

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN VIEW
3	WALL PROFILE
4	TYPICAL SECTION & DETAILS
5	EROSION CONTROL & REVEGETATION

GENERAL NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE COUNTY OF SANTA CRUZ DESIGN CRITERIA, THE STATE STANDARD PLANS AND THE APPLICABLE PROVISIONS OF THE STATE STANDARD SPECIFICATIONS.
2. THERE SHALL BE NO CHANGES IN THE APPROVED IMPROVEMENT PLANS WITHOUT PRIOR APPROVAL BY THE SANTA CRUZ COUNTY DEPARTMENT OF PUBLIC WORKS.
3. PLEASE CALL "UNDERGROUND SERVICE ALERT" (U.S.A.) AT 811 or 800-227-2600 BEFORE DIGGING.
4. THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE APPROVED BY TRANSPORTATION ENGINEERING.
5. THE CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY, AND HOLD DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF DESIGN PROFESSIONAL.
6. THE CONTRACTOR SHALL POSSESS A CLASS "A" LICENSE AT THE TIME THE CONTRACT IS AWARDED.

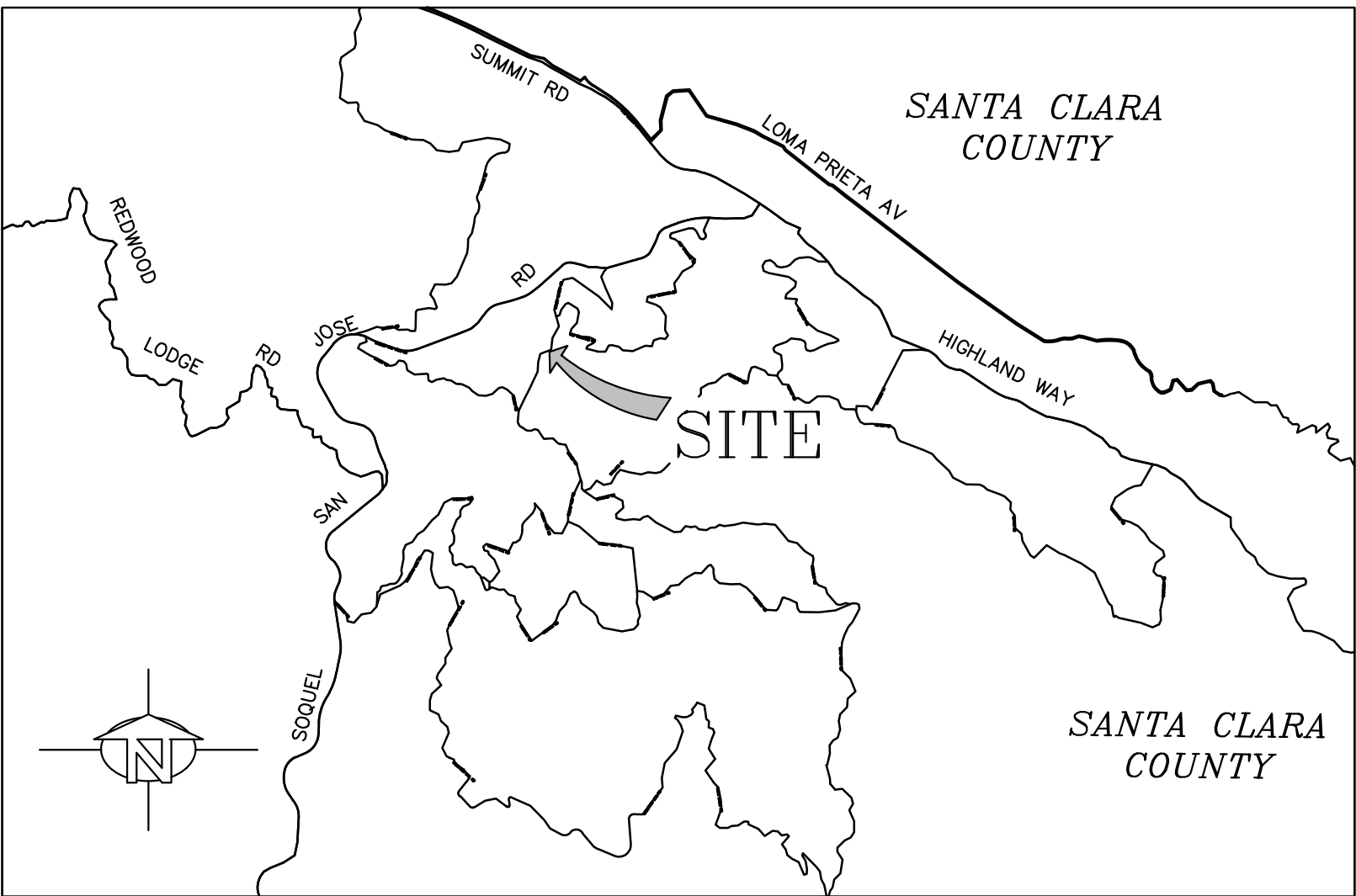
ABBREVIATIONS

A.B.	AGGREGATE BASE	KIP	1000 POUNDS FORCE
AC	ASPHALT CONCRETE	MBGR	METAL BEAM GUARD RAIL
APN	ASSESSOR'S PARCEL NUMBER	MIN	MINIMUM
APPROX	APPROXIMATE	N	NORTH
BOT	BOTTOM	(n)	NEW
BP	BOTTOM CONCRETE PIER	O.C.	ON CENTER
CL	CENTER LINE	OH	OVERHEAD
CL	CONTROL LINE	PERF	PERFORATED
CONC	CONCRETE	PG&E	PACIFIC GAS AND ELECTRIC
CONN	CONNECTION	PM	POST MILE
CONST	CONSTRUCTION	PRIN	PRINCIPAL
CP	CONTROL POINT	PT	POINT
DIA	DIAMETER	PVC	POLY VINYL CHLORIDE
E	EAST	RD	ROAD
(E), EXIST	EXISTING	REINF	REINFORCED
EA	EACH	RT	RIGHT
EL, ELEV	ELEVATION	R/W	RIGHT OF WAY
ENGR	ENGINEER	S	SOUTH
EP	EDGE OF PAVEMENT	SEC	SECTION
EST	ESTIMATE	SHT	SHEET
EXCAV	EXCAVATE, EXCAVATION	S.S.	SANDSTONE
FD	FOUND	STA	STATION
FT	FOOT, FEET	TP	TOP CONCRETE PIER
FTG	FOOTING	TYP	TYPICAL
GEN	GENERAL	U.B.	UNBONDED
GRD	GRADE	W	WEST
HDPE	HIGH DENSITY POLYETHYLENE	W/	WITH
HT	HEIGHT	&	AND
INV	INVERT	@	AT
IP	IRON PIPE	1ST	FIRST
JP	JOINT POLE	<	LESS THAN
		#	POUND

COUNTY OF SANTA CRUZ  
DEPARTMENT OF PUBLIC WORKS

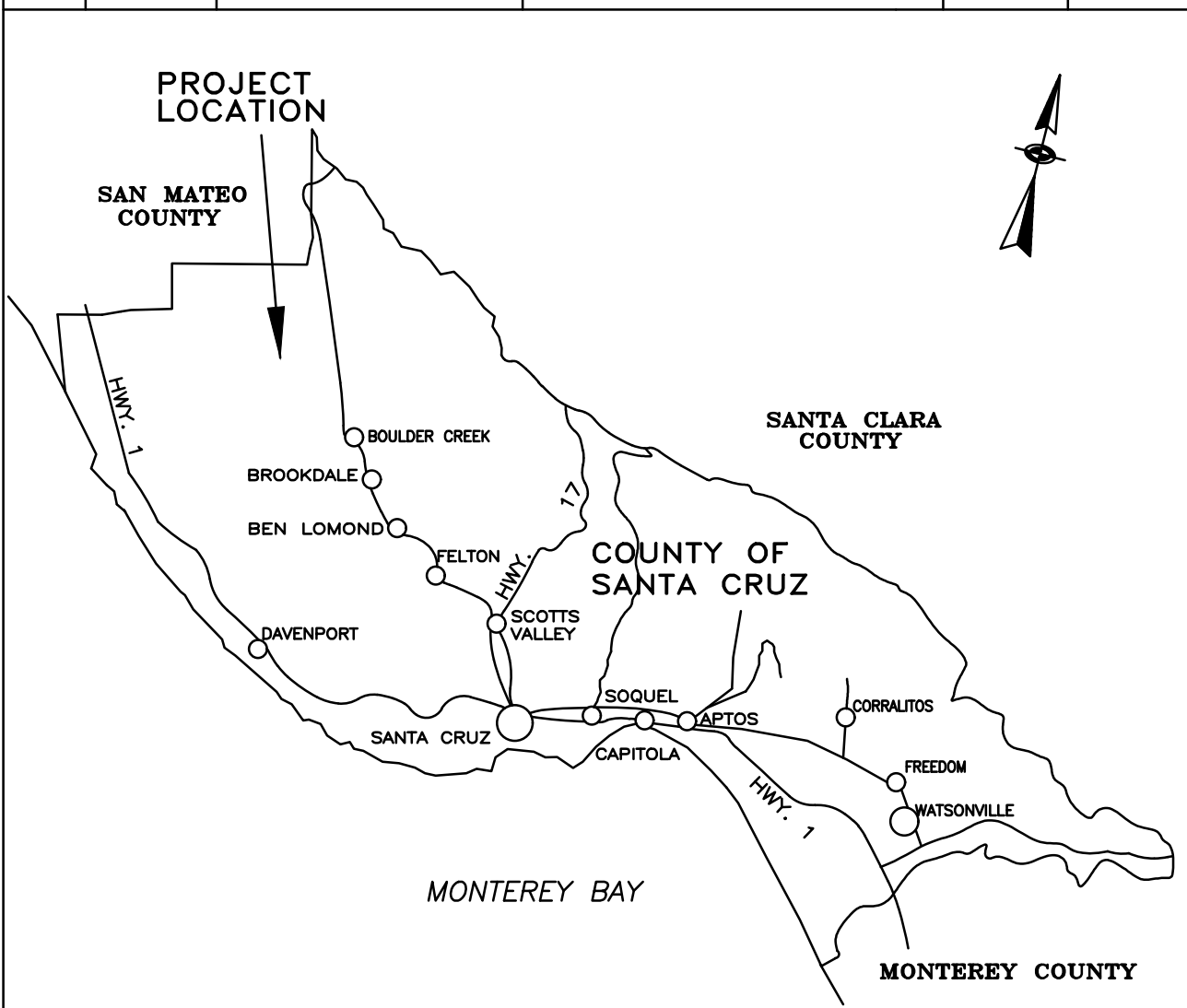
PROJECT PLANS FOR CONSTRUCTION ON  
CHINA GRADE PM 0.62  
STORM DAMAGE REPAIR PROJECT  
DAF No. LTP-SCRCO-061-0

