

NAPA RIVER-RUTHERFORD REACH 4: WEST (RIGHT) BANK

NAPA COUNTY, CALIFORNIA



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

ABBREVIATIONS

ALD	ALDER	NIC	NOT IN CONTRACT
APPROX	APPROXIMATE	NTS	NOT TO SCALE
CL	CENTERLINE	OC	ON CENTER
CW	COTTONWOOD	PIP	PROTECT IN PLACE
DBH	DIAMETER BREST HEIGHT	PWA	PHILIP WILLIAMS & ASSOCIATES
DEMO	DEMOLISH	Q AG	QUERCUS AGRIFOLIA (LIVE OAK)
DS	DOWNSTREAM	Q LO	QUERCUS LOBATA (VALLEY OAK)
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
MAX	MAXIMUM	VAR	VARIES
MIN	MINIMUM	VIF	VERIFY IN FIELD
(N)	NEW	WAL	WALNUT
		WIL	WILLOW

LEGEND

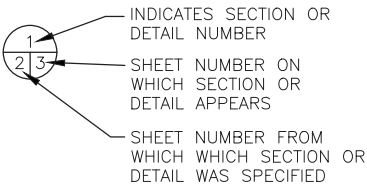
---	EXISTING GRADE (PROFILE & SECTION)
---	DESIGN GRADE
---	APPROX PROPERTY BOUNDARY
---	GRADING LIMITS
---	PROJECT LIMITS
---	APPROX THALWEG
---	CONSTRUCTION ACCESS
---	EXISTING WATERLINE
---	APPROX TREELINE
---	NEW CONTOUR LINE
---	EXISTING CONTOUR LINE
---	BRUSH MAT (PLAN)
---	LIVE POLE PLANTING (PLAN)
---	EXISTING GROUND (SECTION)
---	EXCAVATION (SECTION)
---	FILL (SECTION)
---	VINEYARD TOPSOIL OR PLANTING SOIL

LEGEND (CONT.)

---	DEMO TREE
---	WILLOW BAFFLE
---	LARGE WOODY DEBRIS TYPE 2 & 3
---	LARGE WOODY DEBRIS TYPE 1
---	BOULDER CLUSTER
---	FLOW DIRECTION
---	SPOT ELEVATION
---	BENCHMARK
---	CONTROL POINT
---	EXISTING UTILITY

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PREPARED BY:
PWA
PHILIP WILLIAMS & ASSOCIATES, LTD.
ENVIRONMENTAL HYDROLOGY
1000 CALIFORNIA STREET, SUITE 100
SAN FRANCISCO, CALIFORNIA 94109
PHONE (415) 362-2300 FAX (415) 362-2303

PREPARED BY:
RESTORATION RESOURCES
3888 CINCINNATI AVENUE
ROCKLIN, CA 95765
TEL 916-408-2980
FAX 916-408-2999
www.restoration-resources.net
CA LIC #46262

TITLE SHEET

NAPA RIVER RESTORATION
RUTHERFORD REACH 4:
WEST (RIGHT) BANK

PREPARED FOR:

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

APPROVED

DESIGNED R.BROWN
J.BLOMBERG

DRAWN B.TANAKA

INCHARGE A.BORGONOVO
CXXXX

SCALE NOT TO SCALE

DATE 01/2011

SHEET

C01

1 OF 34

GENERAL NOTES

GENERAL

1. 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.
2. 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.
3. 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.
4. ALL MATERIAL SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
5. 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.
6. 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.
7. 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

8. CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY AND ALL DAMAGES TO EXISTING VEGETATION, STRUCTURES AND UTILITIES DURING CONSTRUCTION.
9. 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.
10. 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

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

ENVIRONMENTAL PROTECTION

15. 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.
16. 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.
17. 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.
18. 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.
19. THE CONTRACTOR SHALL UTILIZE BEST MANAGEMENT PRACTICES TO PREVENT EROSION, SEDIMENT AND HAZMAT RUNOFF FROM THE CONSTRUCTION SITE.
20. 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.
21. 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.
22. 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

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

CULTURAL RESOURCES

25. 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

26. THE PROJECT SITE IS ON PRIVATE PROPERTY. THE CONTRACTOR SHALL ONLY USE SITE ACCESS ROUTES TO THE SITE AS NOTED ON THE DRAWINGS.
27. STAGING, STORAGE AND TEMPORARY STOCKPILING SHALL BE LIMITED TO THE AREAS INDICATED ON THE DRAWINGS.
28. 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.
29. 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

30. 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

31. 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.
32. 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.
33. HORIZONTAL CONTROL IS CALIFORNIA STATE PLANE ZONE II (NAD83) IN US FT. VERTICAL CONTROL IS NAVD88.
34. CONTRACTOR SHALL VERIFY AND CHECK EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

35. 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 NEGLIGENCE IN DETERMINING THE CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED. NOTED DIMENSION SHALL TAKE PRECEDENCE OVER SCALE.

EARTHWORK

36. 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.
37. 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.

PREPARED BY:



PWA
PHILIP WILLIAMS & ASSOCIATES, LTD.
ENVIRONMENTAL HYDROLOGY
1195 THIRD STREET, SUITE 201
NAPA, CALIFORNIA 94559
PHONE (415) 262-2300 FAX (415) 262-2303

GENERAL NOTES

SHEET TITLE

NAPA RIVER RESTORATION
RUTHERFORD REACH 4:
WEST (RIGHT) BANK

PROJECT

PREPARED FOR:

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



APPROVED

DESIGNED

R. BROWN
J. BLOMBERG

DRAWN

B. TANAKA

INCHARGE

A. BORGONOVO
C053102

SCALE

AS SHOWN

DATE

NOV 2011

SHEET

C02

2

OF

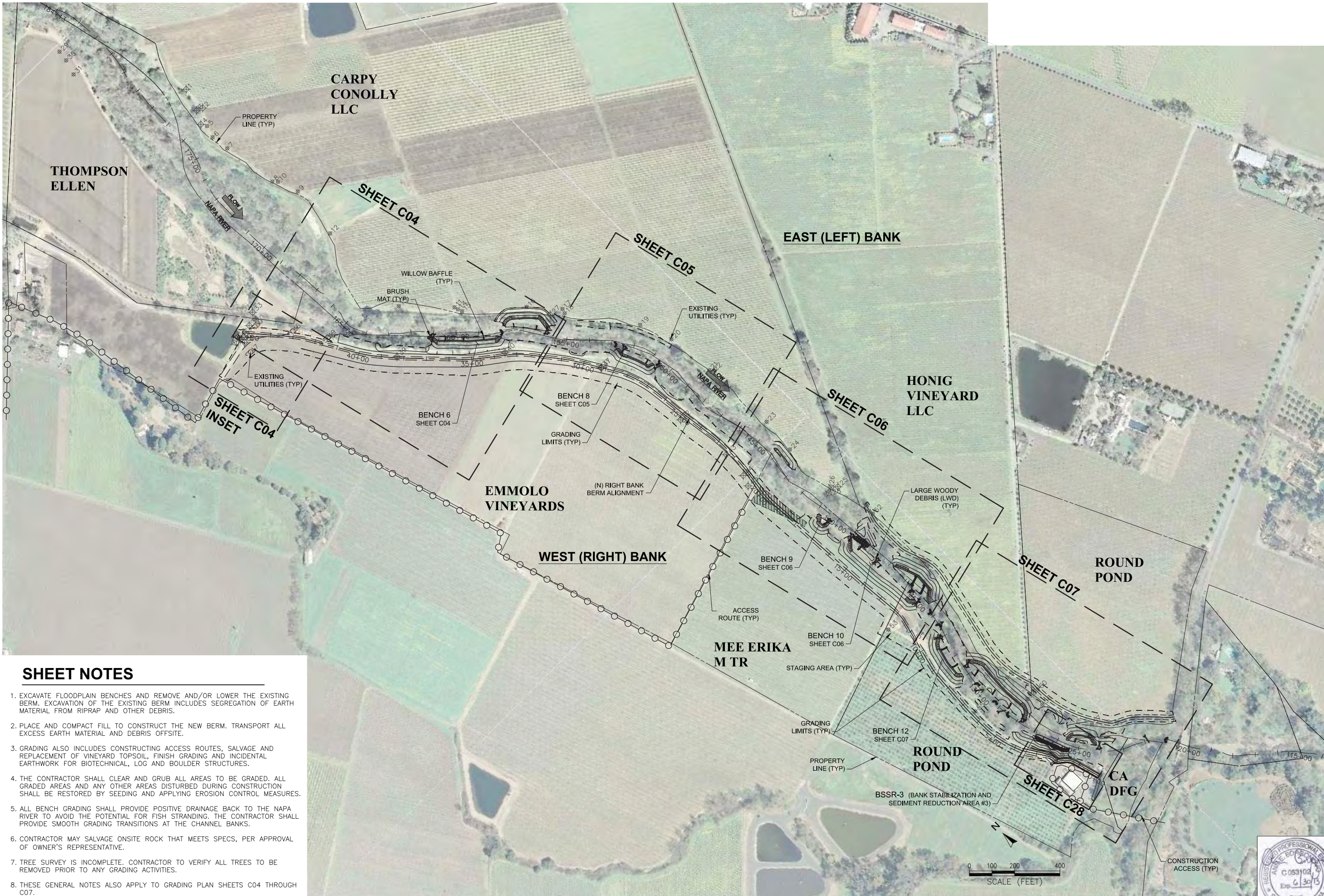
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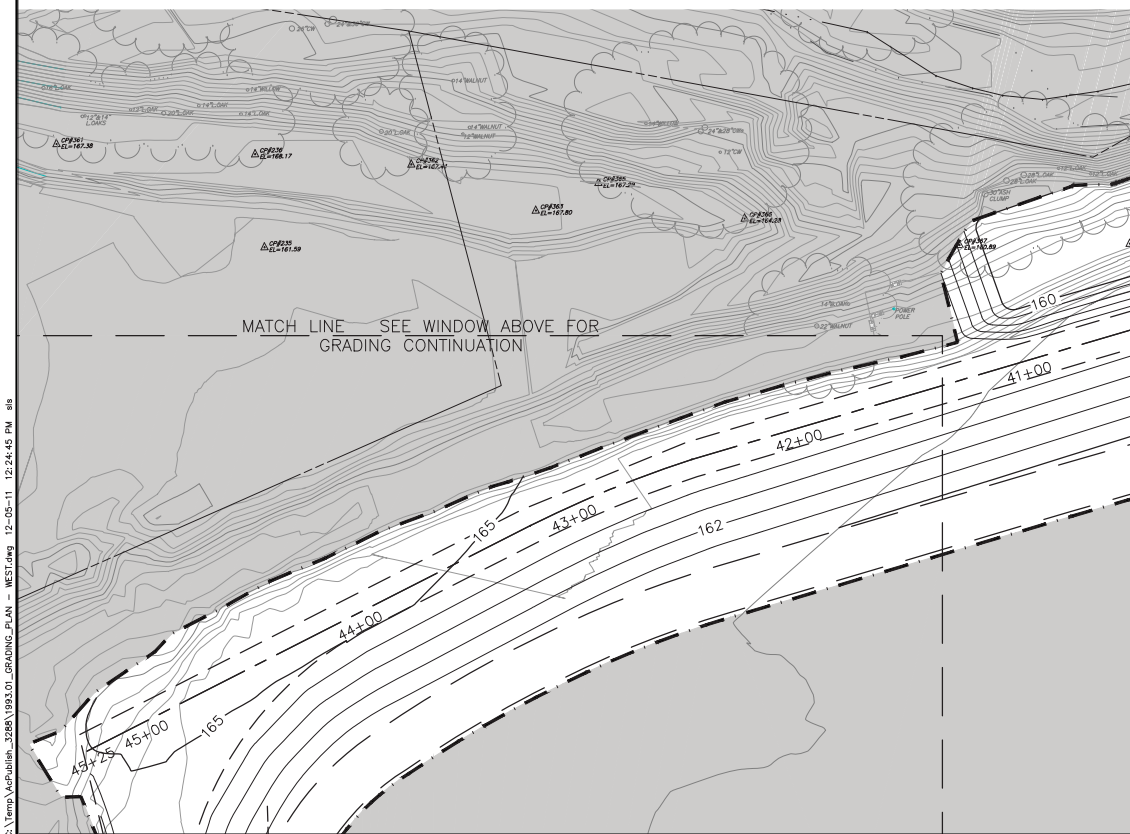
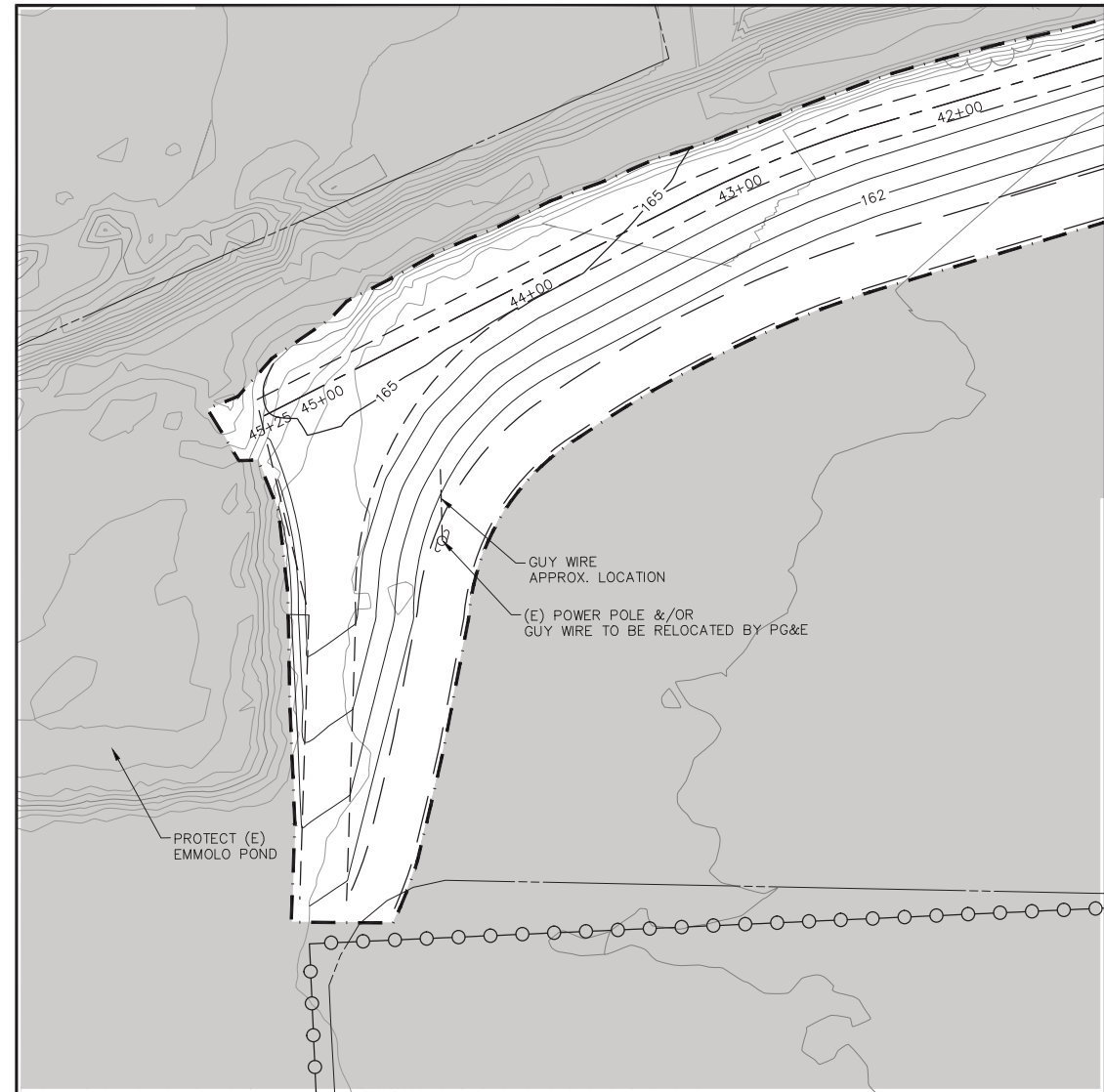
SHEET NOTES

1. EXCAVATE FLOODPLAIN BENCHES AND REMOVE AND/OR LOWER THE EXISTING BERM. EXCAVATION OF THE EXISTING BERM INCLUDES SEGREGATION OF EARTH MATERIAL FROM RIPRAP AND OTHER DEBRIS.
2. PLACE AND COMPACT FILL TO CONSTRUCT THE NEW BERM. TRANSPORT ALL EXCESS EARTH MATERIAL AND DEBRIS OFFSITE.
3. GRADING ALSO INCLUDES CONSTRUCTING ACCESS ROUTES, SALVAGE AND REPLACEMENT OF VINEYARD TOPSOIL, FINISH GRADING AND INCIDENTAL EARTHWORK FOR BIOTECHNICAL, LOG AND BOULDER STRUCTURES.
4. THE CONTRACTOR SHALL CLEAR AND GRUB ALL AREAS TO BE GRADED. ALL GRADED AREAS AND ANY OTHER AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED BY SEEDING AND APPLYING EROSION CONTROL MEASURES.
5. ALL BENCH GRADING SHALL PROVIDE POSITIVE DRAINAGE BACK TO THE NAPA RIVER TO AVOID THE POTENTIAL FOR FISH STRANDING. THE CONTRACTOR SHALL PROVIDE SMOOTH GRADING TRANSITIONS AT THE CHANNEL BANKS.
6. CONTRACTOR MAY SALVAGE ONSITE ROCK THAT MEETS SPECS, PER APPROVAL OF OWNER'S REPRESENTATIVE.
7. TREE SURVEY IS INCOMPLETE. CONTRACTOR TO VERIFY ALL TREES TO BE REMOVED PRIOR TO ANY GRADING ACTIVITIES.
8. THESE GENERAL NOTES ALSO APPLY TO GRADING PLAN SHEETS C04 THROUGH C07.



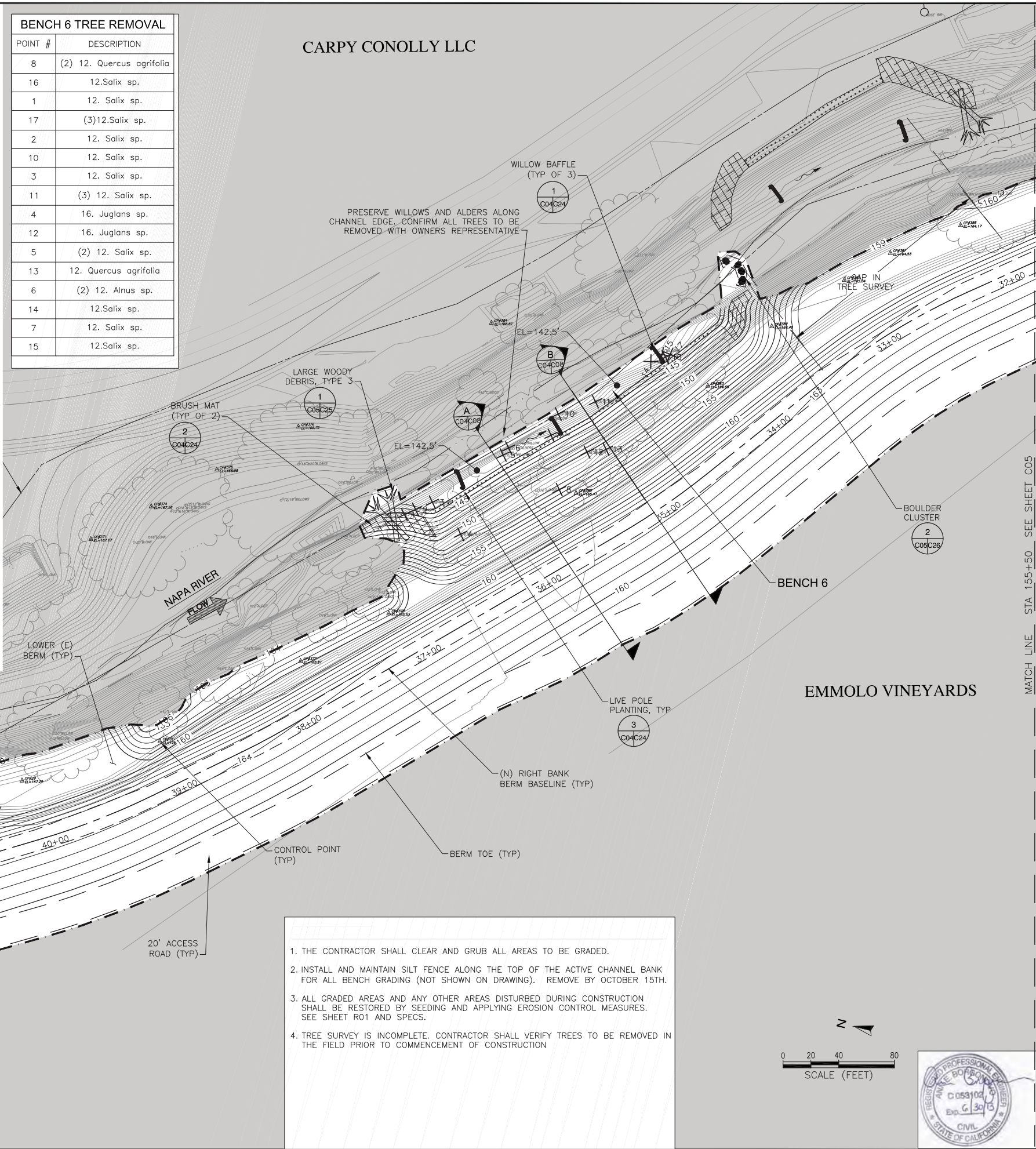
APPROVED	
DESIGNED	R. BROWN J. BLOMBERG
DRAWN	B. TANAKA
INCHARGE	A. BORGONOV C053102
SCALE	AS SHOWN
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SHEET	

C03



BENCH 6 TREE REMOVAL	
POINT #	DESCRIPTION
8	(2) 12. Quercus agrifolia
16	12. Salix sp.
1	12. Salix sp.
17	(3) 12. Salix sp.
2	12. Salix sp.
10	12. Salix sp.
3	12. Salix sp.
11	(3) 12. Salix sp.
4	16. Juglans sp.
12	16. Juglans sp.
5	(2) 12. Salix sp.
13	12. Quercus agrifolia
6	(2) 12. Alnus sp.
14	12. Salix sp.
7	12. Salix sp.
15	12. Salix sp.

CARPY CONOLLY LLC



1. THE CONTRACTOR SHALL CLEAR AND GRUB ALL AREAS TO BE GRADED.
2. INSTALL AND MAINTAIN SILT FENCE ALONG THE TOP OF THE ACTIVE CHANNEL BANK FOR ALL BENCH GRADING (NOT SHOWN ON DRAWING). REMOVE BY OCTOBER 15TH.
3. ALL GRADED AREAS AND ANY OTHER AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED BY SEEDING AND APPLYING EROSION CONTROL MEASURES. SEE SHEET R01 AND SPECS.
4. TREE SURVEY IS INCOMPLETE. CONTRACTOR SHALL VERIFY TREES TO BE REMOVED IN THE FIELD PRIOR TO COMMENCEMENT OF CONSTRUCTION

PREPARED BY:
PWA
PHILIP WILLIAMS & ASSOCIATES, LTD.
ENVIRONMENTAL HYDROLOGY
1195 THIRD ST., SUITE 201
NAPA, CALIFORNIA 94559
PHONE (415) 262-2300 FAX (415) 262-2303

GRADING PLAN: STA 155+50 TO STA 169+15
PROJECT
NAPA RIVER RESTORATION
RUTHERFORD REACH 4:
WEST (RIGHT) BANK

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SHEET
C04
4 OF 34

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MATCH LINE STA 155+50 SEE SHEET C04

TREE REMOVAL

BENCH 8

POINT #	DESCRIPTION
18	12.Juglans sp.
19	20.Quercus lobata
20	30.Juglans sp.
23	12.Alnus sp.

