ISOLATION VALVES SHALL BE SET UNDERGROUND IN INDIVIDUAL 12" Ø PURPLE VALVE BOXES. SEE DETAIL 01/L01.

MAINLINE SHALL BE LOCATED MIN. 5' FROM EDGE OF VEHICLE ACCESS ROUTE

TO POC #3 CONTRACTOR SHALL CONNECT TO POC LOCATION IDENTIFIED IN THE FIELD. 2" SCHEDULE 40 PVC MAINLINE TO CONNECT TO EXISTING POC USING COUNTY AND LANDOWNER APPROVED CONNECTION. CONTRACTOR SHALL INSTALL ISOLATION VALVE 24" DOWNSTREAM FROM POC.

4" SLEEVE UNDER ACCESS ROUTE

GLOS



PREPARED BY:
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 San Francisco, CA 94108
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SHEET TITLE
**IRRIGATION PLAN
STA 38+00 TO 47+00**
 PROJECT
**NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4B&C**

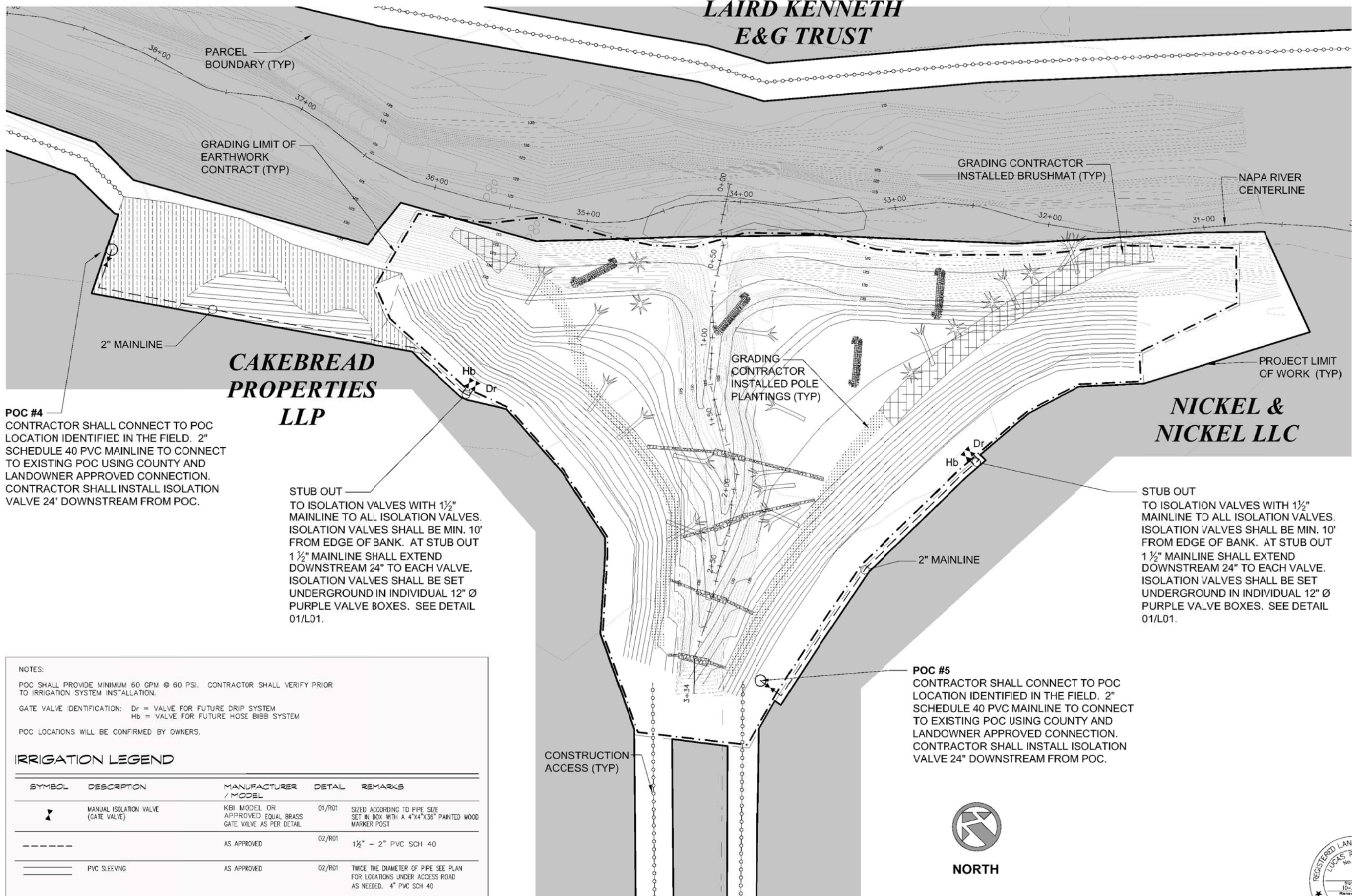
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Napa, CA 94559**