To be supplemented by CalTrans Standard Plans dated 2024



VICINITY MAP  
NOT TO SCALE

DIST	COUNTY	ROUTE	POST MILE OF PROJECT	SHEET No.	TOTAL SHEETS
01	SCr		P.M. 0.62	1	x



LOCATION MAP



Design Engineer  
*Greg Jones*

Senior Design Engineer  
*Joel LaCagnina*

Assistant Director of Public Works  
Transportation Division  
*Steve Wiesner*

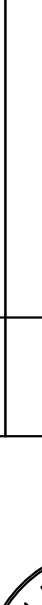
Director of Public Works  
*Matthew J. Machado*

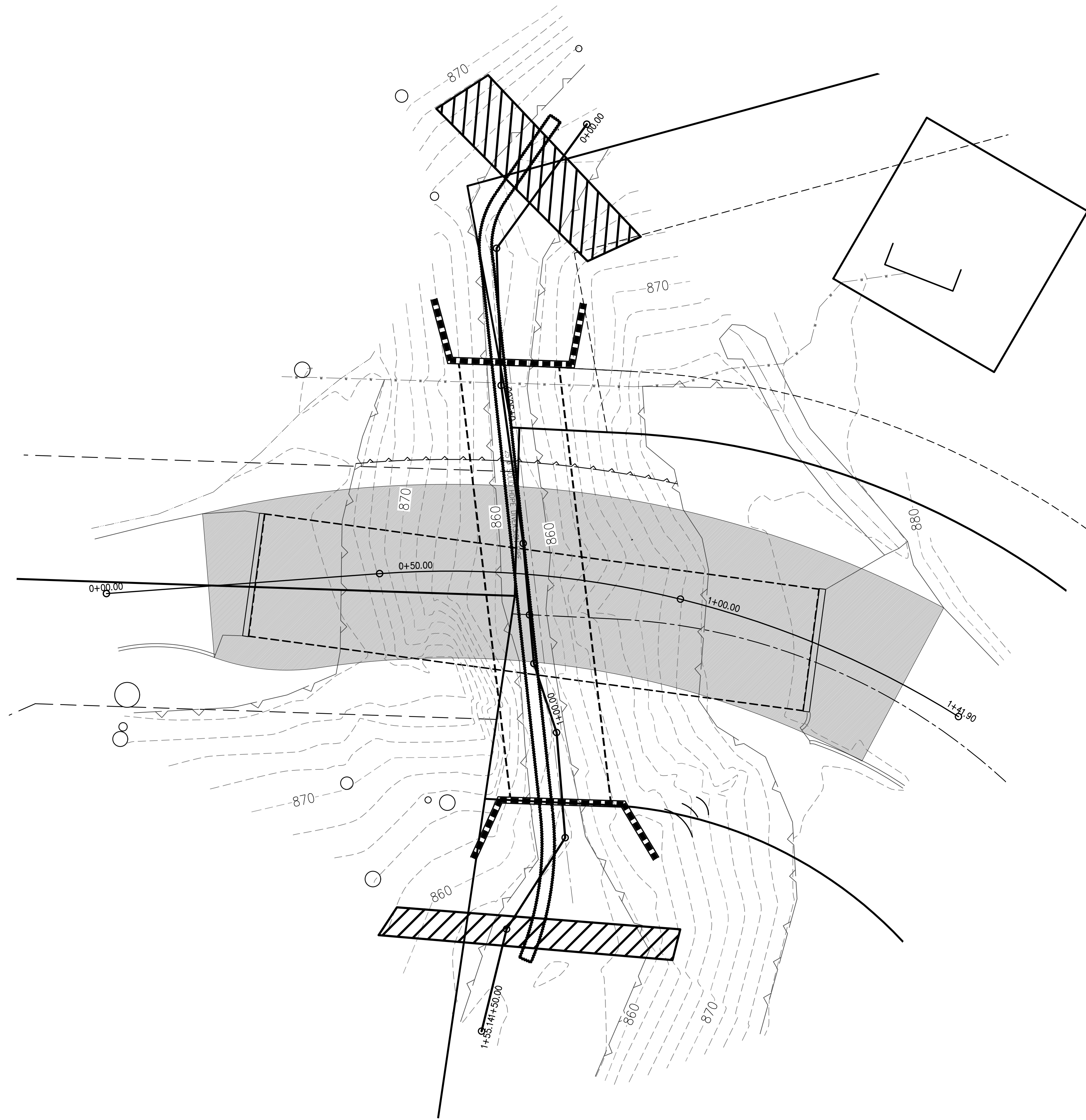
Chair, Board of Supervisors

Date approved by Board of Supervisors


Reviewed by:		Reviewed by:		Reviewed by:	
Greg Martin		Alex Sandoval		Carisa Duran	
Traffic Engineer		Road Superintendent		Construction Engineer	

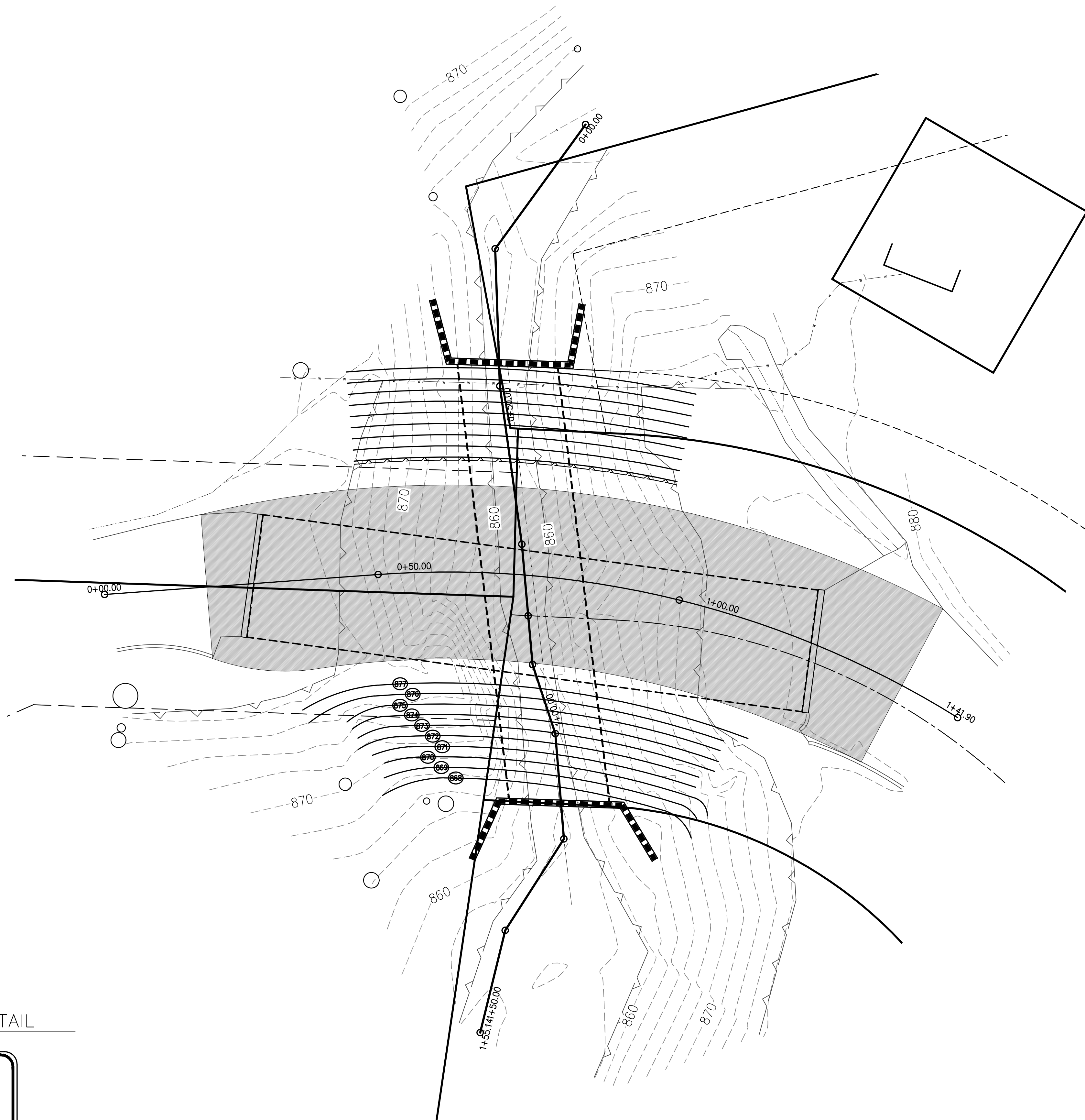
County Job No.	P40684
----------------	--------

COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS		PROJECT ENGINEER		DATE	REVISION	BY
CHINA GRADE PM 0.62		GREG JONES				
STORM DAMAGE REPAIR PROJECT						
DRAWN: GRJ						
CHECKED: JSL						
DATE: XX/XX/25						
SCALE: 1"=5'						
JOB NO. P42303						
SHEET						
2 OF X						



DIVERSION PLAN

COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS		PROJECT ENGINEER  GREG JONES			
CHINA GRADE PM 0.62 STORM DAMAGE REPAIR PROJECT					
DRAWN: GRJ					
CHECKED: JSL					
DATE: 1/23/25					
SCALE: 1"=5'					
JOB NO. P40684					
SHEET					
3 OF X					



CUSTOM SIGN DETAIL

ROAD CLOSED  
AT POST MILE 0.62  
XX/XX/XXXX TO  
XX/XX/XXXX  
8:30 am TO 12:00 pm  
12:30 am TO 4:30 pm

WORKING STRESS DESIGN

STRUCTURAL STEEL  $F_y = 50,000$  PSI  
TREATED TIMBER DOUGLAS FIR #1 (MIN.)  $F_b = 1,750$  PSI  
CONCRETE  $F_c = 1,350$  PSI  
 $F_c = 3,600$  PSI

CONSTRUCTION SEQUENCE:

- 1.
- 2.