R.B. STA 151+50

POINT #	DESCRIPTION
24	12.Diospiros kaki

CARPY CONOLLY LLC

SHEET NOTES

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3. ALL GRADED AREAS AND ANY OTHER AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED BY SEEDING AND APPLYING EROSION CONTROL MEASURES. SEE SHEET R01 AND SPECS.
4. TREE SURVEY IS INCOMPLETE. CONTRACTOR SHALL VERIFY TREE TO BE REMOVED IN THE FIELD PRIOR TO COMMENCEMENT OF CONSTRUCTION

PREPARED BY:



PWA
PHILIP WILLIAMS & ASSOCIATES, LTD.
ENVIRONMENTAL HYDROLOGY
1000 CALIFORNIA STREET, SUITE 200
SAN FRANCISCO, CALIFORNIA 94109
PHONE (415) 362-3200 FAX (415) 362-3203

SHEET TITLE

GRADING PLAN: STA 146+00 TO STA 155+50

PROJECT

NAPA RIVER RESTORATION
RUTHERFORD REACH 4:
WEST (RIGHT) BANK

PREPARED FOR:

NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
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C053102

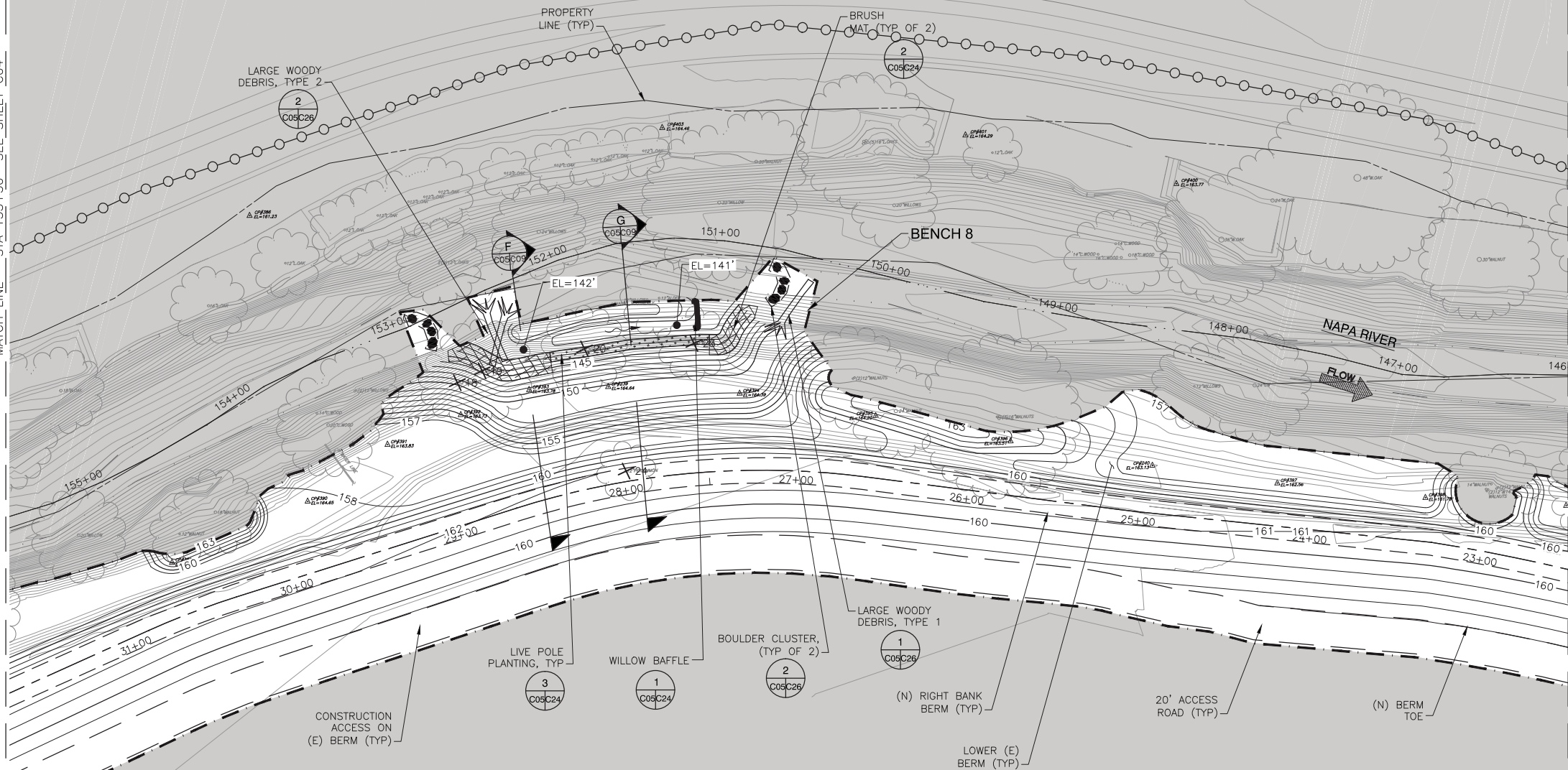
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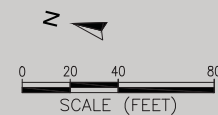
SHEET

C05

5 OF 34



EMMOLO VINEYARDS



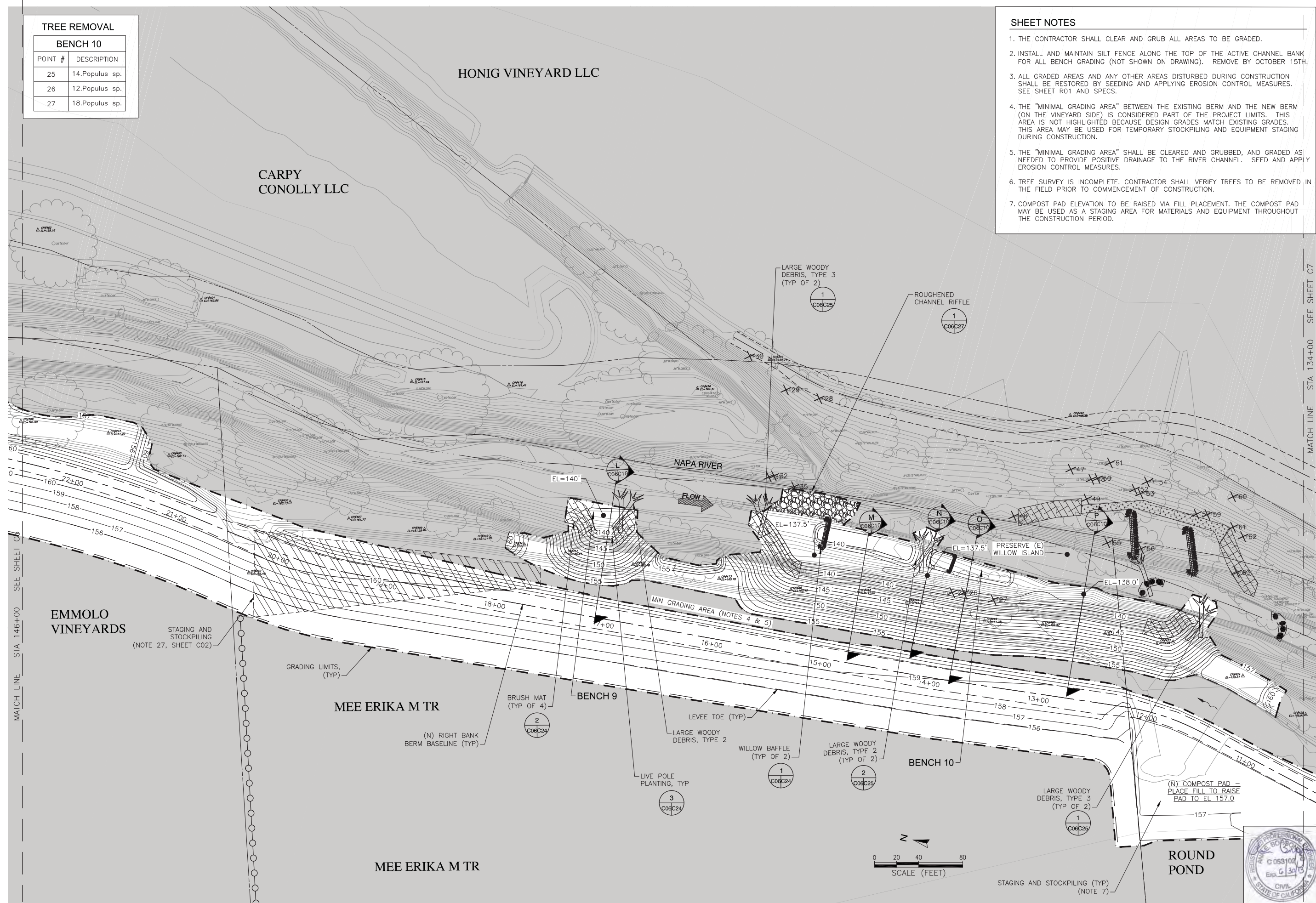
TREE REMOVAL

BENCH 10

POINT #	DESCRIPTION
25	14.Populus sp.
26	12.Populus sp.
27	18.Populus sp.

SHEET NOTES

1. THE CONTRACTOR SHALL CLEAR AND GRUB ALL AREAS TO BE GRADED.
2. INSTALL AND MAINTAIN SILT FENCE ALONG THE TOP OF THE ACTIVE CHANNEL BANK FOR ALL BENCH GRADING (NOT SHOWN ON DRAWING). REMOVE BY OCTOBER 15TH.
3. ALL GRADED AREAS AND ANY OTHER AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED BY SEEDING AND APPLYING EROSION CONTROL MEASURES. SEE SHEET R01 AND SPECS.
4. THE "MINIMAL GRADING AREA" BETWEEN THE EXISTING BERM AND THE NEW BERM (ON THE VINEYARD SIDE) IS CONSIDERED PART OF THE PROJECT LIMITS. THIS AREA IS NOT HIGHLIGHTED BECAUSE DESIGN GRADES MATCH EXISTING GRADES. THIS AREA MAY BE USED FOR TEMPORARY STOCKPILING AND EQUIPMENT STAGING DURING CONSTRUCTION.
5. THE "MINIMAL GRADING AREA" SHALL BE CLEARED AND GRUBBED, AND GRADED AS NEEDED TO PROVIDE POSITIVE DRAINAGE TO THE RIVER CHANNEL. SEED AND APPLY EROSION CONTROL MEASURES.
6. TREE SURVEY IS INCOMPLETE. CONTRACTOR SHALL VERIFY TREES TO BE REMOVED IN THE FIELD PRIOR TO COMMENCEMENT OF CONSTRUCTION.
7. COMPOST PAD ELEVATION TO BE RAISED VIA FILL PLACEMENT. THE COMPOST PAD MAY BE USED AS A STAGING AREA FOR MATERIALS AND EQUIPMENT THROUGHOUT THE CONSTRUCTION PERIOD.



PREPARED BY:

PWA
PHILIP WILLIAMS & ASSOCIATES, LTD.
ENVIRONMENTAL HYDROLOGY
1000 CALIFORNIA STREET, SUITE 200
SAN FRANCISCO, CALIFORNIA 94109
PHONE (415) 392-2300 FAX (415) 392-2303

SHEET TITLE

GRADING PLAN: STA 134+00 TO STA 146+00

PROJECT

NAPA RIVER RESTORATION
RUTHERFORD REACH 4:
WEST (RIGHT) BANK

PREPARED FOR:

NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
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Napa, CA 94559

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R. BROWN
J. BLOMBERG

DRAWN

B. TANAKA

INCHARGE

A. BORGONOV
C053102

SCALE

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NOV 2011

SHEET

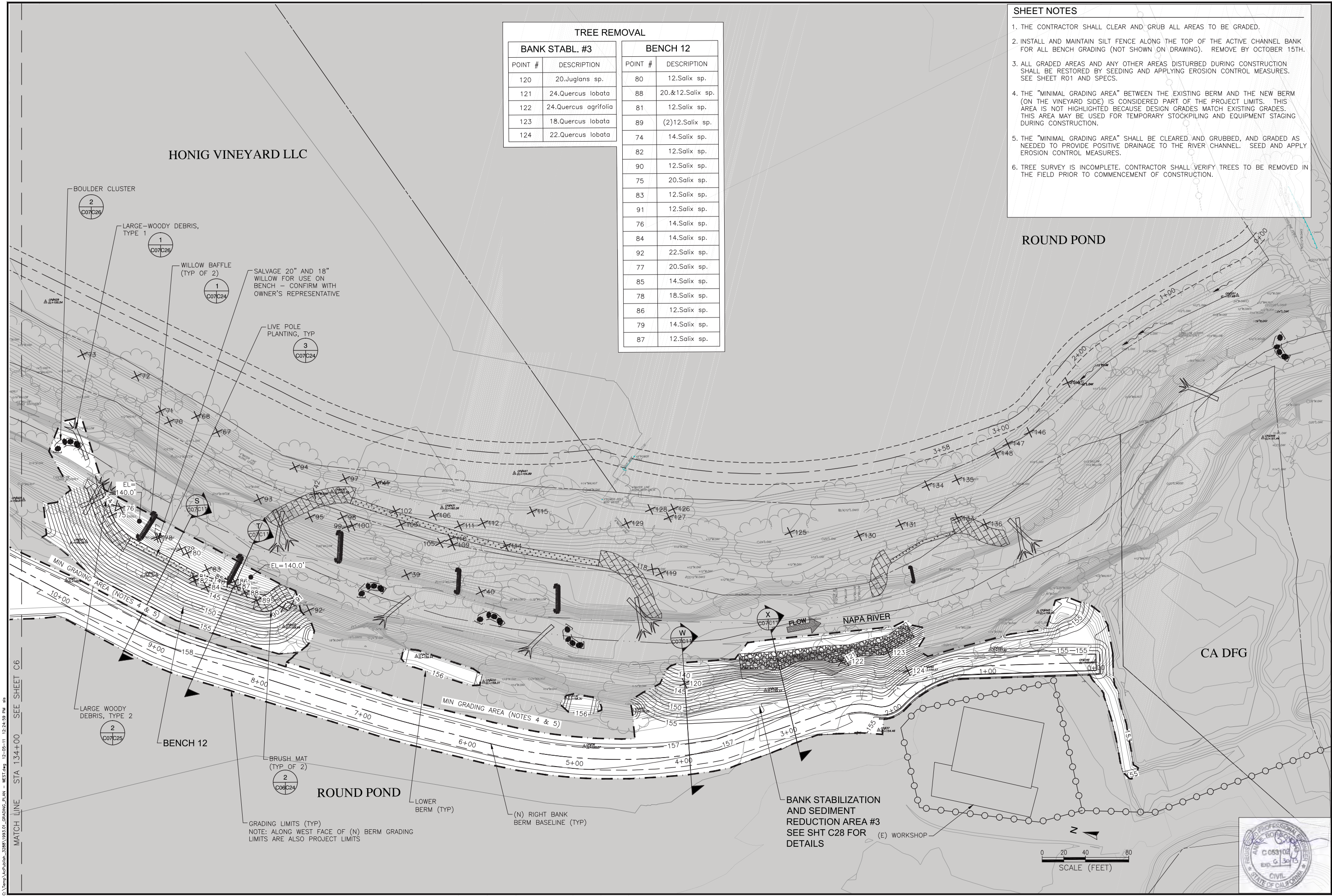
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OF

34

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TREE REMOVAL			
BANK STABL. #3		BENCH 12	
POINT #	DESCRIPTION	POINT #	DESCRIPTION
120	20.Juglans sp.	80	12.Salix sp.
121	24.Quercus lobata	88	20.&12.Salix sp.
122	24.Quercus agrifolia	81	12.Salix sp.
123	18.Quercus lobata	89	(2)12.Salix sp.
124	22.Quercus lobata	74	14.Salix sp.
		82	12.Salix sp.
		90	12.Salix sp.
		75	20.Salix sp.
		83	12.Salix sp.
		91	12.Salix sp.
		76	14.Salix sp.
		84	14.Salix sp.
		92	22.Salix sp.
		77	20.Salix sp.
		85	14.Salix sp.
		78	18.Salix sp.
		86	12.Salix sp.
		79	14.Salix sp.
		87	12.Salix sp.

- SHEET NOTES**
1. THE CONTRACTOR SHALL CLEAR AND GRUB ALL AREAS TO BE GRADED.
 2. INSTALL AND MAINTAIN SILT FENCE ALONG THE TOP OF THE ACTIVE CHANNEL BANK FOR ALL BENCH GRADING (NOT SHOWN ON DRAWING). REMOVE BY OCTOBER 15TH.
 3. ALL GRADED AREAS AND ANY OTHER AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED BY SEEDING AND APPLYING EROSION CONTROL MEASURES. SEE SHEET R01 AND SPECS.
 4. THE "MINIMAL GRADING AREA" BETWEEN THE EXISTING BERM AND THE NEW BERM (ON THE VINEYARD SIDE) IS CONSIDERED PART OF THE PROJECT LIMITS. THIS AREA IS NOT HIGHLIGHTED BECAUSE DESIGN GRADES MATCH EXISTING GRADES. THIS AREA MAY BE USED FOR TEMPORARY STOCKPILING AND EQUIPMENT STAGING DURING CONSTRUCTION.
 5. THE "MINIMAL GRADING AREA" SHALL BE CLEARED AND GRUBBED, AND GRADED AS NEEDED TO PROVIDE POSITIVE DRAINAGE TO THE RIVER CHANNEL. SEED AND APPLY EROSION CONTROL MEASURES.
 6. TREE SURVEY IS INCOMPLETE. CONTRACTOR SHALL VERIFY TREES TO BE REMOVED IN THE FIELD PRIOR TO COMMENCEMENT OF CONSTRUCTION.

PREPARED BY:
PWA
PHILIP WILLIAMS & ASSOCIATES, LTD.
ENVIRONMENTAL HYDROLOGY
1000 CALIFORNIA STREET, SUITE 200
SAN FRANCISCO, CALIFORNIA 94109
PHONE (415) 362-2300 FAX (415) 362-2303

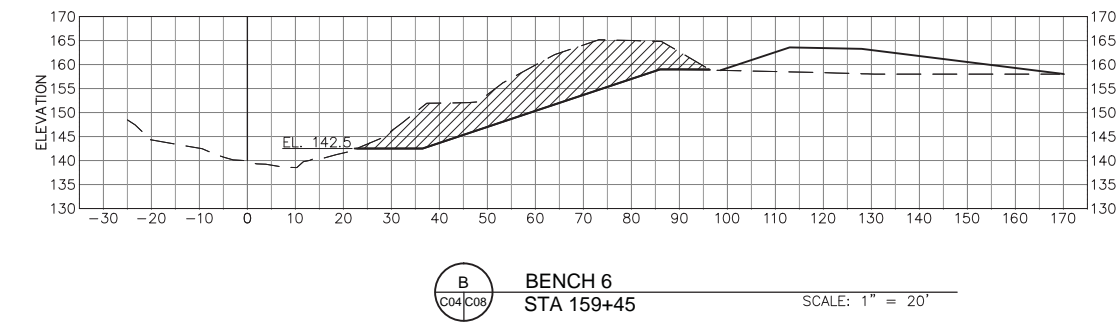
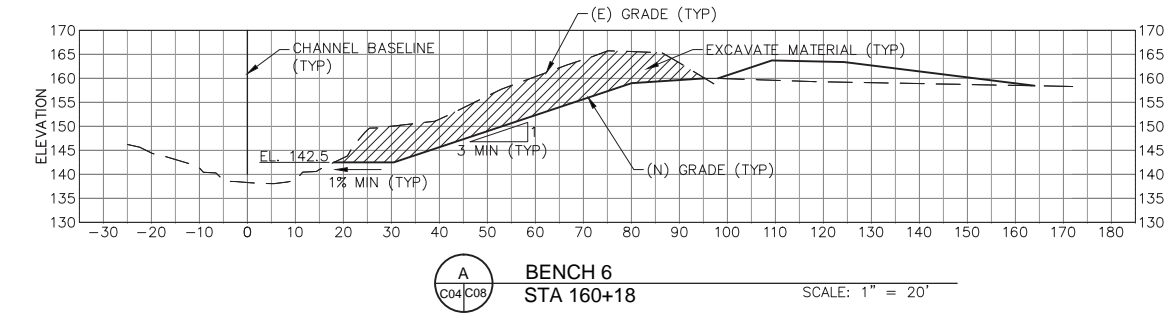
GRADING PLAN: STA 120+60 TO STA 134+00
PROJECT: NAPA RIVER RESTORATION REACH 4: WEST (RIGHT) BANK

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

APPROVED:
DESIGNED: R. BROWN
J. BLUMBERG
DRAWN: B. TANAKA
INCHARGE: A. BORGONOV
C053102
SCALE: AS SHOWN
DATE: NOV 2011
SHEET: C07

7 OF 34

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NOTES:

1. SECTIONS ARE SHOWN LOOKING DOWNSTREAM. STATION 0 IS THE CHANNEL BASELINE, SEE SHEET C02 FOR CONTROL TABLE.
2. THE ACCURACY OF TOPOGRAPHIC DATA WITHIN THE ACTIVE CHANNEL IS LIMITED. THE GROUND SURVEY GENERALLY EXTENDS DOWN THE CHANNEL BANK, BUT NOT ACROSS THE CHANNEL. LIDAR DATA FOR THE CHANNEL DOES NOT EXTEND BELOW THE WATER SURFACE AT THE TIME OF THE SURVEY.
3. AT SOME LOCATIONS THE MATCHLINE BETWEEN THE GROUND SURVEY AND LIDAR TOPOGRAPHIC DATA DOES NOT ALIGN VERTICALLY. ALL AVAILABLE DATA IS SHOWN FOR COMPLETENESS. THE GROUND SURVEY DATA (ON THE BENCH SIDE) IS A MORE ACCURATE REPRESENTATION OF ACTUAL CONDITIONS.



PREPARED BY:
PWA
PHILIP WILLIAMS & ASSOCIATES, LTD.
ENVIRONMENTAL HYDROLOGY
1000 CALIFORNIA STREET, SUITE 100
SAN FRANCISCO, CALIFORNIA 94109
PHONE (415) 262-2300 FAX (415) 262-2303

GRADING SECTIONS
BENCH 6
NAPA RIVER RESTORATION
RUTHERFORD REACH 4:
WEST (RIGHT) BANK

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



APPROVED

DESIGNED
R. BROWN
J. BLOMBERG

DRAWN
B. TANAKA

INCHARGE
A. BORGONOVO
C053102

SCALE
AS SHOWN

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NOV 2011

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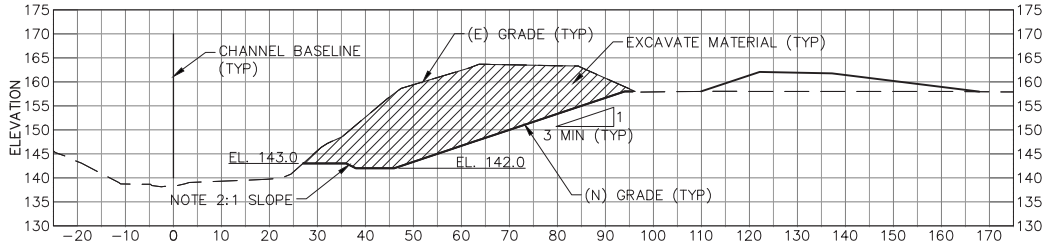
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8 OF 34

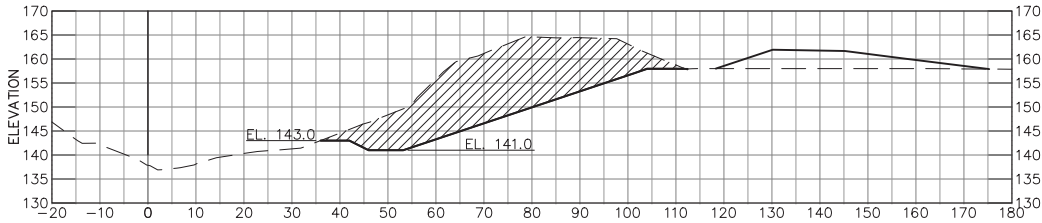
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NOTES:

1. SECTIONS ARE SHOWN LOOKING DOWNSTREAM. STATION 0 IS THE CHANNEL BASELINE, SEE SHEET C02 FOR CONTROL TABLE.
2. THE ACCURACY OF TOPOGRAPHIC DATA WITHIN THE ACTIVE CHANNEL IS LIMITED. THE GROUND SURVEY GENERALLY EXTENDS DOWN THE CHANNEL BANK, BUT NOT ACROSS THE CHANNEL. LIDAR DATA FOR THE CHANNEL DOES NOT EXTEND BELOW THE WATER SURFACE AT THE TIME OF THE SURVEY.
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F
C05/C09 **BENCH 8**
STA 151+57 SCALE: 1" = 20'



G
C05/C09 **BENCH 8**
STA 151+13 SCALE: 1" = 20'