DESIGNED R. SWIFT
L. PIPER
 DRAWN L. PIPER
 INCHARGE R. SWIFT
PRESIDENT
 SCALE AS NOTED
 DATE FEB. 2013
 SHEET **L04**
 28 OF 29



**LAIRD KENNETH
E&G TRUST**



POC #4
CONTRACTOR SHALL CONNECT TO POC LOCATION IDENTIFIED IN THE FIELD. 2" SCHEDULE 40 PVC MAINLINE TO CONNECT TO EXISTING POC USING COUNTY AND LANDOWNER APPROVED CONNECTION. CONTRACTOR SHALL INSTALL ISOLATION VALVE 24' DOWNSTREAM FROM POC.

STUB OUT
TO ISOLATION VALVES WITH 1½" MAINLINE TO ALL ISOLATION VALVES. ISOLATION VALVES SHALL BE MIN. 10' FROM EDGE OF BANK. AT STUB OUT 1½" MAINLINE SHALL EXTEND DOWNSTREAM 24" TO EACH VALVE. ISOLATION VALVES SHALL BE SET UNDERGROUND IN INDIVIDUAL 12" Ø PURPLE VALVE BOXES. SEE DETAIL 01/L01.

STUB OUT
TO ISOLATION VALVES WITH 1½" MAINLINE TO ALL ISOLATION VALVES. ISOLATION VALVES SHALL BE MIN. 10' FROM EDGE OF BANK. AT STUB OUT 1½" MAINLINE SHALL EXTEND DOWNSTREAM 24" TO EACH VALVE. ISOLATION VALVES SHALL BE SET UNDERGROUND IN INDIVIDUAL 12" Ø PURPLE VALVE BOXES. SEE DETAIL 01/L01.

POC #5
CONTRACTOR SHALL CONNECT TO POC LOCATION IDENTIFIED IN THE FIELD. 2" SCHEDULE 40 PVC MAINLINE TO CONNECT TO EXISTING POC USING COUNTY AND LANDOWNER APPROVED CONNECTION. CONTRACTOR SHALL INSTALL ISOLATION VALVE 24' DOWNSTREAM FROM POC.

NOTES:
POC SHALL PROVIDE MINIMUM 60 GPM @ 60 PSI. CONTRACTOR SHALL VERIFY PRIOR TO IRRIGATION SYSTEM INSTALLATION.
GATE VALVE IDENTIFICATION: Dr = VALVE FOR FUTURE DRIP SYSTEM
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	1½" - 2" PVC SCH 40	AS APPROVED	02/R01	
	PVC SLEEVING	AS APPROVED	02/R01	TWICE THE DIAMETER OF PIPE SEE PLAN FOR LOCATIONS UNDER ACCESS ROAD AS NEEDED. 4" PVC SCH 40

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IRRIGATION PLAN
BELLA OAKS CONFLUENCE
PROJECT
NAPA RIVER RESTORATION
RUTHERFORD REACH 8 - PHASE 4B&C

PREPARED FOR:
NAPA COUNTY
DEPT OF PUBLIC WORKS
1195 Third St, Suite 201
Napa, CA 94559



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LPIPER
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