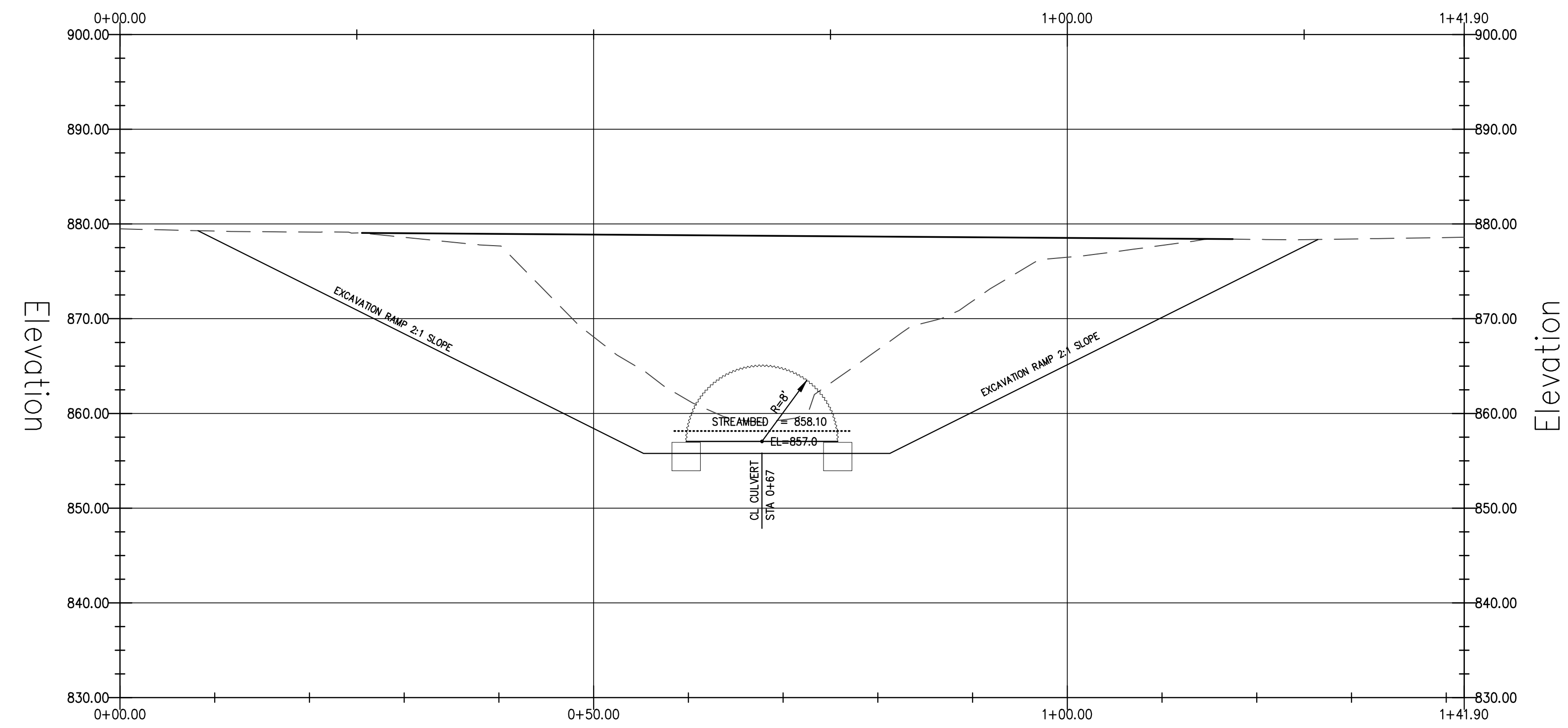
GENERAL CONSTRUCTION NOTES:

1. THE WORK HEREIN SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS & PLANS DATED 2018 OF THE STATE OF CALIFORNIA AS THEY MAY APPLY TO THE CONTRACT PLANS AND SPECIAL PROVISIONS.
2. DIMENSIONS OF THE STRUCTURAL ITEMS ARE SUBJECT TO TOLERANCES SPECIFIED IN THE STANDARD SPECIFICATIONS AND THE THE MANUFACTURER(S) RECOMMENDATIONS.
3. REFER TO THE STANDARD SPECIFICATIONS & SPECIAL PROVISIONS FOR THE STRUCTURE BACKFILL REQUIREMENTS FOR THE PILE WALL.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION AND REPAIR OF ANY DAMAGE(S) TO PRIVATE PROPERTY & ANY UTILITIES IN MILLER CUTOFF ROAD. THE EXACT LOCATION OF EXISTING UNDERGROUND UTILITIES IS NOT KNOWN.
5. THE CONTRACTOR IS REFERRED TO THE GEOTECHNICAL REPORT BY PACIFIC CREST GEOTECHNICAL ENGINEERS DATED NOVEMBER 2018 ON FILE AT THE PUBLIC WORKS DEPARTMENT.
6. ALL CLEARING, GRADING, AND EROSION CONTROL MEASURES SHALL BE COMPLETED NO LATER THAN OCTOBER 15, 2025.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE SITE TO REVIEW THE WORK AND ACCESS LIMITATIONS, VERIFY CONDITIONS, AND UNDERSTAND THE PROJECT BEFORE SUBMITTING A BID FOR THE WORK. THERE IS NO PRE-BID SITE MEETING FOR THIS PROJECT.

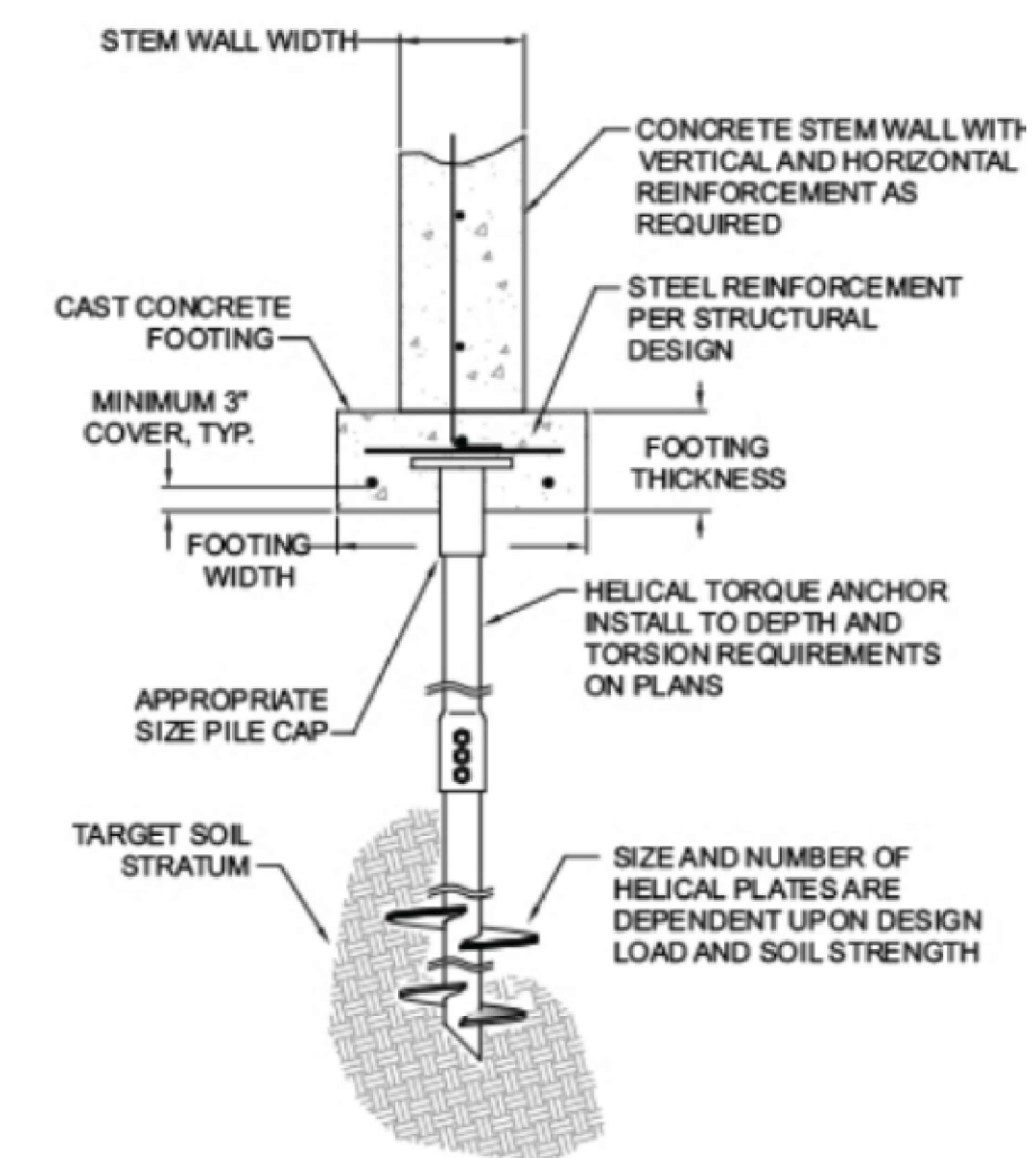
SITE PLAN

BY	REVISION	DATE	PROJECT ENGINEER	COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS	CHINA GRADE PM 0.62 STORM DAMAGE REPAIR PROJECT	DRAWN:	CHECKED:	DATE:	SCALE:	JOB NO.	SHEET
			GREG JONES			GRJ	GRJ	5/13/24	1"=10'	P76812	5 OF X