APPROVED

DESIGNED
R. BROWN
J. BLOMBERG

DRAWN
B. TANAKA

INCHARGE
A. BORGONOV
C053102

SCALE
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DATE
NOV 2011

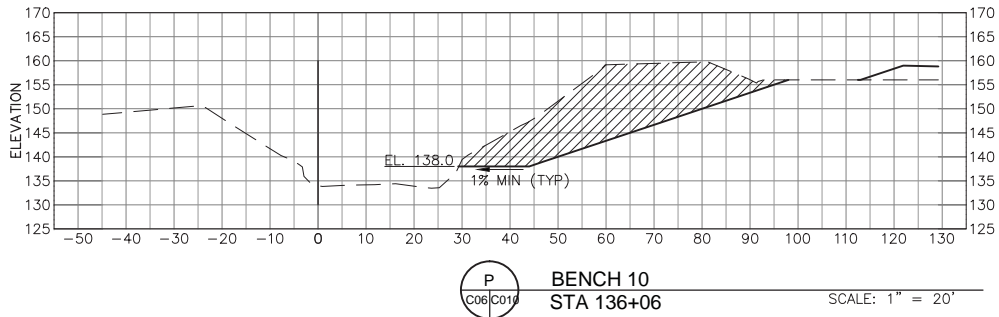
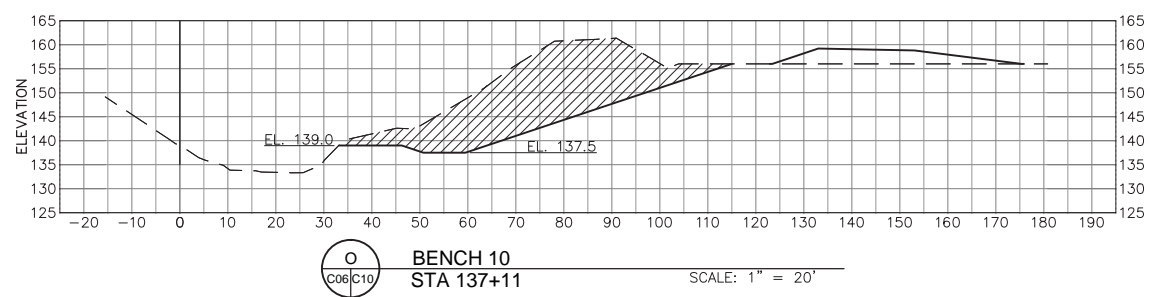
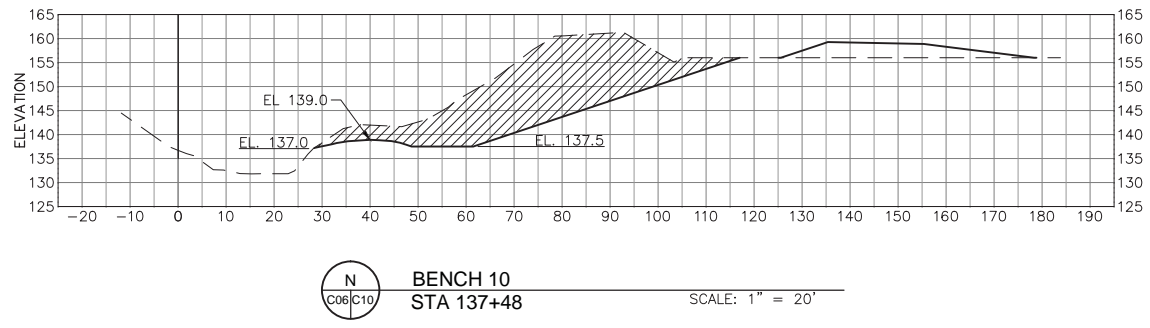
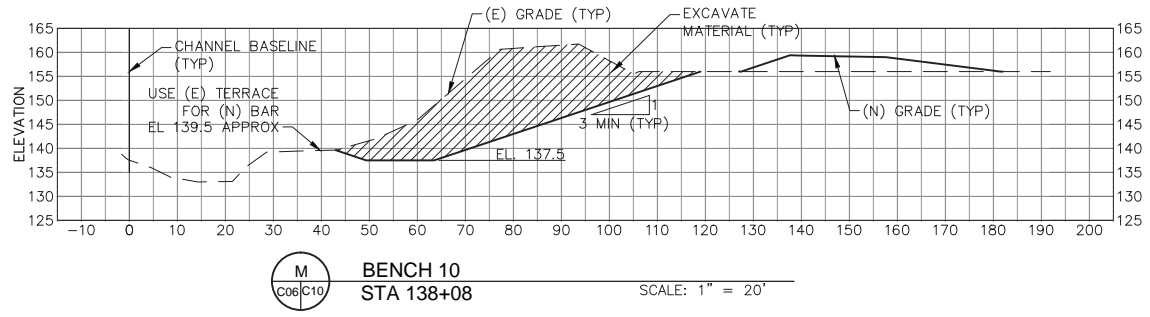
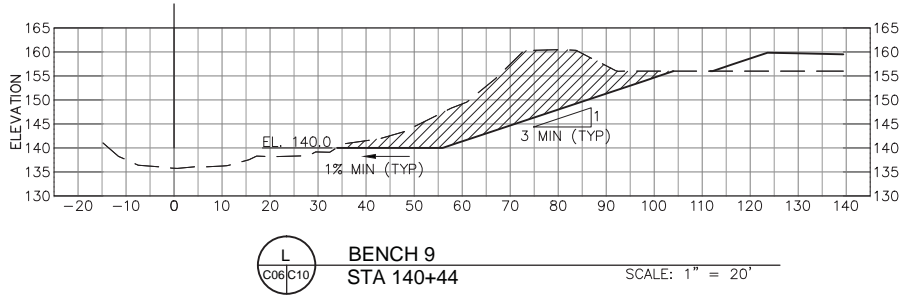
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C09

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NOTES:

1. SECTIONS ARE SHOWN LOOKING DOWNSTREAM. STATION 0 IS THE CHANNEL BASELINE, SEE SHEET C02 FOR CONTROL TABLE.
2. THE ACCURACY OF TOPOGRAPHIC DATA WITHIN THE ACTIVE CHANNEL IS LIMITED. THE GROUND SURVEY GENERALLY EXTENDS DOWN THE CHANNEL BANK, BUT NOT ACROSS THE CHANNEL. LIDAR DATA FOR THE CHANNEL DOES NOT EXTEND BELOW THE WATER SURFACE AT THE TIME OF THE SURVEY.
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PREPARED BY:
PWA
PHILIP WILLIAMS & ASSOCIATES, LTD.
ENVIRONMENTAL HYDROLOGY
1195 THIRD ST., SUITE 201
NAPA, CALIFORNIA 94559
PHONE (415) 262-2300 FAX (415) 262-2303

GRADING SECTIONS
BENCH 10
NAPA RIVER RESTORATION
RUTHERFORD REACH 4:
WEST (RIGHT) BANK

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



APPROVED

DESIGNED
R. BROWN
J. BLOMBERG

DRAWN
B. TANAKA

INCHARGE
A. BORGONOVO
C053102

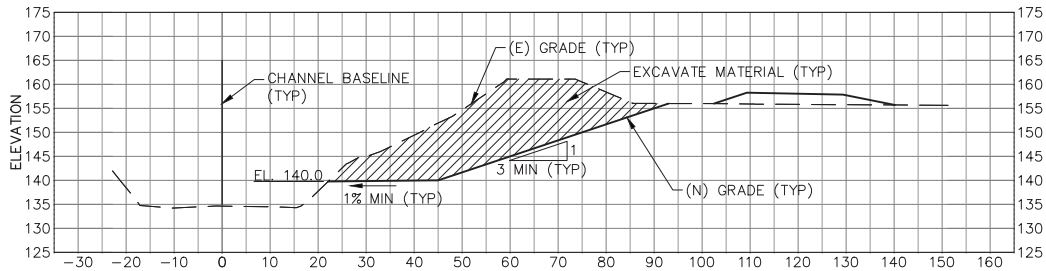
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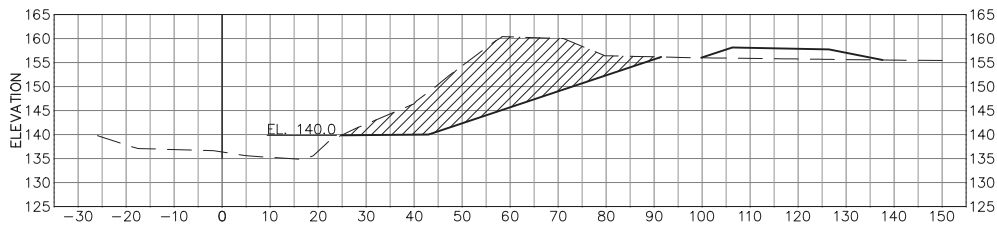
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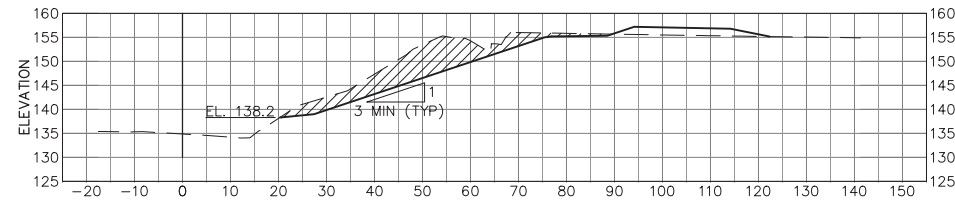
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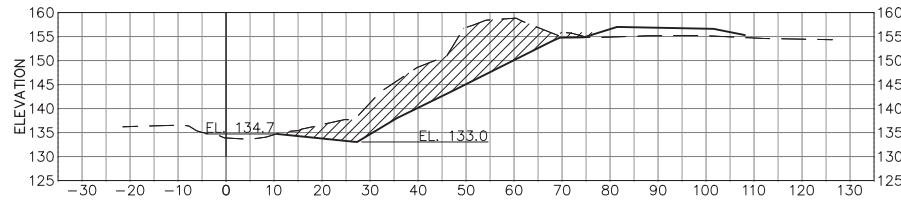
S
BENCH 12
STA 132+20
SCALE: 1" = 20'



T
BENCH 12
STA 131+58
SCALE: 1" = 20'



W
BANK STABILIZATION AND SEDIMENT REDUCTION AREA 3
STA 127+47
SCALE: 1" = 20'



X
BANK STABILIZATION AND SEDIMENT REDUCTION AREA 3
STA 126+64
SCALE: 1" = 20'

NOTES:

1. SECTIONS ARE SHOWN LOOKING DOWNSTREAM. STATION 0 IS THE CHANNEL BASELINE, SEE SHEET C02 FOR CONTROL TABLE.
2. THE ACCURACY OF TOPOGRAPHIC DATA WITHIN THE ACTIVE CHANNEL IS LIMITED. THE GROUND SURVEY GENERALLY EXTENDS DOWN THE CHANNEL BANK, BUT NOT ACROSS THE CHANNEL. LIDAR DATA FOR THE CHANNEL DOES NOT EXTEND BELOW THE WATER SURFACE AT THE TIME OF THE SURVEY.
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APPROVED

DESIGNED
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DRAWN
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INCHARGE
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C053102

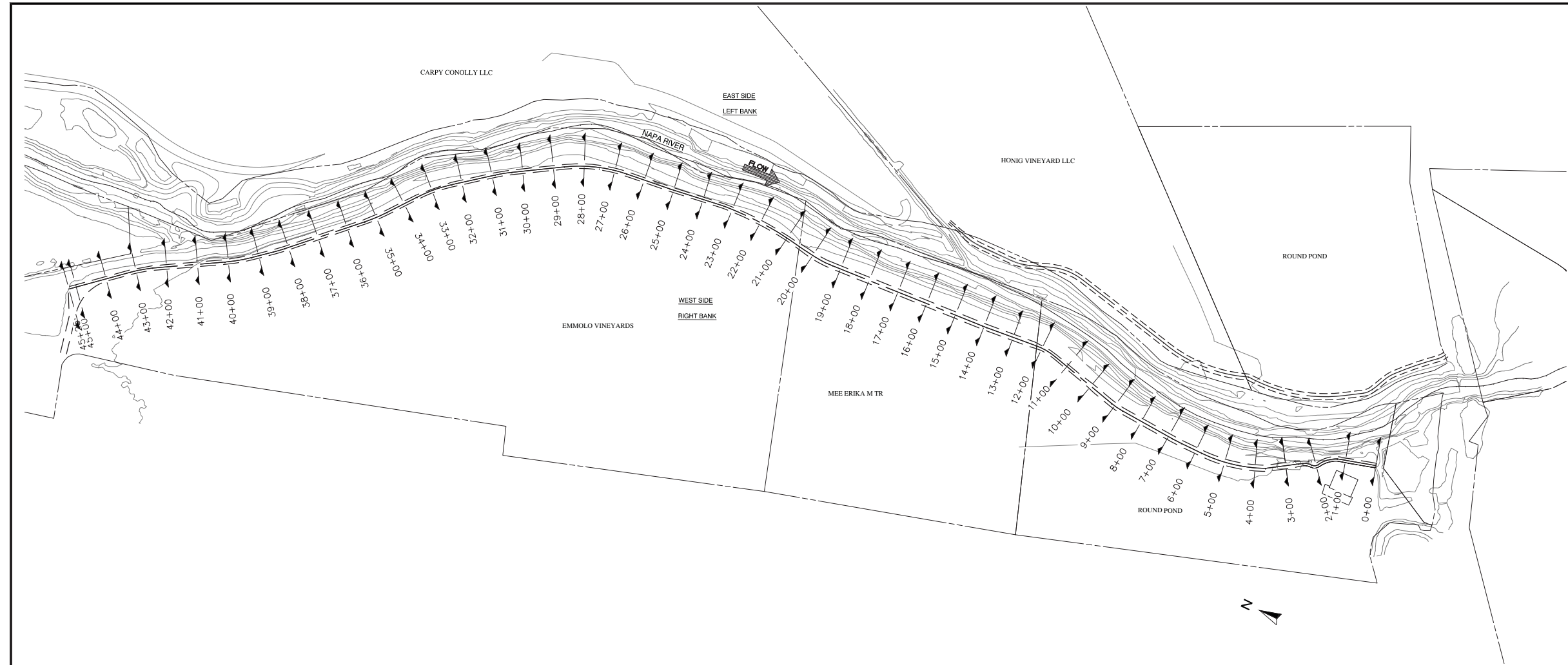
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C11

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SHEET NOTES

1. NEW RIGHT BANK BERM SECTIONS ARE SHOWN ON SHEETS C16 TO C23.
2. BERM SECTIONS ARE SHOWN LOOKING UPSTATION (UPSTREAM)
3. OVEREXCAVATE WITHIN THE FOOTPRINT OF THE NEW BERM CORE TO THE BERM DAYLIGHT ELEVATION. PLACE FILL FOR NEW BERM IN UNIFORM LIFTS.

PREPARED BY:
PWA
PHILIP WILLIAMS & ASSOCIATES, LTD.
ENVIRONMENTAL HYDROLOGY
1000 CALIFORNIA STREET, SUITE 100
SAN FRANCISCO, CALIFORNIA 94109
PHONE (415) 262-2300 FAX (415) 262-2303

SHEET TITLE
NEW BERM TYPICAL SECTION
AND VERTICAL CONTROL

PROJECT
NAPA RIVER RESTORATION
RUTHERFORD REACH 4:
WEST (RIGHT) BANK

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

PREPARED FOR:



APPROVED

DESIGNED
R. BROWN
J. BLOMBERG

DRAWN
B. TANAKA

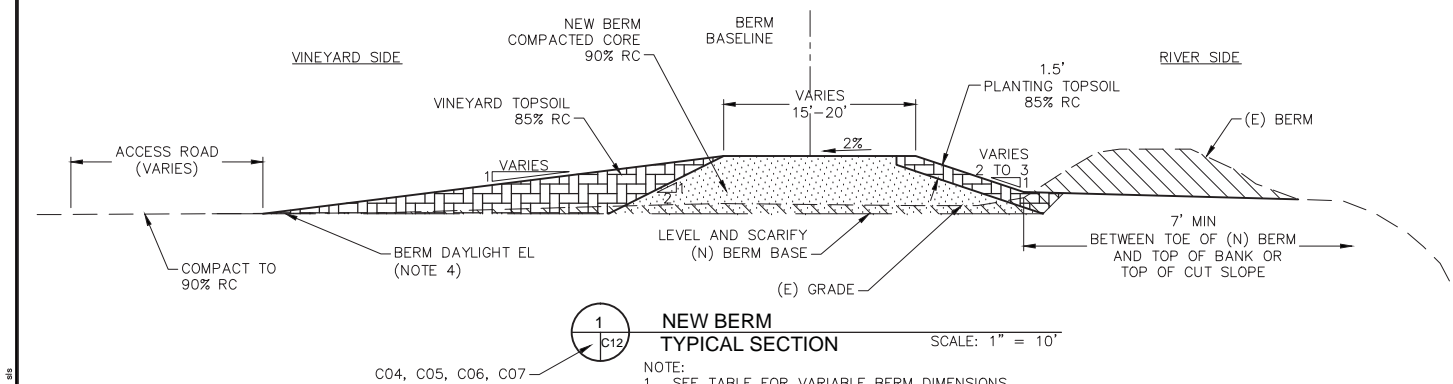
INCHARGE
A. BORGONOVO
C053102

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SHEET

C12



NEW BERM
TYPICAL SECTION

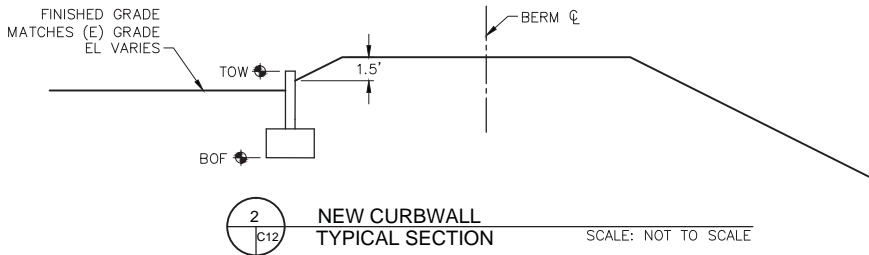
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- NOTE:
1. SEE TABLE FOR VARIABLE BERM DIMENSIONS.
 2. SEE SHEET C28 FOR BERM W/ CURB WALL DETAILS

RIGHT (WEST) BANK NEW BERM
ELEVATION CONTROL AT BASELINE

BERM STATION	PROPOSED ELEVATION
0+00	156.2
1+38	156.5
3+88	157.0
6+38	157.5
8+88	158.0
11+38	158.5
13+89	159.0
16+39	159.5
18+89	160.0
21+39	160.5
23+89	161.0
26+39	161.5
28+89	162.0
31+24	162.5
33+31	163.0
35+70	163.5
39+05	164.0
42+40	164.5
45+25	164.9

SCHEDULE OF RIGHT (WEST) BANK BERM DIMENSIONS					
PROPERTY	STATION (FT)	TOP WIDTH (FT)	ORCHARD/VINEYARD SIDE SLOPE	RIVER SIDE SLOPE	CONSTRUCTION ACCESS ROAD WIDTH (FT)
ROUND POND - SHOP	0+00 - 2+50	15	2H:1V & WALL	2H:1V	N/A
ROUND POND - TRANSITION	2+50 - 2+75	VARIES	5H:1V	2H:1V	TOP OF BERM
ROUND POND - MAIN	2+75 - 9+80	20	5H:1V	3H:1V	TOP OF BERM
ROUND POND - COMPOST PAD	9+80 - 12+20	VARIES (20 MIN)	3H:1V	3H:1V	20
MEE	12+20 - 20+50	20	8H:1V	3H:1V	20
EMMOLO - MAIN	20+50 - 43+90	15	8H:1V	3H:1V	20
EMMOLO - POND PAD	43+90 - 45+25	VARIES (15 MIN)	8H:1V	3H:1V	20



NEW CURBWall
TYPICAL SECTION

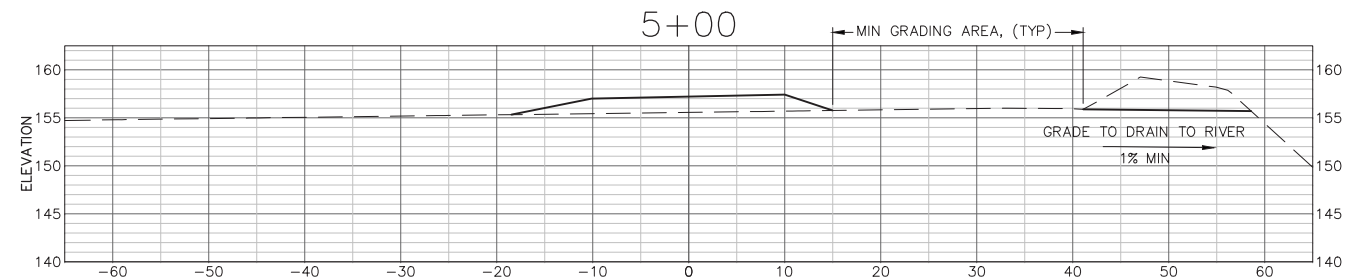
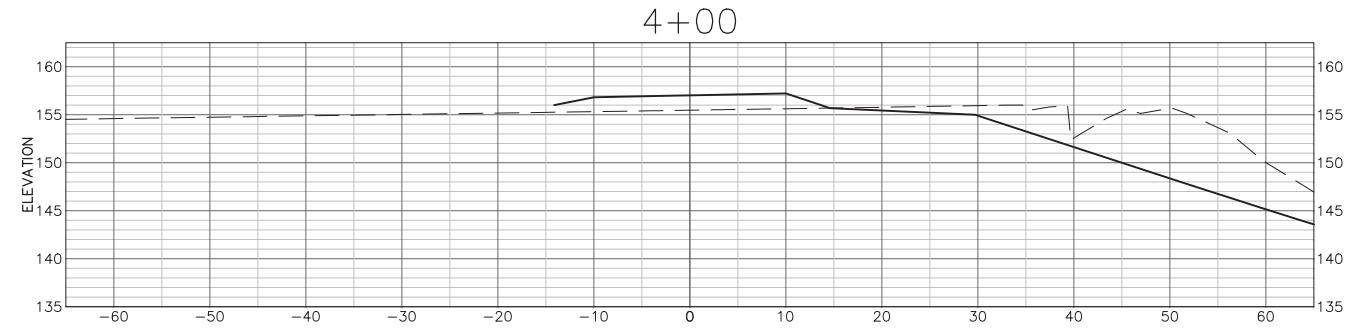
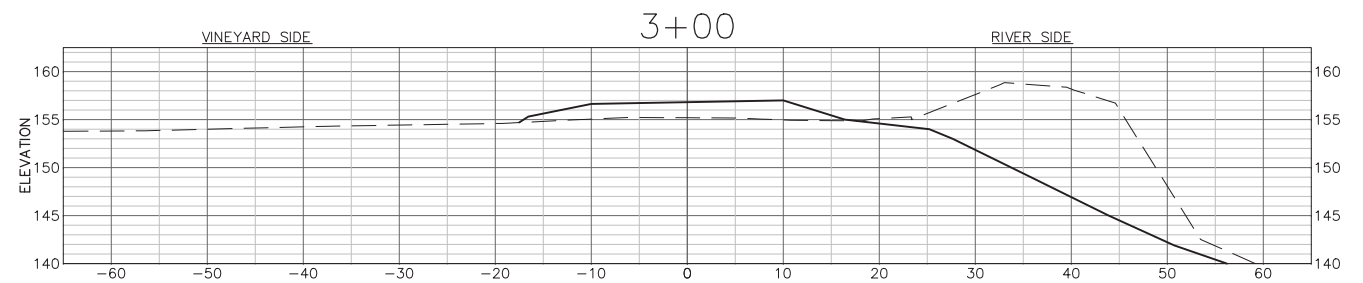
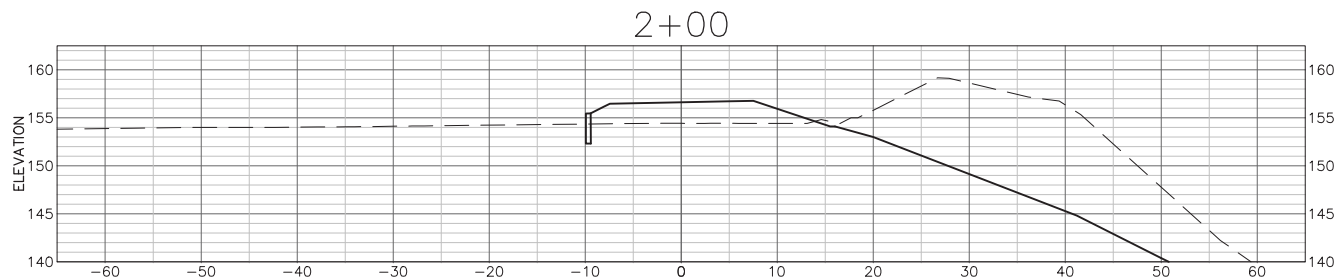
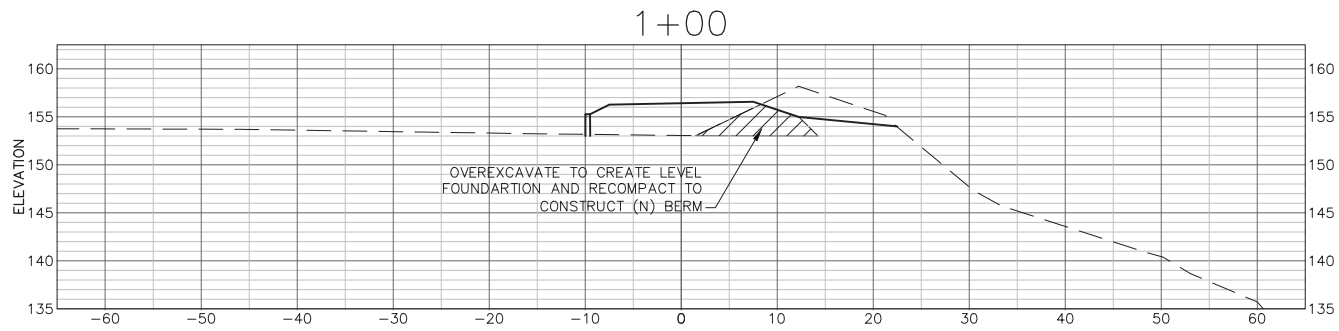
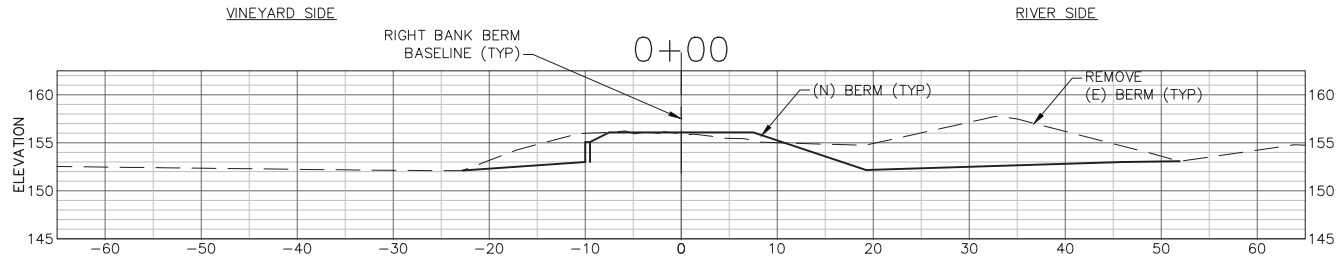
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CURBWall CONTROL TABLE

BERM STA	BERM CL EL	TOE SLOPE EL	TOP OF WALL (TOW)	FG PAVING EL	BOTTOM OF FOUNDATION (BOF)
0+00	156.2	154.7	155.2	152.6	150.1
0+50	156.3	154.8	155.3	153.0	150.5
1+00	156.4	154.9	155.4	153.2	150.7
1+50	156.5	155.0	155.5	153.7	151.2
2+00	156.6	155.1	155.6	154.6	152.1



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SHEET NOTES

- SCALE FOR ALL GRADING SECTIONS IS 1"=10'. SECTIONS ARE SHOWN LOOKING UPSTREAM
- SEE SHEET C12 FOR TYPICAL SECTION.
- OVEREXCAVATE AS NEEDED TO CREATE LEVEL BERM FOUNDATION. SUBGRADE LIMITS NOT SHOWN ON THIS SHEET. SEE TYPICAL SECTIONS, SHEET C12.
- STATION 0 ON THE CROSS-SECTION ALIGNS WITH THE (N) BERM BASELINE.