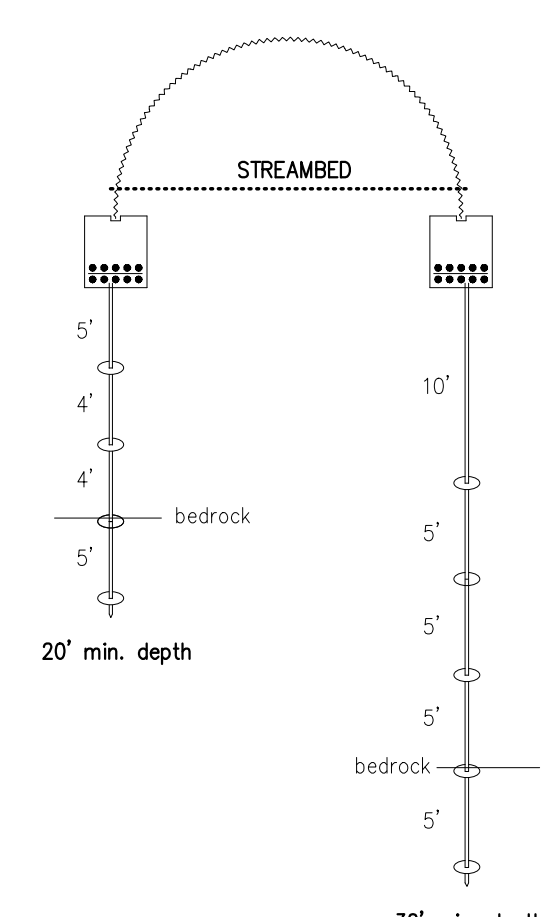




CENTERLINE ROAD PROFILE  
SCALE: 1"=6' H&V



HELICAL DETAIL  
SCALE: 1"=6'



ANCHOR TO FOUNDATION  
NO SCALE




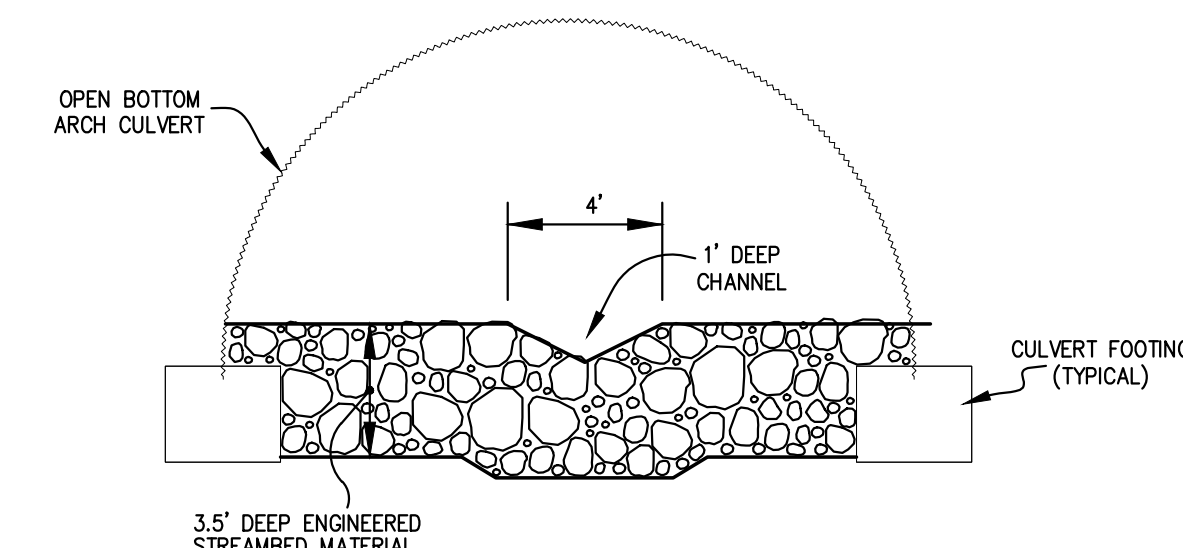
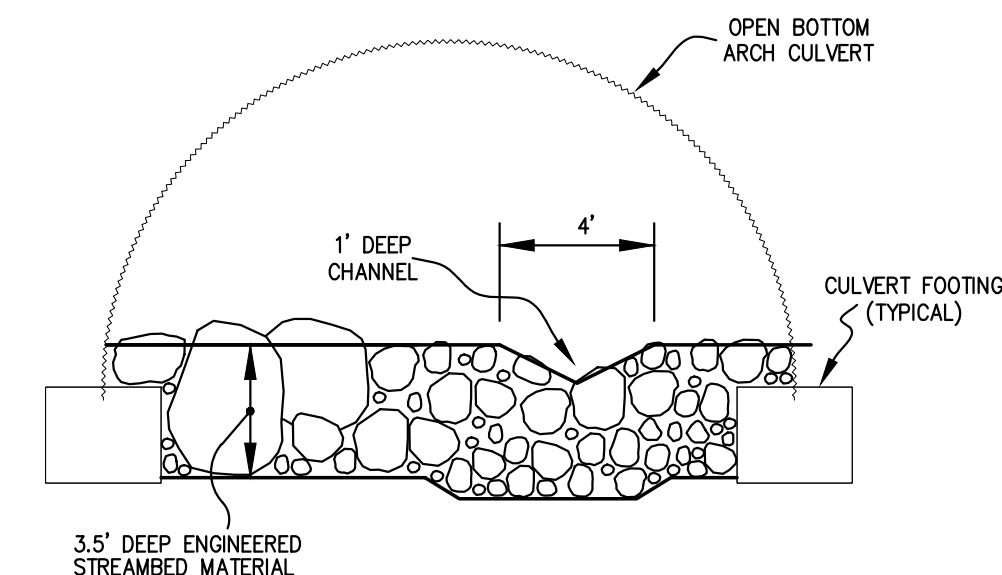
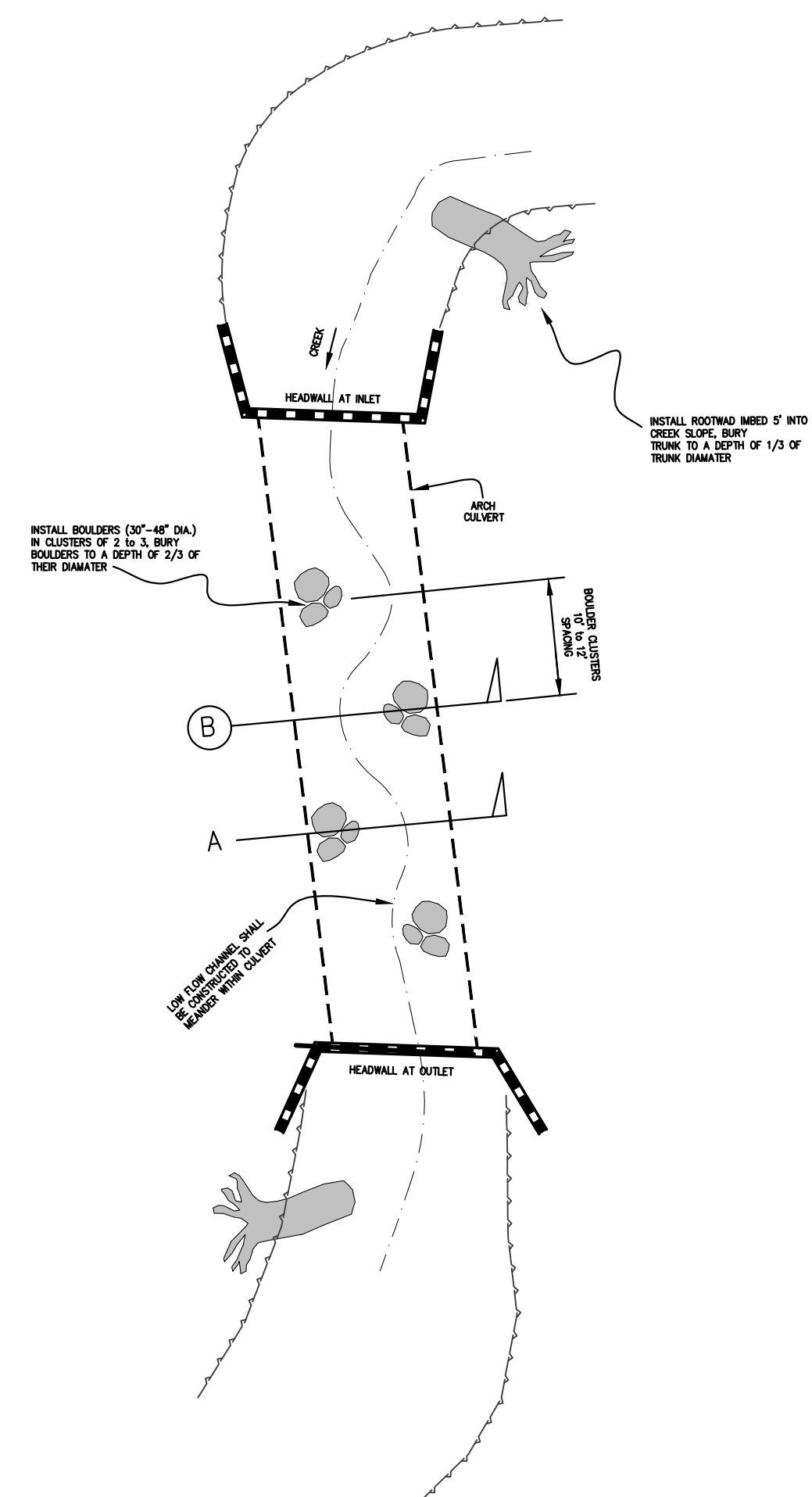
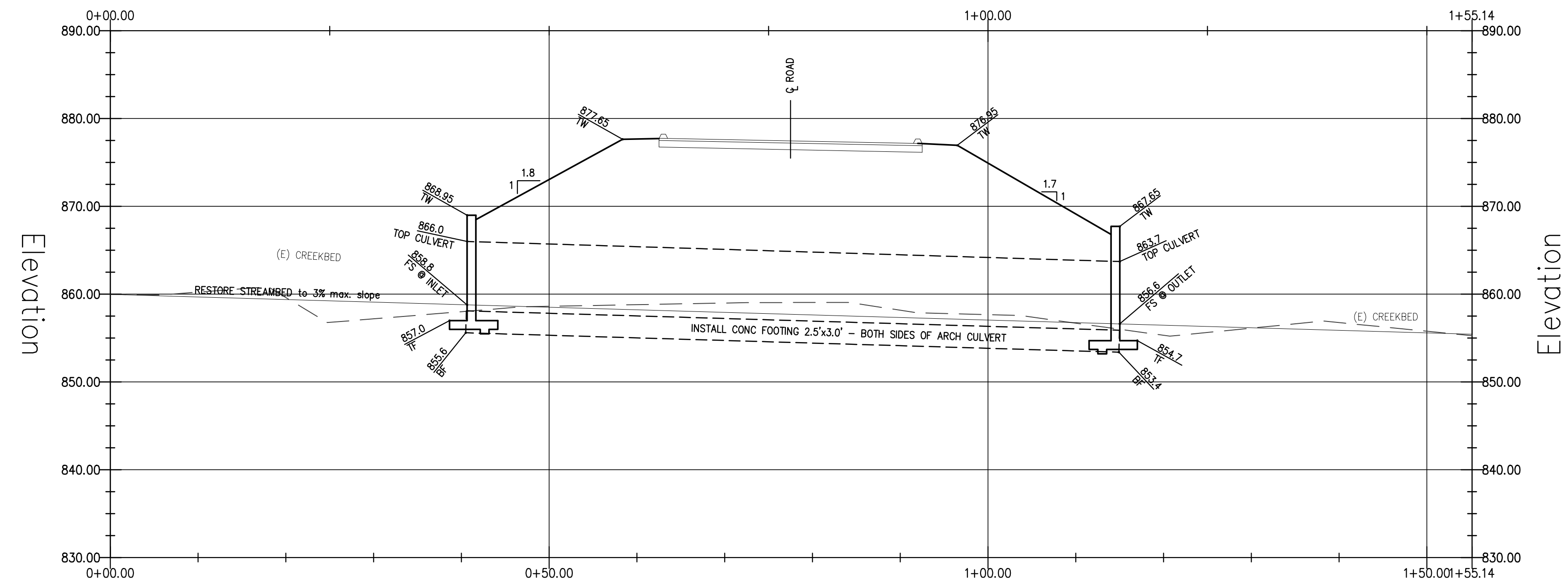
HEADWALL - INLET  
SCALE: 1"=10' H&V