APPROVED

DESIGNED
R. BROWN
J. BLOMBERG

DRAWN
B. TANAKA

INCHARGE
A. BORGONOVO
C053102

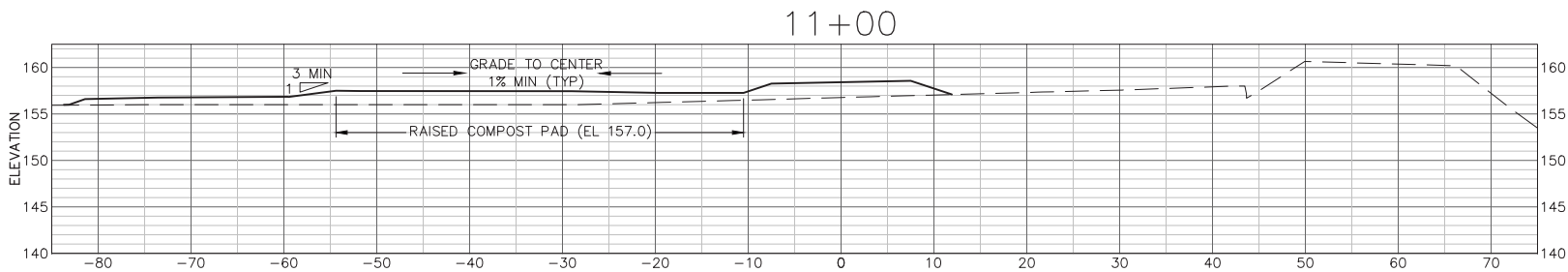
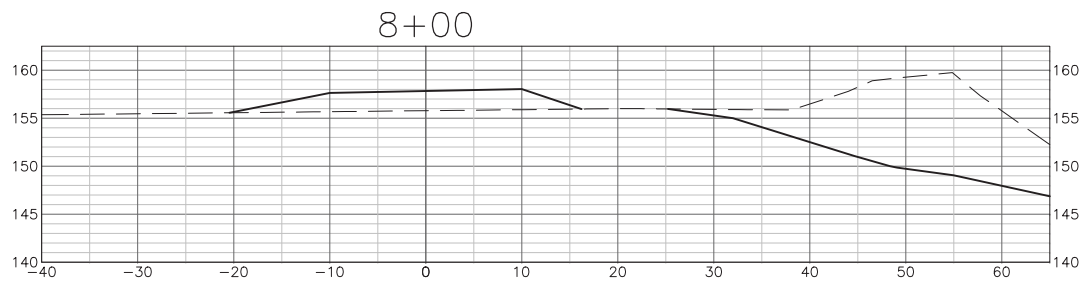
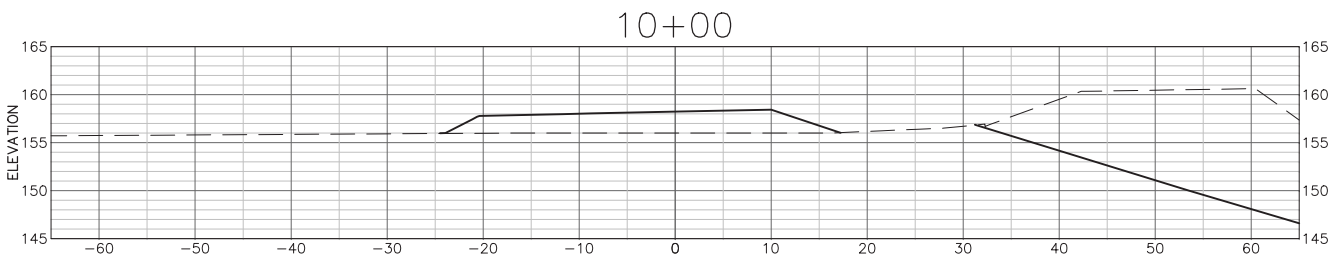
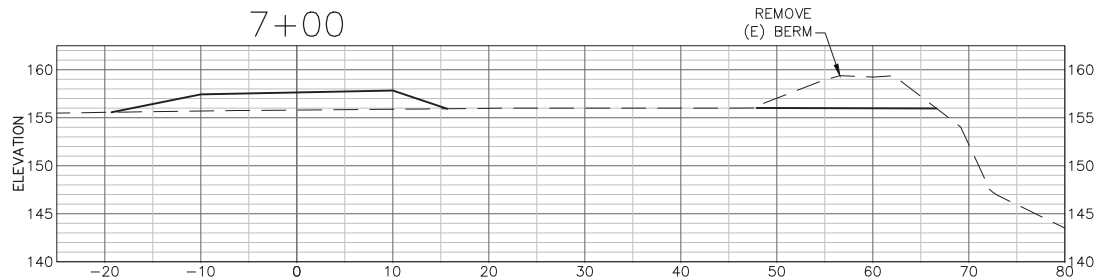
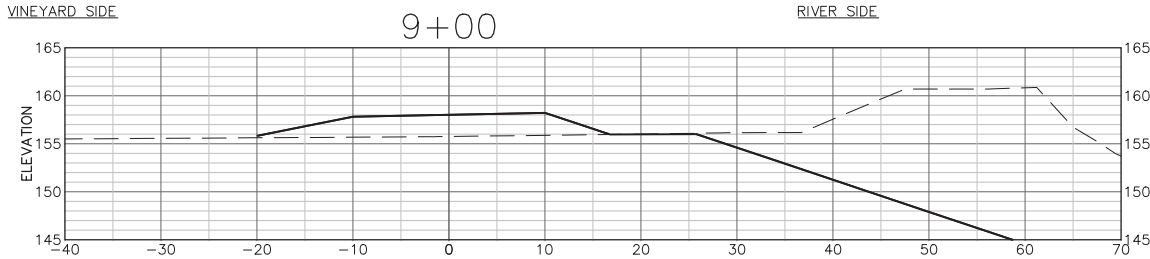
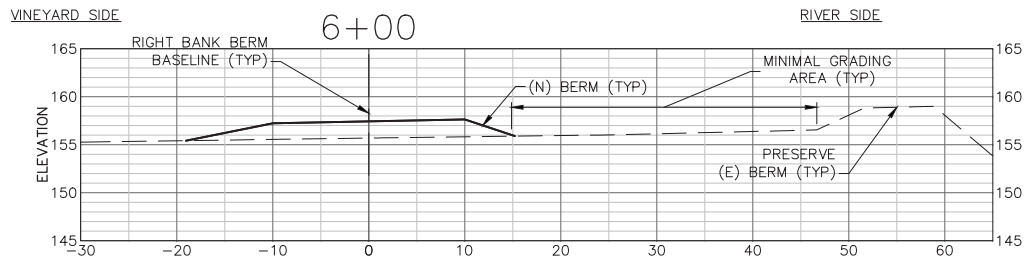
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NOV 2011

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C16

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SHEET NOTES

- SCALE FOR ALL GRADING SECTIONS IS 1"=10'. SECTIONS ARE SHOWN LOOKING UPSTREAM
- SEE SHEET C12 FOR TYPICAL SECTION.
- OVEREXCAVATE AS NEEDED TO CREATE LEVEL BERM FOUNDATION. SUBGRADE LIMITS NOT SHOWN ON THIS SHEET. SEE TYPICAL SECTIONS, SHEET C12.
- STATION 0 ON THE CROSS-SECTION ALIGNS WITH THE (N) BERM BASELINE.



APPROVED

DESIGNED
R. BROWN
J. BLOMBERG

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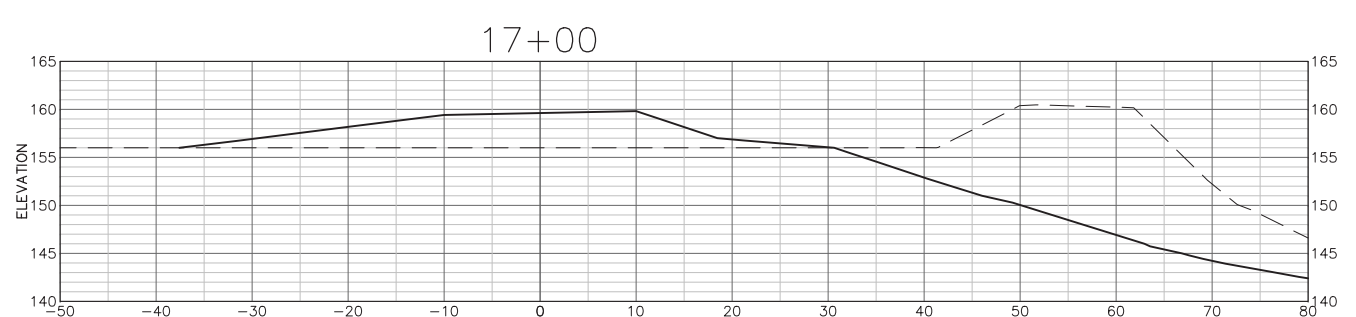
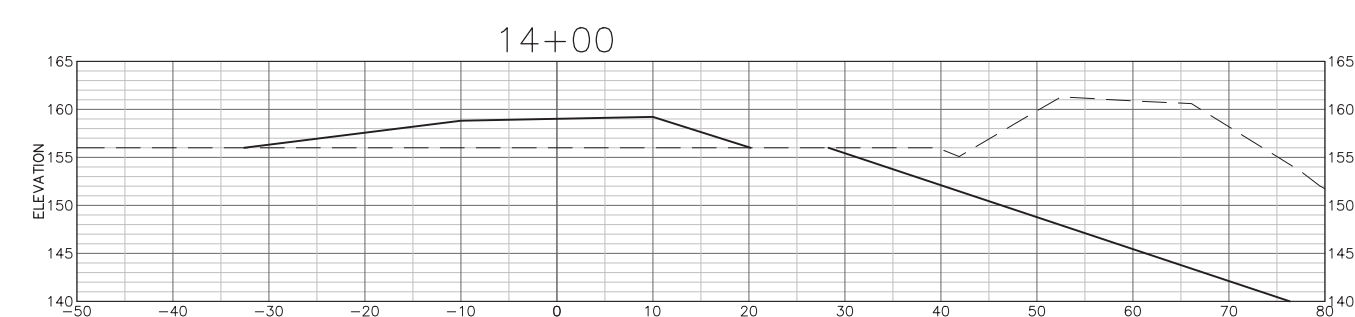
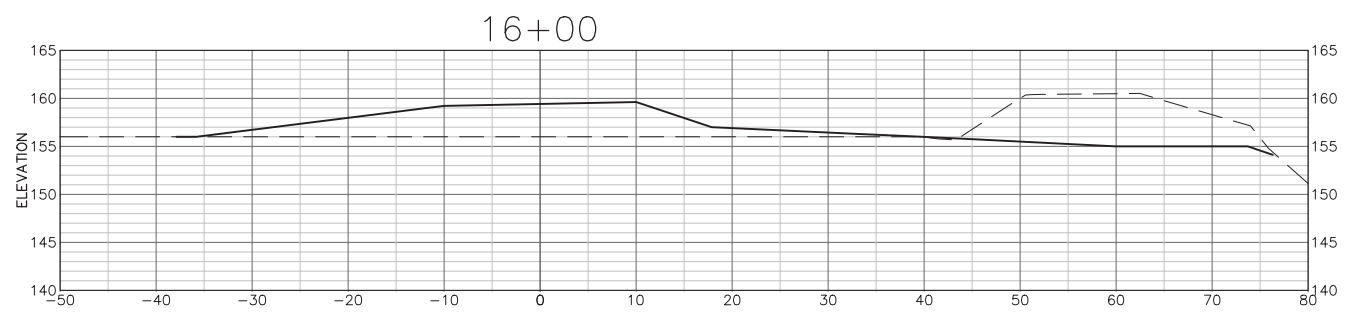
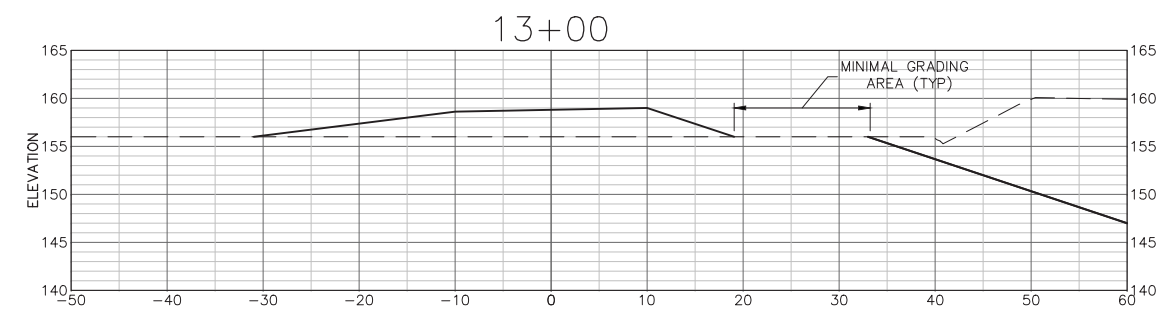
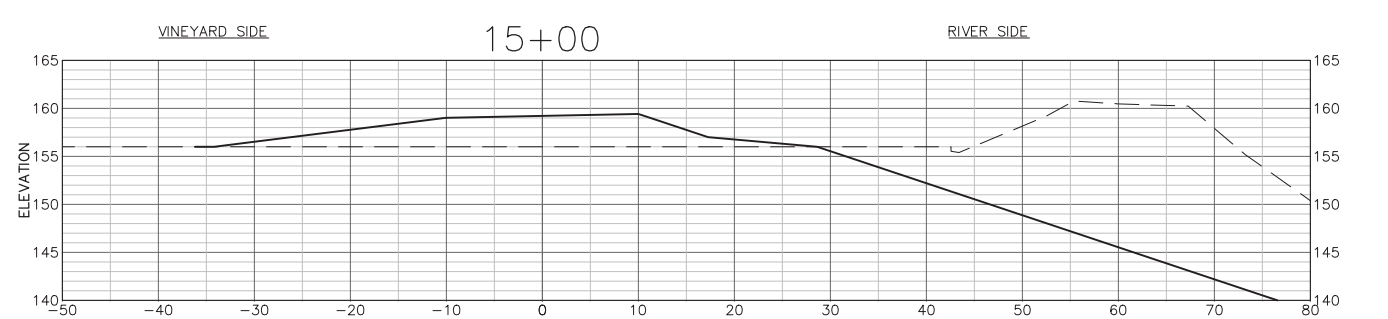
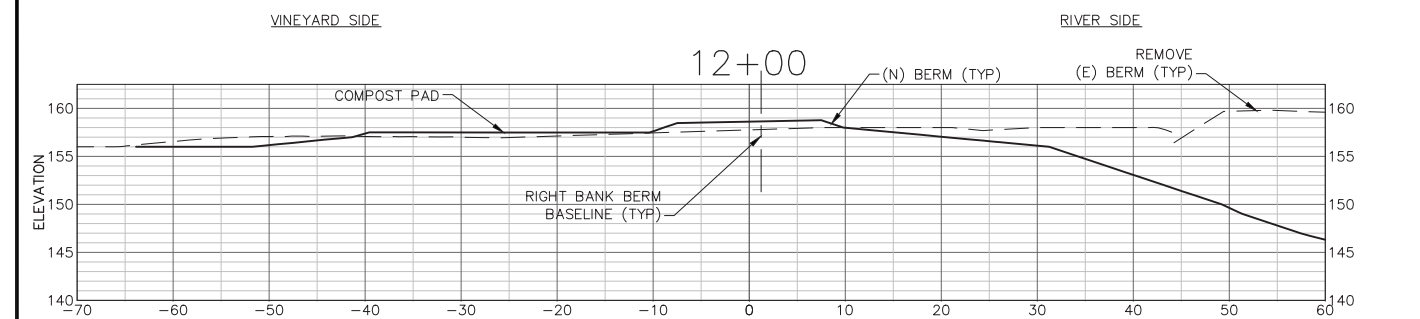
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**RIGHT BANK (WEST)
GRADING SECTIONS**

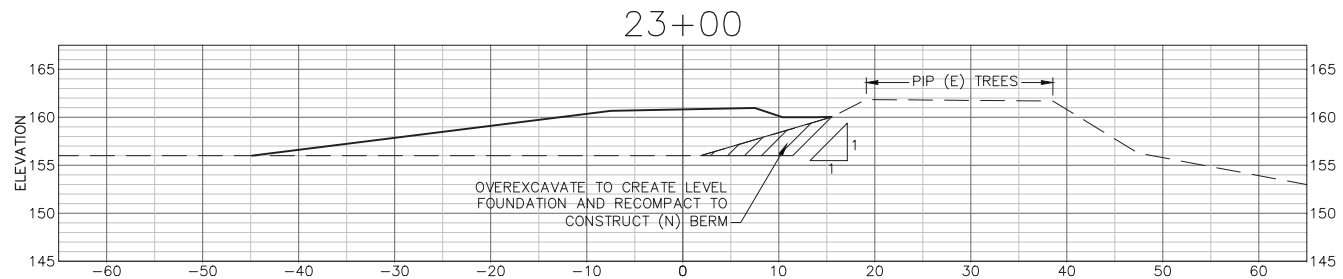
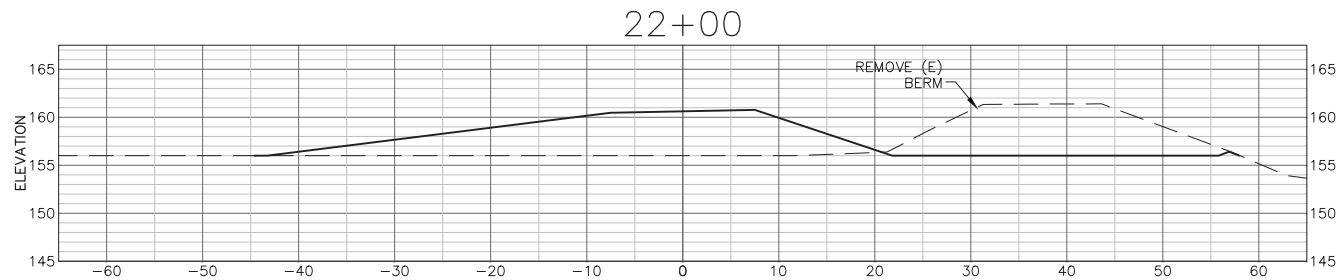
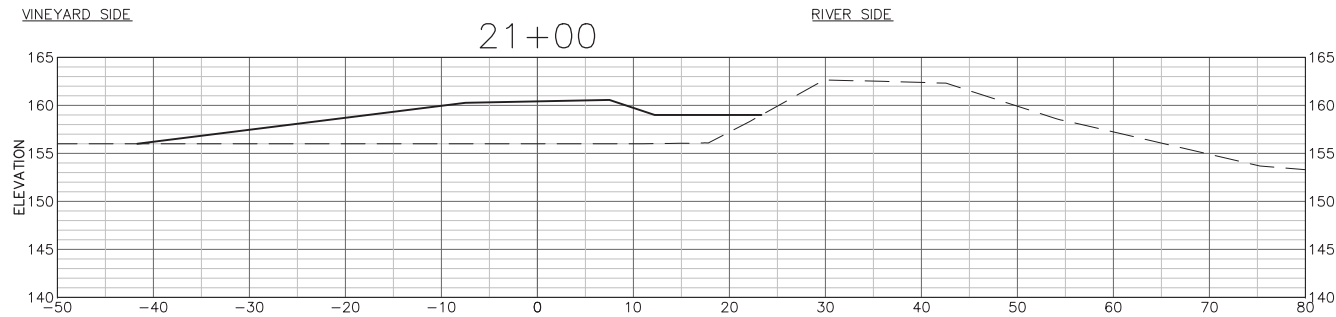
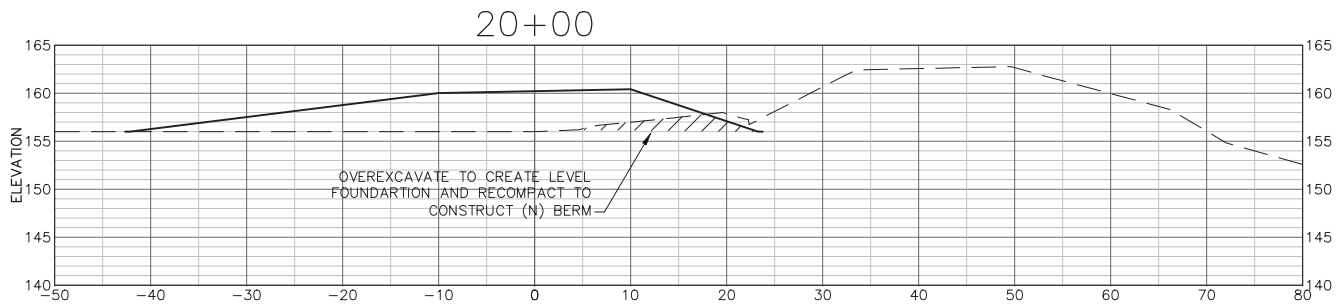
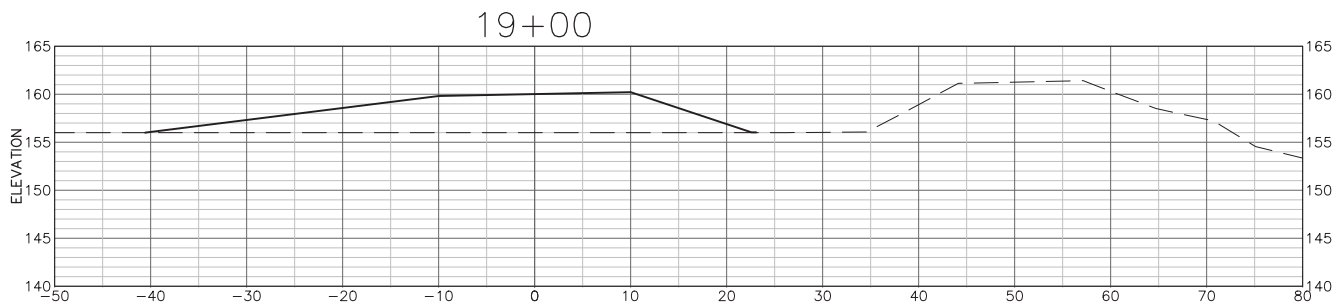
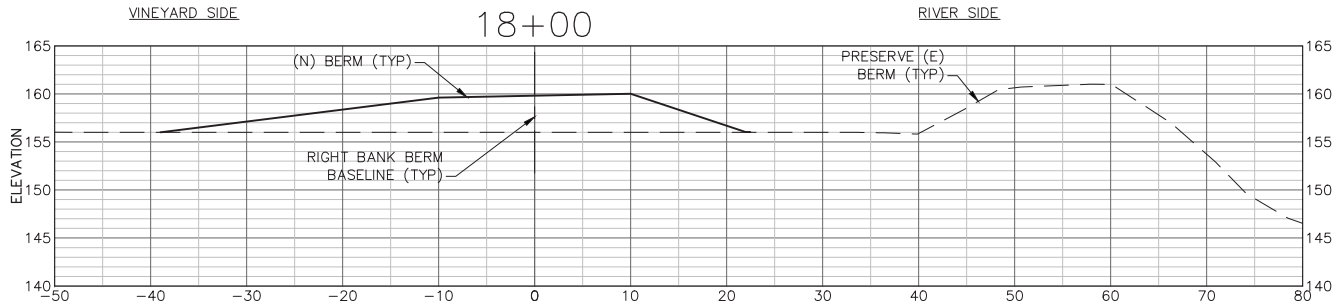
SHEET NOTES

1. SCALE FOR ALL GRADING SECTIONS IS 1"=10'. SECTIONS ARE SHOWN LOOKING UPSTREAM
2. SEE SHEET C12 FOR TYPICAL SECTION.
3. OVEREXCAVATE AS NEEDED TO CREATE LEVEL BERM FOUNDATION. SUBGRADE LIMITS NOT SHOWN ON THIS SHEET. SEE TYPICAL SECTIONS, SHEET C12.
4. STATION 0 ON THE CROSS-SECTION ALIGNS WITH THE (N) BERM BASELINE.