HEADWALL - OUTLET  
SCALE: 1"=10' H&V

ROAD PROFILE & HEADWALL SECTIONS

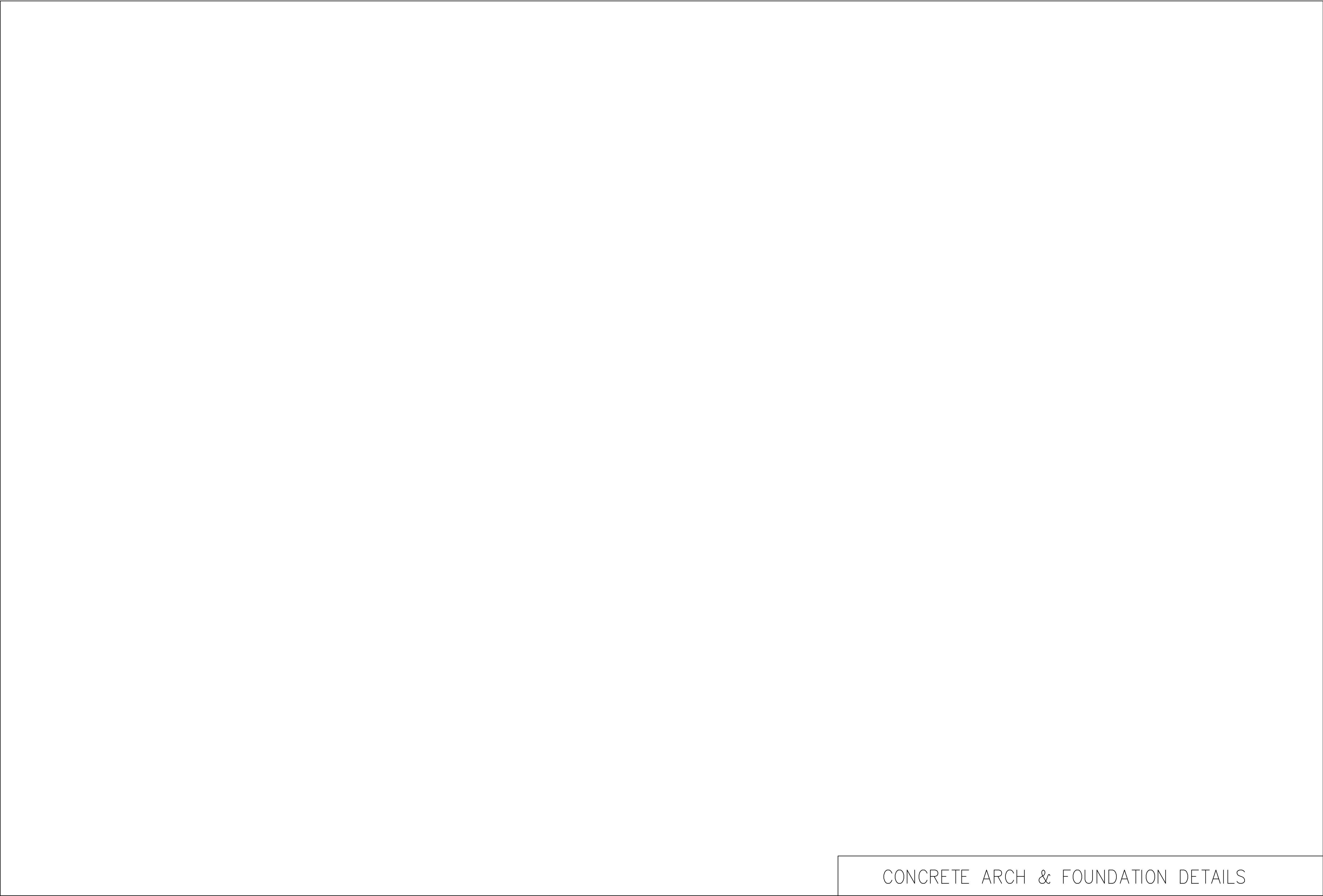
COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS	PROJECT ENGINEER		DATE	REVISION	BY	
CHINA GRADE PM 0.62 STORM DAMAGE REPAIR PROJECT	GREG JONES					
DRAWN: GRJ						
CHECKED: GRJ						
DATE: 5/13/24						
SCALE: NOTED						
JOB NO. P76812						
SHEET 5 OF X						



- CULVERT NOTES

1. THE CULVERT STRUCTURE SHALL BE A 9' RADIUS MULTIPLATE ALUMINUM ARCH CULVERT w/ PRECAST CONCRETE FOOTINGS. THE CONTRACTOR SHALL SUPPLY SHOP DRAWINGS THAT HAVE BEEN STAMPED & SIGNED BY A REGISTERED CIVIL ENGINEER. SHOP DRAWINGS SHALL BE APPROVED BY THE COUNTY ENGINEER PRIOR TO FABRICATION.
2. THE CULVERT SHALL BE A MINIMUM OF 1.5" THICK ALUMINUM WITH REINFORCING BARS.
3. THE CULVERT SHALL BE ASSEMBLED IN ACCORDANCE WITH THE SHOP DRAWINGS PROVIDED BY THE MANUFACTURER AND PER THE MANUFACTURER'S SPECIFICATIONS AND A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES.
4. THE STRUCTURE SHALL BE BACKFILLED USING CLEAN AND WELL GRADED GRANULAR MATERIAL THAT MEETS THE REQUIREMENTS OF A.A.S.H.T.O. M 145 FOR SOIL CLASSIFICATION A-1, A-2 OR A-3. BACKFILL SHALL BE PLACED SYMMETRICALLY ON EACH SIDE OF THE STRUCTURE IN 6" LIFTS. EACH LIFT SHALL BE COMPACTED TO A MINIMUM OF 90% DENSITY PER A.A.S.H.T.O. T99.
5. ASSEMBLY BOLTS AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 OR A449 FOR STEEL FASTENERS OR ASTM F467 & F486 FOR ALUMINUM FASTENERS.
6. CULVERT INSTALLATION SHALL COMPLY WITH THE NATIONAL CORRUGATED STEEL PIPE ASSOCIATION INSTALLATION MANUAL.
7. CONCRETE FOOTINGS SHALL BE DESIGNED BY THE CONTRACTOR. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.
8. WHERE CITED REFERENCES CONTAIN DUPLICATE INFORMATION, THE MOST STRINGENT SHALL APPLY, AS DETERMINED BY THE ENGINEER.