PREPARED BY: PWA PHILIP WILLIAMS & ASSOCIATES, LTD. ENVIRONMENTAL HYDROLOGY 1000 CALIFORNIA STREET, SUITE 200 SAN FRANCISCO, CALIFORNIA 94109 PHONE (415) 362-2300 FAX (415) 362-2303	
SHEET TITLE RIGHT BANK GRADING SECTIONS BERM STA 12+00 TO STA 17+00	
PROJECT NAPA RIVER RESTORATION RUTHERFORD REACH 4: WEST (RIGHT) BANK	PREPARED FOR: NAPA COUNTY DEPARTMENT OF PUBLIC WORKS 1195 Third St, Suite 201 Napa, CA 94559
	
APPROVED	
DESIGNED R. BROWN J. BLOMBERG	
DRAWN B. TANAKA	
INCHARGE A. BORGONOVO C053102	
SCALE AS SHOWN	
DATE NOV 2011	
SHEET C18	
18	OF 34

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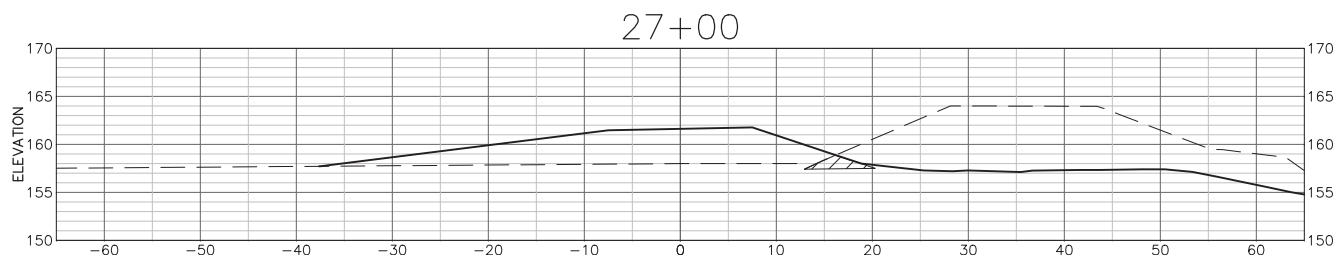
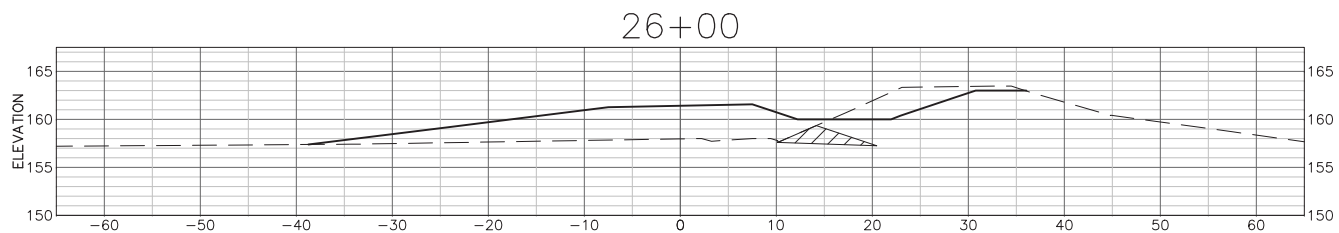
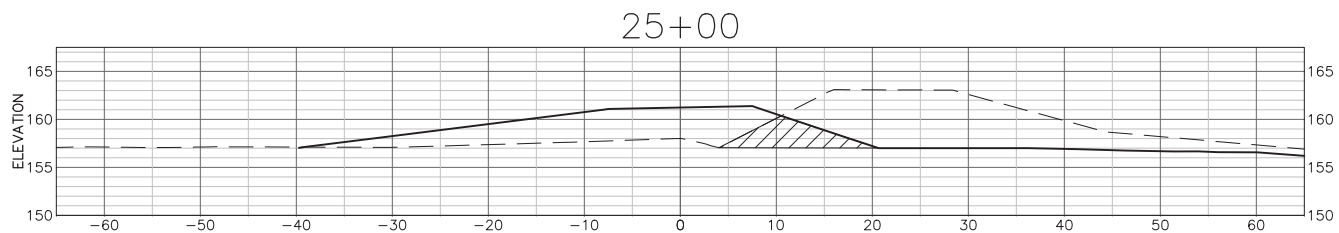
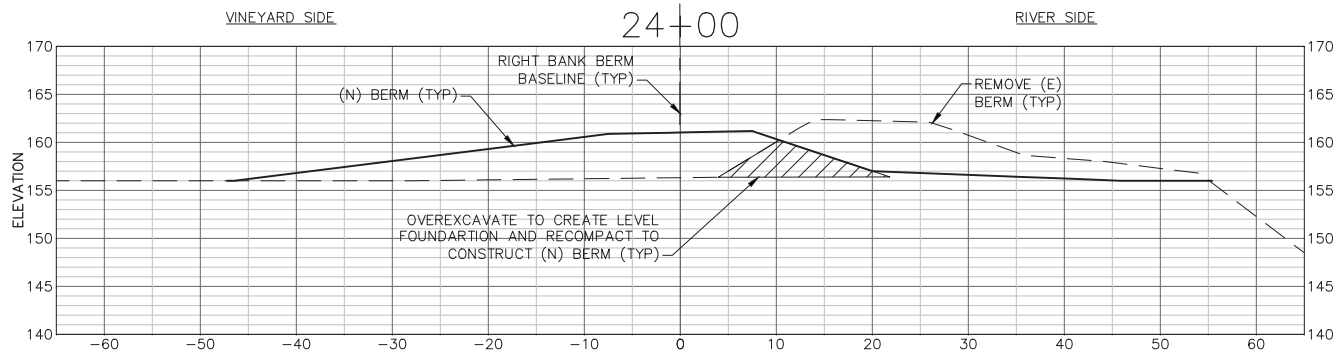


SHEET NOTES

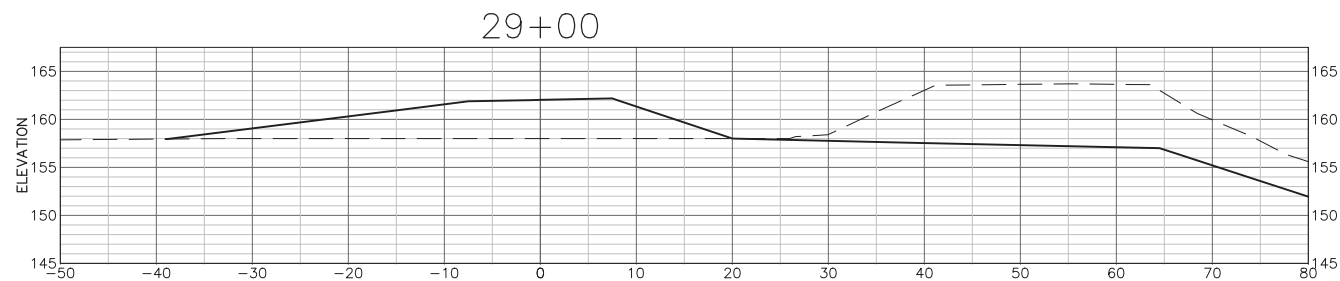
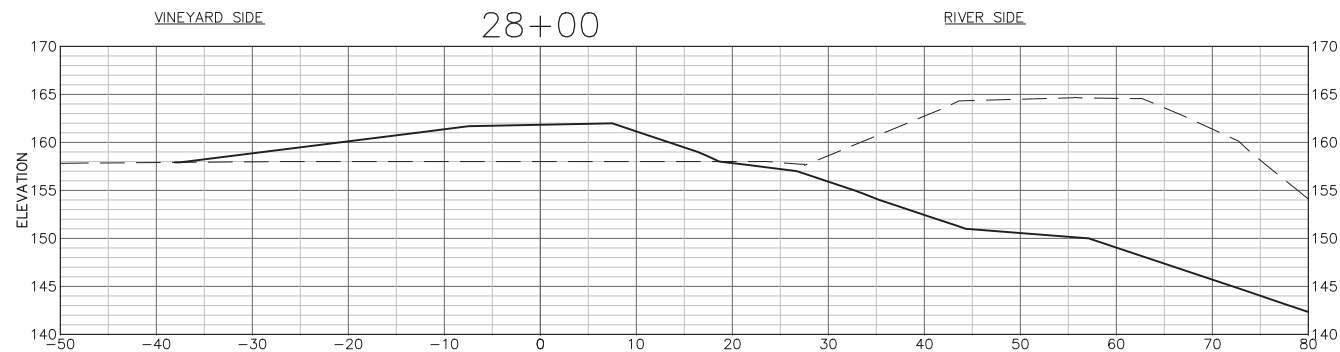
- SCALE FOR ALL GRADING SECTIONS IS 1"=10'. SECTIONS ARE SHOWN LOOKING UPSTREAM
- SEE SHEET C12 FOR TYPICAL SECTION.
- OVEREXCAVATE AS NEEDED TO CREATE LEVEL BERM FOUNDATION. SUBGRADE LIMITS NOT SHOWN ON THIS SHEET. SEE TYPICAL SECTIONS, SHEET C12.
- STATION 0 ON THE CROSS-SECTION ALIGNS WITH THE (N) BERM BASELINE.



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**RIGHT BANK (WEST)
GRADING SECTIONS**



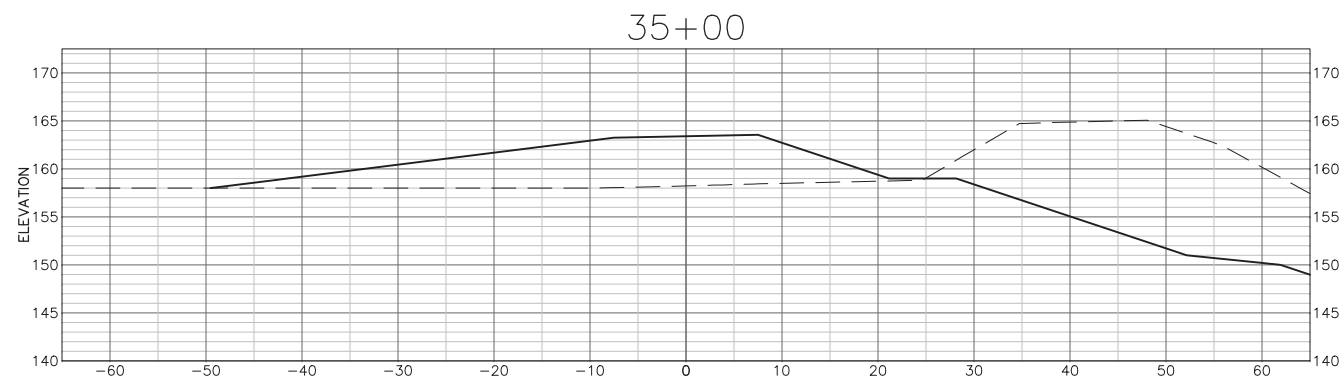
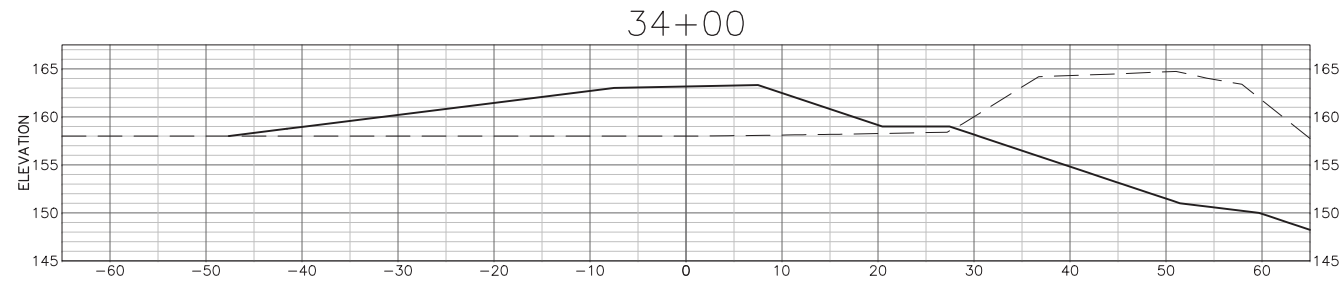
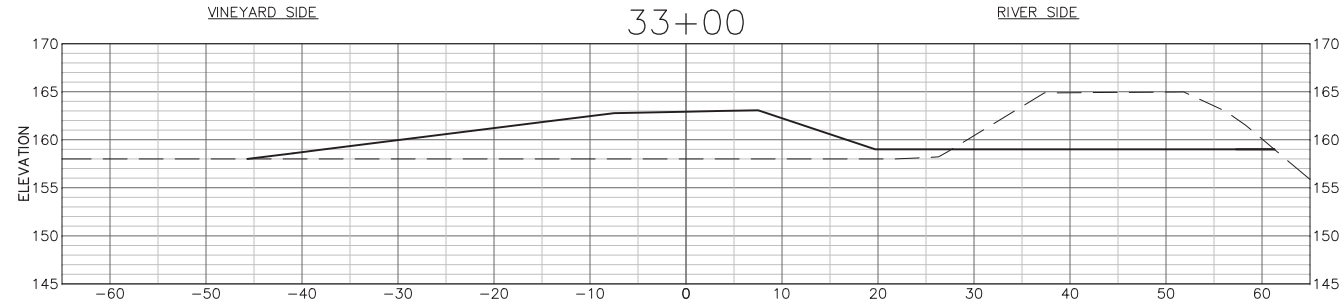
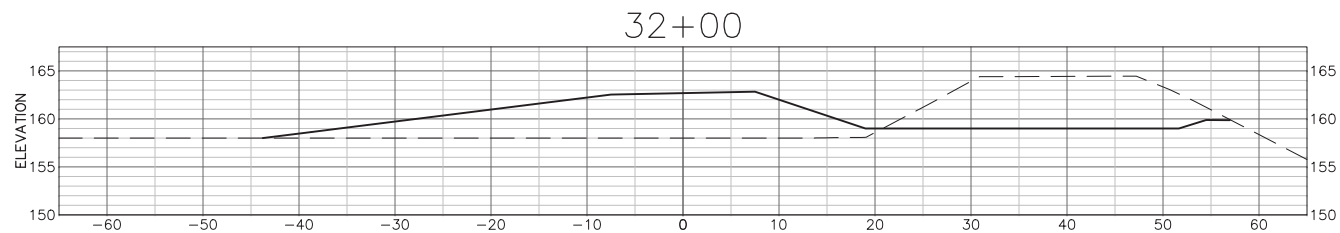
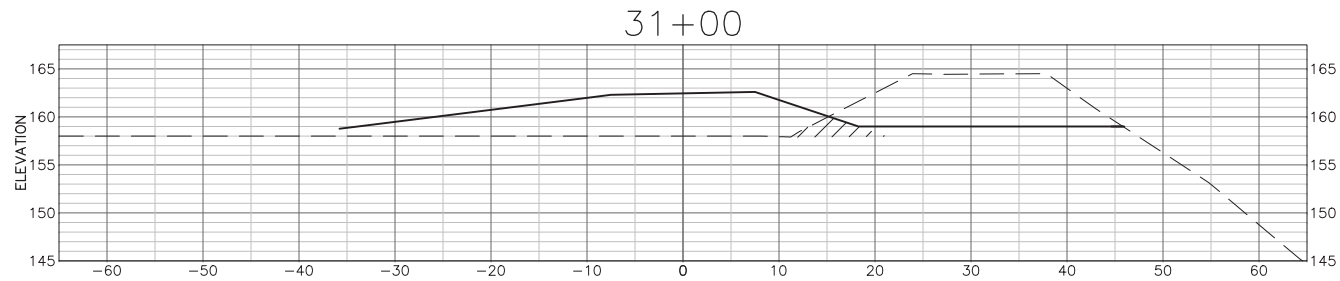
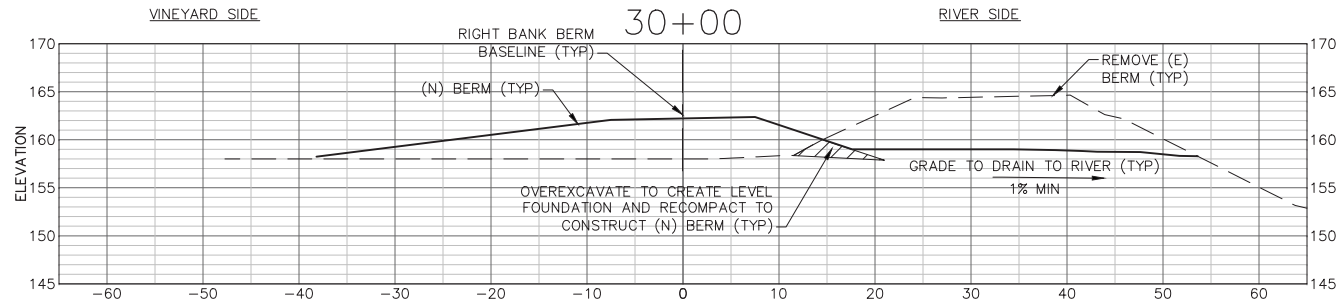
SHEET NOTES

- SCALE FOR ALL GRADING SECTIONS IS 1"=10'. SECTIONS ARE SHOWN LOOKING UPSTREAM
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- STATION 0 ON THE CROSS-SECTION ALIGNS WITH THE (N) BERM BASELINE.



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SHEET TITLE RIGHT BANK GRADING SECTIONS BERM STA 24+00 TO STA 29+00	
PROJECT NAPA RIVER RESTORATION RUTHERFORD REACH 4: WEST (RIGHT) BANK	PREPARED FOR: NAPA COUNTY DEPARTMENT OF PUBLIC WORKS 1195 Third St, Suite 201 Napa, CA 94559
APPROVED 	
DESIGNED R. BROWN J. BLOMBERG	
DRAWN B. TANAKA	
INCHARGE A. BORGONOVO C053102	
SCALE AS SHOWN	
DATE NOV 2011	
SHEET C20	
20 OF 34	

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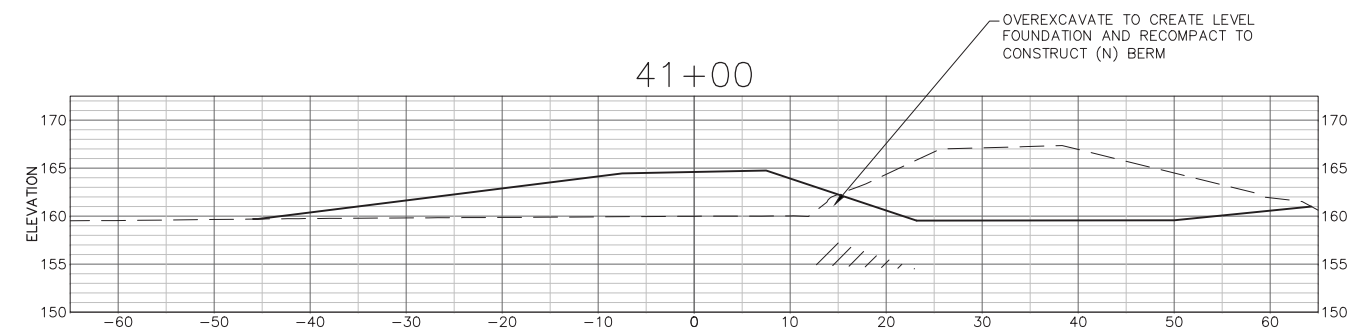
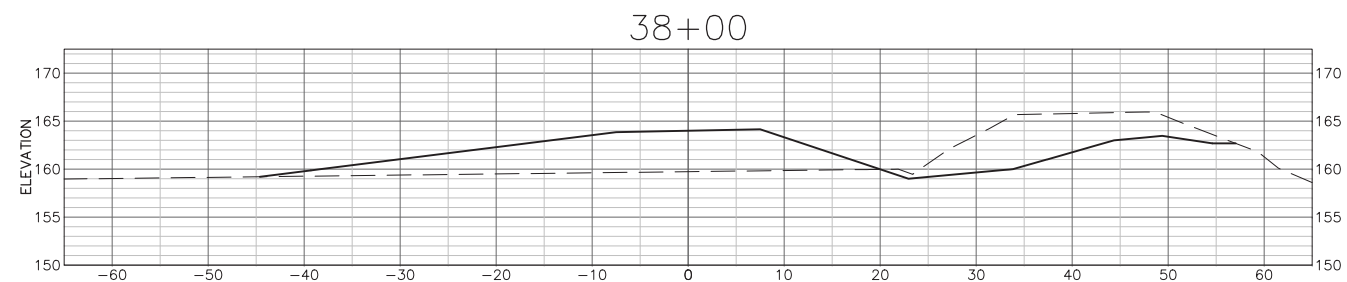
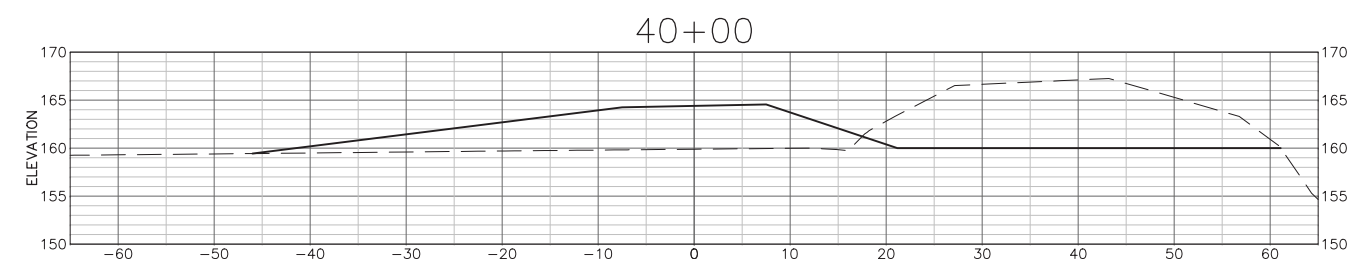
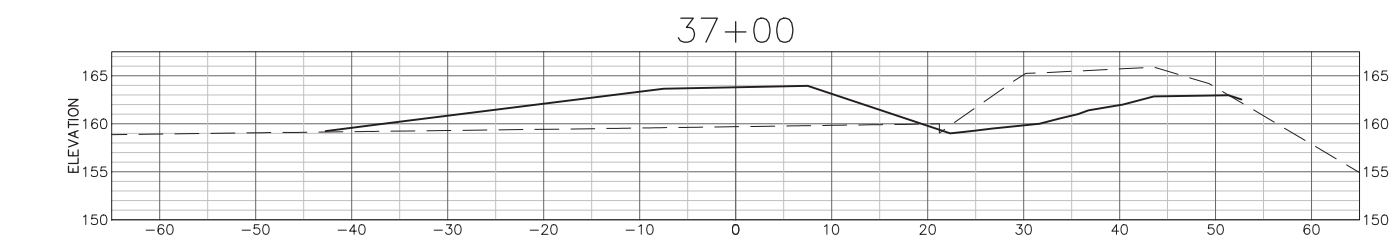
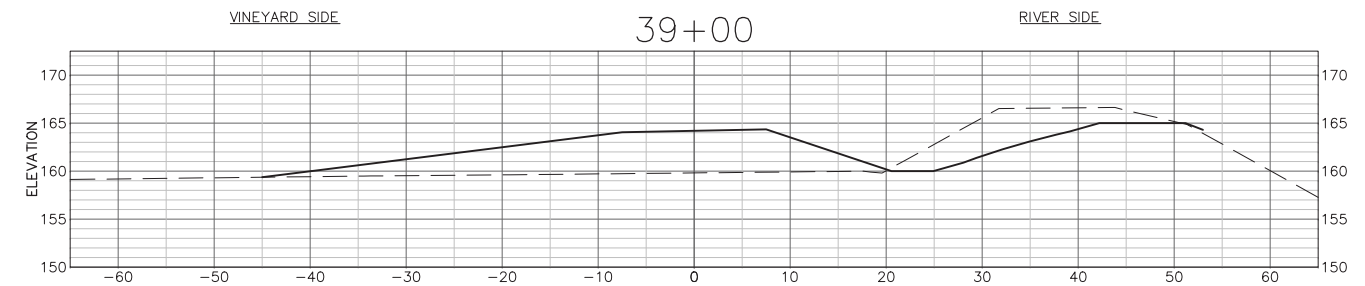
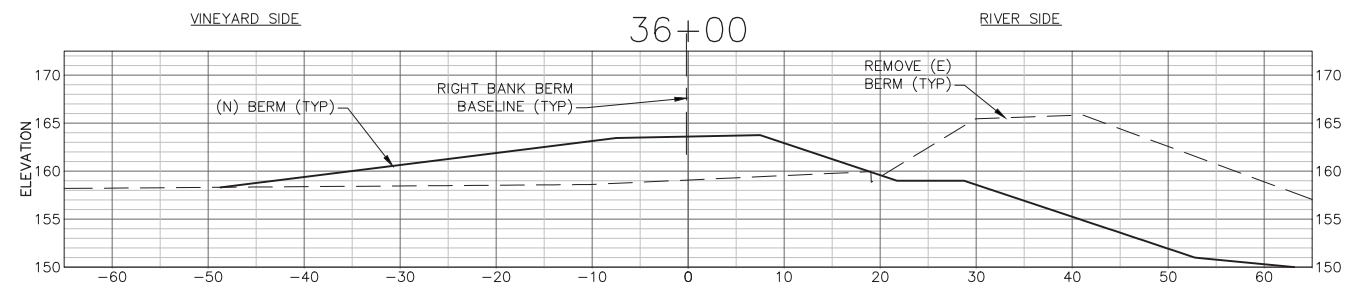
SHEET NOTES

- SCALE FOR ALL GRADING SECTIONS IS 1"=10'. SECTIONS ARE SHOWN LOOKING UPSTREAM
- SEE SHEET C12 FOR TYPICAL SECTION.
- OVEREXCAVATE AS NEEDED TO CREATE LEVEL BERM FOUNDATION. SUBGRADE LIMITS NOT SHOWN ON THIS SHEET. SEE TYPICAL SECTIONS, SHEET C12.
- STATION 0 ON THE CROSS-SECTION ALIGNS WITH THE (N) BERM BASELINE.



RIGHT BANK (WEST) GRADING SECTIONS





RIGHT BANK (WEST)
GRADING SECTIONS

- SHEET NOTES**

1. SCALE FOR ALL GRADING SECTIONS IS 1"=10'. SECTIONS ARE SHOWN LOOKING UPSTREAM
2. SEE SHEET C12 FOR TYPICAL SECTION.
3. OVEREXCAVATE AS NEEDED TO CREATE LEVEL BERM FOUNDATION. SUBGRADE LIMITS NOT SHOWN ON THIS SHEET. SEE TYPICAL SECTIONS, SHEET C12.
4. STATION 0 ON THE CROSS-SECTION ALIGNS WITH THE (N) BERM BASELINE.



PWA
PHILIP WILLIAMS & ASSOCIATES, LTD.
ENVIRONMENTAL HYDROLOGES, LTD.
550 KEARNEY STREET, SUITE 900
SAN FRANCISCO, CALIFORNIA 94108
PHONE (415) 262-2300 FAX (415) 262-2303

RIGHT BANK GRADING SECTIONS
BERM STA. 36+00 TO STA 41+00

PROJECT
NAPA RIVER RESTORATION
RUTHERFORD REACH 4:
WEST (RIGHT) BANK

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



APPROVED

DESIGNED
R. BROWN
J. BLOMBERG

RAWN B.TANAKA

CHARGE A. BORGONOVO
C053102

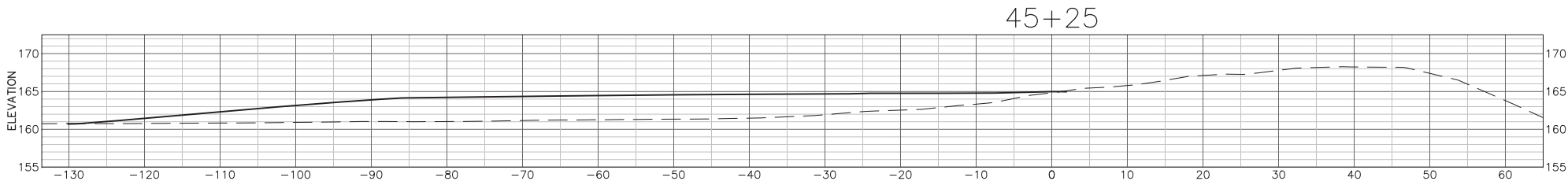
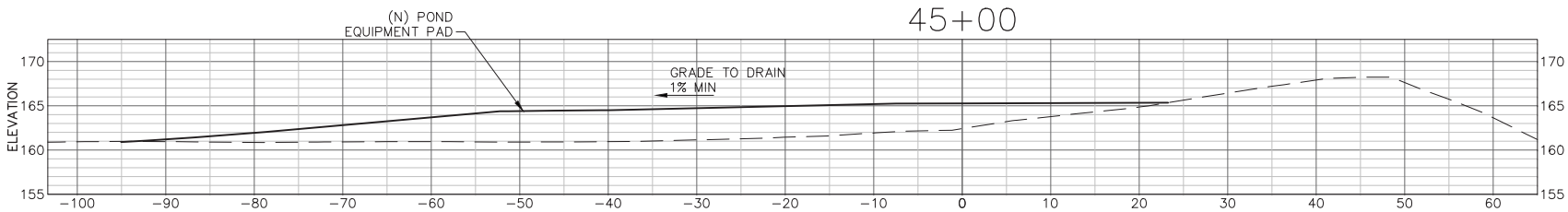
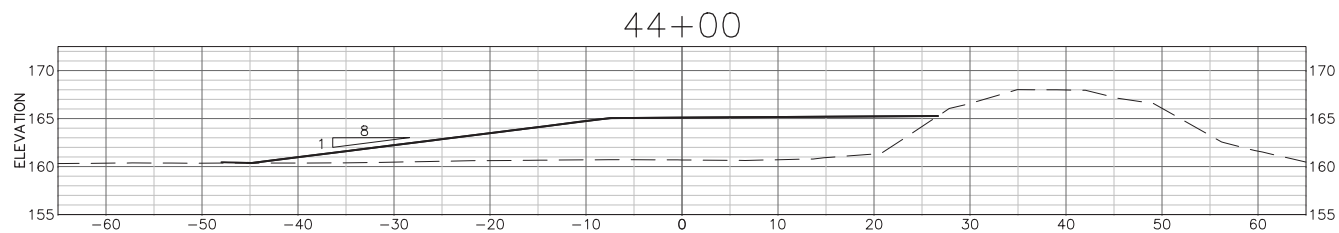
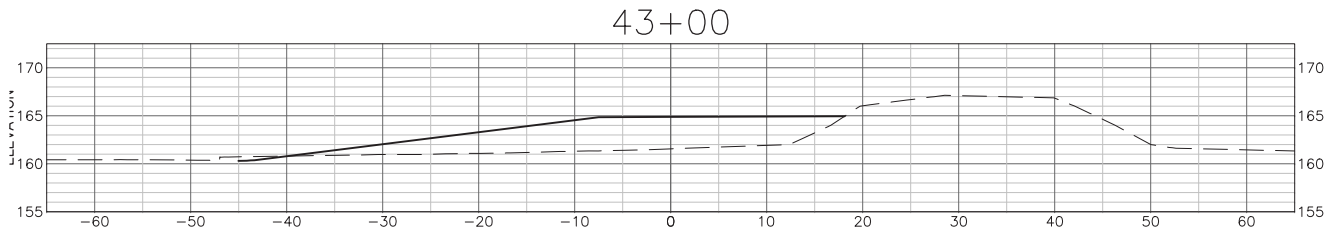
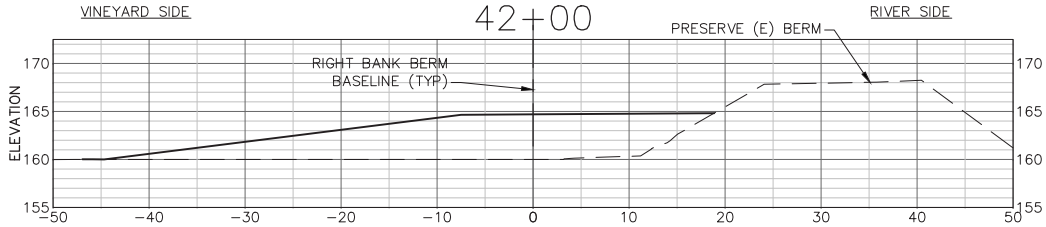
SCALE AS SHOWN

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SHEET

C22

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SHEET NOTES

- SCALE FOR ALL GRADING SECTIONS IS 1"=10'. SECTIONS ARE SHOWN LOOKING UPSTREAM
- SEE SHEET C12 FOR TYPICAL SECTION.
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RIGHT BANK (WEST) GRADING SECTIONS



SHEET TITLE
RIGHT BANK GRADING SECTIONS
BERM STA 42+00 TO STA 45+25

PROJECT
NAPA RIVER RESTORATION
RUTHERFORD REACH 4:
WEST (RIGHT) BANK

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



APPROVED

DESIGNED
R. BROWN
J. BLOMBERG

DRAWN
B. TANAKA

INCHARGE
A. BORGONOVO
C053102

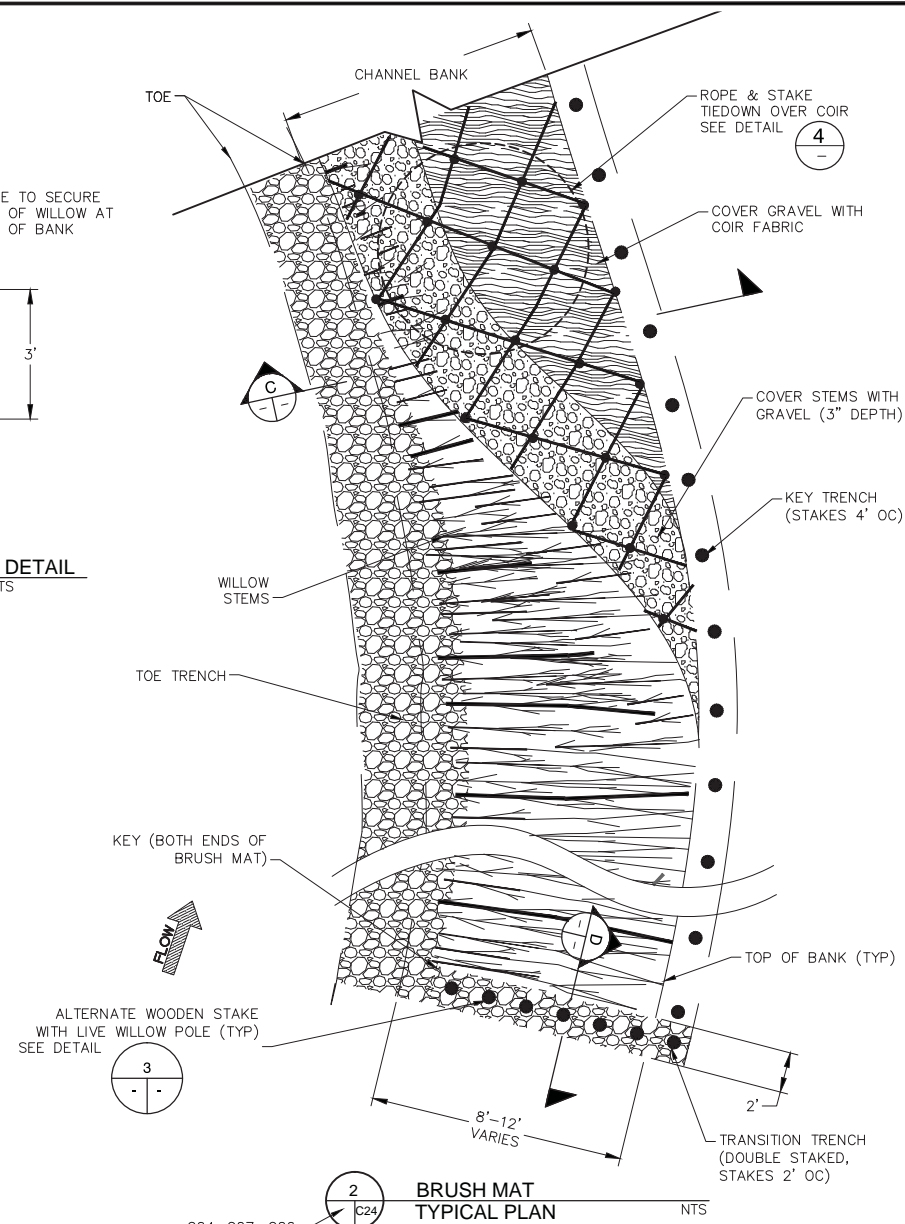
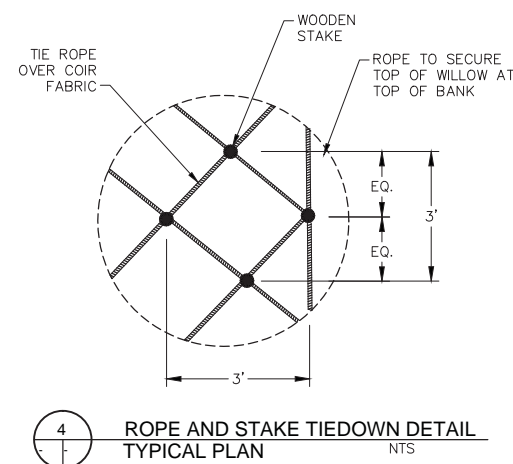
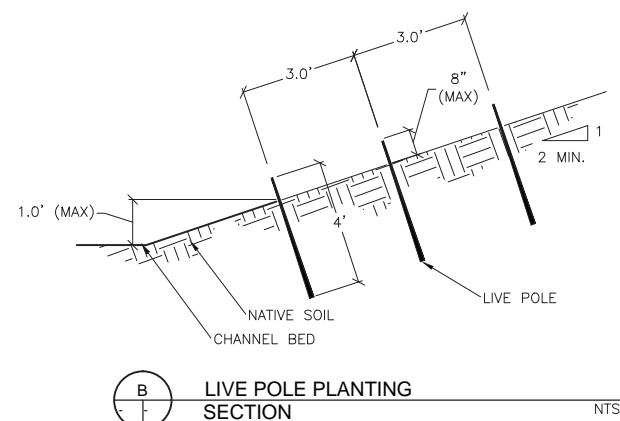
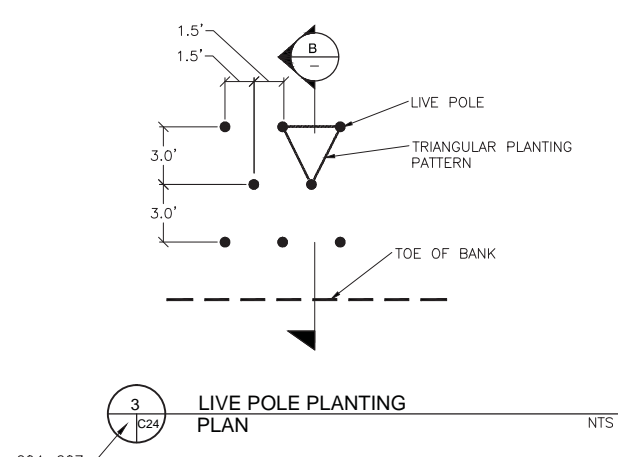
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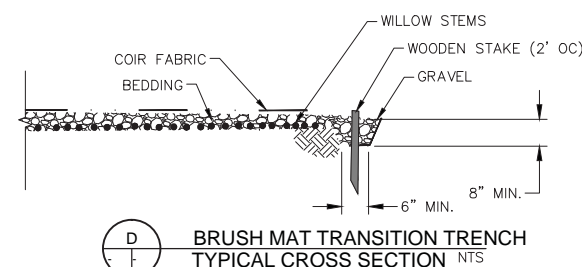
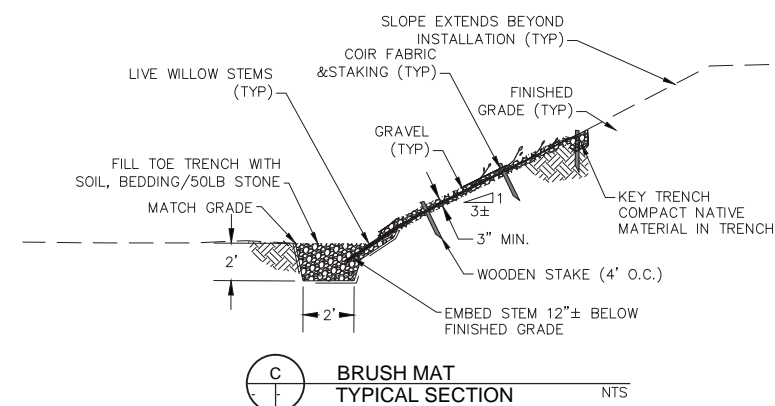
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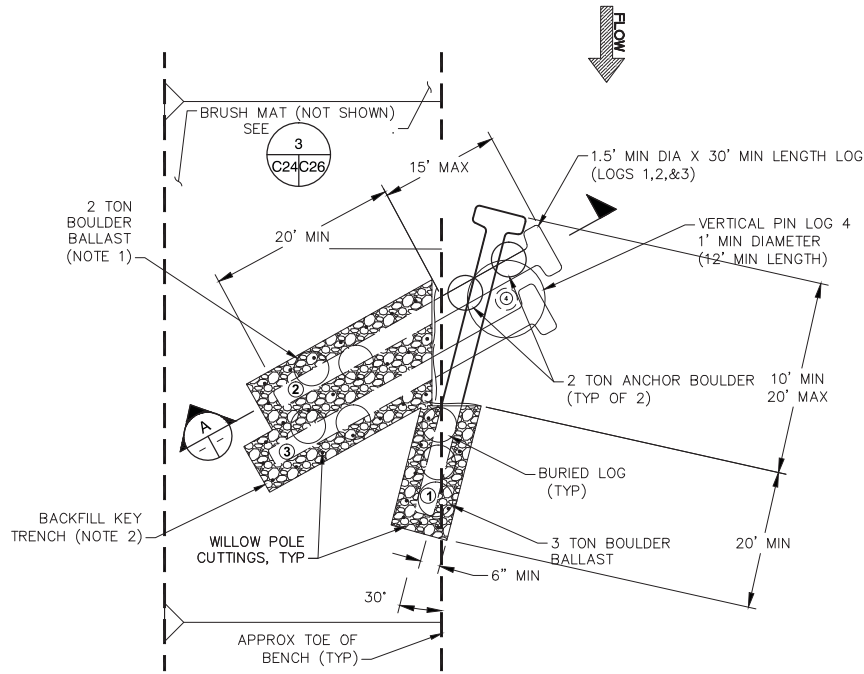
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23 OF 34

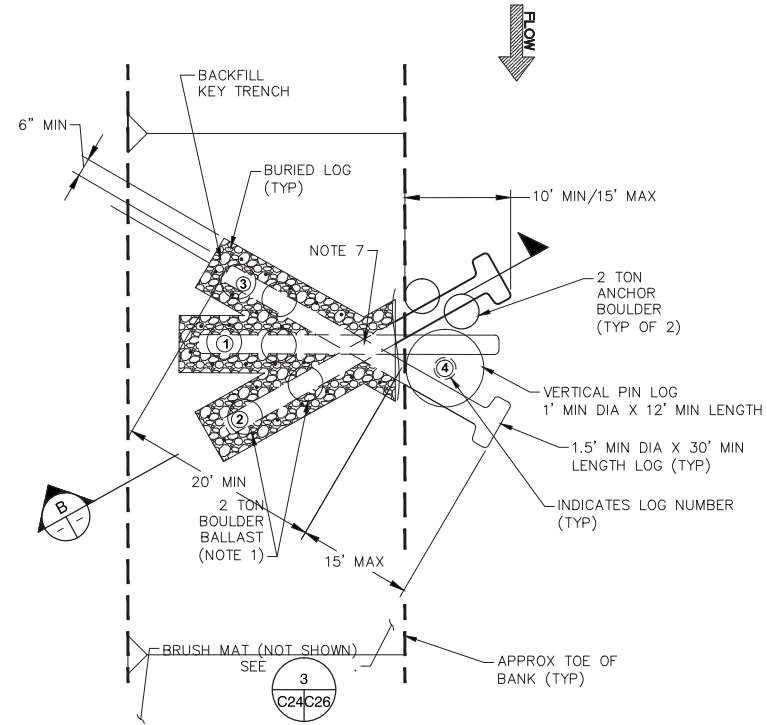


STABILIZATION STRUCTURE SCHEDULE					
TREATMENT	STATION/RANGE	BANK	ELEVATION	WIDTH	
BENCH #9	STA 140+15 TO STA 140+85	RIGHT	-	-	-
BRUSH MAT	140+55 TO 140+85		141 TO 145	-	-
POLE PLANTING	140+35 to 140+55		141 TO 144	6	-
LARGE WOODY DEBRIS TYPE 3	140+35		-	-	-
BRUSH MAT	140+15 TO 140+35		141 TO 145	-	-
BENCH #10	STA 134+70 TO STA 139+15	RIGHT	-	-	-
LARGE WOODY DEBRIS TYPE 3	139+05		-	-	-
BRUSH MAT	138+60 TO 139+15		138 TO 143	-	-
POLE PLANTING	135+40 TO 138+60		139 TO 143	6	-
WILLOW BAFFLE	138+60		-	30	-
CONSTRUCTED RIFFLE	138+45 to 138+95	CENTER	-	-	-
LARGE WOODY DEBRIS TYPE 2	137+50		-	-	-
WILLOW BAFFLE	137+25		-	15	-
LARGE WOODY DEBRIS TYPE 3	135+00		-	-	-
BRUSH MAT	134+90 TO 135+40		138 TO 143	-	-
In Channel	133+40 TO 133+50	LEFT	-	-	-
BOULDER CLUSTER	133+50	CENTER	-	-	-
LARGE WOODY DEBRIS TYPE 1	133+40	LEFT	-	-	-
BENCH #12	STA 130+80 TO STA 133+50	RIGHT	-	-	-
BRUSH MAT	132+60 TO 133+10		140 TO 145	-	-
POLE PLANTING	131+35 TO 132+60		141 TO 144	6	-
LARGE WOODY DEBRIS TYPE 2	133+00		-	-	-
WILLOW BAFFLE	132+50		-	30	-
WILLOW BAFFLE	131+60		-	30	-
BRUSH MAT	131+00 TO 131+35		140 TO 145	-	-