COUNTY OF SANTA CRUZ - DEPARTMENT OF PUBLIC WORKS		PROJECT ENGINEER	DATE	REVISION	BY
CHINA GRADE PM 0.62 STORM DAMAGE REPAIR PROJECT		GREG JONES			
DRAWN: GRJ					
CHECKED: GRJ					
DATE: 5/13/24					
SCALE: NOTED					
JOB NO. P76812					
SHEET 6 OF X					



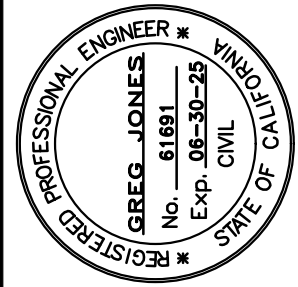
CONCRETE ARCH & FOUNDATION DETAILS

DRAWN: GRJ  
CHECKED: GRJ  
DATE: 5/13/24  
SCALE: NOTED  
JOB NO. P76812

SHEET  
7 OF X

COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS  
CHINA GRADE PM 0.62  
STORM DAMAGE REPAIR PROJECT

PROJECT ENGINEER  
GREG JONES



DATE	REVISION	BY



HELICAL ANCHOR DETAILS

8 OF X  
SHEET

JOB NO. P76812

SCALE: NOTED

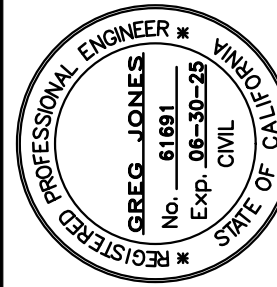
DATE: 5/13/24

CHECKED: GRJ

DRAWN: GRJ

COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS  
SANTA CRUZ  
STORM DAMAGE REPAIR PROJECT

PROJECT ENGINEER  
GREG JONES



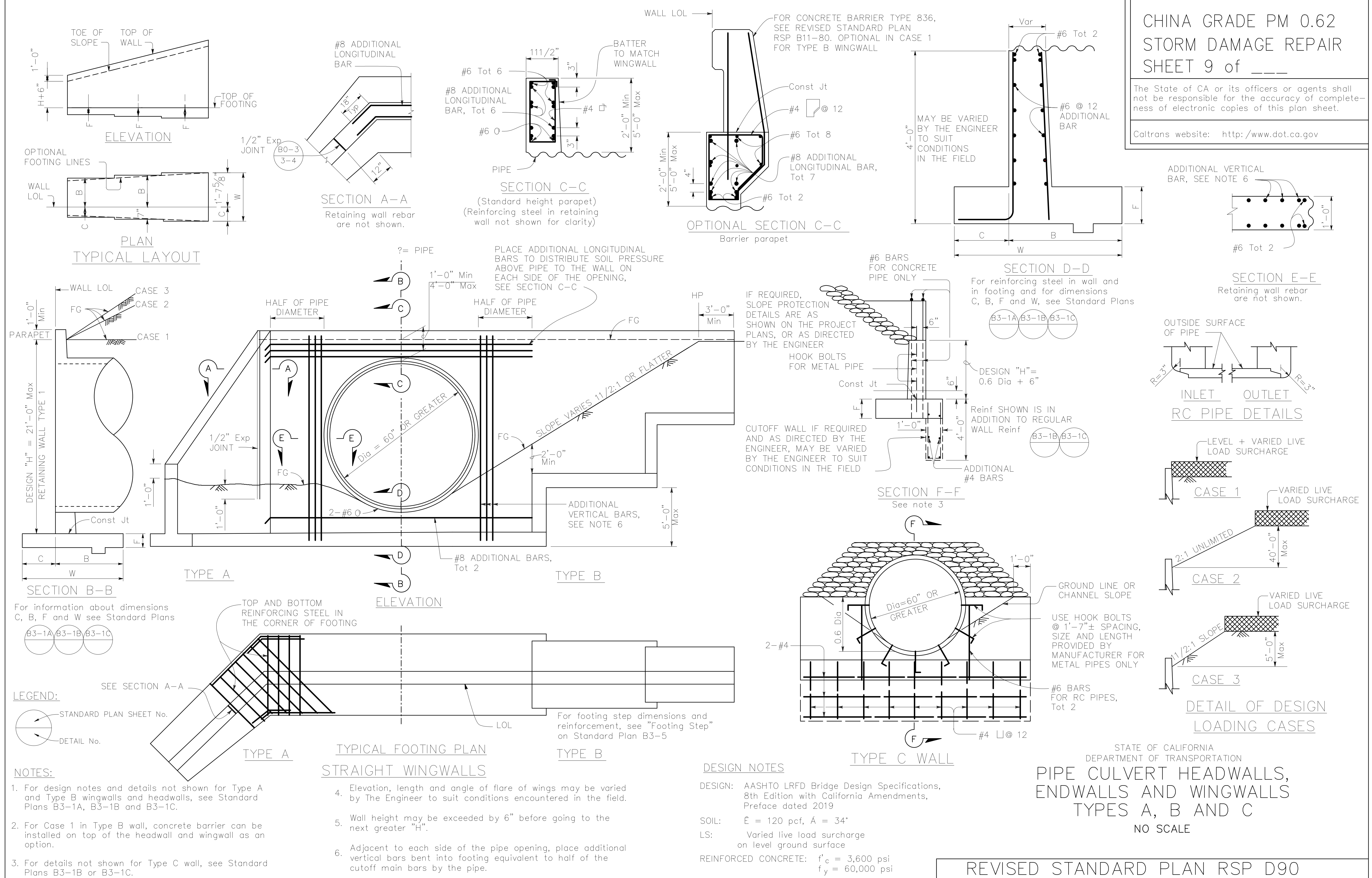
DATE	REVISION	BY



# CHINA GRADE PM 0.62 STORM DAMAGE REPAIR SHEET 9 of \_\_\_\_

The State of CA or its officers or agents shall not be responsible for the accuracy of completeness of electronic copies of this plan sheet.

Caltrans website: <http://www.dot.ca.gov>







PLANT LIST

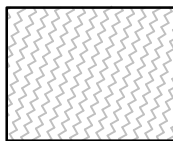
SIZE	QUANTITY	BOTANICAL NAME – COMMON NAME / SPACING
1 gallon	--	Acer Macrophyllum – Big Leaf Maple / 10’ o.c.
1 gallon	--	Sequoia sempervirens – Redwood / 10’ o.c
1 gallon	--	Alnus rubra – Red Alder / 10’ o.c.
Cuttings	--	Salix Lasiolepis – Arroyo Willow / 3’ o.c.
1 gallon	--	Corylus cornuta – Hazelnut / 10’ o.c.
1 gallon	--	*Polystichum munitum – Western Sword Fern / 8’ o.c.
1 gallon	--	Rubus Ursinus – California Blackberry / 5’ o.c.
1 gallon	--	Sambucus nigra – Blue Elderberry/ 10’ o.c
1 gallon	--	Corylus cornuta – Hazelnut/ 10’ o.c.
1 gallon	--	Rubus parviflorus – Thimbleberry/ 8’ o.c

\*Note: Sword ferns will be salvaged from creekside areas near work site, if available.  
Rhizome divisions from salvaged plants area acceptable. If salvage plants are not available,  
the plants will be subsituted with Californai blackberry or thimbleberry.

PLAN

SCALE: 1” = 10’

LEGEND



HYDROSEEDING WITH FIBER ROLLS  
Entire slope shall have rolled erosion control product (jute mesh)with 26.6 oz/sq-yd density and 39% open area. Remove loose material as directed by the engineer.  
Installation of straw rolls 10’ o.c., anchored with 3’ long wood stakes. Entire area to be hydroseeded and cover with native duff.

EROSION CONTROL SEED MIXTURE

- 30 lbs. Bromus carinatus cucamonga - Cucamonga Brome
- 6 lbs. Vulpia microstachys - Three Weeks Fescue
- 4 lbs. Trifolium wildenovii - Tomcat Clover
- 25 lbs. Common Barley (December-February)

EROSION CONTROL NOTES:

- PLACE TEMPORARY REINFORCED SILT FENCE AS DESCRIBED IN THE CONTRACT DOCUMENTS.
- ON ALL DISTURBED SOIL AREAS, PLACE HYDROSEED, ROLLED EROSION CONTROL FABRIC (JUTE MESH) AND FIBER ROLLS AS DESCRIBED IN THE CONTRACT DOCUMENTS.
- ALL OPERATIONS SHALL CONFORM TO REQUIREMENTS OF THE COUNTY EROSION CONTROL ORDINANCE. THE DESIRED END RESULT OF THE PROPOSED MEASURE IS TO CONTROL SITE EROSION AND TO PREVENT SEDIMENT TRANSPORT OFF THE SITE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ANY ADDITIONAL MEASURES TO MEET THIS GOAL ARE BEING MET. SILT FENCES AND SAND BAGS SHALL BE USED TO PREVENT SILT RUNOFF.
- DISTURBANCE TO NATURAL VEGETATION SHALL BE MINIMIZED WITHIN AREA OF CONSTRUCTION.
- BETWEEN OCTOBER 1 AND JUNE 1, ALL DISTURBED EXPOSED SOIL SHALL BE PROTECTED FROM EROSION AT ALL TIMES. DURING CONSTRUCTION SUCH PROTECTION SHALL CONSIST OF MULCHING AND/OR PLANTING OF NATIVE VEGETATION OF ADEQUATE DENSITY. BEFORE COMPLETION OF PROJECT ANY EXPOSED SOIL ON DISTURBED SLOPES SHALL BE PERMANENTLY PROTECTED FROM EROSION.

- NOTES:
- LOCATIONS FOR EROSION CONTROL INSTALLATIONS ARE APPROXIMATE AND SHOULD BE ADJUSTED IN THE FIELD AS NECESSARY AND APPROVED BY THE ENGINEER.
  - ON ALL DISTURBED SOIL AREAS, PLACE HYDROSEED, ROLLED EROSION CONTROL FABRIC (JUTE MESH) AND FIBER ROLLS AS DESCRIBED IN THE CONTRACT DOCUMENTS.
  - PLACE TEMPORARY REINFORCED SILT FENCE AS DESCRIBED IN THE CONTRACT DOCUMENTS.
  - INSTALL CONTAINER PLANTS AS DESCRIBED IN THE CONTRACT DOCUMENTS.