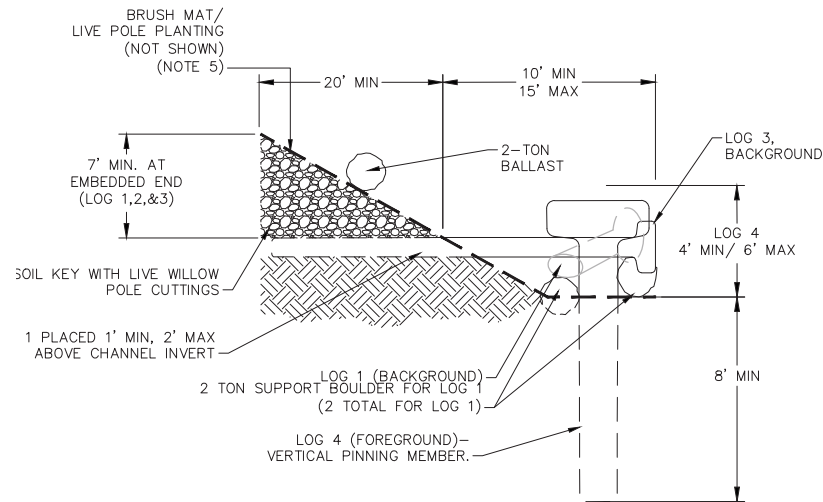




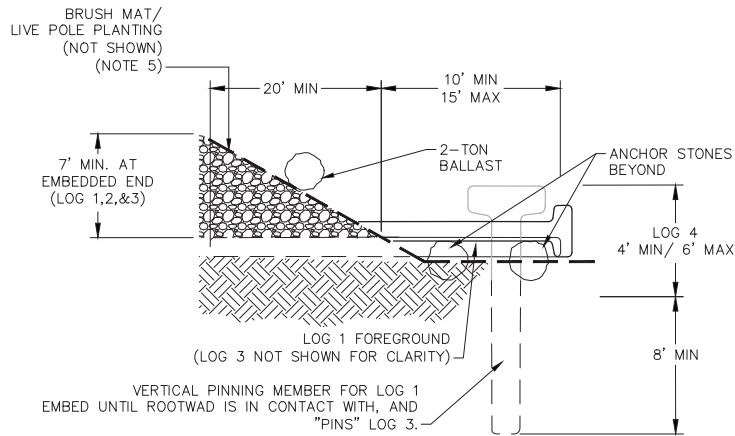
1
C25
LWD STRUCTURE - TYPE 3
SCHEMATIC PLAN - RIVER RIGHT NTS
C04-C07



2
C25
LWD STRUCTURE - TYPE 2
SCHEMATIC PLAN - RIVER RIGHT NTS
C04-C07



A
LWD STRUCTURE, TYPE 3
SECTION - UPSTREAM VIEW, RIVER RIGHT NTS

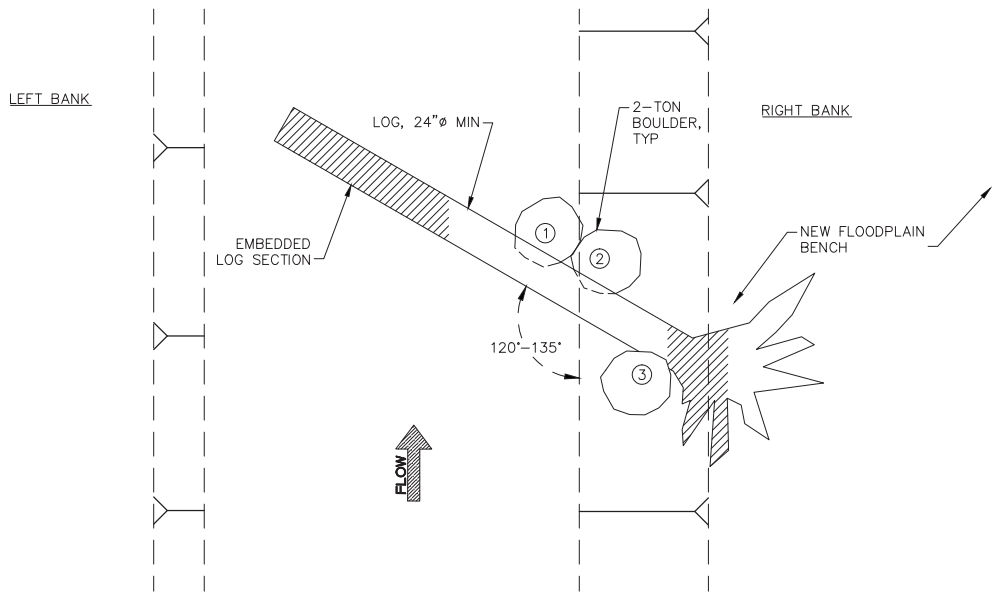


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LWD STRUCTURE, TYPE 2
SECTION AT LOG 2 - UPSTREAM VIEW, RIVER RIGHT NTS

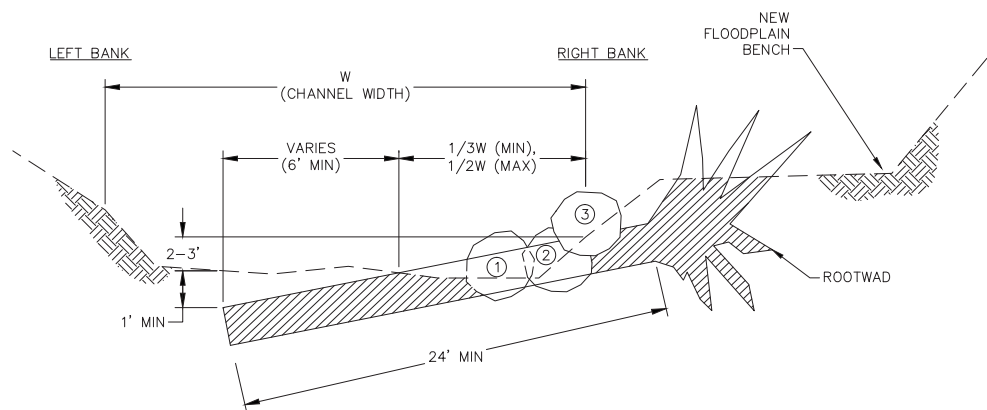
SHEET NOTES

- 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.
- LOGS SHALL BE PLACED IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. FIELD FIT AND ADJUST AS NEEDED TO CONFORM IRREGULAR LOGS TO NEAT DIMENSIONS SHOWN AND TO ACHIEVE LOG INTERLOCKING.
- 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.
- BACKFILL TRENCH WITH ROCK-SOIL MIX AND COMPACT TO 90% RC. STAKE THE ENDPOINTS OF THE BURIED LOG TO GUIDE BALLAST PLACEMENT.
- INSTALL BRUSH MAT OVER FINISHED GRADE PER SHEET C24. INSTALL LIVE POLE PLANTING (PER SHEET C24) ON ANY PORTION OF THE DISTURBED BANK NOT COVERED WITH BRUSH MAT.
- BALLAST BOULDERS CAN EITHER BE ONE 2-TON ROCK OR TWO 1-TON ROCKS AT CONTRACTOR'S OPTION. PLACE DIRECTLY OVER THE EMBEDDED LOG AND EMBED MIN 6 INCHES BELOW GRADE. BOULDERS MAY BE BURIED WITHIN KEY TRENCH. FIELD LOCATE AS DIRECTED BY THE OWNER'S REPRESENTATIVE. TRIM HOLE IN COMPLETED BRUSH MAT AS NEEDED FOR ROCK PLACEMENT.
- LOGS MAY BE NOTCHED (3" MAX) TO ACHIEVE ORIENTATION AND EMBEDMENT AS SHOWN.





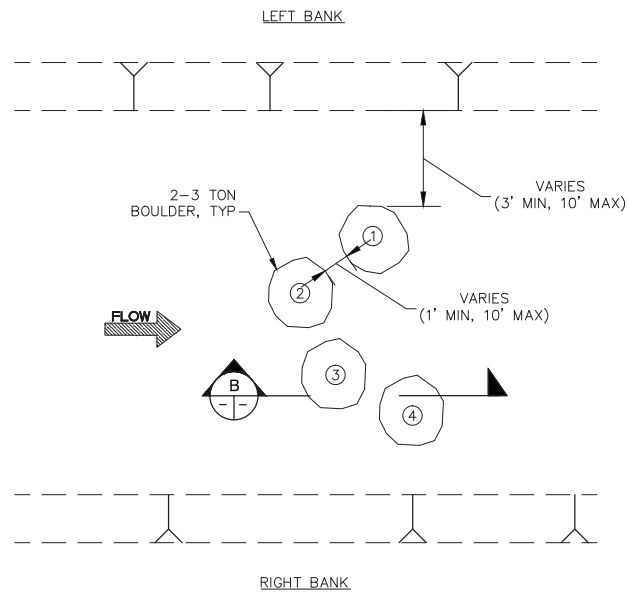
1 LOG STRUCTURE, TYPE 1
PLAN
C04-C07 SCALE: 1"=5'



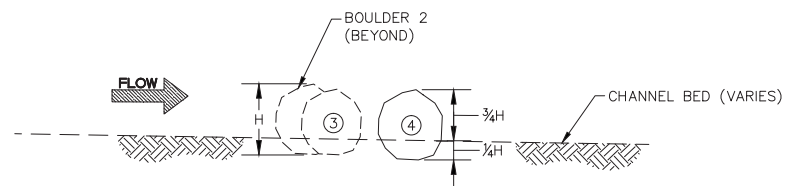
A LOG STRUCTURE, TYPE 1
SECTION
C04-C07 SCALE: 1"=5'

NOTES

- BOULDERS 1 AND 2 SHOWN BEYOND ROOTWAD.
- LOW PROFILE LOG DETAIL IS SCHEMATIC TO ILLUSTRATE GENERAL PLACEMENT OF MATERIALS. FIELD FIT AND ADJUST AS-NEEDED TO CONFORM TO SITE CONATIONS AND ACHIEVE INTEGRATION OF MATERIALS.



2 BOULDER CLUSTER
PLAN
C04-C07 SCALE: 1"=5'



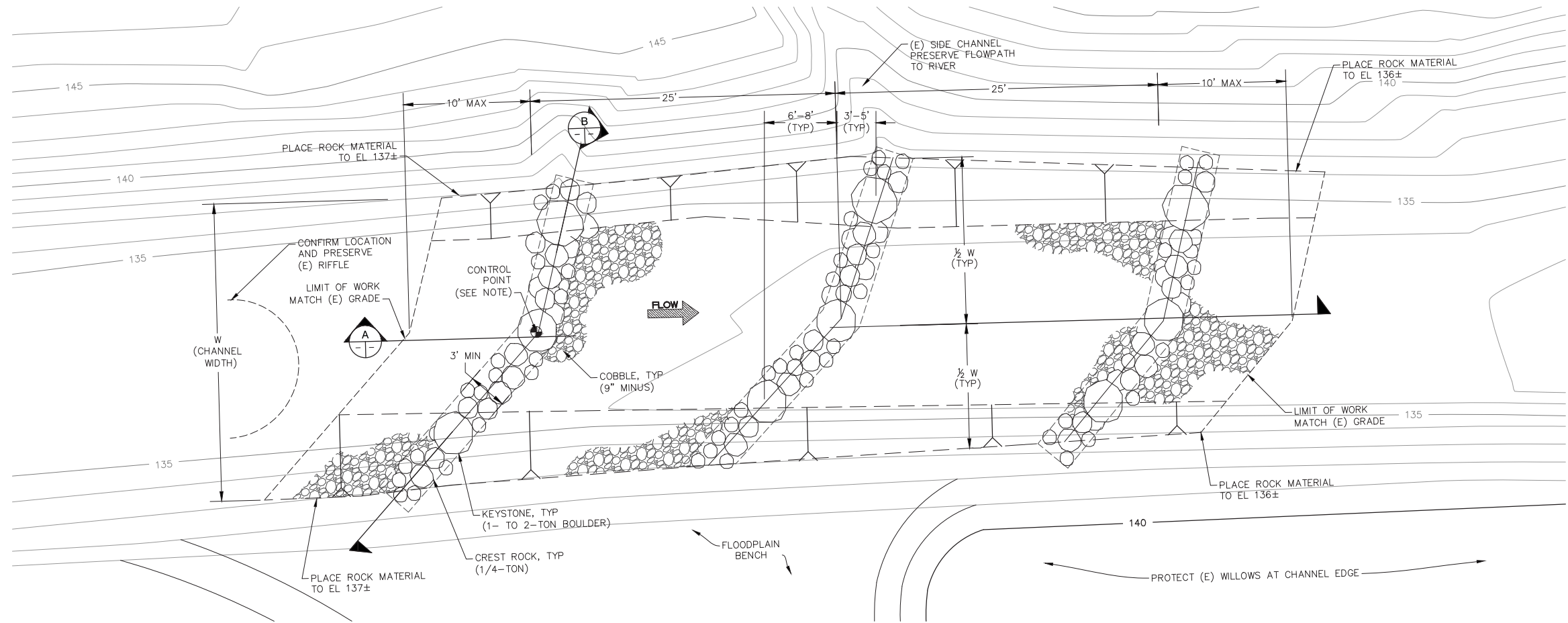
B BOULDER CLUSTER
PROFILE
C04-C07 SCALE: 1"=5'

NOTES

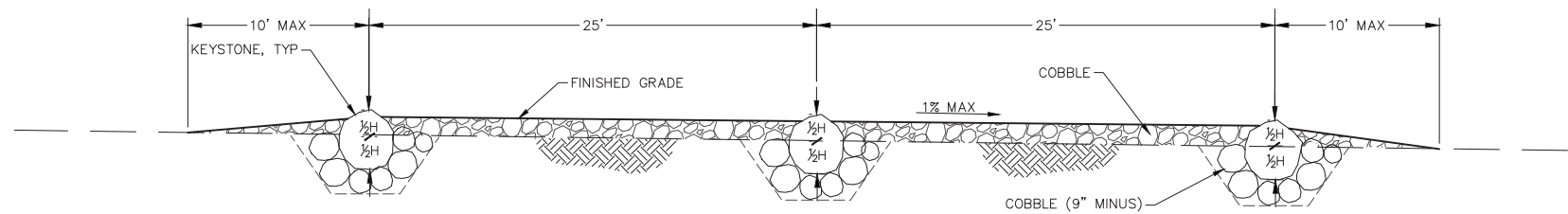
- BOULDER CLUSTER DETAIL IS SCHEMATIC TO ILLUSTRATE GENERAL CONFIGURATION AND SPACING OF MATERIALS. FIELD FIT AND ADJUST AS-NEEDED TO CONFORM TO SITE CONDITIONS AND ACHIEVE INTENDED FUNCTION.



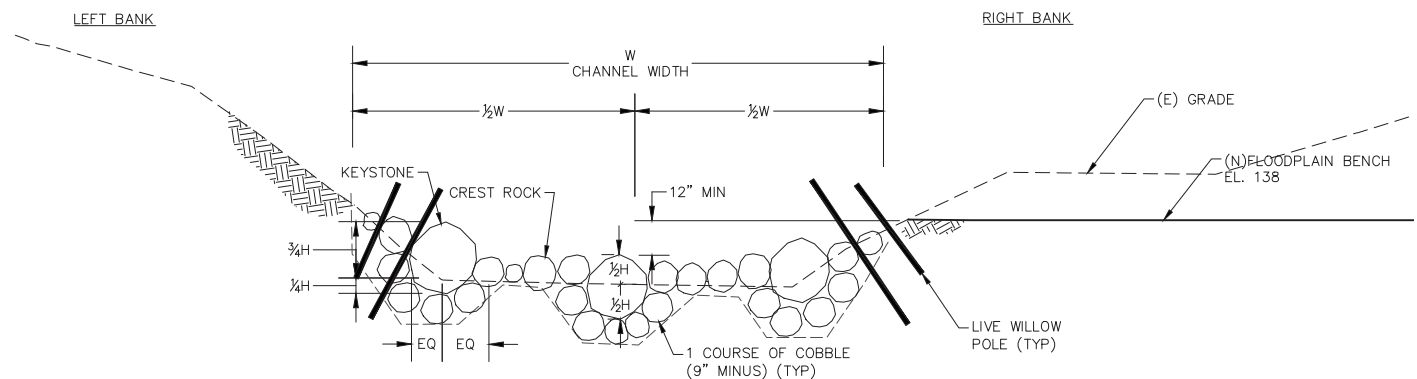
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1
C06/C27
ROUGHENED CHANNEL RIFFLE
PLAN
SCALE: 1"=5'



A
ROUGHENED CHANNEL RIFFLE
PROFILE
SCALE: 1"=5'



B
ROUGHENED RIFFLE
SECTION
SCALE: 1"=5'

SHEET NOTES

- EXISTING GROUND TOPOGRAPHY BASED ON SURVEY CROSS SECTIONS IN VICINITY OF THE ROUGHENED CHANNEL. POINTS CAN BE SUPPLIED UPON REQUEST.
- CONTROL POINT COORDINATES (FEET):
NORTHING: 1,932,955.3
EASTING: 6,443,275.1
ELEVATION: 135.8



APPROVED

DESIGNED
R. BROWN
J. BLONBERG

DRAWN
S. STOLLER

INCHARGE
A. BORGONOV
C053102

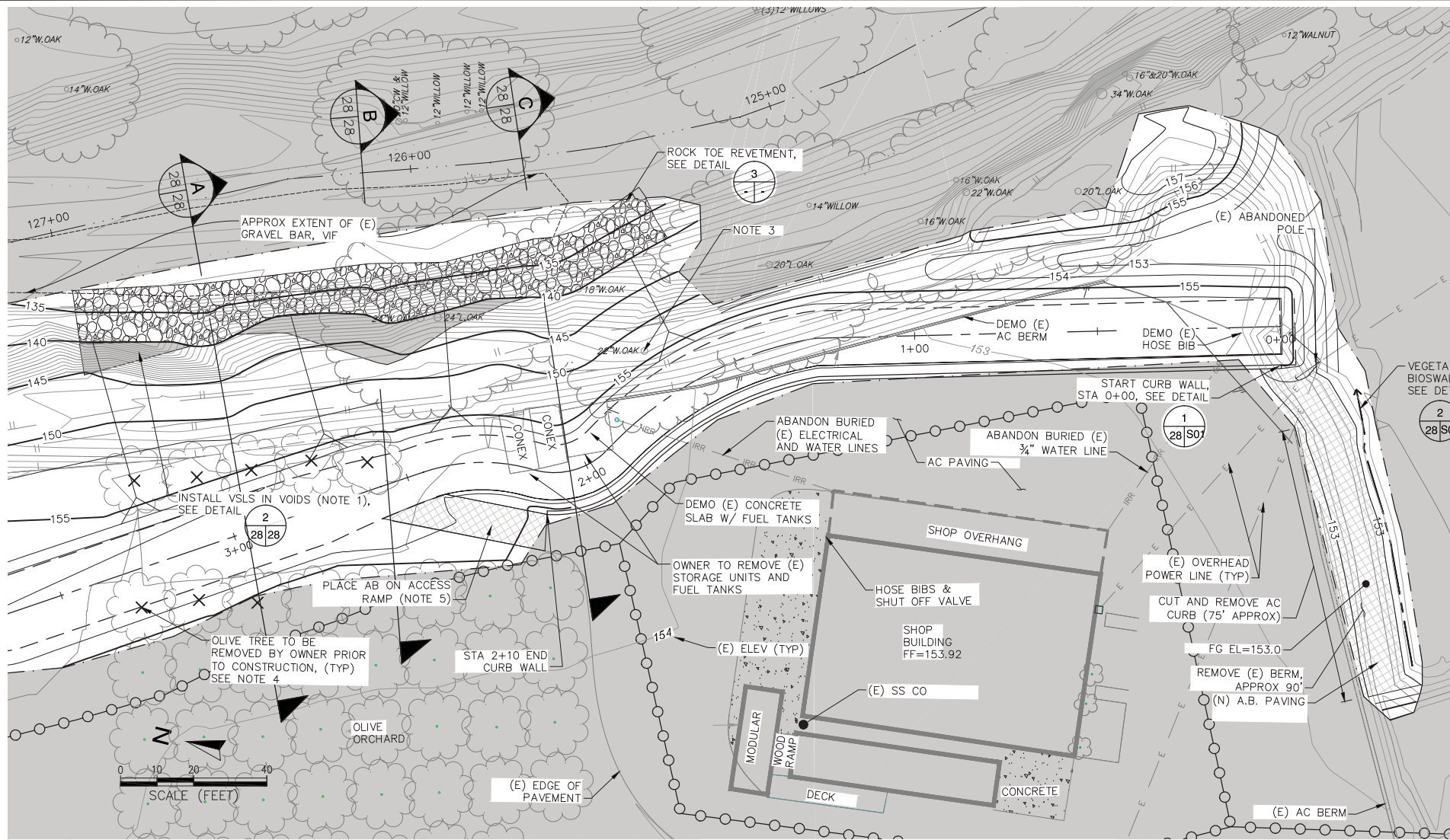
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DATE
NOV 2011

SHEET

C27

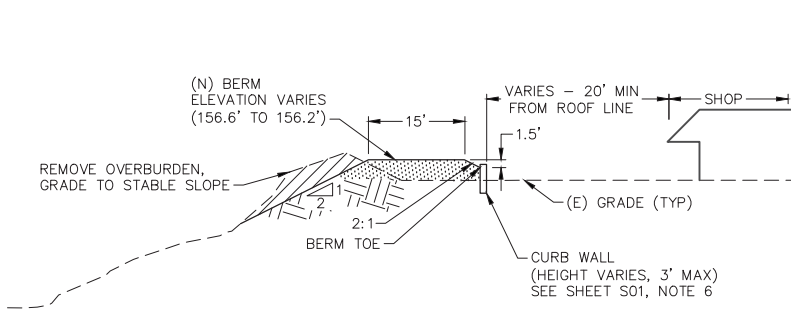
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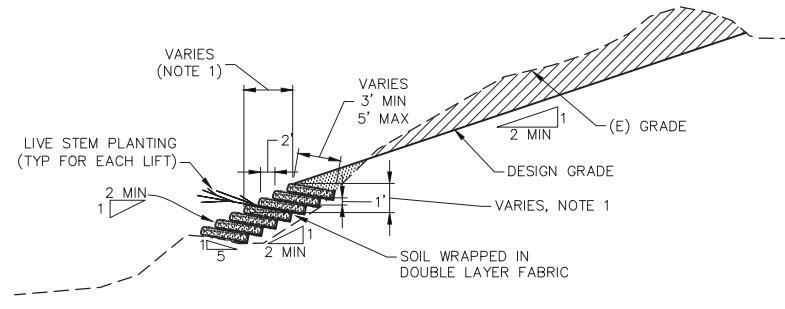
ROUND POND SHOP AREA
SCALE: 1" = 20'

SHEET NOTES

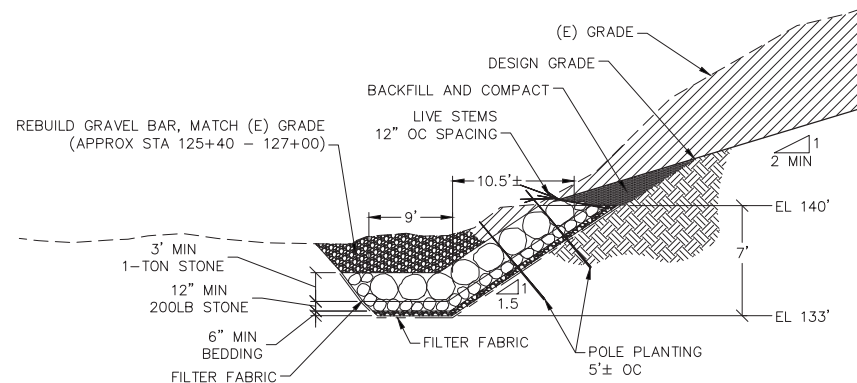
1. INSTALL VSL AS NEEDED TO FILL EXISTING DEPRESSIONS TO MEET DESIGN GRADE
2. SEE SHEET C16 FOR BERM GRADING SECTIONS.
3. SEE SHEET C07 FOR LOCATIONS OF TREES TO BE REMOVED.
4. OLIVE TREES INDICATED FOR REMOVAL SOLELY INCLUDE THOSE TREES WITHIN THE LIMITS OF GRADING. ADDITIONAL TREE REMOVAL MAY BE REQUIRED TO MAINTAIN ORCHARD ACCESS AND AVENUES.
5. THE RETAINING WALL CONTROL TABLE IS LOCATED ON SHT C12



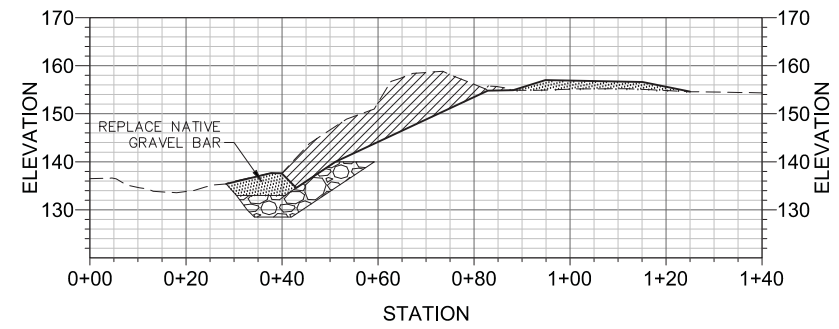
1
- -
SHOP AREA BERM WITH CURBSIDE
TYPICAL SECTION (BERM STA 0+00 TO 2+10) NOT TO SCALE



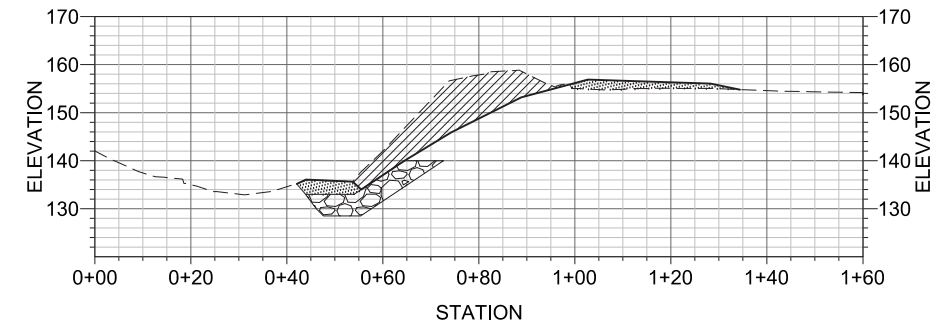
2
- -
VEGETATED SOIL LIFTS (VSL)
TYPICAL SECTION NOT TO SCALE



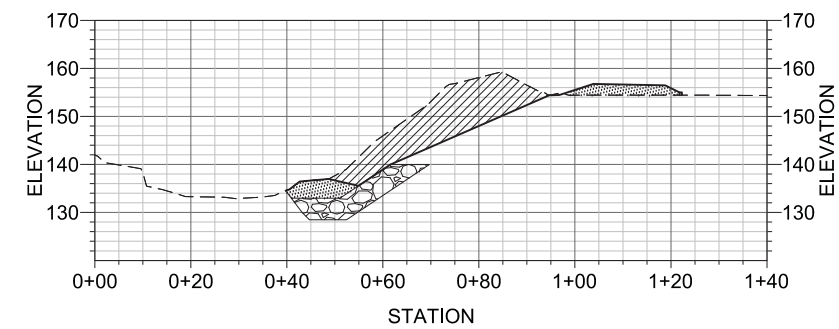
3
- -
ROCK TOE REVETMENT
TYPICAL SECTION NOT TO SCALE



A
C26 C26
ROCK REVETMENT
SECTION SCALE: 1" = 20'



B
C26 C26
ROCK REVETMENT
SECTION SCALE: 1" = 20'



C
C26 C26
ROCK REVETMENT
SECTION SCALE: 1" = 20'

GENERAL STRUCTURAL NOTES:

- A. DRAWINGS AND SPECIFICATIONS REPRESENT FINISHED STRUCTURE. CONTRACTOR SHALL BE RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO SHORING AND TEMPORARY BRACING. THE CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO INSURE SAFETY OF ALL PERSONS AND STRUCTURES AT THE SITE AND ADJACENT TO THE SITE. OBSERVATION VISITS TO THE SITE BY THE ENGINEER OR CONSTRUCTION MANAGER SHALL NOT RELIEVE THE CONTRACTOR OF SUCH RESPONSIBILITY.
- B. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AT JOB SITE BEFORE COMMENCING WORK AND SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER.
- C. OMISSIONS OR CONFLICTS BETWEEN VARIOUS ELEMENTS OF THE DRAWINGS, NOTES AND DETAILS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND RESOLVED BEFORE PROCEEDING WITH THE WORK.
- D. DO NOT USE SCALED DIMENSIONS; USE WRITTEN DIMENSIONS. WHERE NO DIMENSION IS PROVIDED, CONSULT THE ENGINEER FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
- E. IF CERTAIN FEATURES ARE NOT FULLY SHOWN OR CALLED FOR ON THE DRAWINGS OR SPECIFICATIONS, THEIR CONSTRUCTION SHALL BE OF THE SAME CHARACTER AS FOR SIMILAR CONDITIONS THAT ARE CALLED FOR OR SHOWN.
- F. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL NECESSARY LICENSES AND PERMITS. THE CONTRACTOR SHALL CONFORM TO ALL STATE AND LOCAL LAWS GOVERNING THE WORK.
- G. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES BEFORE BEGINNING WORK. SPECIAL CARE SHALL BE TAKEN TO PROTECT UTILITIES THAT ARE TO REMAIN IN SERVICE DURING CONSTRUCTION.
- H. THE FOUNDATION BEARING SOIL SHALL BE OBSERVED BY OWNER'S GEOTECHNICAL ENGINEER.
- I. THE SCOPE OF WORK INCLUDES CLEAN UP NECESSARY TO LEAVE THE AFFECTED BUILDING IN A NEAT AND USABLE CONDITION.
- J. FILL WITHIN 3 FEET HORIZONTAL BEHIND THE WALL SHALL HAVE A PLASTICITY INDEX OF 25 OR LESS AND MEET THE CRITERIA FOR BERM CORE FILL.

- A. SEE DRAWINGS OTHER THAN STRUCTURAL FOR EXTENT AND LOCATION OF ALL DEMOLITION WORK.
- B. ALL SHORING METHODS AND SEQUENCING OF DEMOLITION SHALL BE SPECIFIED BY A LICENSED STRUCTURAL ENGINEER TO BE RETAINED BY THE CONTRACTOR.

HULTGREN-TILLIS ENGINEERS
PROJECT NO. 720.01
DATED FEBRUARY 24, 2009
SOIL TYPE: S_d

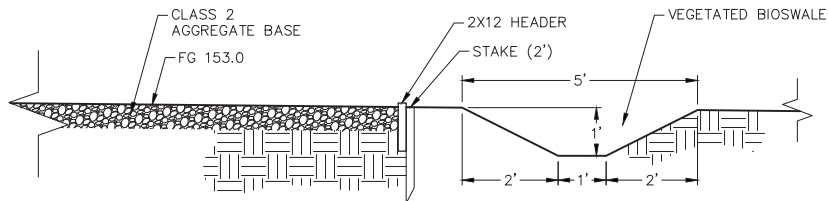
A. CONCRETE

1. REINFORCING STEEL:
 - a. BARS: ASTM A615, GRADE 60.
 - b. ALL CONCRETE SHALL BE REINFORCED UNLESS SPECIFICALLY MARKED "NOT REINFORCED".
2. CONCRETE CLASSES: SEE SPECIFICATIONS FOR REQUIREMENTS.

<u>CLASS</u>	<u>USE</u>	<u>WT</u>	<u>STRENGTH</u>	<u>SLUMP</u>
A	RETAINING WALL & FOOTING	145 PCF	3000 PSI	3D"±D"

3. MINIMUM CONCRETE COVER FOR REINFORCING STEEL:
 - a. SURFACES PLACED AGAINST EARTH 3"
 - b. FORMED SURFACES BELOW GRADE 2"
 - c. SURFACES EXPOSED TO WEATHER 2"

<u>CLASS</u>	<u>USE</u>	<u>WT</u>	<u>STRENGTH</u>	<u>SLUMP</u>	<u>MAXIMUM</u> <u>AGGREGATE</u>	<u>MAXIMUM</u> <u>WATER/CEMENT</u> <u>RATIO</u>
A	RETAINING WALL	145 PCF	3000 PSI	3D"±D"	1"	0.50



THE FOLLOWING WORK REQUIRES TESTS AND/OR INSPECTIONS.
FOR SPECIFIC REQUIREMENTS, SEE SPECIFICATIONS. INSPECTIONS
SHALL BE MADE IN ACCORDANCE WITH CBC 1704 BY A CERTIFIED
SPECIAL INSPECTOR RETAINED BY THE OWNER.

1. FOOTING EXCAVATION.
2. SOIL COMPACTION.
3. REINFORCING STEEL.
4. CONCRETE.

SPECIAL INSPECTION REPORTS SHALL BE SUBMITTED TO THE OWNER, ENGINEER, STRUCTURAL ENGINEER, ETC.

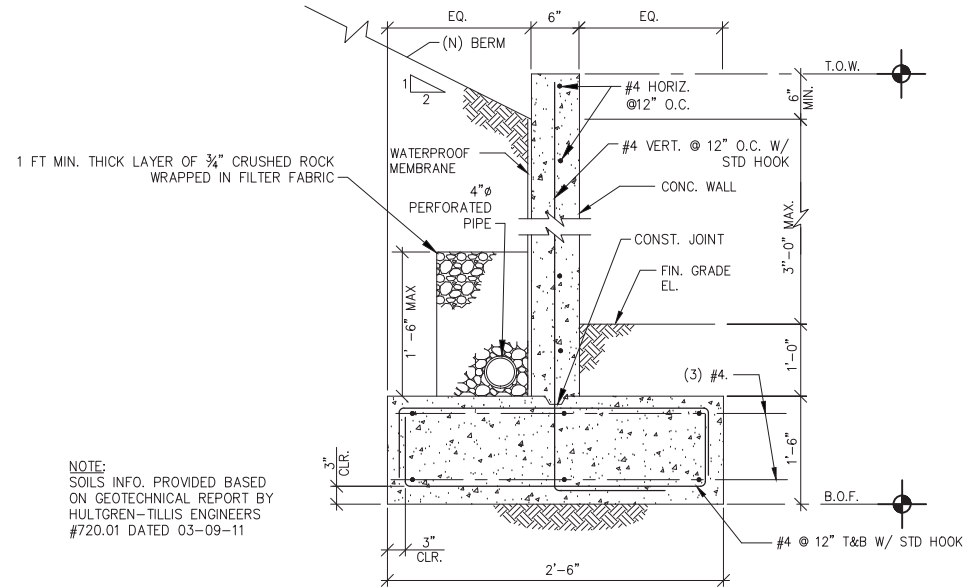
THE STRUCTURAL ENGINEER SHALL PERFORM STRUCTURAL OBSERVATIONS
THROUGHOUT THE PROJECT.

A PARTIAL LISTING OF REQUIRED STRUCTURAL SUBMITTALS FOLLOWS. CONSULT THE SPECIFICATIONS FOR A COMPLETE LISTING OF SUBMITTAL REQUIREMENTS. ALL SUBMITTALS SHALL BE ISSUED FOR REVIEW AS COMPLETE SUBMITTALS. THE LIST BELOW INDICATES WHAT CONSTITUTES A COMPLETE SUBMITTAL. IF SUBMITTALS ARE ISSUED AS PARTIAL SUBMITTALS, ALL SHEETS ISSUED MORE THAN ONCE MUST HAVE ALL CHANGES CLOUDED (INCLUDING NEW SHEETS). OTHERWISE, PARTIAL SUBMITTALS WILL NOT BE REVIEWED.

1. CONCRETE-MIX DESIGNS FOR ALL CONCRETE.
2. REINFORCING STEEL SHOP DRAWINGS.
3. CONSTRUCTION JOINT LAYOUT AND CONTROL JOINT LAYOUT.

OWNER'S TESTING AGENCY SHALL PERFORM THE FOLLOWING TESTS AND SUBMIT APPROPRIATE REPORTS TO THE ARCHITECT AND THE COUNTY OF NAPA

- A. PERFORM CONCRETE TESTING FOR CONCRETE IN ACCORDANCE WITH ACI 318.
1. MAKE AND CURE THREE SPECIMEN CYLINDERS ACCORDING TO ASTM C31 FOR EACH 150 CUBIC YARDS OF CONCRETE POURED AT SITE EACH DAY.
 2. RETAIN ONE CYLINDER FOR 7 DAY TEST AND TWO FOR THE 28 DAY TEST. TEST FOR SPECIFIED STRENGTH ACCORDING TO ASTM C39.

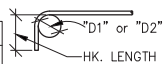


NOTE:
SOILS INFO. PROVIDED BASED
ON GEOTECHNICAL REPORT BY
HULTGREN-TILLIS ENGINEERS
#720.01 DATED 03-09-11

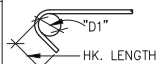
1 CONCRETE RETAINING WALL
C28 S01 TYPICAL SECTION $3/4" = 1'-0"$

DIAMETER OF BENDS	
D1	1D" FOR #3 BARS 2" FOR #4 BARS 2D" FOR #5 BARS
D2	6d FOR #3 THRU #8 BARS

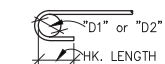
"D1" - FOR STIRRUPS, TIES AND
WALL REINF. AT OP'GS.
"D2" - FOR ALL OTHERS



90°BEND

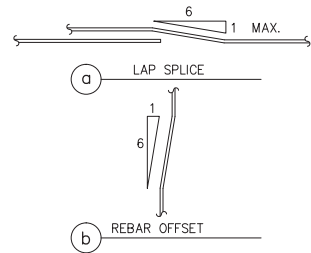


135° BEND



180° BEND

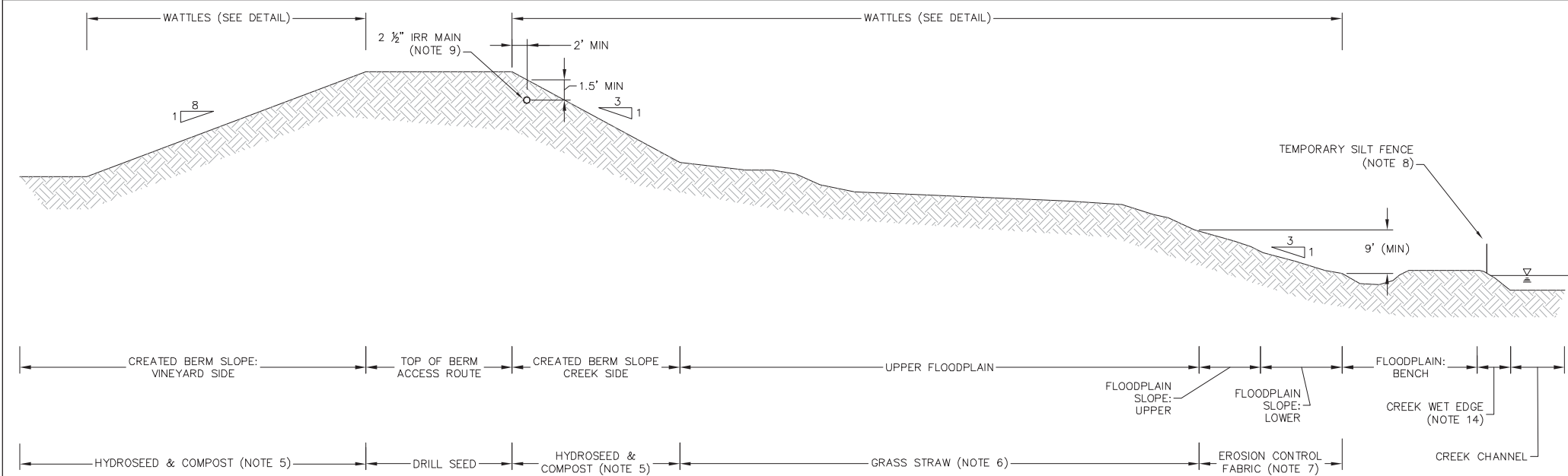
STANDARD HOOK LENGTHS				
BAR SIZE	MAIN REINF.		STIRRUP & TIE HOOKS	
	90°	180°	90°	135°
#3	6"	4"	3"	4Ø"
#4	8"	4"	4"	6"
#5	9Ø"	4Ø"	5"	7Ø"
#6	11Ø"	5Ø"	11Ø"	10"



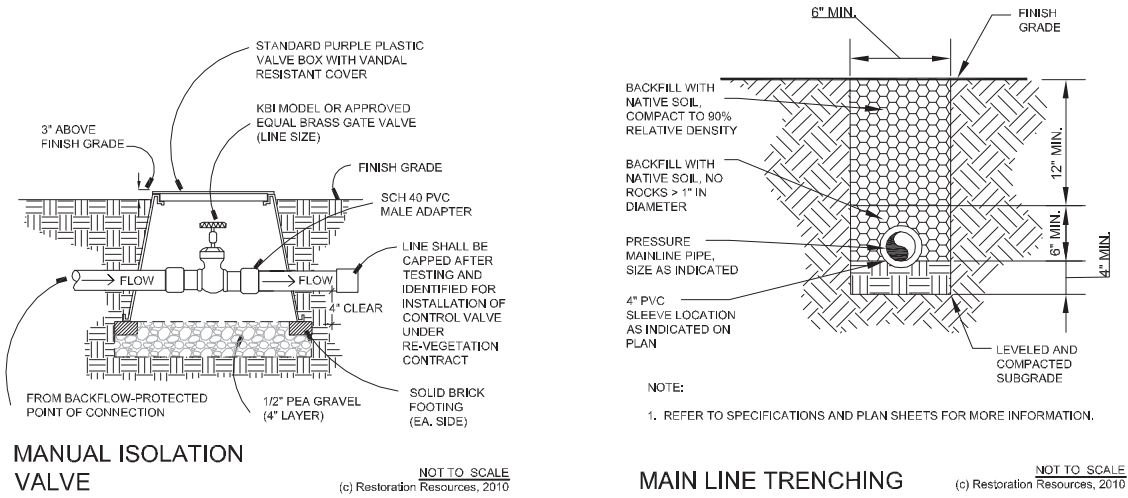
CONCRETE STRENGTH		F'c = 3000 PSI	
BAR SIZE \ CASE	TOP BARS	OTHER BARS	
#3	3'-6"	2'-8"	
#4	4'-8"	3'-7"	
#5	5'-9"	4'-5"	
#6	6'-11"	5'-4"	

- NOTES:
1. THE LAP SPICE LENGTHS ARE TO BE MULTIPLIED BY THE FACTOR(S) LISTED BELOW.
 2. WHERE CLEAR SPACE BETWEEN BARS LAP SPICED AT ANY SECTION IS GREATER THAN 2 BAR DIAMETERS AND WHERE THE BAR COVER IS GREATER THAN ONE BAR DIAMETER, THE LAP SPICE MAY BE MULTIPLIED BY 67%.
 3. TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.
 4. SPICES OF HORIZONTAL REINFORCEMENT IN WALLS SHALL BE STAGGERED.

REBAR OFFSET AND LAP SPLICE
TYPICAL DETAIL NTS

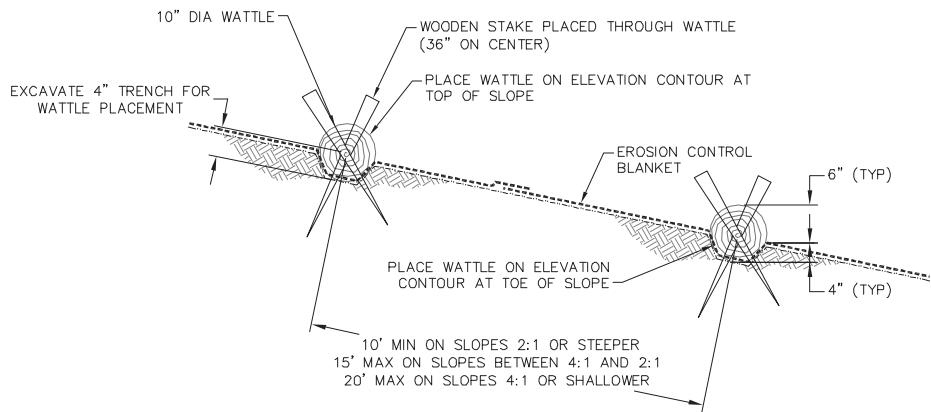


SEEDING & EROSION CONTROL PLAN
SCHEMATIC SECTION (NOTE 2) NTS



MANUAL ISOLATION
VALVE

MAIN LINE TRENCHING



WATTLE DETAIL
SECTION VIEW NTS

EROSION CONTROL SEEDING MIXES AND RATES (NOTE 11)

Habitat Type: Berm Top and Access Route (note 12)			
Biological Name / Common Name	Seeding Method	lbs / ac	lbs. Req.
<i>Hordeum brachyantherum</i> / Meadow Bailey	Drill Seed	10	46
<i>Vulpia microstachys</i> / Small Fescue	Drill Seed	14	64

Habitat Type: Created Berm Side Slope			
Biological Name / Common Name	Seeding Method	lbs / ac	lbs. Req.
<i>Bromus carinatus</i> / California Brome	Hydroseed	3	17
<i>Elymus glaucus</i> / Blue Wildrye	Hydroseed	3	17
<i>Eschscholzia californica</i> / California Poppy	Hydroseed	4	22
<i>Festuca idahoensis</i> / Idaho Fescue	Hydroseed	3	17
<i>Hordeum brachyantherum</i> / Meadow Bailey	Hydroseed	3	17
<i>Lupinus hirsutus</i> / Miniature Lupine	Hydroseed	4	22
<i>Trifolium wildenowii</i> / Tomcat Clover	Hydroseed	4	22
<i>Vulpia microstachys</i> / Small Fescue	Hydroseed	8	46

Habitat Type: Staging Area			
Biological Name / Common Name	Seeding Method	lbs / ac	lbs. Req.
<i>Triticum x Elymus "Regreen"</i> / Sterile Wheat	Broadcast Seed	20	37
<i>Eschscholzia californica</i> / California Poppy	Broadcast Seed	4	5
<i>Lupinus hirsutus</i> / Miniature Lupine	Broadcast Seed	4	5
<i>Trifolium wildenowii</i> / Tomcat Clover	Broadcast Seed	4	5

Habitat Type: Upper Floodplain Woodland			
Biological Name / Common Name	Seeding Method	lbs / ac	lbs. Req.
<i>Bromus carinatus</i> / California Brome	Broadcast Seed	8	29
<i>Elymus glaucus</i> / Blue Wildrye	Broadcast Seed	8	29
<i>Grindelia camporum</i> / Gum Plant	Broadcast Seed	5	18
<i>Hordeum brachyantherum</i> / Meadow Bailey	Broadcast Seed	8	29
<i>Medicago californica</i> / California Melic	Broadcast Seed	8	29
<i>Vulpia microstachys</i> / Small Fescue	Broadcast Seed	8	29

Habitat Type: Floodplain Slope: Upper			
Biological Name / Common Name	Seeding Method	lbs / ac	lbs. Req.
<i>Elymus glaucus</i> / Blue Wildrye	Broadcast Seed	8	11
<i>Festuca idahoensis</i> / Idaho Fescue	Broadcast Seed	8	11
<i>Hordeum brachyantherum</i> / Meadow Bailey	Broadcast Seed	8	11
<i>Leymus triticoides</i> / Creeping Wildrye	Broadcast Seed	8	11

Habitat Type: Floodplain Slope: Lower			
Biological Name / Common Name	Seeding Method	lbs / ac	lbs. Req.
<i>Hordeum brachyantherum</i> / Meadow Bailey	Broadcast Seed	8	10
<i>Leymus triticoides</i> / Creeping Wildrye	Broadcast Seed	8	10

Habitat Type: Lower Floodplain Bench			
Biological Name / Common Name	Seeding Method	lbs / ac	lbs. Req.
<i>Leymus triticoides</i> / Creeping Wildrye	Broadcast Seed	10	4

SHEET NOTES

- THIS SHEET SHOWS MINIMUM EROSION CONTROL MEASURES THAT ARE REQUIRED. INSTALL ADDITIONAL MEASURES AS NEEDED FOR SEDIMENT AND EROSION CONTROL AND SWPPP COMPLIANCE.
- THE SECTION SHOWS DESIGNATION OF SEEDING & EROSION CONTROL ZONES FOR GRADED AREAS. SEED ALL DISTURBED AREAS PER TABLE.
- UPON COMPLETION OF THE WORK RESTORE STAGING AREA(S) AND ACCESS ROUTES BY SEEDING (PER TABLES) AND APPLYING GRASS STRAW PER NOTE 6.
- SEE SEED MIX TABLES FOR SPECIES, QUANTITIES AND APPLICATION METHOD BY HABITAT ZONE.
- APPLY SEED, HYDROSTRAW AND MYCORRHIZAE USING HYDROSEEDING MACHINE – SEE SPECS. AFTER HYDROSEEDING, APPLY UNIFORM 2-INCH MINIMUM LAYER OF ORGANIC COMPOST ON BERM SIDE SLOPES.
- APPLY CERTIFIED WEED-FREE NATIVE GRASS STRAW AT A RATE OF 1.5-TONS PER ACRE. APPLY BY HAND IN AREAS WHERE EXISTING VEGETATION OR TERRAIN PROHIBIT VEHICULAR ACCESS; STRAW MAY BE BLOWN AS DEFINED IN THE WRITTEN SPECIFICATIONS ONTO THE SOIL SURFACE IN THOSE AREAS WHICH ARE ACCESSIBLE.
- INSTALL BIODEGRADABLE EROSION CONTROL FABRIC. 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. INSTALLATION LOCATIONS SHALL BE VERIFIED BY ENGINEER. REMOVE BY OCTOBER 15TH.
- INSTALL IRRIGATION MAINS WHERE SHOWN ON SHEETS R02 TO R05. IRRIGATION MAINS SHALL BE LOCATED AT LEAST 2-FEET FROM DRIVABLE PORTION OF BERM AND WITH 18-INCHES MINIMUM COVER. BACKFILL 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 AS NEEDED.
- DRILL SEED ON BERM TOP ONLY.
- 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.
- WHERE DIRECTED BY THE OWNERS' REPRESENTATIVE, GRADE WET EDGE TO 3:1 AND PLACE LIVE POLE PLANTING.
- ALL EROSION CONTROL WORK AND SEEDING SHALL BE COMPLETED BY OCTOBER 15TH.
- GRASSY DRAINAGE SWALE IDENTIFIED ON SHEET R05 PAGE 34 SHALL BE SEEDED WITH "FLOODPLAIN SLOPE: UPPER" SEED MIX.

PREPARED BY:

PWA
PHILIP WILLIAMS & ASSOCIATES, LTD.
ENVIRONMENTAL ENGINEERS
1000 MARKET STREET, SUITE 800
SAN FRANCISCO, CALIFORNIA 94103
PHONE 415.398.3386 FAX 415.398.3389

RESTORATION
RESOURCES

3888 CINCINNATI AVENUE
ROCKLIN, CA 95765
TEL 916.408.9960
FAX 916.408.9969
WWW.RESTORATION-RESOURCES.COM
CA LIC #22252

EROSION CONTROL PLAN &
IRRIGATION DETAILS

PROJECT: NAPA RIVER RESTORATION
RUTHERFORD REACH 4:
WEST (RIGHT) BANK

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



APPROVED

DESIGNED R. SWIFT, L. PIPER

DRAWN L. PIPER

INCHARGE R. SWIFT
PRESIDENT

SCALE

DATE APRIL 2011

SHEET

R01