EROSION CONTROL & REVEGETATION PLAN

BY				
REVISION				
DATE				
<div><div>REGISTERED PROFESSIONAL ENGINEER GREG JONES No. 61881 Exp. 06-30-25 STATE OF CALIF.</div></div>				
PROJECT ENGINEER		GREG JONES		
COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS		CHINA GRADE PM 0.62 STORM DAMAGE REPAIR PROJECT		
DRAWN:		GRJ		
CHECKED:		GRJ		
DATE:		5/13/24		
SCALE:		NOTED		
JOB NO.		P76812		
SHEET		11 OF X		



EARTHWORK NOTES

1. GRADING SUMMARY:  
TOTAL CUT VOLUME = ----CY  
TOTAL FILL VOLUME = ---- CY  
NET FILL = ---- CY

THE ABOVE QUANTITIES ARE APPROXIMATE IN-PLACE VOLUMES CALCULATED AS THE DIFFERENCE BETWEEN EXISTING GROUND AND THE PROPOSED FINISH GRADE. EXISTING GROUND IS DEFINED BY THE TOPOGRAPHIC CONTOURS AND/OR SPOT ELEVATIONS ON THE PLAN. PROPOSED FINISH GRADE IS DEFINED AS THE DESIGN SURFACE ELEVATION OF EARTH TO BE CONSTRUCTED.

THE ABOVE QUANTITIES HAVE BEEN CALCULATED FOR PERMITTING PURPOSES ONLY AND HAVE NOT BEEN FACTORED TD INCLUDE ALLOWANCES FOR BULKING, CLEARING AND GRUBBING, SUBSIDENCE, SHRINKAGE, OVER EXCAVATION, AND RECOMPACTION, UNDERGROUND UTILITY AND SUBSTRUCTURE SPOILS AND CONSTRUCTION METHODS.

THE CONTRACTOR SHALL PERFORM AN INDEPENDENT EARTHWORK ESTIMATE FOR THE PURPOSE OF PREPARING BID PRICES FOR EARTHWORK. THE BID PRICE SHALL INCLUDE COSTS FOR ANY NECESSARY IMPORT AND PLACEMENT OF MATERIALS OR THE EXPORT AND PROPER DISPOSAL OF EXCESS MATERIALS. THE CONTRACTOR SHALL ASSESS THE GROUND CONDITIONS AND DIFFICULTY OF EARTHWORK IN PREPARING BID PRICES. ADDITIONAL PAYMENT WILL NOT BE MADE FOR DIFFICULT CONDITIONS, INCLUDING BEDROCK OR OTHER HARD MATERIALS ENCOUNTERED DURING THE WORK.

- 2. PRIOR TO COMMENCING WORK, ALL AREAS TD REMAIN UNDISTURBED SHALL BE ADEQUATELY PROTECTED WITH TEMPORARY FENCING.
- 3. ALL EXCESS SOILS SHALL BE REMOVED TO AN APPROVED DUMP SITE OR DISPOSED OF ON SITE AT LOCATIONS SHOWN ON THE DRAWINGS, IN A MANNER THAT WILL NOT CAUSE EROSION.
- 4. CLEARING AND GRUBBING, SUBGRADE PREPARATION AND EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
- 5. UNSUITABLE SOIL OR MATERIALS, NOT TO BE INCLUDED IN THE WORK INCLUDE:
  - ORGANIC MATERIALS SUCH AS PEAT, MULCH, ORGANIC SILT OR SOD.
  - SOILS CONTAINING EXPANSIVE CLAYS.
  - MATERIAL CONTAINING EXCESSIVE MOISTURE.
  - POORLY GRADED COURSE MATERIAL, PARTICLE SIZE IN EXCESS OF 6 INCHES.
  - MATERIAL WHICH WILL NOT ACHIEVE SPECIFIED DENSITY OR BEARING.

- 6. MATERIALS THAT ARE DESIGNATED BY THE ENGINEER AS UNSUITABLE FOR SUBGRADE BELOW THE FOOTINGS, BASED ON VISUAL INSPECTION AT THE TIME OF EXCAVATION, SHALL BE EXCAVATED AND DISPOSED OF AS DIRECTED BY THE ENGINEER. EXCAVATED MATERIAL SHALL BE REPLACED WITH AGGREGATE SUBBASE.
- 7. FINE GRADING ELEVATIONS AND SLOPES NOT SHOWN SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD TO OBTAIN DRAINAGE IN THE DIRECTION INDICATED. ALL FINAL GRADING SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER.
- 8. ALL CONTACT SURFACES BETWEEN ORIGINAL GROUND AND RECOMPACTED FILL SHALL BE EITHER HORIZONTAL OR VERTICAL. ALL ORGANIC MATERIAL SHALL BE REMOVED AND THE REMAINING SURFACE SCARIFIED TO A DEPTH OF AT LEAST 12 INCHES, UNLESS DEEPER EXCAVATION IS REQUIRED BY THE ENGINEER.
- 9. FILL MATERIAL SHALL BE SPREAD IN LIFTS OF APPROXIMATELY 6 INCHES, MOISTENED OR DRIED TD NEAR OPTIMUM MOISTURE CONTENT AND RECOMPACTED TO A MINIMUM OF 95% RELATIVE COMPACTION WITHIN 30 INCHES OF TRAVELED WAY AND 90% RELATIVE COMPACTION ELSEWHERE, AS DETERMINED BY ASTM-D1557-09. THE MATERIALS FOR ENGINEERED FILL SHALL BE APPROVED BY A REGISTERED CIVIL ENGINEER. ANY IMPORTED MATERIALS MUST BE APPROVED BEFORE BEING BROUGHT TO THE SITE. THE MATERIALS USED SHALL BE FREE OF ORGANIC MATTER ANO OTHER DELETERIOUS MATERIALS. REFER TO CULVERT SPECIFICATIONS NOTE 2 FOR STRUCTURAL BACKFILL REQUIREMENTS.

DIVERSION & DEWATERING NOTES

- 1. A WATER DIVERSION SYSTEM SHALL BE INSTALLED TO DEWATER THE PROJECT SITE TO FACILITATE IN-STREAM CONSTRUCTION AND TO REDUCE THE POTENTIAL IMPACTS TD WATER QUALITY DOWNSTREAM OF THE PROJECT SITE.
- 2. THE PROPOSED DIVERSION STRUCTURE SHALL CONSIST OF A SEALED SAND BAG DAM AND A GRAVITY FLOW PIPELINE. NO OTHER DIVERSION METHOD SHALL BE USED WITHOUT AUTHORIZATION OF THE ENGINEER. IF ANOTHER DIVERSION METHOD IS PREFERRED BY THE CONTRACTOR, THE CONTRACTOR SHALL SUBMIT A PLAN TO THE ENGINEER, DETAILING THE DESIRED DIVERSION METHOD.
- 3. THE CONTRACTOR SHALL CONFIRM THAT A FAVORABLE LONG TERM WEATHER FORECAST (1 WEEK MIN.) IS OBSERVED PRIOR TO PLACEMENT OF DIVERSION STRUCTURE.
- 4. THE CONTRACTOR SHALL MAINTAIN THE DIVERSION DAM DURING THE COURSE OF CONSTRUCTION WORK.
- 5. IN THE EVENT OF A SIGNIFICANT STORM, THE CONTRACTOR SHALL BE PREPARED TO TAKE NECESSARY MEASURES TO INSURE SAFE PASSAGE OF STORM WATER FLOW THROUGH THE PROJECT AREA, WITHOUT DAMAGE TO EXISTING STRUCTURES, OR INTRODUCTION OF EXCESSIVE SEDIMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY EROSION CONTROL

B.M.P.'S.

- 6. FISH SHALL BE REMOVED FROM THE PROJECT SITE BY A QUALIFIED FISHERIES BIOLOGIST, LICENSED FOR SUCH ACTIVITIES BY THE NATIONAL MARINE FISHERIES SERVICE AND THE CALIFORNIA DEPARTMENT OF FISH AND GAME.
- 7. BLOCK NETS SHALL BE PROVIDED AND INSTALLED BY THE FISHERIES BIOLOGIST. BLOCK NETS SHALL BE MAINTAINED BY THE CONTRACTOR BOTH UPSTREAM AND DOWNSTREAM OF THE WORK AREA, THROUGHOUT THE PERIOD OF CONSTRUCTION. MAINTENANCE INCLUDES PERIODIC REMOVAL OF ACCUMULATED DEBRIS, AS NECESSARY TO ENSURE FUNCTION. BLOCK NETS SHALL BE REMOVED BY THE FISHERIES BIOLOGIST AFTER THE DIVERSION IS REMOVED AND THE IN CHANNEL WORK AREA IS RE-WATERED.
- ANY DEWATERING ACTIVITIES WHICH MAY BE REQUIRED FOR CONSTRUCTION PURPOSES SHALL BE CONDUCTED IN A MANN WHICH DOES NOT RESULT IN AN EXCEEDANCE OF ANY WATER QUALITY REQUIREMENTS ESTABLISHED BY THE OREGON DEPARTMENT OF WATER QUALITY.

- 9. CONTRACTOR SHALL SUPPLY ALL NECESSARY PUMPS, PIPING, FILTERS, SHORING, AND OTHER TOOLS AND MATERIALS NECESSARY FOR DEWATERING.
- 10. SITE DEWATERING PLAN SHALL BE CAPABLE OF FULLY DEWATERING THE SITE INCLUDING ALL TRENCHES FOR FOOTING ROCK PLACEMENT, TO ALLOW FOR VISUAL INSPECTION BY ENGINEER.

EROSION CONTROL AND DUST CONTROL NOTES

- 1. THE EROSION CONTROL PLAN SHOWN IS INTENDED FOR THE APPROVED CONSTRUCTION WINDOW (JULY 15 TO AUGUST 3). IF DISTURBED AREAS ARE NOT STABILIZED BY SEPTEMBER 1ST, CONSULT THE ENGINEER FOR ADDITIONAL RAINY SEASON EROSION CONTROL MEASURES.
- 2. PRIOR TO SEPTEMBER 1ST, ALL DISTURBED AREAS SHALL BE STABILIZED, WINTERIZED, ANO VEGETATED WITH THE SEED IN "TABLE A" SHEET C4.
- 3. BETWEEN JULY 15 AND AUGUST 31, EXPOSED SOIL SHALL BE PROTECTED FROM EROSION AT ALL TIMES. DURING CONSTRUCTION, SUCH PROTECTION MAY CONSIST OF MULCHING. BEFORE COMPLETION OF THE PROEJCT, ANY EXPOSED SOIL ON DISTURBED SLOPES SHALL BE PERMANENTLY PROTECTED FROM EROSION.
- 4. A STANDBY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON. NECESSARY MATERIALS SHALL BE AVAILABLE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS IMMINENT.
- 5. CONSTRUCT TEMPORARY EROSION CONTROL MEASURES AS DIRECTED BY THE ENGINEER TO CONTROL DRAINAGE WHICH HAS BEEN AFFECTED BY GRADING AND/OR TRENCHING OPERATIONS.
- 6. THE CONTRACTOR SHALL INCORPORATE ADEQUATE DRAINAGE PROCEDURES DURING THE CONSTRUCT/ON PROCESS TO ELIMINATE EXCESSIVE PONDING AND EROSION.
- 7. AFTER A RAINSTORM, ALL SILT AND DEBRIS SHALL BE REMOVED FROM BEHIND SILT FENCES.
- 8. THE CONTRACTOR IS RESPONSIBLE TO KEEP IN FORCE ALL EROSION CONTROL DEVICES AND TO MODIFY THOSE DEVICES AS SITE PROGRESS DICTATES.
- 9. THE CONTRACTOR SHALL MONITOR THE EROSION CONTROL DEVICES DURING STORMS AND MODIFY THEM IN ORDER TO PREVENT PROGRESS OF ANY ONGOING EROSION.
- 10. CONTRACTOR SHALL BE FAMILIAR WITH THE CONDITIONS OF APPROVAL OF ALL REQUIRED PROJECT PERMITS AND SHALL IMPLEMENT ALL REQUIRED BMP'S PRIOR TO COMMENCING GRADING OPERATIONS.
- 11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTINUOUS DUST CONTROL IN ACCORDANCE WITH THE CONDITIONS OF THE DUST CONTROL PERMIT, THROUGHOUT CONSTRUCTION.

ROCK SPECIFICATIONS

THERE SHALL BE FIVE CLASSES OF ROCK SPECIFIED ON THIS PROJECT;

- (1.)- STREAM SIMULATION MATERIAL
- (2.) - RIPRAP
- (3.) - FILTER BLANKET
- (4.) - AGGREGATE BASE
- (5.) - AGGREGATE SUBBASE

ALL IMPORTED ROCK SHALL CONFORM TO THE FOLLOWING QUALITY REQUIREMENTS:

- 1) ROCK SHALL BE RESISTANT TO WEATHERING AND WATER ACTION AND FREE OF ORGANIC OR OTHER UNSUITABLE MATERIAL. DO NOT USE SHALE, ROCK WITH SHALE SEAMS, OR OTHER FISSILE OR FISSURED ROCK THAT MAY BREAK INTO SMALLER PIECES IN THE PROCESS OF HANDLING AND PLACING.
- 2) APPARENT SPECIFIC GRAVITY SHALL BE 2.5 MIN., PER AASHTO T85.
- 3) ABSORPTION SHALL BE 4.2% MAX., PER AASHTO T85.

- 4) DURABILITY INDEX SHALL BE 52 MIN., PER AASHTO T210.

- 5) COLOR AND TEXTURE SHALL BE CONSTANT THROUGHOUT THE STOCKPILE.

ROCK AND STREAM SUBSTRATE SOURCE SHALL BE CERTIFIED WEED-FREE, PRIOR TO STOCKPILING ON SITE. SAMPLES OF ALL IMPORTED ROCK SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL, PRIOR TO STOCKPILING ON SITE. INDIVIDUAL ROCK CLASSES AND PLACEMENT METHODS ARE FURTHER DEFINED AS FOLLOWS:

STREAM SIMULATION MATERIAL

STREAM SIMULATION MATERIAL SHALL CONSIST OF RIVER-RUN SANDS, GRAVELS, AND COBBLES, FREE OF ORGANIC MATTER, AND MEETING THE FOLLOWING GRADATION SPECIFICATIONS

RIPRAP

- a) RIPRAP SHALL CONFORM TO SECTION 00390 OF THE STANDARD SPECIFICATIONS FOR CLASS ROCK CLASS: 200 LB THICKNESS: 2.0' BACKING TYPE: FILTER BLANKET (SEE BELOW)
- b) RIPRAP SHALL BE PLACED IN 2.0' THICK VERTICAL LIFTS. AFTER EACH LIFT IS PLACED, VOIDS SHALL BE BACKFILLED WITH STREAM SUBSTRATE. WATER JETTING MAY BE REQUIRED TO CHINK VOIDS, AS APPROVED BY THE ENGINEER.
- c) RIPRAP SHALL BE PLACED SUCH THAT EACH ROCK ABOVE THE FOUNDATION COURSE HAS A 3-POINT BEARING ON UNDERLYING ROCKS, AND SO THAT DOWN SLOPE ROCKS BUTTRESS UP SLOPE ROCKS.

FILTER BLANKET

- a) FILTER BLANKET SHALL CONSIST OF A 6 INCH LAYER OF"WELL GRADED "4"-0"STONE EMBANKMENT.
- b) FILTER BLANKET MATERIAL AND PLACEMENT SHALL MEET THE REQUIREMENTS OF SECTION 00330.16 OF THE STANDARD SPECIFICATIONS.

AGGREGATE BASE

- a) AGGREGATE BASE SHALL CONFORM TO SECTION 00640 OF THE STANDARD SPECIFICATIONS.
- b) MATERIAL SHALL BE "3/4"-0" DENSE GRADED AGGREGATE BASE.
- c) AGGREGATE BASE SHALL BE COMPACTED TO 95% RC IN 'ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

AGGREGATE SUBBASE

- a) AGGREGATE SUBBASE SHALL CONFORM TO SECTION 02630.11 OPEN-GRADED AGGREGATE OF THE STANDARD SPECIFICATIONS.
- b) AGGREGATE SUBBASE SHALL BE COMPACTED TO 95% RC IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS CULVERT SPECIFICATIONS

- 1. THE STRUCTURE SHALL MEET THE DIMENSIONS AS SHOWN ON THE PLANS AND CONSIST OF .150' THICK ALUMINUM PLATE WITH TYPE II REINFORCING RIBS AT 9" O.C. SPACING CONFORMING TO A.A.S.H.T.O 219 AND ASTM B 476, AS MANUFACTURED BY CONTECH, OR AN APPROVED EQUAL.

- 2. THE STRUCTURE SHALL BE ASSEMBLED IN ACCORDANCE WITH THE SHOP DRAWINGS PROVIDED BY THE MANUFACTURER AND PER THE MANUFACTURER'S SPECIFICATIONS. THE STRUCTURE SHALL BE INSTALLED IN ACCORDANCE WITH THE PLANS THE MANUFACTURER'S RECOMMENDATIONS, AND THE A.A.S.H.T.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26 (DIVISION II). THE STRUCTURE SHALL BE BACKFILLED USING CLEAN WELL GRADED GRANULAR MATERIAL THAT MEETS THE REQUIREMENTS OF A.A.S.H.T.O. M 145 FOR SOIL CLASSIFICATION A-1, A-2, OR A-3. BACKFILL SHALL BE PLACED SYMMETRICALLY ON EACH SIDE OF THE STRUCTURE IN 6" LOOSE LIFTS. EACH LIFT SHALL BE COMPACTED TO A MINIMUM OF 90 PERCENT DENSITY PER A.A.S.H.T.O T99. CONSTRUCTION LOADS THAT EXCEED HIGHWAY ROAD LIMITS ARE NOT ALLOWED ON THE STRUCTURE WITHOUT APPROVAL OF THE ENGINEER.

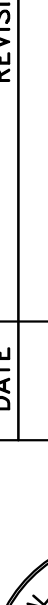
- 3. ASSEMBLY BOLTS AND NUTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A307 OR A449 FOR STEEL FASTENERS OR ASTM F467 AND F468 FOR ALUMINUM FASTENERS.


- 4. CULVERT INSTALLATION SHALL COMPLY WITH THE NATIONAL CORRUGATED STEEL PIPE ASSOCIATION INSTALLATION MANUAL, AVAILABLE AT:

http://www.conlechcpi.com/media/assets/asset/file\_name/3797/Installation\_Manual\_NCSPA.pdf

- 5. CONCRETE FOOTINGS SHALL BE DESIGNED BY OTHERS. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW, PRIOR TO FABRICATION.
- 6. WHERE CITED REFERENCES CONTAIN DUPLICATE INFORMATION. THE MOST STRINGENT SHALL APPLY, AS DETERMINED BY THE ENGINEER.

NOTES

<div>COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS</div> <div>CHINA GRADE PM 0.62</div> <div>STORM DAMAGE REPAIR PROJECT</div>		<div>PROJECT ENGINEER</div> <div>GREG JONES</div>	<div></div>		
DRAWN: GRJ					
CHECKED: GRJ					
DATE: 5/13/24					
SCALE: NOTED					
JOB NO. P76812					
SHEET					
12 OF X					

COUNTY OF SANTA CRUZ – DEPARTMENT OF PUBLIC WORKS		PROJECT ENGINEER  GREG JONES		DATE	REVISION	BY
MILLER CUTOFF ROAD PM 0.47 STORM DAMAGE REPAIR PROJECT						
DRAWN: GRJ						
CHECKED: JSL						
DATE: 1/23/25						
SCALE: 1" = 4'						
JOB NO. P40684						
SHEET						
13 OF X						